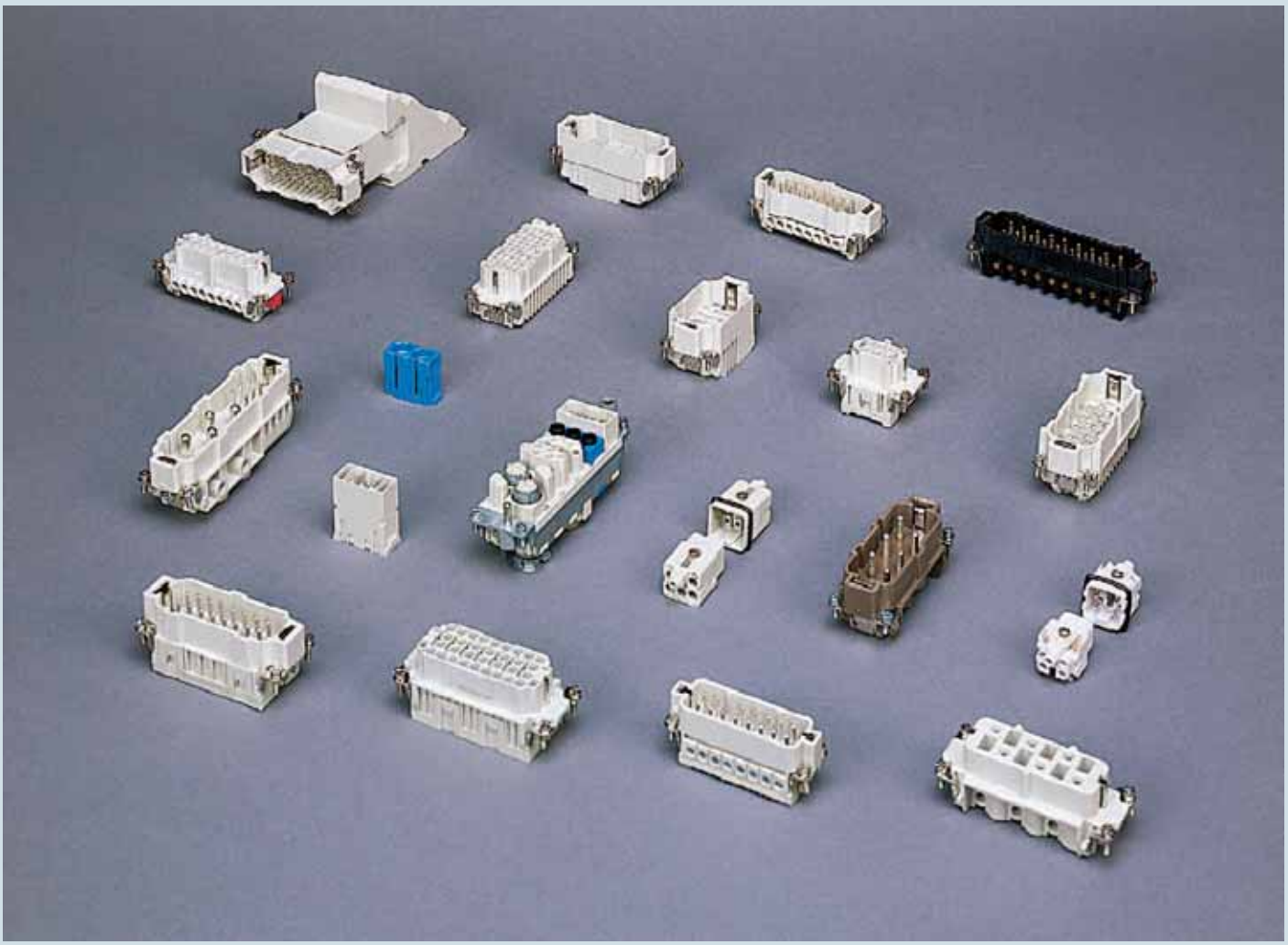
Inserts

The inserts are made of self-extinguishing thermoplastic resin UL 94 V0, normally used for applications in a maximum ambience temperature of 125 °C. The special versions for use with a maximum ambience temperature of 180 °C are made of PPS. Different conductor connection techniques are available: screw connections, crimp connections, or flexible spring connections. The contacts are in silver or gold plated brass. The inserts are numbered on both sides by laser printing or moulded.
There is a large number of versions of inserts selected on the basis of the rated voltage (from 50V to 830V), the rated current (from 5A to 100A max), the number of poles, the different load combinations required (power and signal poles within the same insert).
The inserts are approved in conformance with the major conformity marks including .



The heavy duty multipole connectors for industrial purposes are used in electric and electronic machinery, control units, electric panels, control equipment and wherever connections are required for power and signalling circuits. (N.B. the connectors must not be handled live).
The connectors are in conformance with the standard DIN VDE 0627 (European standard IEC 61984) and where applicable, to the standard DIN 43652 (European standard EN 175301-801 developed by CENELEC TC48B).

Enclosures

A large number of enclosure versions are available with different combinations of component materials, each one suitable to a specific installation: normal environmental conditions, high temperature environments, aggressive environments and environments that require electromagnetic compatibility. The principal parts are made in die cast aluminium alloy with a coating of epoxy-polyester powder or in self-extinguishing thermoplastic (CK and MK series). They are resistant to impacts and strong mechanical stress. The coupling stability and protection against accidental opening are assured by single or double closing devices comprising levers, springs and pegs in stainless steel or entirely in plastic (CK and MK series). Sealing is assured by special gaskets that protect the contact groups inside the enclosures against dust and aggressive agents. In general, the coupled enclosures with the appropriate connections guarantee an IP65 (EN 60529) degree of protection.

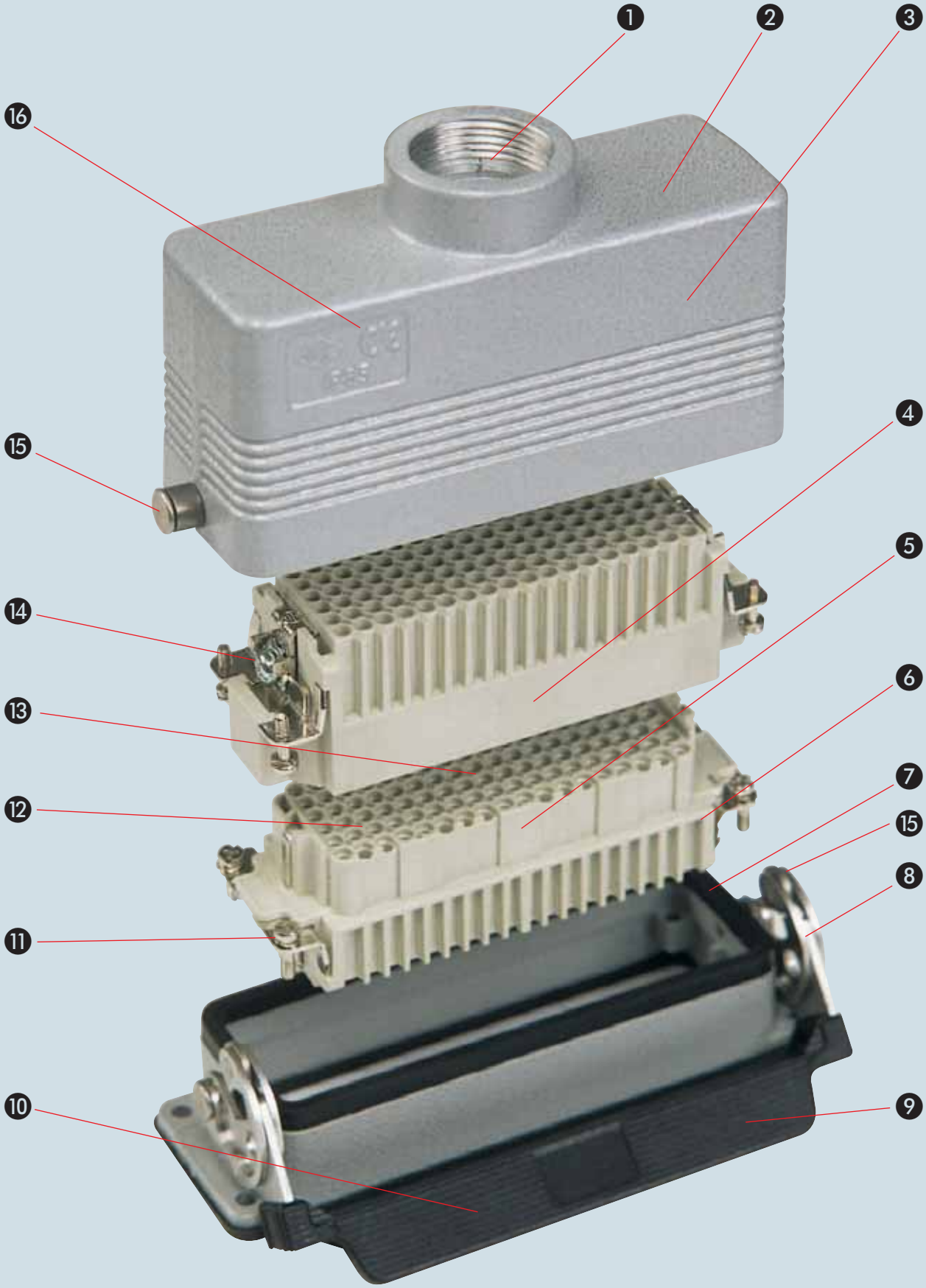
The connectors are suitable for use with alternate or direct current and facilitate the manufacture of sectional electric parts in complex machinery and installation and maintenance, in conformity with the European standard EN 60204-1. The connectors are designed for heavy duty industrial applications.

Supports, special enclosures and accessories

The supports, special enclosures and accessories provide the solution to the most diverse installation needs. The extensive range of articles comprises: panel supports for inserts, special enclosures (housing with double outlet, wide housings, housings without outlets (to be punctured, housings for round cables, hoods), insert combination blocks, accessories for CT inserts, interface for printed circuits, kits for control equipment, plates for mounting D-SUB inserts onto enclosures, reducing plates and closure plates, protection lid for transportation, code pins.

Tools

To guarantee the efficiency and security of the connections a complete series of specific tools is available for contact crimping that assure the maximum quality standards required by the standards.
Manual or automatic pneumatic tools for heavy production are available, together with a complete series of complementary tools for the mounting and dismounting of the contacts to be crimped.


1
2
3
16
4
15
5
14
6
13
7
12
15
8
11
10
9

❶ Threaded cable passage in various Pg diameters (types with pre-code ”C”) or metric passage (types with pre-code ”M”) in accordance with EN 60423, for cable entry devices in accordance with EN 50262 (NPT threading on request), may be located vertically, horizontally or frontally.

❷ Heavy duty enclosures in die-cast aluminium alloy or self-extinguishing thermoplastic (CK and MK series).
Wall mounting or bulkhead housings and hoods are available, with or without fixed covers or with mobile protection covers.
The types of enclosures CH-CA (Pg cable entries) and MH-MA (metric cable entries) have a tab that prevents the insertion of inserts series CME (all) and CMCE (only 16+2 poles), while CM (Pg) enclosures series and MM (metric) do not have any tabs and contain supplementary insulating strips inside.

❸ Metallic enclosures with a coated finish of epoxy-polyester with high resistance to mechanical stress and external agents. Enclosures used with temperatures of up to 180 °C and in aggressive environments are treated with special coatings. Where electromagnetic compatibility is necessary: EMC enclosures with high conductivity and high corrosion resistance surface treatment.

❹ Inserts in self-extinguishing thermoplastic material reinforced with glass fibres, UL approved, with a limit working temperature from -40 °C to +125 °C.
The inserts CME (all) and CMCE (only 16+2 poles) for 830V have a key that prevents the insertion of inserts for use other than that prescribed (types CM - Pg and MM - metric).
For some series, inserts in PPS (polyphenylene sulphide) may be requested for special uses with temperatures of up to 180 °C.

❺ Polarized inserts with asymmetric guide rails for preventing incorrect coupling.
The inserts have a mechanical duration equal to or over 500 coupling cycles.

❻ Inserts manufactured in conformity with the DIN VDE 0627 standard and are certified and identified with the UL and CSA marks.

❼ Special seal gaskets in vinyl nitrile elastomer or fluoro elastomer (on enclosures for use with maximum temperatures of 180 °C and for aggressive environments), in anti-aging, oil-resistant, fuel-resistant, together with the cable entry devices (not supplied) provide an IP65 degree of protection for coupled connectors.
Special conductive seals for EMC enclosures.

❽ Stainless steel closure levers and springs guarantee a perfect closure and sealing.

❾ Locking device available in two versions, simple (with one lever), or double (with two levers).

❿ Various types of handles are available: in self-extinguishing, thermoplastic material reinforced with glass fibres; in die-cast aluminium (for special use with temperatures of up to 180 °C); monoblock stainless steel handles (CK, CZ, MK, MZ enclosures and for special uses with temperatures of up to 180 °C).

⓫ Unlosable insert fastening screws, with anti-loosening flexible washer.

⓬ Contacts position identified with numbers or codes on both sides of each insert and laser printed or moulded.

⓭ Contacts in silver or gold-plated brass with connections to the conductors made via unlosable unloosened screws, spring terminal, crimping or incorporated 45° terminal block connectors (with screw or spring terminal).

⓮ Earth terminal protection with wide contact surface.

⓯ Pegs and levers supplied with anti-friction rings that facilitate closure and limit wear and tear.

⓰ CE marking attesting conformity to the requirements of the Low Voltage directive 73/23/EEC and its modification 93/68/EEC.

Dimensioning of clearances and creepage distances

European standard EN 61984 Ed. 1.0 (22001-11) was recently published for safety prescriptions for multipole connectors for industrial uses and for the relevant tests. This standard assimilates, without any modifications, the corresponding international standard IEC 61984 Ed.1.0 (2001-06).
It is applicable to connectors with rated voltage values of over 50V, and up to 1000V, and rated currents values of up to 125A per pole, for which no dedicated standard exists, or to which the particular specifications or the manufacturer refer as regards the safety aspects.
For determining the minimum through-air and surface insulation distances, i.e. creepage distances, for connectors, this standard makes use (with some modifications) of the concepts of standard IEC 60664-1 Ed. 1.0 (1992-10)[1].
NOTE - For connectors with rated voltage values of up to 50V - excluded from the field of application of Low Voltage Directive 73/23/EEC - standard EN 61984 may be used as a guide. For surface and through-air insulation distances, refer to standard IEC 60664-1 Ed. (1992-10).
We are illustrating below the method of standard EN 61984 for determining minimum insulation values in connectors. The rated characteristics for each ILME connector family are provided on pages 14 and 15.
The following are now obsolete: the insulation group concept, and the distinction of rated voltage values into d.c. and a.c. voltage values 220V and 380V were adapted to standardised values 230V and 400V according to IEC 60038[2] and some concepts were taken from the regulations for LV electrical systems of the IEC 60364[3] series, as follows:
- The overvoltage categories (I, II, III, IV), according to the use of the equipment [4]. They are correlated to the transient overvoltages taken as a basis for determining the rated impulse withstand voltage
- The degrees of pollution
- The classification of insulating materials according to their resistance to tracking
- The conditions of the electrical field (homogenous or inhomogenous).

Overvoltage categories (or impulse withstand)

The overvoltage categories of a circuit or of an electrical system are identified by a conventional number (from I to IV) based on the limit or the control of the assumed transient overvoltage values obtained on a circuit or electrical system and depends on the means used to reduce the overvoltages.

TABLE 1
The rated impulse withstand voltage for equipment energised directly from the low-voltage mains (IEC 60664-1 Edition 1.0 1992-10)

Nominal voltage of the supply system based on IEC 60038 (CENELEC HD 472 S1, CEI 8-6)		Voltage line to neutral derived from nominal voltages a.c. or d.c.	Rated impulse withstand voltage [b]			
V	V	≤ V	Overvoltage category V			
Three phase[a]	Single phase		I	II	III	IV
		50	330	500	800	1500
		100	500	800	1500	2500
	120-240	150	800	1500	2500	4000
230/400 } 277/480 }		300	1500	2500	4000	6000
400 / 690		600	2500	4000	6000	8000
1000		1000	4000	6000	8000	12000

a) The "/" symbol indicates a four-wire three phase distribution system (star distribution). The lower value is the voltage between phase and neutral (phase voltage), whereas the higher value is the voltage between the phases (mains voltage).
Where only one value is indicated, it refers to three-wire, three-phase systems (delta distribution) and specifies the line-to-line value.
b) Equipment with these rated impulse withstand values can be used in installations in accordance with standard IEC 60364-4-443 (Italian standard CEI 64-8/4 Section 443, German standard DIN VDE 0100-443).

Table 1 supplies the rated impulse withstand voltage for equipment energised directly from the low voltage mains in function of the rated voltage of the power supply system, the relative voltage line-to-neutral and the overvoltage category.
Industrial machinery and installations with fixed connection to the low voltage supply system and consequently the relative components including multipole connectors, constitute an example of the equipment that belongs to the overvoltage category III.
Examples of general equipment that comes under overvoltage category II are electrical household appliances, portable tools and other household equipment or similar.
For distribution networks with rated voltage of **230/400V** (star distribution with earthed neutral), and over-voltage category III (category **III**: impulse withstanding), the demanded rated impulse withstanding voltage is **4kV**.
For distribution networks with rated voltage of **400** or **500V** (star distribution without neutral or with insulated neutral, or delta distribution, insulated or corner-earthed), and over-voltage category III (category **III**: impulse withstanding), the demanded rated impulse withstanding voltage is **6kV**.

(1) Assimilated with modifications as European Harmonisation Document HD 625.1 S1:1996 and published by the CENELEC member countries as a national standard: Italian standard CEI 28-6 (1997-11), German standard DIN VDE 0110-1 (VDE 0110 Teil 1):1997-04.
(2) Harminisation Document CENELEC HD 472 S1, Italian standard CEI 8-6, German standard DIN IEC 38:1987-05.
(3) Italian standard CEI 64-8, German standard DIN VDE 0100.
(4) HD 625.1 S1 modifies the definition to "impulse withstanding categories".

Degrees of pollution

Pollution indicates the presence of any kind of foreign matter, whether solid, liquid or gaseous (ionised gas) that can have a negative influence on the dielectric strength or on the surface resistivity of the insulating material.
The standard establishes four degrees of pollution. The categories are identified by conventional numbers based on the quantity of polluting agents or on the frequency of the phenomenon which determines the reduction of the dielectric strength and/or of the surface resistivity.

Pollution degree 1:
No pollution or only dry, non-conductive pollution.
The pollution has no influence.
Pollution degree 2:
Only non-conductive pollution except that occasionally a temporary conductivity caused by condensation may occur.
Pollution degree 3:
Conductive pollution or dry, non-conductive pollution which becomes conductive due to condensation which may occur.
Pollution degree 4:
The pollution generates persistent conductivity caused by conductive dust or by rain or snow.

Pollution degree 3 is typical of an industrial environment or similar, while pollution degree 2 is typical of a household environment or similar.

Standard EN 61984 permits the sizing of surface insulation distances of connectors installed in enclosures in protection class ≥IP54 for the degree of pollution immediately below that of the application environment (e.g.: 2 instead of 3).

Extract from standard EN 61984
6.19.2.2 For a connector in protection class IP54 or higher, according to Publication IEC 60529, the insulating parts inside the enclosure may be sized for a lower degree of pollution.
This applies also to coupled connectors, closure of which is ensured by the connector enclosure, and which may be uncoupled for test and maintenance purposes only.
One may therefore use connectors installed in enclosures or containers in protection class ≥IP54, at the rated data referring to degree pollution 2 in industrial applications with degree of pollution 3, if, in compliance with the standard, the coupling of the connectors is opened only occasionally for tests or maintenance. In the event of temporary or limited duration in uncoupled state, a closing cover is, however, necessary, guaranteeing at least protection class IP54. However, this does not apply to connectors which remain uncoupled and exposed to an industrial atmosphere for an indefinite period. It should be noted, however, that pollution could penetrate inside coupled connectors, also when it comes from remote parts of the electrical system (e.g. through conduits providing cable entry to the connectors enclosure).
Moreover, connector enclosures are usually supplied without cable entry devices, with the installer fitting such devices according to need. The degree of protection marked on the enclosures is guaranteed only for connectors coupled through the use of cable entry devices in equal or higher IP protection class and expertly installed.

Examples of application for the selection of degree of pollution 2 for a connector
- connector on an electric motor controller, which is uncoupled only to replace a faulty motor, also in cases where degree of pollution 3 is instead specified for the system ;
- connector on a module-constructed machine, which is opened only for transport purposes and which is used only for faster installation and for safer putting into service. One must make sure that the connector has not been polluted during transport. To ensure this has not occurred, protective covers or adequate packing must be used;
- connector inside a panel in protection class ≥IP54. In this case one may even renounce equipping the connector with an IP54 enclosure.

Insulating material

Insulating material influences the determination of the minimum creepage distance. It is characterised according to the damage it suffers from the concentrated release of energy during scintillations when a surface leakage current is interrupted due to the drying of the contaminated surface.
The CTI (comparative tracking index), (index of resistance to surface currents) is assumed as index of the resistance to creep currents of the insulating materials in the presence of atmospheric contaminating agents.
The CTI constitutes the numeric value of the maximum voltage at which a material can resist against 50 drops of an electrolytic test solution without tracking, i.e. without a progressive formation of conductive paths on the surface of the solid insulating material (and permanent electric arc between the electrodes of the test equipment) due to the combined effect of electrical stress and electrolytic contamination.
The solid insulating materials are classified into four groups:

Group I	600 ≤ CTI
Group II	400 ≤ CTI < 600
Group IIIa	175 ≤ CTI < 400
Group IIIb	100 ≤ CTI < 175

The values for groups IIIa/IIIb (Table 6, EN 61984) are identical for the purpose of determining the creepage distance values.
The insulating materials used to manufacture the ILME multipole connectors belong to groups IIIa / IIIb.

Electric field conditions

The insulation clearance is determined in Table 2 of IEC 60664-1, bearing in mind the following influencing factors:
- Rated impulse withstand voltage
- Electric field conditions
- Altitude: the values specified in Table 2 give sufficient impulse withstand capability for equipment for use at altitudes up to 2.000 m. For equipment for use at higher altitudes, the corrective factors specified in Table A2 of IEC 60664-1
- The micro-environment.

The shape and arrangement of the conductive parts influence the homogeneity of the electric field and consequently the clearance needed to withstand a given voltage. The clearances in Case A (inhomogeneous field) have the required impulse withstand voltage under all conditions: clearances not less than those specified in **Table 2** - **Case A** can be used irrespective of the shape and arrangement of the conductive parts and without verification by an impulse withstand test.

Determination of clearances

In accordance with standard IEC 60664-1, the following must be identified to determine it:

a) The rated voltage of the power supply (usually 230/400V and therefore a conventional voltage line-to-neutral of **300V**), in star distribution networks with earthed neutral, or 400V for star networks without neutral, or with insulated neutral, or in networks with the distribution transformer's secondary winding delta connected, insulated or corner-earthed and, therefore, with conventional phase voltage of 600V);
b) The overvoltage category (usually **III**);
c) The rated impulse withstand voltage determined from Table 1 of IEC 60664-1 (usually **4 kV** or **6kV**)
d) The type of electric field to which the parts through which the current flows shall be subjected (worse case = **inhomogenous field**) and the degree of pollution (usually **3**).

Standard **EN 61984** specifies that the **through-air insulation distance** should be sized according to Table 2 of IEC 60664-1, but according to the rated impulse withstanding voltage obtained from **Table 5** of EN 61984. The rated impulse withstanding voltage must be selected according to the rated power supply voltage and to the overvoltage category. The assignment of connectors to a particular overvoltage category (usually **III**) is effected according to the rules of IEC 60664-1.

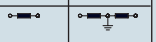
Rated voltage

The voltage value assigned by the manufacturer to the connector and to which the operating and performance characteristics refer (IEC 60664-1, definition 1.3.9 modified).

NOTE – A connector may have more than one rated voltage value.

As concerns the choice of the type of electric field, the through-air insulation distances via windows and openings in the enclosures of insulating material, must comply with the values of case A in Table of IEC 60664-1. i.e. for non uniform field conditions.

TABLE 5
Rated impulse withstand voltage (EN 61984 Edition 1.0 - 2001-11)

Nominal voltage of the supply system (≤ rated insulation voltage of equipment)					Preferred values for the rated impulse withstand voltage in kV (1.2/50 µs)			
					Overvoltage category *			
					I	II	III	IV
Voltage line-to-earth derived from the nominal voltage of the supply system to the a.c. voltage (r.m.s. value) or d.c. voltage	a.c. voltage (r.m.s. value)	a.c. voltage (r.m.s. value)	a.c. voltage (r.m.s. value) d.c. voltage	a.c. voltage (r.m.s. value) d.c. voltage	Special protected levels	Level for electrical equipment (household and similar)	Level for distribution supply systems	Input level
								
V	V	V	V	V	kV	kV	kV	kV
100	66/115	66	60	-	0.5	0.8	1.5	2.5
150	120/208; 127/220;	115; 120; 127	110; 120	220-110; 240-120;	0.8	1.5	2.5	4
300	220/380; 230/400; 240/415; 260/440; 277/480;	220; 230; 240; 260; 277;	220	440-220	1.5	2.5	4	6
600	347/600 380/660 400/690 415/720 480/830	347; 380; 400; 415; 440; 480 500; 577; 600;	480	960-480	2.5	4	6	8
1000		660; 690; 720; 830; 1000;	1000	-	4	6	8	12

* Values for voltages ≤ 50V mentioned in IEC 60664-1, Encl. B

With the three values (b) (c) and (d) the minimum clearence is determined in Table 2 of IEC 60664-1

TABLE 2*)
Minimum clearance for insulation co-ordination (IEC 60664-1 Edition 1.0 - 1992-10)

Required impulse withstand voltage	Minimum clearances in air in mm. up to 2.000 m. above sea level							
	Case A - inhomogenous field 1)				**Case B** - homogenous field 2)			
	degree of pollution				degree of pollution			
kV	1	2	3	4	1	2	3	4
0.33 3)	0.01	0.2 4) 5)	0.8 5)	1.6 5)	0.01	0.2 4) 5)	0.8 5)	1.6 5)
0.40	0.02	0.2 4) 5)	0.8 5)	1.6 5)	0.02	0.2 4) 5)	0.8 5)	1.6 5)
0.50 3)	0.04	0.2 4) 5)	0.8 5)	1.6 5)	0.04	0.2 4) 5)	0.8 5)	1.6 5)
0.60	0.06	0.2 4) 5)	0.8 5)	1.6 5)	0.06	0.2 4) 5)	0.8 5)	1.6 5)
0.80 3)	0.10	0.2 4) 5)	0.8 5)	1.6 5)	0.10	0.2 4) 5)	0.8 5)	1.6 5)
1.0	0.15	0.2 4) 5)	0.8 5)	1.6 5)	0.15	0.2 4) 5)	0.8 5)	1.6 5)
1.2	0.25	0.25	0.8 5)	1.6 5)	0.2	0.2 4) 5)	0.8 5)	1.6 5)
1.5 3)	0.5	0.5	**0.8** 5)	1.6 5)	0.3	0.3	0.8 5)	1.6 5)
2.0	1.0	1.0	1.0	1.6 5)	0.45	0.45	0.8 5)	1.6 5)
2.5 3)	1.5	1.5	**1.5**	1.6 5)	0.6	0.6	0.8 5)	1.6 5)
3.0	2	2	2	2	0.8	0.8	0.8 5)	1.6 5)
4.0 3)	3	3	**3**	3	1.2	1.2	1.2	1.6 5)
5.0	4	4	4	4	1.5	1.5	1.5	1.6 5)
6.0 3)	5.5	5.5	**5.5**	5.5	2	2	2	2
8.0 3)	8	8	**8**	8	3	3	3	3
10.0	11	11	11	11	3.5	3.5	3.5	3.5
12.0 3)	14	14	14	14	4.5	4.5	4.5	4.5

1) Between pointed and flat electrode.
2) When the clearance is less than the value indicated for Case A an impulse withstand voltage test certificate is required
3) Preferential values specified in Table 1
4) For printed wiring material, the values of degree of pollution 1 apply except that the value shall not be less than 0.04 mm as specified in Table 4
5) These minimum clearances given for pollution degrees 2, 3 and 4 are based on experience rather than on fundamental data.

***)** Table 2 of IEC 60664-1 is modified in Variant 2. In particular, the columns referring to degree of pollution 4 have been eliminated. The definition of this degree is varied in 2.5.1 to: "permanent conductivity occurs, due to conductive dust, rain or other humid conditions". The through-air insulation distances for degree of pollution 4 area as specified for degree of pollution 3, with the exception that the minimum through-air distance is 1.6 mm.
In 2.5.2 it is specified that "in conductive pollution conditions, the dimensions for the surface insulation distances cannot be specified where permanent conductive pollution is present, e.g.: due to coal or metal dust. On the contrary, the insulation surface should be designed in order to prevent a seamless path of conductive pollution, e.g.: by means of ribs and cavities".

The values written in bold are the most common multipole connectors for industrial purposes.

If the component respects the minimum through-air insulation distance prescribed for live parts of opposing polarities, it is exempted from the impulsed voltage withstanding test. This test is run at sea level using increased voltage values in order to take into account rarefied air at high altitude (the prescribed values refer to 2000 m asl. However, if this distance is not respected, passing the test gives one the right to declare the relevant rated impulse withstanding voltage.
Declaration of the rated impulse withstanding voltage is optional for standard EN 61984: if the manufacturer declares the rated impulse withstanding voltage, the impulse withstanding voltage test is, in any event, necessary as dielectric verification. Alternatively, if the manufacturer does not declare this rated value, the voltage withstanding dielectric test at mains frequencies of 50/60 Hz for 60 s (test 4a of IEC 60512) is necessary, but at reduced values compared to the peak values of the impulsive test voltages of wave shape standardised at 1.2/50 µs.
To this end, standard EN 61984 provides the following cross-reference table:

TABLE 8
Test voltages (EN 61984 Edition 1.0 - 2001-11)

Rated impulse withstand voltage kV	Test voltages Impulse withstand* voltage kV (1.2/50 µs) at 2000 above sea level	at sea level	Withstand voltage (r.m.s. value) kV (50/60 Hz)
0.33	0.33	0.35	0.23
0.5	0.5	0.55	0.37
0.8	0.8	0.91	0.50
1.5	1.5	1.75	0.84
2.5	2.5	2.95	1.39
4	4	4.8	2.21
6	6	7.3	3.31
8	8	9.8	4.26
12	12	14.8	6.6

* If the test laboratory is situated between sea level and an altitude of 2000 m asl, interpolation of test impulsed voltage is allowed.

Rated impulse withstand voltage
The rated impulse withstanding voltage assigned by the manufacturer to the connector, which refers to the withstanding capacity of its insulation with respect to transient overvoltages [IEC 60664-1, definition 1.3.9.2 modified].
Impulse withstand voltage
The highest peak value of a voltage impulse of prescribed shape and polarity, which does not cause insulation faults under specified conditions.

Dimensioning of creepage distances

The minimum surface insulation distance (creepage distance), i.e. "the shortest distance along the surface of the insulation material between two conducting parts " [IE 60664-1 development 1.3.3] for connectors is prescribed by standard **EN 61984** in **Table 6**. It is determined according to rated voltage, degree of pollution and insulating material group. The rated voltage providing access to Table 6 (rationalised voltage of the feed system) is determined in Table 3a of IEC 60664-1 for single phase two or three wire a.c. or d.c. systems or Table 3b for three-phase three or four wire a.c. systems. Usually for three-phase systems with 230V/400V reted voltage, the conventional line-to-line insulation voltage is 400V and the line-to-earth for TT or TN systems is 250V. For three-phase systems with 400V or 500V rated voltage the conventional line-to-line insulation voltage is respectively 400V and 500V. The degree of pollution must be specified according to standard IEC 60664-1. It strongly influences the rated insulation voltage of a connector. Therefore, the rated insulation voltage of a connector should be reconsidered time by time for each degree of pollution.

TABLE 3a
Single phase two or three wire a.c. or d.c. systems (IEC 60664-1 Edition 1.0 - 1992-10)

Nominal voltage of the supply system*)	Voltages rationalised for Table 4 for insulation	
	line-to-line[1)]	line-to-earth[1)]
	A	**B**
V	V	V
12.5	12.5	-
24	25	-
25	25	-
30	32	-
42	50	-
48	50	-
50 **)	50	-
60	63	-
30-60	63	32
100 **)	100	-
110	125	-
120	125	-
150 **)	160	-
220	250	-
110-220	250	125
120-240	250	125
300 **)	320	-
220-440	500	250
600 **)	630	-
480-960	1000	500
1000 **)	1000	-

TABLE 3b
Three-phase three or four wire a.c. systems (IEC 60664-1 Edition 1.0 - 1992-10)

Nominal voltage of the supply system*)	Voltages rationalised for Table 4 for insulation		
	line-to-line[1)]	line-to-earth[1)]	
	A	**C**	**D**
V	V	V	V
63	63	32	63
110	125	80	125
120	125	80	125
127	125	80	125
150 **)	160	-	160
208	200	125	200
220	250	160	250
230	250	160	250
240	250	160	250
300 **)	320	-	320
380	400	250	400
400	400	250	400
415	400	250	400
440	500	250	500
480	500	320	500
500	500	320	500
575	630	400	630
600 **)	630	-	630
660	630	400	630
690	630	400	630
720	800	500	800
830	800	500	800
960	1000	630	1000
1000 **)	1000	-	1000

Legenda:
A = All systems.
B = Single phase three-wire systems with mid-point earthed.
C = Three-phase four-wire systems [secondary winding of a star distribution transformer] neutral-earthed [2)].
D = Three-phase three-wire systems [secondary winding of a delta distribution transformer], unearthed [1)] or corner-earthed.

1) The phase-earth insulation for unearthed or impedance-earthed lines is equal to that between phases, because the operating voltage of any phase can, in practice, approach full voltage between the phases [line voltage]. This is because the actual voltage to earth is determined by the insulation resistance and by the capacitive reactance of each phase to earth. Consequently, a low (but acceptable) insulation resistance of a phase can, in effect, earth it and increase voltage to earth of the other two phases at full voltage between the phases [line voltage].
2) For equipment for use on both three-phase three-wire and three-phase four wire supplies, earthed or unearthed, use only the values for three-wire systems.

*) Assuming a rated voltage of the equipment.
**) These values correspond to the values given in Table 1.

With this voltage value, the pollution degree and the materials group the minimum creepage distance can be determined using **Table 6**.

TABLE 6
Minimum creepage distances (EN 61984 Edition 1.0 - 2001-11)

Rated voltage r.m.s. value a.c or d.c.	Minimum creepage distances (mm)									
	Pollution degree									
	1	**2**			**3**			**4**		
	see note [b]	Material group			Material group			Material group		
V		**I**[a]	**II**	**III**	**I**	**II**	**III** [c]	**I**	**II**	**III** [c]
63	0.2	0.63	0.9	1.25	1.6	1.8	2	2.1	2.6	3.4
80	0.22	0.67	0.95	1.3	1.7	1.9	2.1	2.2	2.8	3.6
100	0.25	0.71	1	1.4	1.8	2	2.2	2.4	3	3.8
125	0.28	0.75	1.05	1.5	1.9	2.1	2.4	2.5	3.2	4
160	0.32	0.8	1.1	1.6	2	2.2	2.5	3.2	4	5
200	0.42	1	1.4	2	2.5	2.8	3.2	4	5	6.3
250	0.56	1.25	1.8	2.5	**3**	**3.5**	4	5	6.3	**7.5**
320	0.75	1.6	2.2	3.2	4	4.5	5	**6**	**7.3**	**8.6**
400	1	2	2.8	4	**4.5**	**5.3**	**6**	**7**	**8.5**	**10**
500	1.3	2.5	3.6	5	**6**	**7**	8	**9**	**11**	**13**
630	1.8	3.2	4.5	6.3	8	9	10	**11.1**	**13.6**	**16.1**
800	2.4	4	5.6	8	**9**	**10.5**	**12**	**13.8**	**17**	**20.2**
1000	3.2	5	7.1	10	**12**	14	16	**17**	**21**	**25**

NOTE 1: The values for voltages ≤ 50V are supplied in IEC 60664-1, Table 4.
NOTE 2: The values in bold are reduced compared to those of Table 4 IEC 60664-1, in compliance with 2.4 of IEC 60664-1.
a Materials group I or materials group II, III, where the possibility of tracking is reduced in conformance with the conditions of paragraph 3.2 of IEC 60664-1.
b Materials group I, II, IIIa, IIIb
c Materials group IIIb is not recommended for application with pollution degree 3 above 630V and with pollution degree 4.

Dimensioning of the clearances and creepage distances according to the standard DIN VDE 0627:1986-06 (DIN VDE 0110:1972-11 + Guide DIN VDE 0110b:1979:02)

Standard DIN VDE 0627:1986-06, containing safety prescriptions for connectors, was the only reference standard for the safety aspects of multipole connectors for industrial uses, before the publication of European standard EN 61984 (2001-11). Some series of connectors occasionally refer to this standard as regards the sizing of insulation distances.
It refers to the 3rd edition of standard VDE 0110:1972-11. On the basis of the relevant field of application, electrical equipment is classified into insulation groups **A0, A, B, C** and **D**, relative to the reduction in the insulation performances due to environmental influences such as dust, dirt, humidity, condensation, ageing and atmospheric particles in aggressive environments.
The classification into insulation groups considers both the effects of the damages derived from faulty insulation of an insulating material in use and the estimated overvoltages. In general, the classification of the equipment into various insulation groups is made in the relative VDE product standards by the Technical Committees.

Insulation group A0

Insulation group A0 refers to low voltage equipment located in an air-conditioned or clean and dry environment, or one which is electrically protected by adequate measures or where overheating would not be excessive in case of short circuit. The maximum overvoltage in operation (including peaks) must not exceed the value:

$\hat{U}_{B\ max} = \sqrt{2}.(100V + 1.25\ U_B)$ [V]
(U_B = alternate voltage for use of the appliance)

Insulation group A

Insulation group A refers to equipment located in an air-conditioned or clean and dry locations, or one which is electrically protected by adequate measures.

Insulation group B

Insulation group B refers to equipment located in household environments or similar, shops, warehouses, precision mechanics workshops, laboratories, test chambers, medical rooms and similar locations.

Insulation group C

Insulation group C refers to equipment which is mainly used on industrial, commercial and agricultural, works housed in unheated warehouses, in workshops, in boiler rooms, on machine tools, etc.

Insulation group D

Insulation group D refers to equipment located on board road vehicles or rotating materials, equipment exposed to humidity from condensation or melted snow and to conductive dust caused by braking devices which cannot be satisfactorily protected by encapsulation.

Values **a** and **b** of the creepage distances obtained from Table 4 of standard DIN VDE 0110b: 1979-02 depend upon the profile of the surface path and the resistance of the insulating materials to tracking. The insulating materials are classified into groups according to Table 3 of this standard bearing in mind this particular aspect.

TABLE 3
DIN VDE 0110b: 1979-02

1	2	3	4
Group	Resistance to tracking [1] (minimum value)	Creepage distances [2] Without rib	With rib (par.8a)
I	KB 100	b	(a+b)/2
II	KB 380	(a+b)/2	a
III	KB > 600	a	a

1) Resistance to tracking in accordance with standard DIN VDE 0303 Teil 1/06.84 (IEC 60112).
2) For insulating groups A0 and A the insulating distance is usually "a".

The minimum values of the clearance and creepage distances are obtained from **Table 4** or the standard DIN VDE 0110b:1979-02.

TABLE 4
DIN VDE 0110b: 1979-02 (extract)

Minimum values of the clearances and creepage distances in mm.

Reference voltages (according to Table 1) up to:											
a.c. voltage (r.m.s.value)	V	12	30	60	125	250	380	500	660	750	1000
d.c. voltage	V	15	36	75	150	300	450	600	800	900	1200
insulation	L	0.1	0.1	0.2	0.3	0.5	0.8	1.1	1.5	1.8	2.5
group A0	a	0.1	0.2	0.2	0.4	0.7	1.1	1.5	2	2.2	3
	b	0.2	0.2	0.3	0.5	1	1.5	2	2.7	3	4
insulation	L	0.2	0.2	0.3	0.4	0.8	1.2	1.6	2.2	2.5	3.5
group A	a	0.2	0.3	0.4	0.5	1	1.5	2	2.8	3.2	4.5
	b	0.3	0.4	0.5	0.7	1.3	2	2.7	3.6	4	5.5
insulation	L	0.4	0.5	0.7	1	1.6	2.4	3	4	4.5	6
group B	a	0.6	0.8	1	1.3	2	3	4	5.5	6	8
	b	0.8	1	1.3	2	3	4	5.5	7	8	11
insulation	L	0.8	1	1.2	1.6	2.5	3.5	4.5	6	6.5	9
group C	a	1.2	1.5	1.7	2.2	3	4.5	6	8	9	12
	b	1.7	2	2.3	3	4	6	8	11	12	16
insulation	L	1.6	1.8	2	2.5	3.5	5	6.5	8	9	12
group D	a	2.3	2.6	3	3.5	5	7	9	12	13	17
	b	3.2	3.5	4	5	7.5	10	13	17	19	25

L = clearance
a/b = creepage distances according to Table 3

Interpolate values for intermediate voltages.

Rated data

The description of rated data is according to standard EN 61984.

Example of marking for application only in a network with insulated neutral or with corner-earthed neutral (see Table 5, EN 61984):

Example of marking for application in any network, including special networks with insulated neutral and those with corner-earthed delta (see Table 5, EN 61984):

Recommended tightening torque and size of screwdriver

size of screw	connector type	tightening torque (Nm)	tightening torque (lb.in)	recommended size of screwdriver (mm)
M2.5	CT 40, 64	0.4	3.5	0.5x3
M2.6	CTE 06...24	0.4	3.5	0.5x3
M3	CDA	0.5	4.4	Ph0 or 0.6x3.5
M3	CK 03, CK 04	0.5	4.4	0.5x3
M3	CN, CX 4/8 (16A)	0.5	4.4	0.6x3.5
M3	CN..Q, CX 4/8 Q (16A)	0.5	4.4	Ph0
M3	CNE, CME	0.5	4.4	Ph0 or 0.8x4
M3	screw of small earthing terminal, MIXO frames series	0.5	4.4	Ph2 or 1.0x5.5
M3	screw for fastening to enclosures, all series	0.5	4.4	Ph1 or 0.8x4
M3.5	screw of earthing terminal series CDA, CDC	0.8	7.1	Ph1 or 1.0x5.5
M4	screw of large earthing terminal, MIXO frames series	1.2	10.6	Ph2 or 1.0x5.5
M4	CP	1.2	10.6	Ph1 or 0.8x4
M4	screw of earthing terminal, all series except CDA, CDC, MIXO	1.2	10.6	Ph2 or 1.0x5.5
M6	CX 4/... (80A)	2.5	22.1	1.0x5.5

Increasing the tightening torque does not improve considerably the contacts resistances. The screw torques are selected according to standard EN 60999-1, to provide excellent mechanical, thermal and electric behaviour. The conductor or terminal may be damaged if the recommended values are significantly exceeded.

Stripping lenghts

inserts connection technique	conductor section (mm^2)	 (AWG)	stripping lenght (mm)
Screw			
CK	0.75÷2.5	18÷14	6
CX 4/2 (16A)	0.75÷2.5	18÷14	7
CN	0.75÷2.5	18÷14	7
CN..X	0.25÷2.5	24÷14	7
CNE	0.5÷2.5	20÷14	7
CNE..X	0.25÷2.5	24÷14	7
CDA	0.75÷2.5	18÷14	7
CDA..X	0.25÷2.5	24÷14	7
CTE 06...24	0.75÷2.5	18÷14	12
CT 40 and 64	0.14÷2.5	26÷14	12
CME	0.5÷2.5	20÷14	7
CP	1.5÷6	16÷10	10.5
CX 4/.. (80A)	4÷16	12÷5	14
Crimp			
CDD, CD, MIXO (10A)	0.14÷2.5	26÷14	8
CC, CCE, CDC, CMCE, CQ, CQE, MIXO (16A)	0.5÷4	20÷12	7.5
CX, MIXO (40A)	1.5÷2.5 4÷6	16÷14 12÷10	9 9.6
MIXO (100A)	16÷35	5÷2	15
Spring			
CS	0.14÷2.5 non-prepared max 1.5 prepared	26÷14 non-prepared max 16 prepared	9...11
CSE, CTSE 06...24, CMSE, MIXO (CX 05 S)	0.14÷2.5	26÷14	9...11
CTS 40/64	0.14÷2.5 non-prepared max 1 prepared	26÷14 non-prepared max 18 prepared	9...11

feature of inserts for multipole connectors

inserts code	N. poles [1] main contacts + ⏚	auxiliary contacts	EN 61984 (2001-11) pollution degree 3 rated voltage	impulse withstand voltage	pollution degree	EN 61984 (2001-11) pollution degree 2 rated voltage	impulse withstand voltage	pollution degree	VDE 0627:1986-06 VDE 0110b:1979-02 rated voltage ~	⎓	insulation group	certification UL/CSA [3] rated voltage ~ or ⎓
CK	**3, 4**	---	250V	4kV	3							600V
CD	**8** (without ⏚)	---	50V	0.8kV	3							50V
CD	**7, 15, 25, 40, (50), 64, (80), (128)**	---	250V [2]	2.5kV	3	230/400V [2]	4kV	2				600V
CT	**40, 64**	---	250V	2.5kV	3	230/400V	4kV	2				600V
CTS	**40, 64**	---	250V	2.5kV	3	230/400V	4kV	2				600V
CDD	**24, 38, 42, 72, (76), 108, (144), (216)**	---							250V [2]	300V [2]	C	600V
CDA	**10, 16, (32)**	---	250V	4kV	3	230/400V	4kV	2				600V
CDC	**10, 16, (32)**	---	250V	4kV	3	230/400V	4kV	2				600V
CQ	**5**	---	230/400V	4kV	3	320/500V	4kV	2				600V
CQE	**10, 18, 32, 46, (64), (92)**	---	500V [2]	6kV	3	830V [2]	8kV	2				600V
CC	**6, 10, 16, 24, (32), (48)**	---							400V	475V	C	600V
CCE	**6, 10, 16, 24, (32), (48)**	---	500V	6kV	3	400/690V	6kV	2				600V
CN	**6, 10, 16, 24, (32), (48)**	---							400V	475V	C	600V
CNE	**6, 10, 16, 24, (32), (48)**	---	500V	6kV	3	400/690V	6kV	2				600V
CS	**6, 10, 16, 24, (32), (48)**	---							400V	475V	C	600V
CSE	**6, 10, 16, 24, (32), (48)**	---	500V	6kV	3	400/690V	6kV	2				600V
CTE (**)	**6, 10, 16, 24**	---							500V	600V	C	600V
CTSE	**6, 10, 16, 24**	---	500V	6kV	3							600V
CME	**3, 6, 10, (12), (20)**	---	830V	8kV	3	1000V	8kV	2				600V
						720/1250V	8kV	2				
	16, (32)	---	400/690V	6kV	3							600V
		2, (4)	500V	6kV	3							600V
CMSE	**3, 6, 10, (12), (20)**	---	830V	8kV	3	1000V	8kV	2				600V
						720/1250V	8kV	2				
		2, (4)	500V	6kV	3							600V
CMCE	**3, 6, 10, (12), (20)**	---	830V	8kV	3	1000V	8kV	2				600V
						720/1250V	8kV	2				
	16, (32)	---	400/690V	6kV	3							600V
		2, (4)	500V	6kV	3							600V
CP	**6, (12)**	---	400/690V	6kV	3							600V
CX 8/24	**8**	---							400V	475V	C	600V
		24							250V	300V	C	600V
CX 6/36	**6**	---							690V	830V	C	600V
		36							250V	300V	C	600V
CX 12/2	**12**	---	500V	6kV	3							600V
		2	250V	4kV	3							600V
CX 4/0	**4**	---	690V	8kV	3							600V
CX 4/2	**4**	---	690V	8kV	3							600V
		2	400/690V	6kV	3							600V
CX 4/8	**4**	---	400V	6kV	3	400/690V	6kV	2				600V
		8	230/400V	4kV	3							600V
MIXO												
CX 02 G	**2** (without ⏚)	---	1000V	8kV	3	920/1600V	8kV	2				600V
CX 02 4A	**2** (without ⏚)	---	1000V	8kV	3	1600V	8kV	2				600V
CX 02 H	**2** (without ⏚)	---	2900/5000V	15kV	3							
CX 03 4	**3** (without ⏚)	---	400/690V (*)	6kV	3							600V
CX 06 C	**6** (without ⏚)	---	500V	6kV	3							600V
CX 08 C	**8** (without ⏚)	---	400V	6kV	3	400/690V	6kV	2				600V
CX 05 S	**5** (without ⏚)	---	400V	6kV	3	500V	6kV	2				600V
CX 12 D	**12** (without ⏚)	---							250V	300V	C	600V
CX P	**2, 3**	---	pneumatic contacts for air and liquids up to 8 bar									
CX 02 B	**2** (***) (without ⏚)	---	50V	0.8kV	3							(50V)
CX 01 B	**1** (+ shield)	---	50V	0.8kV	3							(50V)
CX 04 B	**4** (+ shield)	---	50V	0.8kV	3							(50V)

(*) = with cable Ø up to 5 mm
(**) = until sell-out of CT connectors series with rated voltage 400V ~/475V ⎓ - Insulating group C in accordance with the standard DIN VDE 0627 1986-06
(***) = multiaxial connectors CX 04 B (4P) or coaxial CX 01 B
N.B.: All inserts have a mechanical duration equal to or over 500 coupling cycles.
1) The polarity indicated in brackets is obtained using double inserts.
2) A partial insertion of the contacts in the insert allows uses with higher rated voltages than those indicated.
See table on page 34 (CD inserts), page 48 (CDD inserts) and page 65 (CQE inserts)
3) Certifications in brackets are pending.

feature of inserts for multipole connectors

inserts code	max rated current [4]	$U_{eff.}$ test voltage	contact resistance ≤	insulation resistance ≤	ambiance temperature limit [5] (°C) min	ambiance temperature limit [5] (°C) max	degree of protection with enclosures	degree of protection without enclosures	conductor connections [6] screw	conductor connections [6] spring	conductor connections [6] 45° terminal block	conductor connections [6] crimp	certifications [3]
CK	10A		1 mΩ	10 GΩ	-40	+100	IP44/IP65[7]	IP20	✓				UL, CSA
CD	10A		3 mΩ	10 GΩ	-40	+125	IP65 [7]	IP20				✓	UL, CSA
CD	10A		3 mΩ	10 GΩ	-40	+125	IP65 [8]	IP20				✓	UL, CSA
CT	10A		3 mΩ	10 GΩ	-40	+125	IP65	IP20	✓		✓		UL, CSA
CTS	10A		3 mΩ	10 GΩ	-40	+125	IP65	IP20		✓	✓		UL, (CSA)
CDD	10A	2kV	3 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	UL, CSA
CDA	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20	✓				UL, CSA
CDC	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	UL, CSA
CQ	16A		1 mΩ	10 GΩ	-40	+125	IP44/IP65[7]	IP20				✓	UL, (CSA)
CQE	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	UL, (CSA)
CC	16A	3kV	1 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	UL, CSA
CCE	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	(UL), (CSA)
CN	16A	3kV	1 mΩ	10 GΩ	-40	+125	IP65	IP20	✓				UL, CSA
CNE	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20	✓				UL, (CSA)
CS	16A	3kV	3 mΩ	10 GΩ	-40	+125	IP65	IP20		✓			UL, CSA
CSE	16A		3 mΩ	10 GΩ	-40	+125	IP65	IP20		✓			(UL), (CSA)
CTE (**)	16A	3kV	1 mΩ	10 GΩ	-40	+125	IP65	IP20	✓		✓		(UL), (CSA)
CTSE	16A	3kV	1 mΩ	10 GΩ	-40	+125	IP65	IP20		✓	✓		(UL), (CSA)
CME	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20	✓				(UL), (CSA)
CMSE	16A		3 mΩ	10 GΩ	-40	+125	IP65	IP20		✓			(UL), (CSA)
CMCE	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	(UL), (CSA)
CP	35A		0.5 mΩ	10 GΩ	-40	+125	IP65	IP20	✓				UL, CSA
CX 8/24	16A 10A	3kV 2kV	1 mΩ 3 mΩ	10 GΩ 10 GΩ	-40	+125	IP65	IP20				✓	UL, (CSA)
CX 6/36	40A 10A	3kV 2kV	0.3 mΩ 3 mΩ	10 GΩ 10 GΩ	-40	+125	IP65	IP20				✓	UL, (CSA)
CX 12/2	40A 10A		0.3 mΩ 3 mΩ	10 GΩ 10 GΩ	-40	+125	IP65	IP20				✓	UL, (CSA)
CX 4/0	80A		0.3 mΩ	10 GΩ	-40	+125	IP65	IP20	✓				UL, CSA
CX 4/2	80A 16A		0.3 mΩ 1 mΩ	10 GΩ 10 GΩ	-40	+125	IP65	IP20	✓				UL, CSA
CX 4/8	80A 16A		0.3 mΩ 1 mΩ	10 GΩ 10 GΩ	-40	+125	IP65	IP20	✓				UL, CSA
MIXO													
CX 02 G	100A		0.3 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	(UL), (CSA)
CX 02 4A	40A		0.5 mΩ	10 GΩ	-40	+125	IP65	IP20	✓				(UL), (CSA)
CX 02 H			1 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	
CX 03 4	40A		0.3 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	UL, (CSA)
CX 06 C	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	UL, (CSA)
CX 08 C	16A		1 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	(UL), (CSA)
CX 05 S	16A		3 mΩ	10 GΩ	-40	+125	IP65	IP20		✓			UL, (CSA)
CX 12 D	10A	2kV	3 mΩ	10 GΩ	-40	+125	IP65	IP20				✓	UL, (CSA)
CX P					-40	+125	IP65	IP20	insertion				UL, (CSA)
CX 02 B	---	---	---	10 GΩ	-40	+125	IP65	IP20	insertion				UL, (CSA)
CX 01 B	10A		3 mΩ	10 GΩ	-40	+70	IP65	IP20				✓	(UL), (CSA)
CX 04 B	10A		3 mΩ	10 GΩ	-40	+70	IP65	IP20				✓	UL, (CSA)

3) Certifications in brackets are pending.
4) See the inserts load curves to determine the actual limit working current according to the ambient temperature.
See diagrams from page 26 to page 31
5) Use with ambient temperatures of up to 180 °C is possible using the special inserts in PPS (polyphenylene sulphide).
6) See following page for the characteristics of the conductor connections.
7) The IP65 degree of protection may be obtained with the application of a special gasket on the insert fastening screw.
8) For 7 poles type IP44, the IP65 degree of protection may be obtained with the application of a special gasket on the insert fastening screw.

technical features

The different types of conductor connections to the male and female inserts are described on the right.
The types are summarised as follows:

- screw terminals
- spring connection terminals
- connectors with incorporated terminal block
- crimp terminals

N.B.: for all inserts with screw terminals it is important that the right torsional torque is applied to the screws in order to prevent wrong contacts or damage to the conductor, the screw or the terminal (see data mentioned in the inserts pages).

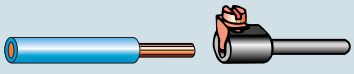
The 10A and 16A crimp contacts are available either **silver** or **gold-plated**.
The gold-plated crimp contacts are recommended for applications with very low rated currents and rated voltages.
Thanks to the conduction characteristics of gold, the deterioration of signals is prevented and an excellent residence to the superficial oxidation of the contacts is obtained.
Gold-plated contacts are recommended with signals with ±5 mA current and ±5V voltage.

contacts with screw terminal connections with or without wire protection

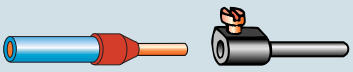
description

inserts: CK - CDA - CN X
CN - CNE - CNE X
CME - CP - CX

The connections of the conductors to the female and male inserts is made via screws (in accordance with standard EN 60999-1).
Two different types of clamping are possible:
- with wire protection that does not require preparation of the conductors
- without wire protection that requires the conductors to be prepared with bush terminals

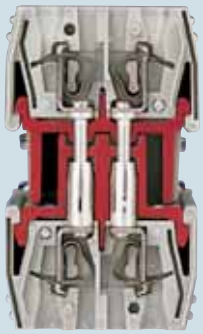


with wire protection



without wire protection

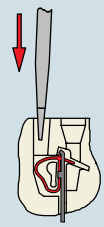
contacts with spring connection terminals



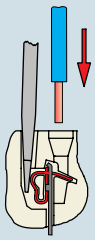
description

inserts: CS - CSE - CMSE - CTS - CTSE
MIXO CX 05 SM/F

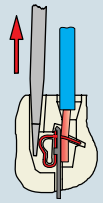
The connections of the conductors to the contacts of the male and female inserts are made via spring connection terminals. This type of connection provides the following advantages:
- No special preparation of the conductors
- A 3.5 mm x 0.5 mm screw-driver is all that is needed for inserting the conductor into the contact
- An excellent degree of clamping is obtained together with a high resistance to strong vibrations
- Flexible and non-flexible conductors may be used with cable sections from 0.14 mm^2 up to 2.5 mm^2
- Conductivity tests may be performed under load through the screwdriver opening without sectioning the insert
- Preparation and cabling time are considerably reduced



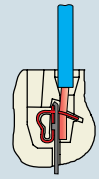
phase 1
insertion of the screwdriver into the square slot opens the base of the conductor obtained within the spring.



phase 2
deep insertion of the conductor in the round base.

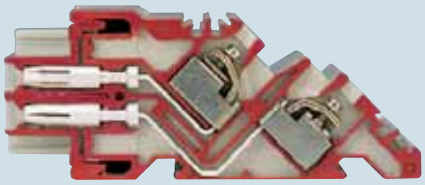


phase 3
extraction of the screwdriver determines the retention of the spring on the inserted conductor.



phase 4
once the connection is complete, a pulling action is to be applied to test the conductor's retaining strenght.

terminal block connectors

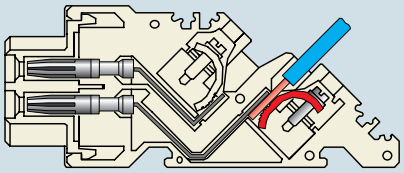


description

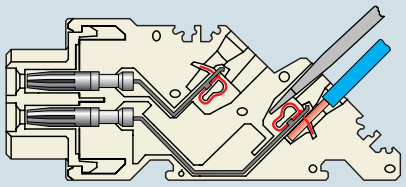
inserts: CTE - CTSE

The connections of the conductors to the contacts of the male and female inserts are made via screw terminals in the CTE model (in accordance with standard EN 60999-1) or via spring connection terminals in the CTSE model.
The inserts have:
- for fixed installations in electrical panels or on DIN EN 60715 rails: a 45° terminal block that facilitates wiring and identification of the conductors
- screw terminal with wire protection that does not require preparation of the conductors (CTE models)
- spring connection terminal that does not require preparation of the conductors (CTSE models)

Connection of CTE inserts



Connection of CTSE inserts



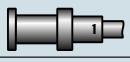
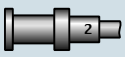
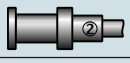
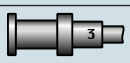
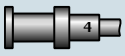
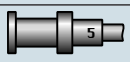
removable crimp terminals (with holding device on the contacts)

description

inserts: CD - CDD - CX - MIXO

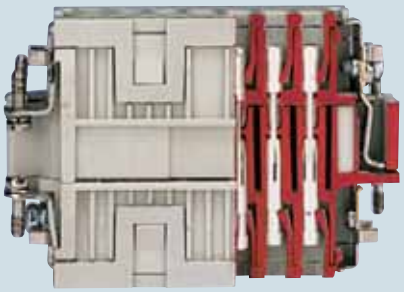
The connections of the conductors to the removable contacts of the male and female inserts are made via crimping with a crimping tool and locator.
The crimped connections are inserted into the inserts (using the insertion tool for sizes 1 and 2. no tools are necessary for insertion into sizes ②, 3, 4, and 5) and remain fixed into position via a flexible blocking device on the contacts.
The conductor's entry into the contact is conical to facilitate insertion and prevent possible damage after crimping.
Extraction of the connections is made via a removal tool.

10A max contacts

conductor section (mm²)	AWG	identification number
0.14 ÷ 0.37	26 ÷ 22	
0.5	20	
0.75	18	
1	18	
1.5	16	
2.5	14	

The contacts may be supplied either silver or gold plated

removable crimp contacts (with insert blocking device)

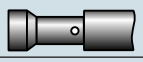
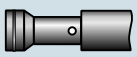
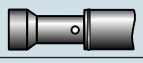
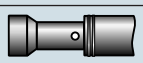
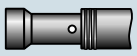


description

inserts:
CQ - CQE - CC - CCE - CDC - CMCE - CX - MIXO

The connections of the conductors to the removable contacts of the male and female inserts are made via crimping with a crimping tool and locator.
The crimped connections are then inserted into the inserts (using the insertion tool only for size 1) and remain fixed into position via a flexible blocking device mounted on the insert blocking the contact.
Extraction of the contacts is made by using a flat 3 mm screwdriver (CC, CDC, CMCE 16+2, CX 8/24 series) or removal tools to unblock the blocking device and free the contact (CQ, CCE, CMCE, CQE, CX, MIXO series).
The conductor's entry into the contact is conical to facilitate insertion and prevent possible damage after crimping.

16A max contacts

conductor section (mm²)	AWG	identification groove
0.5	20	
0.75	18	
1	18	
1.5	16	
2.5	14	
4	12	

The contacts may be supplied either silver or gold plated
The male contacts can be supplied also in the advanced opening version (shorter contact).

40A max contacts

conductor section (mm²)	AWG	identification
1.5	16	hole Ø 1.75 mm
2.5	14	hole Ø 2.25 mm
4	12	hole Ø 2.85 mm
6	10	hole Ø 3.5 mm

The contacts may be supplied silver plated only

enclosures versions and applications

Changeover from Pg threads to M metric threads

After 31st December 1999, the German safety standard DIN VDE 0619 (1987-09) and the standards it refers to - DIN 46319 for dimensions with metric threads and DIN 46320 (T1-T4), DIN 46255 and DIN 46259 for dimensions with Pg threads (Pg= Panzerrohr-Gewinde: literally "threads for armoured pipes") - were withdrawn and European standard EN 50262 "Metric cable grippers for electrical installations" has been in force since 1st January 2000. This standard defines the new sizes with metric threads for cable grippers according to EN 60423 and establishes the safety prescriptions. Conversely, it does not specify the dimensions, such as the size of the tightening wrench, the diagonal dimension, or the dimensions of the tightness seals, as was the case in the withdrawn DIN for Pg cable grippers.
The standard came definitively into force on 1st April 2001, when the contrasting national standards were withdrawn. It is valid in all member countries of CENELEC (European Electrical Standardisation Committee) and its publication has led to a broadening of the supply of enclosures for multi-pole connectors for industrial use, to include new enclosure versions with cable entry suitable for metric cable grippers. Cable gripper producers have introduced the new metric series to add to the Pg size series, to gradually replace the latter type. The transition period indicated in the new standard should have ended on 1st March 2001, after which date the use of entry devices for Pg cables and, as a result, enclosures with Pg thread, should have ended in new installations. Nevertheless, both the cable entry devices and the relevant enclosures with Pg thread, may continue to be used as spare parts. For the CE marking of these items, observance of the safety conditions specified by the Low Voltage Directive is sufficient. To distinguish mobile and fixed wall-mounted enclosures with metric outlets from the relevant Pg versions (marked with a C pre-code), the ILME metric types are marked with an M pre-code.
The transposition table below indicates the correspondence rule adopted in most cases by ILME for creating the new metric versions.

Transposition Pg → metric

Pg	metric
Pg 11	M 20
Pg 13.5	M 20
Pg 16	M 20
Pg 21	M 25
Pg 29	M 32
Pg 36	M 40
Pg 42	M 50

standard version

description

This series has been developed for application in electric and electronic machinery, control units, electric panels, control equipment, industrial environments, and in general, wherever a sectional and reliable connection is required for power and signal circuits.
The inserts of the CMCE series (excepting the 16+2 poles) and of the CMSE series may use standard enclosures also for uses of up to 830V.

Characteristics of the materials used:

CK and MK series

- in die-cast aluminium alloy or in self-extinguishing thermoplastic material, in RAL 7035 grey or black for insulating enclosures
- metallic enclosures with epoxy-polyester powder coating
- gaskets in anti-aging, oil-resistant, grease-resistant and fuel-resistant vinyl nitrile elastomer
- monoblock locking device in stainless steel or galvanised stainless steel for metallic enclosures
- monoblock locking device in self-extinguishing thermoplastic material for insulating enclosures

CZ, CH, CA and MZ, MH, MA, MF, MZF series

- In die-cast aluminium alloy
- with epoxy-polyester powder coating
- gaskets in anti-aging, oil-resistant, grease-resistant and fuel-resistant vinyl nitrile elastomer
- locking device with levers, springs and pegs in stainless steel
- monoblock lever handles in stainless steel (for CZ and MZ enclosures)
- lever handles in self-extinguishing thermoplastic material reinforced with glass fibres, UL approved (for CH, CA and MH, MA enclosures)

insulated 830V version

description

Applications as for the standard version.
The enclosures do not have tabs and allow the insertion of inserts with rated voltage up to 830V (series CME).
The enclosures contain supplementary insulating strips inside.

Characteristics of the materials used:

CM, CMA and MM, MMA, MMF series

- In die-cast aluminium alloy
- with epoxy-polyester powder coating
- gaskets in anti-aging, oil-resistant, grease-resistant and fuel-resistant vinyl nitrile elastomer
- locking device with levers, springs and pegs in stainless steel
- lever handles in self-extinguishing thermoplastic material reinforced with glass fibres, UL approved
- supplementary insulation inside enclosures

enclosures versions and applications

180 °C version

description

This series has been developed for industrial applications where the ambient temperatures are particularly harsh (from -40 °C to +180 °C). The enclosures do not have any internal tabs and allow insertion of the CME inserts.
These enclosures have supplementary insulating strips inside.
These enclosures are for use with inserts in self-extinguishing thermoplastic material (PPS polyphenylene sulphide).
This version is distinguished by the red colour of the enclosures.

Characteristics of the materials used:

CZ..R, CH..R, CA..R and MZ..R, MH..R, MA..R series

- in die-cast aluminium alloy
- chromate treated die cast treatment
- coated with special thermoset powder with high resistant to high temperatures
- gaskets in anti-aging fluoro elastomer
- locking device with levers, springs and pegs in stainless steel
- monoblock levers in stainless steel (for CZ..R, CH..R 48 and MZ..R, MH..R 48 versions)
- lever handles in aluminium with special die-cast coating (for CH..R 10, 16, 24 and MH..R 10, 16, 24 versions)
- supplementary insulation inside enclosures

version for aggressive environments

description

This series has been developed for industrial applications with particularly aggressive external agents (e.g. salt atmospheres or ambients, etc.). The enclosures do not have any internal tabs and allow insertion of the CME inserts.
These enclosures have supplementary insulating strips inside.
This version is distinguished by the green colour of the enclosures.

Characteristics of the materials used:

CK..W and MK..W series

- in die-cast aluminium alloy
- chromate treated die cast treatment
- coated with epoxy-polyester powder
- gaskets in fluoro elastomer
- monoblock locking device in stainless steel

CZ..W, CH..W, CA..W series e MZ..W, MH..W, MA..W

- in die-cast aluminium alloy
- chromate treated die cast treatment
- coated with epoxy-polyester powder
- gaskets in anti-aging fluoro elastomer
- locking device with levers, springs and pegs in stainless steel
- pegs in stainless steel
- monoblock levers in stainless steel (for CZ..W and MZ..W enclosures)
- lever handles in self-extinguishing thermoplastic material reinforced with glass fibres, UL approved (CH..W, CA..W and MH..W, MA..W versions)
- supplementary insulation inside enclosures

EMC version

description

This series has been developed for industrial applications that require electromagnetic compatibility (EMC, Electromagnetic Compatibility), in accordance with the European standards that regulate the emission and immunity of the equipment.
This version is distinguished by the bronze colour of the enclosures.

Characteristics of the materials used:

CK..S and MK..S series

- in die-cast aluminium alloy
- chromate treated die cast treatment with high surface conductivity
- special gaskets in highly conductive material
- monoblock locking device in stainless steel

CZ..S, CH..S, CA..S and MZ..S, MH..S, MA..S series

- in die-cast aluminium alloy
- chromate treated die cast treatment with high surface conductivity
- special gaskets in highly conductive material
- locking device with levers, springs and pegs in stainless steel
- lever handles in self-extinguishing thermoplastic material reinforced with glass fibres, UL approved

enclosures versions and applications

high protection IP68 version

description

For applications in the railway sector and whenever the following characteristics are demanded: high pressure, impact and corrosion resistance, in protection class IP68. Moreover, they provide good electromagnetic screening.
The IP68 protection class marked on the enclosure is guaranteed subject to expert installation and use of cable entry devices with equal or better characteristics.

Characteristics of the materials used:

CG and MG series

- in aluminium alloy corrosion resistant
- chromate treated die cast treatment
- with black epoxy powder coating
- gaskets in anti-aging, oil-resistant, grease-resistant and fuel-resistant vinyl nitrile elastomer
- closure with stainless steel hex-head or bayonet screws.

single lever central position version

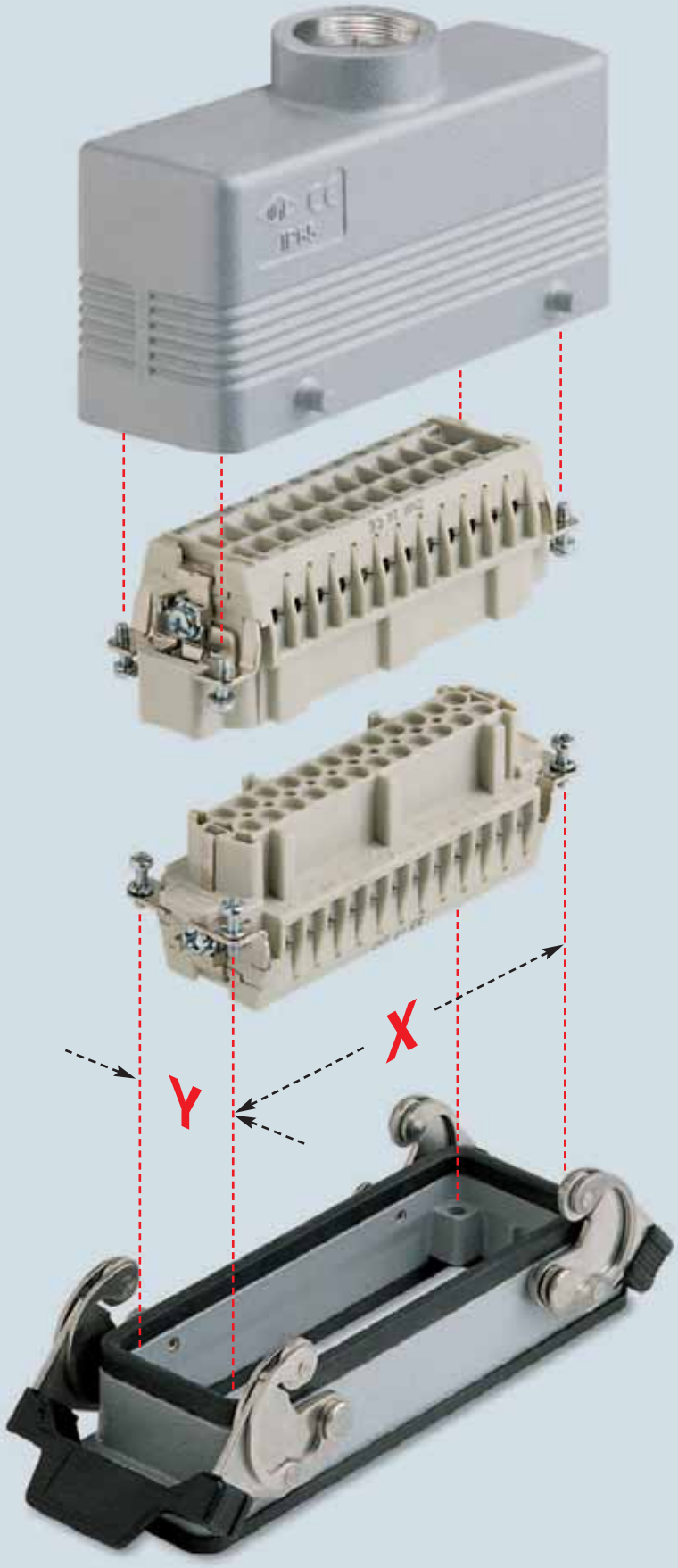
description

This series was specifically made for industrial applications with limited installation space. These enclosures can be installed, placed side-by-side and handled in a single operation. Furthermore, the lever's shape reduces the effort required to uncouple the inner fittings.

Characteristics of the materials used:

CH..YC, CA..YC and MA..YC, CA..YX and MF..YX series

- in die-cast aluminium alloy
- with epoxy-polyester powder coating
- gaskets in anti-aging, oil-resistant, grease-resistant and fuel-resistant vinyl nitrile elastomer
- locking device with single stainless steel lever



Identification of the enclosures

There are a large number of connector inserts and relative enclosures and so the search for a correct combination may be complex.

As well as the normal item part No., to facilitate this operation a further identification parameter has been introduced in this catalogue, the **"size"** value.

As indicated in the illustration on the left and in the table below the size value refers to the screw fixing centre distances which constitute a unique element since they are common to both the inserts and the enclosures.

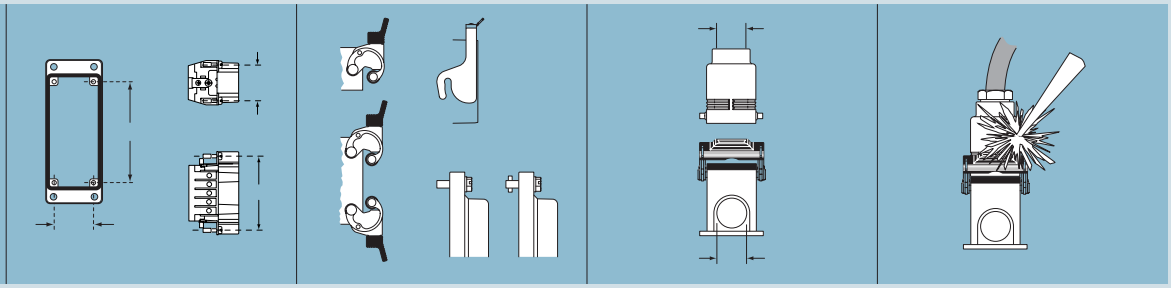
All the pages that illustrate combinable articles (inserts and enclosures) carry references as per the examples illustrated on the opposite page.

Following is a table that shows all the sizes of the enclosures and the dimensions of the housings where the inserts will be fastened.

enclosure "size" identification	housing space for inserts with screw fixing centre distance x-y
"21.21"	(21 x 21 mm)**
"49.16"	49.5 x 16 mm
"66.16"	66 x 16 mm
"66.40"	66 x 16 mm (2 inserts)
"44.27"	44 x 27 mm
"57.27"	57 x 27 mm
"77.27"	77.5 x 27 mm
"104.27"	104 x 27 mm
"77.62"	77.5 x 27 mm (2 inserts)
"104.62"	104 x 27 mm (2 inserts)

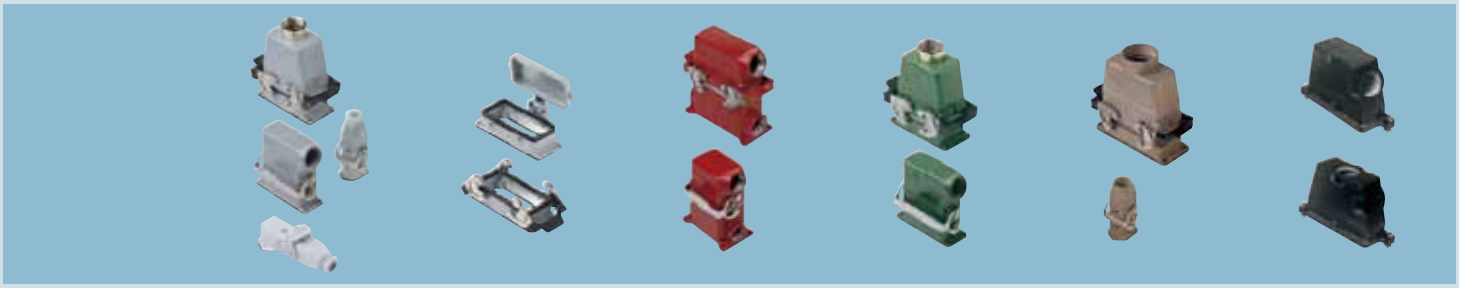
**** with dimensions relative to the size of the sectioned inserts the screw fixing centre distance cannot be given because they only have one screw.**

enclosures and inserts combinations



enclosures size	for inserts with screw fixing centre distance mm	locking device type	Pg or Metric cable clamp diameter min ÷ max	coupled enclosures degree of protection
21.21	**---**	single	Pg 11 M 20	IP44, IP65 and IP68
49.16	49.5 x 16	single	Pg 13.5 ÷ 21 M 20 ÷ 25	IP65
66.16	66 x 16	single	Pg 16 ÷ 21 M 20 ÷ 25	IP65
66.40	66 x 16 **(x2)**	double	Pg 21 ÷ 29 M 25 ÷ 40	IP65
44.27	44 x 27	single or double single with central lever screw or bayonet	Pg 13.5 ÷ 29 M 20 ÷ 40	IP65 and IP68
57.27	57 x 27	single or double single with central lever screw or bayonet	Pg 16 ÷ 29 M 20 ÷ 40	IP65 and IP68
77.27	77.5 x 27	single or double single with central lever screw or bayonet	Pg 21 ÷ 36 M 25 ÷ 50	IP65 and IP68
104.27	104 x 27	single or double single with central lever screw or bayonet	Pg 21 ÷ 36 M 25 ÷ 50	IP65 and IP68
77.62	77.5 x 27 **(x2)**	single or double	Pg 29 ÷ 42 M 32 ÷ 50	IP65
104.62	104 x 27 **(x2)**	single	Pg 29 ÷ 42 M 32 ÷ 50	IP65

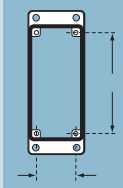
enclosures and inserts combinations



enclosures size	enclosures versions standard pages	insulated 830V pages	180 °C pages	for aggressive environments pages	EMC pages	high protection IP68 pages
21.21	✔ 139 ÷ 142	✗	✎ on request	✔ 143	✔ 144	✔ 218 ÷ 219
49.16	✔ 145 ÷ 146	✗	✎ on request	✔ 147	✔ 148	✗
66.16	✔ 149 ÷ 150	✗	✎ on request	✔ 151	✔ 152	✗
66.40	✔ 155 ÷ 156	✗	✗	✔ 157	✗	✗
44.27	✔ 159 ÷ 162	✗	✔ 163	✔ 164	✔ 165	✔ 221 ÷ 224
57.27	✔ 167 ÷ 170	✔ 171 ÷ 174	✔ 175	✔ 176	✔ 177	✔ 221 ÷ 224
77.27	✔ 179 ÷ 182	✔ 183 ÷ 186	✔ 187	✔ 188	✔ 189	✔ 221 ÷ 224
104.27	✔ 191 ÷ 194	✔ 195 ÷ 198	✔ 199	✔ 200	✔ 201	✔ 221 ÷ 224
77.62	✔ 203 ÷ 206	✔ see standard enclosures	✗	✔ 207	✗	✗
104.62	✔ 208	✔ see standard enclosures	✔ 209	✔ 210	✗	✗

✔ = normal production
✎ = may be supplied on request, contact our sales offices
✗ = not available at present

enclosures and inserts combinations



rated current

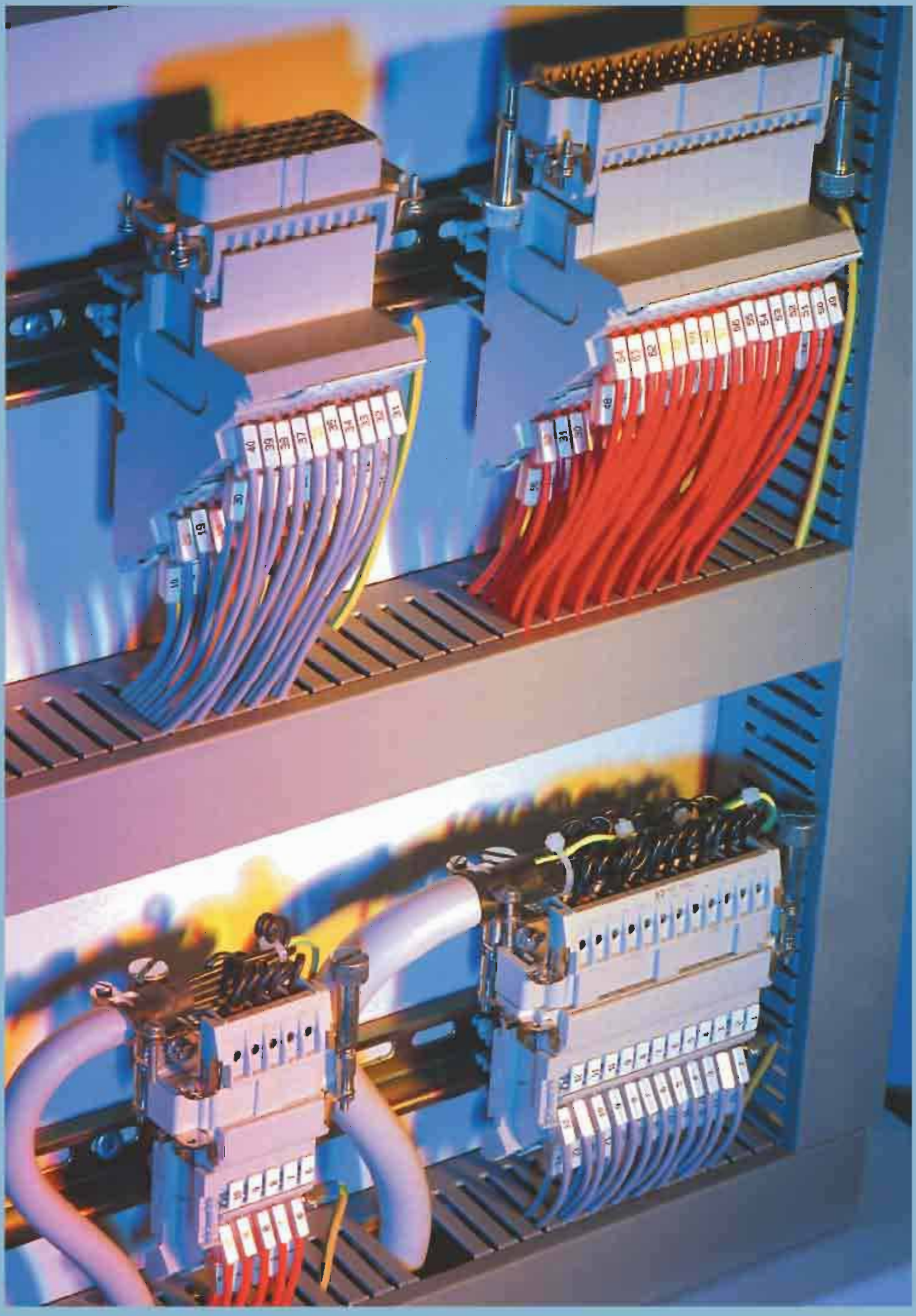
10A	10A	10A	10A	16A	16A	16A	16A	16A	16A	16A	16A	16A	35A	16A 10A	40A 10A	80A 16A	100A 40A 16A 10A 5A

inserts series

enclosures size	catalogue index pages	CK	CD	CT, CTS	CDD	CDA	CDC	CQ, CQE	CC, CCE	CN, CNE	CS, CSE	CTE, CTSE	CME	CMSE, CMCE	CP	CX	CX	CX	MIXO
		inserts polarity + ⏚																	
21.21	139 ÷ 144	3 4	7 8#					5											
49.16	145 ÷ 148		15			10	10												①*
66.16	149 ÷ 152		25		38	16	16												
66.40	155 ÷ 157		50		76	32	32												
44.27	159 ÷ 165				24			10	6	6	6	6✲							②*
57.27	167 ÷ 177				42			18	10	10	10	10✲	$3+^{2}$	$3+^{2}$		8/24			③*
77.27	179 ÷ 189		40	40✲	72			32	16	16	16	16✲	$6+^{2}$	$6+^{2}$	6		6/36 12/2	4/0 4/2	④*
104.27	191 ÷ 201		64	64✲	108			46	24	24	24	24✲	$10+^{2}$ $16+^{2}$	$10+^{2}$ $16+^{2}$★				4/8	⑥*
77.62	203 ÷ 207		80		144			64	32	32	32	32✲	$12+^{4}$	$12+^{4}$	12				⑧*
104.62	208 ÷ 210		128		216			92	48	48	48	48✲	$20+^{4}$ $32+^{4}$	$20+^{4}$ $32+^{4}$★					⑫*
inserts catalogue index	**pages**	33	35 ÷ 43	46 and 47	49 ÷ 56	58 ÷ 62	59 ÷ 63	64 ÷ 71	72 ÷ 94	73 ÷ 95	73 ÷ 95	98 ÷ 101	103 ÷ 113	102 ÷ 113	115 and 116	117	118 and 119	120 and 121	124 ÷ 131

\# = polarity without earth contact
✲ = may be mounted exclusively in bulkhead housings
◯* = number of modular inserts that may be inserted in the enclosures
★ = polarity unavailable in the CMSE version

The polarity values in "**red**" are obtained using double inserts
The polarity values in "**green**" must be mounted exclusively in insulated enclosures (CM - CMA and MM - MMA series)
The polarity values indicated as exponentials in the CME, CMCE and CMSE inserts identify the pilot contacts for advanced opening

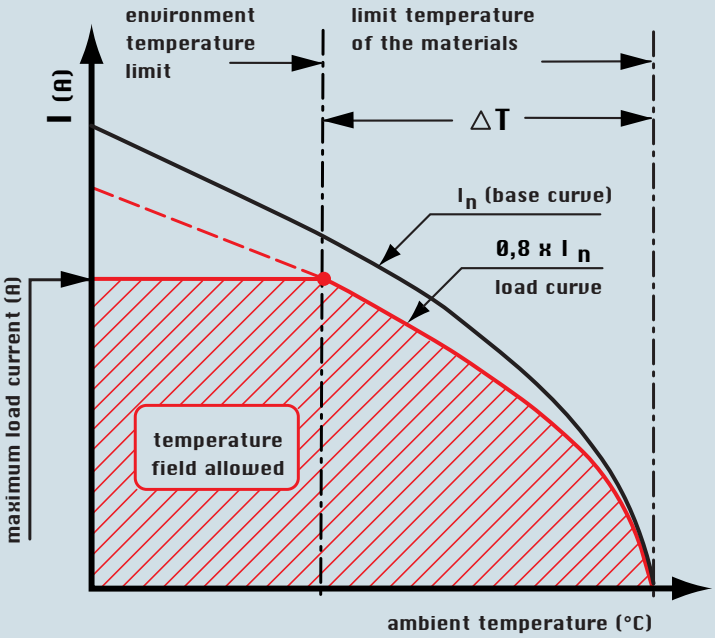


limit current curves of the inserts

general

load curves

The current carrying capacity possible in the connectors is variable. It reduces with the increase of the number of poles and the temperature of the environment in which the connector is installed and is determined by the thermal properties of the materials used for the contacts and the insulating parts as well as by the type of conductor used.
The current carrying capacity is obtained from the load curves which are constructed according to standard IEC 60512-3 for currents circulating simultaneously in all poles.
The limit current curves express current values that determine the achievement of the highest limit temperature of the materials. The choice of the permanent load applicable on the contacts must be made within the field of operation possible delimited by the above curves.
Since the use of the connectors at the limit of the values of their characteristics is not recommended, **the base curve** is derated. The reduction of the load curves to 80% defines the correction curve where both the maximum contact resistance permissible and the inaccuracy of the temperature measurements are sufficiently borne in consideration.
The correction curve represents the **final limit current curve (load curve)** as defined by standard IEC 60512-3.
It therefore bears in consideration the difference between the various connectors, as well as errors in the temperature measurements.
All the load curves presented herebelow include the corrections.

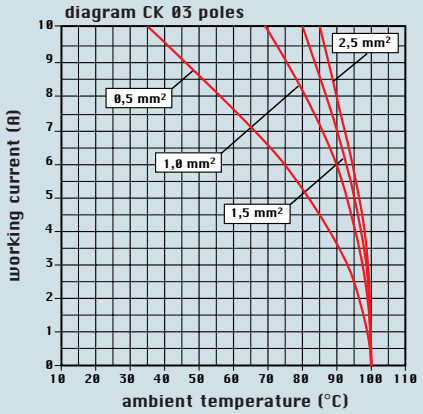


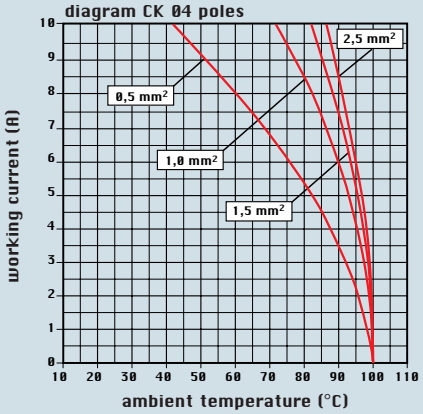
Legend:

Maximum load current (A): value for which the connector reaches the limit temperature of the material at the environmental temperature, intersected on the load curve.
Limit temperature of the materials: value determined by the characteristics of the materials used. The sum of the environmental temperature and the increase of the simbolo ΔT temperature caused by the passage of the current must not exceed the limit temperature of the materials.
Environment temperature limit: the environmental conditions must not exceed this value. It may be know and determines the maximum load current, or may be obtained directly from the load curve.
Base curve: set of current and temperature values obtained from laboratory tests and influenced by the connector's characteristics (number of poles, construction shape, thermal conductivity of the materials, etc.) and the section of the conductor used.
Load curve (limit current curve): obtained from the base curve via the safety coefficient.
ΔT (overtemperature): temperature increase produced by a permanent current circulating through all the poles of a connector coupling; difference between the limit temperature of the materials and the environmental temperature obtained on the limit current curve.

CK series

curves

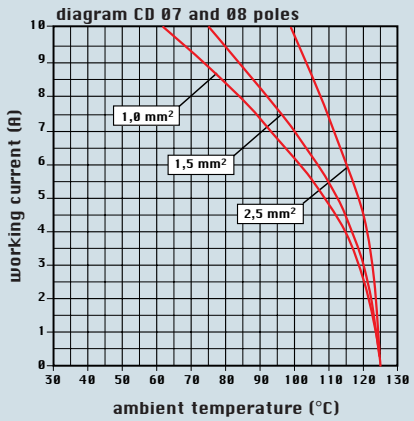


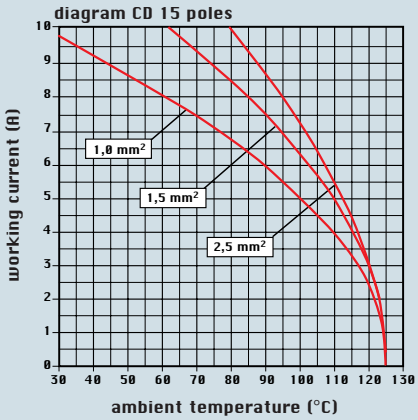


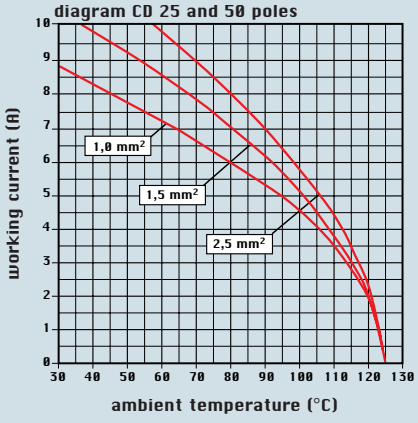
limit current curves of the inserts

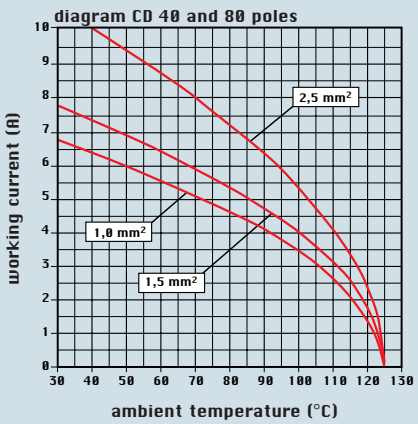
CD series

curves



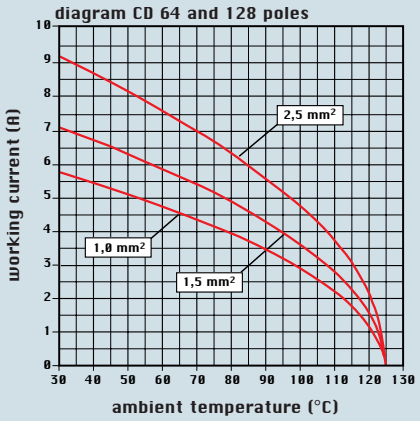






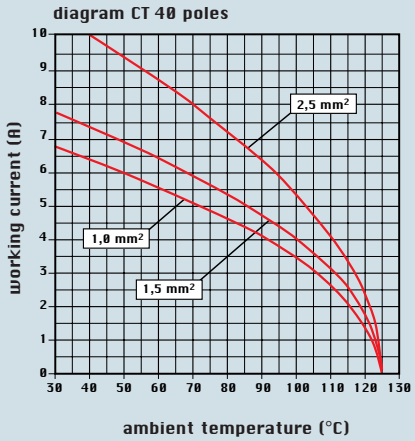
CD series

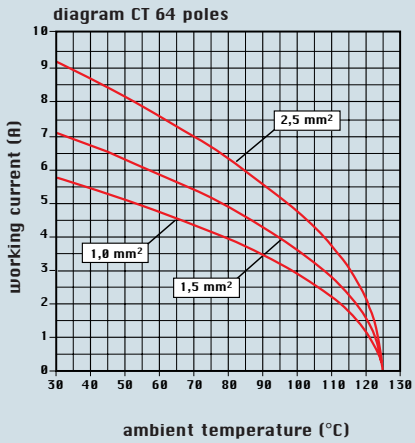
curves



CT (10A) series

curves





limit current curves of the inserts

CDD series

curves

diagram CDD 24 poles

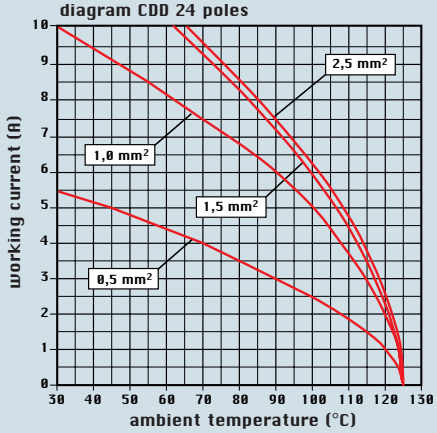


diagram CDD 38 and 76 poles

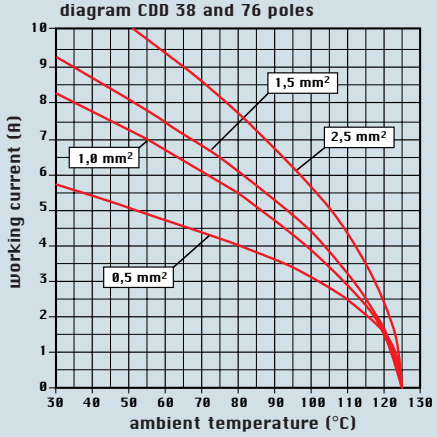


diagram CDD 42 poles

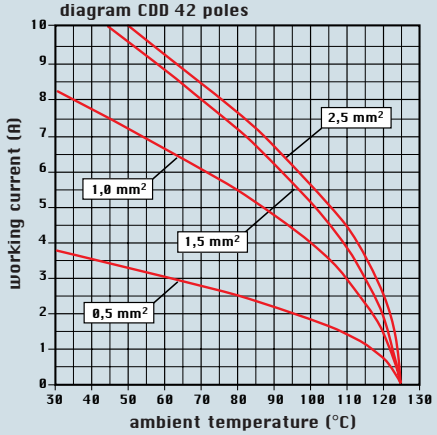
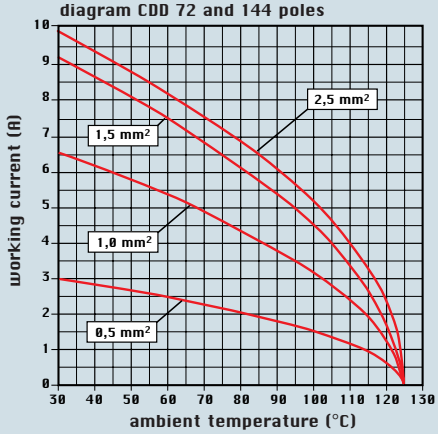


diagram CDD 72 and 144 poles



CDD and CDA/CDC series CQ series

curves

diagram CDD 108 and 216 poles

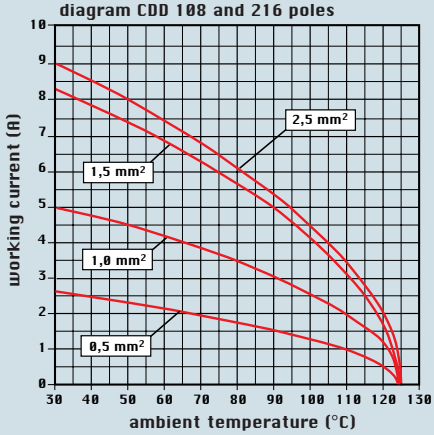


diagram CDA and CDC 10 poles

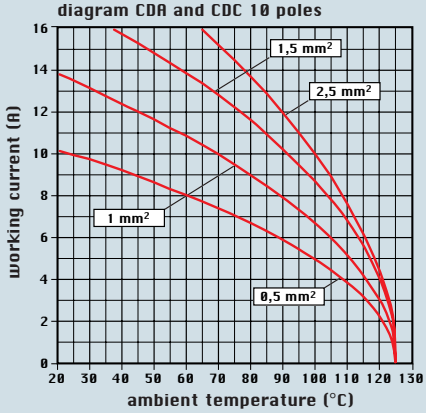


diagram CDA and CDC 16 and 32 poles

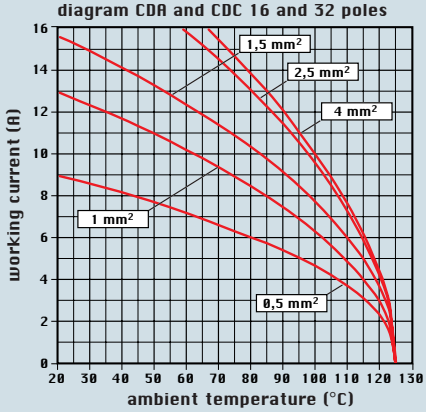
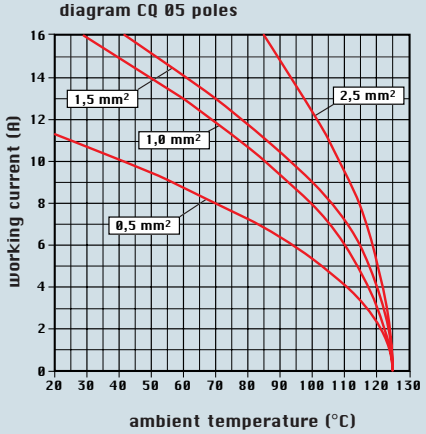


diagram CQ 05 poles



CQE series

curves

diagram CQE 10 poles

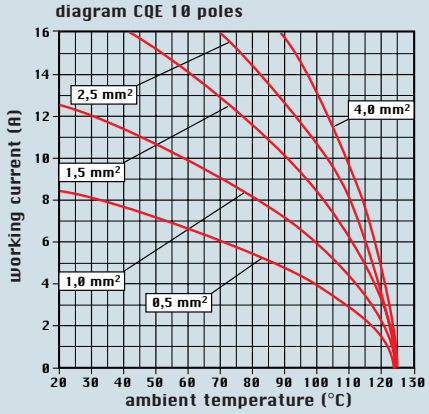


diagram CQE 18 poles

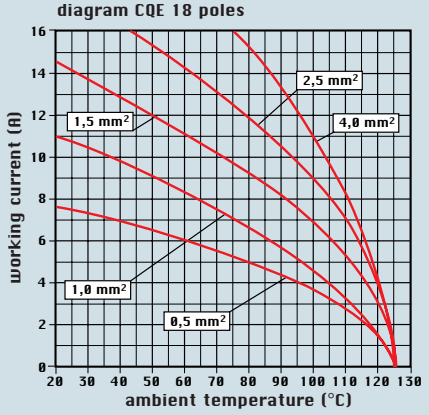


diagram CQE 32 and 64 poles

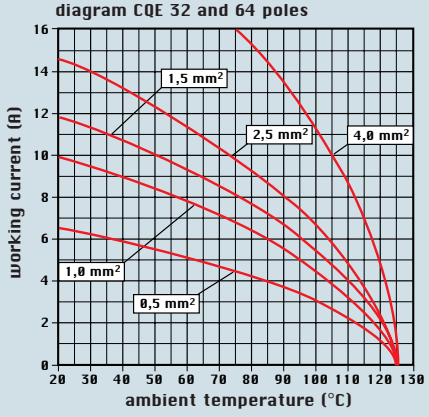
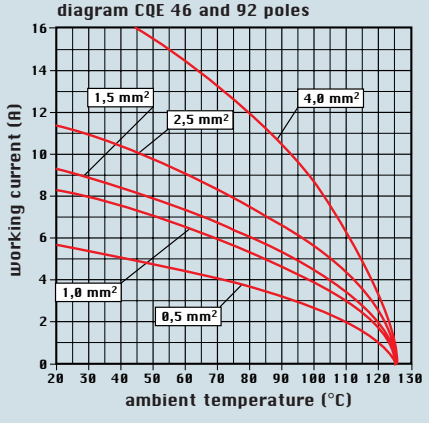


diagram CQE 46 and 92 poles



limit current curves of the inserts

CC, CCE, CN, CNE, CS and CSE series

curves

diagram CC, CCE, CN, CNE, CS and CSE 06 poles

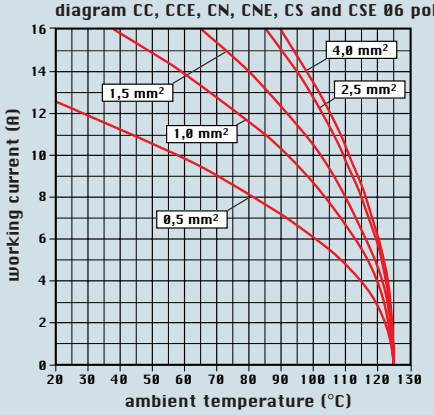


diagram CC, CCE, CN, CNE, CS and CSE 10 poles

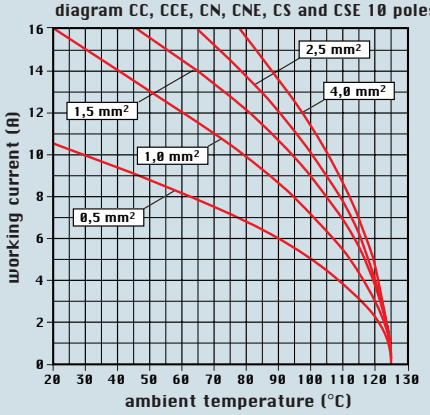


diagram CC, CCE, CN, CNE, CS and CSE 16 and 32 poles

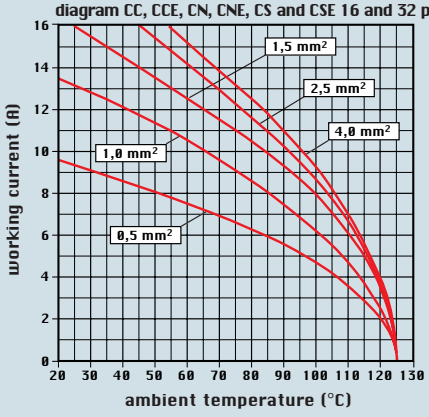
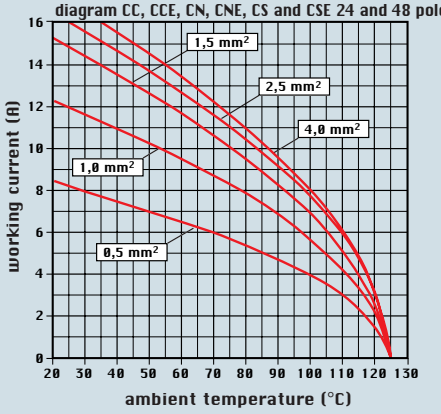


diagram CC, CCE, CN, CNE, CS and CSE 24 and 48 poles



CTE (16A) series

curves

diagram CTE 06 poles

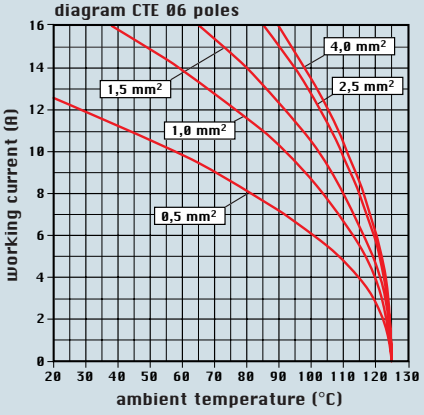


diagram CTE 10 poles

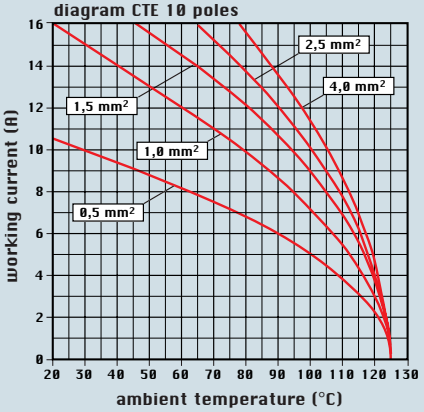


diagram CTE 16 poles

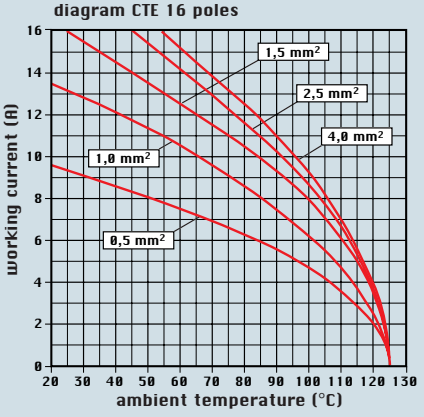
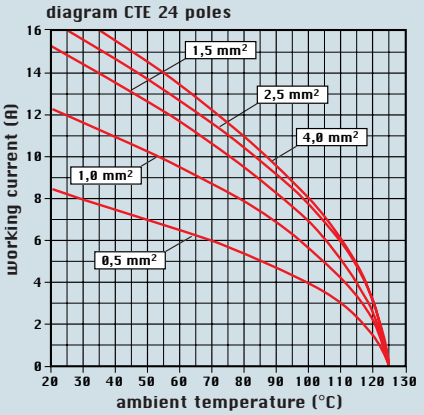


diagram CTE 24 poles



CMCE, CME and CMSE series

curves

diagram CMCE, CME and CMSE 03 poles

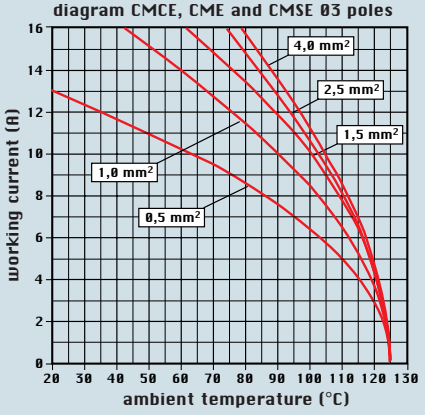


diagram CMCE, CME and CMSE 06 and 12 poles

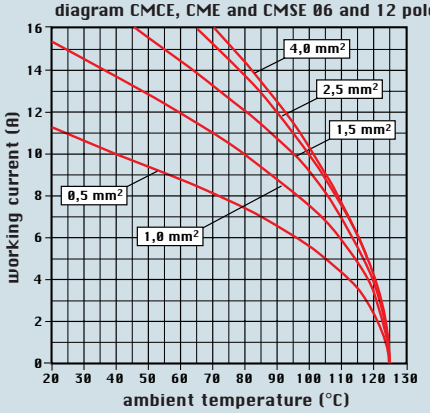


diagram CMCE, CME and CMSE 10 and 20 poles

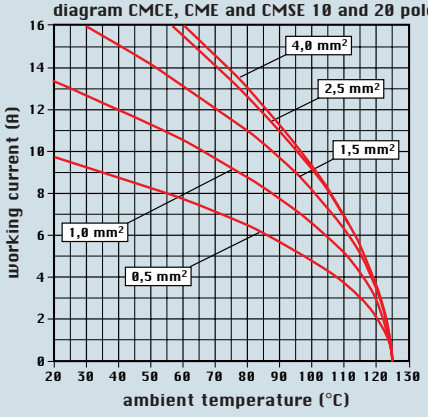
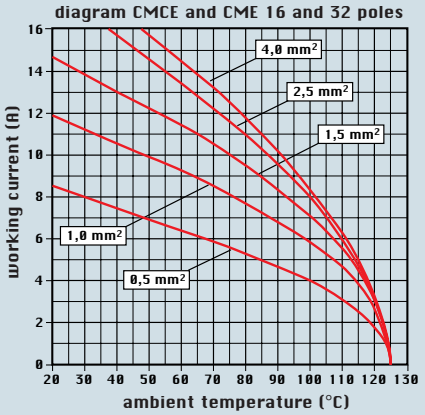


diagram CMCE and CME 16 and 32 poles

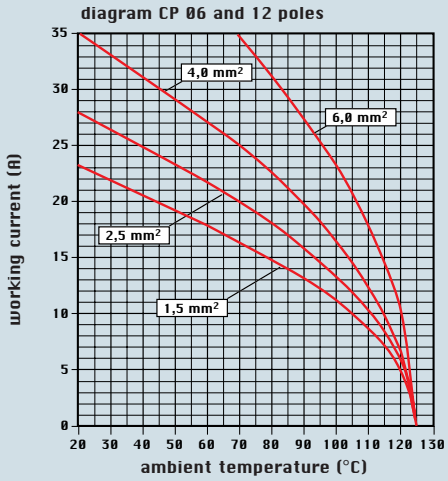


limit current curves of the inserts

CP series

curves

diagram CP 06 and 12 poles



CX 8/24 series

curves

diagram CX 8/24 power poles

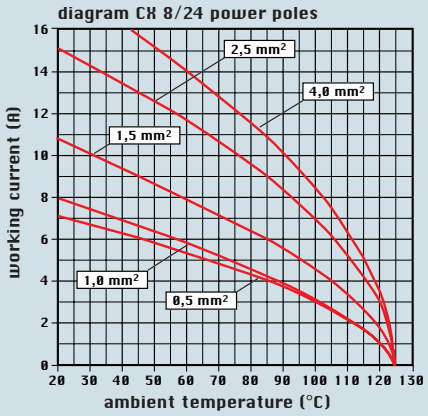
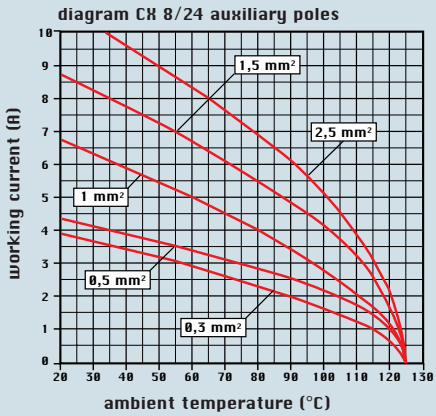


diagram CX 8/24 auxiliary poles



CX 6/36 and 12/2 series

curves

diagram CX 6/36 power poles

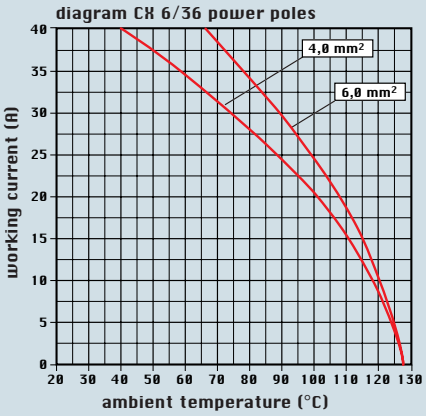


diagram CX 6/36 auxiliary poles

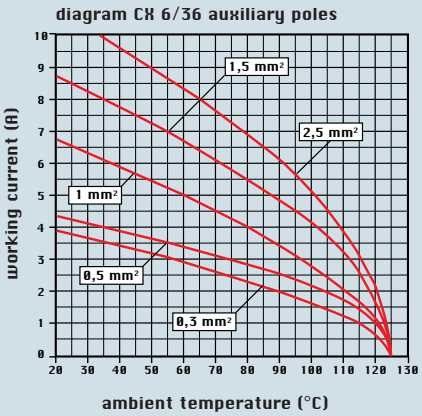


diagram CX 12/2 power poles

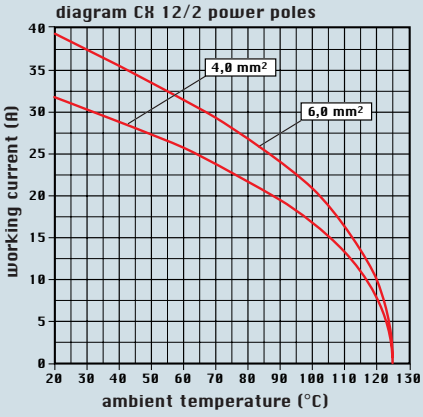
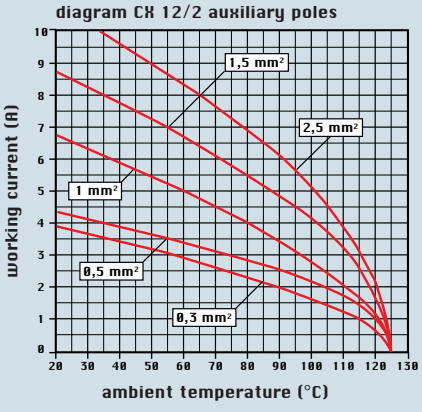


diagram CX 12/2 auxiliary poles



limit current curves of the inserts

CX 4/0 and 4/2 series

curves

diagram CX 4/0 poles

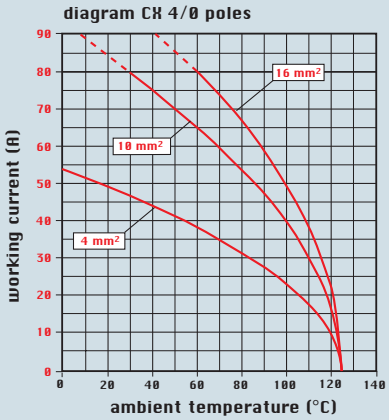


diagram CX 4/2 poles

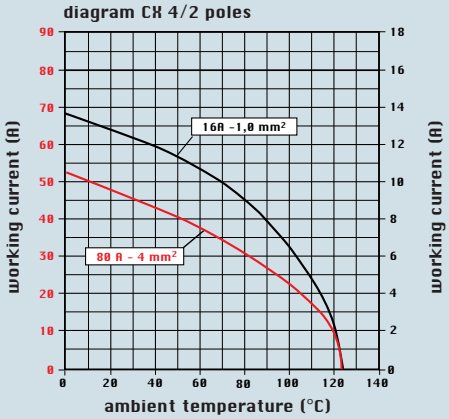


diagram CX 4/2 poles

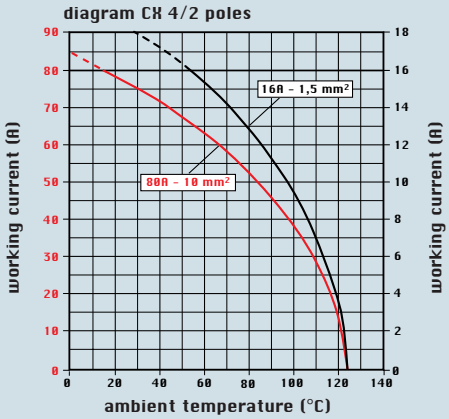
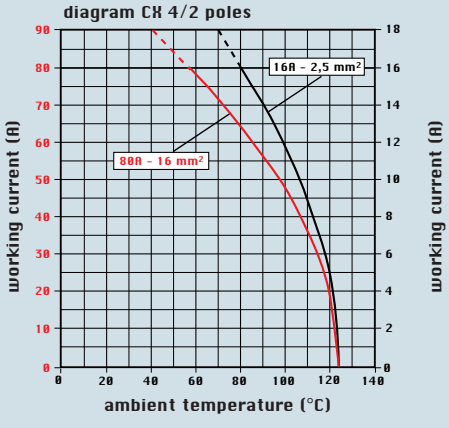


diagram CX 4/2 poles



CX 4/8 series

curves

diagram CX 4/8 poles

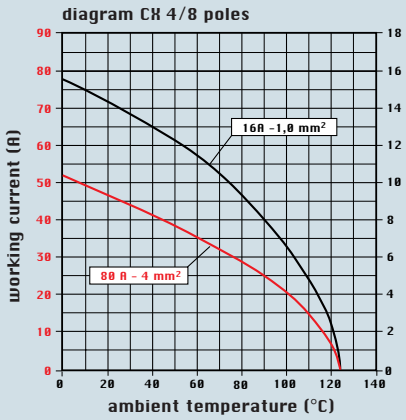


diagram CX 4/8 poles

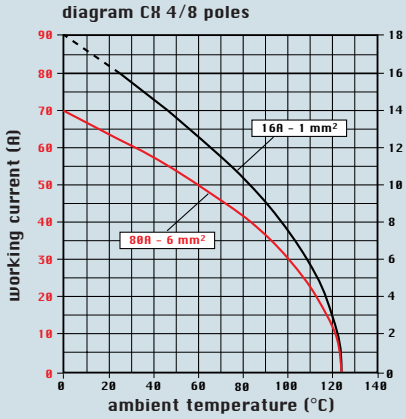


diagram CX 4/8 poles

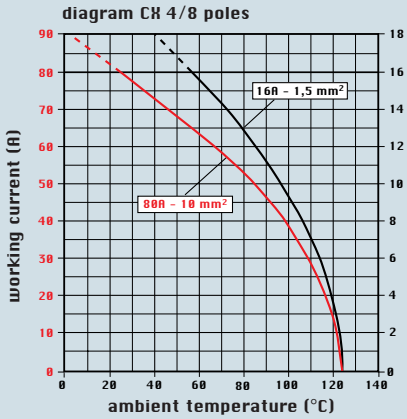
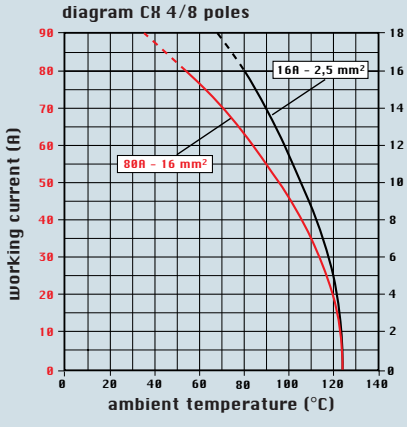


diagram CX 4/8 poles



MIXO (CX 03, CX 05, CX 06, CX 12) series

curves

diagram CX 03 poles

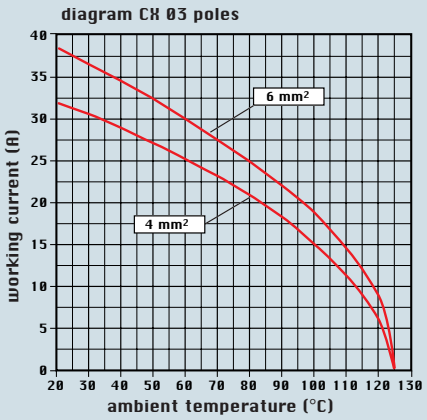


diagram CX 05 and 06 poles

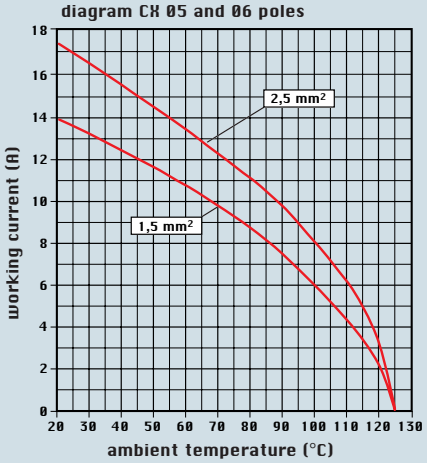
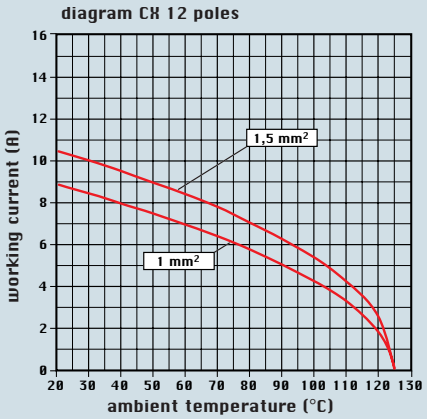
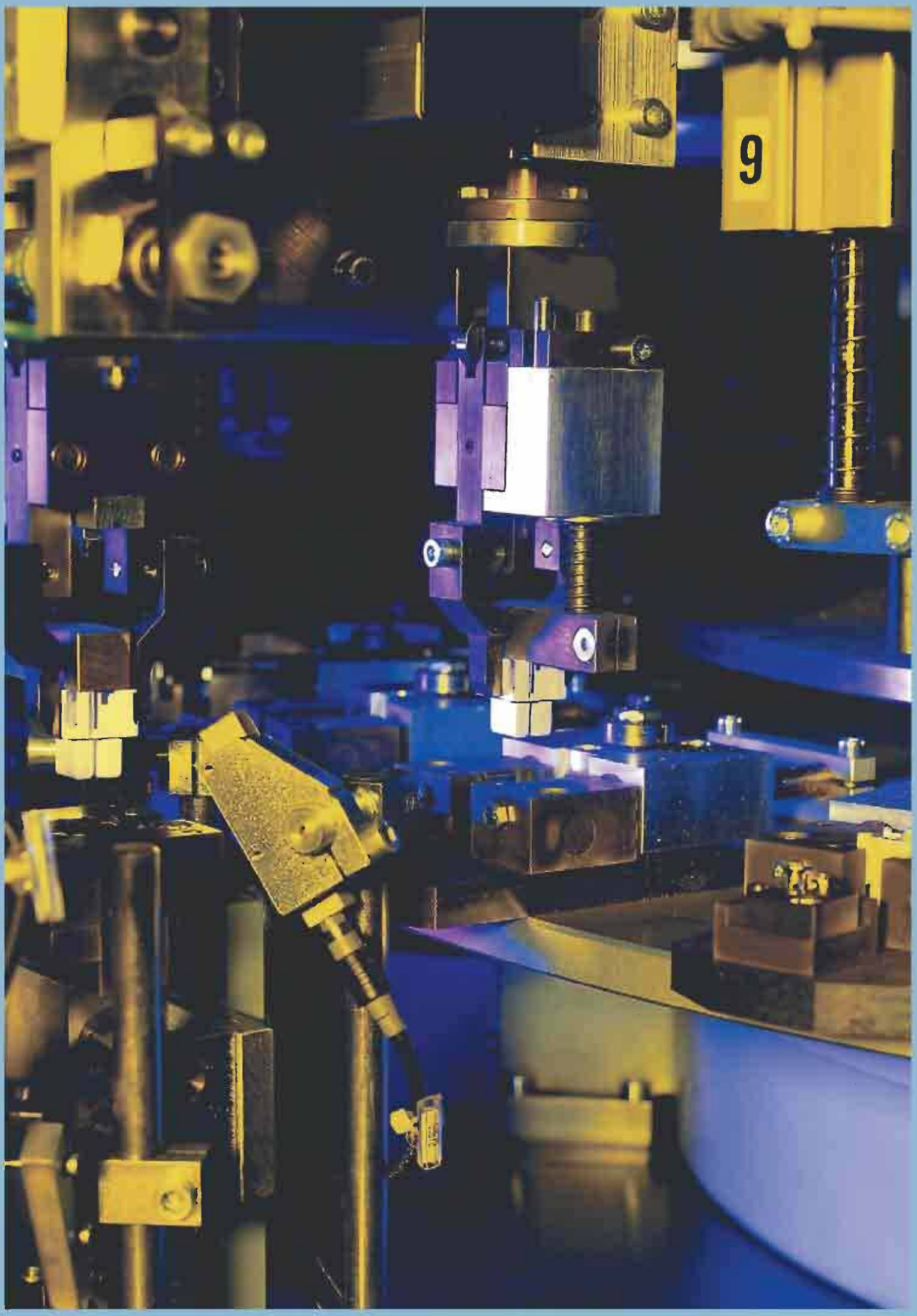


diagram CX 12 poles




9

- limit current curves of the inserts see page 26
- inserts and enclosures for use in temperatures up to 180 °C are available on request

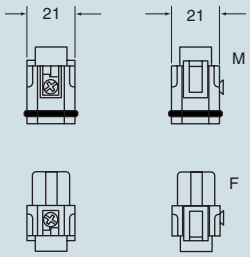
inserts, 3 poles + ⏚
screw terminal connections

inserts, 4 poles + ⏚
screw terminal connections

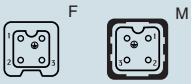
description	part No.	part No.	part No.	part No.
distinctive colour female inserts with female contacts [1)] male inserts with male contacts	white **CKF 03** **CKM 03**	black **CKF 03 N** **CKM 03 N**		
distinctive colour female inserts with female contacts [1)] male inserts with male contacts			white **CKF 04** **CKM 04**	black **CKF 04 N** **CKM 04 N**

[1)] the female inserts can be mounted into the straight bulkhead housings CK I from the rear

dimensions in mm

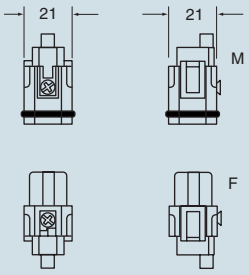


terminal side (front view)

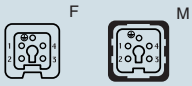


- inserts for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- torsion couple recommended for conductor screws and stripping length see table at page 13

dimensions in mm



terminal side (front view)



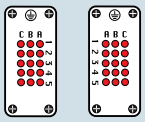
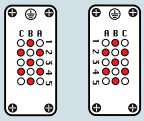
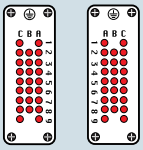
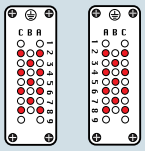
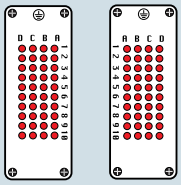
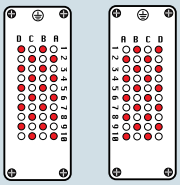
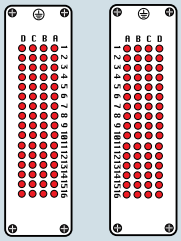
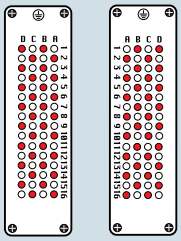
- inserts for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- torsion couple recommended for conductor screws and stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

If all the contacts are used, the CD inserts series connectors may be used with voltages of up to 250V (first column) pollution degree 3 in accordance with the standard EN 61984.
If the number of contacts is reduced and the contacts accordingly assigned, these connectors may be used with higher voltages. This is possible because the decrease in the number of contacts leads to an increase in the surface distance in the air. When the contacts are arranged as shown below, the inserts may be used for voltages of 500V (second column) pollution degree 3 in accordance with the standard EN 61984.

Legend:

- ● working contact
- ○ without contact
- M = male insert
- F = female insert

for use up to 250V pollution degree 3	for use up to 500V pollution degree 3
diagrams terminal side (front view)	diagrams terminal side (front view)
CD 7 + ⏚ F M 	**CD 3 + ⏚** F M 
CD 15 + ⏚ F M 	**CD 7 + ⏚** F M 
CD 25 + ⏚ F M 	**CD 11 + ⏚** F M 
CD 40 + ⏚ F M 	**CD 20 + ⏚** F M 
CD 64 + ⏚ F M 	**CD 32 + ⏚** F M 

CD 7 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures: **size “21.21”**

insulating type ..... page: 139 ÷ 140

- limit current curves of the inserts see page 27
- see diagrams on page 34 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256
- code pin with loss of one contact see page 242

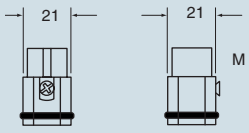
inserts, crimp connections

10A crimp contacts silver and gold plated

description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts, grey and black [1] male inserts for male contacts, grey and black	grey **CDF 07** **CDM 07**	black **CDF 07 N** **CDM 07 N**		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5			**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5** **silver plated**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5** **gold plated**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5			**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

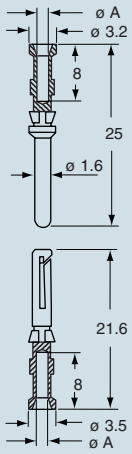
[1] the female inserts can be mounted into the straight bulkhead housings CK I from the rear

dimensions in mm



terminal side (front view)

dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

CD 8 poles 10A max - 50V/0.8kV/3

enclosures: **size “21.21”**

- limit current curves of the inserts see page 27
- tools for crimp contacts see pages 248, 252, 254 and 256
- code pin with loss of one contact see page 242

inserts, crimp connections

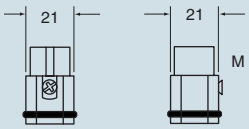
10A crimp contacts silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts [1]	**CDF 08**		
male inserts for male contacts	**CDM 08**		
10A female contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDMA 2.5**	**CDMD 2.5**

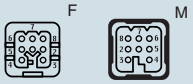
silver plated | **gold plated**

[1] the female inserts can be mounted into the straight bulkhead housings CK I from the rear

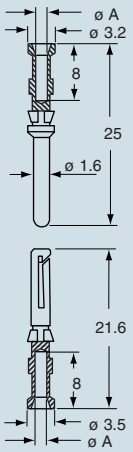
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

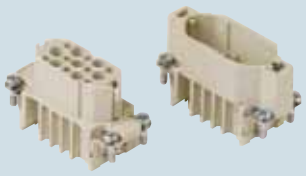
CD 15 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures: **size "49.16"**

panel supports:

- limit current curves of the inserts see page 27
- see diagrams on page 34 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256

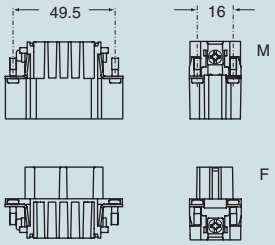
inserts, crimp connections



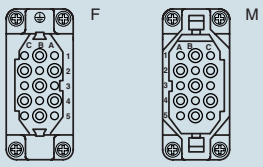
10A crimp contacts silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDF 15** **CDM 15**		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5** **silver plated**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5** **gold plated**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

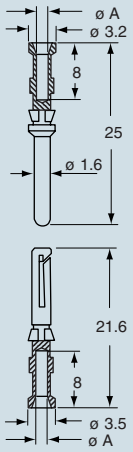
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

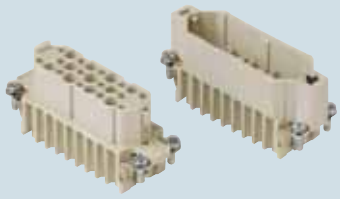
CD 25 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures: **size "66.16"**

panel supports:

- limit current curves of the inserts see page 27
- see diagrams on page 34 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256

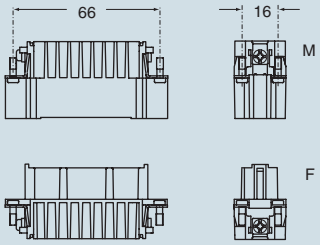
inserts, crimp connections



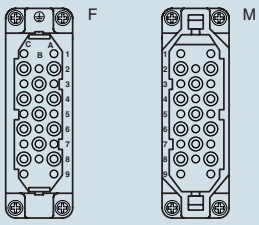
10A crimp contacts silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDF 25** **CDM 25**		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5** **silver plated**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5** **gold plated**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

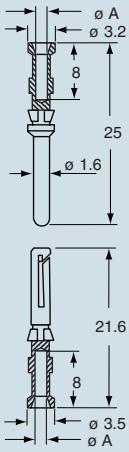
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

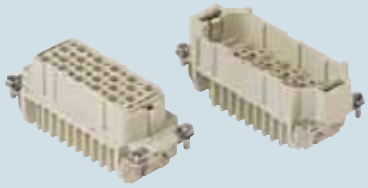
CD 40 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures: **size “77.27”**

panel supports:

- limit current curves of the inserts see page 27
- see diagrams on page 34 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

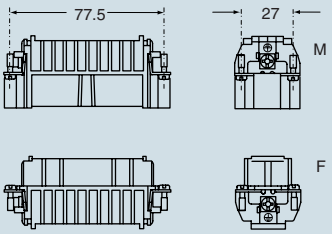


10A crimp contacts silver and gold plated

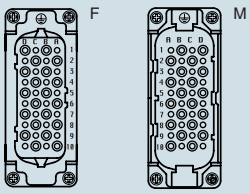
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDF 40** **CDM 40**		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

silver plated | **gold plated**

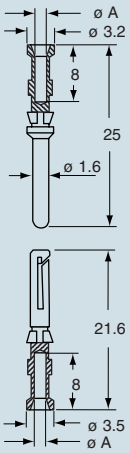
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

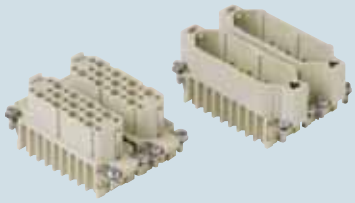
dimensions indicated are not binding and may be changed without notice

CD 50 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures: **size “66.40”**

- limit current curves of the inserts see page 27
- see diagrams on page 34 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections



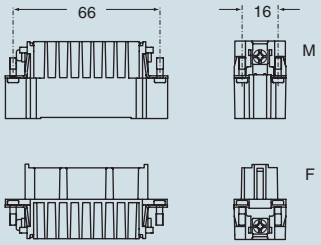
10A crimp contacts silver and gold plated

description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (A1÷C9) and (ZA1÷ZC9)* male inserts, No. (A1÷C9) and (ZA1÷ZC9)*	**CDF 25** **CDM 25**	**CDF 25 Z*** **CDM 25 Z***		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5			**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5			**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

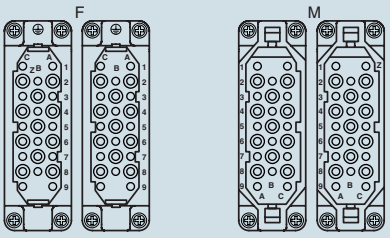
silver plated **gold plated**

* coding in conformance with Euromap

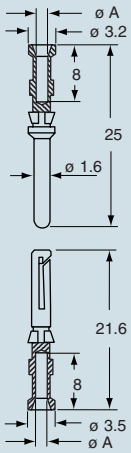
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

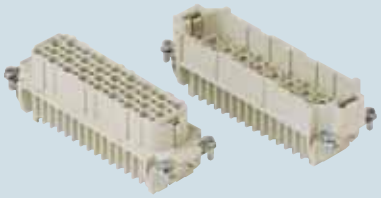
CD 64 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures: **size "104.27"**

panel supports:

- limit current curves of the inserts see page 27
- see diagrams on page 34 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

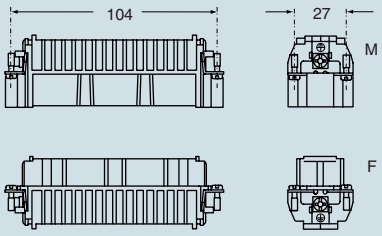


10A crimp contacts silver and gold plated

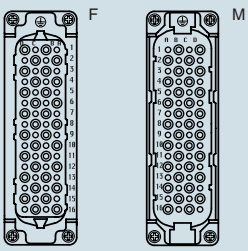
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDF 64** **CDM 64**		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

silver plated | **gold plated**

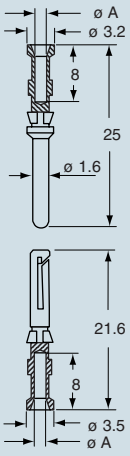
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

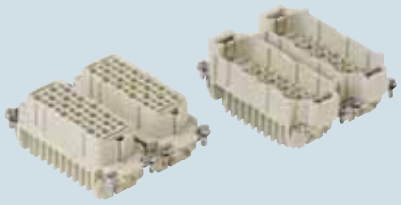
CD 80 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures: **size "77.62"**

standard ..... page: 203 ÷ 206
aggressive environments .. page: 207

- limit current curves of the inserts see page 27
- see diagrams on page 34 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

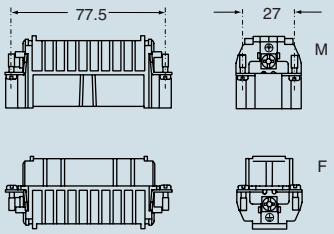


10A crimp contacts silver and gold plated

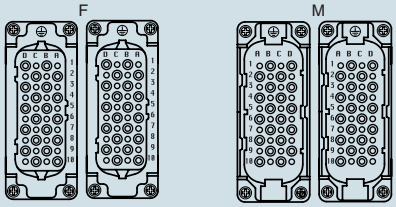
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately)				
female inserts	**CDF 40**	**CDF 40**		
male inserts	**CDM 40**	**CDM 40**		
10A female contacts				
0.14÷0.37 mm² AWG 26÷22 identification No. 1			**CDFA 0.3**	**CDFD 0.3**
0.5 mm² AWG 20 identification No. 2			**CDFA 0.5**	**CDFD 0.5**
0.75 mm² AWG 18 identification No. ②			**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3			**CDFA 1.0**	**CDFD 1.0**
1.5 mm² AWG 16 identification No. 4			**CDFA 1.5**	**CDFD 1.5**
2.5 mm² AWG 14 identification No. 5			**CDFA 2.5**	**CDFD 2.5**
10A male contacts				
0.14÷0.37 mm² AWG 26÷22 identification No. 1			**CDMA 0.3**	**CDMD 0.3**
0.5 mm² AWG 20 identification No. 2			**CDMA 0.5**	**CDMD 0.5**
0.75 mm² AWG 18 identification No. ②			**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3			**CDMA 1.0**	**CDMD 1.0**
1.5 mm² AWG 16 identification No. 4			**CDMA 1.5**	**CDMD 1.5**
2.5 mm² AWG 14 identification No. 5			**CDMA 2.5**	**CDMD 2.5**

silver plated **gold plated**

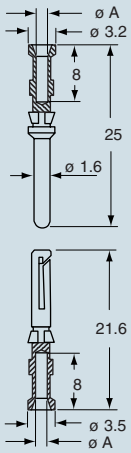
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

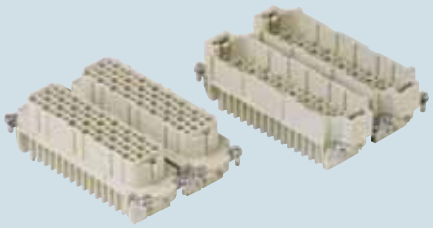
dimensions indicated are not binding and may be changed without notice

CD 128 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures: **size "104.62"**

- limit current curves of the inserts see page 27
- see diagrams on page 34 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

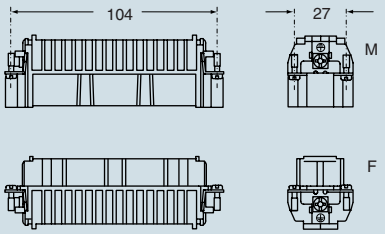


10A crimp contacts silver and gold plated

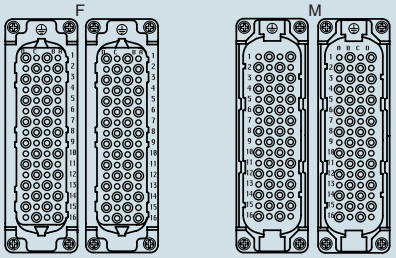
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately)				
female inserts	**CDF 64**	**CDF 64**		
male inserts	**CDM 64**	**CDM 64**		
10A female contacts				
0.14÷0.37 mm² AWG 26÷22 identification No. 1			**CDFA 0.3**	**CDFD 0.3**
0.5 mm² AWG 20 identification No. 2			**CDFA 0.5**	**CDFD 0.5**
0.75 mm² AWG 18 identification No. ②			**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3			**CDFA 1.0**	**CDFD 1.0**
1.5 mm² AWG 16 identification No. 4			**CDFA 1.5**	**CDFD 1.5**
2.5 mm² AWG 14 identification No. 5			**CDFA 2.5**	**CDFD 2.5**
10A male contacts				
0.14÷0.37 mm² AWG 26÷22 identification No. 1			**CDMA 0.3**	**CDMD 0.3**
0.5 mm² AWG 20 identification No. 2			**CDMA 0.5**	**CDMD 0.5**
0.75 mm² AWG 18 identification No. ②			**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3			**CDMA 1.0**	**CDMD 1.0**
1.5 mm² AWG 16 identification No. 4			**CDMA 1.5**	**CDMD 1.5**
2.5 mm² AWG 14 identification No. 5			**CDMA 2.5**	**CDMD 2.5**

silver plated / **gold plated**

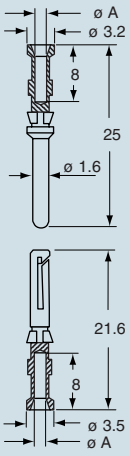
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

Use

The CT-series multipole connectors (with incorporated terminal block) are recommended for greater cost-saving and safety for use on machines and command and control panels.

For control panel mounting, bulkhead housings must be used. This makes it possible to maintain the IP65 degree of protection (in accordance with EN 60529) for coupled housing-mounted connectors.

The CT series inserts (10A max versions) are supplied in the plug or socket versions and must be mounted with insertion from the rear of the enclosure (**Figures 1** and **2**). The space occupied by the terminal block does not allow for the passage of the insert and insertion from the front of the enclosure.

As an alternative to the traditional terminal blocks, the inserts can be mounted inside the control panels on DIN EN rails (**Figure 5**) using suitable accessories providing the added advantage of easy sectioning.

The special structure of the CT inserts has all the conductor connections on the same side providing for easier wiring and a complete view of the work area.

The terminal block also has slots for housing the identification wire markers of each contact. Wire markers of different manufacturers may be used such as: Cabur, Grafoplast, Modernotecnica, Phoenix, Siemens, Wago, Weidmüller.

The CT series is available in the versions "left" and "right" for mounting on the left (**Figure 3**) or on the right (**Figure 4**) of the control panel walls.
This characteristic is determined by the position of contact "1" and the ground terminal in the upper part of the insert terminal block for both left and right mounting.

The installation of inserts on DIN rails (**Figure 5**) inside the control panels is usually made to facilitate the wiring in sectionable parts.
In this case the degree of protection for coupled connectors is IP20 (in accordance with EN 60529).

This type of mounting requires supports (CT APE) to be provided to the inserts suitable for mounting on DIN EN 60715 rail.

In addition, CRBF (female) and CRBM (male) coupling screws instead of normal screws are recommended for fixing the inserts to the enclosures (**Figure 5**) in order to guarantee a stable and safe coupling between the CT and CTS inserts installed on the DIN rails and corresponding CD inserts.

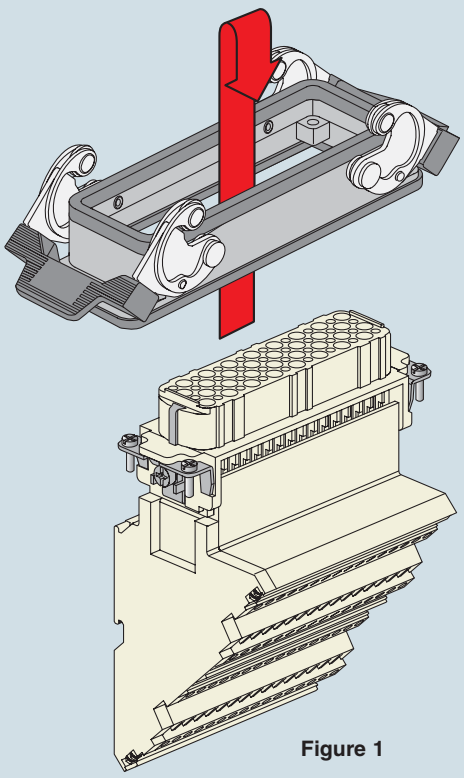


Figure 1

Figures 1 and 2 (rear mounting)

The insert is inserted into the bulkhead housing with pre-wired conductors connected at the opposite end.

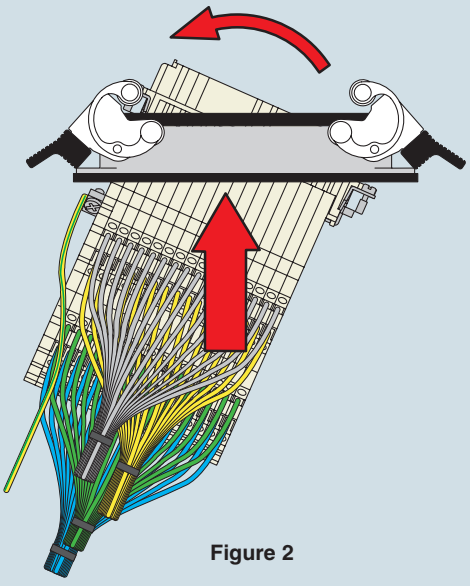


Figure 2

Figure 3 (left mounting)

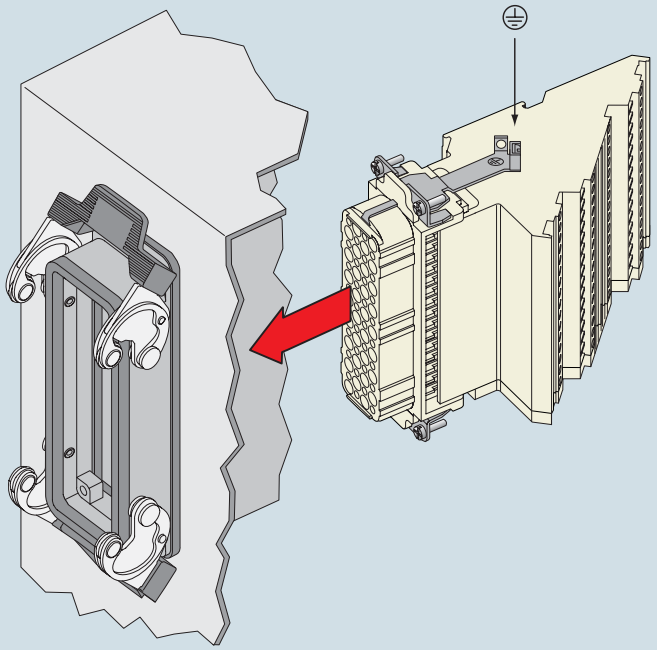
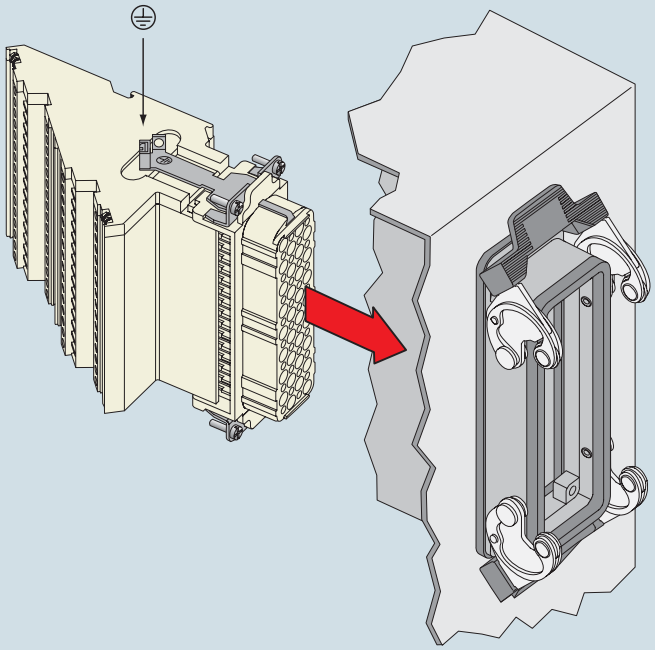


Figure 4 (right mounting)



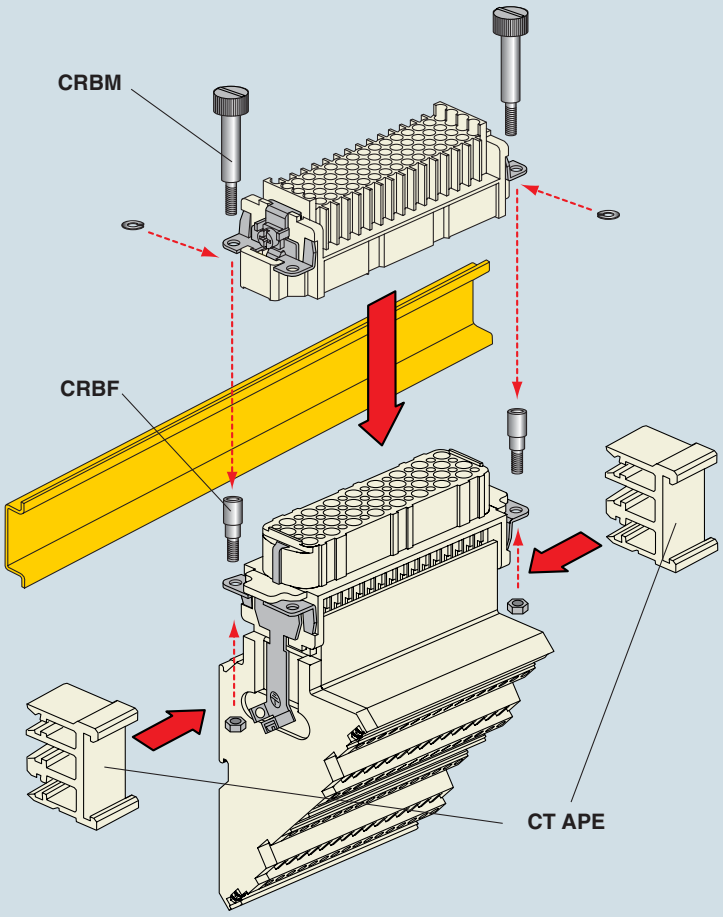
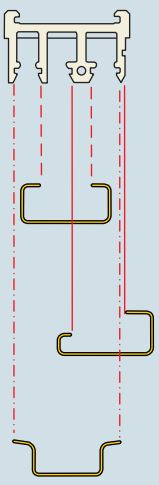


Figure 5 (mounting on DIN rail)



CT APE
possibility of coupling to DIN EN 60715 rail (for a greater stability of the CT inserts of 40 and 64 poles we recommend using the two CT APE supports)

EN 60715
C 30

EN 60715
G 32

EN 60715
TH 35-7.5 and **TH 35-15**

accessories for CT inserts

- support for mounting on DIN rail (**CT APE** page 233)
- inserts coupling screws (**CRBM** and **CRBF** page 233)
- cable-clamping plates (**CRAD** and **CRAS** page 233)

CT - CTS 40 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures*): **size "77.27"**

*) only bulkhead mounted housings

- may be coupled to CD inserts
- rear-mounted inserts
- limit current curves of the inserts see page 27

terminal block inserts
screw terminal connection

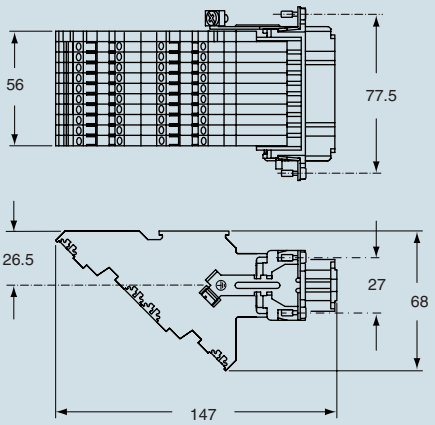
terminal block inserts
spring terminal connection

description	part No.	part No.	part No.	part No.
side-mounting female inserts with female contacts 1) male inserts with male contacts 1)	left **CTF 40 L** **CTM 40 L**	right **CTF 40 R** **CTM 40 R**		
side-mounting female inserts with female contacts male inserts with male contacts			left **CTSF 40 L** **CTSM 40 L**	right **CTSF 40 R** **CTSM 40 R**

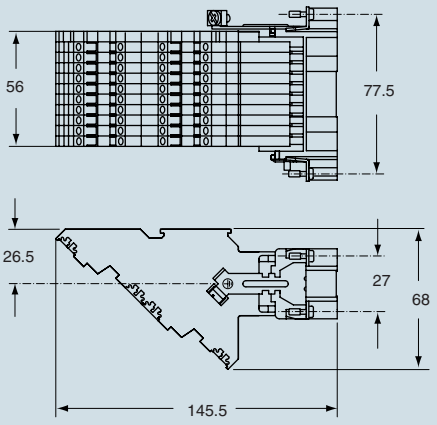
1) for non-prepared conductors

dimensions in mm

female inserts (CTF and **CTSF)**

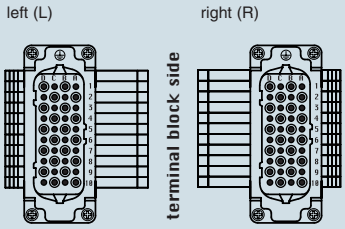


male inserts (CTM and **CTSM)**

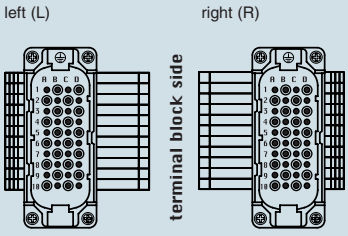


terminal side (front view)

female inserts (CTF and **CTSF)**



male inserts (CTM and **CTSM)**



- CT inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping length see table at page 13

- CTS spring inserts for section conductors: effective sections for non-prepared conductors 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14 effective sections for prepared conductors 0.14 ÷ 1 mm² - AWG 26 ÷ 18
- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

CT - CTS 64 poles + ⏚ 10A max - 250V/2.5kV/3

enclosures*): **size "104.27"**

*) only bulkhead mounted housings

- may be coupled to CD inserts
- rear-mounted inserts
- limit current curves of the inserts see page 27

terminal block inserts
screw terminal connection

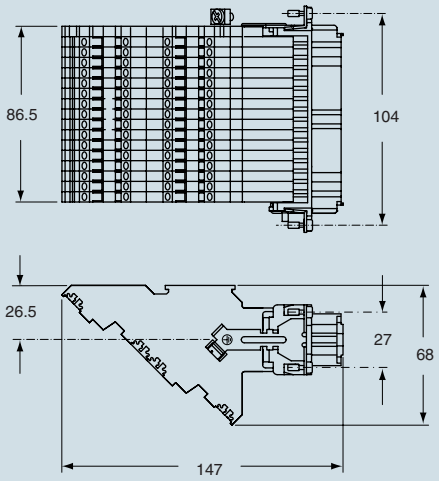
terminal block inserts
spring terminal connection

description	part No.	part No.	part No.	part No.
side-mounting female inserts with female contacts 1) male inserts with male contacts 1)	left **CTF 64 L** **CTM 64 L**	right **CTF 64 R** **CTM 64 R**		
side-mounting female inserts with female contacts male inserts with male contacts			left **CTSF 64 L** **CTSM 64 L**	right **CTSF 64 R** **CTSM 64 R**

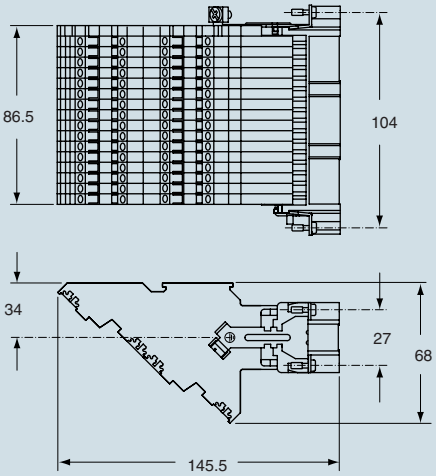
1) for non-prepared conductors

dimensions in mm

female inserts (CTF and **CTSF)**

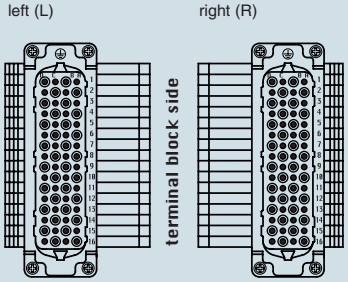


male inserts (CTM and **CTSM)**

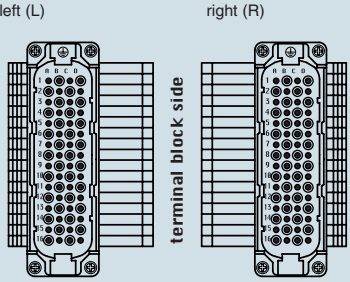


terminal side (front view)

female inserts (CTF and **CTSF)**



male inserts (CTM and **CTSM)**



- CT inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping length see table at page 13

- CTS spring inserts for section conductors: effective sections for non-prepared conductors 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14 effective sections for prepared conductors 0.14 ÷ 1 mm² - AWG 26 ÷ 18
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

When all the contacts are used, the CDD inserts series connectors may be used with voltages of up to 250V ~ (first column); insulation group C, in accordance with the standard DIN VDE 0110b/1979-02.
If the number of contacts is reduced and the contacts accordingly assigned, these connectors may be used with higher voltages. This is possible because the decrease in the number of contacts leads to an increase in the surface insulation distance in the air. When the contacts are arranged as shown below, the inserts may be used for voltages of 400V ~ (second column) and 500V (third column); insulation group C, in accordance with the standard DIN VDE 0110b/1979-2.

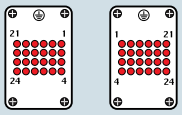
Legend:

- ● working contact
- ○ without contact
- M = male insert
- F = female insert

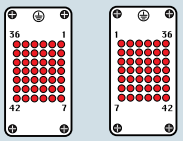
for use up to 250V ~ insulation group C

diagrams
terminal side (front view)

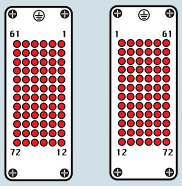
CDD
24 + ⊕
F **M**



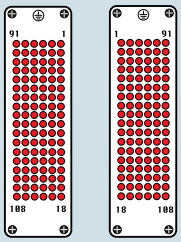
CDD
42 + ⊕
F **M**



CDD
72 + ⊕
F **M**



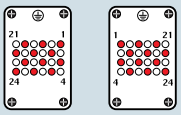
CDD
108 + ⊕
F **M**



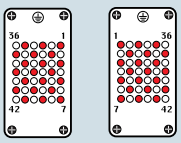
for use up to 400V ~ insulation group C

diagrams
terminal side (front view)

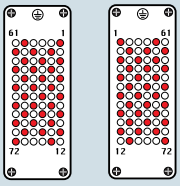
CDD
12 + ⊕
F **M**



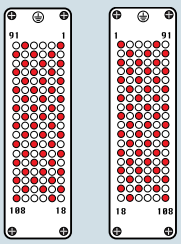
CDD
21 + ⊕
F **M**



CDD
34 + ⊕
F **M**



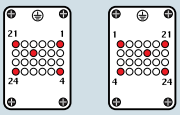
CDD
52 + ⊕
F **M**



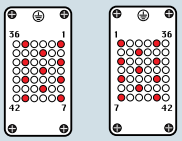
for use up to 500V ~ insulation group C

diagrams
terminal side (front view)

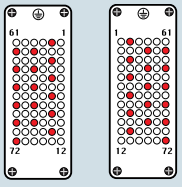
CDD
5 + ⊕
F **M**



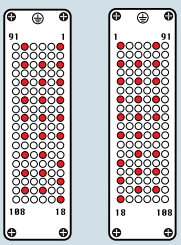
CDD
11 + ⊕
F **M**



CDD
17 + ⊕
F **M**



CDD
26 + ⊕
F **M**



CDD 24 poles + ⏚ 10A max - 250V/Gr. C

enclosures: **size "44.27"**

panel supports:

- limit current curves of the inserts see page 28
- see diagrams on page 48 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256
- see page 235 for interfaces with printed circuits

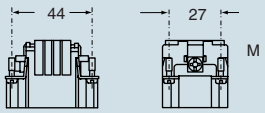
inserts, crimp connections

10A crimp contacts silver and gold plated

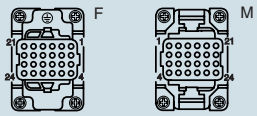
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDDF 24** **CDDM 24**		
10A female contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDMA 2.5**	**CDMD 2.5**

silver plated | **gold plated**

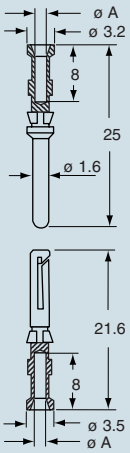
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

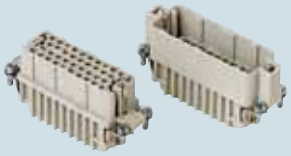
CDD 38 poles + ⏚ 10A max - 250V/Gr. C

enclosures: **size "66.16"**

panel supports:

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

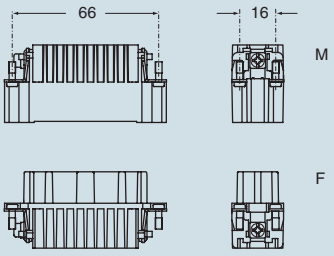


10A crimp contacts silver and gold plated

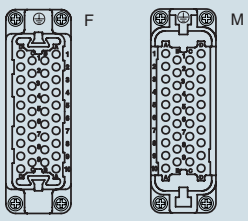
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDDF 38** **CDDM 38**		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

silver plated **gold plated**

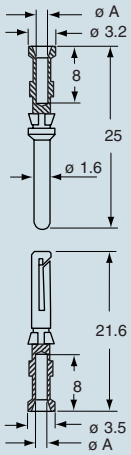
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

CDD 42 poles + ⏚ 10A max - 250V/Gr. C

enclosures: **size "57.27"**

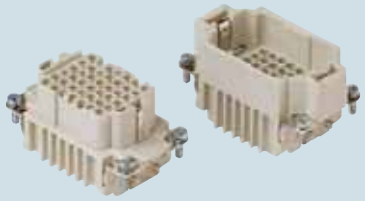
standard ..... page: 167 ÷ 170
aggressive environments .. page: 176
EMC ..... page: 177

panel supports:

COB ..... page: 214 ÷ 215

- limit current curves of the inserts see page 28
- see diagrams on page 48 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256
- see page 235 for interfaces with printed circuits

inserts, crimp connections

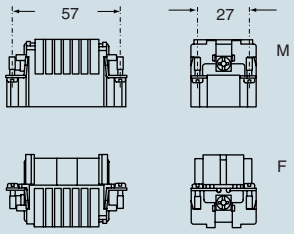


10A crimp contacts silver and gold plated

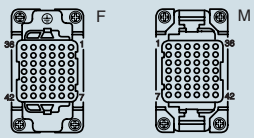
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDDF 42** **CDDM 42**		
10A female contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDMA 2.5**	**CDMD 2.5**

silver plated | **gold plated**

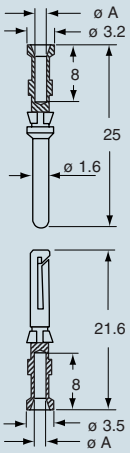
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

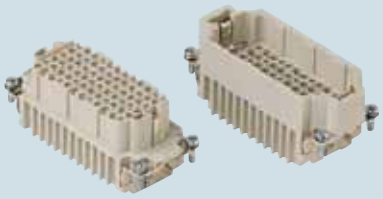
CDD 72 poles + ⏚ 10A max - 250V/Gr. C

enclosures: **size "77.27"**

panel supports:

- limit current curves of the inserts see page 28
- see diagrams on page 48 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256
- see page 235 for interfaces with printed circuits

inserts, crimp connections

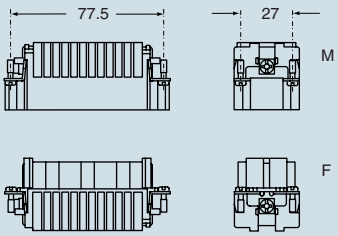


10A crimp contacts silver and gold plated

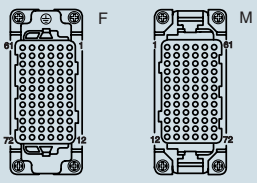
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDDF 72** **CDDM 72**		
10A female contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDMA 2.5**	**CDMD 2.5**

silver plated | **gold plated**

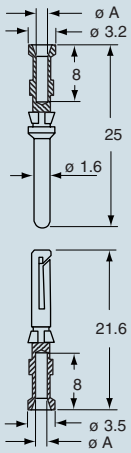
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

CDD 76 poles + ⏚ 10A max - 250V/Gr. C

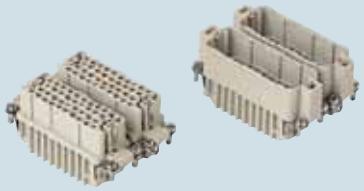
enclosures: **size "66.40"**

standard ..... page: 155 ÷ 156

aggressive environments .. page: 157

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

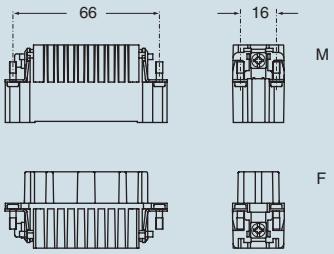


10A crimp contacts silver and gold plated

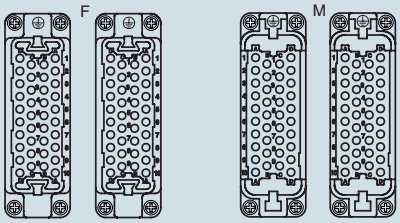
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately)				
female inserts	**CDDF 38**	**CDDF 38**		
male inserts	**CDDM 38**	**CDDM 38**		
10A female contacts				
0.14÷0.37 mm² AWG 26÷22 identification No. 1			**CDFA 0.3**	**CDFD 0.3**
0.5 mm² AWG 20 identification No. 2			**CDFA 0.5**	**CDFD 0.5**
0.75 mm² AWG 18 identification No. ②			**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3			**CDFA 1.0**	**CDFD 1.0**
1.5 mm² AWG 16 identification No. 4			**CDFA 1.5**	**CDFD 1.5**
2.5 mm² AWG 14 identification No. 5			**CDFA 2.5**	**CDFD 2.5**
10A male contacts				
0.14÷0.37 mm² AWG 26÷22 identification No. 1			**CDMA 0.3**	**CDMD 0.3**
0.5 mm² AWG 20 identification No. 2			**CDMA 0.5**	**CDMD 0.5**
0.75 mm² AWG 18 identification No. ②			**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3			**CDMA 1.0**	**CDMD 1.0**
1.5 mm² AWG 16 identification No. 4			**CDMA 1.5**	**CDMD 1.5**
2.5 mm² AWG 14 identification No. 5			**CDMA 2.5**	**CDMD 2.5**

silver plated | **gold plated**

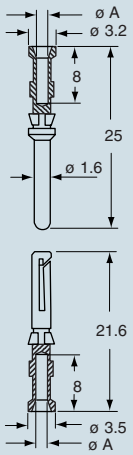
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

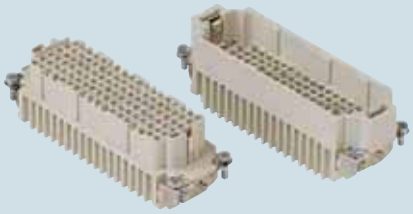
CDD 108 poles + ⏚ 10A max - 250V/Gr. C

enclosures: **size "104.27"**

panel supports:

- limit current curves of the inserts see page 28
- see diagrams on page 48 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256
- see page 235 for interfaces with printed circuits

inserts, crimp connections

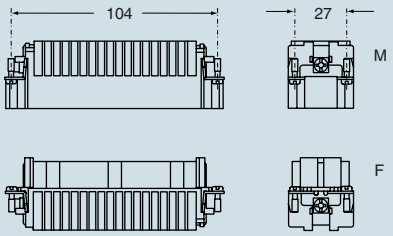


10A crimp contacts silver and gold plated

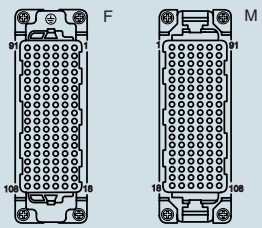
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDDF 108** **CDDM 108**		
10A female contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts			
0.14÷0.37 mm² AWG 26÷22 identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0.5 mm² AWG 20 identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0.75 mm² AWG 18 identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1.5 mm² AWG 16 identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2.5 mm² AWG 14 identification No. 5		**CDMA 2.5**	**CDMD 2.5**

silver plated | **gold plated**

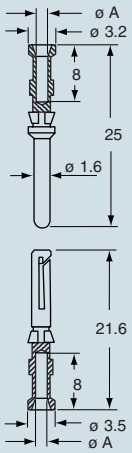
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

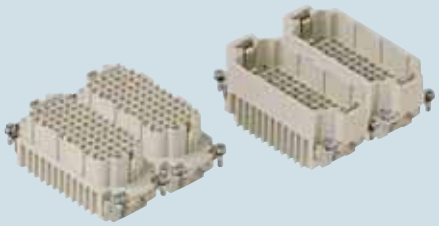
CDD 144 poles + ⏚ 10A max - 250V/Gr. C

enclosures: **size “77.62”**

standard ..... page: 203 ÷ 206
aggressive environments .. page: 207

- limit current curves of the inserts see page 28
- see diagrams on page 48 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256
- see page 235 for interfaces with printed circuits

inserts, crimp connections

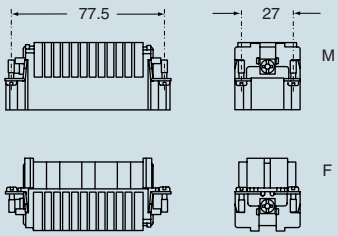


10A crimp contacts silver and gold plated

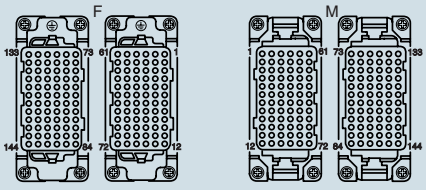
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷72) and (73÷144) male inserts, No. (1÷72) and (73÷144)	**CDDF 72** **CDDM 72**	**CDDF 72 N** **CDDM 72 N**		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5			**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5			**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

silver plated **gold plated**

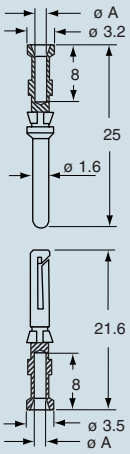
dimensions in mm



terminal side (front view)



dimensions in mm



CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

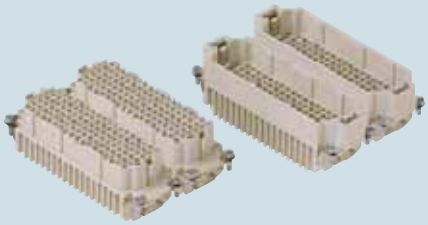
CDD 216 poles + ⏚ 10A max - 250V/Gr. C

enclosures: **size "104.62"**

standard ..... page: 208
aggressive environments .. page: 210

- limit current curves of the inserts see page 28
- see diagrams on page 48 for uses with higher voltages
- tools for crimp contacts see pages 248, 252, 254 and 256
- see page 235 for interfaces with printed circuits

inserts, crimp connections

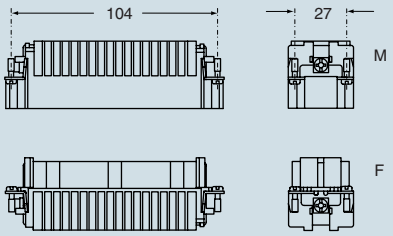


10A crimp contacts silver and gold plated

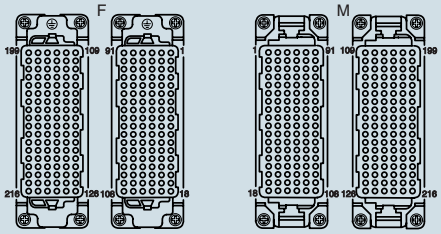
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷108) and (109÷216) male inserts, No. (1÷108) and (109÷216)	**CDDF 108** **CDDM 108**	**CDDF 108 N** **CDDM 108 N**		
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5			**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5			**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

silver plated **gold plated**

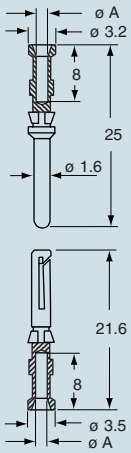
dimensions in mm



terminal side (front view)



dimensions in mm

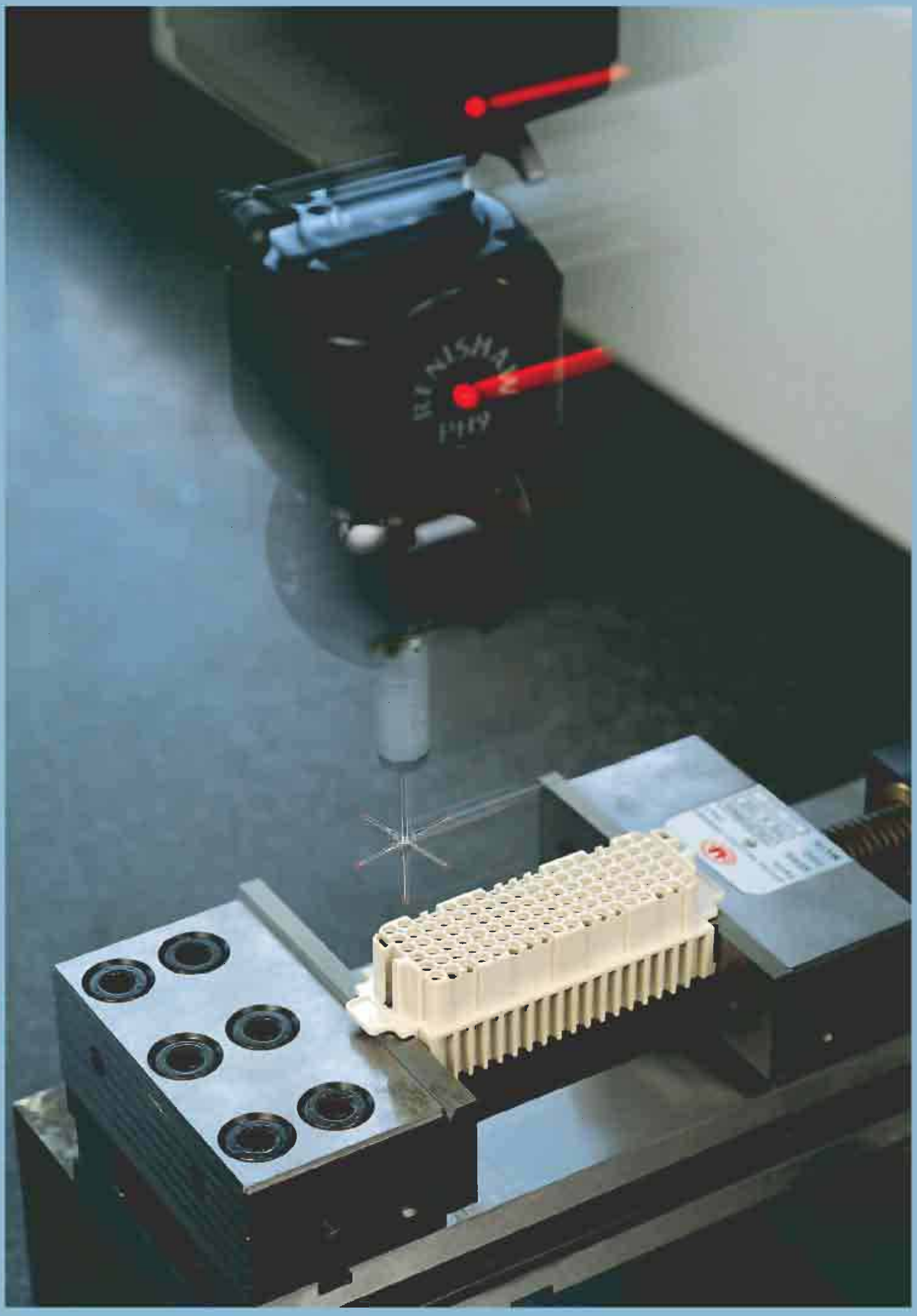


CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice


RENISHAW
PH9

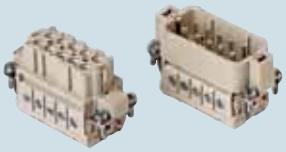
CDA 10 poles + ⏚ 16A max - 250V/4kV/3 - 400V/4kV/2

enclosures: **size “49.16”**

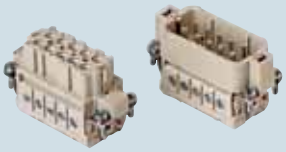
panel supports:

- limit current curves of the inserts see page 28
- inserts and enclosures for use in temperatures up to 180 °C are available on request
- inserts supplied with unscrewed conductor screws

inserts, screw terminal connection

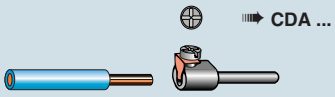


inserts, screw terminal connection

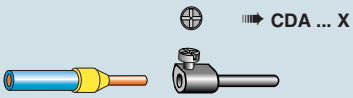


description	part No.	part No.
indirect, with plate [1] female inserts with female contacts male inserts with male contacts	**CDAF 10** **CDAM 10**	
direct, without plate [2] female inserts with female contacts male inserts with male contacts		**CDAF 10 X** **CDAM 10 X**

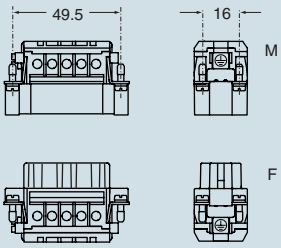
[1] for non-prepared conductors



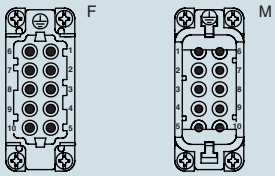
[2] for conductors with bush terminal



dimensions in mm

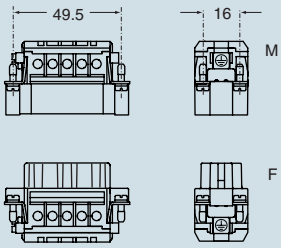


terminal side (front view)

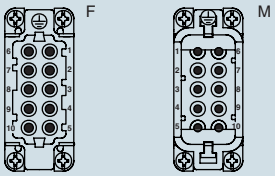


- inserts with plate for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping length see table at page 13

dimensions in mm



terminal side (front view)



- inserts without plate for section prepared conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws see table at page 13

dimensions indicated are not binding and may be changed without notice

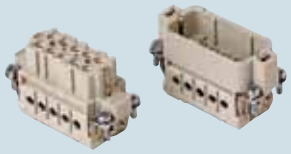
CDC 10 poles + ⏚ 16A max - 250V/4kV/3 - 400V/4kV/2

enclosures: **size “49.16”**

panel supports:

- limit current curves of the inserts see page 28
- inserts and enclosures for use in temperatures up to 180 °C are available on request
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

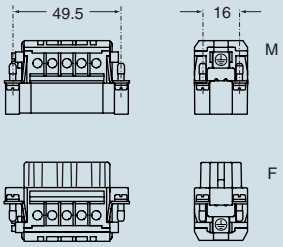


16A crimp contacts
normal and for advanced opening
silver and gold plated

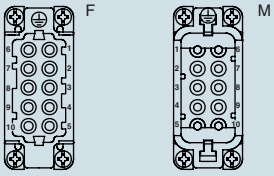
description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts	**CDCF 10**		
male inserts for male contacts	**CDCM 10**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

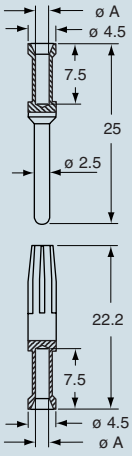


terminal side (front view)

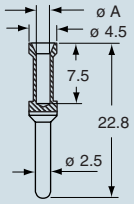


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping length see table at page 13

dimensions indicated are not binding
and may be changed without notice

CDA 16 poles + ⏚ 16A max - 250V/4kV/3 - 400V/4kV/2

enclosures: **size “66.16”**

panel supports:

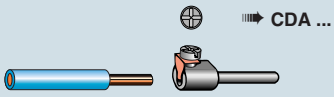
- limit current curves of the inserts see page 28
- inserts and enclosures for use in temperatures up to 180 °C are available on request
- inserts supplied with unscrewed conductor screws

inserts,
screw terminal connection

inserts,
screw terminal connection

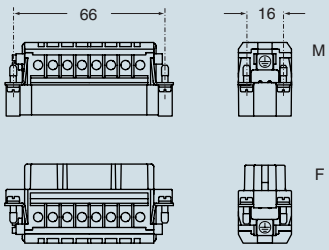
description	part No.	part No.
indirect, with plate [1] female inserts with female contacts male inserts with male contacts	**CDAF 16** **CDAM 16**	
direct, without plate [2] female inserts with female contacts male inserts with male contacts		**CDAF 16 X** **CDAM 16 X**

[1] for non-prepared conductors

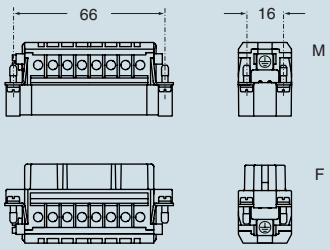


[2] for conductors with bush terminal

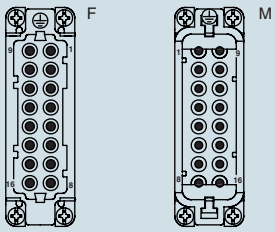
dimensions in mm



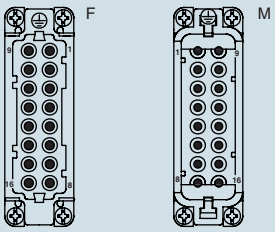
dimensions in mm



terminal side (front view)



terminal side (front view)



- inserts with plate for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping length see table at page 13

- inserts without plate for section prepared conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws see table at page 13

dimensions indicated are not binding and may be changed without notice

CDC 16 poles + ⏚ 16A max - 250V/4kV/3 - 400V/4kV/2

enclosures: **size “66.16”**

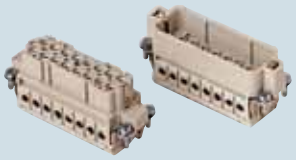
standard ..... page: 149 ÷ 150
aggressive environments .. page: 151
EMC ..... page: 152

panel supports:

COB + adaptor ..... page: 214 ÷ 216

- limit current curves of the inserts see page 28
- inserts and enclosures for use in temperatures up to 180 °C are available on request
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

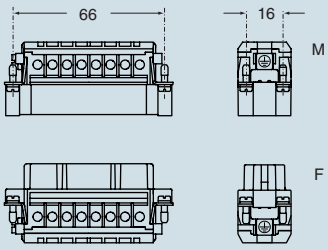


16A crimp contacts
normal and for advanced opening
silver and gold plated

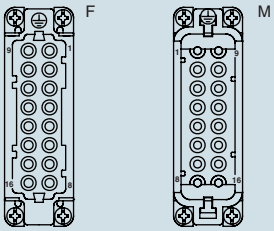
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CDCF 16** **CDCM 16**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated / **gold plated**

dimensions in mm

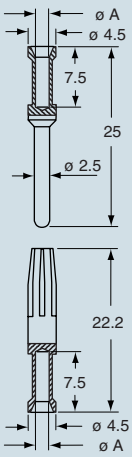


terminal side (front view)

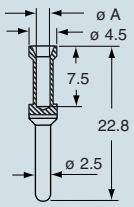


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

CDA 32 poles + ⏚ 16A max - 250V/4kV/3 - 400V/4kV/2

enclosures: **size “66.40”**

standard ..... page: 155 ÷ 156
aggressive environments .. page: 157

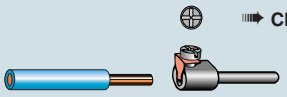
- limit current curves of the inserts see page 28
- inserts supplied with unscrewed conductor screws

inserts,
screw terminal connection

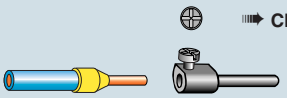
inserts,
screw terminal connection

description	part No.	part No.	part No.	part No.
indirect, with plate [1] female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CDAF 16** **CDAM 16**	**CDAF 16 N** **CDAM 16 N**		
direct, without plate [2] female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)			**CDAF 16 X** **CDAM 16 X**	**CDAF 16 XN** **CDAM 16 XN**

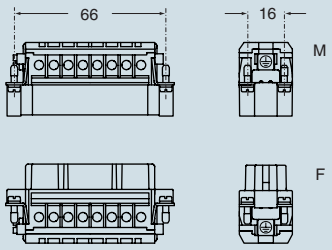
[1] for non-prepared conductors



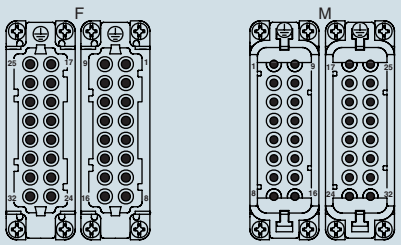
[2] for conductors with bush terminal



dimensions in mm

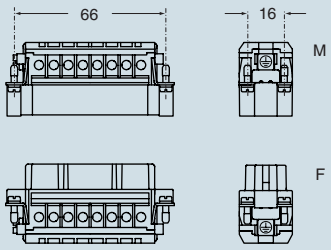


terminal side (front view)

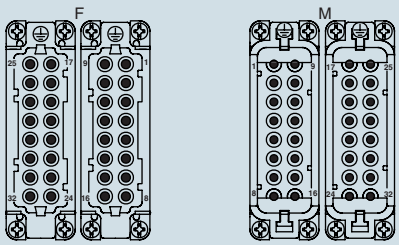


- inserts with plate for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping length see table at page 13

dimensions in mm



terminal side (front view)



- inserts without plate for section prepared conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws see table at page 13

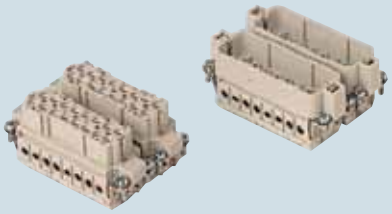
dimensions indicated are not binding
and may be changed without notice

CDC 32 poles + ⏚ 16A max - 250V/4kV/3 - 400V/4kV/2

enclosures: **size “66.40”**

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

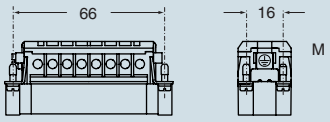


16A crimp contacts
normal and for advanced opening
silver and gold plated

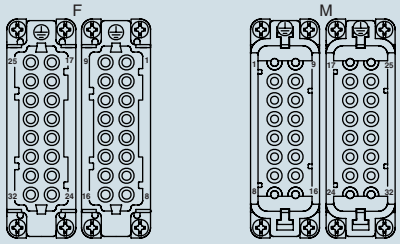
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CDCF 16** **CDCM 16**	**CDCF 16 N** **CDCM 16 N**		
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves			**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

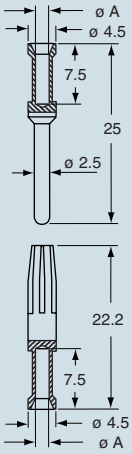


terminal side (front view)

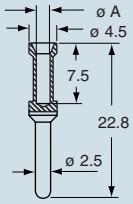


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping length see table at page 13

dimensions indicated are not binding and may be changed without notice

CQ 5 poles + ⏚ 16A max - 230/400V/4kV/3

enclosures: **size "21.21"**

- limit current curves of the inserts see page 28
- inserts and enclosures for use with temperatures up to 180 °C are available on request
- tools for crimp contacts see pages 248, 252, 254 and 256
- code pin has to be assembled into female contact see page 242

inserts, crimp connections

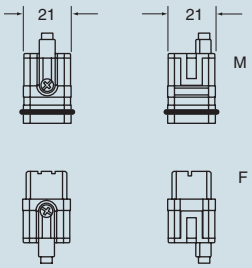
16A crimp contacts
normal and for advanced opening
silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CQF 05** **CQM 05**		
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves		**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves		**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

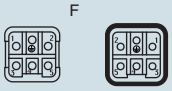
silver plated

gold plated

dimensions in mm

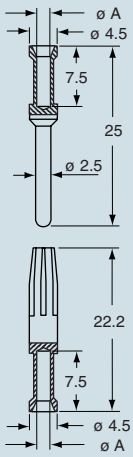


terminal side (front view)

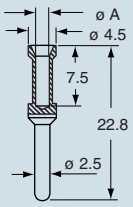


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

When all the contacts are used, the CQE inserts series connectors may be used with voltages of up to 500V (first column) pollution degree 3, in accordance with the standard EN 61984.
If the number of contacts is reduced and the contacts accordingly assigned, these connectors may be used with higher voltages. This is possible because the decrease in the number of contacts leads to an increase in the surface insulation distance in the air. When the contacts are arranged as shown below, the inserts may be used for voltages of 690V (second column) and 1000V (third column) pollution degree 3, in accordance with the standard EN 61984.

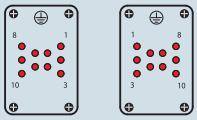
Legend:

- ● working contact
- ○ without contact
- M = male insert
- F = female insert

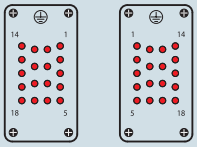
for use up to 500V pollution degree 3

diagrams
terminal side (front view)

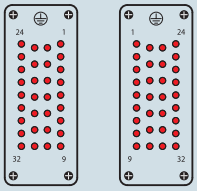
CQE
10 + ⏚
F **M**



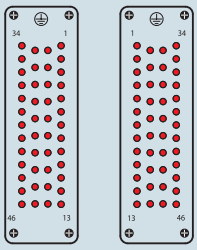
CQE
18 + ⏚
F **M**



CQE
32 + ⏚
F **M**



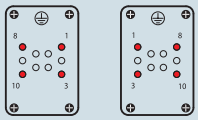
CQE
46 + ⏚
F **M**



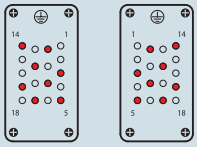
for use up to 690V pollution degree 3

diagrams
terminal side (front view)

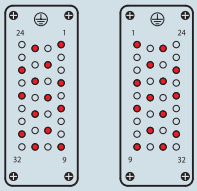
CQE
4 + ⏚
F **M**



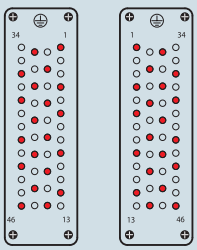
CQE
8 + ⏚
F **M**



CQE
14 + ⏚
F **M**



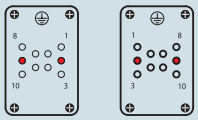
CQE
20 + ⏚
F **M**



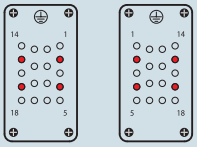
for use up to 1000V pollution degree 3

diagrams
terminal side (front view)

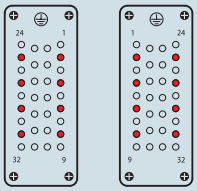
CQE
2 + ⏚
F **M**



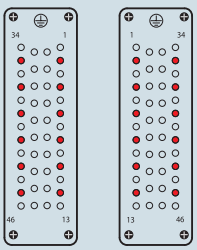
CQE
4 + ⏚
F **M**



CQE
8 + ⏚
F **M**



CQE
12 + ⏚
F **M**



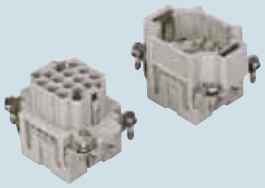
CQE 10 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “44.27”**

panel supports:

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

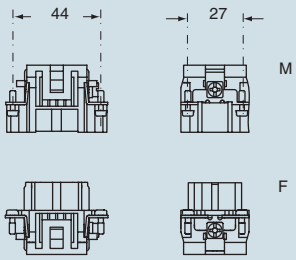


16A crimp contacts
normal and for advanced opening
silver and gold plated

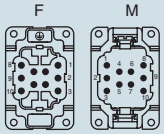
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CQEF 10** **CQEM 10**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

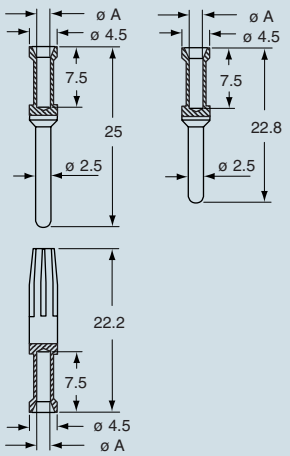


terminal side (front view)



dimensions in mm

CCF and CCM **CC...AN**



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

CQE 18 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size "57.27"**

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

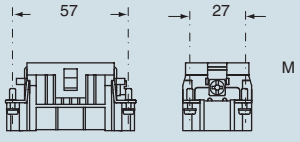
inserts, crimp connections

16A crimp contacts
normal and for advanced opening
silver and gold plated

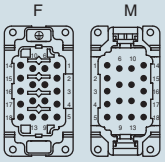
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CQEF 18** **CQEM 18**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

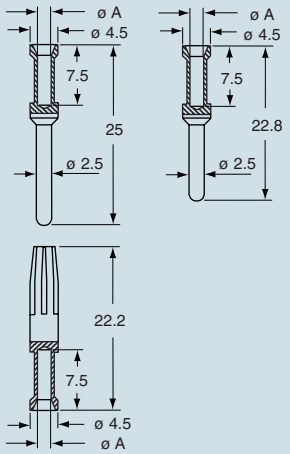


terminal side (front view)



dimensions in mm

CCF and CCM **CC...AN**



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

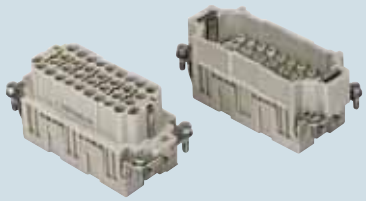
CQE 32 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “77.27”**

panel supports:

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

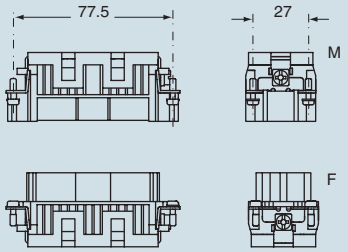


16A crimp contacts
normal and for advanced opening
silver and gold plated

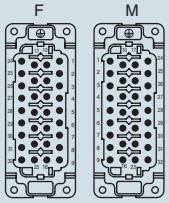
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CQEF 32** **CQEM 32**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

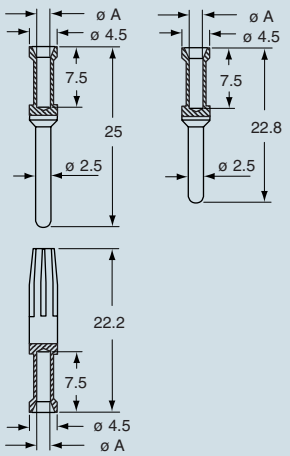


terminal side (front view)



dimensions in mm

CCF and CCM **CC...AN**



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

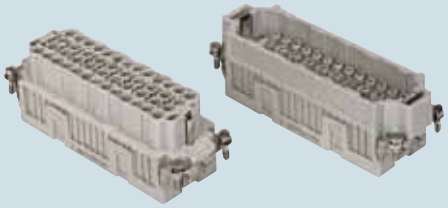
dimensions indicated are not binding
and may be changed without notice

CQE 46 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size "104.27"**

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

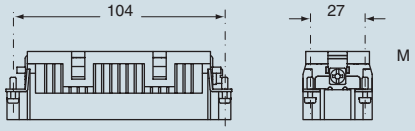


16A crimp contacts
normal and for advanced opening
silver and gold plated

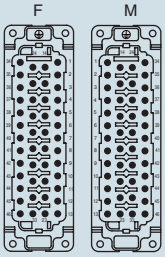
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CQEF 46** **CQEM 46**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

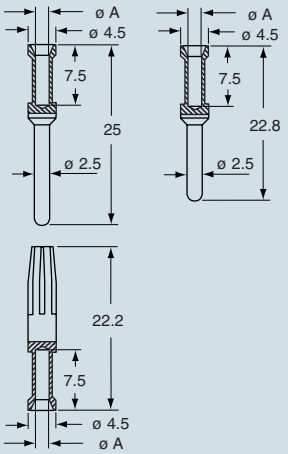


terminal side (front view)



dimensions in mm

CCF and CCM **CC...AN**



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

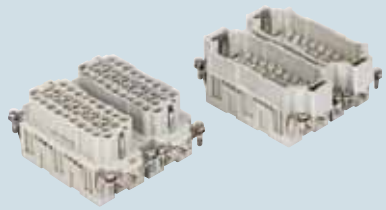
CQE 64 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “77.62”**

standard ..... page: 203 ÷ 206
aggressive environments .. page: 207

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

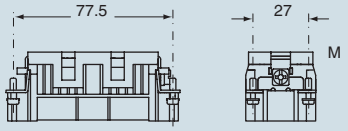


16A crimp contacts
normal and for advanced opening
silver and gold plated

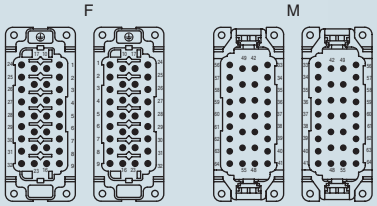
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷32) and (33÷64) male inserts, No. (1÷32) and (33÷64)	**CQEF 32** **CQEM 32**	**CQEF 32 N** **CQEM 32 N**		
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves			**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

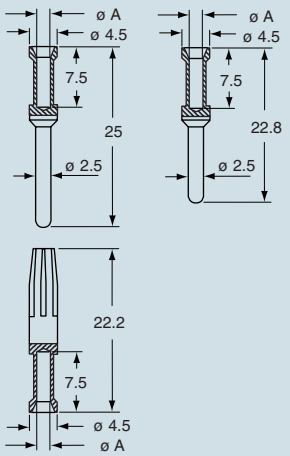


terminal side (front view)



dimensions in mm

CCF and CCM **CC...AN**



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

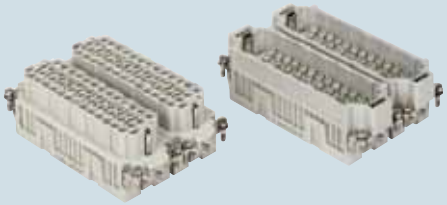
dimensions indicated are not binding
and may be changed without notice

CQE 92 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “104.62”**

- limit current curves of the inserts see page 28
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

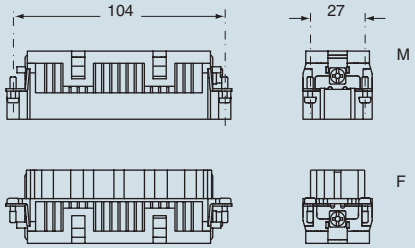


16A crimp contacts
normal and for advanced opening
silver and gold plated

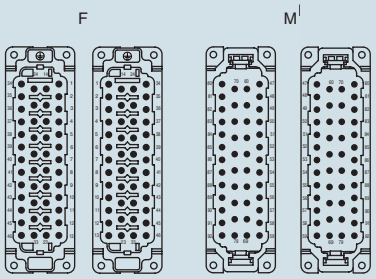
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷46) and (47÷92) male inserts, No. (1÷46) and (47÷92)	**CQEF 46** **CQEM 46**	**CQEF 46 N** **CQEM 46 N**		
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves			**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

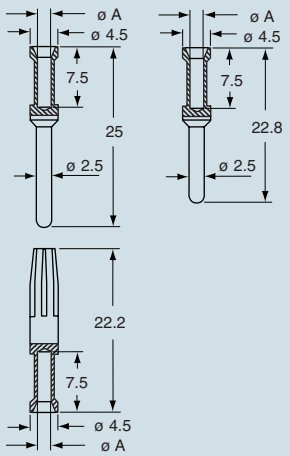


terminal side (front view)



dimensions in mm

CCF and CCM **CC...AN**



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

CC 6 poles + ⏚ 16A max - 400V/Gr. C

enclosures: **size “44.27”**

panel supports:

- limit current curves of the inserts see page 29
- inserts for use with temperatures up to 180 °C are available on request, enclosures on page 163
- tools for crimp contacts see pages 248, 252, 254 and 256

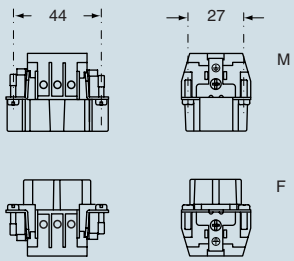
inserts, crimp connections

16A crimp contacts
normal and for advanced opening
silver and gold plated

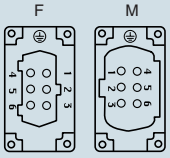
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CCF 06** **CCM 06**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

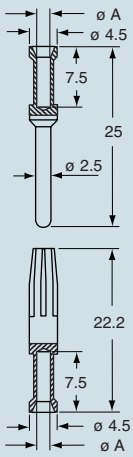


terminal side (front view)

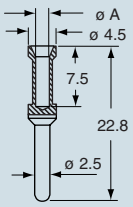


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

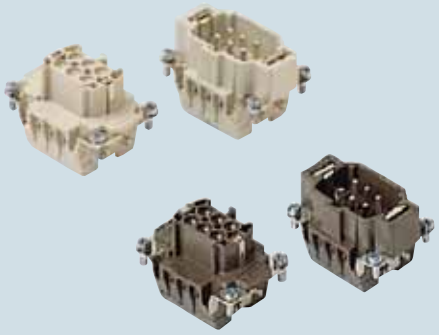
dimensions indicated are not binding
and may be changed without notice

enclosures: **size "44.27"**

panel supports:

- limit current curves of the inserts see page 29

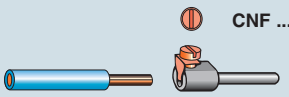
inserts, screw terminal connections

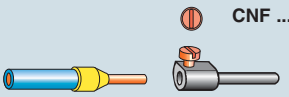


inserts, spring terminal connections

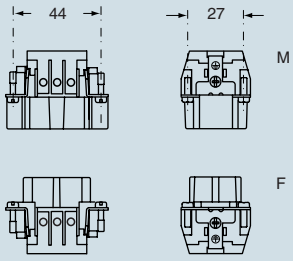
description	part No.	part No.
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CNF 06** **CNM 06**	
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CNF 06 X** **CNM 06 X**	
indirect, with plate 1), use in up to 180 °C female inserts with female contacts, brown male inserts with male contacts, brown	**CNF 06 RY** **CNM 06 RY**	
spring terminal female inserts with female contacts male inserts with male contacts		**CSF 06** **CSM 06**

1) for non-prepared conductors
2) for bush terminal conductors

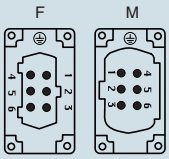




dimensions in mm

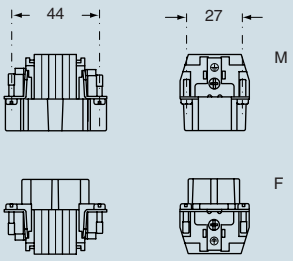


terminal side (front view)

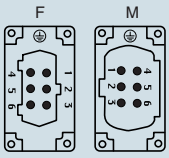


- inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14 for conductors prepared with crimped bush, effective section: up to 1.5 mm²
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

CC 10 poles + ⏚ 16A max - 400V/Gr. C

enclosures: **size "57.27"**

panel supports:

- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

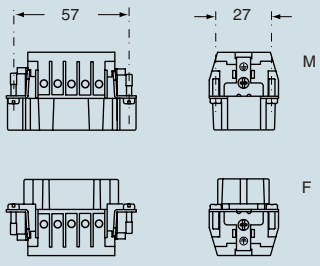
inserts, crimp connections

16A crimp contacts
normal and for advanced opening
silver and gold plated

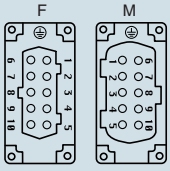
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CCF 10** **CCM 10**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

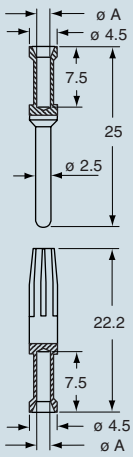


terminal side (front view)

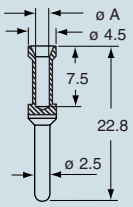


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

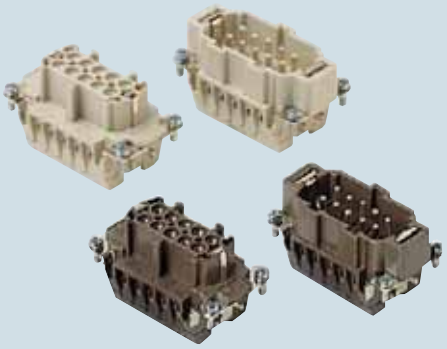
dimensions indicated are not binding
and may be changed without notice

enclosures: **size "57.27"**

panel supports:

- limit current curves of the inserts see page 29

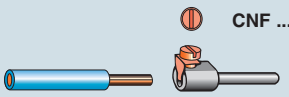
inserts,
screw terminal connections

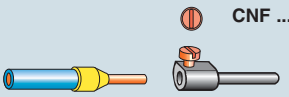


inserts,
spring terminal connections

description	part No.	part No.
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CNF 10** **CNM 10**	
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CNF 10 X** **CNM 10 X**	
indirect, with plate 1), use in up to 180 °C female inserts with female contacts, brown male inserts with male contacts, brown	**CNF 10 RY** **CNM 10 RY**	
spring terminal female inserts with female contacts male inserts with male contacts		**CSF 10** **CSM 10**

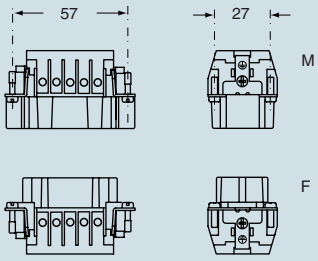
1) for non-prepared conductors
2) for bush terminal conductors



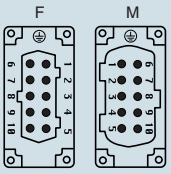


dimensions indicated are not binding
and may be changed without notice

dimensions in mm

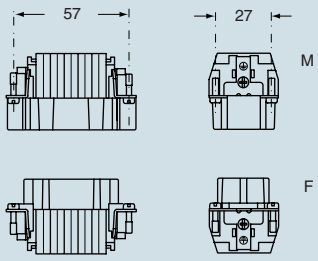


terminal side (front view)

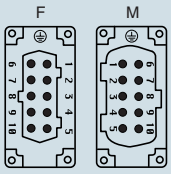


- inserts with plate, for section conductors:
  0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- inserts without plate, for section conductors:
  0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors:
  0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
  for conductors prepared with crimped bush,
  effective section: up to 1.5 mm²
- stripping lenght see table at page 13

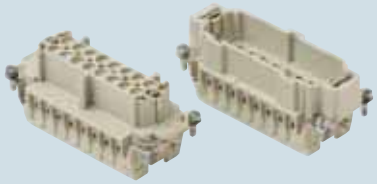
CC 16 poles + ⏚ 16A max - 400V/Gr. C

enclosures: **size “77.27”**

panel supports:

- limit current curves of the inserts see page 29
- inserts for use with temperatures up to 180 °C are available on request; enclosures on page 187
- tools for crimp contacts see pages 248, 252, 254 and 256

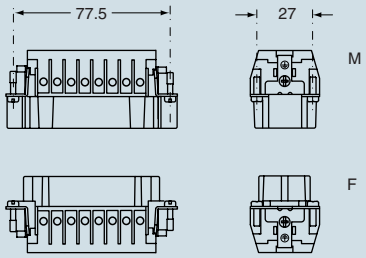
inserts, crimp connections



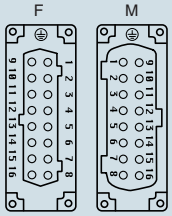
16A crimp contacts
normal and for advanced opening
silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts	**CCF 16**		
male inserts for male contacts	**CCM 16**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
			silver plated / **gold plated**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

dimensions in mm

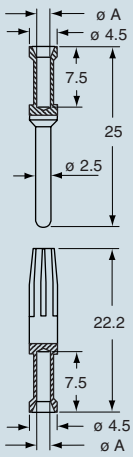


terminal side (front view)

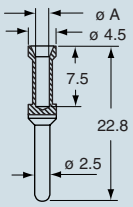


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

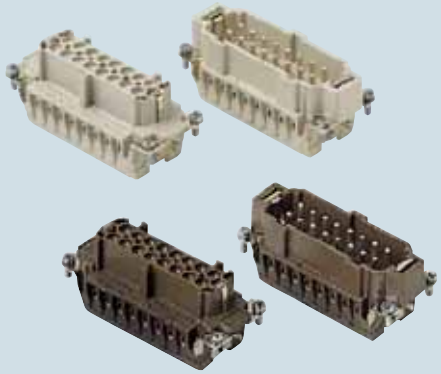
CN - CS 16 poles + ⏚ 16A max - 400V/Gr. C

enclosures: **size "77.27"**

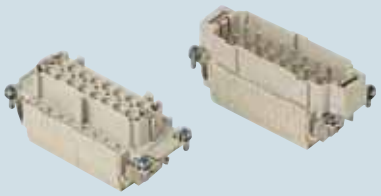
panel supports:

- limit current curves of the inserts see page 29

inserts, screw terminal connections

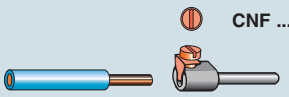


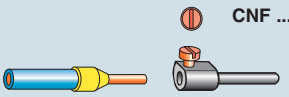
inserts, spring terminal connections



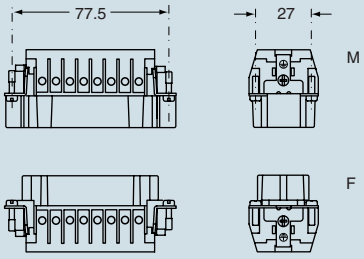
description	part No.	part No.
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CNF 16** **CNM 16**	
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CNF 16 X** **CNM 16 X**	
indirect, with plate 1), use in up to 180 °C female inserts with female contacts, brown male inserts with male contacts, brown	**CNF 16 RY** **CNM 16 RY**	
spring terminal female inserts with female contacts male inserts with male contacts		**CSF 16** **CSM 16**

1) for non-prepared conductors
2) for bush terminal conductors

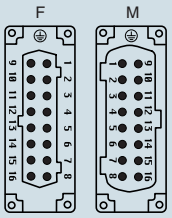




dimensions in mm

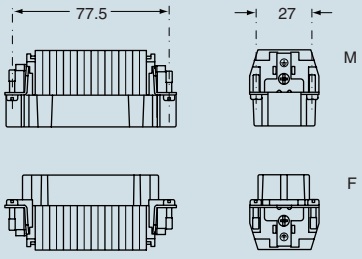


terminal side (front view)

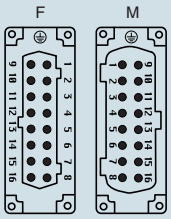


- inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14 for conductors prepared with crimped bush, effective section: up to 1.5 mm²
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

CC 24 poles + ⏚ 16A max - 400V/Gr. C

enclosures: **size “104.27”**

panel supports:

- limit current curves of the inserts see page 29
- inserts for use with temperatures up to 180 °C are available on request; enclosures on page 199
- tools for crimp contacts see pages 248, 252, 254 and 256

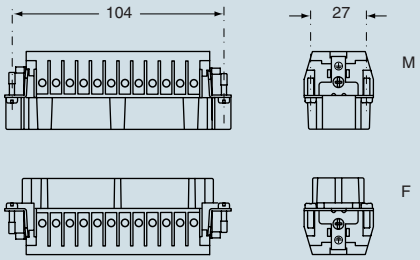
inserts, crimp connections

16A crimp contacts
normal and for advanced opening
silver and gold plated

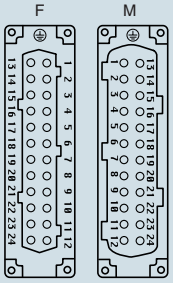
description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts	**CCF 24**		
male inserts for male contacts	**CCM 24**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

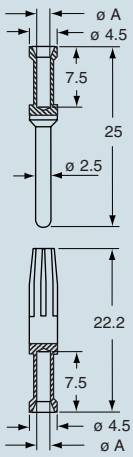


terminal side (front view)

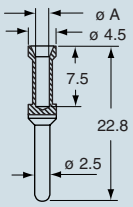


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

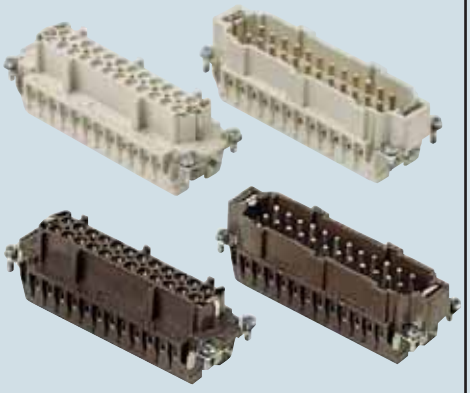
dimensions indicated are not binding
and may be changed without notice

enclosures: **size "104.27"**

panel supports:

- limit current curves of the inserts see page 29

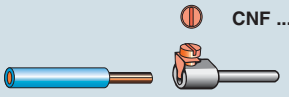
inserts,
screw terminal connections

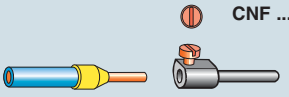


inserts,
spring terminal connections

description	part No.	part No.
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CNF 24** **CNM 24**	
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CNF 24 X** **CNM 24 X**	
indirect, with plate 1), use in up to 180 °C female inserts with female contacts, brown male inserts with male contacts, brown	**CNF 24 RY** **CNM 24 RY**	
spring terminal female inserts with female contacts male inserts with male contacts		**CSF 24** **CSM 24**

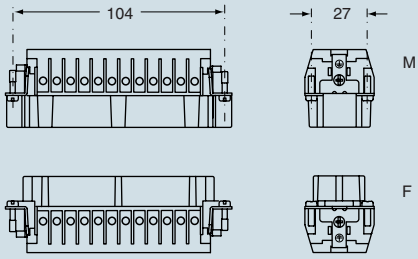
1) for non-prepared conductors
2) for bush terminal conductors



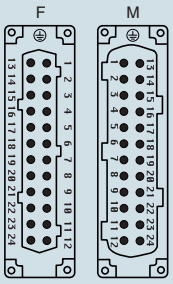


dimensions indicated are not binding
and may be changed without notice

dimensions in mm

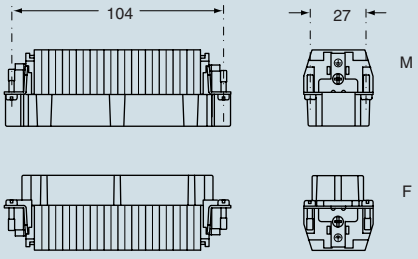


terminal side (front view)

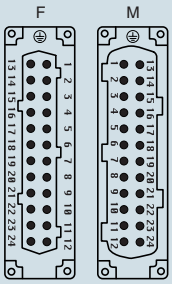


- inserts with plate, for section conductors:
  0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- inserts without plate, for section conductors:
  0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors:
  0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
  for conductors prepared with crimped bush, effective section: up to 1.5 mm²
- stripping lenght see table at page 13

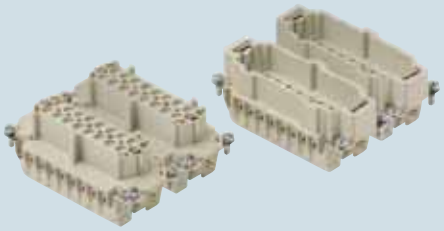
CC 32 poles + ⏚ 16A max - 400V/Gr. C

enclosures: **size “77.62”**

standard ..... page: 203 ÷ 206
aggressive environments .. page: 207

- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

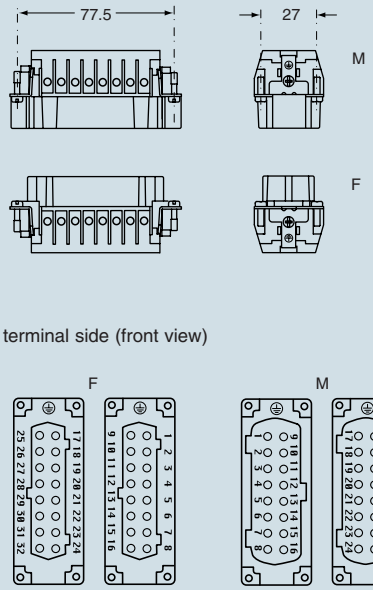


16A crimp contacts
normal and for advanced opening
silver and gold plated

description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CCF 16** **CCM 16**	**CCF 16 N** **CCM 16 N**		
16A female contacts				
0.5 mm² AWG 20 with no grooves			**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)			**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove			**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves			**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves			**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove			**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves			**CCFA 4.0**	**CCFD 4.0**
16A male contacts				
0.5 mm² AWG 20 with no grooves			**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)			**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove			**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves			**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves			**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove			**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves			**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening				
0.5 mm² AWG 20 with no grooves			**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)			**CC 0.7 AN**	
1 mm² AWG 18 one groove			**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves			**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves			**CC 2.5 AN**	

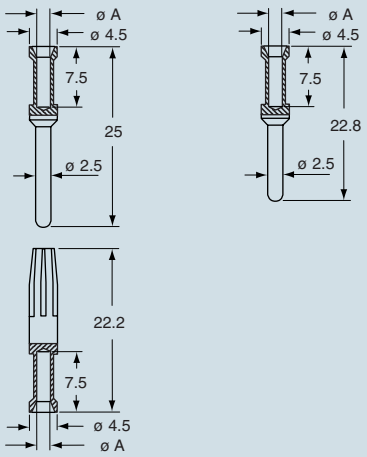
silver plated **gold plated**

dimensions in mm



dimensions in mm

CCF and CCM **CC...AN**



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

CN - CS 32 poles + ⏚ 16A max - 400V/Gr. C

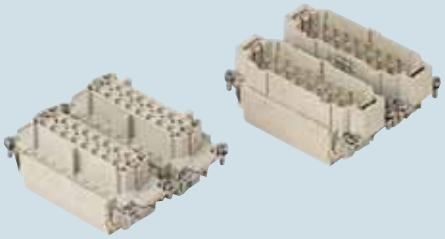
enclosures: **size “77.62”**

standard ..... page: 203 ÷ 206
aggressive environments .. page: 207

- limit current curves of the inserts see page 29

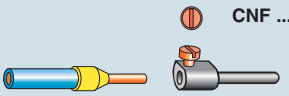
inserts,
screw terminal connections

inserts,
spring terminal connections

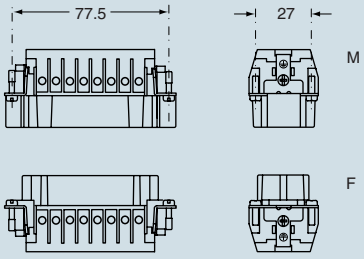


description	part No.	part No.	part No.	part No.
indirect, with plate 1) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CNF 16** **CNM 16**	**CNF 16 N** **CNM 16 N**		
direct, without plate 2) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CNF 16 X** **CNM 16 X**	**CNF 16 XN** **CNM 16 XN**		
spring terminal female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)			**CSF 16** **CSM 16**	**CSF 16 N** **CSM 16 N**

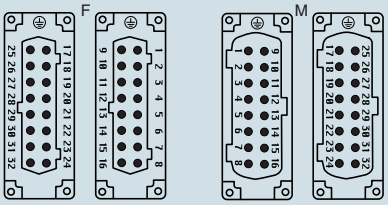
1) for non-prepared conductors
2) for bush terminal conductors



dimensions in mm

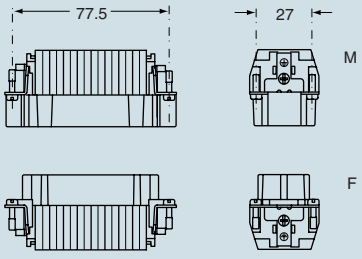


terminal side (front view)

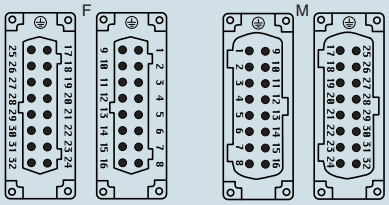


- inserts with plate, for section conductors:
  0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- inserts without plate, for section conductors:
  0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors:
  0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
  for conductors prepared with crimped bush, effective section: up to 1.5 mm²
- stripping lenght see table at page 13

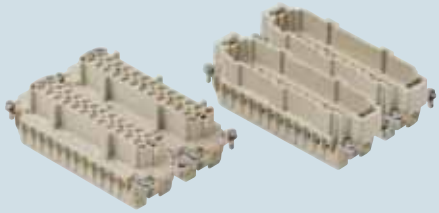
dimensions indicated are not binding
and may be changed without notice

CC 48 poles + ⏚ 16A max - 400V/Gr. C

enclosures: **size “104.62”**

- limit current curves of the inserts see page 29
- inserts for use with temperatures up to 180 °C are available on request; enclosures on page 209
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

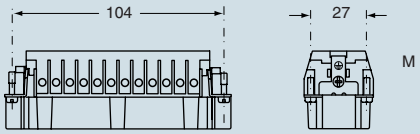


16A crimp contacts
normal and for advanced opening
silver and gold plated

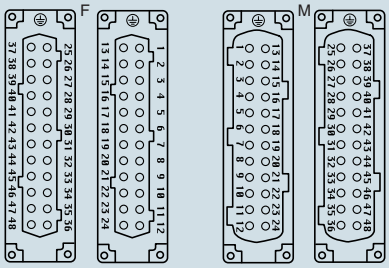
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CCF 24** **CCM 24**	**CCF 24 N** **CCM 24 N**		
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves			**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

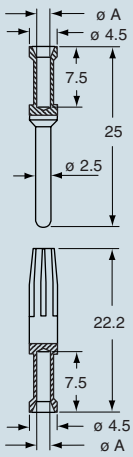


terminal side (front view)

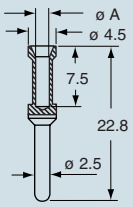


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

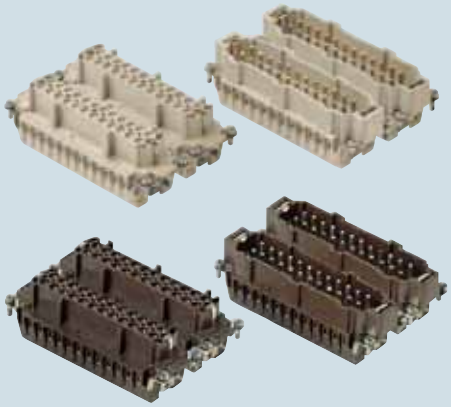
- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

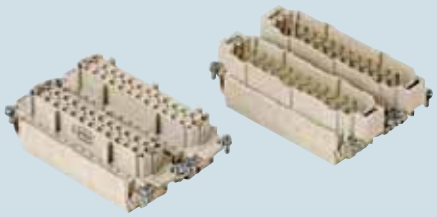
enclosures: **size "104.62"**

- limit current curves of the inserts see page 29

inserts,
screw terminal connections

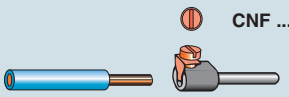


inserts,
spring terminal connections

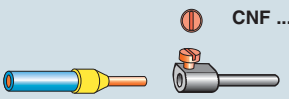


description	part No.	part No.	part No.	part No.
indirect, with plate 1) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CNF 24** **CNM 24**	**CNF 24 N** **CNM 24 N**		
direct, without plate 2) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CNF 24 X** **CNM 24 X**	**CNF 24 XN** **CNM 24 XN**		
indirect, with plate 1), use in up to 180 °C female inserts, No. (1÷24) and (25÷48), brown male inserts, No. (1÷24) and (25÷48), brown	**CNF 24 RY** **CNM 24 RY**	**CNF 24 RYN** **CNM 24 RYN**		
spring terminal female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)			**CSF 24** **CSM 24**	**CSF 24 N** **CSM 24 N**

1) for non-prepared conductors
2) for bush terminal conductors

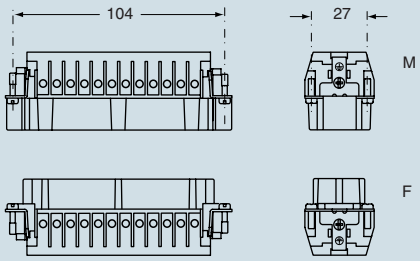


CNF ...

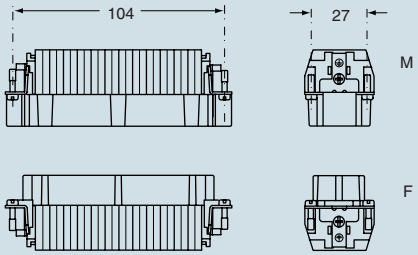


CNF ... X

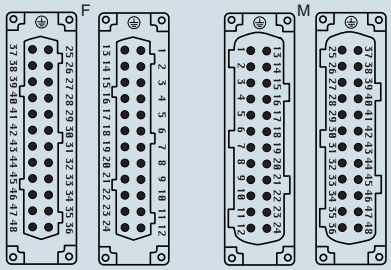
dimensions in mm



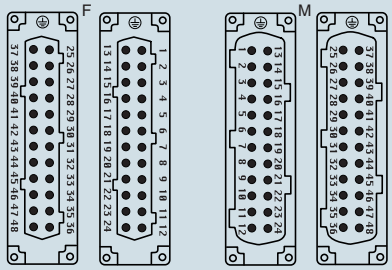
dimensions in mm



terminal side (front view)



terminal side (front view)



- inserts with plate, for section conductors:
  0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- inserts without plate, for section conductors:
  0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

- inserts for section conductors:
  0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
  for conductors prepared with crimped bush, effective section: up to 1.5 mm²
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

CCE 6 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “44.27”**

panel supports:

- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

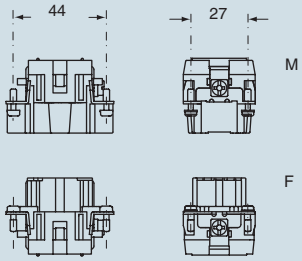
16A crimp contacts
normal and for advanced opening
silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CCEF 06** **CCEM 06**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

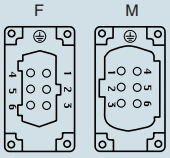
silver plated

gold plated

dimensions in mm

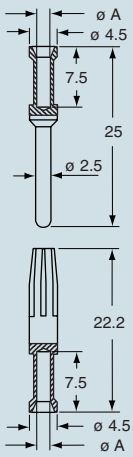


terminal side (front view)

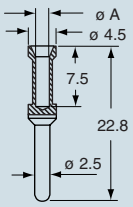


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

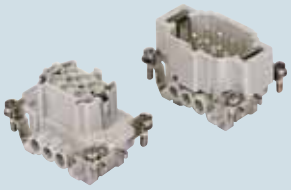
CNE - CSE 6 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “44.27”**

panel supports:

- limit current curves of the inserts see page 29

inserts,
screw terminal connections

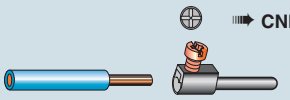


inserts,
spring terminal connections

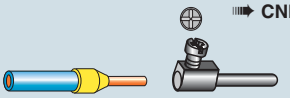
description	part No.	with insulating cover	part No.
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CNEF 06** **CNEM 06**	**CNEF 06 T** **CNEM 06 T**	
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CNEF 06 X** **CNEM 06 X**	**CNEF 06 TX** **CNEM 06 TX**	
spring terminal female inserts with female contacts male inserts with male contacts			**CSEF 06** **CSEM 06**

1) for non-prepared conductors
2) for bush terminal conductors

The CNE...T and CNE...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

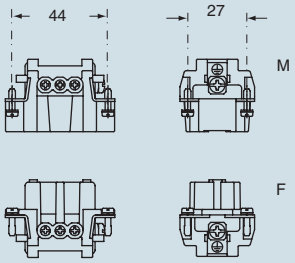


➠ **CNE ...**

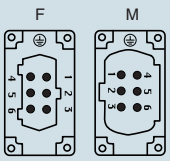


➠ **CNE ... X**

dimensions in mm

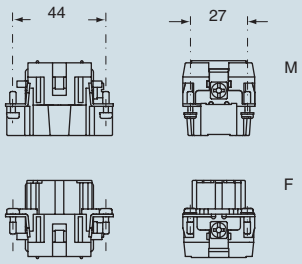


terminal side (front view)

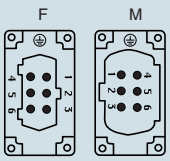


- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

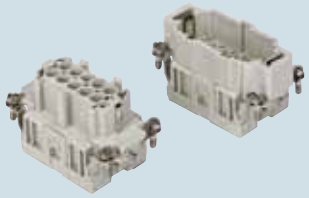
CCE 10 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size "57.27"**

panel supports:

- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

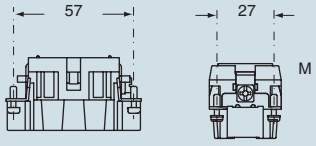


16A crimp contacts
normal and for advanced opening
silver and gold plated

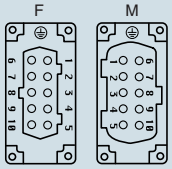
description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts	**CCEF 10**		
male inserts for male contacts	**CCEM 10**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

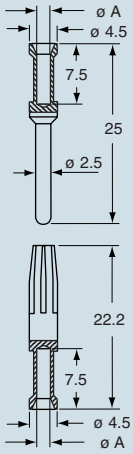


terminal side (front view)

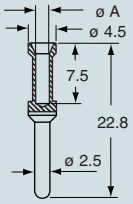


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

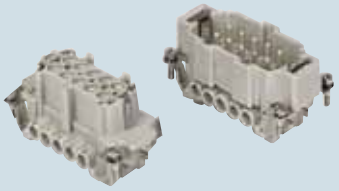
CNE - CSE 10 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size "57.27"**

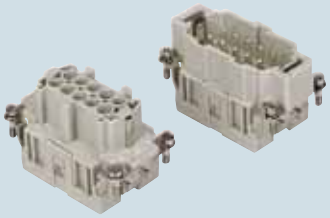
panel supports:

- limit current curves of the inserts see page 29

inserts, screw terminal connections



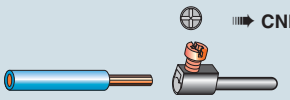
inserts, spring terminal connections

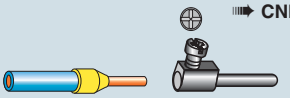


description	part No.	with insulating cover	part No.
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CNEF 10** **CNEM 10**	**CNEF 10 T** **CNEM 10 T**	
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CNEF 10 X** **CNEM 10 X**	**CNEF 10 TX** **CNEM 10 TX**	
spring terminal female inserts with female contacts male inserts with male contacts			**CSEF 10** **CSEM 10**

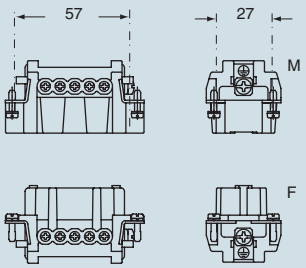
1) for non-prepared conductors
2) for bush terminal conductors

The CNE...T and CNE...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

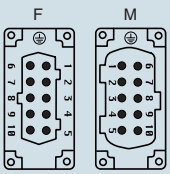




dimensions in mm

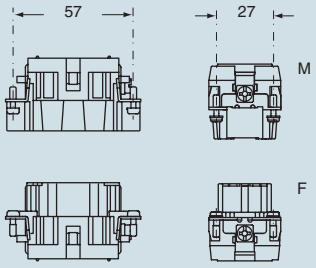


terminal side (front view)

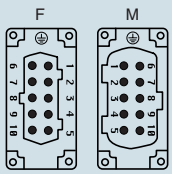


- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

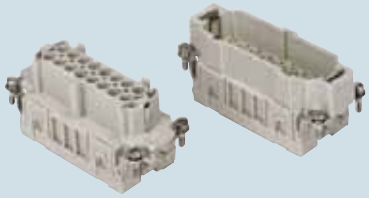
CCE 16 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “77.27”**

panel supports:

- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

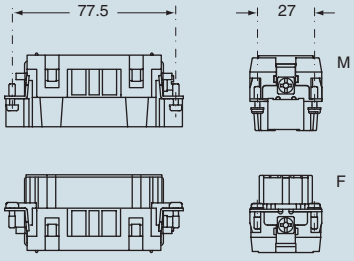


16A crimp contacts
normal and for advanced opening
silver and gold plated

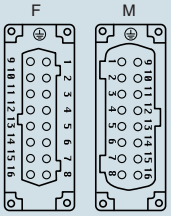
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CCEF 16** **CCEM 16**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

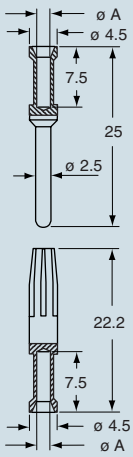


terminal side (front view)

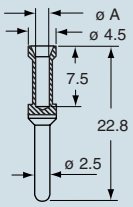


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

CNE - CSE 16 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size "77.27"**

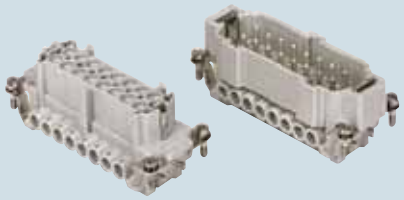
standard ..... page: 179 ÷ 182
aggressive environments .. page: 188
EMC ..... page: 189

panel supports:

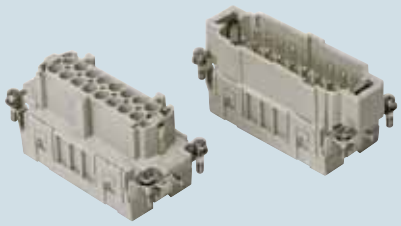
COB ..... page: 214 ÷ 215

- limit current curves of the inserts see page 29

inserts, screw terminal connections



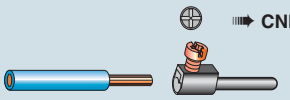
inserts, spring terminal connections

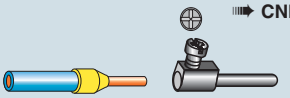


description	part No.	with insulating cover	part No.
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CNEF 16** **CNEM 16**	**CNEF 16 T** **CNEM 16 T**	
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CNEF 16 X** **CNEM 16 X**	**CNEF 16 TX** **CNEM 16 TX**	
spring terminal female inserts with female contacts male inserts with male contacts			**CSEF 16** **CSEM 16**

1) for non-prepared conductors
2) for bush terminal conductors

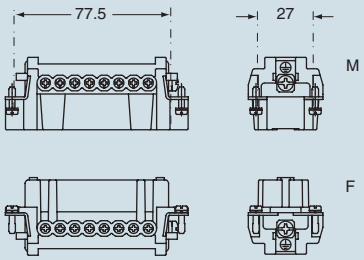
The CNE...T and CNE...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.



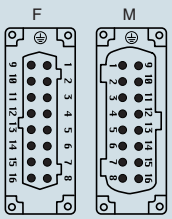


dimensions indicated are not binding and may be changed without notice

dimensions in mm

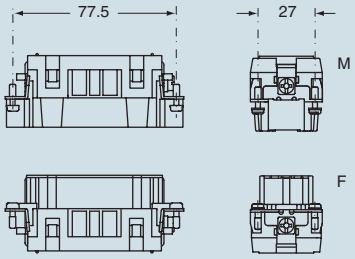


terminal side (front view)

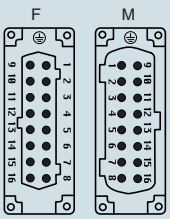


- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

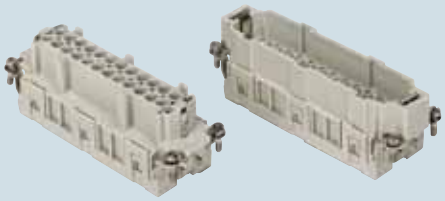
CCE 24 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size "104.27"**

panel supports:

- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

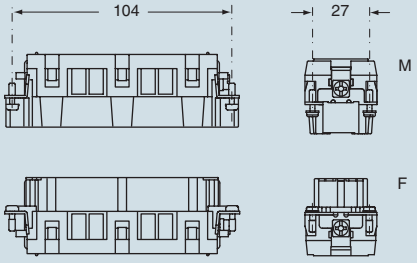


16A crimp contacts
normal and for advanced opening
silver and gold plated

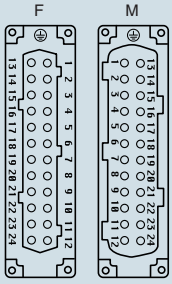
description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CCEF 24** **CCEM 24**		
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

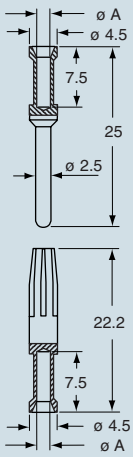


terminal side (front view)

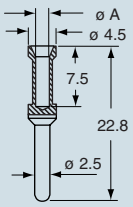


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

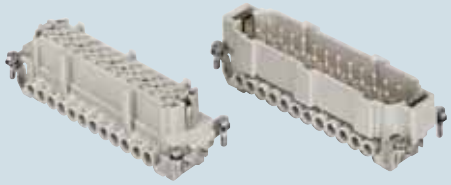
CNE - CSE 24 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size "104.27"**

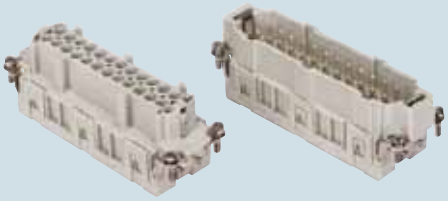
panel supports:

- limit current curves of the inserts see page 29

inserts, screw terminal connections



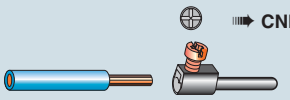
inserts, spring terminal connections

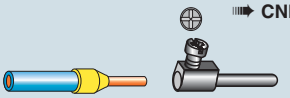


description	part No.	with insulating cover	part No.
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CNEF 24** **CNEM 24**	**CNEF 24 T** **CNEM 24 T**	
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CNEF 24 X** **CNEM 24 X**	**CNEF 24 TX** **CNEM 24 TX**	
spring terminal female inserts with female contacts male inserts with male contacts			**CSEF 24** **CSEM 24**

1) for non-prepared conductors
2) for bush terminal conductors

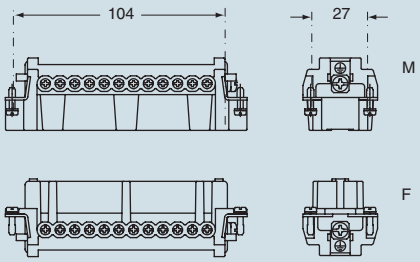
The CNE...T and CNE...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.



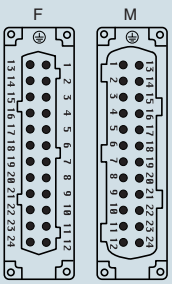


dimensions indicated are not binding and may be changed without notice

dimensions in mm

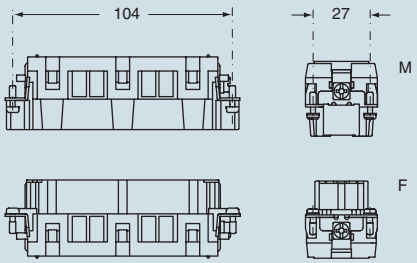


terminal side (front view)

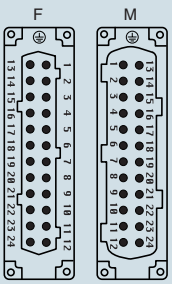


- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



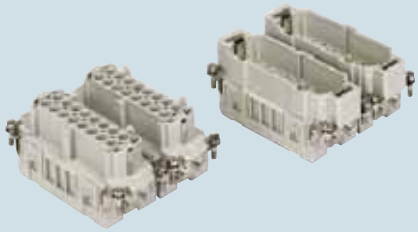
- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

CCE 32 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “77.62”**

- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

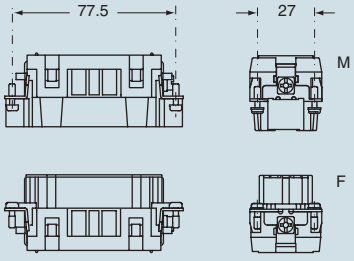


16A crimp contacts
normal and for advanced opening
silver and gold plated

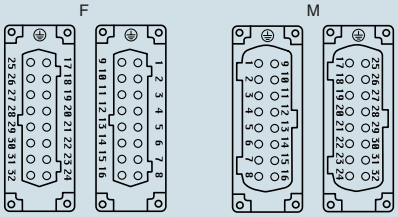
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CCEF 16** **CCEM 16**	**CCEF 16 N** **CCEM 16 N**		
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves			**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

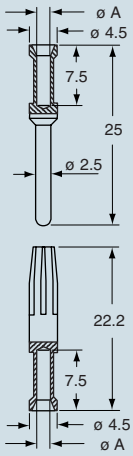


terminal side (front view)

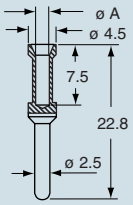


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

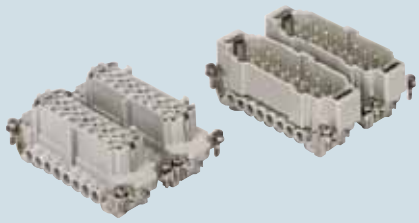
CNE - CSE 32 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “77.62”**

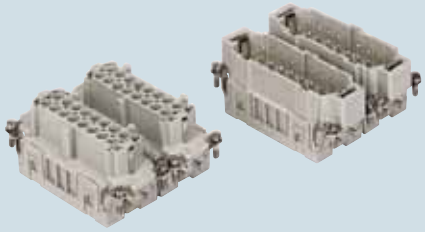
standard ..... page: 203 ÷ 206
aggressive environments .. page: 207

- limit current curves of the inserts see page 29

inserts,
screw terminal connections



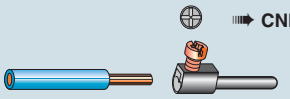
inserts,
spring terminal connections



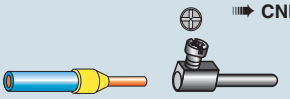
description	part No.	with insulating cover	part No.	part No.
indirect, with plate 1) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CNEF 16 / CNEF 16 N** **CNEM 16 / CNEM 16 N**	**CNEF 16 T / CNEF 16 TN** **CNEM 16 T / CNEM 16 TN**		
direct, without plate 2) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CNEF 16 X / CNEF 16 XN** **CNEM 16 X / CNEM 16 XN**	**CNEF 16 TX / CNEF 16 TXN** **CNEM 16 TX / CNEM 16 TXN**		
spring terminal female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)			**CSEF 16** **CSEM 16**	**CSEF 16 N** **CSEM 16 N**

1) for non-prepared conductors
2) for bush terminal conductors

The CNE...T and CNE...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

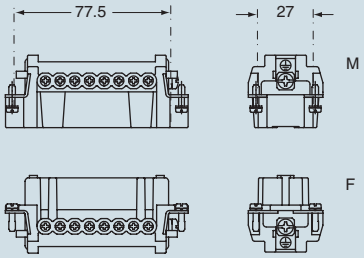


➠ **CNE ...**

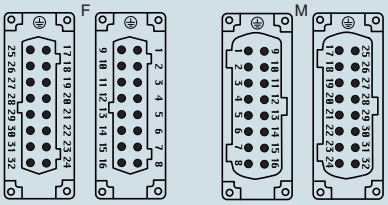


➠ **CNE ... X**

dimensions in mm

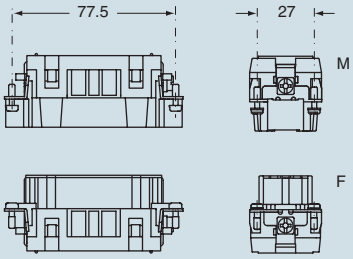


terminal side (front view)

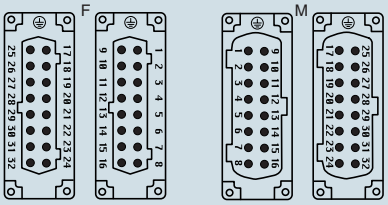


- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

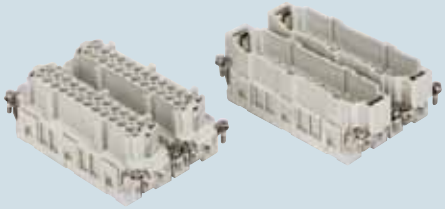
dimensions indicated are not binding and may be changed without notice

CCE 48 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size “104.62”**

- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, crimp connections

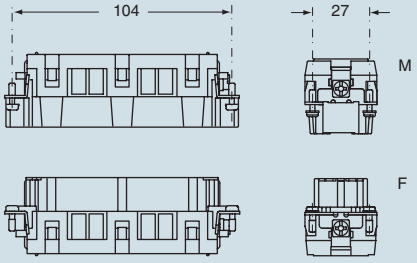


16A crimp contacts
normal and for advanced opening
silver and gold plated

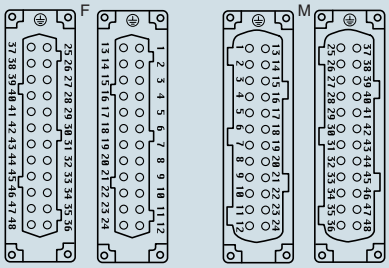
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CCEF 24** **CCEM 24**	**CCEF 24 N** **CCEM 24 N**		
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves			**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated **gold plated**

dimensions in mm

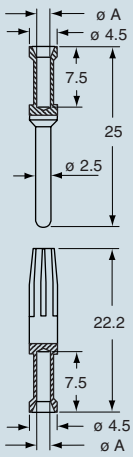


terminal side (front view)

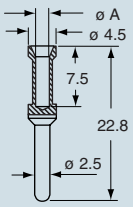


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

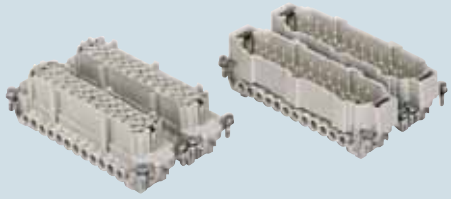
CNE - CSE 48 poles + ⏚ 16A max - 500V/6kV/3

enclosures: **size "104.62"**

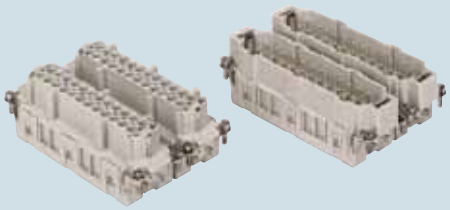
standard ..... page: 208
aggressive environments .. page: 210

- limit current curves of the inserts see page 29

inserts,
screw terminal connections



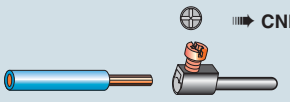
inserts,
spring terminal connections



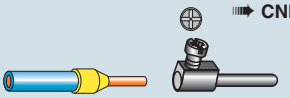
description	part No.	with insulating cover	part No.	part No.
indirect, with plate 1) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CNEF 24 / CNEF 24 N** **CNEM 24 / CNEM 24 N**	**CNEF 24 T / CNEF 24 TN** **CNEM 24 T / CNEM 24 TN**		
direct, without plate 2) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CNEF 24 X / CNEF 24 XN** **CNEM 24 X / CNEM 24 XN**	**CNEF 24 TX / CNEF 24 TXN** **CNEM 24 TX / CNEM 24 TXN**		
spring terminal female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)			**CSEF 24** **CSEM 24**	**CSEF 24 N** **CSEM 24 N**

1) for non-prepared conductors
2) for bush terminal conductors

The CNE...T and CNE...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

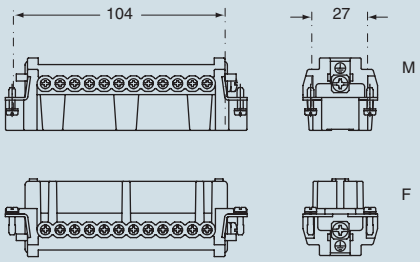


➠ **CNE ...**

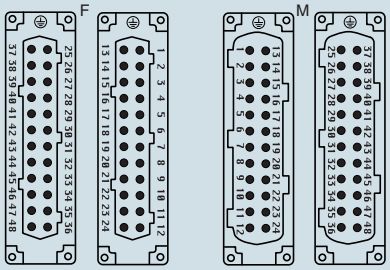


➠ **CNE ... X**

dimensions in mm

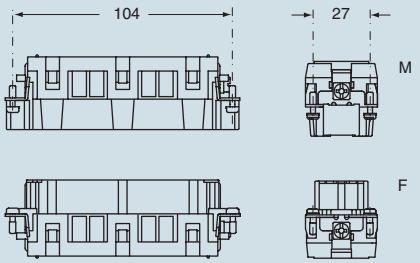


terminal side (front view)

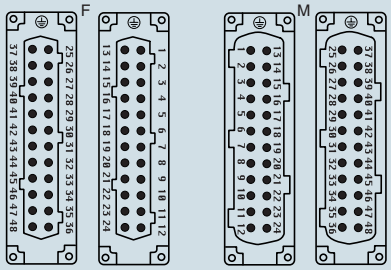


- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

Use

The CTE-series multipole connectors (with incorporated terminal block) are recommended for greater cost-saving and safety for use on machines and command and control panels.

For control panel mounting, bulkhead housings must be used. This makes it possible to maintain the IP65 degree of protection (in accordance with EN 60529) for coupled housing-mounted connectors.

The CTE series inserts (16A max versions) are supplied in the plug or socket versions and may be mounted with insertion from the front of the enclosure (**Figure 1** for all the polarities of the inserts) or with insertion from the rear of the enclosure (**Figure 2**, only for 16 and 24-pole inserts).

As an alternative to the traditional terminal blocks, the inserts can be mounted inside the control panels on DIN EN rails (**Figure 5**) using suitable accessories providing the added advantage of easy sectioning.

The special structure of the CTE inserts has all the conductor connections on the same side providing for easier wiring and a complete view of the work area.

The terminal block also has slots for housing the identification wire markers of each contact. Wire markers of different manufacturers may be used such as: Cabur, Grafoplast, Modernotecnica, Phoenix, Siemens, Wago, Weidmüller.

The CTE series is available in the versions "left" and "right" for mounting on the left (**Figure 3**) or on the right (**Figure 4**) of the control panel walls.
This characteristic is determined by the position of contact "1" and the ground terminal in the upper part of the insert terminal block for both left and right mounting.

The installation of inserts on DIN rails (**Figure 5**) inside the control panels is usually made to facilitate the wiring into sectionable parts.
In this case the degree of protection for coupled connectors is IP20 (in accordance with EN 60529).

This type of mounting requires supports (CT APE) to be provided to the inserts suitable for mounting on DIN EN 60715 rails.

In addition, CRBF (female) and CRBM (male) coupling screws instead of normal screws are recommended for fixing the inserts to the enclosures (**Figure 5**) in order to guarantee a stable and safe coupling between the CTE and CTSE inserts installed on the DIN rails and corresponding CC, CN, CS, CNE, CSE, CCE inserts.

Figure 1 (front mounting)
The insert is inserted into the bulkhead housing without wired conductors or with pre-wired conductors that are not connected at the opposite end.

Mounting for inserts of 06, 10, 16 and 24 poles

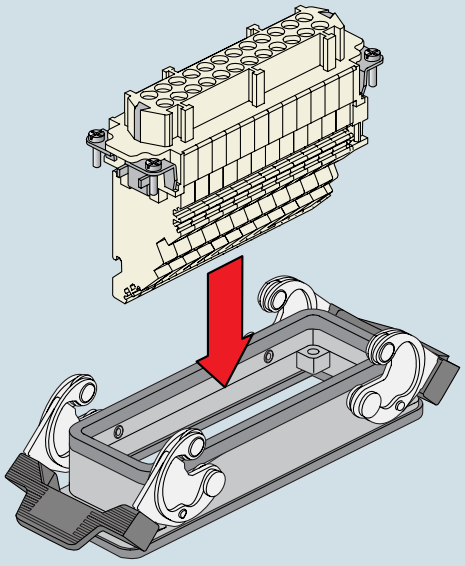


Figure 2 (rear mounting)
The insert is inserted into the bulkheadhousing with pre-wired conductors connected at the opposite end.

Mounting for inserts of 16 and 24 poles

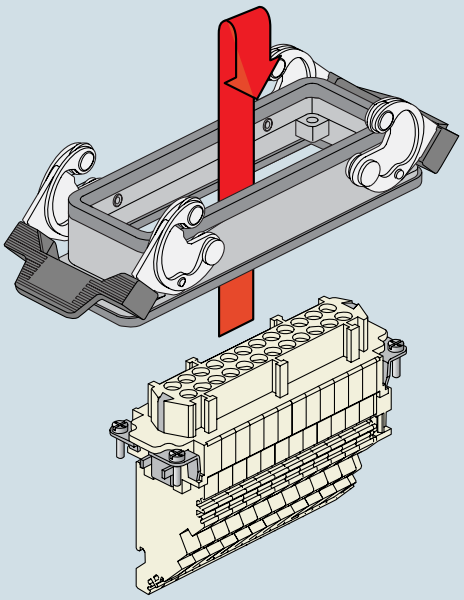


Figure 3 (left mounting)

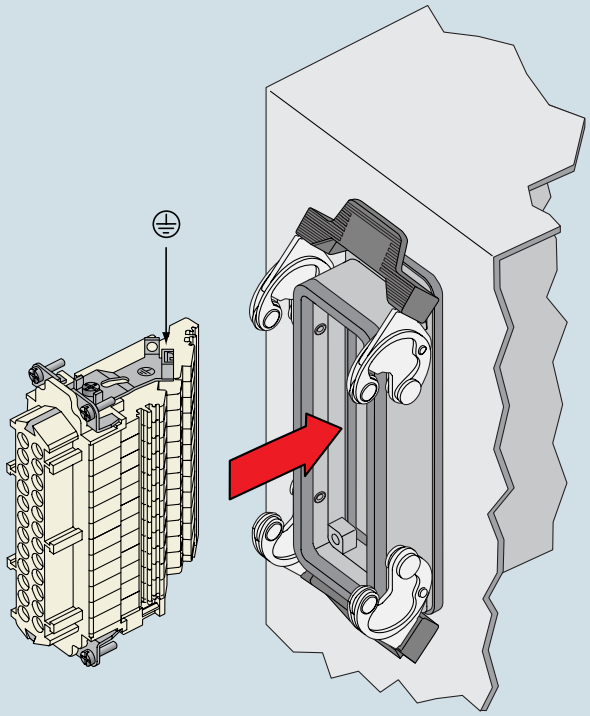
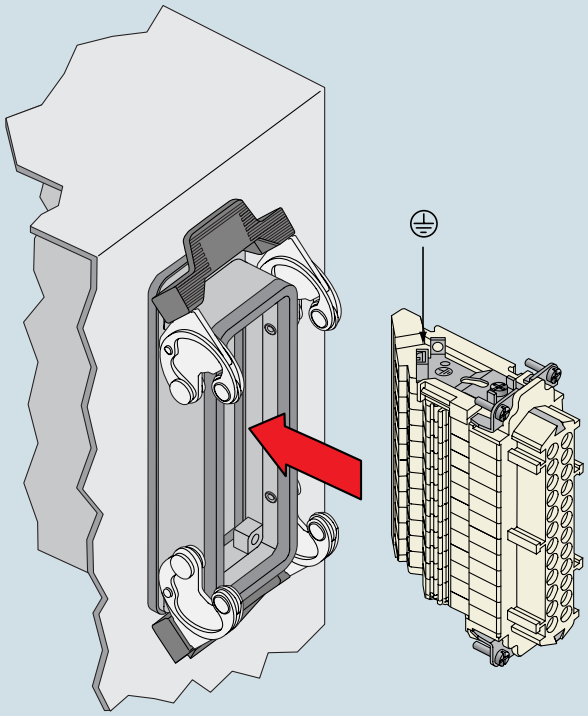


Figure 4 (right mounting)



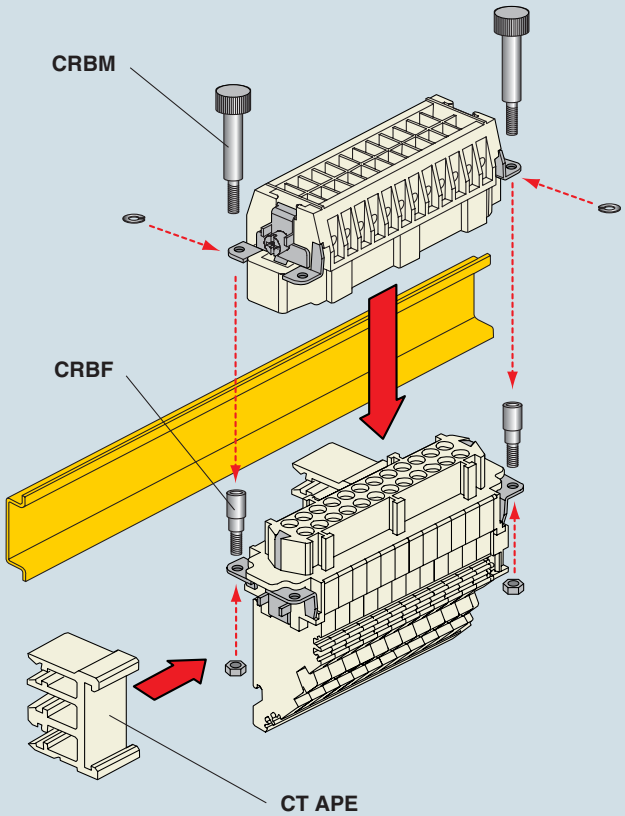
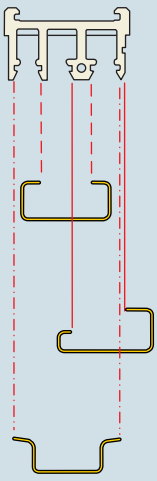


Figure 5 (mounting on DIN rail)



CT APE
possibility of coupling to DIN EN 60715 rail (for a greater
stability of the CTE inserts of 16 and 24 poles we recommend using the two CT APE supports)

EN 60715
C 30

EN 60715
G 32

EN 60715
TH 35-7.5 and TH 35-15

accessories for CTE inserts

- support for mounting on DIN rails (**CT APE** page 233)
- inserts coupling screws (**CRBM** and **CRBF** page 233)
- cable-clamping plates (**CRAD** and **CRAS** page 233)

CTE 6 poles + ⏚ 16A max - 500V/Gr. C CTSE 6 poles + ⏚ 16A max - 500V/6kV/3

enclosures*): **size “44.27”**

*) only bulkhead mounted housing

- may be coupled to CN, CNE, CC, CCE, CS, CSE inserts
- inserts may be mounted from rear of enclosure
- limit current curves of the inserts see page 29

terminal block inserts screw terminal connection

terminal block inserts spring terminal connection

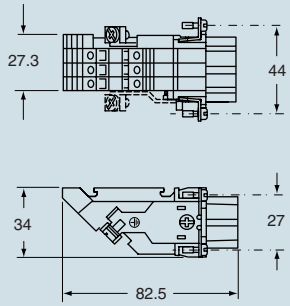
description	part No.	part No.	part No.	part No.
side mounting female inserts with female contacts 1) male inserts with male contacts 1)	left **CTEF 06 L** **CTEM 06 L**	right **CTEF 06 R** **CTEM 06 R**		
side mounting female inserts with female contacts male inserts with male contacts			left **CTSEF 06 L** **CTSEM 06 L**	right **CTSEF 06 R** **CTSEM 06 R**

1) for non-prepared conductors

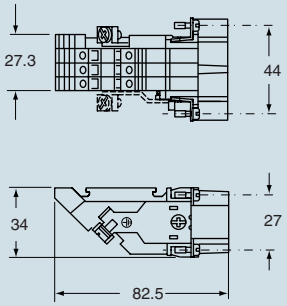
Note: CT inserts - 400V Gr. C until sold out

dimensions in mm

female inserts (CTEF and CTSEF)

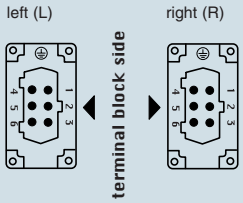


male inserts (CTEM and CTSEM)

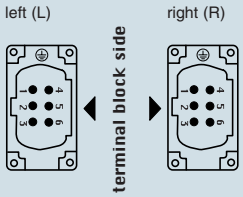


terminal side (front view)

female inserts (CTEF and CTSEF)



male inserts (CTEM and CTSEM)



- CTE inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

- CTSE spring inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

enclosures*): **size "57.27"**

*) only bulkhead mounted housing

- may be coupled to CN, CNE, CC, CCE, CS, CSE inserts
- inserts may be mounted from rear of enclosure
- limit current curves of the inserts see page 29

terminal block inserts
screw terminal connection

terminal block inserts
spring terminal connection

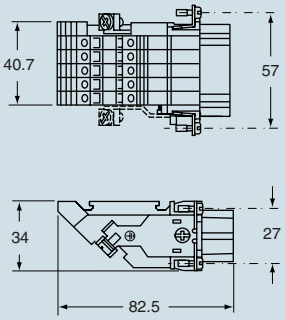
description	part No.	part No.	part No.	part No.
side mounting female inserts with female contacts 1) male inserts with male contacts 1)	left **CTEF 10 L** **CTEM 10 L**	right **CTEF 10 R** **CTEM 10 R**		
side mounting female inserts with female contacts male inserts with male contacts			left **CTSEF 10 L** **CTSEM 10 L**	right **CTSEF 10 R** **CTSEM 10 R**

1) for non-prepared conductors

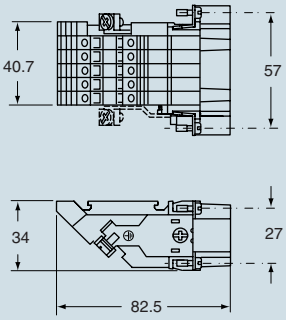
Note: CT inserts - 400V Gr. C until sold out

dimensions in mm

female inserts (CTEF and CTSEF)

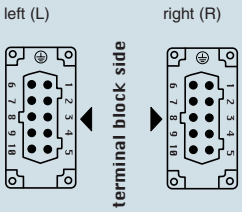


male inserts (CTEM and CTSEM)

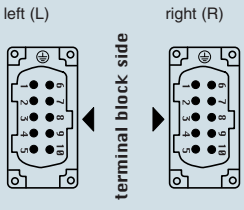


terminal side (front view)

female inserts (CTEF and CTSEF)



male inserts (CTEM and CTSEM)



- CTE inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

- CTSE spring inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

enclosures*): **size "77.27"**

*) only bulkhead mounted housing

- may be coupled to CN, CNE, CC, CCE, CS, CSE inserts
- inserts may be mounted from rear or front of enclosure
- limit current curves of the inserts see page 29

terminal block inserts
screw terminal connection

terminal block inserts
spring terminal connection

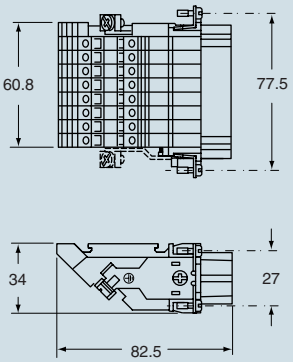
description	part No.	part No.	part No.	part No.
side mounting female inserts with female contacts 1) male inserts with male contacts 1)	left **CTEF 16 L** **CTEM 16 L**	right **CTEF 16 R** **CTEM 16 R**		
side mounting female inserts with female contacts male inserts with male contacts			left **CTSEF 16 L** **CTSEM 16 L**	right **CTSEF 16 R** **CTSEM 16 R**

1) for non-prepared conductors

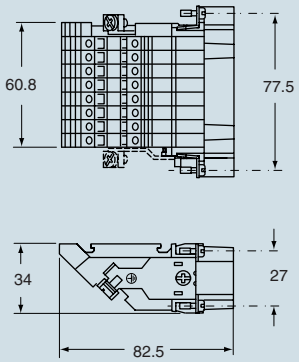
Note: CT inserts - 400V Gr. C until sold out

dimensions in mm

female inserts (CTEF and CTSEF)

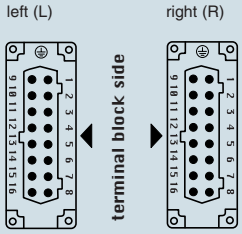


male inserts (CTEM and CTSEM)

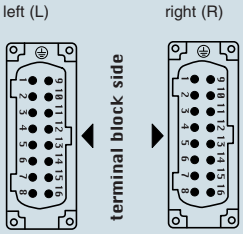


terminal side (front view)

female inserts (CTEF and CTSEF)



male inserts (CTEM and CTSEM)



- CTE inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

- CTSE spring inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

enclosures*): **size "104.27"**

*) only bulkhead mounted housing

- may be coupled to CN, CNE, CC, CCE, CS, CSE inserts
- inserts may be mounted from rear or front of enclosure
- limit current curves of the inserts see page 29

terminal block inserts
screw terminal connection

terminal block inserts
spring terminal connection

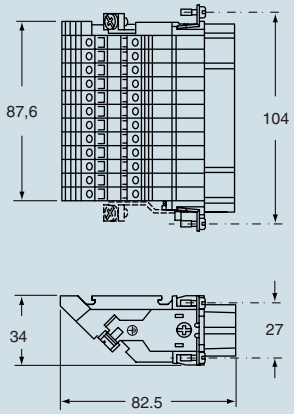
description	part No.	part No.	part No.	part No.
side mounting female inserts with female contacts 1) male inserts with male contacts 1)	left **CTEF 24 L** **CTEM 24 L**	right **CTEF 24 R** **CTEM 24 R**		
side mounting female inserts with female contacts male inserts with male contacts			left **CTSEF 24 L** **CTSEM 24 L**	right **CTSEF 24 R** **CTSEM 24 R**

1) for non-prepared conductors

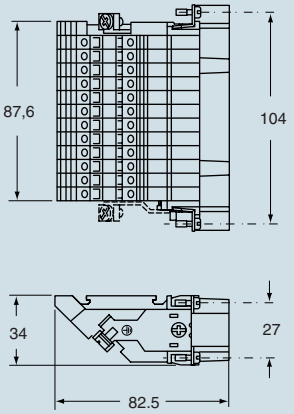
Note: CT inserts - 400V Gr. C until sold out

dimensions in mm

female inserts (CTEF and CTSEF)

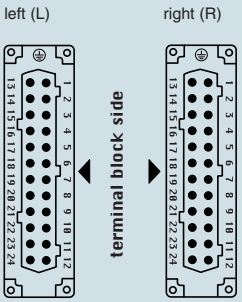


male inserts (CTEM and CTSEM)

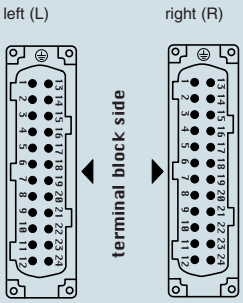


terminal side (front view)

female inserts (CTEF and CTSEF)



male inserts (CTEM and CTSEM)



- CTE inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

- CTSE spring inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

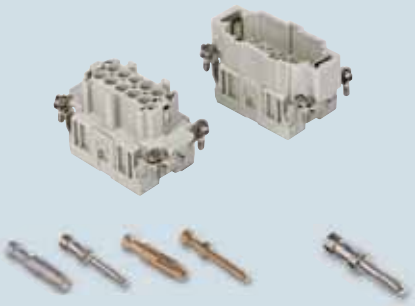
CMSE - CMCE 3 + 2 (aux) poles + ⏚ 16A max - 830V/8kV/3

enclosures: **size "57.27"**

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, spring terminal connection

inserts, crimp connections 16A normal and for advanced opening silver and gold plated contacts

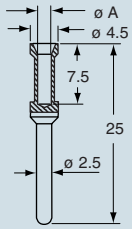


description	part No.	part No.	part No.
female inserts with female contacts male inserts with male contacts	**CMSEF 03** **CMSEM 03**		
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts		**CMCEF 03** **CMCEM 03**	
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves		**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves		**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves		**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

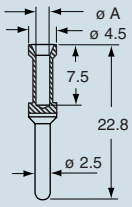
silver plated **gold plated**

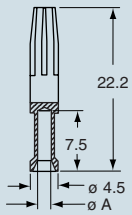
dimensions of crimp contacts in mm (for CMCE inserts)

CCF and CCM



CC...AN





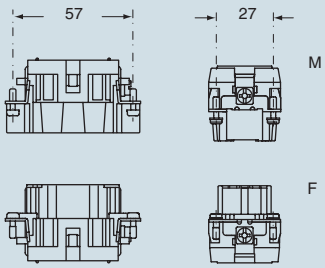
CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

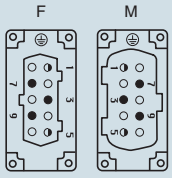
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

dimensions in mm



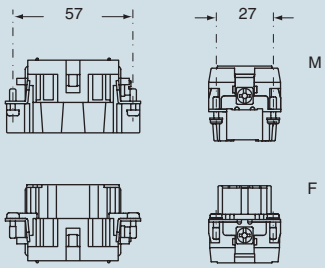
terminal side (front view)



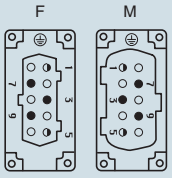
◑ the auxiliary contacts are in the forward position upon opening

- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

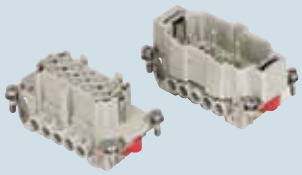
enclosures: **size "57.27"**

insulated 830V ..... page: 171 ÷ 174
aggressive environments .... page: 176
EMC ..... page: 177

panel supports:
COB ..... page: 214 ÷ 215

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29

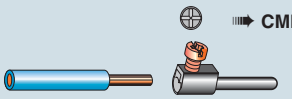
inserts,
screw terminal connection

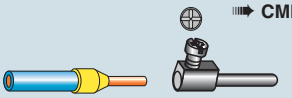


description	part No.	with insulating cover
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CMEF 03** **CMEM 03**	**CMEF 03 T** **CMEM 03 T**
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CMEF 03 X** **CMEM 03 X**	**CMEF 03 TX** **CMEM 03 TX**

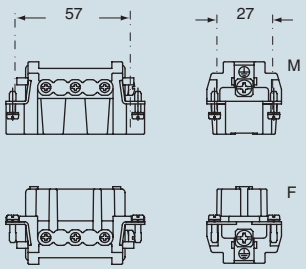
1) for non-prepared conductors
2) for bush terminal conductors

the CME...T and CME...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

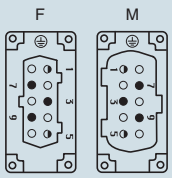




dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

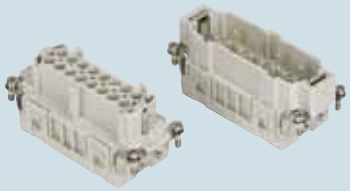
dimensions indicated are not binding and may be changed without notice

CMSE - CMCE 6 + 2 (aux) poles + ⏚ 16A max - 830V/8kV/3

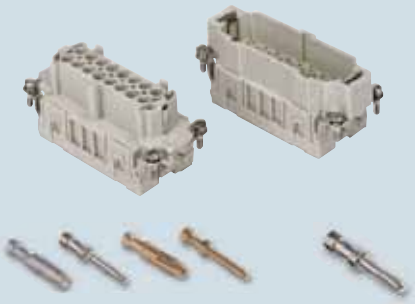
enclosures: **size "77.27"**

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, spring terminal connection



inserts, crimp connections 16A normal and for advanced opening silver and gold plated contacts

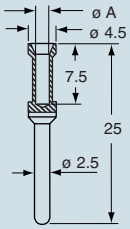


description	part No.	part No.	part No.
female inserts with female contacts male inserts with male contacts	**CMSEF 06** **CMSEM 06**		
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts		**CMCEF 06** **CMCEM 06**	
16A female contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

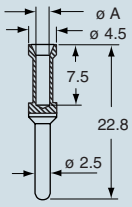
silver plated **gold plated**

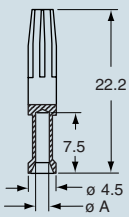
dimensions of crimp contacts in mm (for CMCE inserts)

CCF and CCM



CC...AN





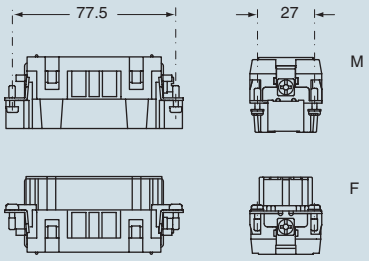
CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

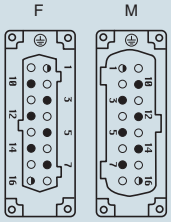
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

dimensions in mm



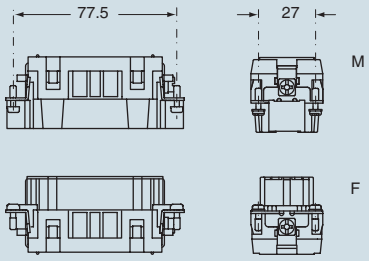
terminal side (front view)



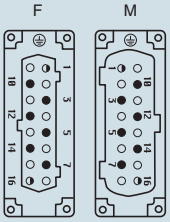
◑ the auxiliary contacts are in the forward position upon opening

- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

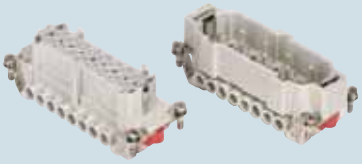
enclosures: **size “77.27”**

insulated 830V ..... page: 183 ÷ 186
aggressive environments .... page: 188
EMC ..... page: 189

panel supports:
COB ..... page: 214 ÷ 215

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29

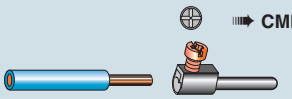
inserts,
screw terminal connection

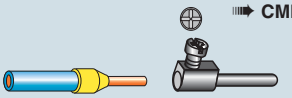


description	part No.	with insulating cover
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CMEF 06** **CMEM 06**	**CMEF 06 T** **CMEM 06 T**
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CMEF 06 X** **CMEM 06 X**	**CMEF 06 TX** **CMEM 06 TX**

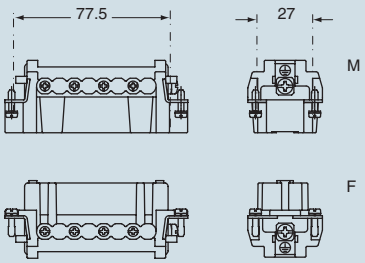
1) for non-prepared conductors
2) for bush terminal conductors

the CME...T and CME...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

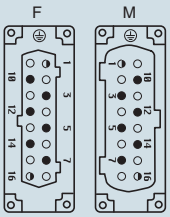




dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

CMSE - CMCE 10 + 2 (aux) poles + ⏚ 16A max - 830V/8kV/3

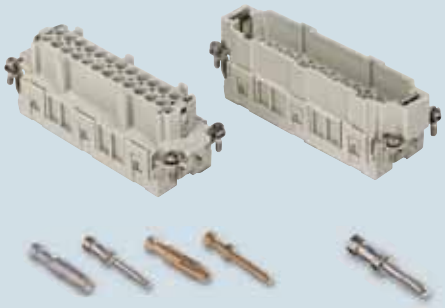
enclosures: **size "104.27"**

panel supports:

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, spring terminal connection

inserts, crimp connections 16A normal and for advanced opening silver and gold plated contacts



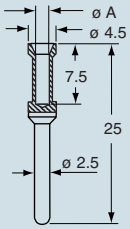
description	part No.	part No.	part No.
female inserts with female contacts male inserts with male contacts	**CMSEF 10** **CMSEM 10**		
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts		**CMCEF 10** **CMCEM 10**	
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves		**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves		**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves		**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated

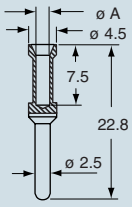
gold plated

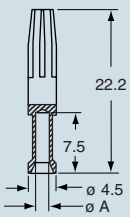
dimensions of crimp contacts in mm
(for CMCE inserts)

CCF and CCM



CC...AN





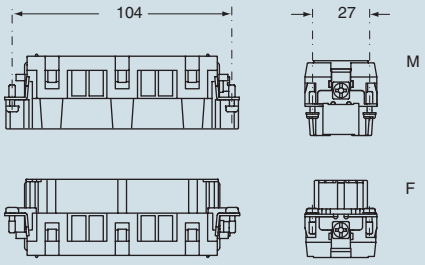
CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

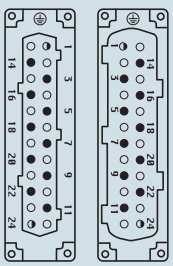
- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

dimensions in mm

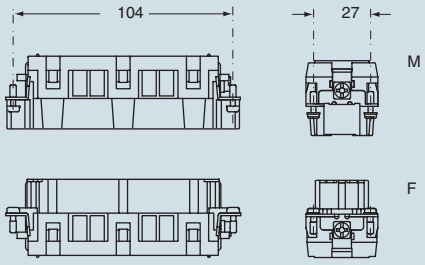


terminal side (front view)

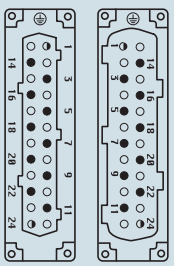


◑ the auxiliary contacts are in the forward position upon opening
- inserts for section conductors:
0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

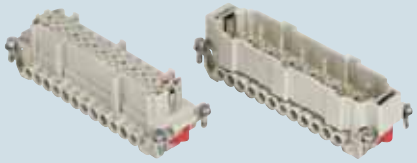
enclosures: **size "104.27"**

insulated 830V ..... page: 195 ÷ 198
aggressive environments .... page: 200
EMC ..... page: 201

panel supports:
COB ..... page: 214 ÷ 215

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29

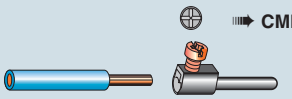
inserts,
screw terminal connection

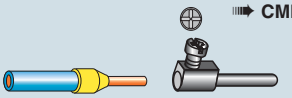


description	part No.	with insulating cover
indirect, with plate 1) female inserts with female contacts male inserts with male contacts	**CMEF 10** **CMEM 10**	**CMEF 10 T** **CMEM 10 T**
direct, without plate 2) female inserts with female contacts male inserts with male contacts	**CMEF 10 X** **CMEM 10 X**	**CMEF 10 TX** **CMEM 10 TX**

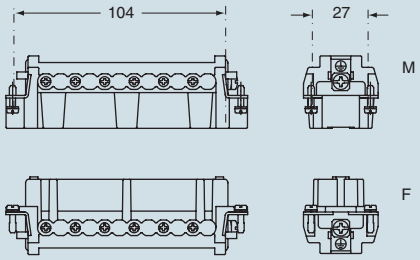
1) for non-prepared conductors
2) for bush terminal conductors

the CME...T and CME...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

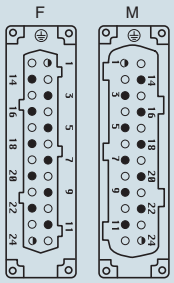




dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

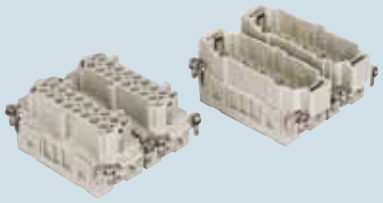
CMSE - CMCE 12 + 4 (aux) poles + ⏚ 16A max - 830V/8kV/3

enclosures: **size "77.62"**

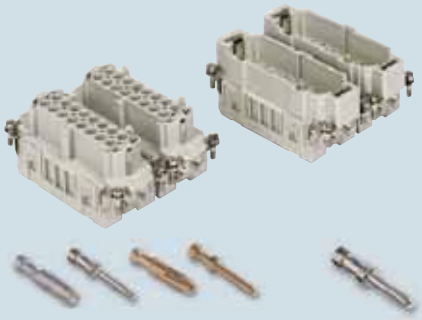
standard ..... page: 203 ÷ 206
aggressive environments .... page: 207

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, spring terminal connection



inserts, crimp connections 16A normal and for advanced opening silver and gold plated contacts



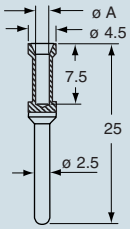
description	part No.	part No.	part No.	part No.
female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CMSEF 06** **CMSEM 06**	**CMSEF 06 N** **CMSEM 06 N**		
without contacts (to be ordered separately) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)			**CMCEF 06** **CMCEM 06**	**CMCEF 06 N** **CMCEM 06 N**
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves			**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated

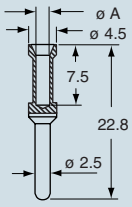
gold plated

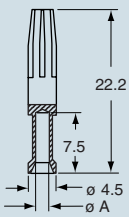
dimensions of crimp contacts in mm
(for CMCE inserts)

CCF and CCM



CC...AN





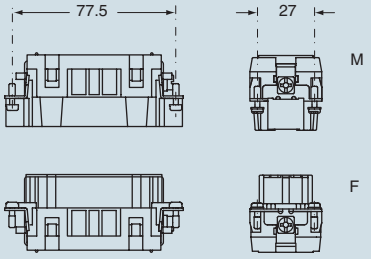
CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

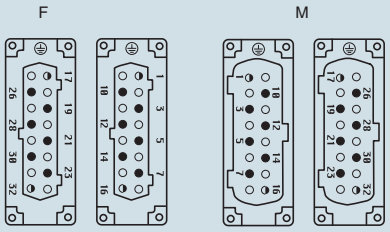
- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

dimensions in mm



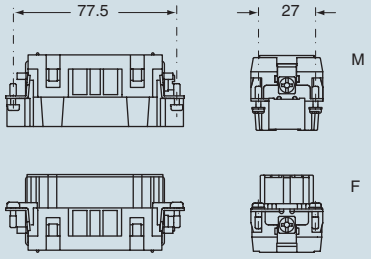
terminal side (front view)



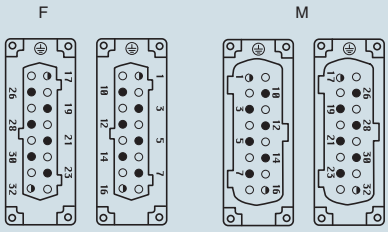
◑ the auxiliary contacts are in the forward position upon opening

- inserts for section conductors:
  0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



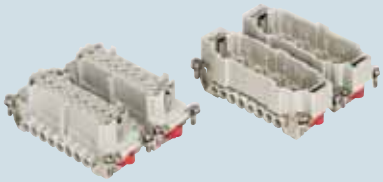
◑ the auxiliary contacts are in the forward position upon opening

enclosures: **size “77.62”**

standard ..... page: 203 ÷ 206
aggressive environments .... page: 207

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29

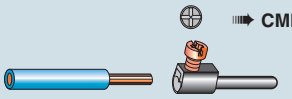
inserts,
screw terminal connection



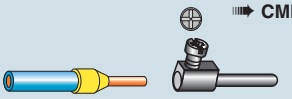
description	part No.	with insulating cover
indirect, with plate 1) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CMEF 06 / CMEF 06 N** **CMEM 06 / CMEM 06 N**	**CMEF 06 T / CMEF 06 TN** **CMEM 06 T / CMEM 06 TN**
direct, without plate 2) female inserts, No. (1÷16) and (17÷32) male inserts, No. (1÷16) and (17÷32)	**CMEF 06 X / CMEF 06 XN** **CMEM 06 X / CMEM 06 XN**	**CMEF 06 TX / CMEF 06 TXN** **CMEM 06 TX / CMEM 06 TXN**

1) for non-prepared conductors
2) for bush terminal conductors

the CME...T and CME...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

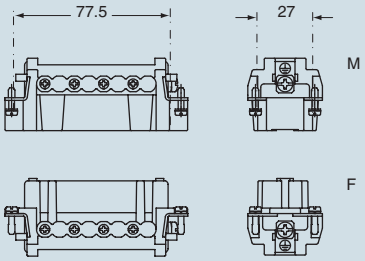


➠ **CME ...**

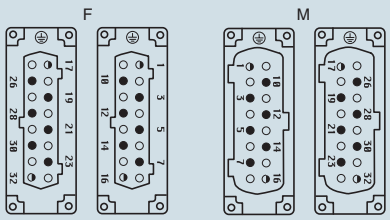


➠ **CME ... X**

dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

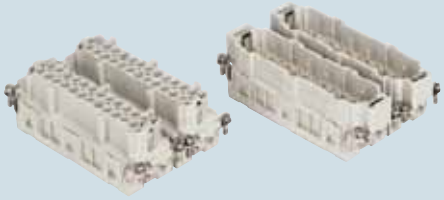
CMSE - CMCE 20 + 4 (aux) poles + ⏚ 16A max - 830V/8kV/3

enclosures: **size "104.62"**

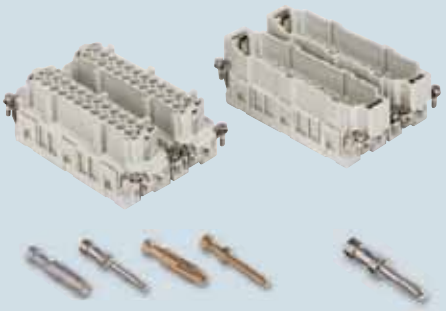
standard ..... page: 208
aggressive environments .... page: 210

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, spring terminal connection



inserts, crimp connections 16A normal and for advanced opening silver and gold plated contacts



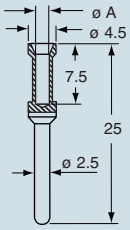
description	part No.	part No.	part No.	part No.
female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CMSEF 10** **CMSEM 10**	**CMSEF 10 N** **CMSEM 10 N**		
without contacts (to be ordered separately) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)			**CMCEF 10** **CMCEM 10**	**CMCEF 10 N** **CMCEM 10 N**
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves			**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves			**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	

silver plated

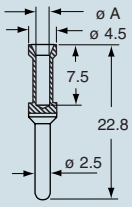
gold plated

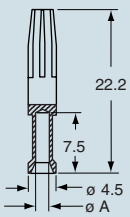
dimensions of crimp contacts in mm (for CMCE inserts)

CCF and CCM



CC...AN





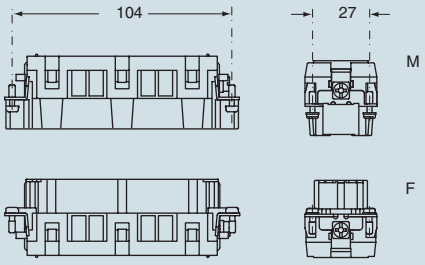
CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

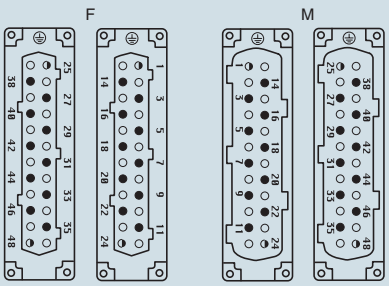
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

dimensions in mm



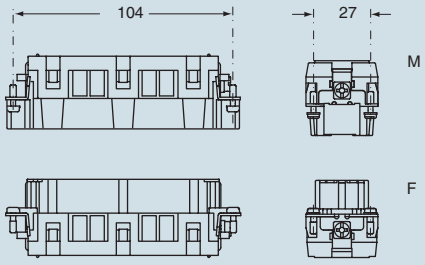
terminal side (front view)



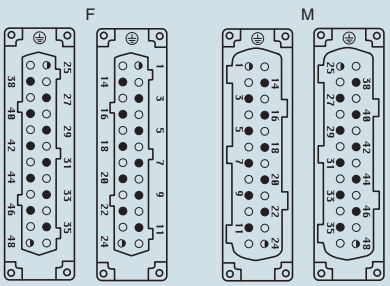
◑ the auxiliary contacts are in the forward position upon opening

- inserts for section conductors: 0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



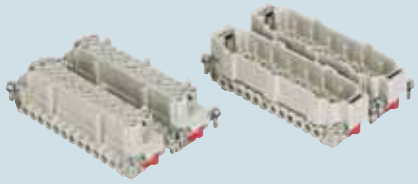
◑ the auxiliary contacts are in the forward position upon opening

enclosures: **size "104.62"**

standard ..... page: 208
aggressive environments .... page: 210

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29

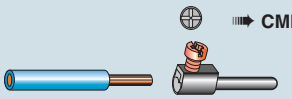
inserts,
screw terminal connection



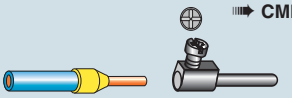
description	part No.	with insulating cover
indirect, with plate 1) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CMEF 10 / CMEF 10 N** **CMEM 10 / CMEM 10 N**	**CMEF 10 T / CMEF 10 TN** **CMEM 10 T / CMEM 10 TN**
direct, without plate 2) female inserts, No. (1÷24) and (25÷48) male inserts, No. (1÷24) and (25÷48)	**CMEF 10 X / CMEF 10 XN** **CMEM 10 X / CMEM 10 XN**	**CMEF 10 TX / CMEF 10 TXN** **CMEM 10 TX / CMEM 10 TXN**

1) for non-prepared conductors
2) for bush terminal conductors

the CME...T and CME...TX versions have a plastic cover which guides the fitting of the conductors in the contacts. This cover is similar to that of the CN series.

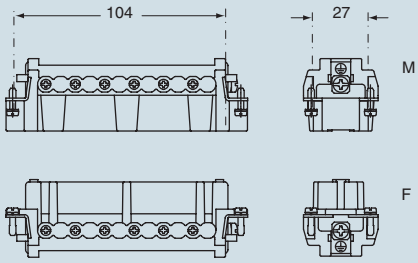


➠ **CME ...**

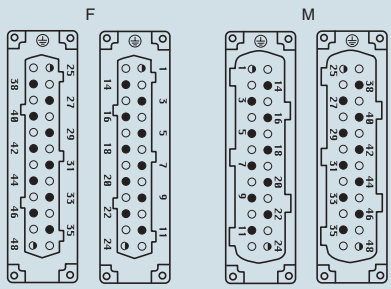


➠ **CME ... X**

dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

- inserts with plate, for section conductors: 0.5 ÷ 2.5 mm² - AWG 20 ÷ 14
- inserts without plate, for section conductors: 0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

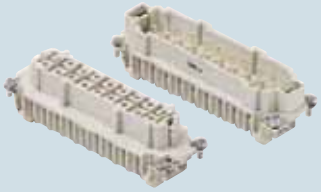
dimensions indicated are not binding and may be changed without notice

CME - CMCE 16 + 2 (aux) poles + ⏚ 16A max - 400/690V/6kV/3

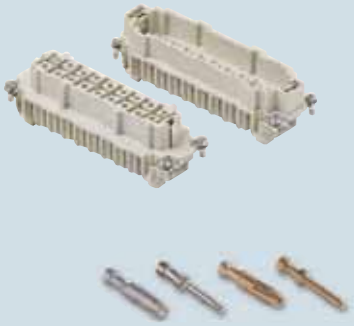
enclosures: **size "104.27"**

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29
- inserts for use with temperatures up to 180 °C are available on request; enclosures on page 199
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, screw terminal connection



inserts, crimp connections 16A silver and gold plated contacts



description	part No.	part No.	part No.
female inserts with female contacts male inserts with male contacts	**CMEF 16** **CMEM 16**		
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts		**CMCEF 16** **CMCEM 16**	

16A female contacts

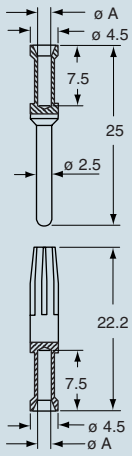
0.5 mm²	AWG 20	with no grooves	**CCFA 0.5**	**CCFD 0.5**
0.75 mm²	AWG 18	one groove (back side)	**CCFA 0.7**	**CCFD 0.7**
1 mm²	AWG 18	one groove	**CCFA 1.0**	**CCFD 1.0**
1.5 mm²	AWG 16	two grooves	**CCFA 1.5**	**CCFD 1.5**
2.5 mm²	AWG 14	three grooves	**CCFA 2.5**	**CCFD 2.5**
3 mm²	AWG 12	one wide groove	**CCFA 3.0**	**CCFD 3.0**
4 mm²	AWG 12	with no grooves	**CCFA 4.0**	**CCFD 4.0**

16A male contacts

0.5 mm²	AWG 20	with no grooves	**CCMA 0.5**	**CCMD 0.5**
0.75 mm²	AWG 18	one groove (back side)	**CCMA 0.7**	**CCMD 0.7**
1 mm²	AWG 18	one groove	**CCMA 1.0**	**CCMD 1.0**
1.5 mm²	AWG 16	two grooves	**CCMA 1.5**	**CCMD 1.5**
2.5 mm²	AWG 14	three grooves	**CCMA 2.5**	**CCMD 2.5**
3 mm²	AWG 12	one wide groove	**CCMA 3.0**	**CCMD 3.0**
4 mm²	AWG 12	with no grooves	**CCMA 4.0**	**CCMD 4.0**

silver plated / **gold plated**

dimensions of crimp contacts in mm (for CMCE inserts)



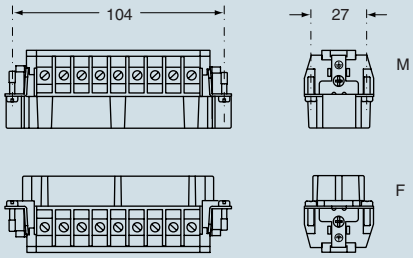
CCF and CCM contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

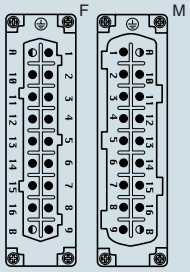
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

dimensions in mm



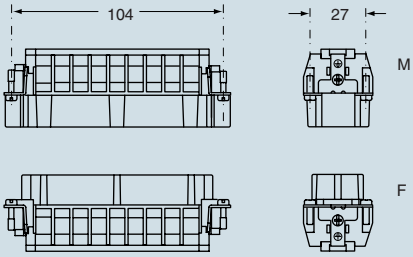
terminal side (front view)



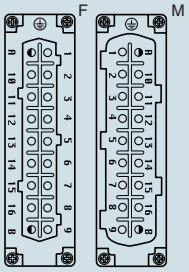
◑ the auxiliary contacts are in the forward position upon opening

- inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

- the auxiliary contacts are the same as power contacts: early opening is obtained by drawing back the seats

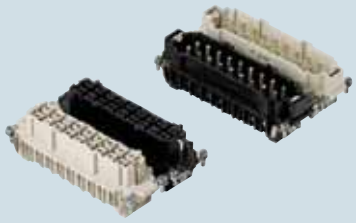
CME - CMCE 32 + 4 (aux) poles + ⏚ 16A max - 400/690V/6kV/3

enclosures: **size "104.62"**

standard ..... page: 208
aggressive environments .... page: 210

- auxiliary contacts: 16A max - 500V/6kV/3
- limit current curves of the inserts see page 29
- inserts for use with temperatures up to 180 °C are available on request; enclosures on page 209
- tools for crimp contacts see pages 248, 252, 254 and 256

inserts, screw terminal connection



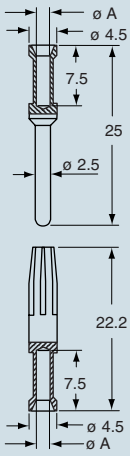
inserts, crimp connections 16A silver and gold plated contacts

description	part No.	part No.	part No.	part No.
female inserts, white and black male inserts, white and black	**CMEF 16** **CMEM 16**	**CMEF 16 N** **CMEM 16 N**		
without contacts (to be ordered separately) female inserts, white and black male inserts, white and black			**CMCEF 16** **CMCEM 16**	**CMCEF 16 N** **CMCEM 16 N**
16A female contacts				
0.5 mm² AWG 20 with no grooves			**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)			**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove			**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves			**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves			**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove			**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves			**CCFA 4.0**	**CCFD 4.0**
16A male contacts				
0.5 mm² AWG 20 with no grooves			**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)			**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove			**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves			**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves			**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove			**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves			**CCMA 4.0**	**CCMD 4.0**

silver plated

gold plated

dimensions of crimp contacts in mm
(for CMCE inserts)



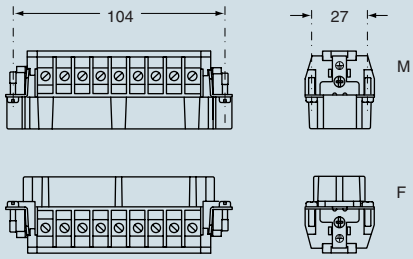
CCF and CCM contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

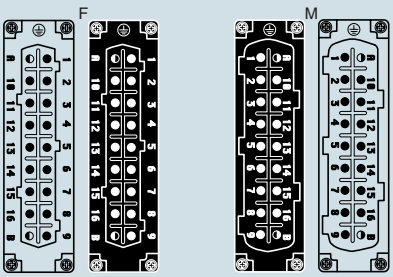
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

dimensions in mm



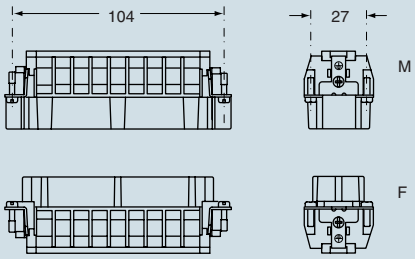
terminal side (front view)



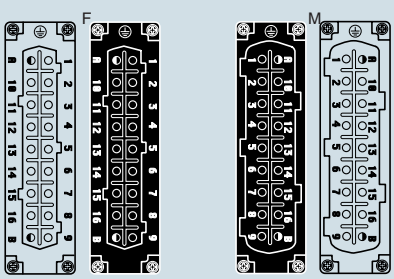
◑ the auxiliary contacts are in the forward position upon opening

- inserts with plate, for section conductors: 0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm

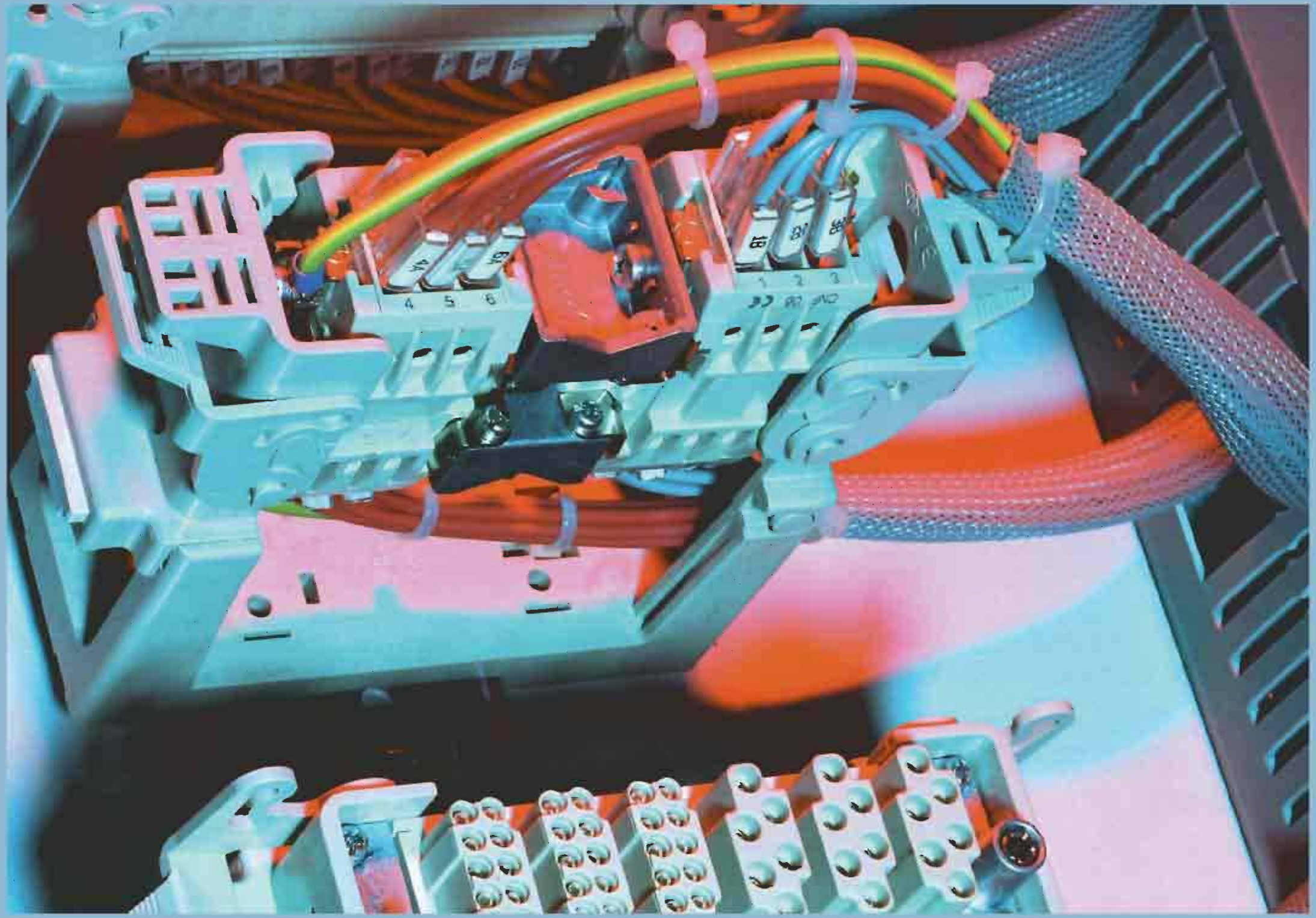


terminal side (front view)



◑ the auxiliary contacts are in the forward position upon opening

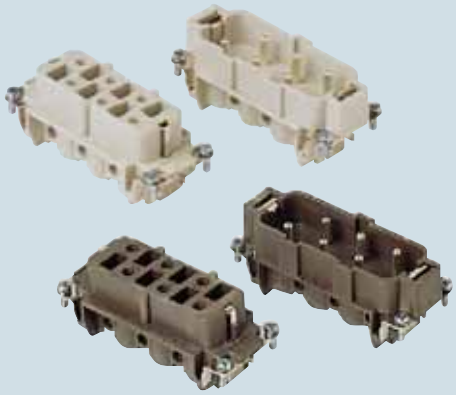
- the auxiliary contacts are the same as power contacts: early opening is obtained by drawing back the seats



enclosures: **size “77.27”**

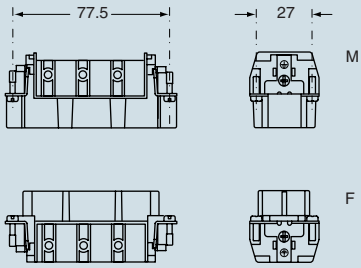
- limit current curves of the inserts see page 30

inserts,
screw terminal connection

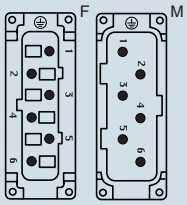


description	part No.
indirect, with plate female inserts with female contacts male inserts with male contacts	**CPF 06** **CPM 06**
indirect, with plate, use in temperatures up to 180 °C female inserts with female contacts, brown male inserts with male contacts, brown	**CPF 06 RY** **CPM 06 RY**

dimensions in mm



terminal side (front view)



- inserts with plate, for section conductors: 1.50 ÷ 6 mm² - AWG 16 ÷ 10
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

enclosures: **size “77.62”**

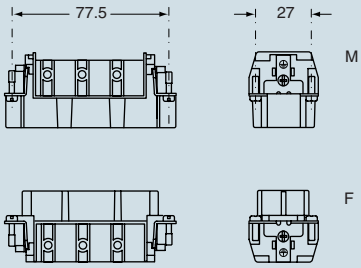
standard ..... page: 203 ÷ 206
aggressive environments .... page: 207

- limit current curves of the inserts see page 30

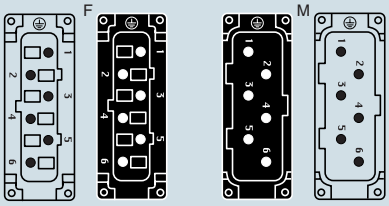
inserts,
screw terminal connection

description	part No.	part No.
indirect, with plate female inserts No. (1÷6), white and black male inserts No. (1÷6), white and black	**CPF 06** **CPM 06**	**CPF 06 N** **CPM 06 N**

dimensions in mm



terminal side (front view)



- inserts with plate, for section conductors: 1.50 ÷ 6 mm² - AWG 16 ÷ 10
- screw torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

CX 8 poles (16A max - 400V) + 24 poles (10A max - 250V) + ⏚/Gr. C

enclosures: **size "57.27"**

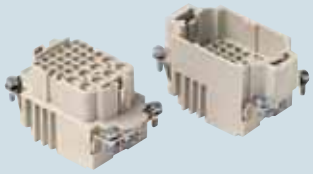
standard ..... page: 167 ÷ 170
aggressive environments .... page: 176
EMC ..... page: 177

panel supports:

COB ..... page: 214 ÷ 215

- limit current curves of the inserts see page 30
- tools for crimp contacts see pages 248, 252, 254 and 256
- see page 235 for interfaces with printed circuits (for 10A contacts)

inserts, crimp connections



16A and 10A crimp contacts normal and for advanced opening silver and gold plated

16A

16A for advanced opening

10A

description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CXF 8/24** **CXM 8/24**		
16A female contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves		**CCFA 0.5** **CCFA 0.7** **CCFA 1.0** **CCFA 1.5** **CCFA 2.5** **CCFA 3.0** **CCFA 4.0**	**CCFD 0.5** **CCFD 0.7** **CCFD 1.0** **CCFD 1.5** **CCFD 2.5** **CCFD 3.0** **CCFD 4.0**
16A male contacts 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves 3 mm² AWG 12 one wide groove 4 mm² AWG 12 with no grooves		**CCMA 0.5** **CCMA 0.7** **CCMA 1.0** **CCMA 1.5** **CCMA 2.5** **CCMA 3.0** **CCMA 4.0**	**CCMD 0.5** **CCMD 0.7** **CCMD 1.0** **CCMD 1.5** **CCMD 2.5** **CCMD 3.0** **CCMD 4.0**
16A male crimp contacts for advanced opening 0.5 mm² AWG 20 with no grooves 0.75 mm² AWG 18 one groove (back side) 1 mm² AWG 18 one groove 1.5 mm² AWG 16 two grooves 2.5 mm² AWG 14 three grooves		**CC 0.5 AN** **CC 0.7 AN** **CC 1.0 AN** **CC 1.5 AN** **CC 2.5 AN**	
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

silver plated **gold plated**

CCF, CCM and CC..AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

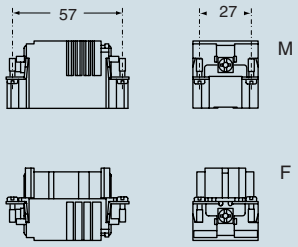
CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

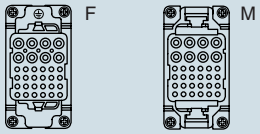
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

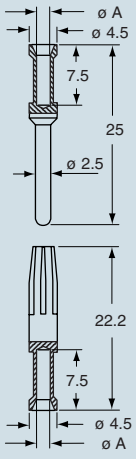
dimensions in mm



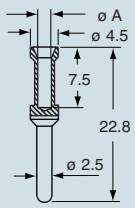
terminal side (front view)



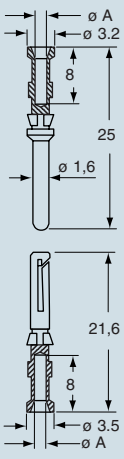
CCF and CCM



CC...AN



CDF and CDM



CX

CX 6 poles (40A max - 690V) + 36 poles (10A max - 250V) + ⏚/Gr. C

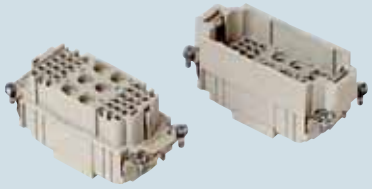
enclosures: **size "77.27"**

standard ..... page: 179 ÷ 182
aggressive environments .... page: 188
EMC ..... page: 189

panel supports:
COB ..... page: 214 ÷ 215

- limit current curves of the inserts see page 30
- tools for crimp contacts see pages 248, 250, 252, 254 and 256
- see page 235 for interfaces with printed circuits (for 10A contacts)

inserts, crimp connections



40A and 10A crimp contacts silver and gold plated

40A

10A

description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CXF 6/36** **CXM 6/36**		
40A female contacts 1.5 mm² AWG 16 2.5 mm² AWG 14 4 mm² AWG 12 6 mm² AWG 10		**CXFA 1.5** **CXFA 2.5** **CXFA 4.0** **CXFA 6.0**	silver plated
40A male contacts 1.5 mm² AWG 16 2.5 mm² AWG 14 4 mm² AWG 12 6 mm² AWG 10		**CXMA 1.5** **CXMA 2.5** **CXMA 4.0** **CXMA 6.0**	silver plated
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	silver plated **CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5** gold plated
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	silver plated **CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5** gold plated

CXF and CXM contacts

conductor section mm²	conductor slot ø A (mm)	B (mm)
1.5	1.75	9
2.5	2.25	9
4	2.85	9,6
6	3.5	9,6

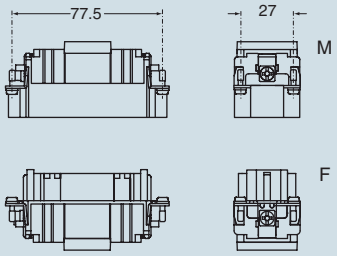
CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14-0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

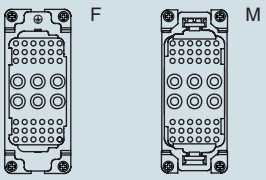
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

dimensions in mm

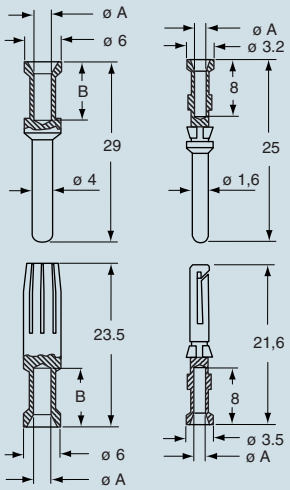


terminal side (front view)



dimensions in mm

CXF and CXM **CDF and CDM**



CX 12 poles (40A max - 500V/6kV/3) + 2 poles (10A max - 250V/4kV/3) + ⏚

enclosures: **size “77.27”**

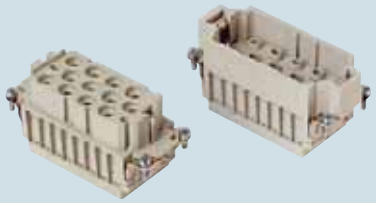
standard ..... page: 179 ÷ 182
aggressive environments .... page: 188
EMC ..... page: 189

panel supports:

COB ..... page: 214 ÷ 215

- limit current curves of the inserts see page 30
- tools for crimp contacts see pages 248, 250, 252, 254 and 256

inserts, crimp connections



40A and 10A crimp contacts silver and gold plated

40A

10A

description	part No.	part No.	part No.
without contacts (to be ordered separately) female inserts for female contacts male inserts for male contacts	**CXF 12/2** **CXM 12/2**		
40A female contacts 1.5 mm² AWG 16 2.5 mm² AWG 14 4 mm² AWG 12 6 mm² AWG 10		**CXFA 1.5** **CXFA 2.5** **CXFA 4.0** **CXFA 6.0**	silver plated
40A male contacts 1.5 mm² AWG 16 2.5 mm² AWG 14 4 mm² AWG 12 6 mm² AWG 10		**CXMA 1.5** **CXMA 2.5** **CXMA 4.0** **CXMA 6.0**	silver plated
10A female contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	silver plated **CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5** gold plated
10A male contacts 0.14÷0.37 mm² AWG 26÷22 identification No. 1 0.5 mm² AWG 20 identification No. 2 0.75 mm² AWG 18 identification No. ② 1 mm² AWG 18 identification No. 3 1.5 mm² AWG 16 identification No. 4 2.5 mm² AWG 14 identification No. 5		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	silver plated **CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5** gold plated

CXF and CXM contacts

conductor section mm²	conductor slot ø A (mm)	B (mm)
1.5	1.75	9
2.5	2.25	9
4	2.85	9,6
6	3.5	9,6

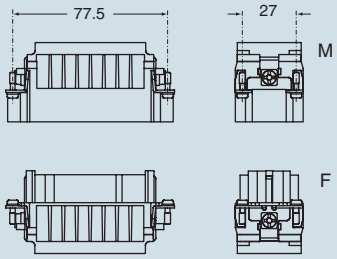
CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

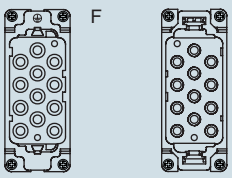
- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

dimensions in mm

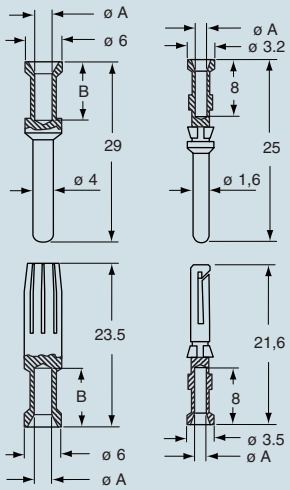


terminal side (front view)



dimensions in mm

CXF and CXM **CDF and CDM**



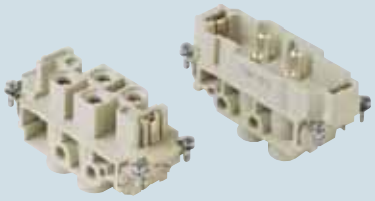
enclosures: **size "77.27"**

standard ..... page: 179 ÷ 182
aggressive environments .... page: 188
EMC ..... page: 189

panel supports:
COB ..... page: 214 ÷ 215

- limit current curves of the inserts see page 31
- inserts for use with temperatures up to 180 °C are available on request; enclosures on page 187

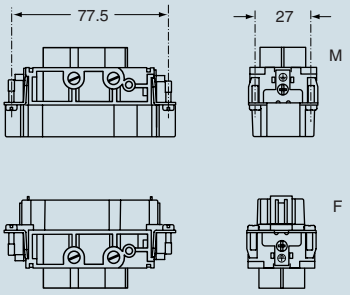
inserts,
screw terminal connection



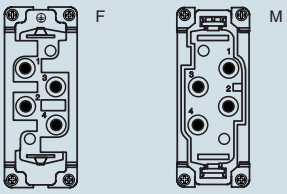
inserts,
screw terminal connection

description	part No.	part No.
female inserts with female contacts male inserts with male contacts	**CXF 4/0** **CXM 4/0**	
female inserts with female contacts male inserts with male contacts		**CXF 4/2** **CXM 4/2**

dimensions in mm

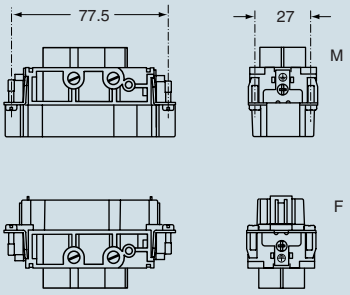


terminal side (front view)

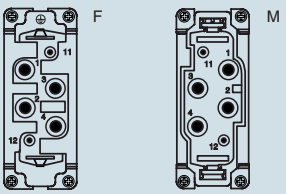


80A contacts
- without plate for section conductors:
  4 ÷ 16 mm² - AWG 12 ÷ 6
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions in mm



terminal side (front view)



80A contacts
- without plate for section conductors:
  4 ÷ 16 mm² - AWG 12 ÷ 6
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

16A contacts
- without plate for section conductors:
  0.25 ÷ 2.5 mm² - AWG 24 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

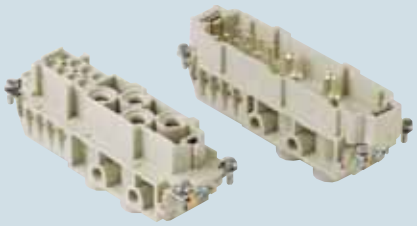
dimensions indicated are not binding
and may be changed without notice

enclosures: **size "104.27"**

panel supports:

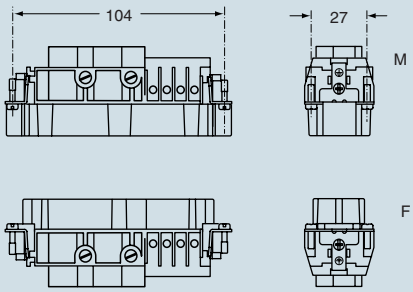
- limit current curves of the inserts see page 31
- inserts for use with temperatures up to 180 °C are available on request; enclosures on page 199

inserts,
screw terminal connection

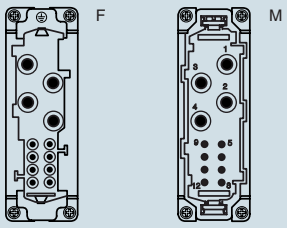


description	part No.
female inserts with female contacts male inserts with male contacts	**CXF 4/8** **CXM 4/8**

dimensions in mm



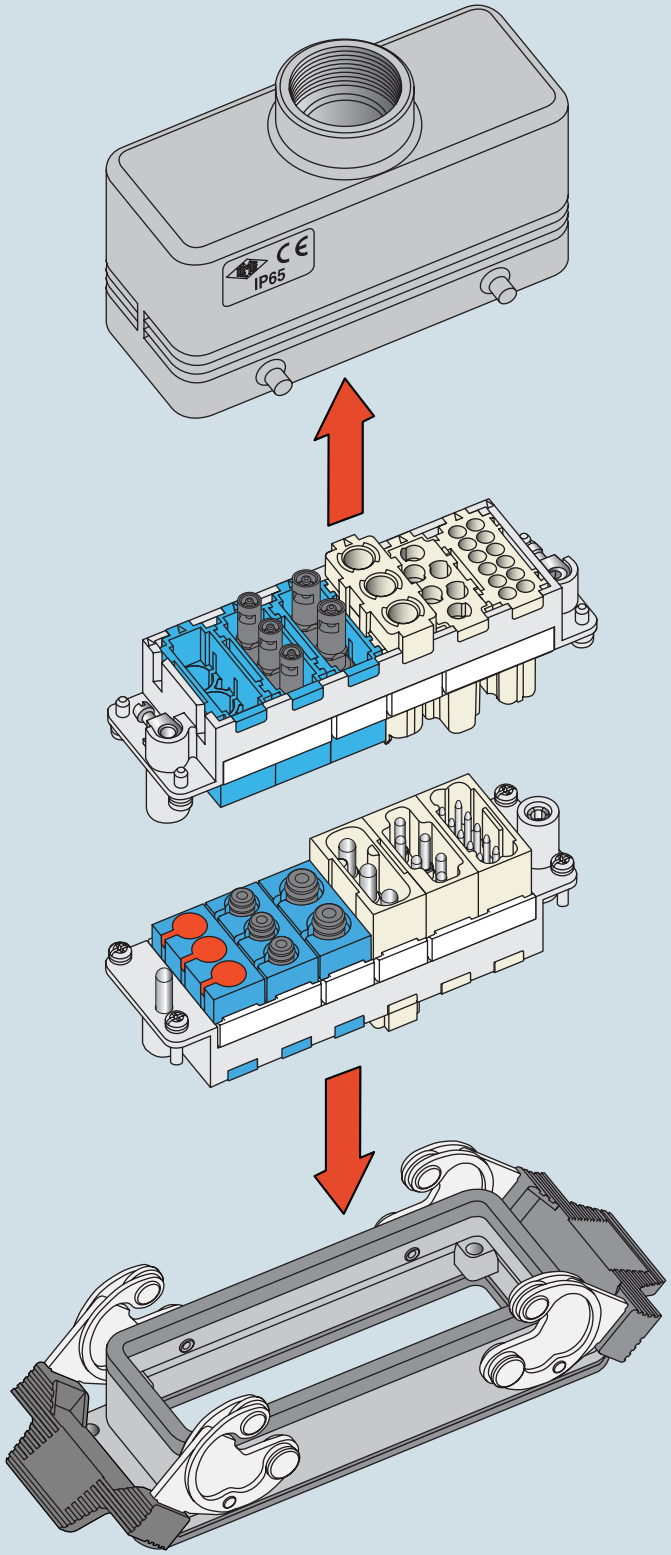
terminal side (front view)



80A contacts
- without plate for section conductors:
  4 ÷ 16 mm² - AWG 12 ÷ 6
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

16A contacts
- with plate for section conductors:
  0.75 ÷ 2.5 mm² - AWG 18 ÷ 14
- torsion couple recommended for conductor fastening screws and stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice



Use

The MIXO series is a system of modular units for special applications that uses the traditional ILME enclosures.

Each enclosure can house different types of connections such as, for example: electric signals and contacts for the conduction of compressed air and liquids with pressure values of up to 8 bars.

The inserts are arranged side by side to form a single compact block which is inserted into metallic frames with mandatory housings. Once the modules have been inserted and locked with the special tabs, the connector can then be inserted into the enclosure.

The modular structure system makes it easy to access a series of contacts inserted in the frame (e.g., for substitution, checks or the addition of signals with new inserts for needs not foreseen during the initial installation) without having to disassemble the entire connector.

The use of standard die-cast alluminium enclosures with degree of protection IP65 provides the possibility of innumerable applications.

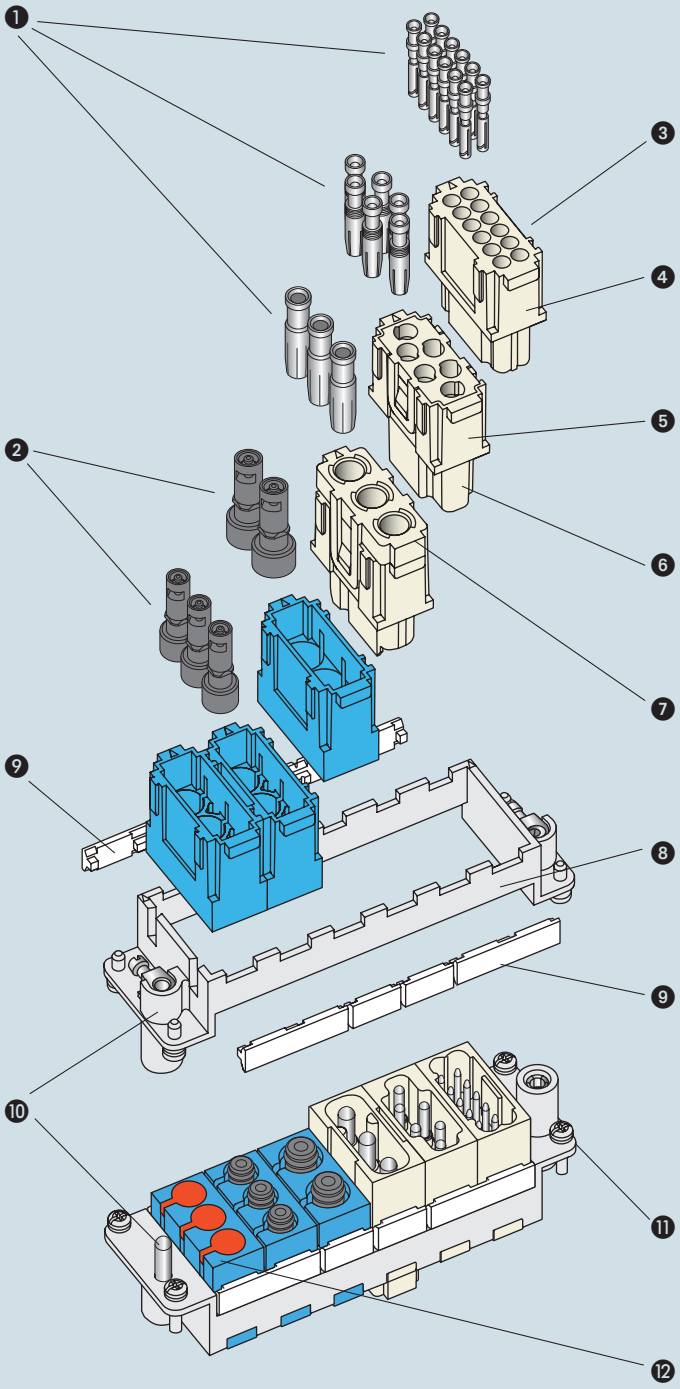
The MIXO series may be used with 5 different frame sizes.
The following table lists the frames and the metallic enclosures that may be used.

frames	one or two-lever metallic enclosures
CX 01 T	size “49.16”
CX 02 TM/TF	size “44.27”
CX 03 TM/TF	size “57.27”
CX 04 TM/TF	size “77.27”
CX 06 TM/TF	size “104.27”
CX 04 TM/TF (x 2)	size “77.62”
CX 06 TM/TF (x 2)	size “104.62”

In addition, the MIXO series can be used with the COB series panel supports

frames	panel supports part No.	
CX 02 TM/TF	fixed:	**COB 06 BC** and **COB TCQ**
	mobile:	**COB TSF**, **COB TSFS** and **COB 06 CMS**
CX 03 TM/TF	fixed:	**COB 10 BC** and **COB TCQ**
	mobile:	**COB TSF**, **COB TSFS** and **COB 10 CMS**
CX 04 TM/TF	fixed:	**COB 16 BC** and **COB TCQ**
	mobile:	**COB TSF**, **COB TSFS** and **COB 16 CMS**
CX 06 TM/TF	fixed:	**COB 24 BC** and **COB TCQ**
	mobile:	**COB TSF**, **COB TSFS** and **COB 24 CMS**

The MIXO series currently includes 6 different types of inserts. The field of application is provided in the table at the bottom of the next page.



Characteristics

1. electric contacts in silver-plated or gold-plated brass with connections to the conductors via crimping.
2. pneumatic contacts in plastic with insertion tube connection
3. modular inserts of identical size with insertion system for forming the complete module and frame lock tab.
4. inserts in self-extinguishing thermosplastic material, reinforced with glass fibre, UL approved, with a working temperature range of -40 °C to +125 °C.
5. inserts in conformance with the requirements of the EN 61984 standard and certified and marked with the UL and CSA marks.
6. inserts with asymmetric guide rails to prevent incorrect coupling.
7. position of contacts identified with numbers or codes on both sides of every insert.
8. male/female module carrier frames with mandatory housings and polarity, in die-cast zinc alloy.
9. module lock tab, may be divided according to the number of modules used; guarantees a perfect stability of the modules during wiring and coupling/uncoupling of the connectors.
10. asymmetric earth contacts (two for frame) with wide contact surface prevent incorrect coupling; when two or more identical connectors of the MIXO series are used, coded pins prevent incorrect coupling (see pages 242 and 243).
11. captive frame fastening screws, with flexible spring washer.
12. dummy module for unused frame slots.

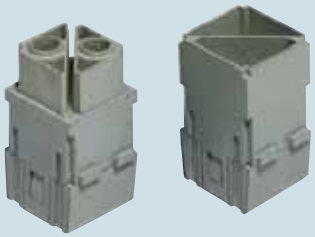
inserts	contact type	signal type	connectors and tubes connections	rated current A max	rated voltage V	catalogue index pages
CX 02 GF/M	main	electric	crimp	100	1000	124
CX 02 4AF/M	main	electric	axial screw	40	1000	125
CX 03 4F/M	main	electric	crimp	40	400/690	126
CX 05 SF/M	main	electric	spring	16	400	130
CX 06 CF/M	main	electric	crimp	16	500	127
CX 08 CF/M	main	electric	crimp	16	400	128
CX 12 DF/M	main / auxiliary	electric	crimp	10	250	131
CX 02 HF/M	main	electric	crimp	16	2900/5000	133
CX 02 BF/M	multiaxial connectors	see CX 04 B	---	---	---	134
CX 01 BF/M	main / auxiliary + shield	electric	crimp	10	50	134
CX 04 BF/M	main / auxiliary + shield	electric	crimp	10	50	134
CX 03 P	pneumatic Ø 1.6 - 3.0 - 4.0 mm	gas / liquid **	insertion	---	---	135
CX 02 P	pneumatic Ø 6.0 mm	gas / liquid **	insertion	---	---	135
CX FM	none (dummy module)	---	---	---	---	137

** **Warning:** For obvious reasons of safety, the VDE standard does not permit electric contacts to be present within the same connector group together with contacts for the transmission of liquids. In addition, the use of pneumatic air contacts requires an appropriate filtering and dehydration system to prevent dangerous condensation. Contacts may be used for pressure values of up to a maximum of 8 bar/116 psi.

the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

frames for modular units..... page: 137

modular units, crimp connections



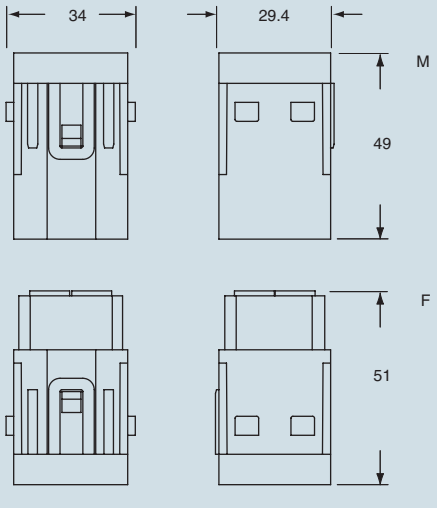
100A crimp contacts silver plated adaptor

description	part No.	part No.
without contacts (to be ordered separately) - female inserts for female contacts - male inserts for female contacts	**CX 02 GF** **CX 02 GM**	
100A female crimp contacts 10÷16 mm² AWG 8÷6 16÷25 mm² AWG 6÷4 25÷35 mm² AWG 4÷2 100A male crimp contacts 10÷16 mm² AWG 8÷6 16÷25 mm² AWG 6÷4 25÷35 mm² AWG 4÷2		**CGFA 16** **CGFA 25** **CGFA 35** **CGMA 16** **CGMA 25** **CGMA 35** **silver plated**
cable earthing adaptor 16 mm²		**CGT 16**

Note:
Crimping tool CGPZ and removal tool CGES in preparation.

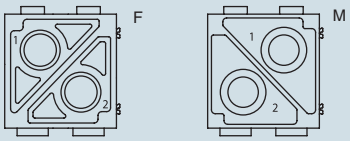
Use of adaptor:
1) Secure the 16 mm² cable with the crimping tool
2) Insert the adaptor in the earth terminal of frames CX..TM/TF

dimensions in mm

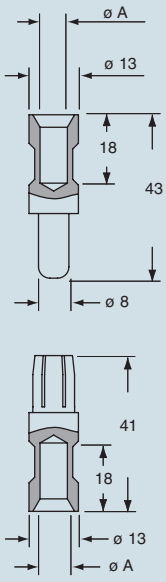


terminal side (front view)

side with reference arrow ▲



dimensions in mm



CGF and CGM contacts

conductor section mm²	ø slot A (mm)
16	5.5
25	7.0
35	8.2

- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

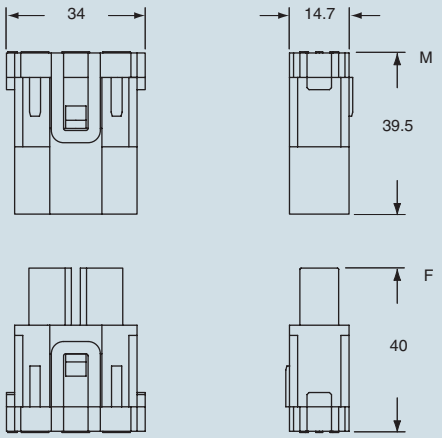
frames for modular units..... page: 137

modular units,
screw terminal connection

- limit current curves of the inserts see page 31

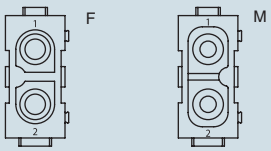
description	part No.
- female inserts with female contacts	**CX 02 4AF**
- male inserts with female contacts	**CX 02 4AM**

dimensions in mm



terminal side (front view)

side with reference arrow ▲



- inserts for section conductors:
  2.5÷10 mm² - AWG 14÷8
- stripping lenght see table at page 13

dimensions indicated are not binding
and may be changed without notice

the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

frames for modular units..... page: 137

- limit current curves of the inserts see page 31
- tools for crimp contacts see pages 250 and 252

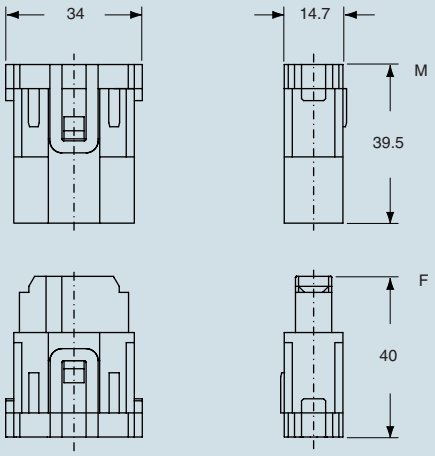
modular units, crimp connections

40A crimp contacts silver plated

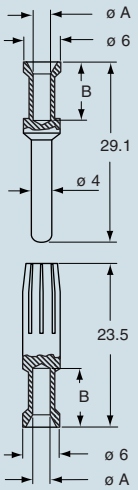
description	part No.	part No.
without contacts (to be ordered separately) - female inserts for female contacts - male inserts for female contacts	**CX 03 4F** **CX 03 4M**	
40A female crimp contacts 1.5 mm² AWG 16 2.5 mm² AWG 14 4 mm² AWG 12 6 mm² AWG 10		**CXFA 1.5** **CXFA 2.5** **CXFA 4.0** **CXFA 6.0**
40A male crimp contacts 1.5 mm² AWG 16 2.5 mm² AWG 14 4 mm² AWG 12 6 mm² AWG 10		**CXMA 1.5** **CXMA 2.5** **CXMA 4.0** **CXMA 6.0**

silver plated

dimensions in mm

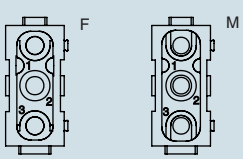


dimensions in mm



terminal side (front view)

side with reference arrow ▲



CXF and CXM contacts

conductor section mm²	conductor slot ø A (mm)	B (mm)
1.5	1.75	9
2.5	2.25	9
4	2.85	9.6
6	3.5	9.6

- stripping lenght see table at page 13

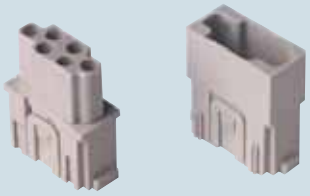
dimensions indicated are not binding and may be changed without notice

the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

frames for modular units..... page: 137

- limit current curves of the inserts see page 31
- tools for crimp contacts see pages 248, 252, 254 and 256

modular units, crimp connections

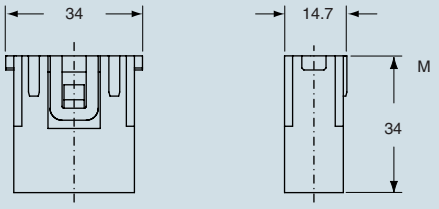


16A crimp contacts normal or for advanced opening silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately)			
- female inserts for female contacts	**CX 06 CF**		
- male inserts for female contacts	**CX 06 CM**		
16A female crimp contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male crimp contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

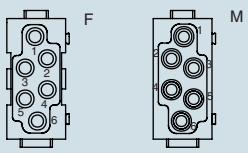
silver plated **gold plated**

dimensions in mm



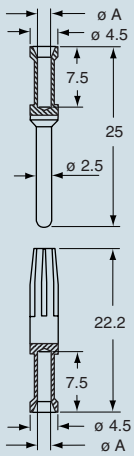
terminal side (front view)

side with reference arrow ▲

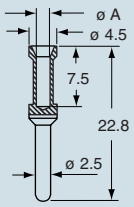


dimensions in mm

CCF and CCM



CC...AN



CCF, CCM and CC...AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

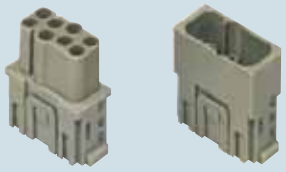
dimensions indicated are not binding and may be changed without notice

the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

frames for modular units..... page: 137

- limit current curves of the inserts see page 31
- tools for crimp contacts see pages 248, 252, 254 and 256

modular units, crimp connections

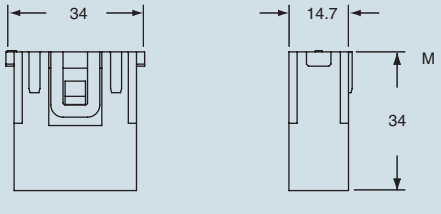


16A crimp contacts normal or for advanced opening silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately)			
- female inserts for female contacts	**CX 08 CF**		
- male inserts for female contacts	**CX 08 CM**		
16A female crimp contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male crimp contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**
16A male crimp contacts for advanced opening			
0.5 mm² AWG 20 with no grooves		**CC 0.5 AN**	
0.75 mm² AWG 18 one groove (back side)		**CC 0.7 AN**	
1 mm² AWG 18 one groove		**CC 1.0 AN**	
1.5 mm² AWG 16 two grooves		**CC 1.5 AN**	
2.5 mm² AWG 14 three grooves		**CC 2.5 AN**	

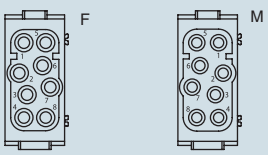
silver plated **gold plated**

dimensions in mm



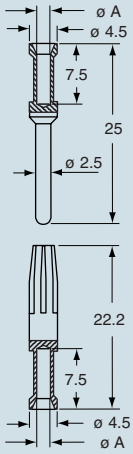
terminal side (front view)

side with reference arrow ▲

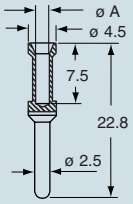


dimensions in mm

CCF and CCM



CC...AN

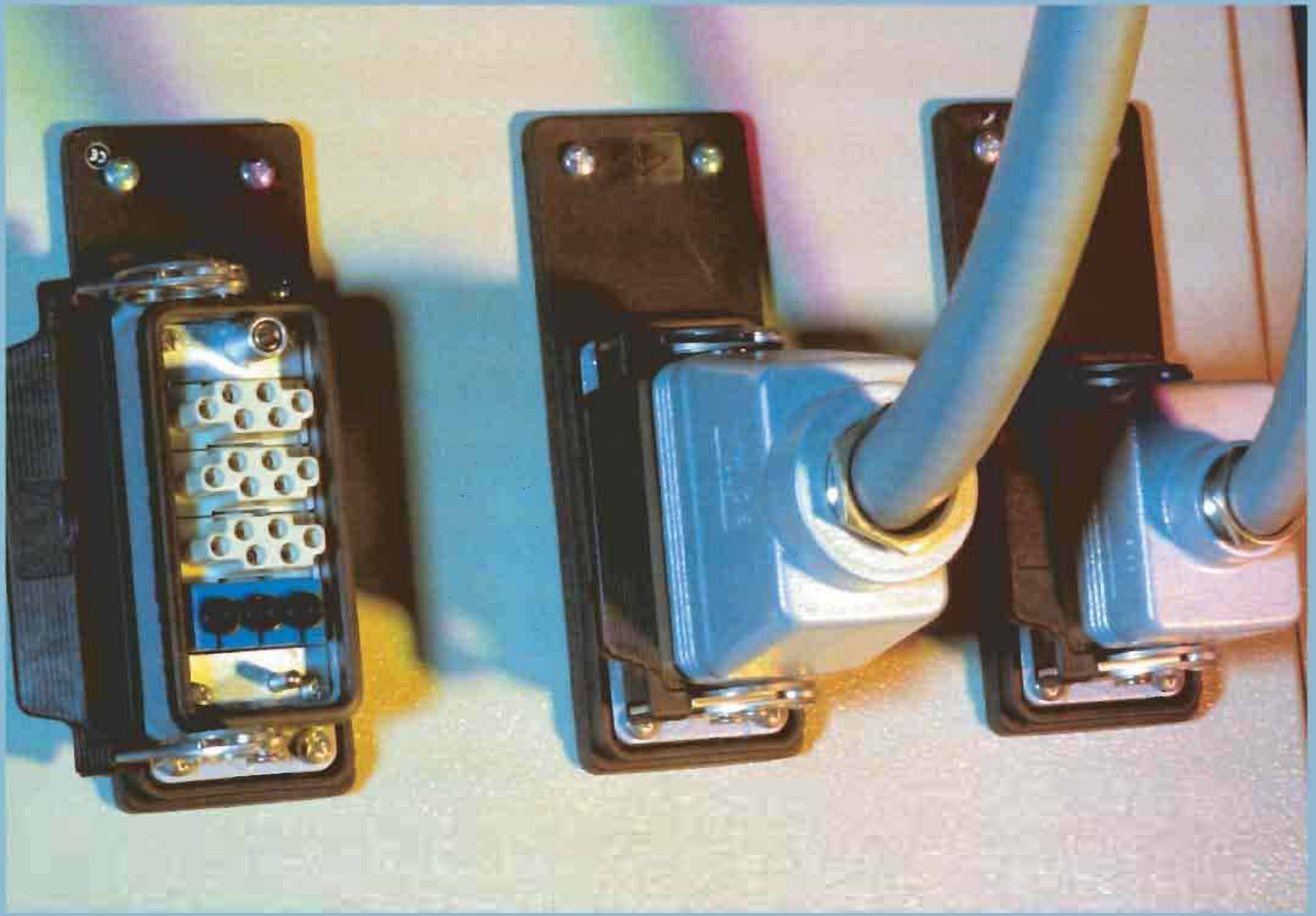


CCF, CCM and CC...AN contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice



the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

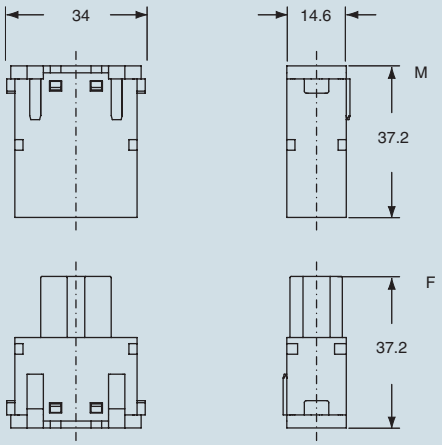
frames for modular units..... page: 137

- limit current curves of the inserts see page 31

modular units, spring connection

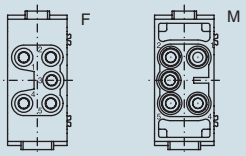
description	part No.
- female inserts with female contacts - male inserts with male contacts	**CX 05 SF** **CX 05 SM**

dimensions in mm



terminal side (front view)

side with reference arrow ▲



- inserts for section conductors:
  0.14 ÷ 2.5 mm² - AWG 26 ÷ 14
- stripping lenght see table at page 13

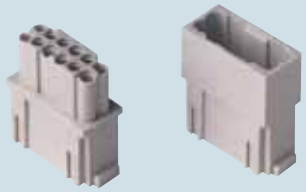
dimensions indicated are not binding and may be changed without notice

the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

frames for modular units..... page: 137

- limit current curves of the inserts see page 31
- tools for crimp contacts see pages 248, 252, 254 and 256
- see page 235 for interfaces with printed circuits

modular units, crimp connections

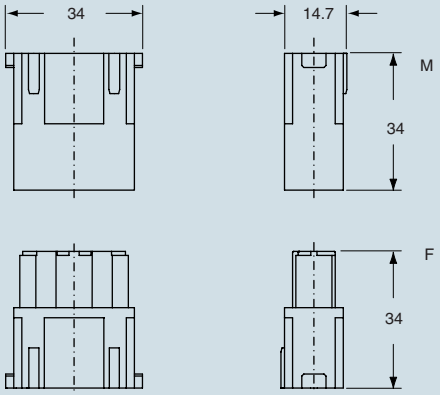


10A crimp contacts silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately) - female inserts for female contacts - male inserts for female contacts	**CX 12 DF** **CX 12 DM**		
10A female crimp contacts 0.14÷0.37 mm² AWG 26÷22 0.5 mm² AWG 20 0.75 mm² AWG 18 1 mm² AWG 18 1.5 mm² AWG 16 2.5 mm² AWG 14		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male crimp contacts 0.14÷0.37 mm² AWG 26÷22 0.5 mm² AWG 20 0.75 mm² AWG 18 1 mm² AWG 18 1.5 mm² AWG 16 2.5 mm² AWG 14		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

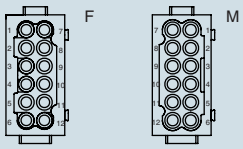
silver plated **gold plated**

dimensions in mm

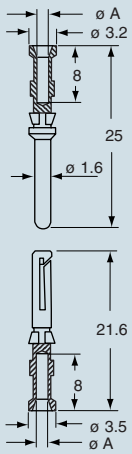


terminal side (front view)

side with reference arrow ▲



dimensions in mm

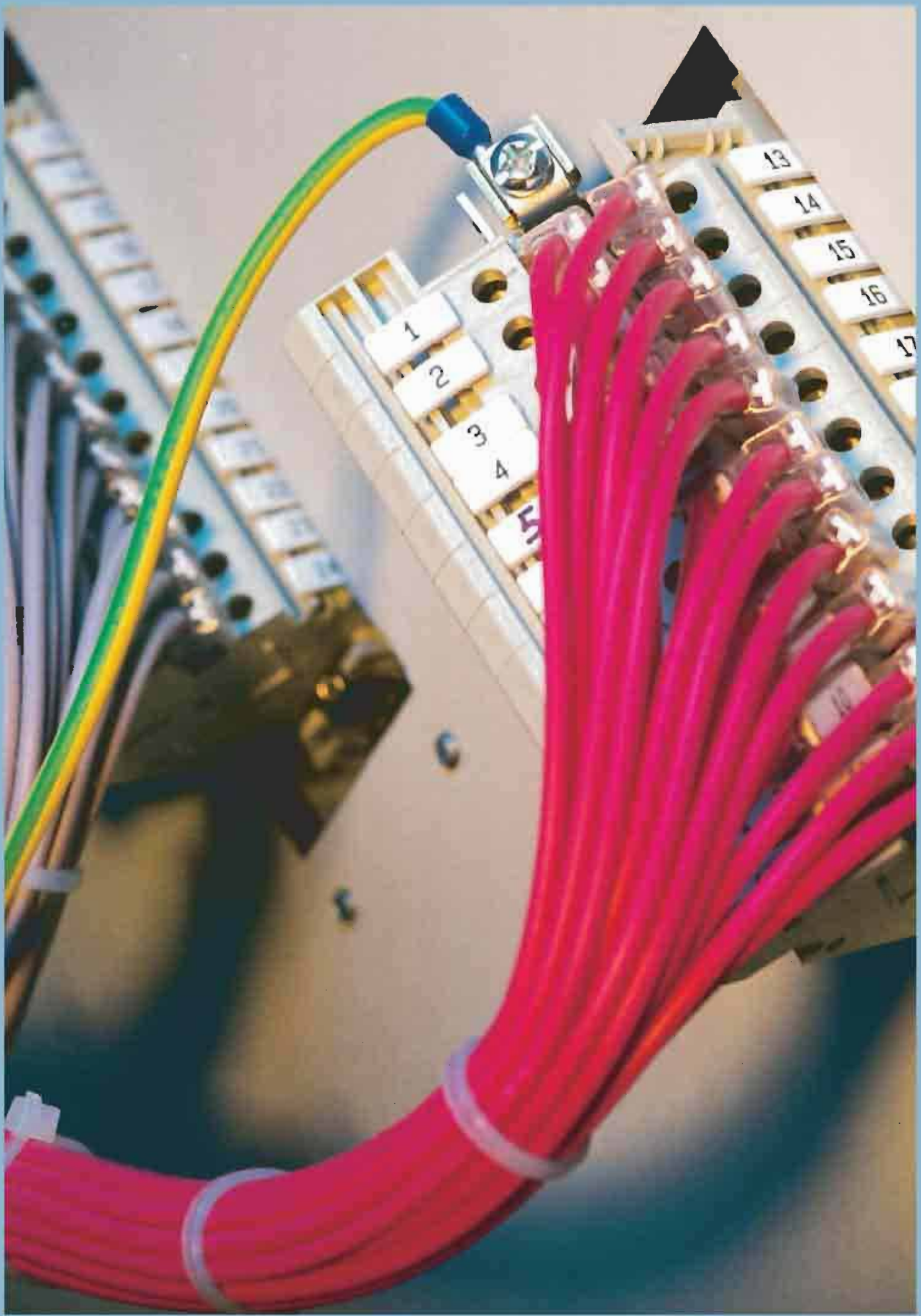


CDF and CDM contacts

conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice


13
14
15
16
1
2
3
4

the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

frames for modular units..... page: 137

- tools for crimp contacts see pages 248, 252, 254 and 256

modular units high voltage, crimp connections

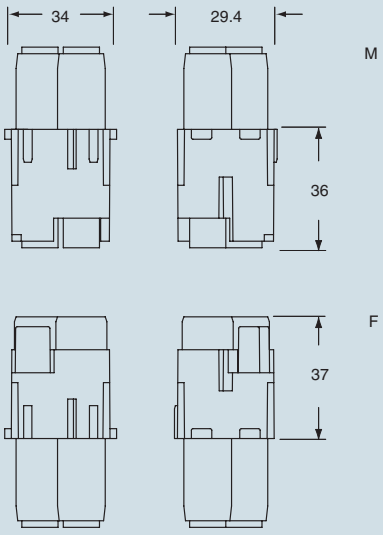
16A crimp contacts silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately)			
- female inserts high voltage for female contacts	**CX 02 HF**		
- male inserts high voltage for male contacts	**CX 02 HM**		
16A female crimp contacts			
0.5 mm² AWG 20 with no grooves		**CCFA 0.5**	**CCFD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove		**CCFA 1.0**	**CCFD 1.0**
1.5 mm² AWG 16 two grooves		**CCFA 1.5**	**CCFD 1.5**
2.5 mm² AWG 14 three grooves		**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove		**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves		**CCFA 4.0**	**CCFD 4.0**
16A male crimp contacts			
0.5 mm² AWG 20 with no grooves		**CCMA 0.5**	**CCMD 0.5**
0.75 mm² AWG 18 one groove (back side)		**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove		**CCMA 1.0**	**CCMD 1.0**
1.5 mm² AWG 16 two grooves		**CCMA 1.5**	**CCMD 1.5**
2.5 mm² AWG 14 three grooves		**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove		**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves		**CCMA 4.0**	**CCMD 4.0**

silver plated

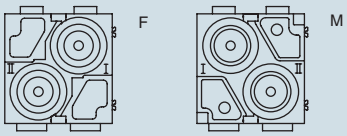
gold plated

dimensions in mm

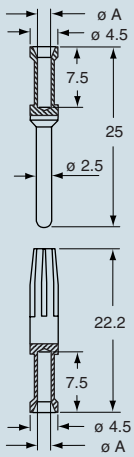


terminal side (front view)

side with reference arrow ▲



dimensions in mm



CCF and CCM contacts

conductor section mm²	ø slot A (mm)
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2
3	2.55
4	2.85

- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

MIXO modular units 1 or 4 poles + shield (each connectors) 10A max - 50V/0,8kV/3

the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

frames for modular units..... page: 137

- tools for crimp contacts see pages 248, 252, 254 and 256
- extraction tool for BUS shielded connectors from MIXO BUS insert see page 238

seat for shielded connectors, shielded connectors

10A crimp contacts silver and gold plated

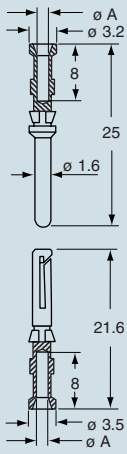
description	part No.	part No.	part No.
seats for two shielded connectors - female inserts, two seats for BUS connectors - male inserts, two seats for BUS connectors	**CX 02 BF** **CX 02 BM**		
shielded connectors - female inserts, four contacts seat + shield - male inserts, four contacts seat + shield	**CX 04 BF** **CX 04 BM**		
shielded connectors - female inserts, one contacts seat + shield - male inserts, one contacts seat + shield	**CX 01 BF** **CX 01 BM**		
10A female crimp contacts 0.14÷0.37 mm² AWG 26÷22 0.5 mm² AWG 20 0.75 mm² AWG 18 1 mm² AWG 18 1.5 mm² AWG 16 2.5 mm² AWG 14		**CDFA 0.3** **CDFA 0.5** **CDFA 0.7** **CDFA 1.0** **CDFA 1.5** **CDFA 2.5**	**CDFD 0.3** **CDFD 0.5** **CDFD 0.7** **CDFD 1.0** **CDFD 1.5** **CDFD 2.5**
10A male crimp contacts 0.14÷0.37 mm² AWG 26÷22 0.5 mm² AWG 20 0.75 mm² AWG 18 1 mm² AWG 18 1.5 mm² AWG 16 2.5 mm² AWG 14		**CDMA 0.3** **CDMA 0.5** **CDMA 0.7** **CDMA 1.0** **CDMA 1.5** **CDMA 2.5**	**CDMD 0.3** **CDMD 0.5** **CDMD 0.7** **CDMD 1.0** **CDMD 1.5** **CDMD 2.5**

silver plated

gold plated

Note:
The shielded connectors have their shield insulated from the enclosure's earthing point.
If you wish to earth-connect the shield, install on the panel an anchor for CR..ST (see page 239) shielded cables.

dimensions of crimp contacts in mm



CDF and CDM contacts

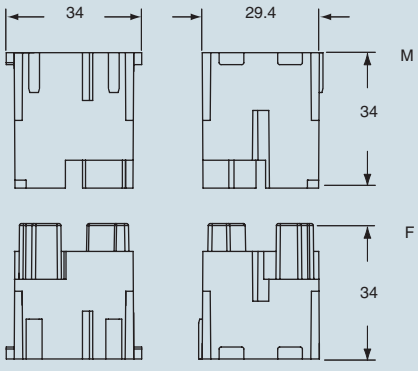
conductor section mm²	ø slot A (mm)
0.14÷0.37	0.9
0.5	1.1
0.75	1.3
1.0	1.45
1.5	1.8
2.5	2.2

- stripping lenght see table at page 13

dimensions indicated are not binding and may be changed without notice

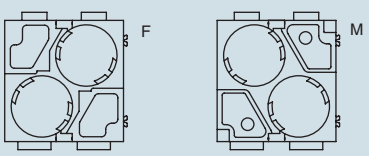
dimensions in mm

CX 02 BF, CX 02 BM



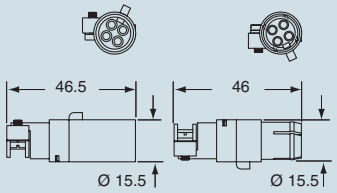
terminal side (front view)

side with reference arrow ▲

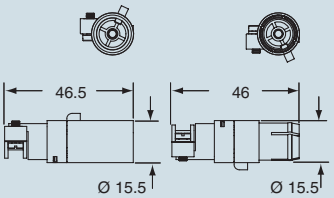


dimensions in mm

CX 04 BF, CX 04 BM



CX 01 BF, CX 01 BM

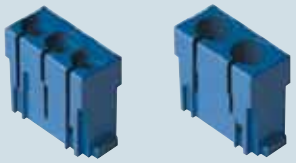


the modular inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support

frames for modular units..... page: 137

Warnings:
1) Please note that the VDE-Directives do not allow the combination of electrical and liquid connections within the same connector for clear safety reasons.
2) CRM/F CX code pins and guides (page 243) must be used for pneumatic contacts modules. These pins also provide coding if pneumatic contacts modules are used exclusively.

modular units with 2 or 3 seats



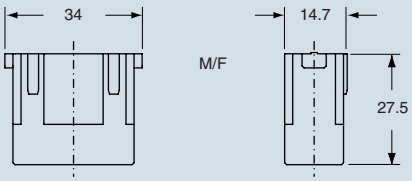
pneumatic contacts with or without closing valve

description	part No.	part No.
without contacts (to be ordered separately) - inserts with 3 housings for tube Ø 1.6 ÷ 4.0 - inserts with 2 housings for tube Ø 6.0	**CX 03 P** **CX 02 P**	
female contacts without closing valve - for tubes with internal ø 1.6 mm - for tubes with internal ø 3 mm - for tubes with internal ø 4 mm - for tubes with internal ø 6 mm male contacts without closing valve - for tubes with internal ø 1.6 mm - for tubes with internal ø 3 mm - for tubes with internal ø 4 mm - for tubes with internal ø 6 mm		**CX 1.6 PF** **CX 3.0 PF** **CX 4.0 PF** **CX 6.0 PF** **CX 1.6 PM** **CX 3.0 PM** **CX 4.0 PM** **CX 6.0 PM**
female contacts with closing valve - for tubes with internal ø 1.6 mm - for tubes with internal ø 3 mm - for tubes with internal ø 4 mm - for tubes with internal ø 6 mm male contacts (use contacts without closing valve)		**CX 1.6 VC** **CX 3.0 VC** **CX 4.0 VC** **CX 6.0 VC**

Use of units for pneumatic contacts

- identical male and female modular units
- pneumatic contacts for pressure values up to 8 bar, for use with clean and dry compressed air
- contacts for gas and liquids on request (see warning)
- use of tubes with Ø 1.6 - 3 - 4 and 6 mm, and possible replacement of tubes with assembled units
- possibility of using tubes with different diameters in the same modular unit
- female contacts with or without closing valve
- working temperature range - 40 °C ÷ + 80 °C

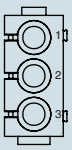
dimensions in mm



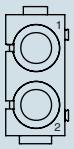
terminal side (front view)

side with reference arrow ▲

CX 03 P

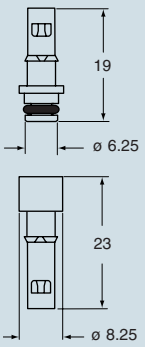


CX 02 P

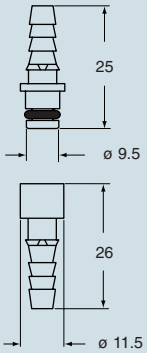


dimensions in mm

CX 1.6 ÷ 4.0 PF/M



CX 6.0 PF/M

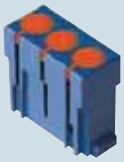


dimensions indicated are not binding and may be changed without notice

the modular units inserts must be installed in suitable frames which in turn are installed in traditional housings or COB panel support.
Alternatively, individual modules with a width of 14.7, can be installed in plastic supports.

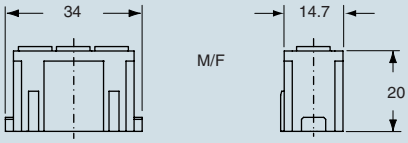
frames for modular units..... page: 137

dummy module



description	part No.
dummy module for unused frame seats	**CX FM**

dimensions in mm



position of units (coupling side view)

side with reference arrow ▲

dimensions indicated are not binding
and may be changed without notice

MIXO frames for modular units

- die-cast zinc alloy frames
- with VDE ground contacts
- possibility of mounting female and male modular units on the same frame
- frames supplied with lock-in tab to attach units
- polarisation on frames
- code pins CR..CX see page 242

Warning
the module support frames are marked:
- with upper-case letters **A-B**, **A-C**, **A-D** and **A-F** (for use in hoods)
- with lower-case letters **a-b**, **a-c**, **a-d** and **a-f** (for use in housings)

Positioning the modules in the frames according to the respective letters is ensuring the specular assembly of modules, for which the hood will be coupled correctly to the housing.

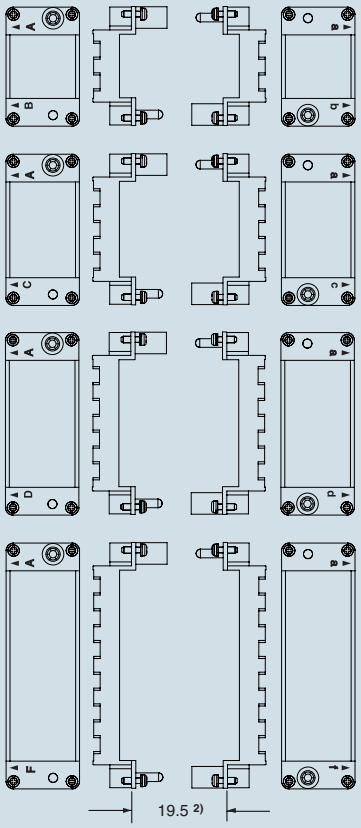
frames for modular units

frames for modular units with lock-in tabs

description	part No.	part No.	part No.
for CZ enclosures, size 49.16	**CX 01 T**		
frames for modular units (module lock-in tabs included) - for 2 modular units - for 3 modular units - for 4 modular units - for 6 modular units		**type for hoods** **CX 02 TM** **CX 03 TM** **CX 04 TM** **CX 06 TM**	**type for housings** **CX 02 TF** **CX 03 TF** **CX 04 TF** **CX 06 TF**
lock-in tabs for modular units (6 units) dividable		**CX CFM**	

polarisation of frames with relative identification letters and couplings

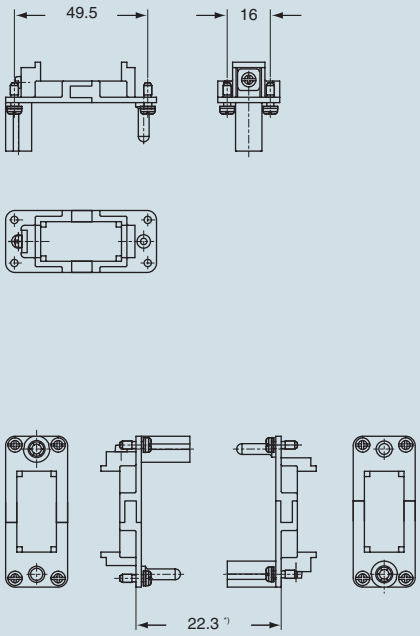
frame for hoods [1] **frames for housings** [1]



[1] the frames can be used either in hoods or housings, for a correct coupling please use both frame types (one with upper-case letters and the other with lower-case letters)
[2] distance for electric and fibre optic contacts: max 21 mm
distance for pneumatic contacts: max 20.5 mm

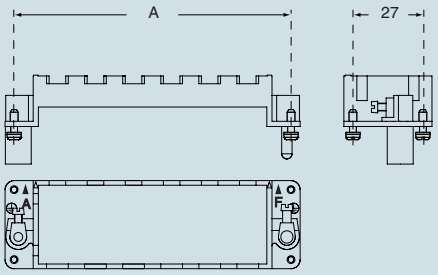
dimensions indicated are not binding and may be changed without notice

dimensions in mm



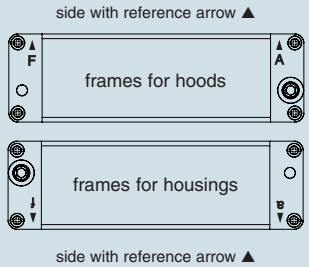
*) distance for electric contacts: max 24 mm
distance for pneumatic contacts: max 23.5 mm

dimensions in mm



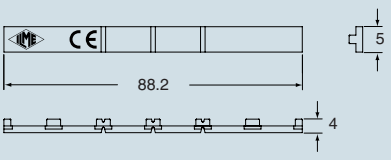
part No.	A (mm)	for housings size
CX 02 TM / TF	44	44.27
CX 03 TM / TF	57	57.27
CX 04 TM / TF	77.5	77.27
CX 06 TM / TF	104	104.27

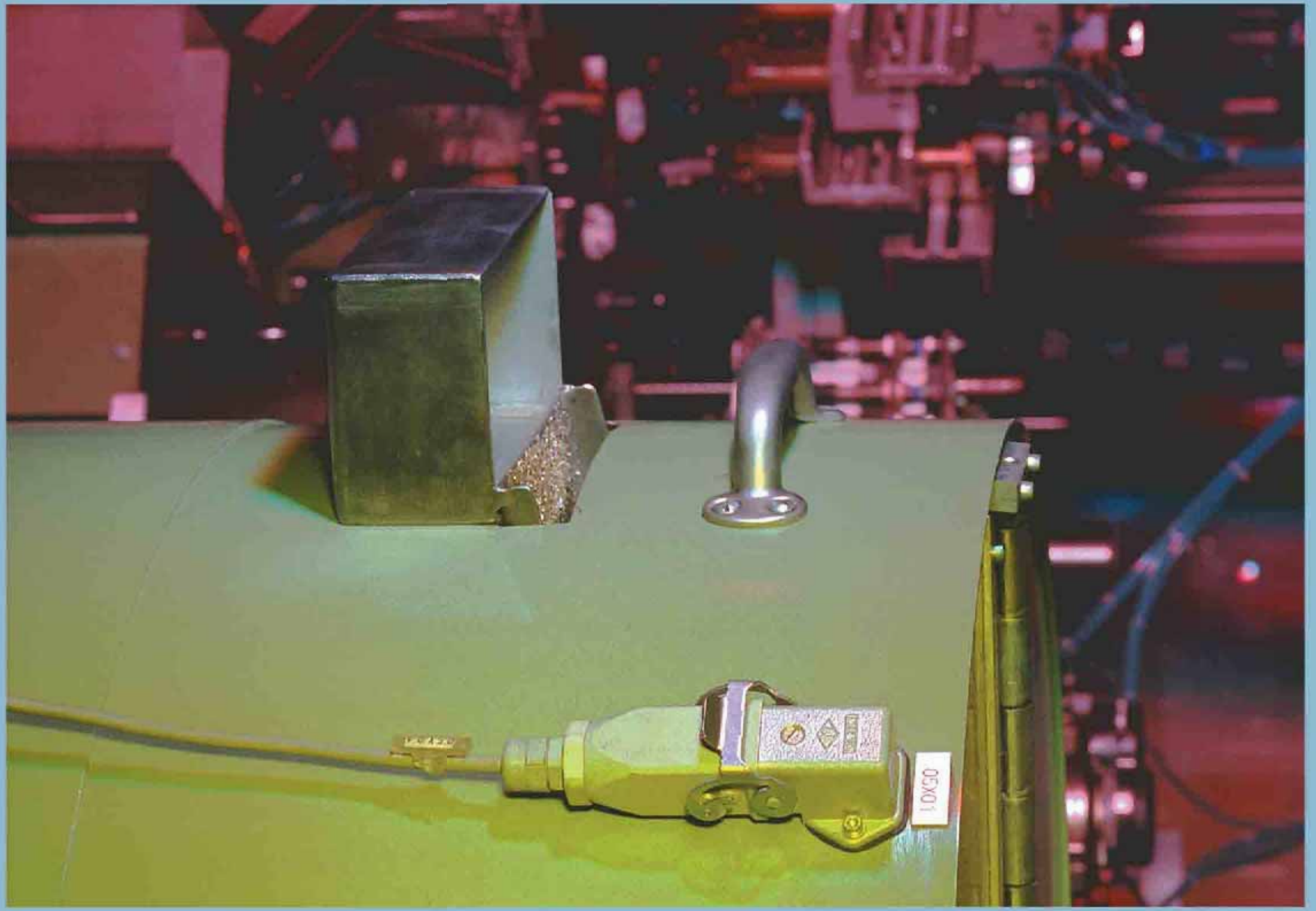
position of modules (contact side view)



When two or more identical connectors of the MIXO series are used, coded pins are used prevent incorrect coupling. (See pages 242 and 243).

CX CFM




10X50

inserts: page

CK	3 poles + ⏚	33
CK	4 poles + ⏚	33
CD	7 poles + ⏚	35
CD	8 poles	36
CQ	5 poles + ⏚	64

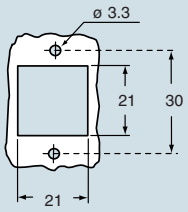
overall dimensions:
21 x 21 mm

bulkhead housings

angled bulkhead housings

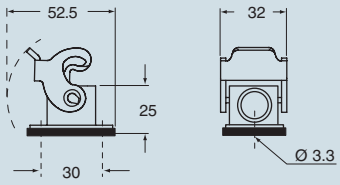
description	part No.	part No. (entry - Pg 11)	part No. (entry - M 20)
with lever [1]	**CK 03 I** (white)		
with lever [1]	**CK 03 IN** (black)		
without cable gland outlet, with lever [1]		**CK 03 IA** (white)	
without cable gland outlet, with lever [1]		**CK 03 IAN** (black)	
with threaded entry and lever [1]		**CK 03 IAPS** (white)	**MK IAP20** (white)
with threaded entry and lever [1]		**CK 03 IAPNS** (black)	**MK IAPN20** (black)
kit gaskets and screws for IP65 [2]	**CKR 65**	**CKR 65**	

panel cut-out for enclosures, in mm



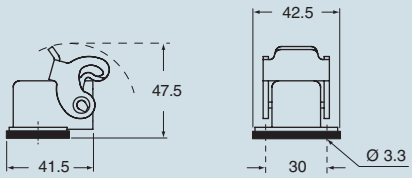
dimensions in mm

CK I(N)

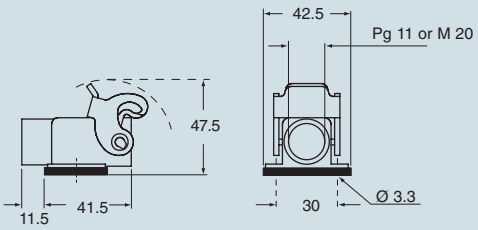


dimensions in mm

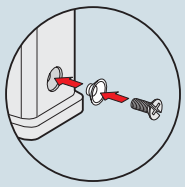
CK IA(N)



CK IAP(N)S and **MK IAP(N)**



1) enclosures with IP44 degree of protection, obtained by the elimination of the flexible washer normal supplied with the insert
2) For IP65 degree of protection, a kit CKR 65 is available that includes a gasket to be placed under the insert fastening screw (see example illustrated below) instead of the flexible washer normal supplied with the insert



dimensions indicated are not binding and may be changed without notice

inserts: page

CK ..... 3 poles + ⏚ 33
CK ..... 4 poles + ⏚ 33
CD ..... 7 poles + ⏚ 35
CD ..... 8 poles 36
CQ ..... 5 poles + ⏚ 64

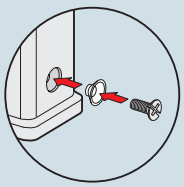
overall dimensions:
21 x 21 mm

hoods

covers

description	part No. (entry - Pg 11)	part No. (entry - M 20)	part No.
with pegs, top entry [1]	**CK 03 VS** (white)	**MK V20** (white)	
with pegs, top entry [1]	**CK 03 VNS** (black)	**MK VN20** (black)	
with pegs, side entry [1]	**CK 03 VAS** (white)	**MK VA20** (white)	
with pegs, side entry [1]	**CK 03 VANS** (black)	**MK VAN20** (black)	
with lever, top entry [1]	**CK 03 VGS** (white)	**MK VG20** (white)	
with lever, top entry [1]	**CK 03 VGNS** (black)	**MK VGN20** (black)	
with pegs and gasket, for female inserts			**CK 03 C** (white)
with pegs and gasket, for female inserts			**CK 03 CN** (black)
with pegs, for male inserts			**CK 03 CA** (white)
with pegs, for male inserts			**CK 03 CAN** (black)
with lever and gasket, for female inserts			**CK 03 CX** (white)
with lever and gasket, for female inserts			**CK 03 CXN** (black)
with lever, for male inserts			**CK 03 CXA** (white)
with lever, for male inserts			**CK 03 CXAN** (black)
kit gaskets and screws for IP65 [2]	**CKR 65**		

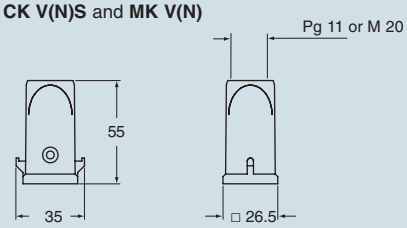
1) enclosures with IP44 degree of protection, obtained by the elimination of the flexible washer normal supplied with the insert
2) For IP65 degree of protection, a kit CKR 65 is available that includes a gasket to be placed under the insert fastening screw (see example illustrated below) instead of the flexible washer normal supplied with the insert



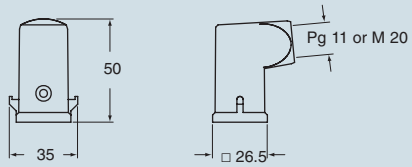
dimensions indicated are not binding and may be changed without notice

dimensions in mm

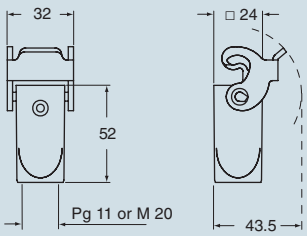
CK V(N)S and **MK V(N)**



CK VA(N)S and **MK VA(N)**

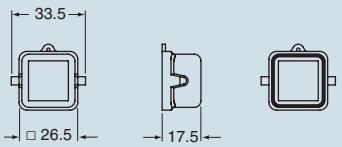


CK VG(N)S and **MK VG(N)**

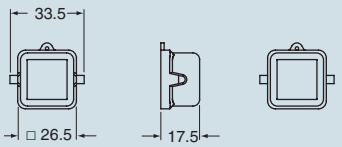


dimensions in mm

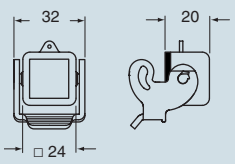
CK C(N)



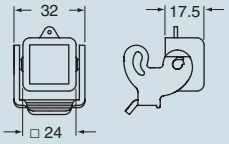
CK CA(N)



CK CX(N)



CK CXA(N)



inserts: page

CK	3 poles + ⏚	33
CK	4 poles + ⏚	33
CD	8 poles	36
CQ	5 poles + ⏚	64

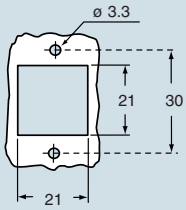
overall dimensions:
21 x 21 mm

bulkhead housings

angled bulkhead housings

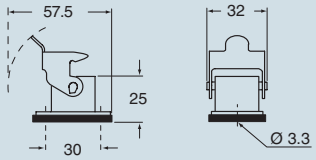
description	part No.	part No. (entry - Pg 11)	part No. (entry - M 20)
with lever in galvanised steel [1] with stainless steel lever [1]	**CKA 03 I** **CKAX 03 I**		
without cable gland outlet, lever in galvanised steel [1] without cable gland outlet, stainless steel lever [1]		**CKA 03 IA** **CKAX 03 IA**	
with threaded entry, lever in galvanised steel[1] with threaded entry, stainless steel lever [1] with threaded entry, lever in galvanised steel[1], bottom closed with threaded entry, stainless steel lever [1], bottom closed		**CKA 03 IAPS** **CKAX 03 IAPS** **CKA 03 APS** **CKAX 03 APS**	**MKA IAP20** **MKAX IAP20** **MKA AP20** **MKAX AP20**
kit gaskets and screws for IP65 [2]	**CKR 65**	**CKR 65**	

panel cut-out for enclosures, in mm

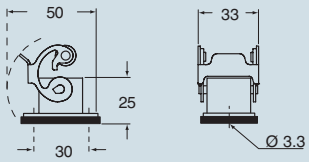


dimensions in mm

CKA I

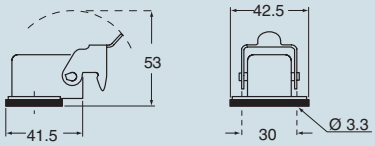


CKAX I

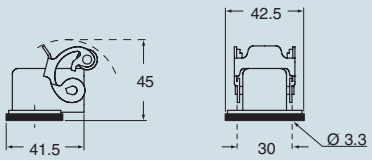


dimensions in mm

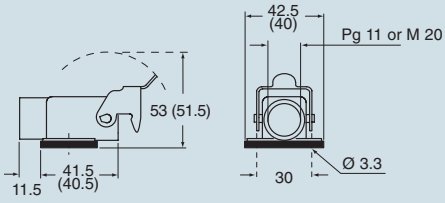
CKA IA



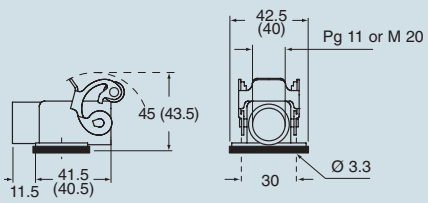
CKAX IA



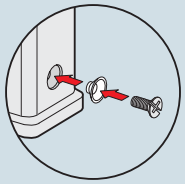
CKA IAPS (CKA APS) and MKA IAP (MKA AP)



CKAX IAPS (CKAX APS) and MKAX IAP (MKAX AP)



1) enclosures with IP44 degree of protection.
2) For IP65 degree of protection, a kit CKR 65 is available that includes a gasket to be placed under the insert fastening screw (see example illustrated below) instead of the flexible washer normal supplied with the insert



dimensions indicated are not binding
and may be changed without notice

inserts: page

CK	3 poles + ⏚	33
CK	4 poles + ⏚	33
CD	8 poles	36
CQ	5 poles + ⏚	64

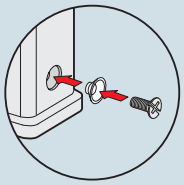
overall dimensions:
21 x 21 mm

hoods

covers

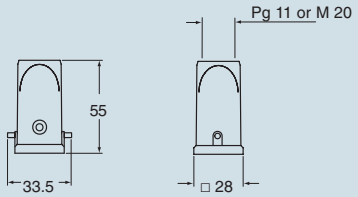
description	part No. (entry - Pg 11)	part No. (entry - M 20)	part No.
with pegs, top entry [1] with pegs, side entry [1]	**CKA 03 VS** **CKA 03 VAS**	**MKA V20** **MKA VA20**	
with lever in galvanised steel, top entry [1] with stainless steel lever, top entry [1]	**CKA 03 VGS** **CKAX 03 VGS**	**MKA VG20** **MKAX VG20**	
with pegs and gasket, for female inserts with pegs, for male inserts			**CKA 03 C** [2] **CKA 03 CA** [2]
with stainless steel lever and gasket, for female inserts with stainless steel lever, for male inserts			**CKAX 03 CX** **CKAX 03 CXA**
kit gaskets and screws for IP65 [3]	**CKR 65**		

1) enclosures with IP44 degree of protection.
2) better to use with CKAX enclosures (stainless steel lever).
3) For IP65 degree of protection, a kit CKR 65 is available that includes a gasket to be placed under the insert fastening screw (see example illustrated below) instead of the flexible washer normal supplied with the insert

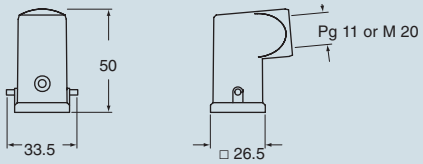


dimensions in mm

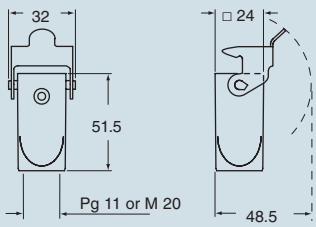
CKA VS and **MKA V**



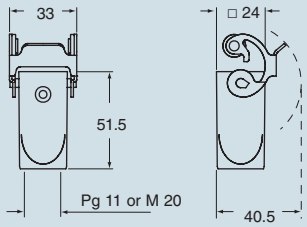
CKA VAS and **MKA VA**



CKA VGS and **MKA VG**

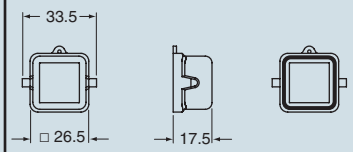


CKAX VGS and **MKAX VG**

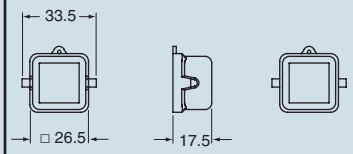


dimensions in mm

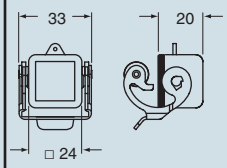
CKA C



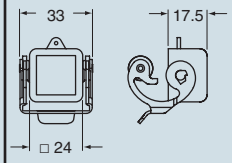
CKA CA



CKAX CX



CKAX CXA



dimensions indicated are not binding and may be changed without notice

inserts: page

CK ..... 3 poles + ⏚ 33
CK ..... 4 poles + ⏚ 33
CD ..... 8 poles 36
CQ ..... 5 poles + ⏚ 64

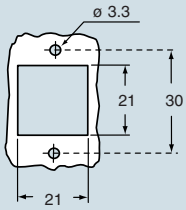
overall dimensions:
21 x 21 mm

bulkhead housings straight and angled

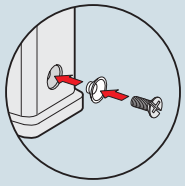
hoods

description	part No. (entry - Pg 11)	part No. (entry - M 20)	part No. (entry - Pg 11)	part No. (entry - M 20)
with stainless steel lever [1]	**CKAXW 03 I**			
without cable gland outlet, stainless steel lever [1]	**CKAXW 03 IA**			
with threaded entry, stainless steel lever [1]	**CKAXW 03 IAP**	**MKAXW IAP20**		
with threaded entry, stainless steel lever [1], bottom closed	**CKAXW 03 AP**	**MKAXW AP20**		
with pegs, top entry [1]			**CKAW 03 V**	**MKAW V20**
with pegs, side entry [1]			**CKAW 03 VA**	**MKAW VA20**
with stainless steel lever, top entry [1]			**CKAXW 03 VG**	**MKAXW VG20**
kit gaskets and screws for IP65 [2]	**CKR 65**		**CKR 65**	

panel cut-out for enclosures, in mm



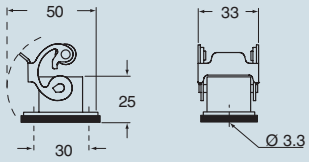
1) enclosures with IP44 degree of protection.
2) For IP65 degree of protection, a kit CKR 65 is available that includes a gasket to be placed under the insert fastening screw (see example illustrated below) instead of the flexible washer normal supplied with the insert



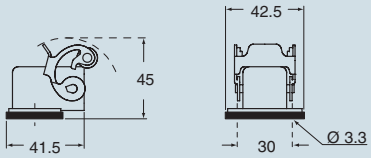
dimensions indicated are not binding and may be changed without notice

dimensions in mm

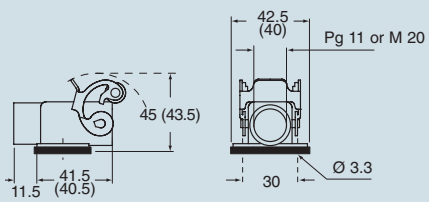
CKAXW I



CKAXW IA

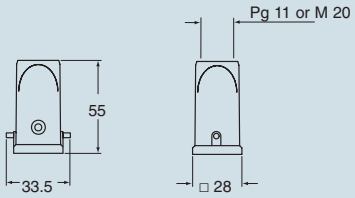


CKAXW IAP (CKAXW AP) and **MKAXW IAP (MKAXW AP)**

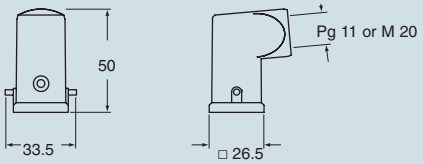


dimensions in mm

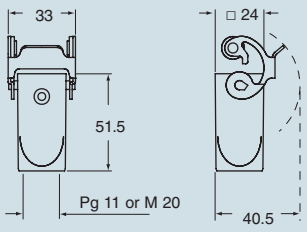
CKAW V and **MKAW V**



CKAW VA and **MKAW VA**



CKAXW VG and **MKAXW VG**



inserts: page

CK	3 poles + ⏚	33
CK	4 poles + ⏚	33
CD	8 poles	36
CQ	5 poles + ⏚	64

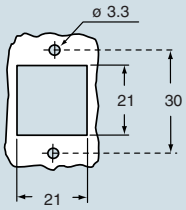
overall dimensions:
21 x 21 mm

bulkhead housings straight and angled

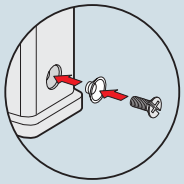
hoods

description	part No. (entry - Pg 11)	part No. (entry - M 20)	part No. (entry - Pg 11)	part No. (entry - M 20)
with stainless steel lever [1]	**CKAXS 03 I**			
without cable gland outlet, stainless steel lever [1]	**CKAXS 03 IA**			
with threaded entry, stainless steel lever [1]	**CKAXS 03 IAP**	**MKAXS IAP20**		
with threaded entry, stainless steel lever [1], bottom closed	**CKAXS 03 AP**	**MKAXS AP20**		
with pegs, top entry [1]			**CKAS 03 V**	**MKAS V20**
with pegs, side entry [1]			**CKAS 03 VA**	**MKAS VA20**
with stainless steel lever, top entry [1]			**CKAXS 03 VG**	**MKAXS VG20**
kit gaskets and screws for IP65 [2]	**CKR 65**		**CKR 65**	

panel cut-out for enclosures, in mm

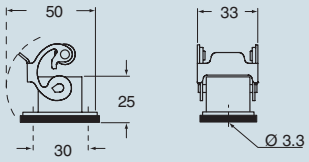


1) enclosures with IP44 degree of protection.
2) For IP65 degree of protection, a kit CKR 65 is available that includes a gasket to be placed under the insert fastening screw (see example illustrated below) instead of the flexible washer normal supplied with the insert

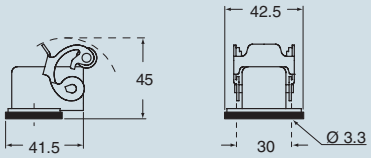


dimensions in mm

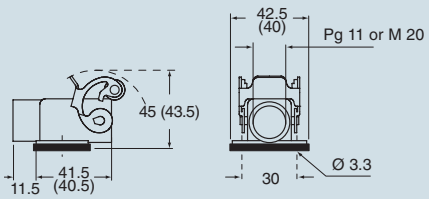
CKAXS I



CKAXS IA

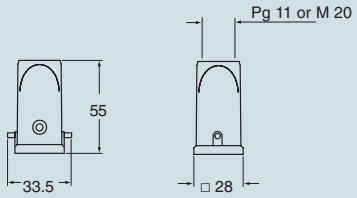


CKAXS IAP (CKAXS AP) and **MKAXS IAP (MKAXS AP)**

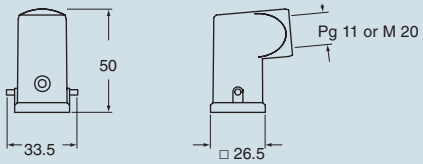


dimensions in mm

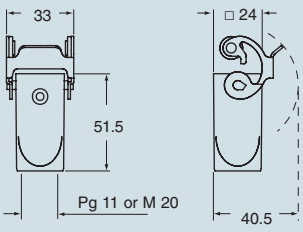
CKAS V and **MKAS V**



CKAS VA and **MKAS VA**



CKAXS VG and **MKAXS VG**



dimensions indicated are not binding and may be changed without notice

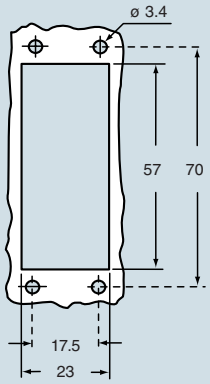
inserts:

bulkhead mounting housings with single lever

surface mounting housings with single lever

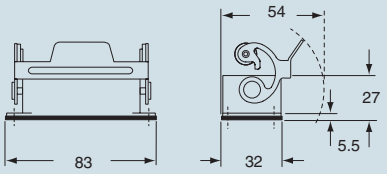
description	part No.	part No.	entry Pg	part No.	entry M
with basic lever	**CZI 15 L**				
with basic lever and cover	**CZI 15 LS**				
with basic lever		**CZP 15 L**	16		
with basic lever		**CZP 15 L2**	16 x 2	**MZP 15 L225**	25
with basic lever		**CZP 15 L21**	21	**MZP 15 L25**	25
with basic lever and cover		**CZP 15 LS221**	21 x 2	**MZP 15 LS225**	25 x 2

panel cut-out for bulkhead mounting housings in mm

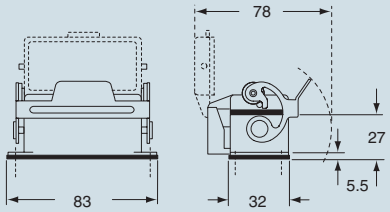


dimensions in mm

CZI L

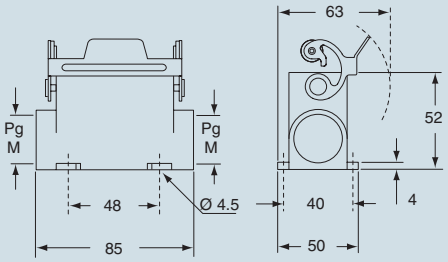


CZI LS

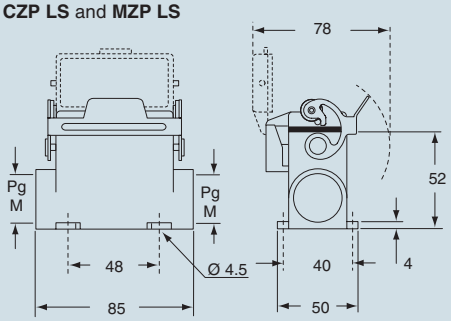


dimensions in mm

CZP L and **MZP L**



CZP LS and **MZP LS**



dimensions indicated are not binding
and may be changed without notice

inserts: page

CD	15	poles + ⏚	37
CDA	10	poles + ⏚	58
CDC	10	poles + ⏚	59
MIXO	1	module	124÷137

Covers L and LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

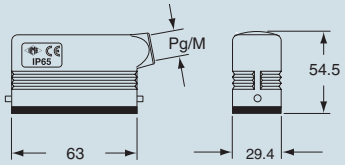
hoods for single lever

covers

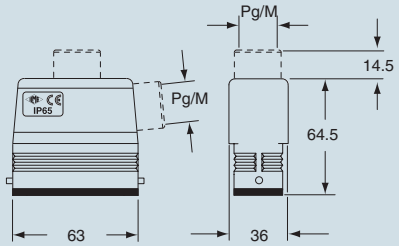
description	part No.	entry Pg	part No.	entry M	part No.
with pegs, side entry	**CZO 15 L**	16	**MZO 15 L20**	20	
with pegs, side entry			**MZO 15 L25**	25	
with pegs, side entry, high construction	**CZAO 15 L16**	16	**MZAO 15 L20**	20	
with pegs, side entry, high construction	**CZAO 15 L21**	21	**MZAO 15 L25**	25	
with pegs, top entry	**CZV 15 L**	13.5	**MZV 15 L20**	20	
with pegs, top entry, high construction	**CZAV 15 L16**	16	**MZAV 15 L20**	20	
with pegs, top entry, high construction	**CZAV 15 L21**	21	**MZAV 15 L25**	25	
with pegs, side entry, high construction, without adaptor			**MZFO 15 L20**	20	
with pegs, side entry, high construction, without adaptor			**MZFO 15 L25**	25	
with pegs, top entry, high construction, without adaptor			**MZFV 15 L20**	20	
with pegs, top entry, high construction, without adaptor			**MZFV 15 L25**	25	
with pegs (for enclosures with lever)					**CZC 15 L**
with basic lever (for enclosures with pegs)					**CZC 15 LG**

dimensions in mm

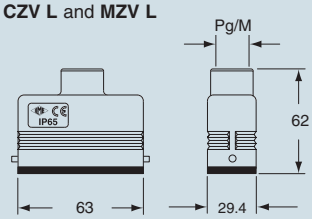
CZO L and **MZO L**



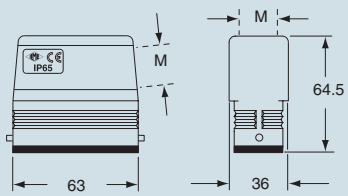
CZAO L - MZAO L and **CZAV L - MZAV L**



CZV L and **MZV L**

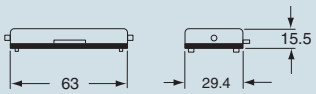


MZFO - MZFV L

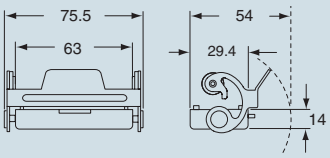


dimensions in mm

CZC L



CZC LG



dimensions indicated are not binding and may be changed without notice

inserts: page

CD ..... 15 poles + ⏚ 37
CDA ..... 10 poles + ⏚ 58
CDC ..... 10 poles + ⏚ 59
MIXO ..... 1 module 124÷137

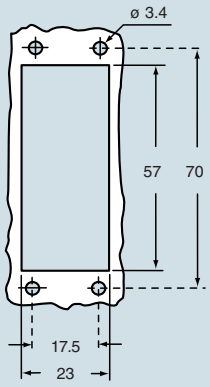
Covers L and LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover

hoods and cover

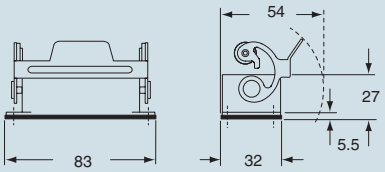
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead housing, with lever surface housing, with lever	**CZIW 15 L** **CZPW 15 L2**	--- 16 x 2	**MZPW 15 L225**	25 x 2				
cover with pegs (for enclosures with lever)	**CZCW 15 L**							
with pegs, side entry with pegs, side entry with pegs, side entry, high construction with pegs, top entry with pegs, top entry, high construction					**CZOW 15 L** **CZAOW 15 L21** **CZVW 15 L** **CZAVW 15 L21**	16 21 13.5 21	**MZOW 15 L20** **MZOW 15 L25** **MZAOW 15 L25** **MZVW 15 L20** **MZAVW 15 L25**	20 25 25 20 25
with pegs, side entry, without adaptor with pegs, top entry, without adaptor							**MZFOW 15 L25** **MZFVW 15 L25**	25 25
cover with lever (for enclosures with pegs)					**CZCW 15 LG**			

panel cut-out for bulkhead mounting housings in mm

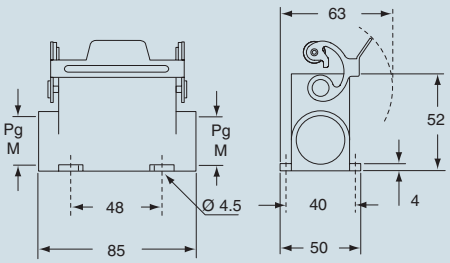


dimensions in mm

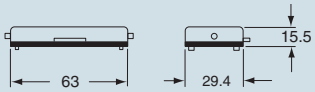
CZIW L



CZPW L and **MZPW L**

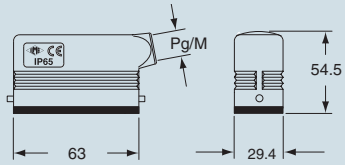


CZCW L

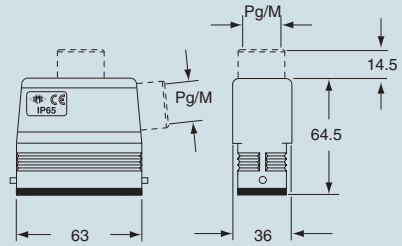


dimensions in mm

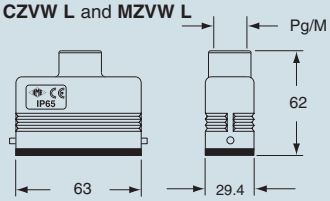
CZOW L and **MZOW L**



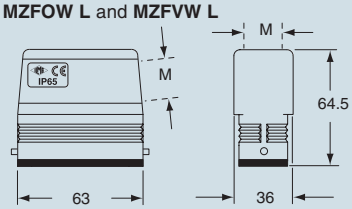
CZAOW L - **MZAOW L** and **CZAVW L** and **MZAVW L**



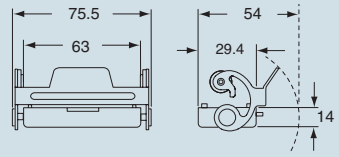
CZVW L and **MZVW L**



MZFOW L and **MZFVW L**



CZCW LG



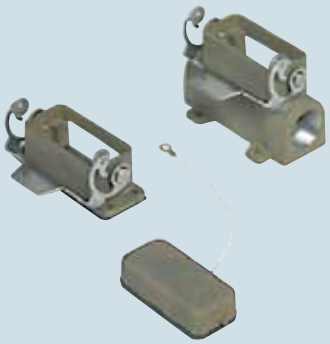
dimensions indicated are not binding and may be changed without notice

inserts: page

CD	15	poles + ⏚	37
CDA	10	poles + ⏚	58
CDC	10	poles + ⏚	59
MIXO	1	module	124÷137

Covers L and LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

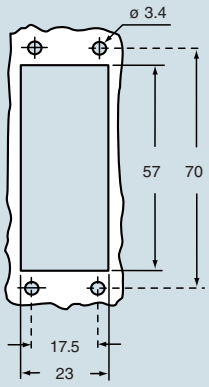
housings and cover for electromagnetic compatibility



hoods and cover for electromagnetic compatibility

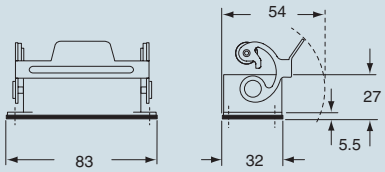
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead housing, with lever	**CZIS 15 L**	---						
surface housing, with lever	**CZPS 15 L2**	16 x 2	**MZPS 15 L225**	25 x 2				
cover with pegs (for enclosures with lever)	**CZCS 15 L**							
with pegs, side entry					**CZOS 15 L**	16	**MZOS 15 L20**	20
with pegs, side entry							**MZOS 15 L25**	25
with pegs, side entry, high construction					**CZAOS 15 L21**	21	**MZAOS 15 L25**	25
with pegs, top entry					**CZVS 15 L**	13.5	**MZVS 15 L20**	20
with pegs, top entry, high construction					**CZAVS 15 L21**	21	**MZAVS 15 L25**	25
with pegs, side entry, without adaptor							**MZFOS 15 L25**	25
with pegs, top entry, without adaptor							**MZFVS 15 L25**	25
cover with lever (for enclosures with pegs)					**CZCS 15 LG**			

panel cut-out for bulkhead mounting housings in mm

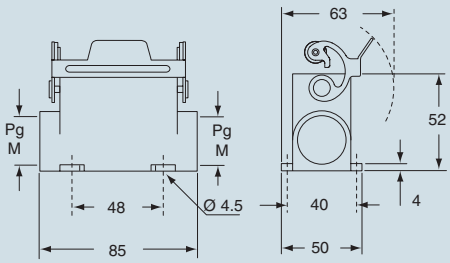


dimensions in mm

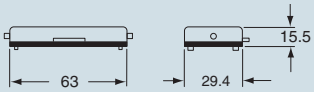
CZIS L



CZPS L and **MZPS L**

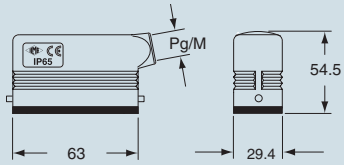


CZCS L

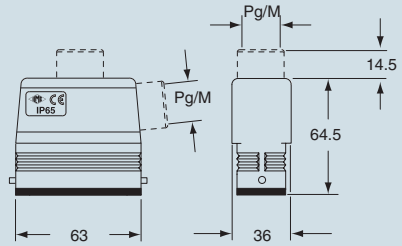


dimensions in mm

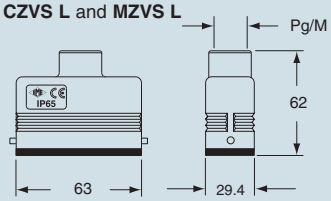
CZOS L and **MZOS L**



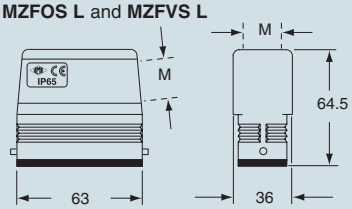
CZAOS L - **MZAOS L** and **CZAVS L** and **MZAVS L**



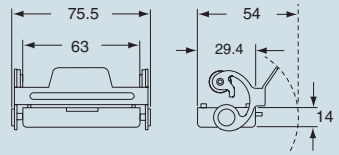
CZVS L and **MZVS L**



MZFOS L and **MZFVS L**



CZCS LG



dimensions indicated are not binding and may be changed without notice

inserts:

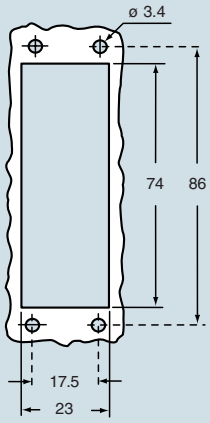
		page
CD	25 poles + ⏚	38
CDD	38 poles + ⏚	50
CDA	16 poles + ⏚	60
CDC	16 poles + ⏚	61

bulkhead mounting housings with single lever

surface mounting housings with single lever

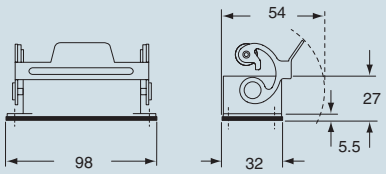
description	part No.	part No.	entry Pg	part No.	entry M
with basic lever	**CZI 25 L**				
with basic lever and cover	**CZI 25 LS**				
with basic lever, high construction		**CZAP 25 L**	16		
with basic lever, high construction		**CZAP 25 L2**	16 x 2	**MZAP 25 L225**	25 x 2
with basic lever, high construction		**CZAP 25 L21**	21	**MZAP 25 L25**	25
with basic lever and cover, high construction		**CZAP 25LS221**	21 x 2	**MZAP 25LS225**	25 x 2

panel cut-out for bulkhead mounting housings in mm

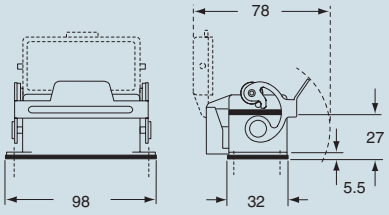


dimensions in mm

CZI L

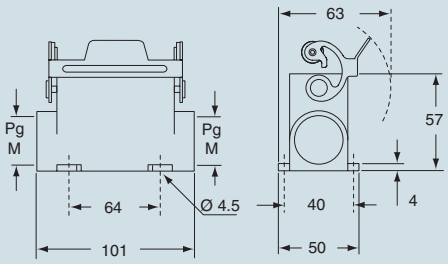


CZI LS

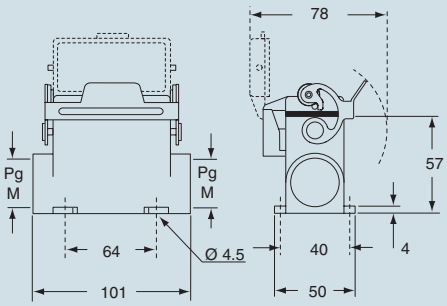


dimensions in mm

CZAP L and **MZAP L**



CZAP LS and **MZAP LS**



dimensions indicated are not binding and may be changed without notice

inserts: page

Covers L and LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods for single lever

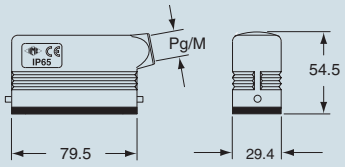
covers

description	part No.	entry Pg	part No.	entry M	part No.
with pegs, side entry	**CZO 25 L**	16	**MZO 25 L20**	20	
with pegs, side entry			**MZO 25 L25**	25	
with pegs, side entry, high construction	**CZAO 25 L16**	16	**MZAO 25 L20**	20	
with pegs, side entry, high construction	**CZAO 25 L21**	21	**MZAO 25 L25**	25	
with pegs, top entry	**CZV 25 L**	16	**MZV 25 L20***	20	
with pegs, top entry, high construction	**CZAV 25 L16**	16	**MZAV 25 L20**	20	
with pegs, top entry, high construction	**CZAV 25 L21**	21	**MZAV 25 L25**	25	
with pegs, side entry, high construction, without adaptor			**MZFO 25 L20**	20	
with pegs, side entry, high construction, without adaptor			**MZFO 25 L25**	25	
with pegs, top entry, high construction, without adaptor			**MZFV 25 L20**	20	
with pegs, top entry, high construction, without adaptor			**MZFV 25 L25**	25	
with pegs (for enclosures with lever)					**CZC 25 L**
with basic lever (for enclosures with pegs)					**CZC 25 LG**

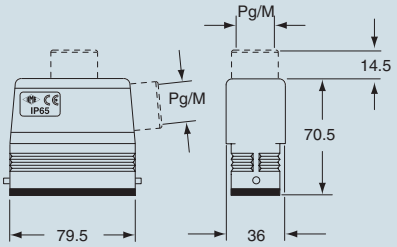
* to be used only with cable gland (to be ordered separately).

dimensions in mm

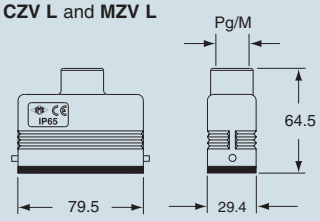
CZO L and **MZO L**



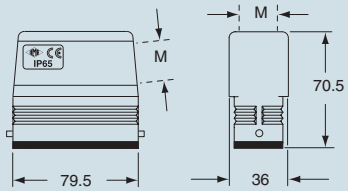
CZAO L - MZAO L and **CZAV L - MZAV L**



CZV L and **MZV L**



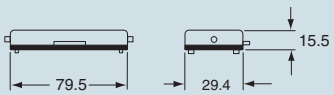
MZFO - MZFV L



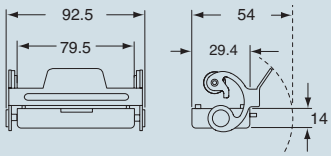
dimensions indicated are not binding and may be changed without notice

dimensions in mm

CZC L



CZC LG



inserts: page

CD	25 poles + ⏚	38
CDD	38 poles + ⏚	50
CDA	16 poles + ⏚	60
CDC	16 poles + ⏚	61

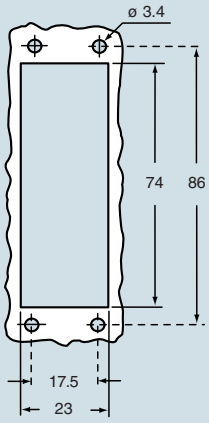
Covers L and LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover

hoods and cover

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead housing, with lever	**CZIW 25 L**	---						
surface housing, with lever, high construction	**CZAPW 25 L2**	16 x 2	**MZAPW 25L225**	25 x 2				
cover with pegs (for enclosures with lever)	**CZCW 25 L**							
with pegs, side entry					**CZOW 25 L**	16	**MZOW 25 L20**	20
with pegs, side entry							**MZOW 25 L25**	25
with pegs, side entry, high construction					**CZAOW 25 L21**	21	**MZAOW 25 L25**	25
with pegs, top entry					**CZVW 25 L**	16	**MZVW 25 L20***	20
with pegs, top entry, high construction					**CZAVW 25 L21**	21	**MZAVW 25 L25**	25
with pegs, side entry, without adaptor							**MZFOW 25 L25**	25
with pegs, top entry, without adaptor							**MZFVW 25 L25**	25
cover with lever (for enclosures with pegs)					**CZCW 25 LG**			

panel cut-out for bulkhead mounting housings in mm

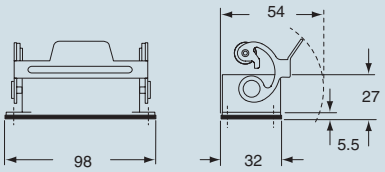


* to be used only with cable gland (to be ordered separately).

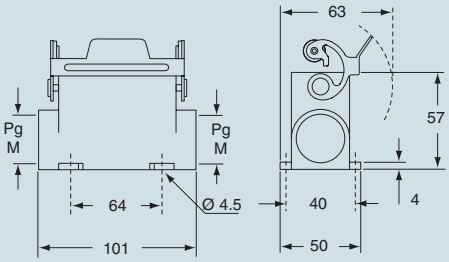
dimensions indicated are not binding and may be changed without notice

dimensions in mm

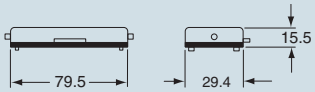
CZIW L



CZAPW L and **MZAPW L**

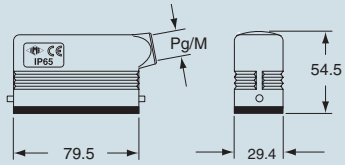


CZCW L

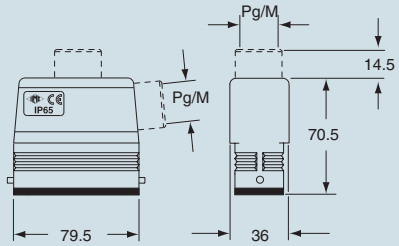


dimensions in mm

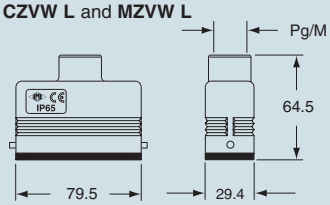
CZOW L and **MZOW L**



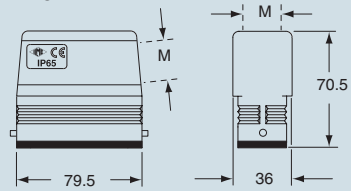
CZAOW L - MZAOW L and **CZAVW L - MZAVW L**



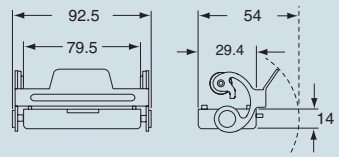
CZVW L and **MZVW L**



MZFOW - MZFVW L



CZCW LG



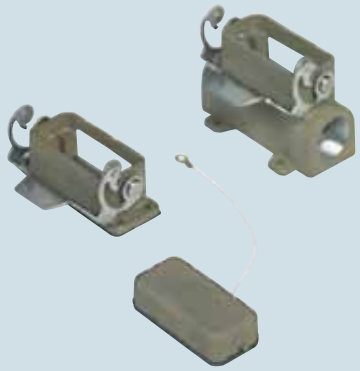
size 66.16

inserts:

		page
CD	25 poles + ⏚	38
CDD	38 poles + ⏚	50
CDA	16 poles + ⏚	60
CDC	16 poles + ⏚	61

Covers L and LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

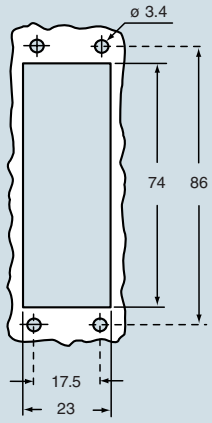
housings and cover for electromagnetic compatibility



hoods and cover for electromagnetic compatibility

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead housing, with lever	**CZIS 25 L**	---						
surface housing, with lever, high construction	**CZAPS 25 L2**	16 x 2	**MZAPS 25L225**	25 x 2				
cover with pegs (for enclosures with lever)	**CZCS 25 L**							
with pegs, side entry					**CZOS 25 L**	16	**MZOS 25 L20**	20
with pegs, side entry							**MZOS 25 L25**	25
with pegs, side entry, high construction					**CZAOS 25 L21**	21	**MZAOS 25 L25**	25
with pegs, top entry					**CZVS 25 L**	16	**MZVS 25 L20***	20
with pegs, top entry, high construction					**CZAVS 25 L21**	21	**MZAVS 25 L25**	25
with pegs, side entry, without adaptor							**MZFOS 25 L25**	25
with pegs, top entry, without adaptor							**MZFVS 25 L25**	25
cover with lever (for enclosures with pegs)					**CZCS 25 LG**			

panel cut-out for bulkhead mounting housings in mm

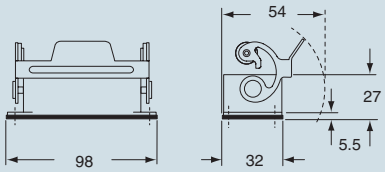


* to be used only with cable gland (to be ordered separately).

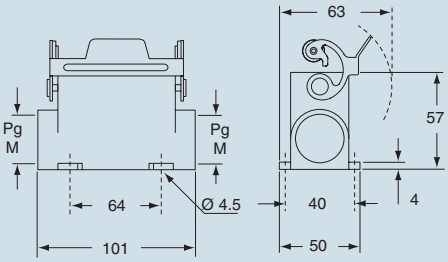
dimensions indicated are not binding and may be changed without notice

dimensions in mm

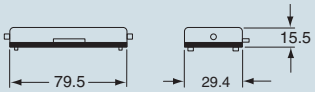
CZIS L



CZAPS L and **MZAPS L**

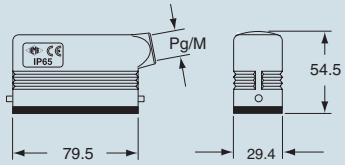


CZCS L

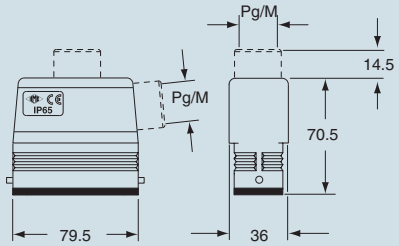


dimensions in mm

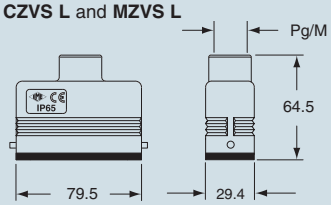
CZOS L and **MZOS L**



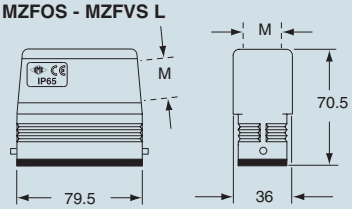
CZAOS L - MZAOS L and **CZAVS L - MZAVS L**



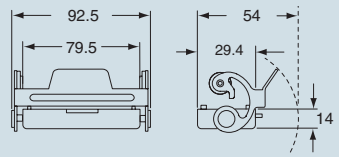
CZVS L and **MZVS L**

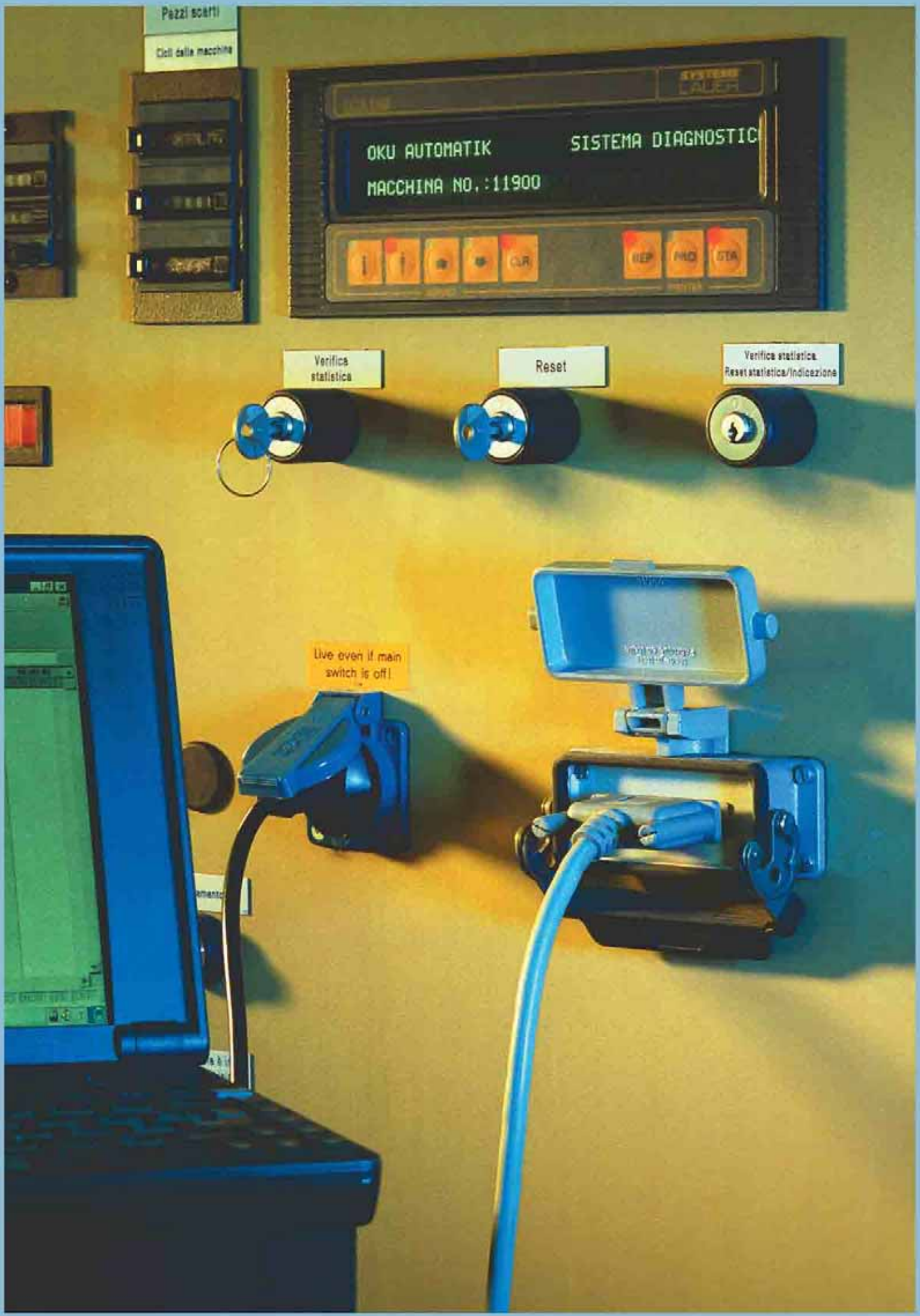


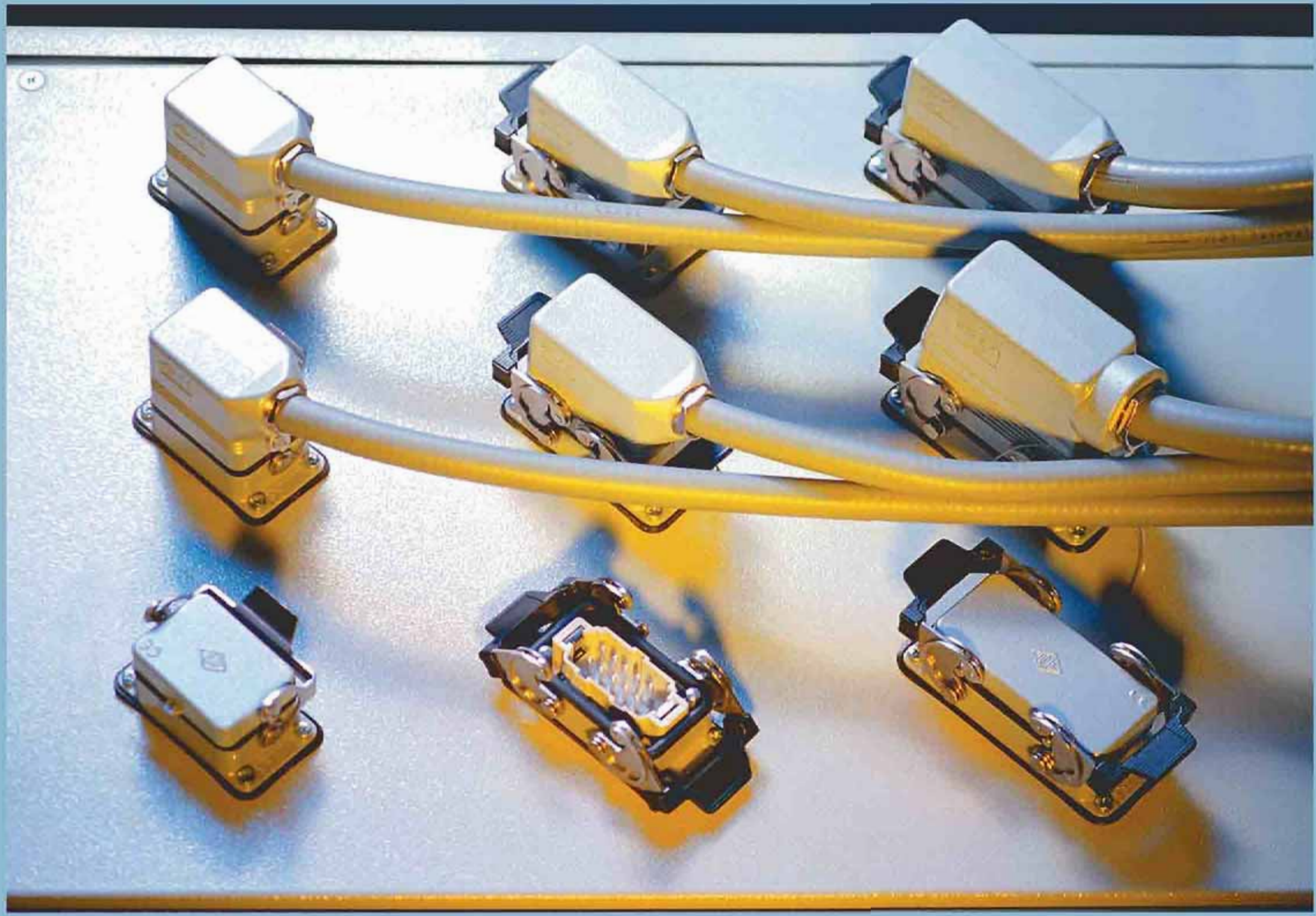
MZFOS - MZFVS L



CZCS LG




Pezzi scarti
Cicli della macchina
OKU AUTOMATIK
SISTEMA DIAGNOSTIC
MACCHINA NO.:11900
Verifica statistica
Reset
Verifica statistica
Reset statistica/Indicazione
Live even if main switch is off!



inserts: page

CD ..... 50 poles + ⏚ 40
CDD ..... 76 poles + ⏚ 53
CDA ..... 32 poles + ⏚ 62
CDC ..... 32 poles + ⏚ 63

insert centre distance:
2 x (66 x 16) mm

bulkhead mounting housings with two levers or four pegs

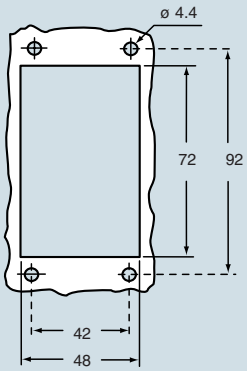
surface mounting housings with two levers or four pegs

description	part No.	part No.	entry Pg	part No.	entry M
with levers	**CHI 50**				
with pegs and cover [1]	**CHI 50 CS**				
with levers		**CHP 50.21**	21	**MHP 50.32**	32
with levers		**CHP 50.221**	21 x 2	**MHP 50.232**	32 x 2
with levers		**CHP 50.29**	29	**MHP 50.40**	40
with levers		**CHP 50.229**	29 x 2	**MHP 50.240**	40 x 2
with pegs and cover [1]		**CHP 50 CS**	21	**MHP 50 CS32**	32
with pegs and cover [1]		**CHP 50 CS2**	21 x 2	**MHP 50 CS232**	32 x 2
with pegs and cover [1]		**CHP 50 CS29**	29	**MHP 50 CS40**	40
with pegs and cover [1]		**CHP 50 CS229**	29 x 2	**MHP 50 CS240**	40 x 2

[1] May be combined with hoods:
- CHO/CAO 50 X and CAV 50 X
- MHO/MAO/MFO 50 X and MAV/MFV 50 X

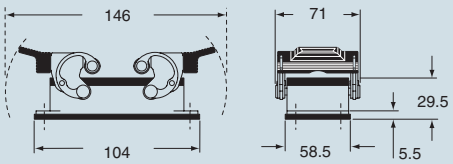
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers.
The cover only provides mechanical protection and does not assure an IP65 degree of protection.

panel cut-out for bulkhead mounting housings in mm

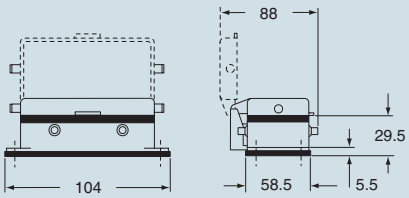


dimensions in mm

CHI

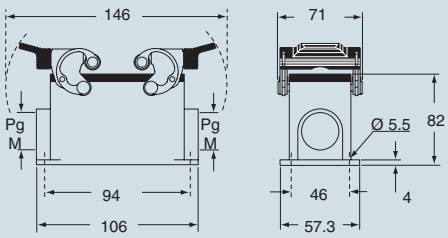


CHI CS

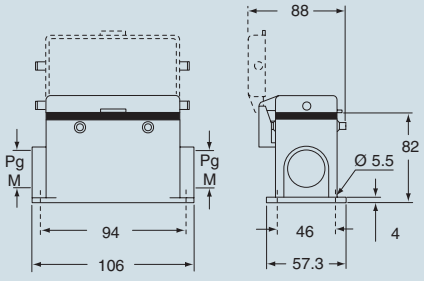


dimensions in mm

CHP and **MHP**



CHP CS and **MHP CS**



dimensions indicated are not binding and may be changed without notice

inserts: page

CD ..... 50 poles + ⏚ 40
CDD ..... 76 poles + ⏚ 53
CDA ..... 32 poles + ⏚ 62
CDC ..... 32 poles + ⏚ 63

insert centre distance:
2 x (66 x 16) mm

Covers CHC 50 and CHC 50 G versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods with two levers or four pegs

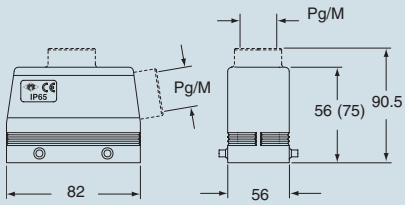
hoods with two levers and covers

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs, side entry	**CHO 50**	21	**MHO 50.25**	25				
with pegs, side entry			**MHO 50.32**	32				
with pegs, side entry, high construction	**CAO 50.21**	21	**MAO 50.25**	25				
with pegs, side entry, high construction	**CAO 50.29**	29	**MAO 50.32**	32				
with pegs, top entry, high construction	**CAV 50.21**	21	**MAV 50.25**	25				
with pegs, top entry, high construction	**CAV 50.29**	29	**MAV 50.32**	32				
with levers and gasket, top entry, high construction	**CAV 50 G29**	29	**MAV 50 G32**	32				
with pegs, side entry, high construction, without adaptor			**MFO 50.25**	25				
with pegs, side entry, high construction, without adaptor			**MFO 50.32**	32				
with pegs, top entry, high construction, without adaptor			**MFV 50.25**	25				
with pegs, top entry, high construction, without adaptor			**MFV 50.32**	32				
with levers and gasket, top entry, high constr., without adaptor			**MFV 50 G32**	32				
with levers, side entry [1]					**CHO 50 X**	21	**MHO 50 X25**	25
with levers, side entry [1]							**MHO 50 X32**	32
with levers, side entry, high construction [1]					**CAO 50 X**	21	**MAO 50 X25**	25
with levers, side entry, high construction [1]					**CAO 50 X29**	29	**MAO 50 X32**	32
with levers, top entry, high construction [1]					**CAV 50 X**	21	**MAV 50 X25**	25
with levers, top entry, high construction [1]					**CAV 50 X29**	29	**MAV 50 X32**	32
with levers, side entry, high constr., without adaptor [1]							**MFO 50 X25**	25
with levers, side entry, high constr., without adaptor [1]							**MFO 50 X32**	32
with levers, top entry, high constr., without adaptor [1]							**MFV 50 X25**	25
with levers, top entry, high constr., without adaptor [1]							**MFV 50 X32**	32
with 4 pegs (for housings with 2 levers)					**CHC 50**			
with 2 levers (for hoods with 4 pegs)					**CHC 50 G**			

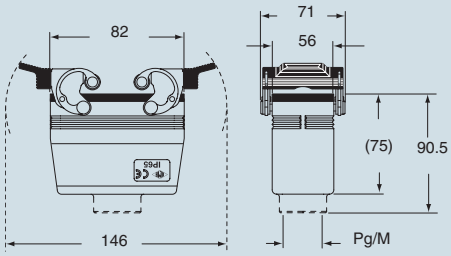
[1] May be combined with housings:
- CHI 50 CS, CHP 50 CS and MHP 50 CS

dimensions in mm

CHO (CAO) - CAV and **MHO (MAO/MFO/MFV) - MAV**

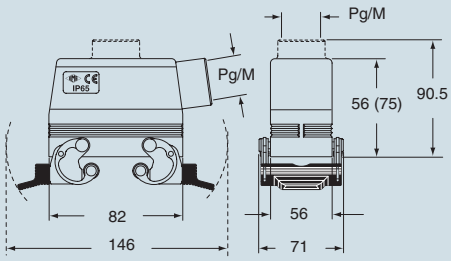


CAV G and **MAV G (MFV G)**



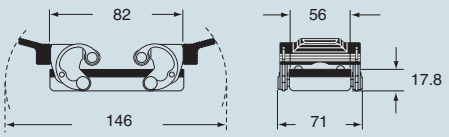
dimensions in mm

CHO X (CAO X) - CAV X and
MHO X (MAO X/MFO X/MFV X) - MAV X



CHC

CHC G



dimensions indicated are not binding
and may be changed without notice

inserts: page

CD ..... 50 poles + ⏚ 40
CDD .....76 poles + ⏚ 53
CDA ..... 32 poles + ⏚ 62
CDC ..... 32 poles + ⏚ 63

insert centre distance:
2 x (66 x 16) mm

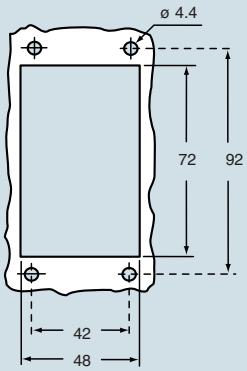
Covers CHCW 50 and CHCW 50 G versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover

hoods and cover

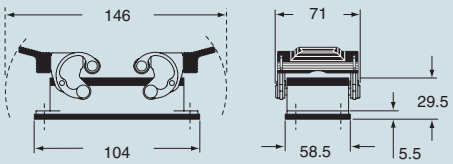
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead housing, with levers	**CHIW 50**	--						
surface housing, with levers	**CHPW 50.21**	21	**MHPW 50.32**	32				
surface housing, with levers	**CHPW 50.229**	29 x 2	**MHPW 50.250**	50 x 2				
cover with 4 pegs (for housings with 2 levers)	**CHCW 50**							
with pegs, side entry					**CHOW 50**	21	**MHOW 50.25**	25
with pegs, side entry							**MHOW 50.32**	32
with pegs, side entry, high construction					**CAOW 50.29**	29	**MAOW 50.32**	32
with pegs, top entry, high construction					**CAVW 50.29**	29	**MAVW 50.32**	32
cover with 2 levers (for hoods with 4 pegs)					**CHCW 50 G**			

panel cut-out for bulkhead mounting housings in mm

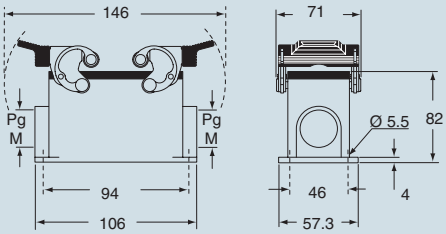


dimensions in mm

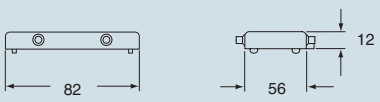
CHIW



CHPW and **MHPW**

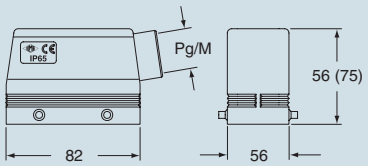


CHCW

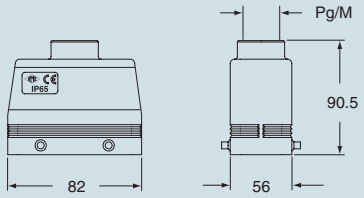


dimensions in mm

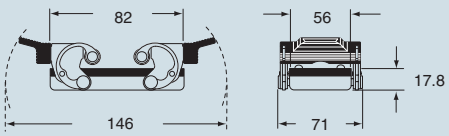
CHOW (CAOW) and **MHOW (MAOW)**



CAVW and **MAVW**



CHCW G



dimensions indicated are not binding
and may be changed without notice

inserts: page

CDD	24	poles + ⏚	49
CQE	10	poles + ⏚	66
CC	6	poles + ⏚	72
CN, CS	6	poles + ⏚	73
CCE	6	poles + ⏚	84
CNE, CSE	6	poles + ⏚	85
CTE, CTSE	6	poles + ⏚	98
MIXO	2	modules	124÷137

insert centre distance:
44 x 27 mm

bulkhead mounting housings with single stainless steel lever

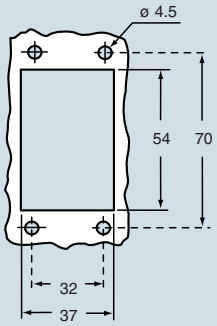
bulkhead mounting housings with single lever or two pegs

description	part No.	part No.
with lever	**CZI 06 L**	**CHI 06 L**
with lever and cover	**CZI 06 LS**	**CHI 06 LS**
with pegs [1]		**CHI 06 LC**
with pegs and aluminium cover [1]		**CHI 06 LCS**
with pegs and plastic cover [1]		**CHI 06 LCP**

[1] May be combined with hoods:
- CHO/CHV 06 LX and CZO/CZV 06 LX
- MHO/MHV 06 LX and MZO/MZV 06 LX

N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers.
The cover only provides mechanical protection and does not assure an IP65 degree of protection.

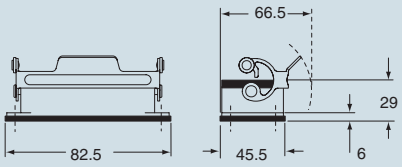
panel cut-out for bulkhead mounting housings in mm



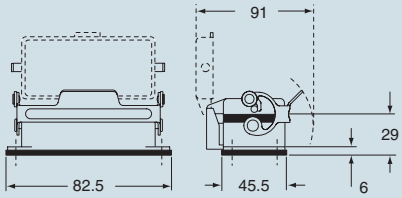
dimensions indicated are not binding and may be changed without notice

dimensions in mm

CZI L

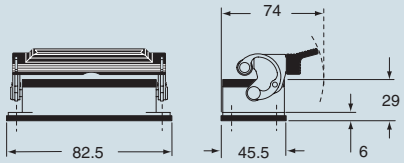


CZI LS

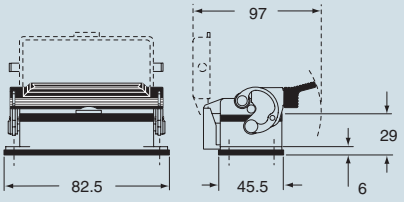


dimensions in mm

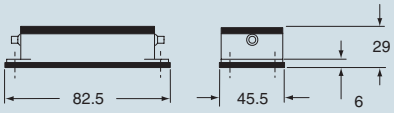
CHI L



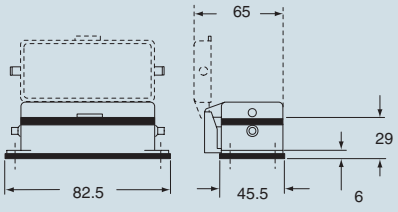
CHI LS



CHI LC



CHI LCS/LCP



insert centre distance:
44 x 27 mm

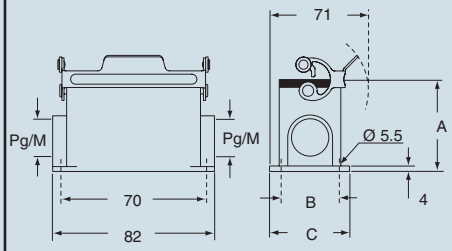
surface mounting housings with single stainless steel lever

surface mounting housings with single lever

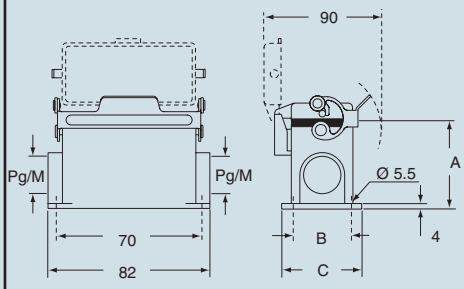
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with lever	**CZP 06 L**	16	**MZP 06 L20**	20	**CHP 06 L**	16	**MHP 06 L20**	20
with lever	**CZP 06 L2**	16 x 2	**MZP 06 L220**	20 x 2	**CHP 06 L2**	16 x 2	**MHP 06 L220**	20 x 2
with lever, high construction	**CZAP 06 L**	21	**MZAP 06 L32**	32	**CAP 06 L**	21	**MAP 06 L32**	32
with lever, high construction	**CZAP 06 L2**	21 x 2	**MZAP 06 L232**	32 x 2	**CAP 06 L2**	21 x 2	**MAP 06 L232**	32 x 2
with lever, high construction	**CZAP 06 L29**	29	**MZAP 06 L40**	40	**CAP 06 L29**	29	**MAP 06 L40**	40
with lever, high construction	**CZAP 06 L229**	29 x 2	**MZAP 06 L240**	40 x 2	**CAP 06 L229**	29 x 2	**MAP 06 L240**	40 x 2
with lever and cover	**CZP 06 LS**	16	**MZP 06 LS20**	20	**CHP 06 LS**	16	**MHP 06 LS20**	20
with lever and cover	**CZP 06 LS2**	16 x 2	**MZP 06 LS220**	20 x 2	**CHP 06 LS2**	16 x 2	**MHP 06 LS220**	20 x 2
with lever and cover, high construction	**CZAP 06 LS**	21	**MZAP 06 LS32**	32	**CAP 06 LS**	21	**MAP 06 LS32**	32
with lever and cover, high construction	**CZAP 06 LS2**	21 x 2	**MZAP 06LS232**	32 x 2	**CAP 06 LS2**	21 x 2	**MAP 06 LS232**	32 x 2
with lever and cover, high construction	**CZAP 06 LS29**	29	**MZAP 06 LS40**	40	**CAP 06 LS29**	29	**MAP 06 LS40**	40
with lever and cover, high construction	**CZAP 06LS229**	29 x 2	**MZAP 06LS240**	40 x 2	**CAP 06 LS229**	29 x 2	**MAP 06 LS240**	40 x 2

dimensions in mm

CZP L - CZAP L and **MZP L - MZAP L**



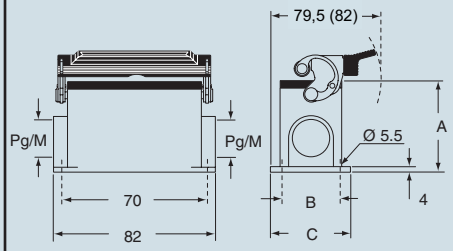
CZP LS - CZAP LS and **MZP LS - MZAP LS**



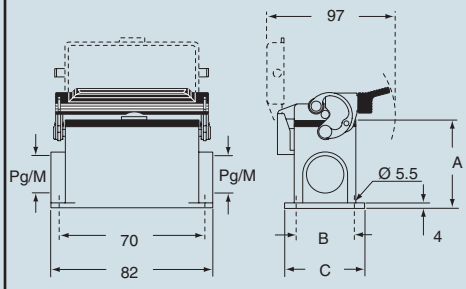
type	A	B	C
CZP L / MZP L	53	40	52
CZAP L / MZAP L	73	45	57
CZP LS / MZP LS	53	40	52
CZAP LS / MZAP LS	73	45	57

dimensions in mm

CHP L - (CAP L) and **MHP L - (MAP L)**



CHP LS - CAP LS and **MHP LS - MAP LS**



type	A	B	C
CHP L / MHP L	53	40	52
CAP L / MAP L	73	45	57
CHP LS / MHP LS	53	40	52
CAP LS / MAP LS	73	45	57

dimensions indicated are not binding
and may be changed without notice

inserts: page

CDD	24	poles + ⏚	49
CQE	10	poles + ⏚	66
CC	6	poles + ⏚	72
CN, CS	6	poles + ⏚	73
CCE	6	poles + ⏚	84
CNE, CSE	6	poles + ⏚	85
MIXO	2	modules	124÷137

insert centre distance:
44 x 27 mm

hoods
with single stainless steel lever

hoods
with single lever or two pegs

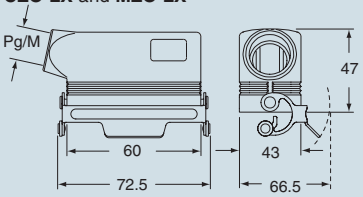
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with lever, without gasket, side entry [1]	**CZO 06 LX16**	16	**MZO 06 LX20**	20	**CHO 06 LX16**	16	**MHO 06 LX20**	20
with lever, without gasket, side entry [1]			**MZO 06 LX25**	25			**MHO 06 LX25**	25
with lever, without gasket, top entry [1]	**CZV 06 LX16**	16	**MZV 06 LX20**	20	**CHV 06 LX16**	16	**MHV 06 LX20**	20
with lever, without gasket, top entry [1]			**MZV 06 LX25**	25			**MHV 06 LX25**	25
with lever, top entry	**CZV 06 LG**	16	**MZV 06 LG25**	25	**CHV 06 LG**	16	**MHV 06 LG25**	25
with lever, top entry, high construction	**CZAV 06 LG21**	21	**MZAV 06 LG25**	25	**CAV 06 LG21**	21	**MAV 06 LG25**	25
with lever, top entry, high construction	**CZAV 06 LG29**	29	**MZAV 06 LG32**	32	**CAV 06 LG29**	29	**MAV 06 LG32**	32
with lever, top entry, high construction, without adaptor			**MZFV 06 LG25**	25			**MFV 06 LG25**	25
with lever, top entry, high construction, without adaptor			**MZFV 06 LG32**	32			**MFV 06 LG32**	32
with pegs, side entry					**CHO 06 L13**	13.5	**MHO 06 L20**	20
with pegs, side entry					**CHO 06 L16**	16	**MHO 06 L25**	25
with pegs, side entry, high construction					**CAO 06 L21**	21	**MAO 06 L25**	25
with pegs, side entry, high construction					**CAO 06 L29**	29	**MAO 06 L32**	32
with pegs, side entry, high construction, without adaptor							**MFO 06 L25**	25
with pegs, side entry, high construction, without adaptor							**MFO 06 L32**	32
with pegs, top entry					**CHV 06 L13**	13.5	**MHV 06 L20**	20
with pegs, top entry					**CHV 06 L16**	16	**MHV 06 L25**	25
with pegs, top entry, high construction					**CAV 06 L21**	21	**MAV 06 L25**	25
with pegs, top entry, high construction					**CAV 06 L29**	29	**MAV 06 L32**	32
with pegs, top entry, high construction, without adaptor							**MFV 06 L25**	25
with pegs, top entry, high construction, without adaptor							**MFV 06 L32**	32

[1] May be combined with housings: CHI 06 LCS/LCP/LC

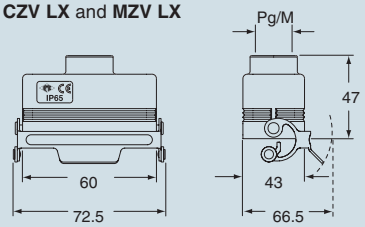
dimensions indicated are not binding
and may be changed without notice

dimensions in mm

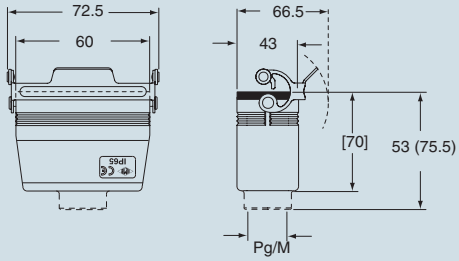
CZO LX and **MZO LX**



CZV LX and **MZV LX**

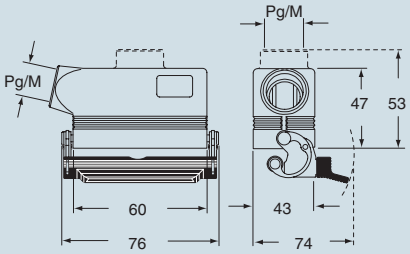


CZV LG (CZAV LG), **MZV LG (MZAV LG)** and **[MZFV LG]**

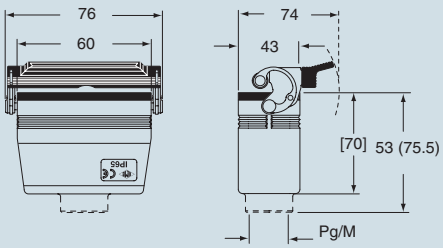


dimensions in mm

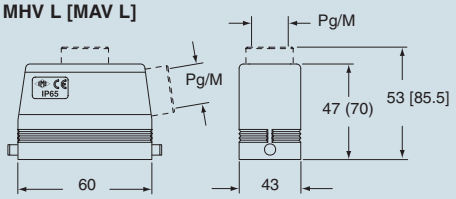
CHO LX - CHV LX and **MHO LX - MHV LX**



CHV LG (CAV LG), **MHV LG (MAV LG)** and **[MFV LG]**



CHO L (CAO L), **MHO (MAO/MFO/MFV L)** and **MHV L [MAV L]**



inserts: page

Covers LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

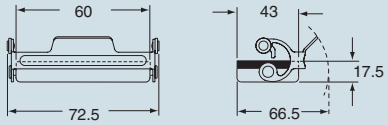
covers
with single stainless steel lever

covers
with single lever or two pegs

description	part No.	part No.
with lever (for hoods with pegs)	**CZC 06 LG**	**CHC 06 LG**
with pegs (for housings with lever)		**CHC 06 L**

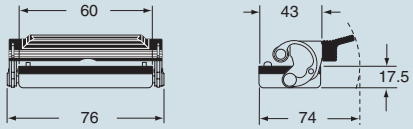
dimensions in mm

CZC LG

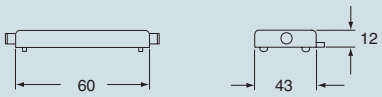


dimensions in mm

CHC LG



CHC L



dimensions indicated are not binding and may be changed without notice

size 44.27

inserts: page

CN RY ..... 6 poles + ⏚ 73

insert centre distance:
44 x 27 mm

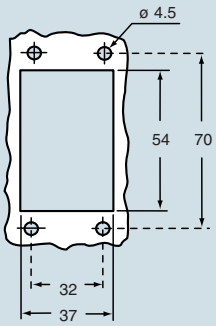
Covers LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover

hoods and cover

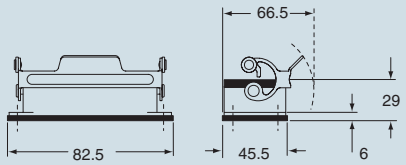
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead housing with lever	**CZIR 06 L**	---						
surface housing with lever	**CZPR 06 L**	16	**MZPR 06 L20**	20				
surface housing with lever, high construction	**CZAPR 06 L**	21	**MZAPR 06 L32**	32				
cover with pegs (for housings)	**CHCR 06 L**	---						
with pegs, side entry					**CHOR 06 L13**	13.5	**MHOR 06 L20**	20
with pegs, side entry, high construction					**CAOR 06 L21**	21	**MAOR 06 L32**	32
with pegs, top entry					**CHVR 06 L13**	13.5	**MHVR 06 L20**	20
with pegs, top entry, high construction					**CAVR 06 L21**	21	**MAVR 06 L32**	32
cover with lever (for hoods)					**CZCR 06 LG**	---		

panel cut-out for bulkhead mounting housings in mm

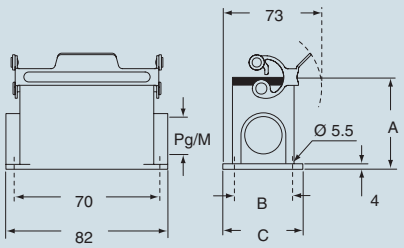


dimensions in mm

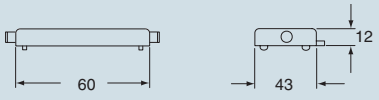
CZIR L



CZPR L - CZAPR L and **MZPR L - MZAPR L**



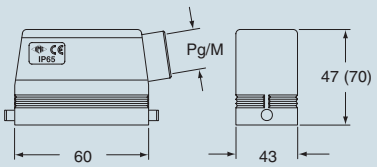
CHCR L



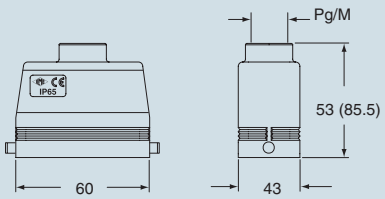
type	A	B	C
CZPR L / MZPR L	53	40	52
CZAPR L / MZAPR L	73	45	57

dimensions in mm

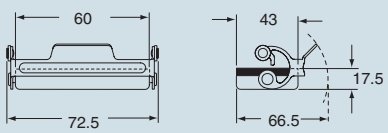
CHOR L (CAOR L) and **MHOR L (MAOR L)**



CHVR L (CAVR L) and **MHVR L (MAVR L)**



CZCR LG



dimensions indicated are not binding
and may be changed without notice

inserts: page

CDD	24	poles + ⏚	49
CQE	10	poles + ⏚	66
CC	6	poles + ⏚	72
CN, CS	6	poles + ⏚	73
CCE	6	poles + ⏚	84
CNE, CSE	6	poles + ⏚	85
CTE, CTSE *)	6	poles + ⏚	98
MIXO	2	modules	124÷137

insert centre distance:
44 x 27 mm

***) only for enclosure CHIW 06 L**

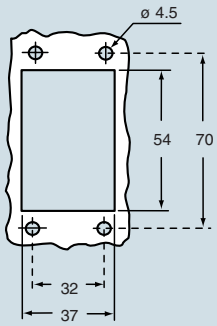
Covers LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover

hoods and cover

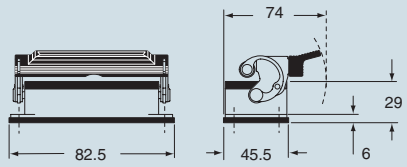
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead housing with lever surface housing with lever, high construction	**CHIW 06 L** **CAPW 06 L**	--- 21	**MAPW 06 L32**	32				
cover with pegs (for enclosures with lever)	**CHCW 06 L**							
with pegs, side entry, high construction with pegs, top entry, high construction					**CAOW 06 L21** **CAVW 06 L21**	21 21	**MAOW 06 L32** **MAVW 06 L32**	32 32
cover with lever (for enclosures with pegs)					**CHCW 06 LG**			
with lever and gasket, top entry, high construction					**CAVW 06 LG**	21	**MAVW 06 LG32**	32

panel cut-out for bulkhead mounting housings in mm

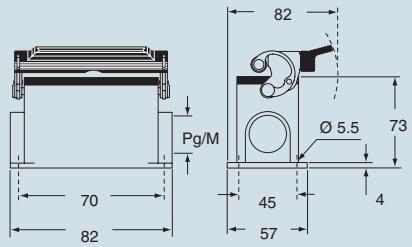


dimensions in mm

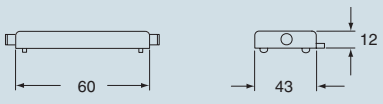
CHIW L



CAPW L and **MAPW L**

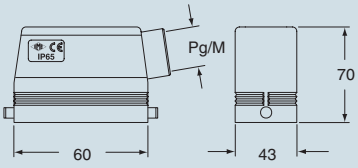


CHCW L

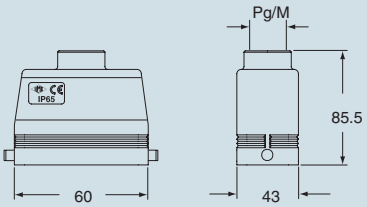


dimensions in mm

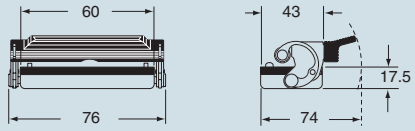
CAOW L and **MAOW L**



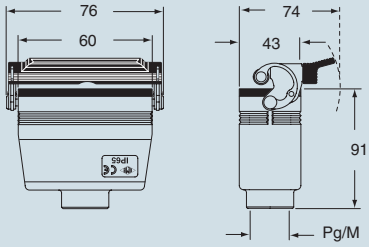
CAVW L and **MAVW L**



CHCW LG



CAVW LG and **MAVW LG**



dimensions indicated are not binding
and may be changed without notice

inserts: page

CDD	24	poles + ⏚	49
CQE	10	poles + ⏚	66
CC	6	poles + ⏚	72
CN, CS	6	poles + ⏚	73
CCE	6	poles + ⏚	84
CNE, CSE	6	poles + ⏚	85
CTE, CTSE *)	6	poles + ⏚	98
MIXO	2	modules	124÷137

insert centre distance:
44 x 27 mm

***) only for enclosure CHIS 06 L**

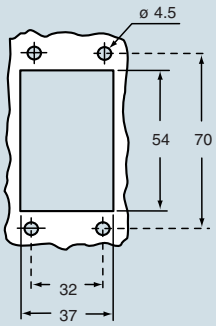
Covers LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover for electromagnetic compatibility

hoods and cover for electromagnetic compatibility

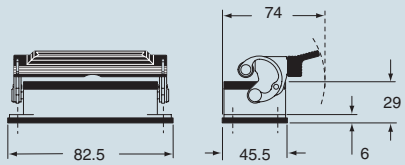
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead housing with lever	**CHIS 06 L**	---						
surface housing with lever, high construction	**CAPS 06 L**	21	**MAPS 06 L32**	32				
cover with pegs (for enclosures with lever)	**CHCS 06 L**							
with pegs, side entry, high construction					**CAOS 06 L21**	21	**MAOS 06 L32**	32
with pegs, top entry, high construction					**CAVS 06 L21**	21	**MAVS 06 L32**	32
cover with lever (for enclosures with pegs)					**CHCS 06 LG**			

panel cut-out for bulkhead mounting housings in mm

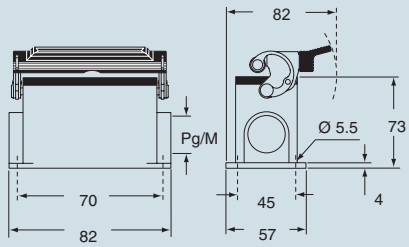


dimensions in mm

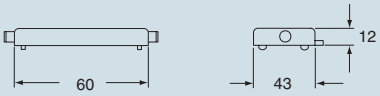
CHIS L



CAPS L and **MAPS L**

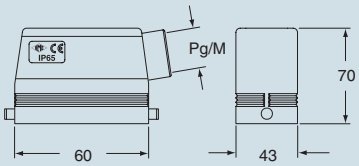


CHCS L

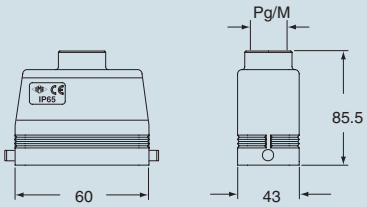


dimensions in mm

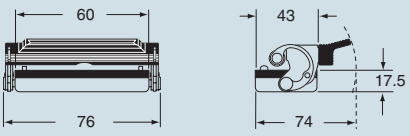
CAOS L and **MAOS L**



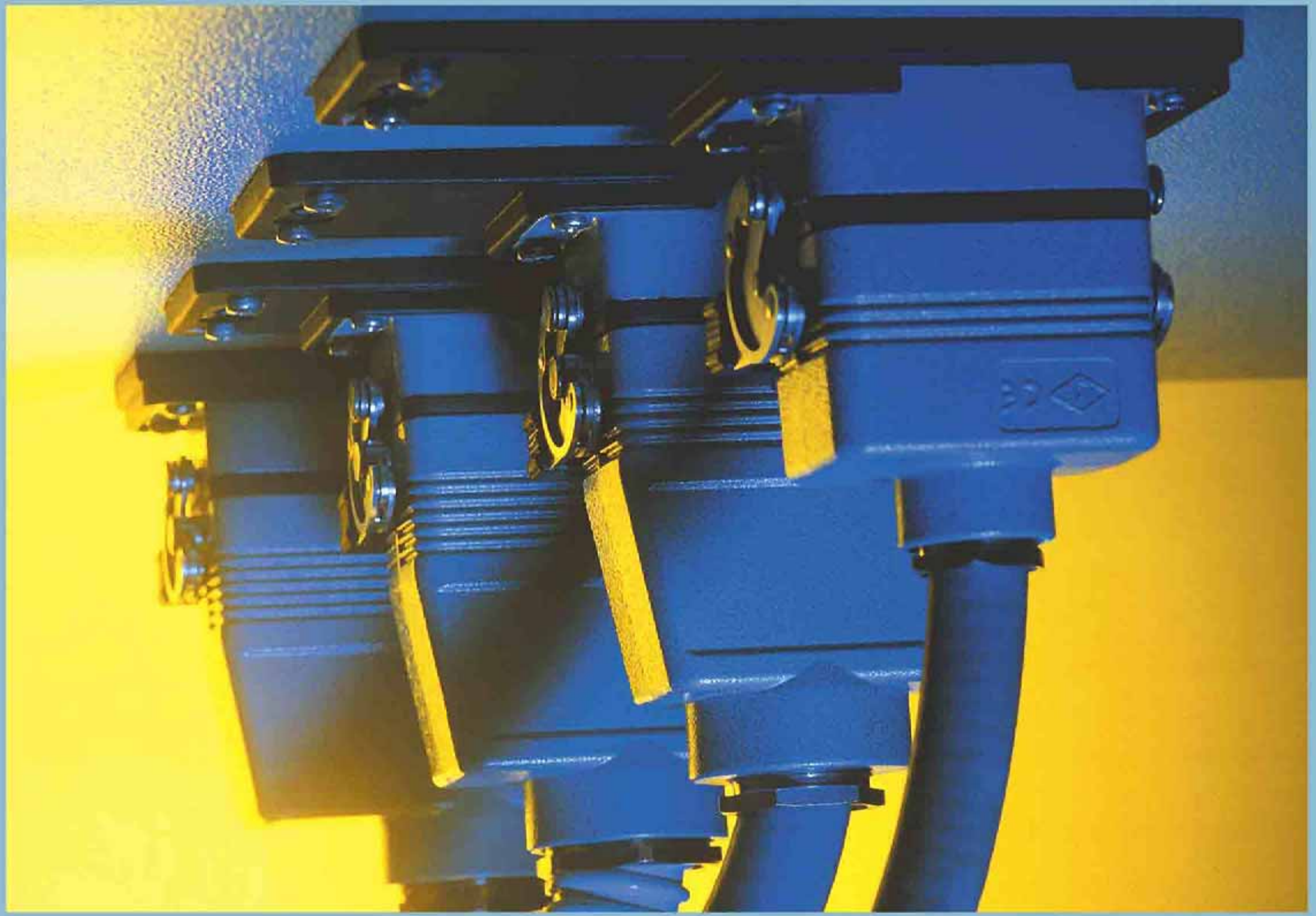
CAVS L and **MAVS L**



CHCS LG



dimensions indicated are not binding and may be changed without notice



inserts: page

CDD	42	poles + ⏚	51
CQE	18	poles + ⏚	67
CC	10	poles + ⏚	74
CN, CS	10	poles + ⏚	75
CCE	10	poles + ⏚	86
CNE, CSE	10	poles + ⏚	87
CTE, CTSE	10	poles + ⏚	99
CMSE	3+2 (aux)	poles + ⏚	102
CMCE	3+2 (aux)	poles + ⏚	102
CX	8/24	poles + ⏚	117
MIXO	3	modules	124÷137

insert centre distance:
57 x 27 mm

bulkhead mounting housings with two levers or four pegs

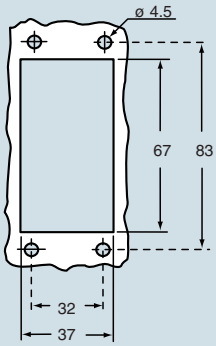
bulkhead mounting housings with single lever

description	part No.	part No.
with lever/s	**CHI 10**	**CHI 10 L**
with pegs [1]	**CHI 10 C**	
with pegs and aluminium cover [1]	**CHI 10 CS**	
with pegs and plastic cover [1]	**CHI 10 CP**	
with lever and cover		**CHI 10 LS**

[1] May be combined with hoods:
- CHO/CAO 10 X and CHV/CAV 10 X
- MHO/MAO 10 X and MHV/MAV 10 X

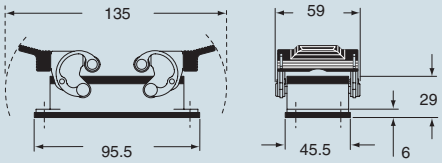
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers.
The cover only provides mechanical protection and does not assure an IP65 degree of protection.

panel cut-out for bulkhead mounting housings in mm

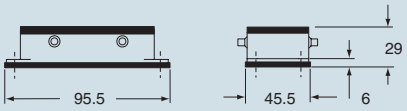


dimensions in mm

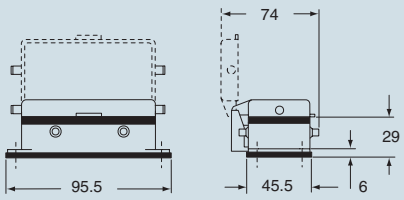
CHI



CHI C

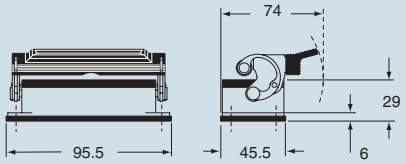


CHI CS/CP

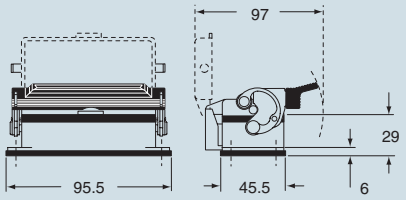


dimensions in mm

CHI L



CHI LS



dimensions indicated are not binding and may be changed without notice

insert centre distance:
57 x 27 mm

surface mounting housings with two levers or four pegs

surface mounting housings with single lever

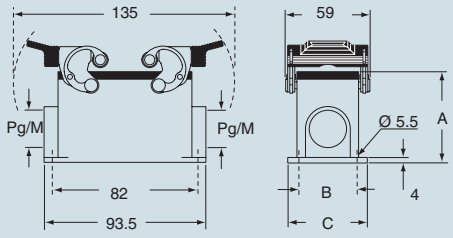
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with levers	**CHP 10**	16	**MHP 10.20**	20	**CHP 10 L**	16	**MHP 10 L20**	20
with levers	**CHP 10.2**	16 x 2	**MHP 10.220**	20 x 2	**CHP 10 L2**	16 x 2	**MHP 10 L220**	20 x 2
with levers, high construction	**CAP 10.21**	21	**MAP 10.32**	32	**CAP 10 L**	21	**MAP 10 L32**	32
with levers, high construction	**CAP 10.221**	21 x 2	**MAP 10.232**	32 x 2	**CAP 10 L2**	21 x 2	**MAP 10 L232**	32 x 2
with levers, high construction	**CAP 10.29**	29	**MAP 10.40**	40	**CAP 10 L29**	29	**MAP 10 L40**	40
with levers, high construction	**CAP 10.229**	29 x 2	**MAP 10.240**	40 x 2	**CAP 10 L229**	29 x 2	**MAP 10 L240**	40 x 2
with pegs and aluminium cover[1)]	**CHP 10 CS**	16	**MHP 10 CS20**	20				
with pegs and aluminium cover[1)]	**CHP 10 CS2**	16 x 2	**MHP 10 CS220**	20 x 2				
with pegs and aluminium cover, high construction[1)]	**CAP 10 CS**	21	**MAP 10 CS32**	32				
with pegs and aluminium cover, high construction[1)]	**CAP 10 CS2**	21 x 2	**MAP 10 CS232**	32 x 2				
with pegs and aluminium cover, high construction[1)]	**CAP 10 CS29**	29	**MAP 10 CS40**	40				
with pegs and aluminium cover, high construction[1)]	**CAP 10 CS229**	29 x 2	**MAP 10 CS240**	40 x 2				
with pegs and plastic cover[1)]	**CHP 10 CP**	16	**MHP 10 CP20**	20				
with pegs and plastic cover[1)]	**CHP 10 CP2**	16 x 2	**MHP 10 CP220**	20 x 2				
with pegs and plastic cover, high construction[1)]	**CAP 10 CP**	21	**MAP 10 CP32**	32				
with pegs and plastic cover, high construction[1)]	**CAP 10 CP2**	21 x 2	**MAP 10 CP232**	32 x 2				
with pegs and plastic cover, high construction[1)]	**CAP 10 CP29**	29	**MAP 10 CP40**	40				
with pegs and plastic cover, high construction[1)]	**CAP 10 CP229**	29 x 2	**MAP 10 CP240**	40 x 2				
with lever and cover					**CHP 10 LS**	16	**MHP 10 LS20**	20
with lever and cover					**CHP 10 LS2**	16 x 2	**MHP 10 LS220**	20 x 2
with lever and cover, high construction					**CAP 10 LS**	21	**MAP 10 LS32**	32
with lever and cover, high construction					**CAP 10 LS2**	21 x 2	**MAP 10 LS232**	32 x 2
with lever and cover, high construction					**CAP 10 LS29**	29	**MAP 10 LS40**	40
with lever and cover, high construction					**CAP 10 LS229**	29 x 2	**MAP 10 LS240**	40 x 2

[1)] May be combined with hoods:
- CHO/CAO 10 X and CHV/CAV 10 X
- MHO/MAO 10 X and MHV/MAV 10 X

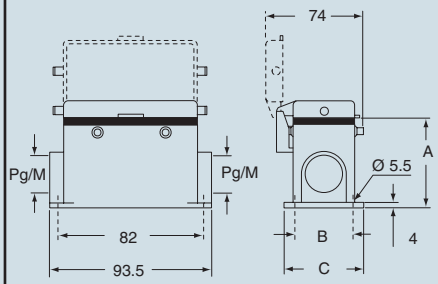
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers.
The cover only provides mechanical protection and does not assure an IP65 degree of protection.

dimensions in mm

CHP - CAP and **MHP - MAP**



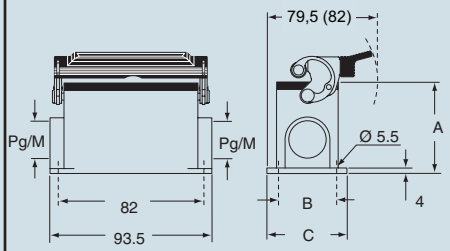
CHP CS/CP - CAP CS/CP and **MHP CS/CP - MAP CS/CP**



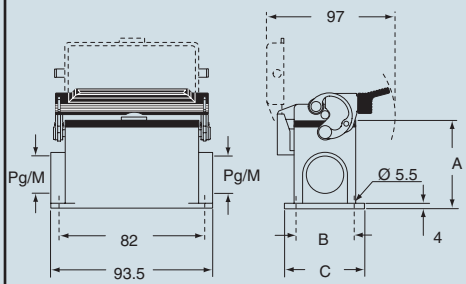
type	A	B	C
CHP / MHP	57	40	52
CAP / MAP	73	45	57
CHP CS / MHP CS	57	40	52
CAP CS / MAP CS	73	45	57
CHP CP / MHP CP	57	40	52
CAP CP / MAP CP	73	45	57

dimensions in mm

CHP L - (CAP L) and **MHP L - (MAP L)**



CHP LS - CAP LS and **MHP LS - MAP LS**



type	A	B	C
CHP L / MHP L	57	40	52
CAP L / MAP L	73	45	57
CHP LS / MHP LS	57	40	52
CAP LS / MAP LS	73	45	57

dimensions indicated are not binding and may be changed without notice

inserts: page

insert centre distance:
57 x 27 mm

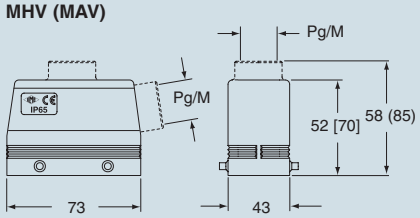
hoods
with two levers or four pegs

hoods
with single lever or two pegs

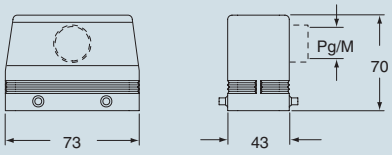
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs, side entry	**CHO 10**	16	**MHO 10.20**	20	**CHO 10 L**	16	**MHO 10 L20**	20
with pegs, side entry			**MHO 10.25**	25			**MHO 10 L25**	25
with pegs, side entry, high construction	**CAO 10.21**	21	**MAO 10.32**	32	**CAO 10 L21**	21	**MAO 10 L32**	32
with pegs, side entry, high construction	**CAO 10.29**	29	**MAO 10.40**	40	**CAO 10 L29**	29	**MAO 10 L40**	40
with pegs, top entry	**CHV 10**	16	**MHV 10.20**	20	**CHV 10 L**	16	**MHV 10 L20**	20
with pegs, top entry			**MHV 10.25**	25			**MHV 10 L25**	25
with pegs, top entry, high construction	**CAV 10.21**	21	**MAV 10.32**	32	**CAV 10 L21**	21	**MAV 10 L32**	32
with pegs, top entry, high construction	**CAV 10.29**	29	**MAV 10.40**	40	**CAV 10 L29**	29	**MAV 10 L40**	40
with pegs, frontal entry, high construction	**CAF 10**	16	**MAF 10.20**	20				
with pegs, frontal entry, high constr., without adaptor			**MFF 10.20**	20				
with levers and gasket, top entry	**CHV 10 G**	16	**MHV 10 G25**	25	**CHV 10 LG**	16	**MHV 10 LG25**	25
with levers and gasket, top entry, high construction	**CAV 10 G**	21	**MAV 10 G25**	25	**CAV 10 LG21**	21	**MAV 10 LG25**	25
with levers and gasket, top entry, high construction	**CAV 10 G29**	29	**MAV 10 G32**	32	**CAV 10 LG29**	29	**MAV 10 LG32**	32
with levers and gasket, top entry, high constr., without adaptor			**MFV 10 G25**	25			**MFV 10 LG25**	25
with levers and gasket, top entry, high constr., without adaptor			**MFV 10 G32**	32			**MFV 10 LG32**	32

dimensions in mm

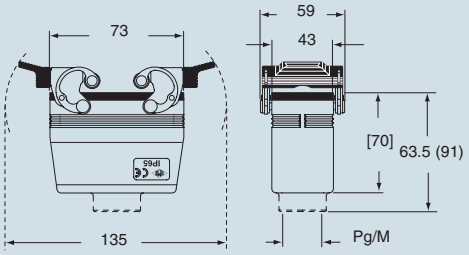
CHO [CAO] - CHV (CAV) and **MHO [MAO] MHV (MAV)**



CAF and **MAF/MFF**

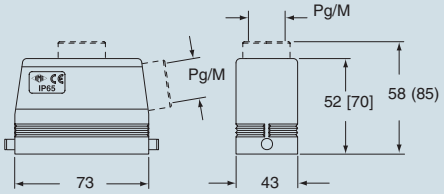


CHV G (CAV G), **MHV G (MAV G)** and **[MFV G]**

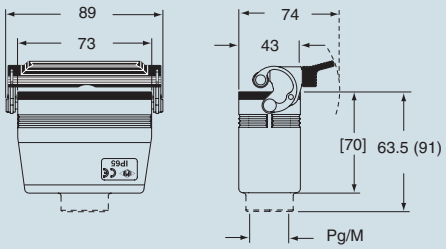


dimensions in mm

CHO L (CAO L) and **MHO L [MAO L]**
CHV L [CAV L] and **MHV L (MAV L)**



CHV LG (CAV LG), **MHV LG (MAV LG)** and **[MFV LG]**



dimensions indicated are not binding
and may be changed without notice

size 57.27

inserts: page

CDD	42	poles + ⏚	51
CQE	18	poles + ⏚	67
CC	10	poles + ⏚	74
CN, CS	10	poles + ⏚	75
CCE	10	poles + ⏚	86
CNE, CSE	10	poles + ⏚	87
CMSE	3+2 (aux)	poles + ⏚	102
CMCE	3+2 (aux)	poles + ⏚	102
CX	8/24	poles + ⏚	117
MIXO	3	modules	124÷137

insert centre distance:
57 x 27 mm

Covers G and LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods with two levers

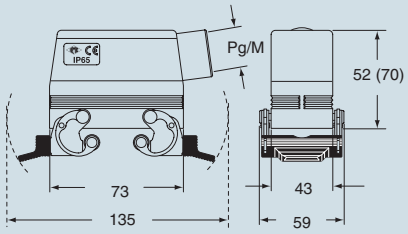
covers

description	part No.	entry Pg	part No.	entry M	part No.
with levers, side entry [1]	**CHO 10 X**	16	**MHO 10 X20**	20	
with levers, side entry [1]			**MHO 10 X25**	25	
with levers, side entry, high construction [1]	**CAO 10 X**	21	**MAO 10 X32**	32	
with levers, side entry, high construction [1]	**CAO 10 X29**	29	**MAO 10 X40**	40	
with levers, top entry [1]	**CHV 10 X**	16	**MHV 10 X20**	20	
with levers, top entry [1]			**MHV 10 X25**	25	
with levers, top entry, high construction [1]	**CAV 10 X**	21	**MAV 10 X32**	32	
with levers, top entry, high construction [1]	**CAV 10 X29**	29	**MAV 10 X40**	40	
with 4 pegs (for housings with 2 levers and gasket)					**CHC 10**
with 2 pegs (for housings with 1 lever and gasket)					**CHC 10 L**
with 2 levers (for hoods with 4 pegs)					**CHC 10 G**
with 1 lever (for hoods with 2 pegs)					**CHC 10 LG**

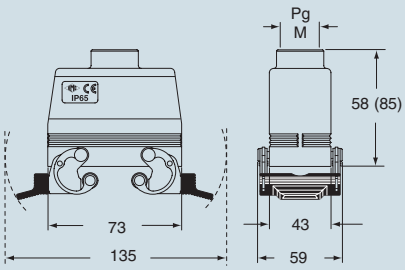
[1] May be combined with housings:
- CHI/CHP/CAP 10 CS/CP/C
- MHP/MAP 10 CS/CP

dimensions in mm

CHO X (CAO X) and **MHO X (MAO X)**



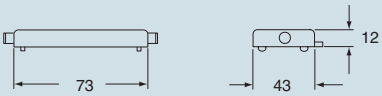
CHV X (CAV X) and **MHV X (MAV X)**



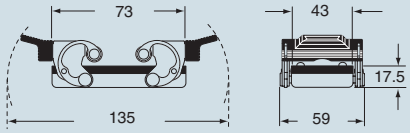
dimensions in mm

CHC

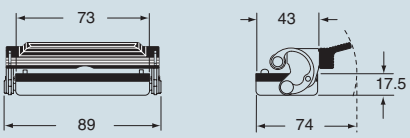
CHC L



CHC G



CHC LG



dimensions indicated are not binding and may be changed without notice

inserts: page

CME .....3 + 2 (aux) poles + ⏚ 103

insert centre distance:
57 x 27 mm

bulkhead mounting housings with two levers or four pegs

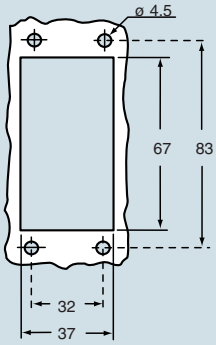
bulkhead mounting housings with single lever

description	part No.	part No.
with lever/s	**CMI 03**	**CMI 03 L**
with pegs and aluminium cover [1]	**CMI 03 CS**	
with pegs and plastic cover [1]	**CMI 03 CP**	
with lever and cover		**CMI 03 LS**

[1] May be combined with hoods:
- CMO/CMAO 03 X and CMV/CMAV 03 X
- MMO/MMAO 03 X and MMV/MMAV 03 X

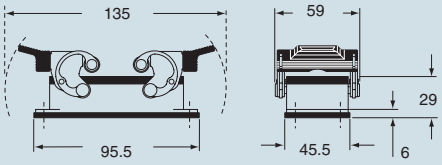
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers.
The cover only provides mechanical protection and does not assure an IP65 degree of protection.

panel cut-out for bulkhead mounting housings in mm

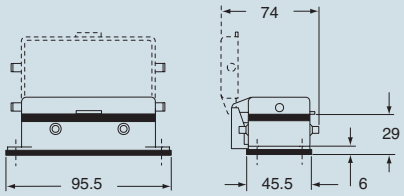


dimensions in mm

CMI

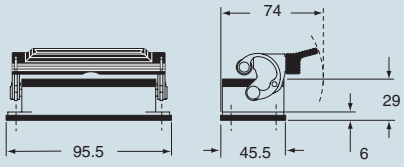


CMI CS/CP

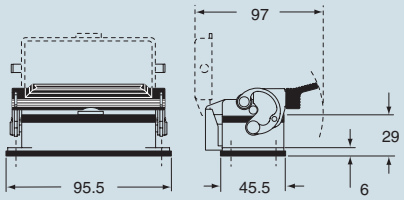


dimensions in mm

CMI L



CMI LS



dimensions indicated are not binding
and may be changed without notice

inserts: page

CME .....3 + 2 (aux) poles + ⏚ 103

insert centre distance:
57 x 27 mm

surface mounting housings with two levers or four pegs

surface mounting housings with single lever

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with levers	**CMP 03**	16	**MMP 03.20**	20	**CMP 03 L**	16	**MMP 03 L20**	20
with levers	**CMP 03.2**	16 x 2	**MMP 03.220**	20 x 2	**CMP 03 L2**	16 x 2	**MMP 03 L220**	20 x 2
with levers, high construction	**CMAP 03.21**	21	**MMAP 03.32**	32	**CMAP 03 L**	21	**MMAP 03 L32**	32
with levers, high construction	**CMAP 03.221**	21 x 2	**MMAP 03.232**	32 x 2	**CMAP 03 L2**	21 x 2	**MMAP 03 L232**	32 x 2
with levers, high construction	**CMAP 03.29**	29	**MMAP 03.40**	40	**CMAP 03 L29**	29	**MMAP 03 L40**	40
with levers, high construction	**CMAP 03.229**	29 x 2	**MMAP 03.240**	40 x 2	**CMAP 03 L229**	29 x 2	**MMAP 03 L240**	40 x 2
with pegs and aluminium cover[1)]	**CMP 03 CS**	16	**MMP 03 CS20**	20				
with pegs and aluminium cover[1)]	**CMP 03 CS2**	16 x 2	**MMP 03 CS220**	20 x 2				
with pegs and aluminium cover, high construction[1)]	**CMAP 03 CS**	21	**MMAP 03 CS32**	32				
with pegs and aluminium cover, high construction[1)]	**CMAP 03 CS2**	21 x 2	**MMAP 03CS232**	32 x 2				
with pegs and aluminium cover, high construction[1)]	**CMAP 03 CS29**	29	**MMAP 03 CS40**	40				
with pegs and aluminium cover, high construction[1)]	**CMAP 03CS229**	29 x 2	**MMAP 03CS240**	40 x 2				
with pegs and plastic cover[1)]	**CMP 03 CP**	16	**MMP 03 CP20**	20				
with pegs and plastic cover[1)]	**CMP 03 CP2**	16 x 2	**MMP 03 CP220**	20 x 2				
with pegs and plastic cover, high construction[1)]	**CMAP 03 CP**	21	**MMAP 03 CP32**	32				
with pegs and plastic cover, high construction[1)]	**CMAP 03 CP2**	21 x 2	**MMAP 03CP232**	32 x 2				
with pegs and plastic cover, high construction[1)]	**CMAP 03 CP29**	29	**MMAP 03 CP40**	40				
with pegs and plastic cover, high construction[1)]	**CMAP 03CP229**	29 x 2	**MMAP 03CP240**	40 x 2				
with lever and cover					**CMP 03 LS**	16	**MMP 03 LS20**	20
with lever and cover					**CMP 03 LS2**	16 x 2	**MMP 03 LS220**	20 x 2
with lever and cover, high construction					**CMAP 03 LS**	21	**MMAP 03 LS32**	32
with lever and cover, high construction					**CMAP 03 LS2**	21 x 2	**MMAP 03LS232**	32 x 2
with lever and cover, high construction					**CMAP 03 LS29**	29	**MMAP 03 LS40**	40
with lever and cover, high construction					**CMAP 03LS229**	29 x 2	**MMAP 03LS240**	40 x 2

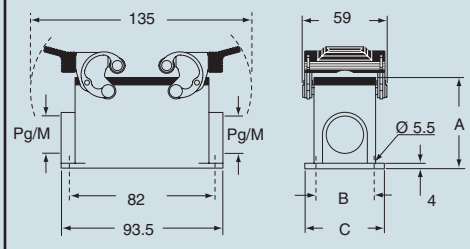
[1)] May be combined with hoods:
- CMO/CMAO 03 X and CMV/CMAV 03 X
- MMO/MMAO 03 X and MMV/MMAV 03 X

N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers.
The cover only provides mechanical protection and does not assure an IP65 degree of protection.

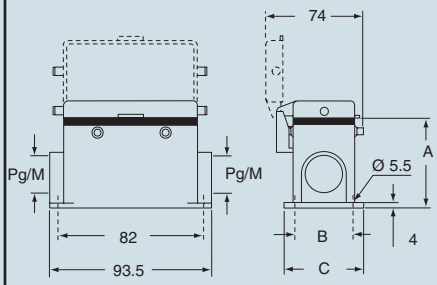
dimensions indicated are not binding and may be changed without notice

dimensions in mm

CMP - CMAP and **MMP - MMAP**



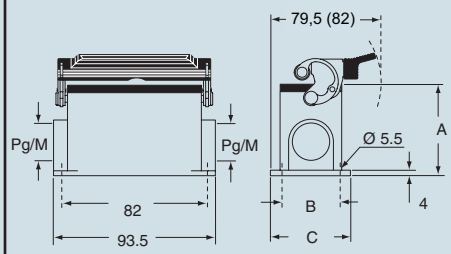
CMP CS/CP - CMAP CS/CP and **MMP CS/CP - MMAP CS/CP**



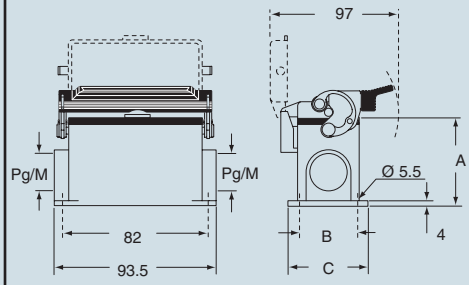
type	A	B	C
CMP / MMP	57	40	52
CMAP / MMAP	73	45	57
CMP CS / MMP CS	57	40	52
CMAP CS / MMAP CS	73	45	57
CMP CP / MMP CP	57	40	52
CMAP CP / MMAP CP	73	45	57

dimensions in mm

CMP L - (CMAP L) and **MMP L - (MMAP L)**



CMP LS - CMAP LS and **MMP LS - MMAP LS**



type	A	B	C
CMP L / MMP L	57	40	52
CMAP L / MMAP L	73	45	57
CMP LS / MMP LS	57	40	52
CMAP LS / MMAP LS	73	45	57

inserts: page

CME .....3 + 2 (aux) poles + ⏚ 103

insert centre distance:
57 x 27 mm

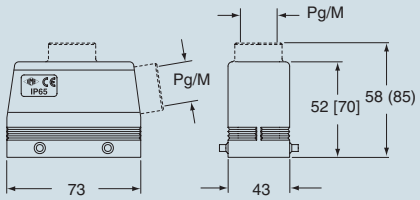
hoods
with two levers or four pegs

hoods
with single lever or two pegs

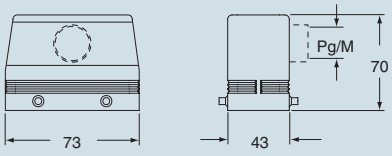
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs, side entry	**CMO 03**	16	**MMO 03.20**	20	**CMO 03 L**	16	**MMO 03 L20**	20
with pegs, side entry			**MMO 03.25**	25			**MMO 03 L25**	25
with pegs, side entry, high construction	**CMAO 03.21**	21	**MMAO 03.32**	32	**CMAO 03 L21**	21	**MMAO 03 L32**	32
with pegs, side entry, high construction	**CMAO 03.29**	29	**MMAO 03.40**	40	**CMAO 03 L29**	29	**MMAO 03 L40**	40
with pegs, top entry	**CMV 03**	16	**MMV 03.20**	20	**CMV 03 L**	16	**MMV 03 L20**	20
with pegs, top entry			**MMV 03.25**	25			**MMV 03 L25**	25
with pegs, top entry, high construction	**CMAV 03.21**	21	**MMAV 03.32**	32	**CMAV 03 L21**	21	**MMAV 03 L32**	32
with pegs, top entry, high construction	**CMAV 03.29**	29	**MMAV 03.40**	40	**CMAV 03 L29**	29	**MMAV 03 L40**	40
with pegs, frontal entry, high construction	**CMAF 03**	16	**MMAF 03.20**	20				
with pegs, frontal entry, high constr., without adaptor			**MMFF 03.20**	20				
with levers and gasket, top entry	**CMV 03 G**	16	**MMV 03 G25**	25	**CMV 03 LG**	16	**MMV 03 LG25**	25
with levers and gasket, top entry, high construction	**CMAV 03 G**	21	**MMAV 03 G25**	25	**CMAV 03 LG21**	21	**MMAV 03 LG25**	25
with levers and gasket, top entry, high construction	**CMAV 03 G29**	29	**MMAV 03 G32**	32	**CMAV 03 LG29**	29	**MMAV 03 LG32**	32
with levers and gasket, top entry, high constr., without adaptor			**MMFV 03 G25**	25			**MMFV 03 LG25**	25
with levers and gasket, top entry, high constr., without adaptor			**MMFV 03 G32**	32			**MMFV 03 LG32**	32

dimensions in mm

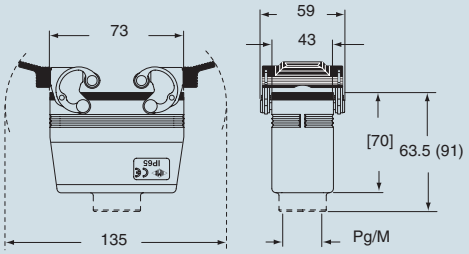
CMO [CMAO] - CMV (CMAV) and **MMO [MMAO] MMV (MMAV)**



CMAF and **MMAF/MMFF**

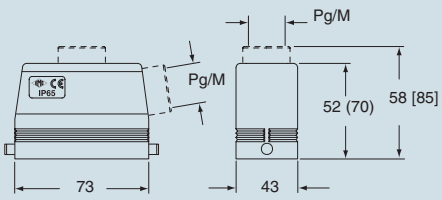


CMV G (CMAV G), **MMV G (MMAV G)** and **[MMFV G]**

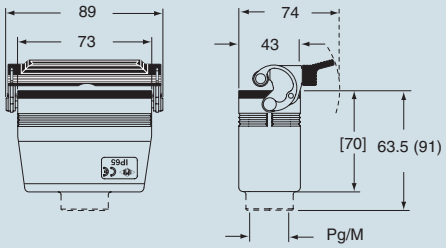


dimensions in mm

CMO L (CMAO L) and **MMO L (MMAO L)**
CMV L [CMAV L] and **MMV L [MMAV L]**



CMV LG (CMAV LG), **MMV LG (MMAV LG)** and **[MMFV LG]**



dimensions indicated are not binding
and may be changed without notice

size 57.27

inserts: page

CME .....3 + 2 (aux) poles + ⏚ 103

insert centre distance:
57 x 27 mm

Covers G and LG versions are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods with two levers

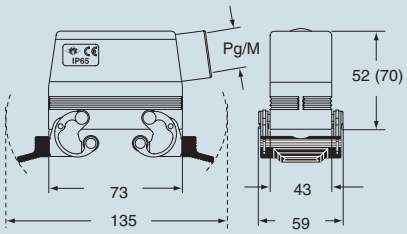
covers

description	part No.	entry Pg	part No.	entry M	part No.
with levers, side entry [1]	**CMO 03 X**	16	**MMO 03 X20**	20	
with levers, side entry [1]			**MMO 03 X25**	25	
with levers, side entry, high construction [1]	**CMAO 03 X**	21	**MMAO 03 X32**	32	
with levers, side entry, high construction [1]	**CMAO 03 X29**	29	**MMAO 03 X40**	40	
with levers, top entry [1]	**CMV 03 X**	16	**MMV 03 X20**	20	
with levers, top entry [1]			**MMV 03 X25**	25	
with levers, top entry, high construction [1]	**CMAV 03 X**	21	**MMAV 03 X32**	32	
with levers, top entry, high construction [1]	**CMAV 03 X29**	29	**MMAV 03 X40**	40	
with 4 pegs (for housings with 2 levers with gasket)					**CHC 10**
with 2 pegs (for housings with 1 lever with gasket)					**CHC 10 L**
with 2 levers (for hoods with 4 pegs)					**CHC 10 G**
with 1 lever (for hoods with 2 pegs)					**CHC 10 LG**

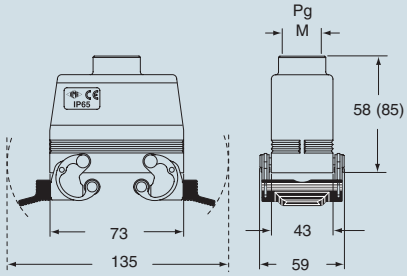
[1] May be combined with housings:
- CMI/CMP/CMAP 03 CS/CP
- MMP/MMAP 03 CS/CP

dimensions in mm

CMO X (CMAO X) and **MMO X (MMAO X)**



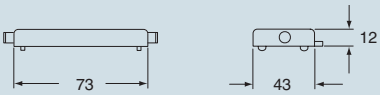
CMV X (CMAV X) and **MMV X (MMAV X)**



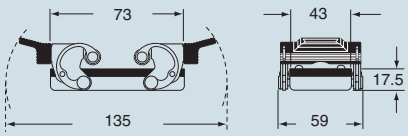
dimensions in mm

CHC

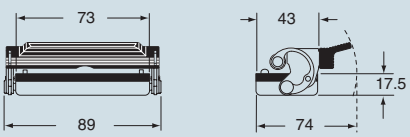
CHC L



CHC G



CHC LG



dimensions indicated are not binding
and may be changed without notice

inserts: page

CN RY ..... 10 poles + ⏚ 75

insert centre distance:
57 x 27 mm

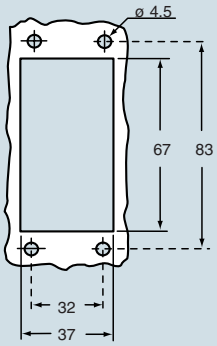
Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover

hoods and cover

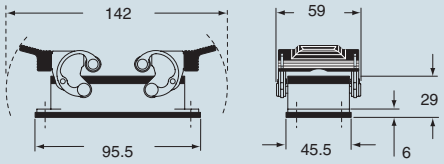
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers	**CHIR 10**	---						
surface mounting, with levers	**CHPR 10**	16	**MHPR 10.20**	20				
surface mounting, with levers, high construction	**CAPR 10.21**	21	**MAPR 10.32**	32				
cover with 4 pegs (for housings)	**CHCR 10**							
with pegs, side entry					**CHOR 10**	16	**MHOR 10.20**	20
with pegs, side entry, high construction					**CAOR 10.21**	21	**MAOR 10.32**	32
with pegs, top entry					**CHVR 10**	16	**MHVR 10.20**	20
with pegs, top entry, high construction					**CAVR 10.21**	21	**MAVR 10.32**	32
cover with 2 levers (for hoods)					**CHCR 10 G**			

panel cut-out for bulkhead mounting housings in mm

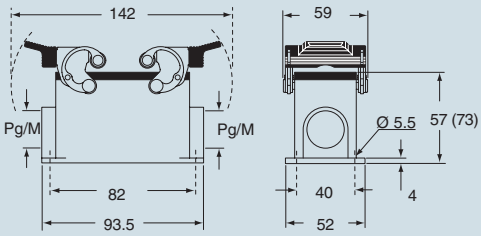


dimensions in mm

CHIR



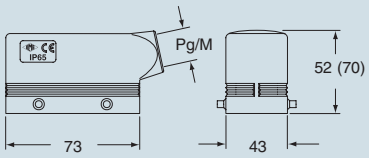
CHPR (CAPR) and **MHPR (MAPR)**



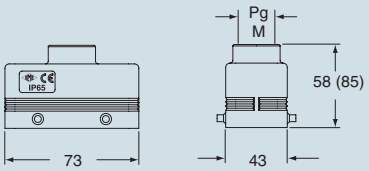
CHCR

dimensions in mm

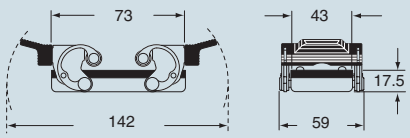
CHOR (CAOR) and **MHOR (MAOR)**



CHVR (CAVR) and **MHVR (MAVR)**



CHCR G



dimensions indicated are not binding
and may be changed without notice

inserts:

insert centre distance: **57 x 27 mm**

Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

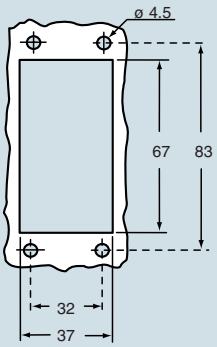
***) only for enclosure CHIW 10**

housings and cover

hoods and cover

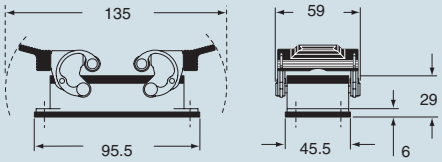
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers surface mounting, with levers, high construction	**CHIW 10** **CAPW 10.21**	--- 21	**MAPW 10.32**	32				
cover with 4 pegs (for enclosures with 2 levers)	**CHCW 10**							
with pegs, side entry, high construction with pegs, top entry, high construction					**CAOW 10.21** **CAVW 10.21**	21 21	**MAOW 10.32** **MAVW 10.32**	32 32
cover with 2 levers (for enclosures with 4 pegs)					**CHCW 10 G**			
with levers and gasket, top entry, high construction					**CAVW 10 G**	21	**MAVW 10 G32**	32

panel cut-out for bulkhead mounting housings in mm

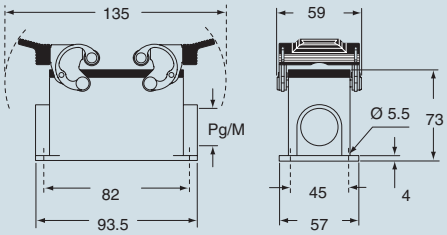


dimensions in mm

CHIW



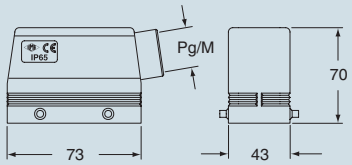
CAPW and **MAPW**



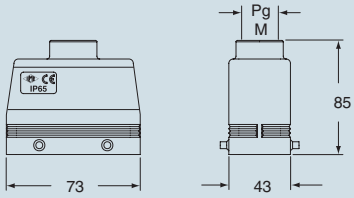
CHCW

dimensions in mm

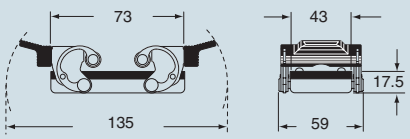
CAOW and **MAOW**



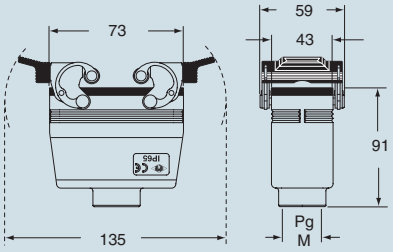
CAVW and **MAVW**



CHCW G



CAVW G and **MAVW G**



dimensions indicated are not binding
and may be changed without notice

inserts: page

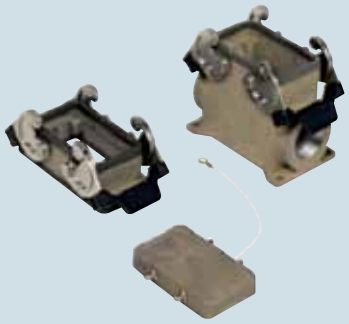
CDD	42	poles + ⏚	51
CQE	18	poles + ⏚	67
CC	10	poles + ⏚	74
CN, CS	10	poles + ⏚	75
CCE	10	poles + ⏚	86
CNE, CSE	10	poles + ⏚	87
CTE, CTSE *)	10	poles + ⏚	99
CMSE	3+2 (aux)	poles + ⏚	102
CMCE	3+2 (aux)	poles + ⏚	102
CME	3+2 (aux)	poles + ⏚	103
CX	8/24	poles + ⏚	117
MIXO	3	modules	124÷137

insert centre distance: **57 x 27 mm**

Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

***) only for enclosure CHIS 10**

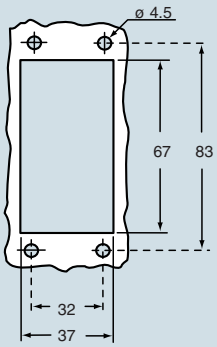
housings and cover for electromagnetic compatibility



hoods and cover for electromagnetic compatibility

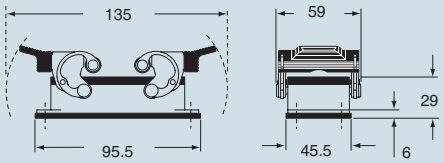
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers	**CHIS 10**	---						
surface mounting, with levers, high construction	**CAPS 10.21**	21	**MAPS 10.32**	32				
cover with 4 pegs (for enclosures with 2 levers)	**CHCS 10**							
with pegs, side entry, high construction					**CAOS 10.21**	21	**MAOS 10.32**	32
with pegs, top entry, high construction					**CAVS 10.21**	21	**MAVS 10.32**	32
cover with 2 levers (for enclosures with 4 pegs)					**CHCS 10 G**			

panel cut-out for bulkhead mounting housings in mm

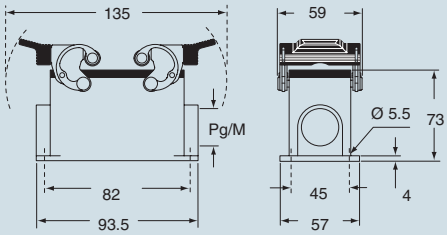


dimensions in mm

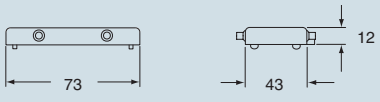
CHIS



CAPS and **MAPS**

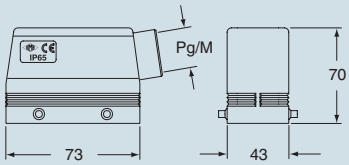


CHCS

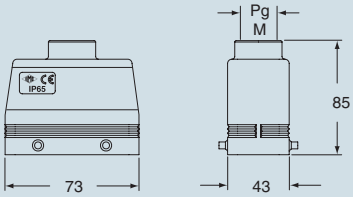


dimensions in mm

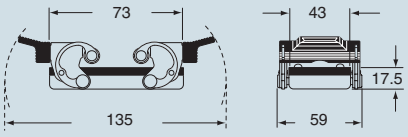
CAOS and **MAOS**



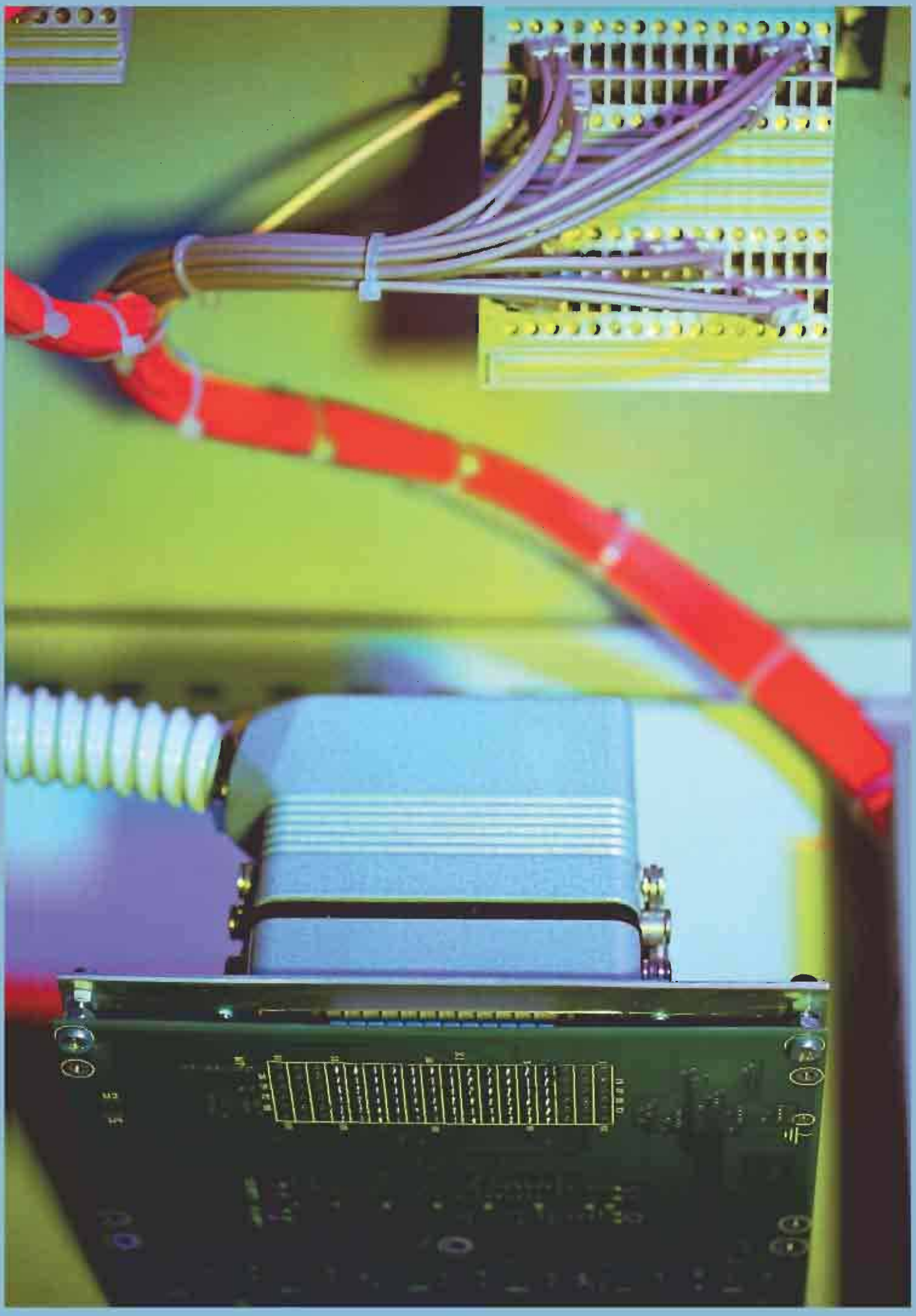
CAVS and **MAVS**



CHCS G



dimensions indicated are not binding and may be changed without notice



inserts: page

insert centre distance: **77.5 x 27 mm**

bulkhead mounting housings with two levers or four pegs

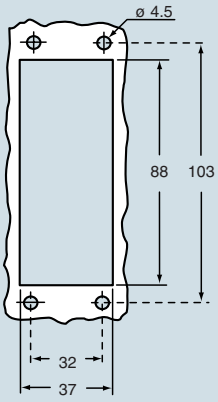
bulkhead mounting housings with single lever

description	part No.	part No.
with one or two levers	**CHI 16**	**CHI 16 L**
with pegs [1]	**CHI 16 C**	
with pegs and aluminium cover [1]	**CHI 16 CS**	
with pegs and plastic cover [1]	**CHI 16 CP**	
with lever and cover		**CHI 16 LS**

[1] May be combined with hoods:
- CHO/CAO 16 X and CHV/CAV 16 X
- MHO/MAO 16 X and MHV/MAV 16 X

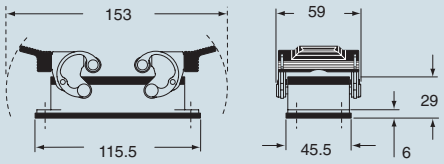
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

panel cut-out for bulkhead mounting housings in mm

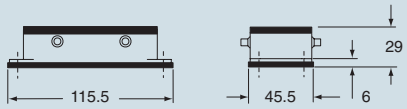


dimensions in mm

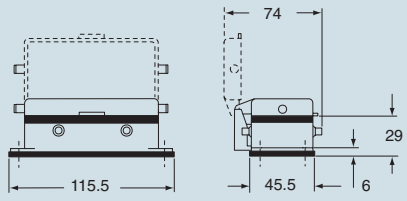
CHI



CHI C

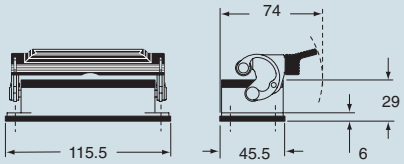


CHI CS/CP

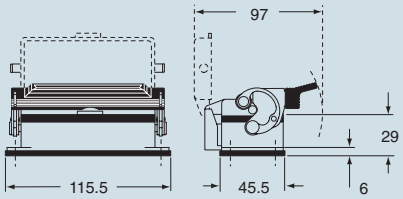


dimensions in mm

CHI L



CHI LS



dimensions indicated are not binding and may be changed without notice

size 77.27

insert centre distance: **77.5 x 27 mm**

surface mounting housings with two levers or four pegs

surface mounting housings with single lever

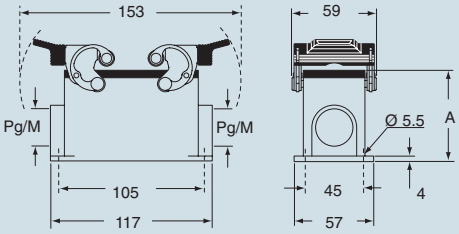
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with levers	**CHP 16**	21	**MHP 16.25**	25	**CHP 16 L**	21	**MHP 16 L25**	25
with levers	**CHP 16.2**	21 x 2	**MHP 16.225**	25 x 2	**CHP 16 L2**	21 x 2	**MHP 16 L225**	25 x 2
with levers, high construction	**CAP 16.21**	21	**MAP 16.32**	32	**CAP 16 L**	21	**MAP 16 L32**	32
with levers, high construction	**CAP 16.221**	21 x 2	**MAP 16.232**	32 x 2	**CAP 16 L2**	21 x 2	**MAP 16 L232**	32 x 2
with levers, high construction	**CAP 16.29**	29	**MAP 16.40**	40	**CAP 16 L29**	29	**MAP 16 L40**	40
with levers, high construction	**CAP 16.229**	29 x 2	**MAP 16.240**	40 x 2	**CAP 16 L229**	29 x 2	**MAP 16 L240**	40 x 2
with pegs and aluminium cover [1]	**CHP 16 CS**	21	**MHP 16 CS25**	25				
with pegs and aluminium cover [1]	**CHP 16 CS2**	21 x 2	**MHP 16 CS225**	25 x 2				
with pegs and aluminium cover, high construction [1]	**CAP 16 CS**	21	**MAP 16 CS32**	32				
with pegs and aluminium cover, high construction [1]	**CAP 16 CS2**	21 x 2	**MAP 16 CS232**	32 x 2				
with pegs and aluminium cover, high construction [1]	**CAP 16 CS29**	29	**MAP 16 CS40**	40				
with pegs and aluminium cover, high construction [1]	**CAP 16 CS229**	29 x 2	**MAP 16 CS240**	40 x 2				
with pegs and plastic cover [1]	**CHP 16 CP**	21	**MHP 16 CP25**	25				
with pegs and plastic cover [1]	**CHP 16 CP2**	21 x 2	**MHP 16 CP225**	25 x 2				
with pegs and plastic cover, high construction [1]	**CAP 16 CP**	21	**MAP 16 CP32**	32				
with pegs and plastic cover, high construction [1]	**CAP 16 CP2**	21 x 2	**MAP 16 CP232**	32 x 2				
with pegs and plastic cover, high construction [1]	**CAP 16 CP29**	29	**MAP 16 CP40**	40				
with pegs and plastic cover, high construction [1]	**CAP 16 CP229**	29 x 2	**MAP 16 CP240**	40 x 2				
with lever and cover					**CHP 16 LS**	21	**MHP 16 LS25**	25
with lever and cover					**CHP 16 LS2**	21 x 2	**MHP 16 LS225**	25 x 2
with lever and cover, high construction					**CAP 16 LS**	21	**MAP 16 LS32**	32
with lever and cover, high construction					**CAP 16 LS2**	21 x 2	**MAP 16 LS232**	32 x 2
with lever and cover, high construction					**CAP 16 LS29**	29	**MAP 16 LS40**	40
with lever and cover, high construction					**CAP 16 LS229**	29 x 2	**MAP 16 LS240**	40 x 2

[1] May be combined with hoods:
- CHO/CAO 16 X and CHV/CAV 16 X
- MHO/MAO 16 X and MHV/MAV 16 X

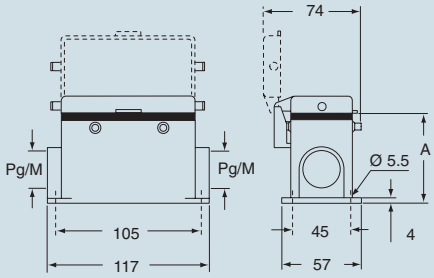
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

dimensions in mm

CHP - CAP and **MHP - MAP**



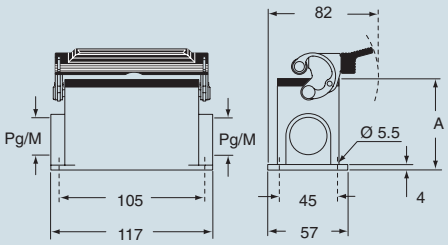
CHP CS/CP - CAP CS/CP and **MHP CS/CP - MAP CS/CP**



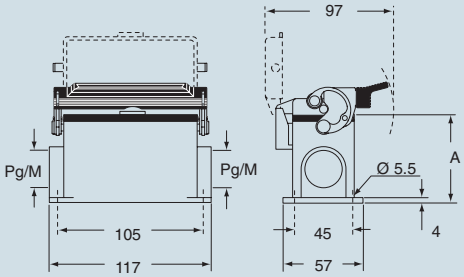
type	A
CHP / MHP	63
CAP / MAP	77
CHP CS / MHP CS	63
CAP CS / MAP CS	77
CHP CP / MHP CP	63
CAP CP / MAP CP	77

dimensions in mm

CHP L - CAP L and **MHP L - MAP L**



CHP LS - CAP LS and **MHP LS - MAP LS**



type	A
CHP L / MHP L	63
CAP L / MAP L	77
CHP LS / MHP LS	63
CAP LS / MAP LS	77

dimensions indicated are not binding and may be changed without notice

inserts: page

insert centre distance: **77.5 x 27 mm**

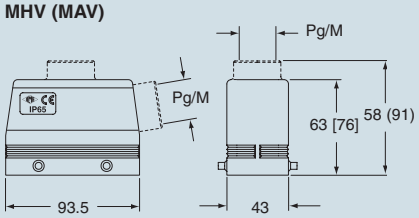
hoods
with two levers or four pegs

hoods
with single lever or two pegs

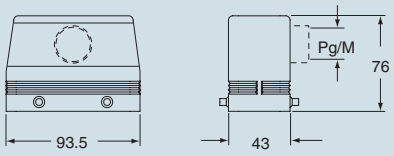
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs, side entry	**CHO 16**	21	**MHO 16.25**	25	**CHO 16 L**	21	**MHO 16 L25**	25
with pegs, side entry			**MHO 16.32**	32			**MHO 16 L32**	32
with pegs, side entry, high construction	**CAO 16.21**	21	**MAO 16.32**	32	**CAO 16 L21**	21	**MAO 16 L32**	32
with pegs, side entry, high construction	**CAO 16.29**	29	**MAO 16.40**	40	**CAO 16 L29**	29	**MAO 16 L40**	40
with pegs, top entry	**CHV 16**	21	**MHV 16.25**	25	**CHV 16 L**	21	**MHV 16 L25**	25
with pegs, top entry			**MHV 16.32**	32			**MHV 16 L32**	32
with pegs, top entry, high construction	**CAV 16.21**	21	**MAV 16.32**	32	**CAV 16 L21**	21	**MAV 16 L32**	32
with pegs, top entry, high construction	**CAV 16.29**	29	**MAV 16.40**	40	**CAV 16 L29**	29	**MAV 16 L40**	40
with pegs, frontal entry, high construction	**CAF 16**	21	**MAF 16.25**	25				
with pegs, frontal entry, high constr., without adaptor			**MFF 16.25**	25				
with levers and gasket, top entry	**CHV 16 G**	21	**MHV 16 G32**	32	**CHV 16 LG**	21	**MHV 16 LG32**	32
with levers and gasket, top entry, high construction	**CAV 16 G**	21	**MAV 16 G25**	25	**CAV 16 LG21**	21	**MAV 16 LG25**	25
with levers and gasket, top entry, high construction	**CAV 16 G29**	29	**MAV 16 G32**	32	**CAV 16 LG29**	29	**MAV 16 LG32**	32
with levers and gasket, top entry, high constr., without adaptor			**MFV 16 G25**	25			**MFV 16 LG25**	25
with levers and gasket, top entry, high constr., without adaptor			**MFV 16 G32**	32			**MFV 16 LG32**	32

dimensions in mm

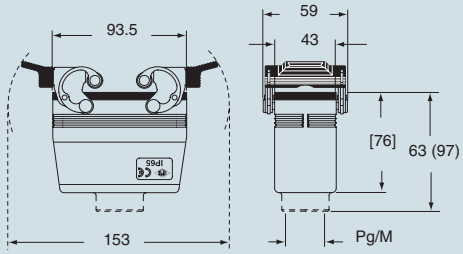
CHO [CAO] - CHV (CAV) and **MHO [MAO]**
MHV (MAV)



CAF and **MAF/MFF**

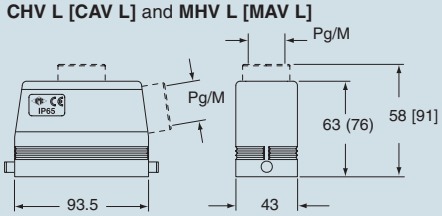


CHV G (CAV G), **MHV G (MAV G)** and **[MFV G]**

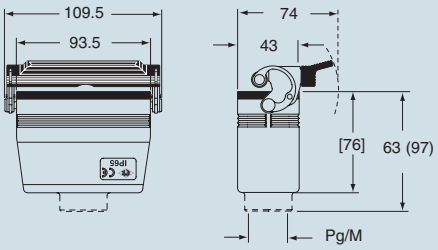


dimensions in mm

CHO L (CAO L) and **MHO L (MAO L)**
CHV L [CAV L] and **MHV L [MAV L]**



CHV LG (CAV LG), **MHV LG (MAV LG)** and **[MFV LG]**



dimensions indicated are not binding
and may be changed without notice

size 77.27

inserts: page

insert centre distance: **77.5 x 27 mm**

Covers G and LG version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods with two levers

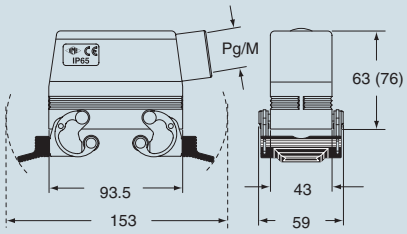
covers

description	part No.	entry Pg	part No.	entry M	part No.
with levers, side entry [1]	**CHO 16 X**	21	**MHO 16 X25**	25	
with levers, side entry [1]			**MHO 16 X32**	32	
with levers, side entry, high construction [1]	**CAO 16 X**	21	**MAO 16 X32**	32	
with levers, side entry, high construction [1]	**CAO 16 X29**	29	**MAO 16 X40**	40	
with levers, top entry [1]	**CHV 16 X**	21	**MHV 16 X25**	25	
with levers, top entry [1]			**MHV 16 X32**	32	
with levers, top entry, high construction [1]	**CAV 16 X**	21	**MAV 16 X32**	32	
with levers, top entry, high construction [1]	**CAV 16 X29**	29	**MAV 16 X40**	40	
with 4 pegs (for housings with 2 levers with gasket)					**CHC 16**
with 2 pegs (for housings with 1 lever with gasket)					**CHC 16 L**
with 2 levers (for hoods with 4 pegs)					**CHC 16 G**
with 1 lever (for hoods with 2 pegs)					**CHC 16 LG**

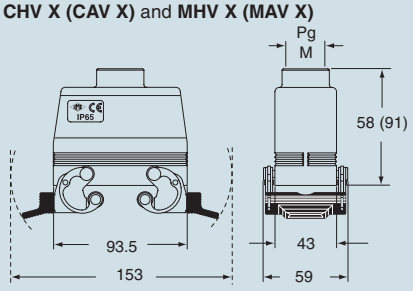
[1] May be combined with housings:
- CHI/CHP/CAP 16 CS/CP/C
- MHP/MAP 16 CS/CP

dimensions in mm

CHO X (CAO X) and **MHO X (MAO X)**



CHV X (CAV X) and **MHV X (MAV X)**

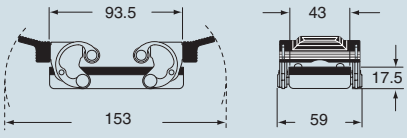


dimensions in mm

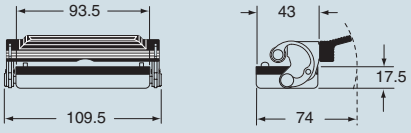
CHC

CHC L

CHC G



CHC LG



dimensions indicated are not binding and may be changed without notice

inserts: page

CME ..... 6 + 2 (aux) poles + ⏚ 105

insert centre distance:
77.5 x 27 mm

bulkhead mounting housings with two levers or four pegs

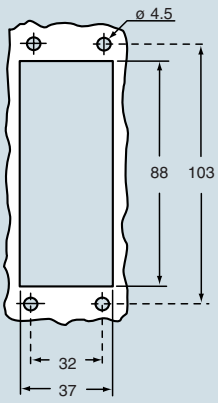
bulkhead mounting housings with single lever

description	part No.	part No.
with one or two levers	**CMI 06**	**CMI 06 L**
with pegs and aluminium cover [1]	**CMI 06 CS**	
with pegs and plastic cover [1]	**CMI 06 CP**	
with lever and cover		**CMI 06 LS**

[1] May be combined with hoods:
- CMO/CMAO 06 X and CMV/CMAV 06 X
- MMO/MMAO 06 X and MMV/MMAV 06 X

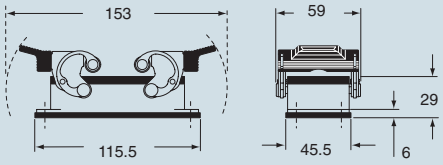
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

panel cut-out for bulkhead mounting housings in mm

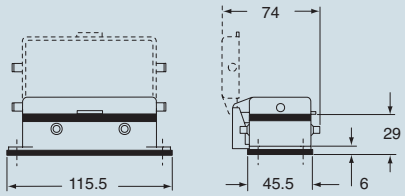


dimensions in mm

CMI

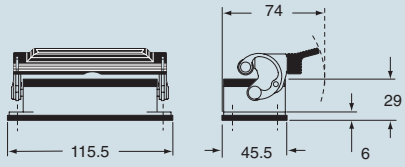


CMI CS/CP

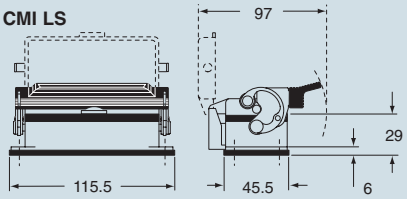


dimensions in mm

CMI L



CMI LS



dimensions indicated are not binding
and may be changed without notice

inserts: page

CME ..... 6 + 2 (aux) poles + ⏚ 105

insert centre distance:
77.5 x 27 mm

surface mounting housings with two levers or four pegs

surface mounting housings with single lever

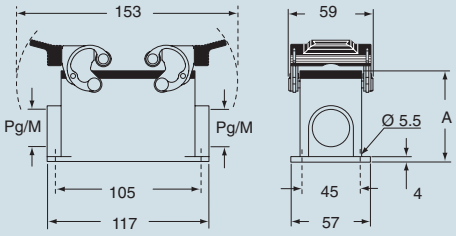
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with levers	**CMP 06**	21	**MMP 06.25**	25	**CMP 06 L**	21	**MMP 06 L25**	25
with levers	**CMP 06.2**	21 x 2	**MMP 06.225**	25 x 2	**CMP 06 L2**	21 x 2	**MMP 06 L225**	25 x 2
with levers, high construction	**CMAP 06.21**	21	**MMAP 06.32**	32	**CMAP 06 L**	21	**MMAP 06 L32**	32
with levers, high construction	**CMAP 06.221**	21 x 2	**MMAP 06.232**	32 x 2	**CMAP 06 L2**	21 x 2	**MMAP 06 L232**	32 x 2
with levers, high construction	**CMAP 06.29**	29	**MMAP 06.40**	40	**CMAP 06 L29**	29	**MMAP 06 L40**	40
with levers, high construction	**CMAP 06.229**	29 x 2	**MMAP 06.240**	40 x 2	**CMAP 06 L229**	29 x 2	**MMAP 06 L240**	40 x 2
with pegs and aluminium cover [1]	**CMP 06 CS**	21	**MMP 06 CS25**	25				
with pegs and aluminium cover [1]	**CMP 06 CS2**	21 x 2	**MMP 06 CS225**	25 x 2				
with pegs and aluminium cover, high construction [1]	**CMAP 06 CS**	21	**MMAP 06 CS32**	32				
with pegs and aluminium cover, high construction [1]	**CMAP 06 CS2**	21 x 2	**MMAP 06CS232**	32 x 2				
with pegs and aluminium cover, high construction [1]	**CMAP 06 CS29**	29	**MMAP 06 CS40**	40				
with pegs and aluminium cover, high construction [1]	**CMAP 06CS229**	29 x 2	**MMAP 06CS240**	40 x 2				
with pegs and plastic cover [1]	**CMP 06 CP**	21	**MMP 06 CP25**	25				
with pegs and plastic cover [1]	**CMP 06 CP2**	21 x 2	**MMP 06 CP225**	25 x 2				
with pegs and plastic cover, high construction [1]	**CMAP 06 CP**	21	**MMAP 06 CP32**	32				
with pegs and plastic cover, high construction [1]	**CMAP 06 CP2**	21 x 2	**MMAP 06CP232**	32 x 2				
with pegs and plastic cover, high construction [1]	**CMAP 06 CP29**	29	**MMAP 06 CP40**	40				
with pegs and plastic cover, high construction [1]	**CMAP 06CP229**	29 x 2	**MMAP 06CP240**	40 x 2				
with lever and cover					**CMP 06 LS**	21	**MMP 06 LS25**	25
with lever and cover					**CMP 06 LS2**	21 x 2	**MMP 06 LS225**	25 x 2
with lever and cover, high construction					**CMAP 06 LS**	21	**MMAP 06 LS32**	32
with lever and cover, high construction					**CMAP 06 LS2**	21 x 2	**MMAP 06LS232**	32 x 2
with lever and cover, high construction					**CMAP 06 LS29**	29	**MMAP 06 LS40**	40
with lever and cover, high construction					**CMAP 06LS229**	29 x 2	**MMAP 06LS240**	40 x 2

[1] May be combined with hoods:
- CMO/CMAO 06 X and CMV/CMAV 06 X
- MMO/MMAO 06 X and MMV/MMAV 06 X

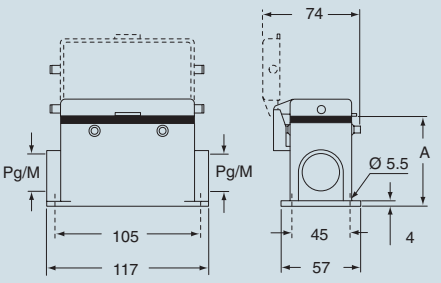
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

dimensions in mm

CMP - CMAP and **MMP - MMAP**



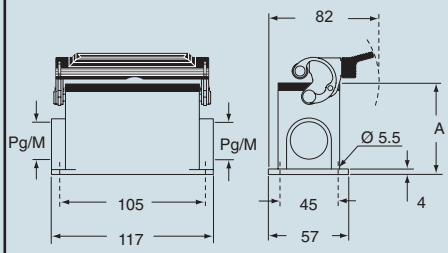
CMP CS/CP - CMAP CS/CP and **MMP CS/CP - MMAP CS/CP**



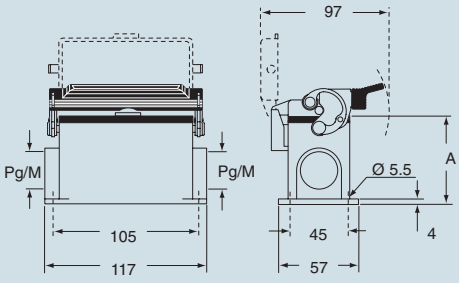
type	A
CMP / MMP	63
CMAP / MMAP	77
CMP CS / MMP CS	63
CMAP CS / MMAP CS	77
CMP CP / MMP CP	63
CMAP CP / MMAP CP	77

dimensions in mm

CMP L - CMAP L and **MMP L - MMAP L**



CMP LS - CMAP LS and **MMP LS - MMAP LS**



type	A
CMP L / MMP L	63
CMAP L / MMAP L	77
CMP LS / MMP LS	63
CMAP LS / MMAP LS	77

dimensions indicated are not binding and may be changed without notice

inserts: page

CME ..... 6 + 2 (aux) poles + ⏚ 105

insert centre distance:
77.5 x 27 mm

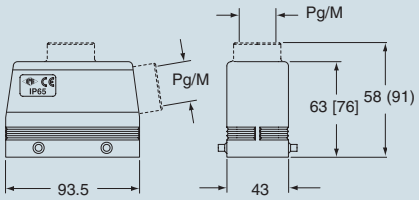
hoods
with two levers or four pegs

hoods
with single lever or two pegs

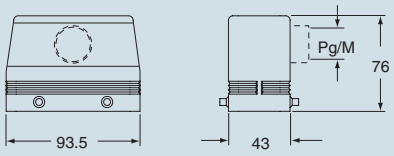
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs, side entry	**CMO 06**	21	**MMO 06.25**	25	**CMO 06 L**	21	**MMO 06 L25**	25
with pegs, side entry			**MMO 06.32**	32			**MMO 06 L32**	32
with pegs, side entry, high construction	**CMAO 06.21**	21	**MMAO 06.32**	32	**CMAO 06 L21**	21	**MMAO 06 L32**	32
with pegs, side entry, high construction	**CMAO 06.29**	29	**MMAO 06.40**	40	**CMAO 06 L29**	29	**MMAO 06 L40**	40
with pegs, top entry	**CMV 06**	21	**MMV 06.25**	25	**CMV 06 L**	21	**MMV 06 L25**	25
with pegs, top entry			**MMV 06.32**	32			**MMV 06 L32**	32
with pegs, top entry, high construction	**CMAV 06.21**	21	**MMAV 06.32**	32	**CMAV 06 L21**	21	**MMAV 06 L32**	32
with pegs, top entry, high construction	**CMAV 06.29**	29	**MMAV 06.40**	40	**CMAV 06 L29**	29	**MMAV 06 L40**	40
with pegs, frontal entry, high construction	**CMAF 06**	21	**MMAF 06.25**	25				
with pegs, frontal entry, high constr., without adaptor			**MMFF 06.25**	25				
with levers and gasket, top entry	**CMV 06 G**	21	**MMV 06 G32**	32	**CMV 06 LG**	21	**MMV 06 LG32**	32
with levers and gasket, top entry, high construction	**CMAV 06 G**	21	**MMAV 06 G25**	25	**CMAV 06 LG21**	21	**MMAV 06 LG25**	25
with levers and gasket, top entry, high construction	**CMAV 06 G29**	29	**MMAV 06 G32**	32	**CMAV 06 LG29**	29	**MMAV 06 LG32**	32
with levers and gasket, top entry, high constr., without adaptor			**MMFV 06 G25**	25			**MMFV 06 LG25**	25
with levers and gasket, top entry, high constr., without adaptor			**MMFV 06 G32**	32			**MMFV 06 LG32**	32

dimensions in mm

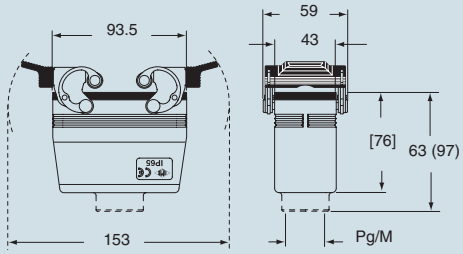
CMO [CMAO] - CMV (CMAV) and
MMO [MMAO] MMV (MMAV)



CMAF and **MMAF/MMFF**

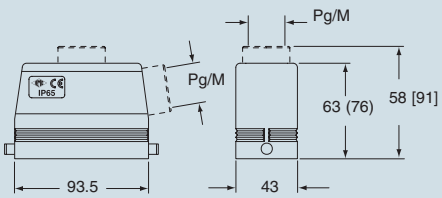


CMV G (CMAV G), **MMV G (MMAV G)** and **[MMFV G]**

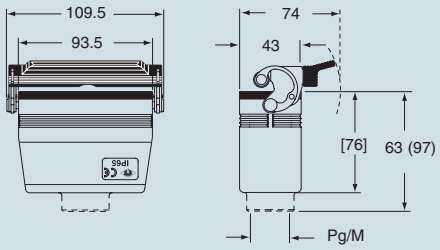


dimensions in mm

CMO L (CMAO L) and **MMO L (MMAO L)**
CMV L [CMAV L] and **MMV L [MMAV L]**



CMV LG (CMAV LG), **MMV LG (MMAV LG)** and **[MMFV LG]**



dimensions indicated are not binding
and may be changed without notice

inserts: page

CME ..... 6 + 2 (aux) poles + ⏚ 105

insert centre distance:
77.5 x 27 mm

Covers G and LG version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods with two levers

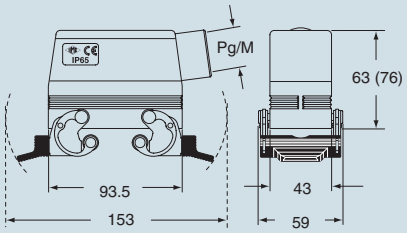
covers

description	part No.	entry Pg	part No.	entry M	part No.
with levers, side entry [1]	**CMO 06 X**	21	**MMO 06 X25**	25	
with levers, side entry [1]			**MMO 06 X32**	32	
with levers, side entry, high construction [1]	**CMAO 06 X**	21	**MMAO 06 X32**	32	
with levers, side entry, high construction [1]	**CMAO 06 X29**	29	**MMAO 06 X40**	40	
with levers, top entry [1]	**CMV 06 X**	21	**MMV 06 X25**	25	
with levers, top entry [1]			**MMV 06 X32**	32	
with levers, top entry, high construction [1]	**CMAV 06 X**	21	**MMAV 06 X32**	32	
with levers, top entry, high construction [1]	**CMAV 06 X29**	29	**MMAV 06 X40**	40	
with 4 pegs (for enclosures with 2 levers with gasket)					**CHC 16**
with 2 pegs (for enclosures with 1 lever with gasket)					**CHC 16 L**
with 2 levers (for hoods with 4 pegs)					**CHC 16 G**
with 1 lever (for hoods with 2 pegs)					**CHC 16 LG**

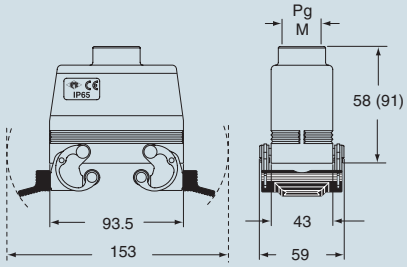
[1] May be combined with housings:
- CMI/CMP/CMAP 06 CS/CP
- MMP/MMAP 06 CS/CP

dimensions in mm

CMO X (CMAO X) and **MMO X (MMAO X)**



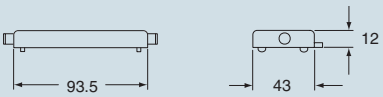
CMV X (CMAV X) and **MMV X (MMAV X)**



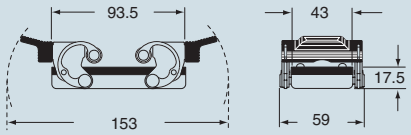
dimensions in mm

CHC

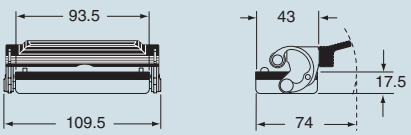
CHC L



CHC G



CHC LG



dimensions indicated are not binding and may be changed without notice

inserts: page

CN RY ..... 16 poles + ⏚ 77
CP RY..... 6 poles + ⏚ 115

insert centre distance:
77.5 x 27 mm

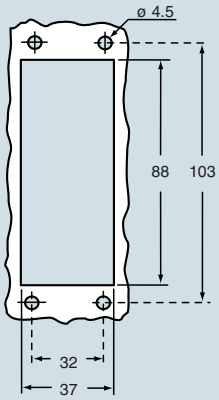
Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover

hoods and cover

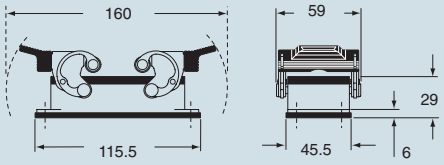
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers	**CHIR 16**	---						
surface mounting, with levers, high construction	**CAPR 16.21**	21	**MAPR 16.32**	32				
cover with 4 pegs (for housings)	**CHCR 16**							
with pegs, side entry					**CHOR 16**	21	**MHOR 16.25**	25
with pegs, side entry, high construction					**CAOR 16.21**	21	**MAOR 16.40**	40
with pegs, top entry					**CHVR 16**	21	**MHVR 16.25**	25
with pegs, top entry, high construction					**CAVR 16.21**	21	**MAVR 16.40**	40
cover with 2 levers (for hoods)					**CHCR 16 G**			

panel cut-out for bulkhead mounting housings in mm

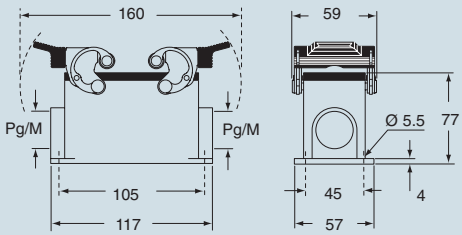


dimensions in mm

CHIR



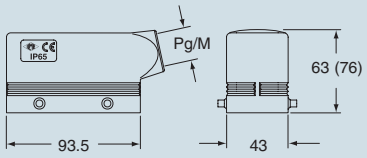
CAPR and **MAPR**



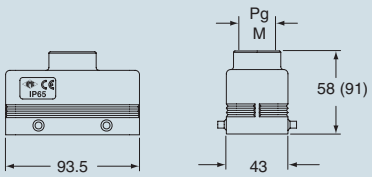
CHCR

dimensions in mm

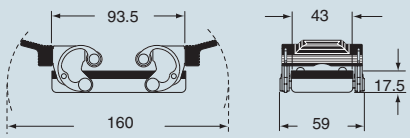
CHOR (CAOR) and **MHOR (MAOR)**



CHVR (CAVR) and **MHVR (MAVR)**



CHCR G



dimensions indicated are not binding
and may be changed without notice

inserts:

			page
CD	40	poles + ⏚	39
CT, CTS *) (10A)	40	poles + ⏚	46
CDD	72	poles + ⏚	52
CQE	32	poles + ⏚	68
CC	16	poles + ⏚	76
CN, CS	16	poles + ⏚	77
CCE	16	poles + ⏚	88
CNE, CSE	16	poles + ⏚	89
CTE, CTSE *) (16A)	16	poles + ⏚	100
CMSE	6+2 (aux)	poles + ⏚	104
CMCE	6+2 (aux)	poles + ⏚	104
CME	6+2 (aux)	poles + ⏚	105
CP	6	poles + ⏚	115
CX	6/36 and 12/2	poles + ⏚	118-119
CX	4/0 and 2/4	poles + ⏚	120
MIXO	4	modules	124÷137

insert centre distance: **77.5 x 27 mm**

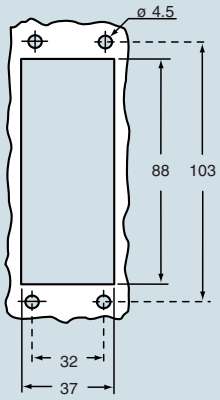
***) only for enclosure CHIW 16**

housings and cover

hoods and cover

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers	**CHIW 16**	---						
surface mounting, with levers, high construction	**CAPW 16.21**	21	**MAPW 16.32**	32				
cover with 4 pegs (for enclosures with 2 levers)	**CHCW 16**							
with pegs, side entry					**CHOW 16**	21	**MHOW 16.25**	25
with pegs, side entry							**MHOW 16.32**	32
with pegs, side entry, high construction					**CAOW 16.29**	29	**MAOW 16.32**	32
with pegs, side entry, high construction							**MAOW 16.40**	40
with pegs, top entry					**CHVW 16**	21	**MHVW 16.25**	25
with pegs, top entry							**MHVW 16.32**	32
with pegs, top entry, high construction					**CAVW 16.29**	29	**MAVW 16.32**	32
with pegs, top entry, high construction							**MAVW 16.40**	40
cover with 2 levers (for enclosures with 4 pegs)					**CHCW 16 G**			
with levers, top entry, high construction					**CAVW 16 G29**	29	**MAVW 16 G32**	32

panel cut-out for bulkhead mounting housings in mm

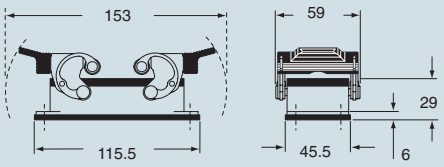


Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

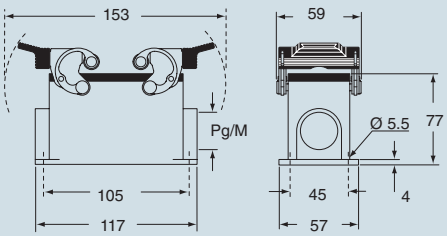
dimensions indicated are not binding and may be changed without notice

dimensions in mm

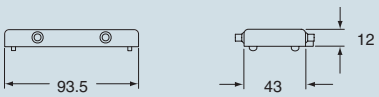
CHIW



CAPW and **MAPW**

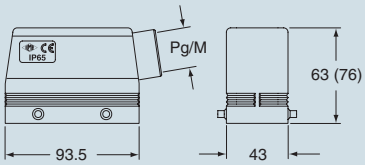


CHCW

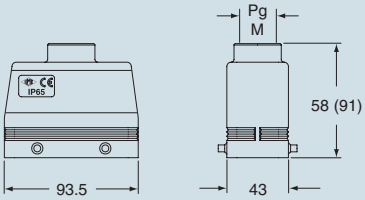


dimensions in mm

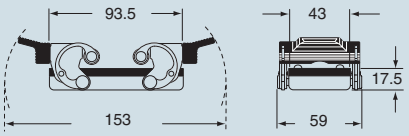
CHOW (CAOW) and **MHOW (MAOW)**



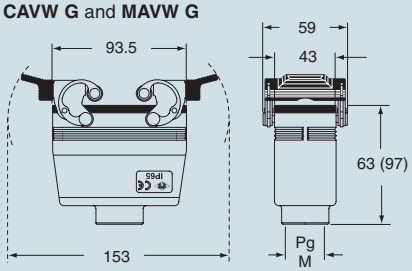
CHVW (CAVW) and **MHVW (MAVW)**



CHCW G



CAVW G and **MAVW G**



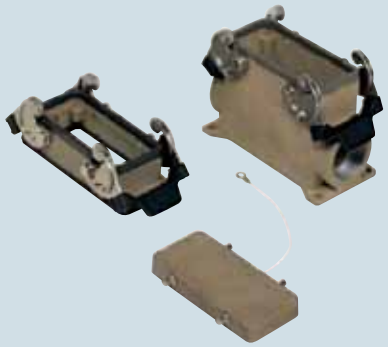
inserts: page

CD	40	poles + ⏚	39
CT, CTS *) (10A)	40	poles + ⏚	46
CDD	72	poles + ⏚	52
CQE	32	poles + ⏚	68
CC	16	poles + ⏚	76
CN, CS	16	poles + ⏚	77
CCE	16	poles + ⏚	88
CNE, CSE	16	poles + ⏚	89
CTE, CTSE *) (16A)	16	poles + ⏚	100
CMSE	6+2 (aux)	poles + ⏚	104
CMCE	6+2 (aux)	poles + ⏚	104
CME	6+2 (aux)	poles + ⏚	105
CP	6	poles + ⏚	115
CX	6/36 and 12/2	poles + ⏚	118-119
CX	4/0 and 4/2	poles + ⏚	120
MIXO	4	modules	124÷137

insert centre distance: **77.5 x 27 mm**

***) only for enclosure CHIS 16**

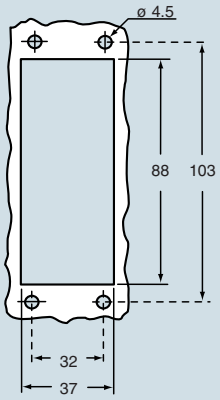
housings and cover for electromagnetic compatibility



hoods and cover for electromagnetic compatibility

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers	**CHIS 16**	---						
surface mounting, with levers, high construction	**CAPS 16.21**	21	**MAPS 16.32**	32				
cover with 4 pegs (for enclosures with 2 levers)	**CHCS 16**							
with pegs, side entry					**CHOS 16**	21	**MHOS 16.25**	25
with pegs, side entry							**MHOS 16.32**	32
with pegs, side entry, high construction					**CAOS 16.29**	29	**MAOS 16.32**	32
with pegs, side entry, high construction							**MAOS 16.40**	40
with pegs, top entry					**CHVS 16**	21	**MHVS 16.25**	25
with pegs, top entry							**MHVS 16.32**	32
with pegs, top entry, high construction					**CAVS 16.29**	29	**MAVS 16.32**	32
with pegs, top entry, high construction							**MAVS 16.40**	40
cover with 2 levers (for enclosures with 4 pegs)					**CHCS 16 G**			

panel cut-out for bulkhead mounting housings in mm

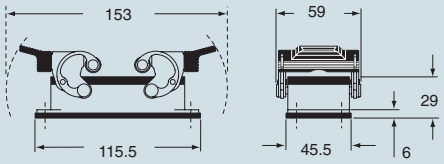


Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

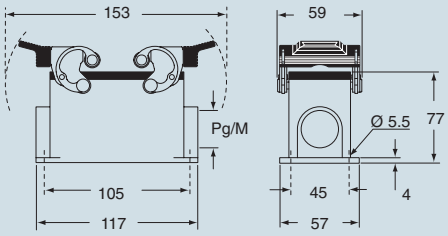
dimensions indicated are not binding and may be changed without notice

dimensions in mm

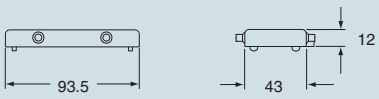
CHIS



CAPS and **MAPS**

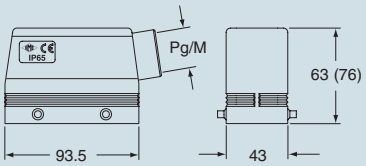


CHCS

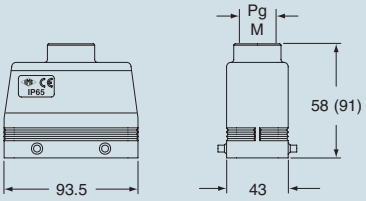


dimensions in mm

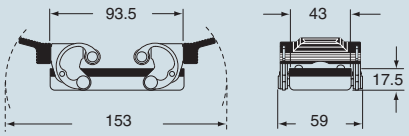
CHOS (CAOS) and **MHOS (MAOS)**



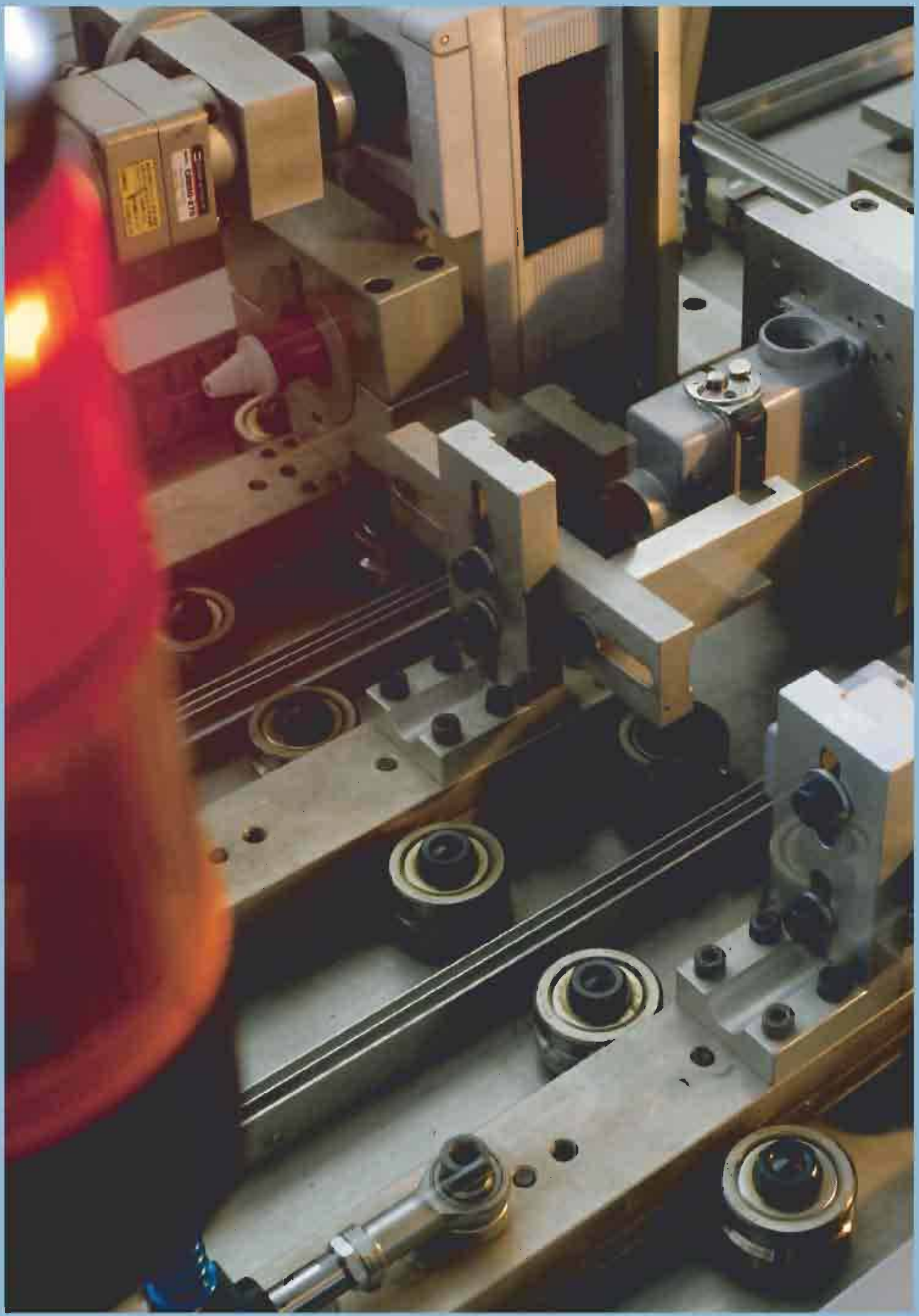
CHVS (CAVS) and **MHVS (MAVS)**



CHCS G



size 77.27



inserts: page

CD	64	poles + ⏚	41
CT, CTS (10A)	64	poles + ⏚	47
CDD	108	poles + ⏚	54
CQE	46	poles + ⏚	69
CC	24	poles + ⏚	78
CN, CS	24	poles + ⏚	79
CCE	24	poles + ⏚	90
CNE, CSE	24	poles + ⏚	91
CTE, CTSE (16A)	24	poles + ⏚	101
CMSE	10+2 (aux)	poles + ⏚	106
CMCE	10+2 (aux)	poles + ⏚	106
CX	4/8	poles + ⏚	121
MIXO	6	modules	124÷137

insert centre distance:
104 x 27 mm

bulkhead mounting housings with two levers or four pegs

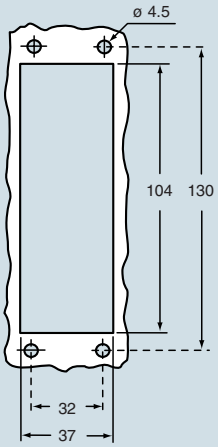
bulkhead mounting housings with single lever

description	part No.	part No.
with one or two levers	**CHI 24**	**CHI 24 L**
with pegs [1]	**CHI 24 C**	
with pegs and aluminium cover [1]	**CHI 24 CS**	
with pegs and plastic cover [1]	**CHI 24 CP**	
with lever and cover		**CHI 24 LS**

[1] May be combined with hoods:
- CHO/CAO 24 X and CHV/CAV 24 X
- MHO/MAO 24 X and MHV/MAV 24 X

N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

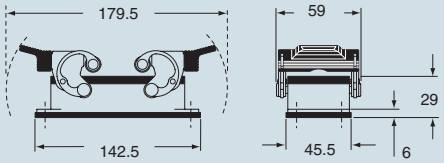
panel cut-out for bulkhead mounting housings in mm



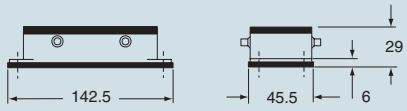
dimensions indicated are not binding and may be changed without notice

dimensions in mm

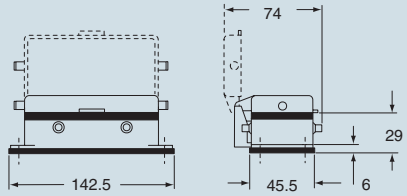
CHI



CHI C

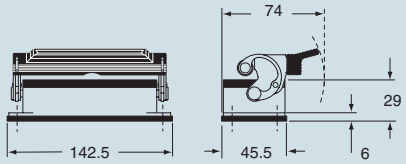


CHI CS/CP

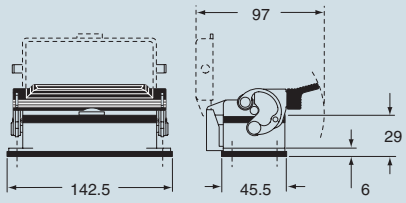


dimensions in mm

CHI L



CHI LS



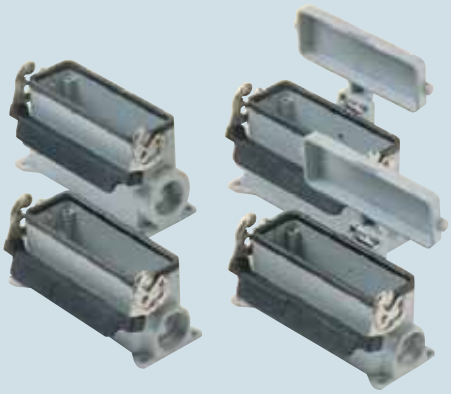
inserts: page

CD	64	poles + ⏚	41
CDD	108	poles + ⏚	54
CQE	46	poles + ⏚	69
CC	24	poles + ⏚	78
CN, CS	24	poles + ⏚	79
CCE	24	poles + ⏚	90
CNE, CSE	24	poles + ⏚	91
CMSE	10+2 (aux)	poles + ⏚	106
CMCE	10+2 (aux)	poles + ⏚	106
CX	4/8	poles + ⏚	121
MIXO	6	modules	124÷137

insert centre distance:
104 x 27 mm

surface mounting housings with two levers or four pegs

surface mounting housings with single lever



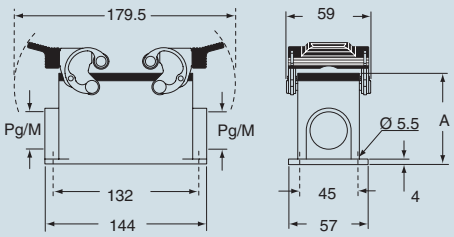
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with levers	**CHP 24**	21	**MHP 24.25**	25	**CHP 24 L**	21	**MHP 24 L25**	25
with levers	**CHP 24.2**	21 x 2	**MHP 24.225**	25 x 2	**CHP 24 L2**	21 x 2	**MHP 24 L225**	25 x 2
with levers, high construction	**CAP 24.21**	21	**MAP 24.32**	32	**CAP 24 L**	21	**MAP 24 L32**	32
with levers, high construction	**CAP 24.221**	21 x 2	**MAP 24.232**	32 x 2	**CAP 24 L2**	21 x 2	**MAP 24 L232**	32 x 2
with levers, high construction	**CAP 24.29**	29	**MAP 24.40**	40	**CAP 24 L29**	29	**MAP 24 L40**	40
with levers, high construction	**CAP 24.229**	29 x 2	**MAP 24.240**	40 x 2	**CAP 24 L229**	29 x 2	**MAP 24 L240**	40 x 2
with pegs and aluminium cover [1]	**CHP 24 CS**	21	**MHP 24 CS25**	25				
with pegs and aluminium cover [1]	**CHP 24 CS2**	21 x 2	**MHP 24 CS225**	25 x 2				
with pegs and aluminium cover, high construction [1]	**CAP 24 CS**	21	**MAP 24 CS32**	32				
with pegs and aluminium cover, high construction [1]	**CAP 24 CS2**	21 x 2	**MAP 24 CS232**	32 x 2				
with pegs and aluminium cover, high construction [1]	**CAP 24 CS29**	29	**MAP 24 CS40**	40				
with pegs and aluminium cover, high construction [1]	**CAP 24 CS229**	29 x 2	**MAP 24 CS240**	40 x 2				
with pegs and plastic cover [1]	**CHP 24 CP**	21	**MHP 24 CP25**	25				
with pegs and plastic cover [1]	**CHP 24 CP2**	21 x 2	**MHP 24 CP225**	25 x 2				
with pegs and plastic cover, high construction [1]	**CAP 24 CP**	21	**MAP 24 CP32**	32				
with pegs and plastic cover, high construction [1]	**CAP 24 CP2**	21 x 2	**MAP 24 CP232**	32 x 2				
with pegs and plastic cover, high construction [1]	**CAP 24 CP29**	29	**MAP 24 CP40**	40				
with pegs and plastic cover, high construction [1]	**CAP 24 CP229**	29 x 2	**MAP 24 CP240**	40 x 2				
with lever and cover					**CHP 24 LS**	21	**MHP 24 LS25**	25
with lever and cover					**CHP 24 LS2**	21 x 2	**MHP 24 LS225**	25 x 2
with lever and cover, high construction					**CAP 24 LS**	21	**MAP 24 LS32**	32
with lever and cover, high construction					**CAP 24 LS2**	21 x 2	**MAP 24 LS232**	32 x 2
with lever and cover, high construction					**CAP 24 LS29**	29	**MAP 24 LS40**	40
with lever and cover, high construction					**CAP 24 LS229**	29 x 2	**MAP 24 LS240**	40 x 2

[1] May be combined with hoods:
- CHO/CAO 24 X and CHV/CAV 24 X
- MHO/MAO 24 X and MHV/MAV 24 X

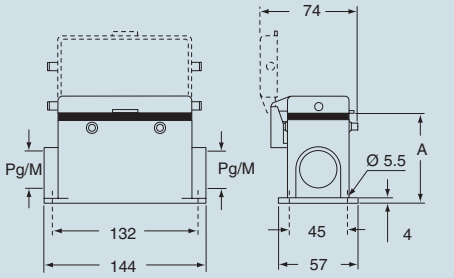
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

dimensions in mm

CHP - CAP and **MHP - MAP**



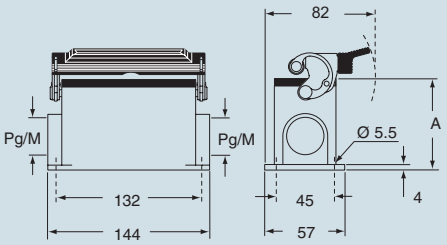
CHP CS/CP - CAP CS/CP and **MHP CS/CP - MAP CS/CP**



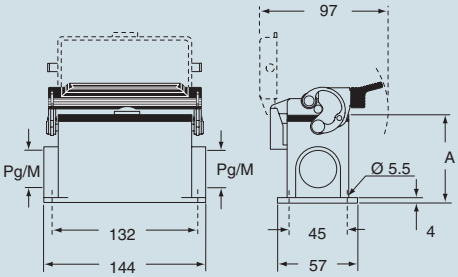
type	A
CHP / MHP	63
CAP / MAP	80
CHP CS / MHP CS	63
CAP CS / MAP CS	80
CHP CP / MHP CP	63
CAP CP / MAP CP	80

dimensions in mm

CHP L - CAP L and **MHP L - MAP L**



CHP LS - CAP LS and **MHP LS - MAP LS**



type	A
CHP L / MHP L	63
CAP L / MAP L	80
CHP LS / MHP LS	63
CAP LS / MAP LS	80

dimensions indicated are not binding and may be changed without notice

inserts: page

CD	64	poles + ⏚	41
CDD	108	poles + ⏚	54
CQE	46	poles + ⏚	69
CC	24	poles + ⏚	78
CN, CS	24	poles + ⏚	79
CCE	24	poles + ⏚	90
CNE, CSE	24	poles + ⏚	91
CMSE	10+2 (aux)	poles + ⏚	106
CMCE	10+2 (aux)	poles + ⏚	106
CX	4/8	poles + ⏚	121
MIXO	6	modules	124÷137

insert centre distance:
104 x 27 mm

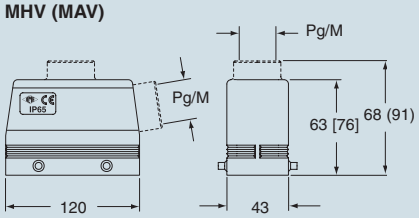
hoods
with two levers or four pegs

hoods
with single lever or two pegs

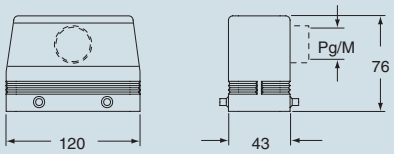
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs, side entry	**CHO 24**	21	**MHO 24.25**	25	**CHO 24 L**	21	**MHO 24 L25**	25
with pegs, side entry			**MHO 24.32**	32			**MHO 24 L32**	32
with pegs, side entry, high construction	**CAO 24.21**	21	**MAO 24.32**	32	**CAO 24 L21**	21	**MAO 24 L32**	32
with pegs, side entry, high construction	**CAO 24.29**	29	**MAO 24.40**	40	**CAO 24 L29**	29	**MAO 24 L40**	40
with pegs, top entry	**CHV 24**	21	**MHV 24.25**	25	**CHV 24 L**	21	**MHV 24 L25**	25
with pegs, top entry			**MHV 24.32**	32			**MHV 24 L32**	32
with pegs, top entry	**CHV 24.29**	29	**MHV 24.40**	40	**CHV 24 L29**	29	**MHV 24 L40**	40
with pegs, top entry, high construction	**CAV 24.21**	21	**MAV 24.32**	32	**CAV 24 L21**	21	**MAV 24 L32**	32
with pegs, top entry, high construction	**CAV 24.29**	29	**MAV 24.40**	40	**CAV 24 L29**	29	**MAV 24 L40**	40
with pegs, frontal entry, high construction	**CAF 24.21**	21	**MAF 24.25**	25				
with pegs, frontal entry, high construction	**CAF 24.29**	29	**MAF 24.32**	32				
with pegs, frontal entry, high constr., without adaptor			**MFF 24.25**	25				
with pegs, frontal entry, high constr., without adaptor			**MFF 24.32**	32				
with levers and gasket, top entry	**CHV 24 G**	21	**MHV 24 G32**	32	**CHV 24 LG**	21	**MHV 24 LG32**	32
with levers and gasket, top entry, high construction	**CAV 24 G**	21	**MAV 24 G25**	25	**CAV 24 LG21**	21	**MAV 24 LG25**	25
with levers and gasket, top entry, high construction	**CAV 24 G29**	29	**MAV 24 G32**	32	**CAV 24 LG29**	29	**MAV 24 LG32**	32
with levers and gasket, top entry, high constr., without adaptor			**MFV 24 G25**	25			**MFV 24 LG25**	25
with levers and gasket, top entry, high constr., without adaptor			**MFV 24 G32**	32			**MFV 24 LG32**	32

dimensions in mm

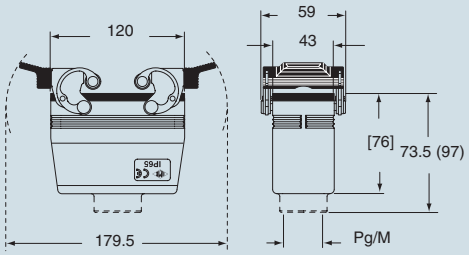
CHO [CAO] - CHV (CAV) and **MHO [MAO]**
MHV (MAV)



CAF and **MAF/MFF**

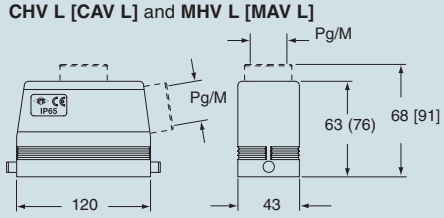


CHV G (CAV G), **MHV G (MAV G)** and **[MFV G]**

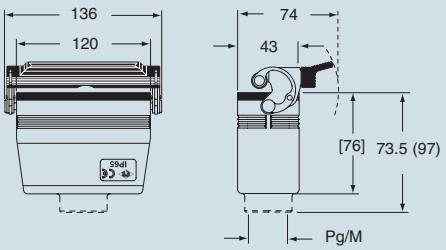


dimensions in mm

CHO L (CAO L) and **MHO L (MAO L)**
CHV L [CAV L] and **MHV L [MAV L]**



CHV LG (CAV LG), **MHV LG (MAV LG)** and **[MFV LG]**



dimensions indicated are not binding
and may be changed without notice

inserts: page

CD	64 poles + ⏚	41
CDD	108 poles + ⏚	54
CQE	46 poles + ⏚	69
CC	24 poles + ⏚	78
CN, CS	24 poles + ⏚	79
CCE	24 poles + ⏚	90
CNE, CSE	24 poles + ⏚	91
CMSE	10+2 (aux) poles + ⏚	106
CMCE	10+2 (aux) poles + ⏚	106
CX	4/8 poles + ⏚	121
MIXO	6 modules	124÷137

insert centre distance: **104 x 27 mm**

Covers G and LG version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods with two levers

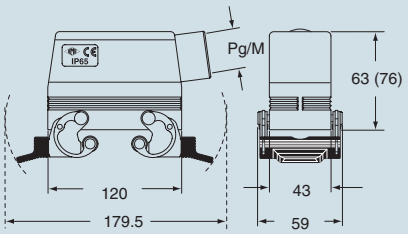
covers

description	part No.	entry Pg	part No.	entry M	part No.
with levers, side entry [1]	**CHO 24 X**	21	**MHO 24 X25**	25	
with levers, side entry [1]			**MHO 24 X32**	32	
with levers, side entry, high construction [1]	**CAO 24 X**	21	**MAO 24 X32**	32	
with levers, side entry, high construction [1]	**CAO 24 X29**	29	**MAO 24 X40**	40	
with levers, top entry [1]	**CHV 24 X**	21	**MHV 24 X25**	25	
with levers, top entry [1]			**MHV 24 X32**	32	
with levers, top entry, high construction [1]	**CAV 24 X**	21	**MAV 24 X32**	32	
with levers, top entry, high construction [1]	**CAV 24 X29**	29	**MAV 24 X40**	40	
with 4 pegs (for enclosures with 2 levers with gasket)					**CHC 24**
with 2 pegs (for enclosures with 1 lever with gasket)					**CHC 24 L**
with 2 levers (for hoods with 4 pegs)					**CHC 24 G**
with 1 lever (for hoods with 2 pegs)					**CHC 24 LG**

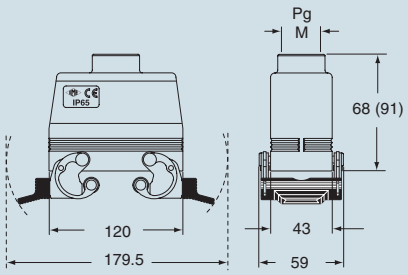
[1] May be combined with housings:
- CHI/CHP/CAP 24 CS/CP/C
- MHP/MAP 24 CS/CP

dimensions in mm

CHO X (CAO X) and **MHO X (MAO X)**



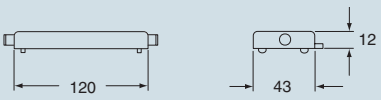
CHV X (CAV X) and **MHV X (MAV X)**



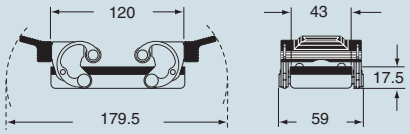
dimensions in mm

CHC

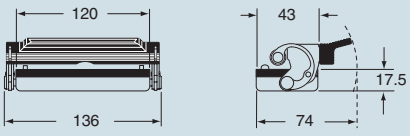
CHC L



CHC G



CHC LG



dimensions indicated are not binding and may be changed without notice

inserts: page

CME ..... 10 + 2 (aux) poles + ⏚ 107
CME, CMCE .... 16 + 2 (aux) poles + ⏚ 112

insert centre distance:
104 x 27 mm

bulkhead mounting housings with two levers or four pegs

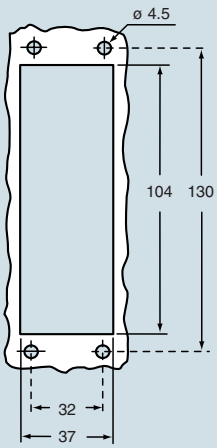
bulkhead mounting housings with single lever

description	part No.	part No.
with one or two levers	**CMI 16**	**CMI 16 L**
with pegs and aluminium cover [1]	**CMI 16 CS**	
with pegs and plastic cover [1]	**CMI 16 CP**	
with lever and cover		**CMI 16 LS**

[1] May be combined with hoods:
- CMO/CMAO 16 X and CMV/CMAV 16 X
- MMO/MMAO 16 X and MMV/MMAV 16 X

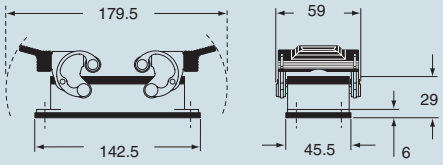
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

panel cut-out for bulkhead mounting housings in mm

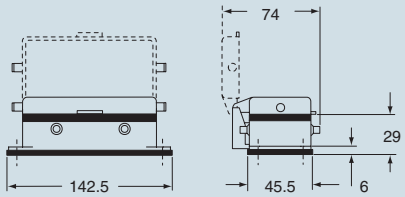


dimensions in mm

CMI

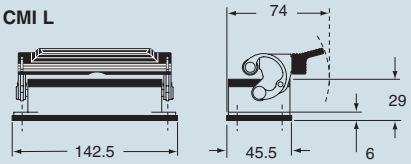


CMI CS/CP

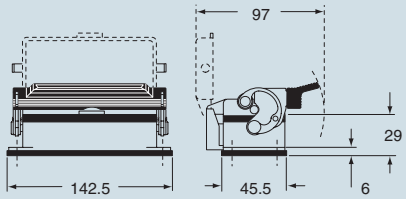


dimensions in mm

CMI L



CMI LS



dimensions indicated are not binding and may be changed without notice

CM - CMA and **MM - MMA** enclosures size “104.27” insulated 830V version

inserts: page

CME ..... 10 + 2 (aux) poles + ⏚ 107
CME, CMCE .... 16 + 2 (aux) poles + ⏚ 112

insert centre distance:
104 x 27 mm

surface mounting housings with two levers or four pegs

surface mounting housings with single lever

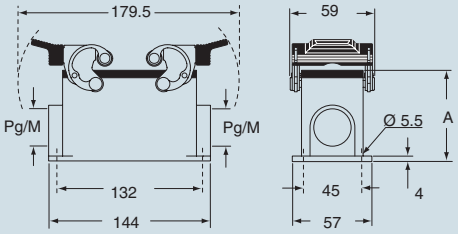
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with levers	**CMP 16**	21	**MMP 16.25**	25	**CMP 16 L**	21	**MMP 16 L25**	25
with levers	**CMP 16.2**	21 x 2	**MMP 16.225**	25 x 2	**CMP 16 L2**	21 x 2	**MMP 16 L225**	25 x 2
with levers, high construction	**CMAP 16.21**	21	**MMAP 16.32**	32	**CMAP 16 L**	21	**MMAP 16 L32**	32
with levers, high construction	**CMAP 16.221**	21 x 2	**MMAP 16.232**	32 x 2	**CMAP 16 L2**	21 x 2	**MMAP 16 L232**	32 x 2
with levers, high construction	**CMAP 16.29**	29	**MMAP 16.40**	40	**CMAP 16 L29**	29	**MMAP 16 L40**	40
with levers, high construction	**CMAP 16.229**	29 x 2	**MMAP 16.240**	40 x 2	**CMAP 16 L229**	29 x 2	**MMAP 16 L240**	40 x 2
with pegs and aluminium cover [1]	**CMP 16 CS**	21	**MMP 16 CS25**	25				
with pegs and aluminium cover [1]	**CMP 16 CS2**	21 x 2	**MMP 16 CS225**	25 x 2				
with pegs and aluminium cover, high construction [1]	**CMAP 16 CS**	21	**MMAP 16 CS32**	32				
with pegs and aluminium cover, high construction [1]	**CMAP 16 CS2**	21 x 2	**MMAP 16CS232**	32 x 2				
with pegs and aluminium cover, high construction [1]	**CMAP 16 CS29**	29	**MMAP 16 CS40**	40				
with pegs and aluminium cover, high construction [1]	**CMAP 16CS229**	29 x 2	**MMAP 16CS240**	40 x 2				
with pegs and plastic cover [1]	**CMP 16 CP**	21	**MMP 16 CP25**	25				
with pegs and plastic cover [1]	**CMP 16 CP2**	21 x 2	**MMP 16 CP225**	25 x 2				
with pegs and plastic cover, high construction [1]	**CMAP 16 CP**	21	**MMAP 16 CP32**	32				
with pegs and plastic cover, high construction [1]	**CMAP 16 CP2**	21 x 2	**MMAP 16CP232**	32 x 2				
with pegs and plastic cover, high construction [1]	**CMAP 16 CP29**	29	**MMAP 16 CP40**	40				
with pegs and plastic cover, high construction [1]	**CMAP 16CP229**	29 x 2	**MMAP 16CP240**	40 x 2				
with lever and cover					**CMP 16 LS**	21	**MMP 16 LS25**	25
with lever and cover					**CMP 16 LS2**	21 x 2	**MMP 16 LS225**	25 x 2
with lever and cover, high construction					**CMAP 16 LS**	21	**MMAP 16 LS32**	32
with lever and cover, high construction					**CMAP 16 LS2**	21 x 2	**MMAP 16LS232**	32 x 2
with lever and cover, high construction					**CMAP 16 LS29**	29	**MMAP 16 LS40**	40
with lever and cover, high construction					**CMAP 16LS229**	29 x 2	**MMAP 16LS240**	40 x 2

[1] May be combined with hoods:
- CMO/CMAO 16 X and CMV/CMAV 16 X
- MMO/MMAO 16 X and MMV/MMAV 16 X

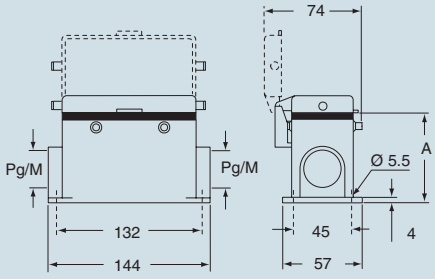
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

dimensions in mm

CMP - CMAP and **MMP - MMAP**



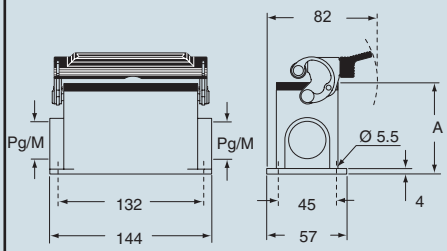
CMP CS/CP - CMAP CS/CP and **MMP CS/CP - MMAP CS/CP**



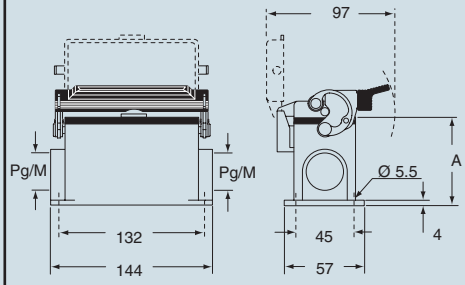
type	A
CMP / MMP	63
CMAP / MMAP	80
CMP CS / MMP CS	63
CMAP CS / MMAP CS	80
CMP CP / MMP CP	63
CMAP CP / MMAP CP	80

dimensions in mm

CMP L - CMAP L and **MMP L - MMAP L**



CMP LS - CMAP LS and **MMP LS - MMAP LS**



type	A
CMP L / MMP L	63
CMAP L / MMAP L	80
CMP LS / MMP LS	63
CMAP LS / MMAP LS	80

dimensions indicated are not binding and may be changed without notice

inserts: page

CME ..... 10 + 2 (aux) poles + ⏚ 107
CME, CMCE .... 16 + 2 (aux) poles + ⏚ 112

insert centre distance:
104 x 27 mm

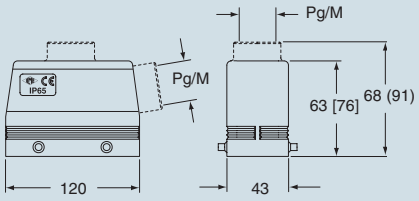
hoods
with two levers or four pegs

hoods
with single lever or two pegs

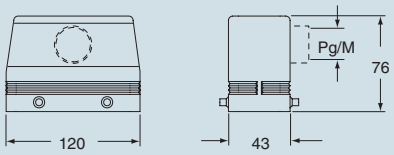
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs, side entry	**CMO 16**	21	**MMO 16.25**	25	**CMO 16 L**	21	**MMO 16 L25**	25
with pegs, side entry			**MMO 16.32**	32			**MMO 16 L32**	32
with pegs, side entry, high construction	**CMAO 16.21**	21	**MMAO 16.32**	32	**CMAO 16 L21**	21	**MMAO 16 L32**	32
with pegs, side entry, high construction	**CMAO 16.29**	29	**MMAO 16.40**	40	**CMAO 16 L29**	29	**MMAO 16 L40**	40
with pegs, top entry	**CMV 16**	21	**MMV 16.25**	25	**CMV 16 L**	21	**MMV 16 L25**	25
with pegs, top entry			**MMV 16.32**	32			**MMV 16 L32**	32
with pegs, top entry	**CMV 16.29**	29	**MMV 16.40**	40	**CMV 16 L29**	29	**MMV 16 L40**	40
with pegs, top entry, high construction	**CMAV 16.21**	21	**MMAV 16.32**	32	**CMAV 16 L21**	21	**MMAV 16 L32**	32
with pegs, top entry, high construction	**CMAV 16.29**	29	**MMAV 16.40**	40	**CMAV 16 L29**	29	**MMAV 16 L40**	40
with pegs, frontal entry, high construction	**CMAF 16.21**	21	**MMAF 16.25**	25				
with pegs, frontal entry, high construction	**CMAF 16.29**	29	**MMAF 16.32**	32				
with pegs, frontal entry, high constr., without adaptor			**MMFF 16.25**	25				
with pegs, frontal entry, high constr., without adaptor			**MMFF 16.32**	32				
with levers and gasket, top entry	**CMV 16 G**	21	**MMV 16 G32**	32	**CMV 16 LG**	21	**MMV 16 LG32**	32
with levers and gasket, top entry, high construction	**CMAV 16 G**	21	**MMAV 16 G25**	25	**CMAV 16 LG21**	21	**MMAV 16 LG25**	25
with levers and gasket, top entry, high construction	**CMAV 16 G29**	29	**MMAV 16 G32**	32	**CMAV 16 LG29**	29	**MMAV 16 LG32**	32
with levers and gasket, top entry, high constr., without adaptor			**MMFV 16 G25**	25			**MMFV 16 LG25**	25
with levers and gasket, top entry, high constr., without adaptor			**MMFV 16 G32**	32			**MMFV 16 LG32**	32

dimensions in mm

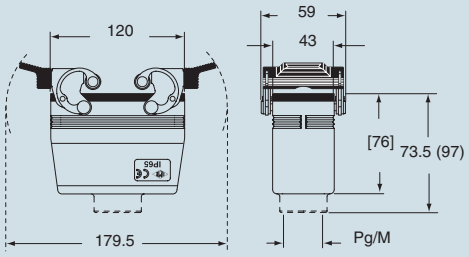
CMO [CMAO] - CMV (CMAV) and
MMO [MMAO] MMV (MMAV)



CMAF and **MMAF/MMFF**

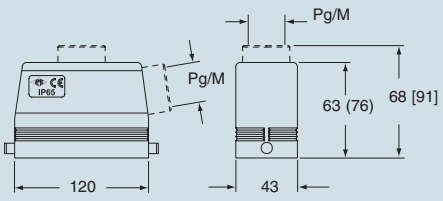


CMV G (CMAV G), **MMV G (MMAV G)** and **[MMFV G]**

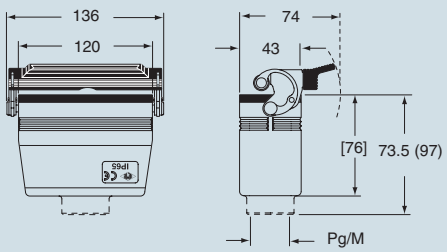


dimensions in mm

CMO L (CMAO L) and **MMO L (MMAO L)**
CMV L [CMAV L] and **MMV L [MMAV L]**



CMV LG (CMAV LG), **MMV LG (MMAV LG)** and **[MFV LG]**



dimensions indicated are not binding
and may be changed without notice

inserts: page

CME ..... 10 + 2 (aux) poles + ⏚ 107
CME, CMCE .... 16 + 2 (aux) poles + ⏚ 112

insert centre distance:
104 x 27 mm

Covers G and LG version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods with two levers

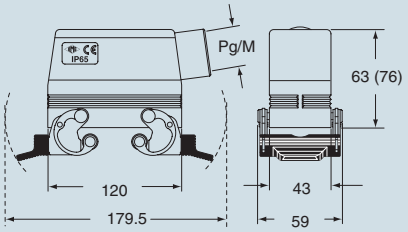
covers

description	part No.	entry Pg	part No.	entry M	part No.
with levers, side entry [1]	**CMO 16 X**	21	**MMO 16 X25**	25	
with levers, side entry [1]			**MMO 16 X32**	32	
with levers, side entry, high construction [1]	**CMAO 16 X**	21	**MMAO 16 X32**	32	
with levers, side entry, high construction [1]	**CMAO 16 X29**	29	**MMAO 16 X40**	40	
with levers, top entry [1]	**CMV 16 X**	21	**MMV 16 X25**	25	
with levers, top entry [1]			**MMV 16 X32**	32	
with levers, top entry, high construction [1]	**CMAV 16 X**	21	**MMAV 16 X32**	32	
with levers, top entry, high construction [1]	**CMAV 16 X29**	29	**MMAV 16 X40**	40	
with 4 pegs (for enclosures with 2 levers with gasket)					**CHC 24**
with 2 pegs (for enclosures with 1 lever with gasket)					**CHC 24 L**
with 2 levers (for hoods with 4 pegs)					**CHC 24 G**
with 1 lever (for hoods with 2 pegs)					**CHC 24 LG**

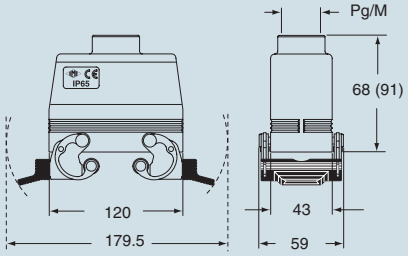
[1] May be combined with housings:
- CMI/CMP/CMAP 16 CS
- MMP/MMAP 16 CS

dimensions in mm

CMO X (CMAO X) and **MMO X (MMAO X)**



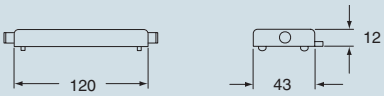
CMV X (CMAV X) and **MMV X (MMAV X)**



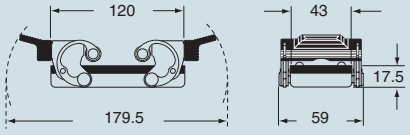
dimensions in mm

CHC

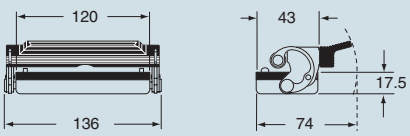
CHC L



CHC G



CHC LG



dimensions indicated are not binding and may be changed without notice

inserts: page

CN RY ..... 24 poles + ⏚ 79

insert centre distance:
104 x 27 mm

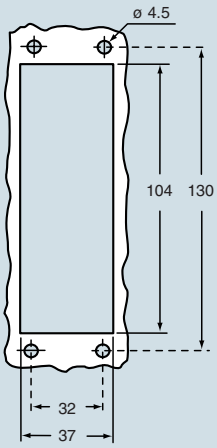
Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover

hoods and cover

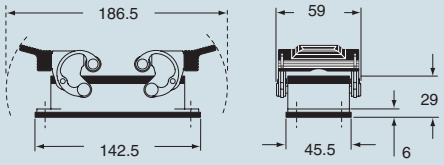
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers	**CHIR 24**	---						
surface mounting, with levers, high construction	**CAPR 24.21**	21	**MAPR 24.32**	32				
cover with 4 pegs (for housings)	**CHCR 24**							
with pegs, side entry					**CHOR 24**	21	**MHOR 24.25**	25
with pegs, side entry, high construction					**CAOR 24.29**	29	**MAOR 24.40**	40
with pegs, top entry					**CHVR 24**	21	**MHVR 24.25**	25
with pegs, top entry, high construction					**CAVR 24.29**	29	**MAVR 24.40**	40
cover with 2 levers (for hoods)					**CHCR 24 G**			

panel cut-out for bulkhead mounting housings in mm

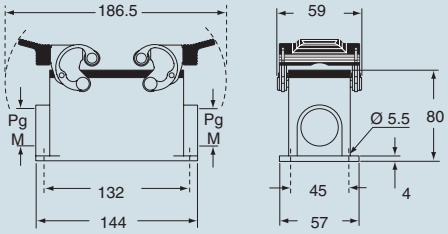


dimensions in mm

CHIR



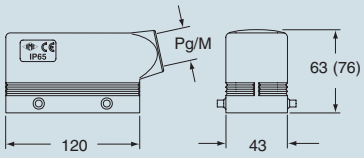
CAPR and **MAPR**



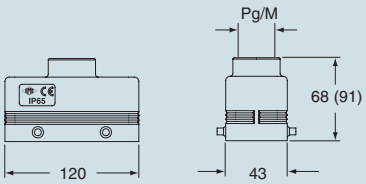
CHCR

dimensions in mm

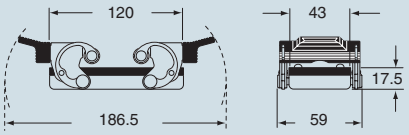
CHOR (CAOR) and **MHOR (MAOR)**



CHVR (CAVR) and **MHVR (MAVR)**



CHCR G



dimensions indicated are not binding
and may be changed without notice

inserts: page

CD	64	poles + ⏚	41
CT, CTS *) (10A)	64	poles + ⏚	47
CDD	108	poles + ⏚	54
CQE	46	poles + ⏚	69
CC	24	poles + ⏚	78
CN, CS	24	poles + ⏚	79
CCE	24	poles + ⏚	90
CNE, CSE	24	poles + ⏚	91
CTE, CTSE *) (16A)	24	poles + ⏚	101
CMSE	10+2 (aux)	poles + ⏚	106
CMCE	10+2 (aux)	poles + ⏚	106
CME	10+2 (aux)	poles + ⏚	107
CME	16+2 (aux)	poles + ⏚	112
CMCE	16+2 (aux)	poles + ⏚	112
CX	4/8	poles + ⏚	121
MIXO	6	modules	124÷137

insert centre distance: **104 x 27 mm**

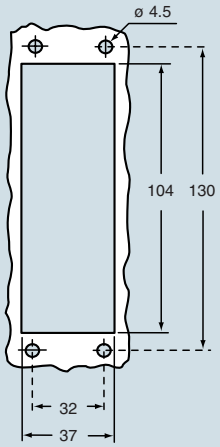
***) only for enclosure CHIW 24**

housings and cover

hoods and cover

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers	**CHIW 24**	---						
surface mounting, with levers, high construction	**CAPW 24.21**	21	**MAPW 24.32**	32				
cover with 4 pegs (for enclosures with 2 levers)	**CHCW 24**							
with pegs, side entry					**CHOW 24**	21	**MHOW 24.25**	25
with pegs, side entry							**MHOW 24.32**	32
with pegs, side entry, high construction					**CAOW 24.29**	29	**MAOW 24.32**	32
with pegs, side entry, high construction							**MAOW 24.40**	40
with pegs, top entry					**CHVW 24**	21	**MHVW 24.25**	25
with pegs, top entry							**MHVW 24.32**	32
with pegs, top entry, high construction					**CAVW 24.29**	29	**MAVW 24.32**	32
with pegs, top entry, high construction							**MAVW 24.40**	40
cover with 2 levers (for enclosures with 4 pegs)					**CHCW 24 G**			
with levers and gasket, top entry					**CHVW 24 G**	21	**MHVW 24 G32**	32

panel cut-out for bulkhead mounting housings in mm

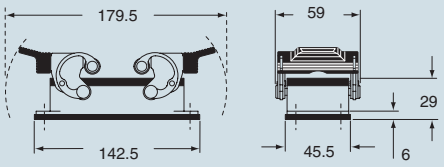


Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

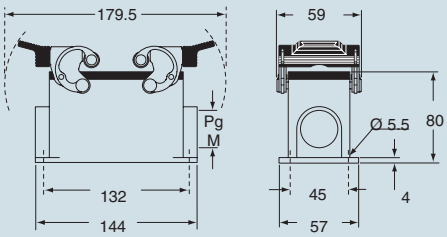
dimensions indicated are not binding and may be changed without notice

dimensions in mm

CHIW



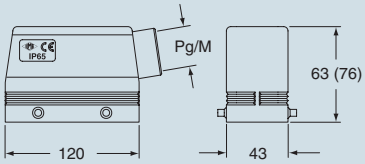
CAPW and **MAPW**



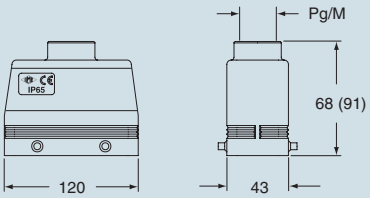
CHCW

dimensions in mm

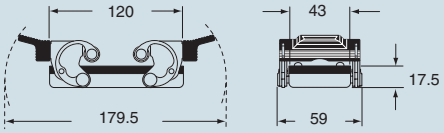
CHOW (CAOW) and **MHOW (MAOW)**



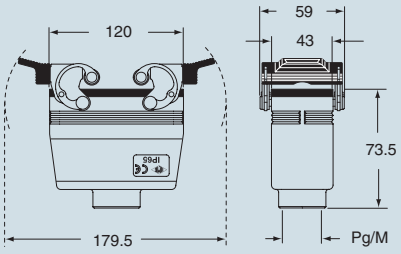
CHVW (CAVW) and **MHVW (MAVW)**



CHCW G



CHVW G and **MHVW G**



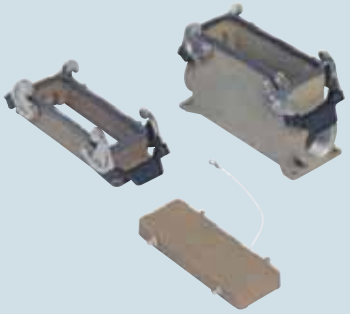
inserts: page

CD	64	poles + ⏚	41
CT, CTS *) (10A)	64	poles + ⏚	47
CDD	108	poles + ⏚	54
CQE	46	poles + ⏚	69
CC	24	poles + ⏚	78
CN, CS	24	poles + ⏚	79
CCE	24	poles + ⏚	90
CNE, CSE	24	poles + ⏚	91
CTE, CTSE *) (16A)	24	poles + ⏚	101
CMSE	10+2 (aux)	poles + ⏚	106
CMCE	10+2 (aux)	poles + ⏚	106
CME	10+2 (aux)	poles + ⏚	107
CME	16+2 (aux)	poles + ⏚	112
CMCE	16+2 (aux)	poles + ⏚	112
CX	4/8	poles + ⏚	121
MIXO	6	modules	124÷137

insert centre distance: **104 x 27 mm**

***) only for enclosure CHIS 24**

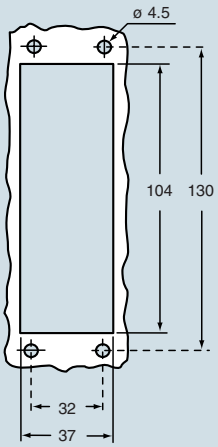
housings and cover for electromagnetic compatibility



hoods and cover for electromagnetic compatibility

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers	**CHIS 24**	---						
surface mounting, with levers, high construction	**CAPS 24.21**	21	**MAPS 24.32**	32				
cover with 4 pegs (for enclosures with 2 levers)	**CHCS 24**							
with pegs, side entry					**CHOS 24**	21	**MHOS 24.25**	25
with pegs, side entry							**MHOS 24.32**	32
with pegs, side entry, high construction					**CAOS 24.29**	29	**MAOS 24.32**	32
with pegs, side entry, high construction							**MAOS 24.40**	40
with pegs, top entry					**CHVS 24**	21	**MHVS 24.25**	25
with pegs, top entry							**MHVS 24.32**	32
with pegs, top entry, high construction					**CAVS 24.29**	29	**MAVS 24.32**	32
with pegs, top entry, high construction							**MAVS 24.40**	40
cover with 2 levers (for enclosures with 4 pegs)					**CHCS 24 G**			

panel cut-out for bulkhead mounting housings in mm

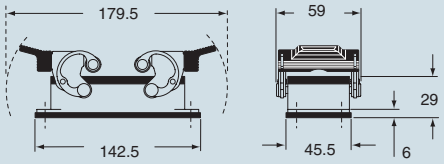


Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

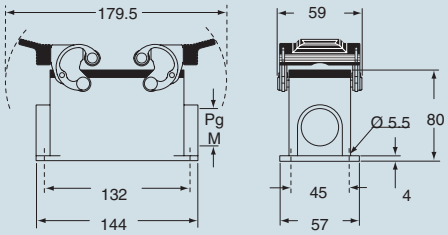
dimensions indicated are not binding and may be changed without notice

dimensions in mm

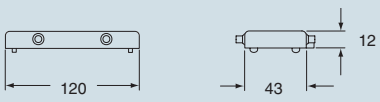
CHIS



CAPS and **MAPS**

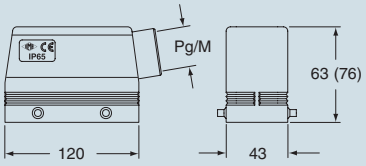


CHCS

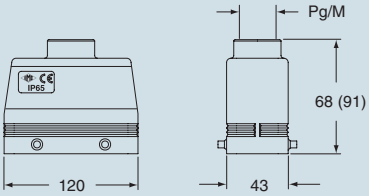


dimensions in mm

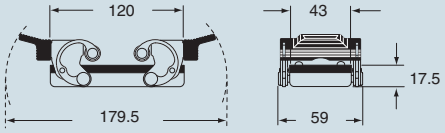
CHOS (CAOS) and **MHOS (MAOS)**



CHVS (CAVS) and **MHVS (MAVS)**



CHCS G



size 104.27

inserts: page

CD	80	poles + ⏚	42
CDD	144	poles + ⏚	55
CQE	64	poles + ⏚	70
CC	32	poles + ⏚	80
CN, CS	32	poles + ⏚	81
CCE	32	poles + ⏚	92
CNE, CSE	32	poles + ⏚	93
CMSE	12+4 (aux)	poles + ⏚	108
CMCE	12+4 (aux)	poles + ⏚	108
CME	12+4 (aux)	poles + ⏚	109
CP	12	poles + ⏚	116
MIXO	4 + 4	modules	124÷137

insert centre distance:
2 x (77.5 x 27) mm

bulkhead mounting housings with two levers or four pegs

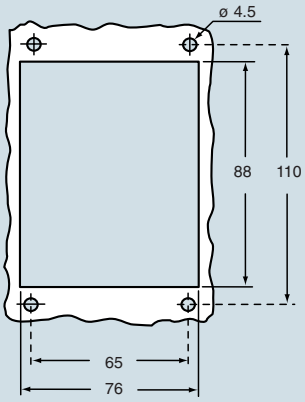
bulkhead mounting housings with single lever

description	part No.	part No.
with one or two levers	**CHI 32**	**CHI 32 L**
with pegs and cover [1]	**CHI 32 CS**	
with lever and cover		**CHI 32 LS**

[1] May be combined with hoods:
- CHO/CHV 32 X
- MHO/MHV/MFO/MFV 32 X

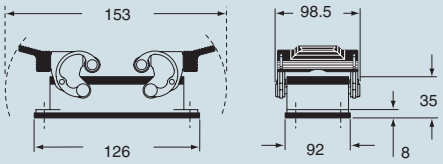
N.B.: the enclosures assure an IP65 degree of protection when coupled and blocked by the levers. The cover only provides mechanical protection and does not assure an IP65 degree of protection.

panel cut-out for bulkhead mounting housings in mm

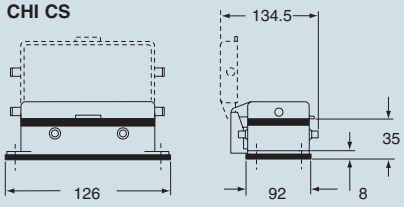


dimensions in mm

CHI

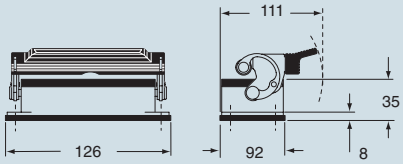


CHI CS

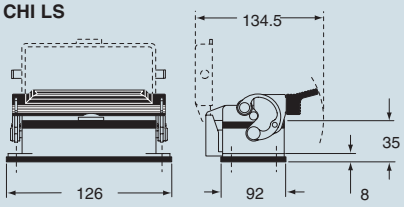


dimensions in mm

CHI L



CHI LS



dimensions indicated are not binding
and may be changed without notice

inserts: page

CD	80	poles + ⏚	42
CDD	144	poles + ⏚	55
CQE	64	poles + ⏚	70
CC	32	poles + ⏚	80
CN, CS	32	poles + ⏚	81
CCE	32	poles + ⏚	92
CNE, CSE	32	poles + ⏚	93
CMSE	12+4 (aux)	poles + ⏚	108
CMCE	12+4 (aux)	poles + ⏚	108
CME	12+4 (aux)	poles + ⏚	109
CP	12	poles + ⏚	116
MIXO	4 + 4	modules	124÷137

insert centre distance:
2 x (77.5 x 27) mm

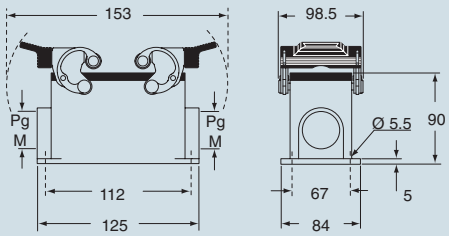
surface mounting housings with two levers

surface mounting housings with single lever

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with one or two levers	**CHP 32.29**	29	**MHP 32.40**	40	**CHP 32 L29**	29	**MHP 32 L40**	40
with one or two levers	**CHP 32.229**	29 x 2	**MHP 32.240**	40 x 2	**CHP 32 L229**	29 x 2	**MHP 32 L240**	40 x 2
with one or two levers	**CHP 32**	36	**MHP 32.50**	50	**CHP 32 L**	36	**MHP 32 L50**	50
with one or two levers	**CHP 32.2**	36 x 2	**MHP 32.250**	50 x 2	**CHP 32 L2**	36 x 2	**MHP 32 L250**	50 x 2
with one or two levers	**CHP 32.42**	42			**CHP 32 L42**	42		
with one or two levers	**CHP 32.242**	42 x 2			**CHP 32 L242**	42 x 2		
with lever and cover					**CHP 32 LS29**	29	**MHP 32 LS40**	40
with lever and cover					**CHP 32 LS229**	29 x 2	**MHP 32 LS240**	40 x 2
with lever and cover					**CHP 32 LS**	36	**MHP 32 LS50**	50
with lever and cover					**CHP 32 LS2**	36 x 2	**MHP 32 LS250**	50 x 2
with lever and cover					**CHP 32 LS42**	42		
with lever and cover					**CHP 32 LS242**	42 x 2		

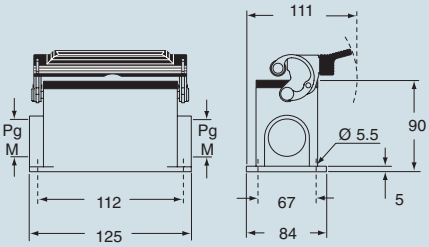
dimensions in mm

CHP and **MHP**

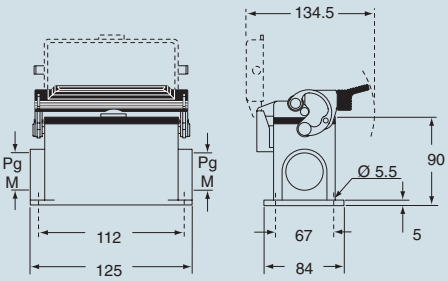


dimensions in mm

CHP L and **MHP L**



CHP LS and **MHP LS**



dimensions indicated are not binding
and may be changed without notice

inserts: page

CD	80	poles + ⏚	42
CDD	144	poles + ⏚	55
CQE	64	poles + ⏚	70
CC	32	poles + ⏚	80
CN, CS	32	poles + ⏚	81
CCE	32	poles + ⏚	92
CNE, CSE	32	poles + ⏚	93
CMSE	12+4 (aux)	poles + ⏚	108
CMCE	12+4 (aux)	poles + ⏚	108
CME	12+4 (aux)	poles + ⏚	109
CP	12	poles + ⏚	116
MIXO	4 + 4	modules	124÷137

insert centre distance:
2 x (77.5 x 27) mm

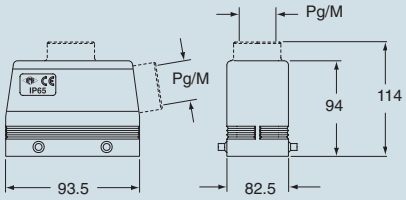
hoods
with two levers or four pegs

hoods
with single lever or two pegs

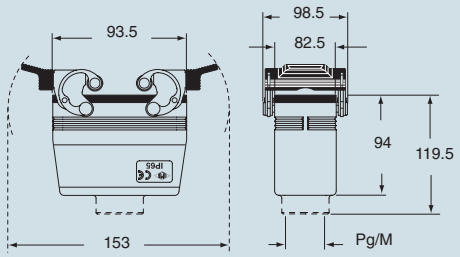
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs, side entry	**CHO 32.29**	29	**MHO 32.32**	32				
with pegs, side entry	**CHO 32**	36	**MHO 32.40**	40	**CHO 32 L**	36	**MHO 32 L40**	40
with pegs, side entry	**CHO 32.42**	42	**MHO 32.50**	50				
with pegs, side entry, without adaptor			**MFO 32.32**	32				
with pegs, side entry, without adaptor			**MFO 32.40**	40			**MFO 32 L40**	40
with pegs, side entry, without adaptor			**MFO 32.50**	50				
with pegs, top entry	**CHV 32.29**	29	**MHV 32.32**	32				
with pegs, top entry	**CHV 32**	36	**MHV 32.40**	40	**CHV 32 L**	36	**MHV 32 L40**	40
with pegs, top entry	**CHV 32.42**	42	**MHV 32.50**	50				
with pegs, top entry, without adaptor			**MFV 32.32**	32				
with pegs, top entry, without adaptor			**MFV 32.40**	40			**MFV 32 L40**	40
with pegs, top entry, without adaptor			**MFV 32.50**	50				
with levers and gasket, top entry	**CHV 32 G29**	29	**MHV 32 G32**	32				
with one or two levers and gasket, top entry	**CHV 32 G**	36	**MHV 32 G40**	40	**CHV 32 LG**	36	**MHV 32 LG40**	40
with levers and gasket, top entry	**CHV 32 G42**	42	**MHV 32 G50**	50				
with levers and gasket, top entry, without adaptor			**MFV 32 G32**	32				
with one or two levers and gasket, top entry, without adaptor			**MFV 32 G40**	40			**MFV 32 LG40**	40
with levers and gasket, top entry, without adaptor			**MFV 32 G50**	50				

dimensions in mm

CHO - CHV and **MHO/MFO/MFV - MHV**

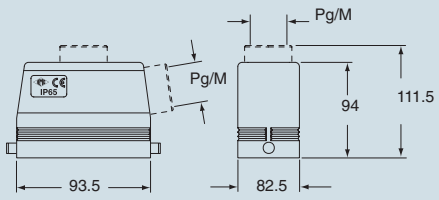


CHV G, **MHV G** and **MFV G**

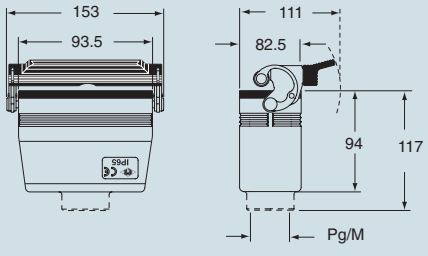


dimensions in mm

CHO L - CHV L and **MHO/MFO/MFV L - MHV L**



CHV LG, **MHV LG** and **MFV LG**



dimensions indicated are not binding
and may be changed without notice

insert centre distance: **2 x (77.5 x 27) mm**

Covers G and LG version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

hoods with two levers

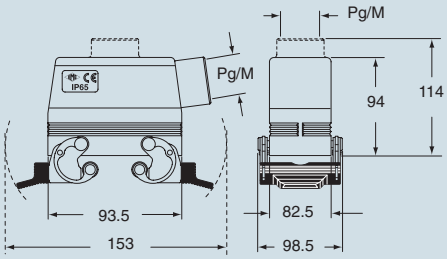
covers

description	part No.	entry Pg	part No.	entry M	part No.
with levers, side entry [1]	**CHO 32 X**	36	**MHO 32 X40**	40	
with levers, side entry, without adaptor [1]			**MFO 32 X40**	40	
with levers, top entry [1]	**CHV 32 X**	36	**MHV 32 X40**	40	
with levers, top entry, without adaptor [1]			**MFV 32 X40**	40	
with 4 pegs (for enclosures with 2 levers with gasket) with 2 pegs (for enclosures with 1 lever with gasket)					**CHC 32** **CHC 32 L**
with 2 levers (for hoods with 4 pegs) with 1 lever (for hoods with 2 pegs)					**CHC 32 G** **CHC 32 LG**

[1] May be combined with CHI 32 CS housings

dimensions in mm

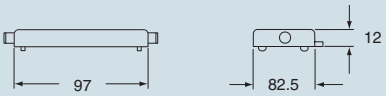
CHO X - CHV X and MHO/MFO/MFV X - MHV X



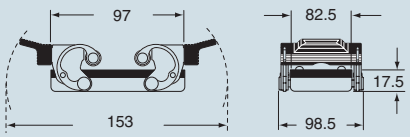
dimensions in mm

CHC

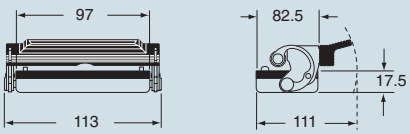
CHC L



CHC G



CHC LG



dimensions indicated are not binding and may be changed without notice

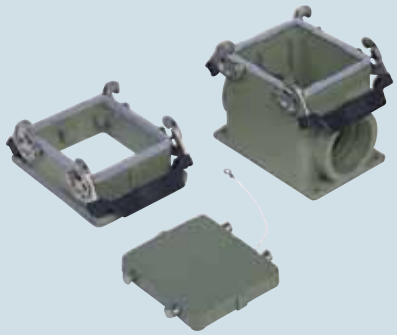
inserts:

			page
CD	80	poles + ⏚	42
CDD	144	poles + ⏚	55
CQE	64	poles + ⏚	70
CC	32	poles + ⏚	80
CN, CS	32	poles + ⏚	81
CCE	32	poles + ⏚	92
CNE, CSE	32	poles + ⏚	93
CMSE	12+4 (aux)	poles + ⏚	108
CMCE	12+4 (aux)	poles + ⏚	108
CME	12+4 (aux)	poles + ⏚	109
CP	12	poles + ⏚	116
MIXO	4 + 4	modules	124÷137

insert centre distance: **2 x (77.5 x 27) mm**

Covers G version are not suitable to be used with code pins. If this application is required please contact ILME SpA.

housings and cover



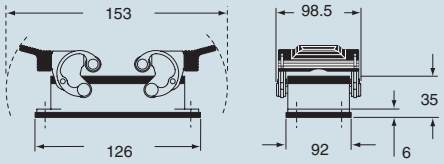
hoods and cover

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting, with levers surface mounting, with levers	**CHIW 32** **CHPW 32**	--- 36	**MHPW 32.50**	50				
cover with 4 pegs (for enclosures with 2 levers)	**CHCW 32**							
with pegs, side entry with pegs, top entry					**CHOW 32** **CHVW 32**	36 36	**MHOW 32.40** **MHVW 32.40**	40 40
cover with 2 levers (for enclosures with 4 pegs)					**CHCW 32 G**			
with levers and gasket, top entry					**CHVW 32 G**	36	**MHVW 32 G40**	40

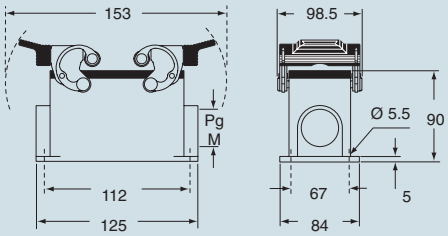
panel cut-out for bulkhead mounting housings in mm

dimensions in mm

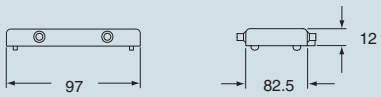
CHIW



CHPW and **MHPW**

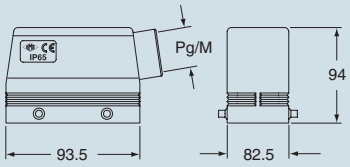


CHCW

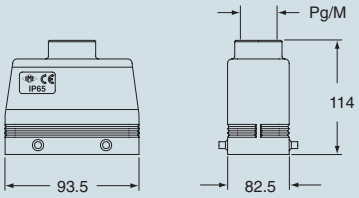


dimensions in mm

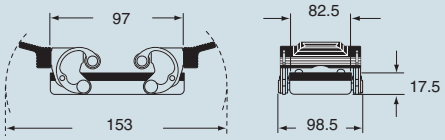
CHOW and **MHOW**



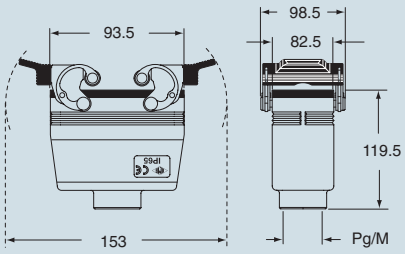
CHVW and **MHVW**



CHCW G



CHVW G and **MHVW G**



dimensions indicated are not binding and may be changed without notice

size 104.27

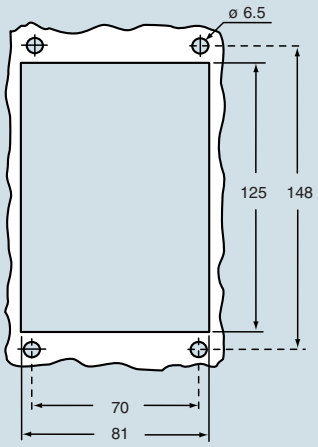
insert centre distance:
2 x (104 x 27) mm

bulkhead and surface mounting housings with single lever

hoods for single lever

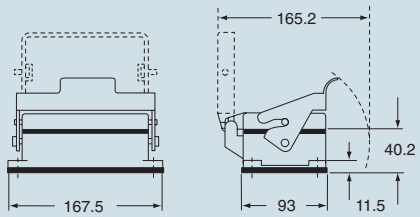
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting housings with lever and cover	**CHI 48 LS**	---						
surface mounting housings with lever and cover	**CHP 48 LS29**	29 x 1/ 2	**MHP 48 LS40**	40 x 1/ 2				
surface mounting housings with lever and cover	**CHP 48 LS**	36 x 1/ 2	**MHP 48 LS50**	50 x 1/ 2				
with pegs, side entry					**CHO 48 L29**	29	**MHO 48 L32**	32
with pegs, side entry					**CHO 48 L**	36	**MHO 48 L40**	40
with pegs, side entry					**CHO 48 L42**	42	**MHO 48 L50**	50
with pegs, side entry, without adaptor							**MFO 48 L32**	32
with pegs, side entry, without adaptor							**MFO 48 L40**	40
with pegs, side entry, without adaptor							**MFO 48 L50**	50
with pegs, top entry					**CHV 48 L29**	29	**MHV 48 L32**	32
with pegs, top entry					**CHV 48 L**	36	**MHV 48 L40**	40
with pegs, top entry					**CHV 48 L42**	42	**MHV 48 L50**	50
with pegs, top entry, without adaptor							**MFV 48 L32**	32
with pegs, top entry, without adaptor							**MFV 48 L40**	40
with pegs, top entry, without adaptor							**MFV 48 L50**	50

panel cut-out for bulkhead mounting housings in mm

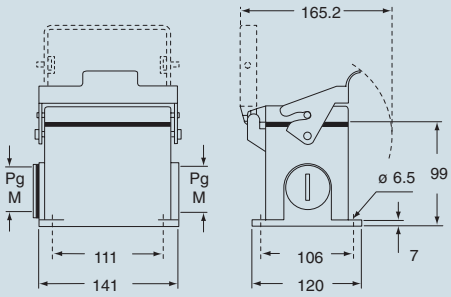


dimensions in mm

CHI LS

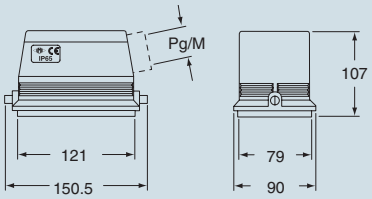


CHP LS and **MHP LS**

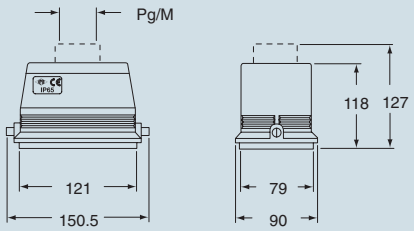


dimensions in mm

CHO L, **MHO L** and **MFO L**



CHV L, **MHV L** and **MFV L**



dimensions indicated are not binding
and may be changed without notice

size 104.62

inserts: page

CN RY ..... 48 poles + ⏚ 83

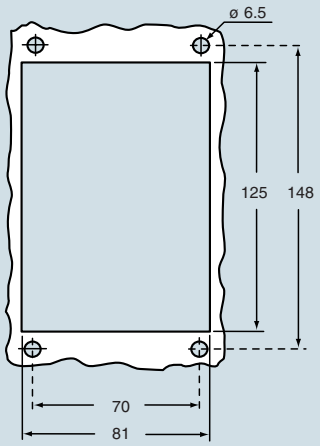
insert centre distance:
2 x (104 x 27) mm

housings

hoods

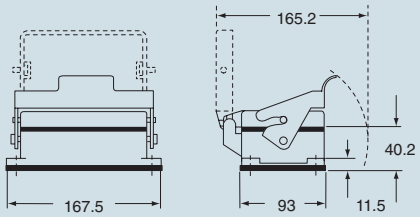
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting housings, with lever and cover	**CHIR 48 LS**	---						
surface mounting housings, with lever and cover	**CHPR 48 LS**	36 x 1/2	**MHPR 48 LS40**	40 x 1/2				
with pegs, side entry					**CHOR 48 L**	36	**MHOR 48 L40**	40
with pegs, top entry					**CHVR 48 L**	36	**MHVR 48 L40**	40

panel cut-out for bulkhead mounting housings in mm

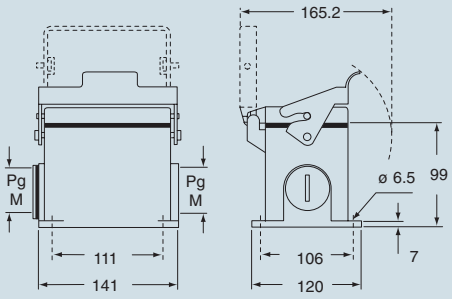


dimensions in mm

CHIR LS

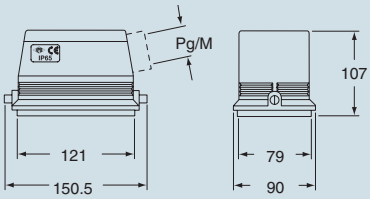


CHPR LS and **MHPR LS**

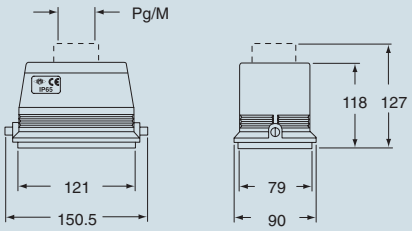


dimensions in mm

CHOR L and **MHOR L**



CHVR L and **MHVR L**



dimensions indicated are not binding
and may be changed without notice

inserts:

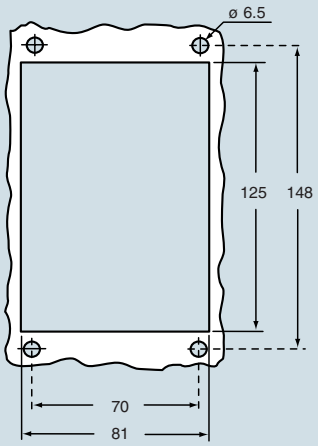
insert centre distance:
2 x (104 x 27) mm

housings

hoods

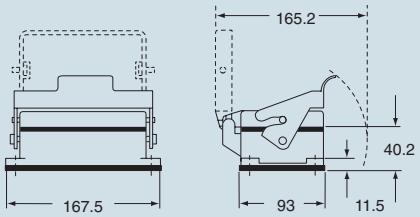
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
bulkhead mounting housings, with lever and cover	**CHIW 48 LS**	---						
surface mounting housings, with lever and cover	**CHPW 48 LS**	36 x 1/2	**MHPW 48 LS40**	40 x 1/2				
with pegs, side entry					**CHOW 48 L**	36	**MHOW 48 L40**	40
with pegs, top entry					**CHVW 48 L**	36	**MHVW 48 L40**	40

panel cut-out for bulkhead mounting housings in mm

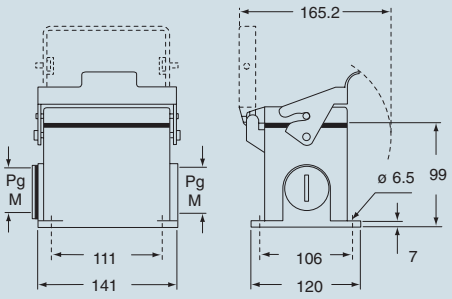


dimensions in mm

CHIW LS

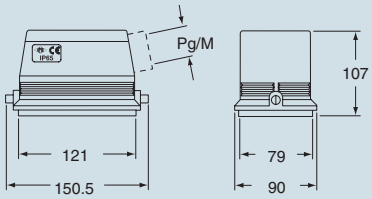


CHPW LS and **MHPW LS**

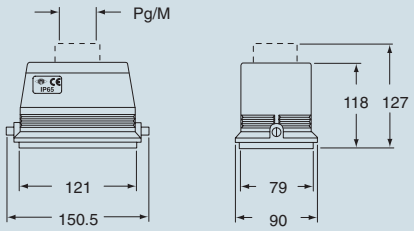


dimensions in mm

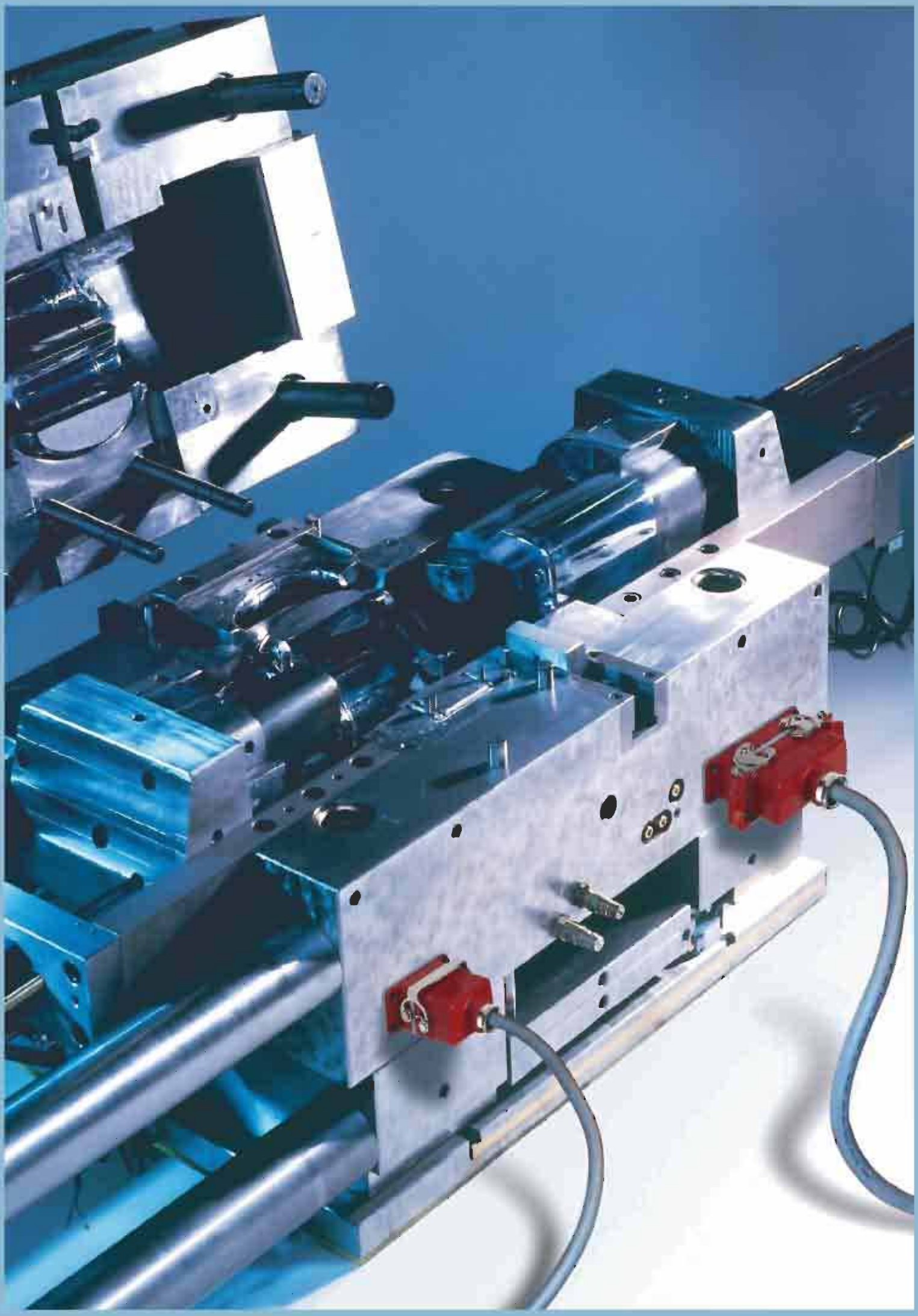
CHOW L and **MHOW L**



CHVW L and **MHVW L**



dimensions indicated are not binding
and may be changed without notice



COB TCQ + **COB TSFS**
(**COB...CMS**, alternative)

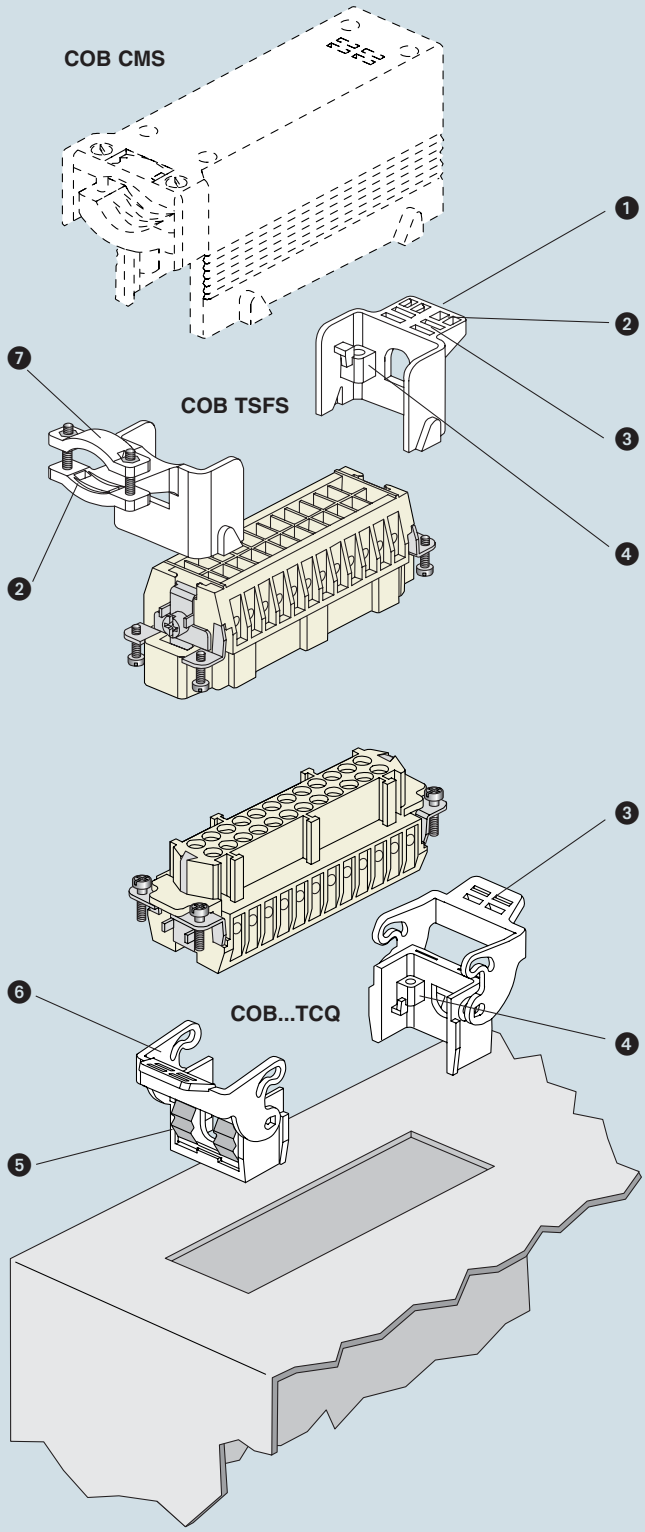


Figure 1:
- snap fastening in window*, panels or control panels

Use

The COB system makes it possible to use multipole connectors within electric panels without the traditional metallic housing as protection is assured by the electric panel itself or other container.
N.B.: The containers must not be handled live.

The COB system may be assembled in the three following ways:

- on panels with window snap fastening device* (**Figure 1**)
- on DIN EN 60715 rails, both lengthways and crossways to the support (**Figure 2**)
- on fixed panels using screws (**Figure 2**)

The COB system offers the following advantages:
- reduction in cost and space with respect to metallic enclosures and traditional terminal boards
- possibility of rewiring at the connector bench with connected devices
- easy wiring inspection and tests with coupled connectors, thanks to rear access to the inserts via the turnover device
- fast mounting within the panels thanks to the snap fastening device on the DIN EN 60715 rails
- sturdy support structure, specific to the size of each insert and does not require any preparation
- broad passage for housing of conductor cables
- mobile parts prearranged for the clamping of bundles of conductors of multipolar cables to prevent contact with the connector contacts

The COB system satisfies the most various installation needs thanks to the interchangeability of the connector inserts. The inserts can be installed as per the following table:

supports for connector inserts

bulkhead	**COB TCQ**			
	COB 06 BC	**COB 10 BC**	**COB 16 BC**	**COB 24 BC**
mobile	**COB TSF** and **COB TSFS**			
	COB 06 CMS	**COB 10 CMS**	**COB 16 CMS**	**COB 24 CMS**

insert centre distance

mm	44 x 27	57 x 27	49.5 x 16* 66 x 16* 77.5 x 27	104 x 27

insert series and polarity + ⊕

CD			15*, 25*, 40	64
CDD	24	42	38*, 72	108
CDA			10*, 16*	
CDC			10*, 16*	
CC	6	10	16	24
CCE	6	10	16	24
CQE	10	18	32	46
CN	6	10	16	24
CNE	6	10	16	24
CS	6	10	16	24
CSE	6	10	16	24
CMCE		3 + ^{2}	6 + ^{2}	10 + ^{2} 16 + ^{2}
CME		3 + ^{2}	6 + ^{2}	10 + ^{2} 16 + ^{2}
CMS		3 + ^{2}	6 + ^{2}	10 + ^{2}
CP			6	
CX			4/0, 4/2 6/36 12/2	4/8
MIXO	2 modules	3 modules	4 modules	6 modules

*) mounting via adaptor plates described on page 216

In addition, the COB..BC supports may house the ILME CR…AD1 and CR…AD2 series plates for the D-SUB inserts (microconnectors).

Characteristics

❶ **COB, TSF** or **COB TSFS** insert support blocks (with cable clamp) for mobile mounting, in self-extinguishing thermoplastic material.

❷ passage for cable support bands (from 2.2 to 4.8 mm).

❸ slots for identification cards (dimensions 9 x 20 mm).

❹ threaded metallic inserts for fixing the inserts with normal screws and possibility of coded connection with the use of specific coded pins (ILME article: CR 20, CRM, CRF, CR 20 CX, CRM CX and CRF CX) when identical connectors are used.

❺ **COB TCQ** insert carrier block for window* mounting in self-extinguishing thermoplastic material, with spring snap fastening.

❻ locking device with levers in self-extinguishing thermoplastic material for insert coupling.

❼ sturdy cable clamp for clamping multipolar cables with a diameter of up to 25 mm or bundles of unipolar conductors.

❽ **COB…CMS** housing for mobile mounting, in self-extinguishing thermoplastic material, IP20 degree of protection.

❾ free passage for mounting of wired insert with conductor cables.

❿ Mobile blocks (in COB…BC kit) in self-extinguishing thermoplastic material, with quick release device for insert turnover, wiring operations, verifications and maintenance.

⓫ **COB…BC** panel support for bulkhead mounting in self-extinguishing thermoplastic material, sturdy block support structure, with broad passage for housing of conductor cables.

⓬ holes for fixed fastening with screws without DIN EN 60715 rails.

⓭ snap fastening on DIN EN 60715 rails both lengthways and crossways to the support.

⓮ turnover pins that can be released and allow the use of prewired inserts.

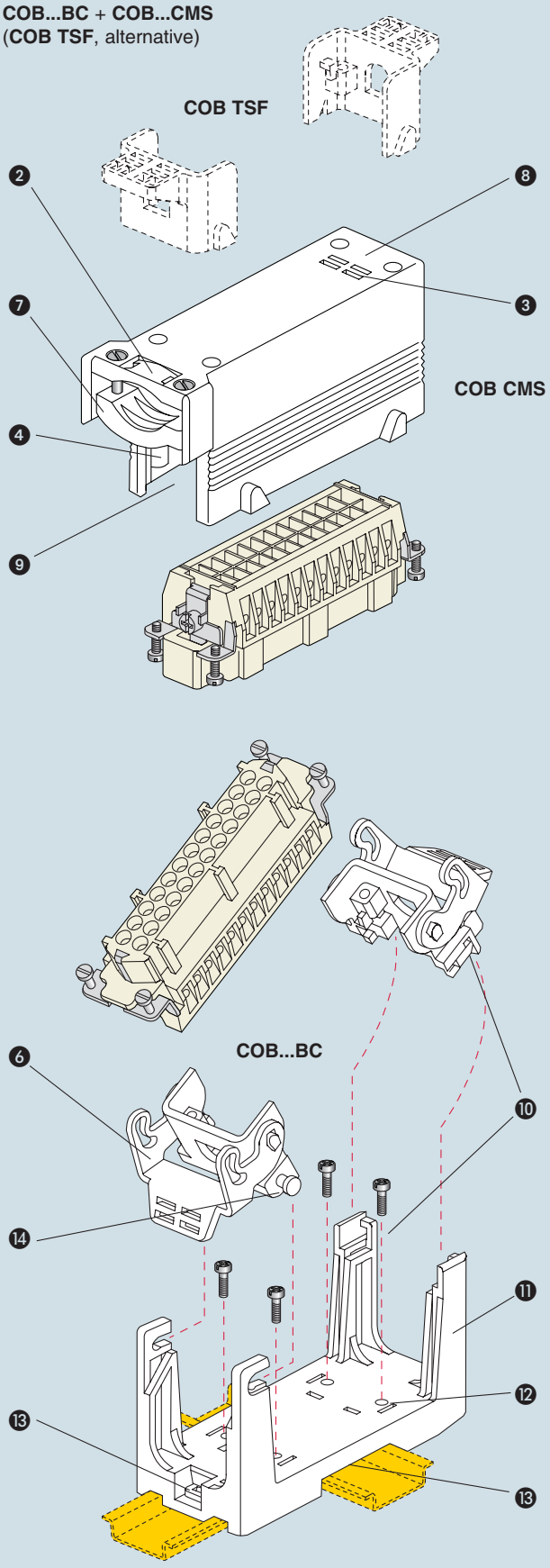


Figure 2:
- snap fastening on DIN EN 60715 rails both lengthways and crossways to the support
- installation in panels or control panels, with fixed fastening with screws

COB panel supports for multipole connectors

inserts: page

insert centre distance:
44 x 27 mm, 57 x 27 mm,
77.5 x 27 mm, 104 x 27 mm

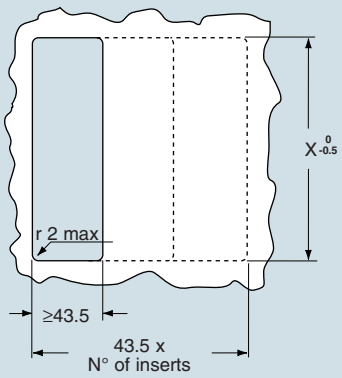
connector carrier for faceplate mounting in window*, snap fastening

connector carrier baseplate for mounting on DIN EN 60715 rail or fixed mounting using screws

description	part No.	part No.
kit with 2 elements, for coupling of inserts with fastening centre distance (short side = 27 mm)	**COB TCQ**	
kit comprising frame and mobile blocks, for insert coupling: - with screw fixing centre distance of 44 x 27 mm - with screw fixing centre distance of 57 x 27 mm - with screw fixing centre distance of 77.5 x 27 mm - with screw fixing centre distance of 104 x 27 mm		**COB 06 BC** **COB 10 BC** **COB 16 BC** **COB 24 BC**

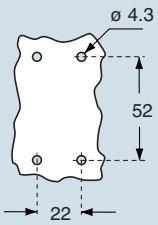
panel cut-out in mm

COB TCQ
window size on plate thickness 1.3÷3 mm



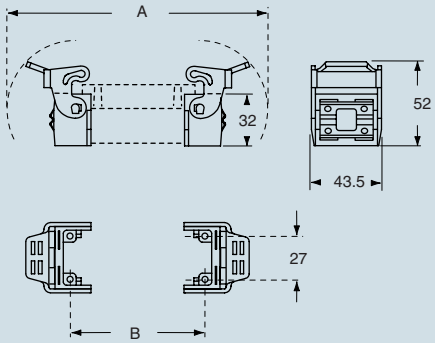
for coupling with inserts type	X 0 -0.5
with centre distance 44 x 27 mm	65
with centre distance 57 x 27 mm	78
with centre distance 77.5 x 27 mm	98
with centre distance 104 x 27 mm	125

COB...BC



dimensions indicated are not binding
and may be changed without notice

dimensions in mm

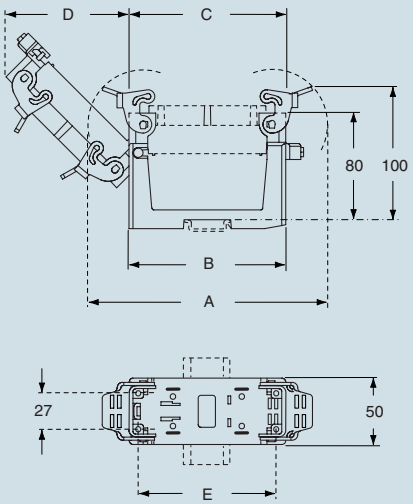


COB TCQ

for inserts	A	B
with centre distance 44 x 27 mm	98.5	44
with centre distance 57 x 27 mm	111.5	57
with centre distance 77.5 x 27 mm	132	77.5
with centre distance 104 x 27 mm	158.5	104

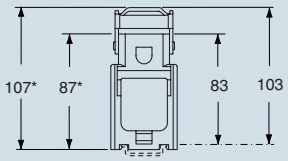
dimensions in mm

overall dimensions with transversal DIN rails



part No.	A	B	C	D	E
COB 06 BC	98.5	91.5	58	50	44
COB 10 BC	111.5	91.5	71	59.5	57
COB 16 BC	132	91.5	91.5	74	77.5
COB 24 BC	158.5	118	118	93	104

overall dimensions without DIN rails (values with "asterisk")
overall dimensions with longitudinal DIN rails



COB panel supports for multipole connectors

inserts: page

insert centre distance:
44 x 27 mm, 57 x 27 mm,
77.5 x 27 mm, 104 x 27 mm

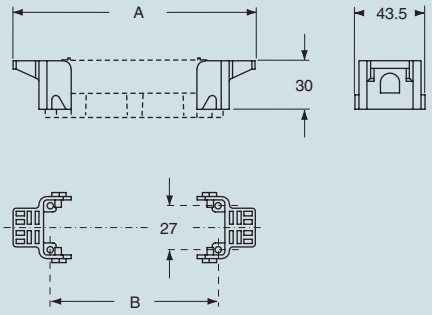
insert carrier blocks for mobile mounting

insert carrier insulated housings for mobile mounting

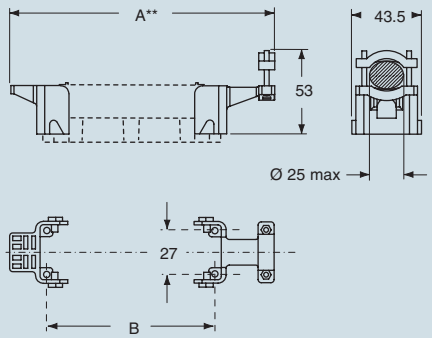
description	part No.	part No.
kit with 2 elements, for coupling of inserts with screw fixing centre distance (short side = 27 mm) - with handle for cable support bands - with handle for cable support or cable clamp bands	**COB TSF** **COB TSFS**	
side entry, with cable clamp for insert coupling: - with screw fixing centre distance of 44 x 27 mm - with screw fixing centre distance of 57 x 27 mm - with screw fixing centre distance of 77.5 x 27 mm - with screw fixing centre distance of 104 x 27 mm		**COB 06 CMS** **COB 10 CMS** **COB 16 CMS** **COB 24 CMS**

dimensions in mm

COB TSF

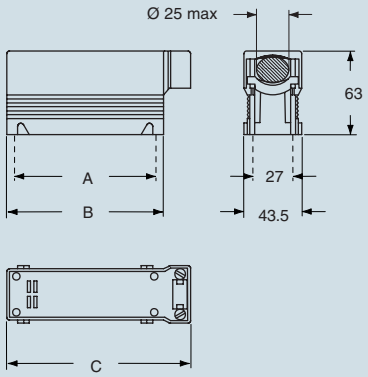


COB TSFS



for inserts	A	A**	B
with centre distance 44 x 27 mm	90	104	44
with centre distance 57 x 27 mm	103	117	57
with centre distance 77.5 x 27 mm	123.5	137.5	77.5
with centre distance 104 x 27 mm	150	164	104

dimensions in mm



part No.	A	B	C
COB 06 CMS	44	58	74
COB 10 CMS	57	71	87
COB 16 CMS	77.5	91.5	107.5
COB 24 CMS	104	118	134

dimensions indicated are not binding
and may be changed without notice

COB panel supports for multipole connectors

inserts: page

CD ..... 15, 25 poles + ⏚ 37÷38
CDD ..... 38 poles + ⏚ 50
CDA ..... 10, 16 poles + ⏚ 58÷60
CDC ..... 10, 16 poles + ⏚ 59÷61
MIXO ..... 1 module 124÷137

insert centre distance:
49.5 x 16 mm
66 x 16 mm

adaptor plates for insert mounting

levers for coupling with metallic enclosures

description	part No.	part No.
mounting on COB series articles (see below) for 1 insert with screw fixing centre distance of 49.5 x 16 mm	**CR 15/16**	
mounting on COB series articles (see below) for 1 insert with screw fixing centre distance of 66 x 16 mm	**CR 25/16**	
kit with 2 elements, to be mounted instead of the standard levers to be coupled with: COB TCQ and COB...BC [1]		**COB L**

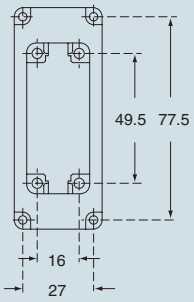
Adaptor plates

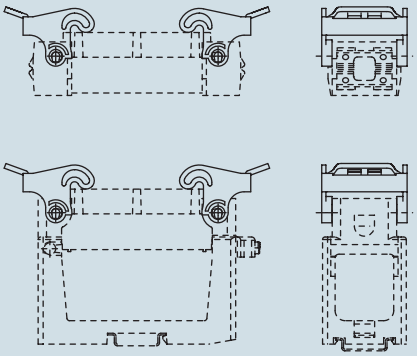
- allow the inserting of inserts of "49.16" and "66.16" on the following COB articles:
  COB TCQ, COB 16 BC, COB TSF, COB TSFS, COB 16 CMS

[1] They allow the mounting of aluminium hoods with 4 pegs, size 55.27, 77.27 and 104.27

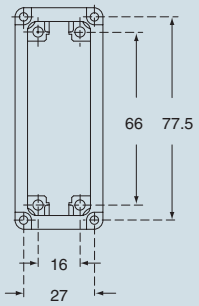
dimensions in mm

CR 15/16

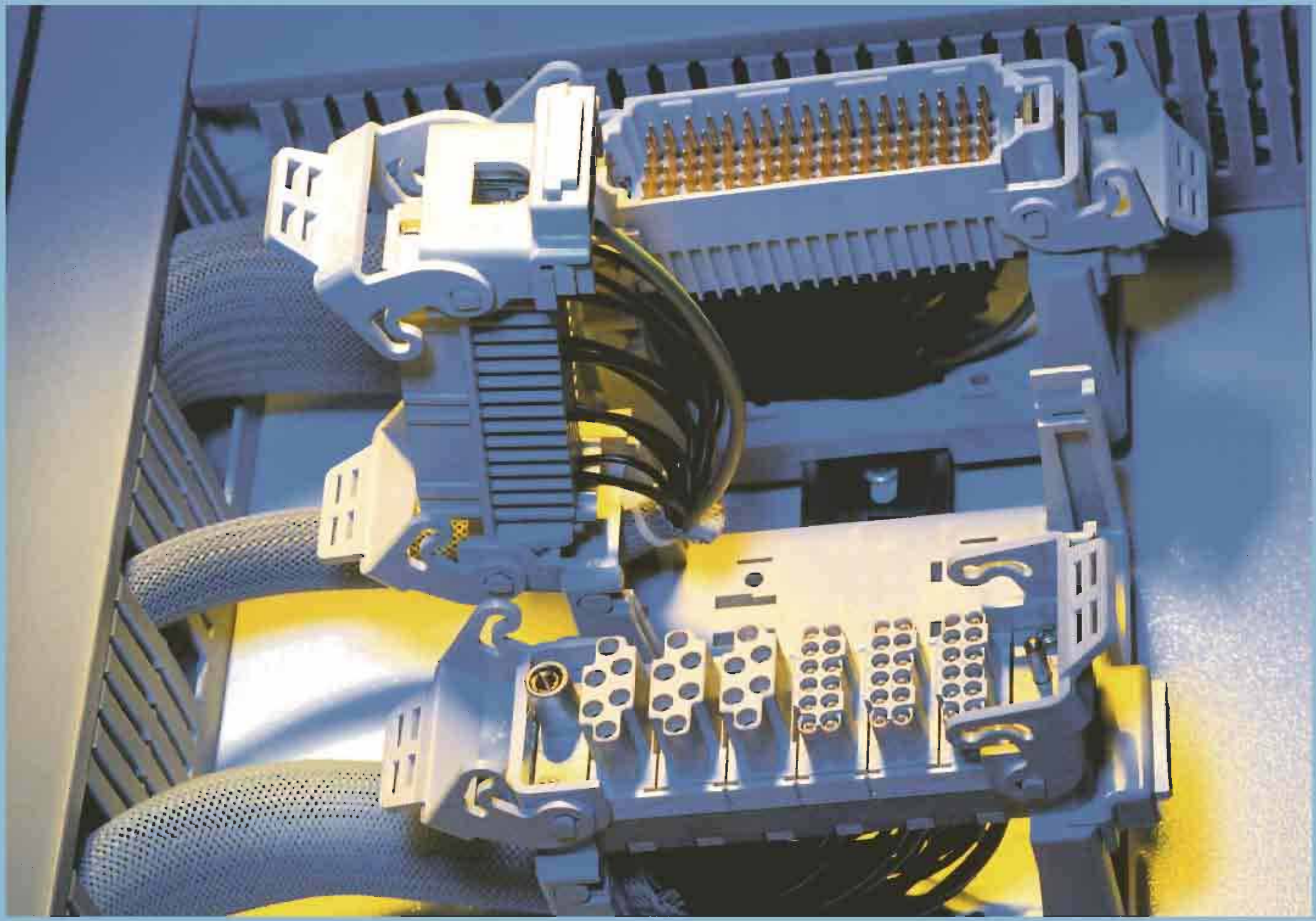




CR 25/16



dimensions indicated are not binding and may be changed without notice



enclosures: page
size "21.21" 219

inserts with screw fixing centre distance:
21 x 21 mm

bulkhead mounting housing

angled bulkhead mounting housings

description	part No.	part No.	entry Pg	part No.	entry M
bulkhead mounting housing	**CGK I**				
without cable gland outlet		**CGK IA**	--		
with threaded entry		**CGK IAP13**	13.5	**MGK IAP20**	20

IN PREPARATION

IN PREPARATION

dimensions indicated are not binding
and may be changed without notice

enclosures: page
size "21.21" 218

inserts with screw fixing centre distance:
21 x 21 mm

hoods

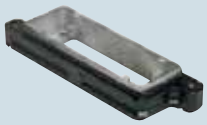
description	part No.	entry Pg	part No.	entry M
top entry	**CGK V13**	13.5	**MGK V20**	20

IN PREPARATION

dimensions indicated are not binding
and may be changed without notice

inserts with screw fixing centre distance:
44 x 27 mm (enclosures CGI and CGP/MGP 06)
57 x 27 mm (enclosures CGI and CGP/MGP 10)
77 x 27 mm (enclosures CGI and CGP/MGP 16)
104 x 27 mm (enclosures CGI and CGP/MGP 24)

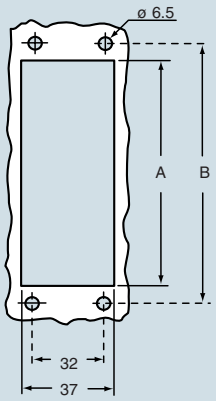
bulkhead mounting housings



surface mounting housings

description	part No.	part No.	entry Pg	part No.	entry M
size "44.27" size "57.27" size "77.27" size "104.27"	**CGI 06** **CGI 10** **CGI 16** **CGI 24**				
size "44.27" size "57.27" size "77.27" size "104.27" size "104.27"		**CGP 06.29** **CGP 10.29** **CGP 16.36** **CGP 24.36** **CGP 24.236**	29 29 36 36 36 x 2	**MGP 06.32** **MGP 10.32** **MGP 16.40** **MGP 24.40** **MGP 24.240**	32 32 40 40 40 x 2

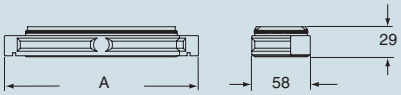
panel cut-out for bulkhead mounting housings in mm



part No.	A	B
CGI 06	54	70
CGI 10	67	83
CGI 16	88	103
CGI 24	104	130

dimensions in mm

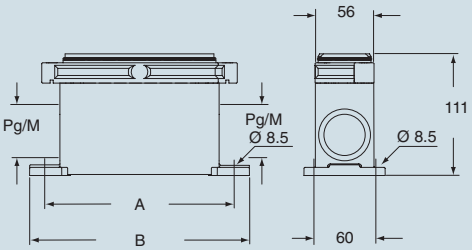
CGI



part No.	A
CGI 06	133
CGI 10	145
CGI 16	165
CGI 24	192.5

dimensions in mm

CGP and **MGP**



part No.	A	B
CGP 06 - MGP 06	127	156
CGP 10 - MGP 10	140	169
CGP 16 - MGP 16	160	189
CGP 24 - MGP 24	187	216

dimensions indicated are not binding
and may be changed without notice

inserts with screw fixing centre distance:
44 x 27 mm (enclosures CGO/MGO and CGV/MGV 06)
57 x 27 mm (enclosures CGO/MGO and CGV/MGV 10)
77 x 27 mm (enclosures CGO/MGO and CGV/MGV 16)
104 x 27 mm (enclosures CGO/MGO and CGV/MGV 24)

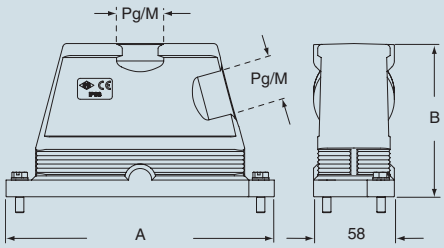
hoods

covers

description	part No.	entry Pg	part No.	entry M	part No.
side entry					
size "44.27"	**CGO 06.16**	16	**MGO 06.25**	25	
size "44.27"	**CGO 06.21**	21	**MGO 06.32**	32	
size "44.27"	**CGO 06.29**	29			
size "57.27"	**CGO 10.16**	16	**MGO 10.25**	25	
size "57.27"	**CGO 10.21**	21	**MGO 10.32**	32	
size "57.27"	**CGO 10.29**	29			
size "77.27"	**CGO 16.21**	21	**MGO 16.32**	32	
size "77.27"	**CGO 16.29**	29	**MGO 16.40**	40	
size "77.27"	**CGO 16.36**	36	**MGO 16.50**	50	
size "104.27"	**CGO 24.21**	21	**MGO 24.32**	32	
size "104.27"	**CGO 24.29**	29	**MGO 24.40**	40	
size "104.27"	**CGO 24.36**	36	**MGO 24.50**	50	
top entry					
size "44.27"	**CGV 06.16**	16	**MGV 06.25**	25	
size "44.27"	**CGV 06.21**	21	**MGV 06.32**	32	
size "44.27"	**CGV 06.29**	29	**MGV 06.40**	40	
size "57.27"	**CGV 10.16**	16	**MGV 10.25**	25	
size "57.27"	**CGV 10.21**	21	**MGV 10.32**	32	
size "57.27"	**CGV 10.29**	29	**MGV 10.40**	40	
size "77.27"			**MGV 16.25**	25	
size "77.27"			**MGV 16.225**	25x2	
size "77.27"	**CGV 16.21**	21	**MGV 16.32**	32	
size "77.27"	**CGV 16.221**	21x2			
size "77.27"	**CGV 16.29**	29	**MGV 16.40**	40	
size "77.27"	**CGV 16.36**	36	**MGV 16.50**	50	
size "104.27"			**MGV 24.325**	25x3	
size "104.27"	**CGV 24.21**	21	**MGV 24.32**	32	
size "104.27"			**MGV 24.232**	32x2	
size "104.27"	**CGV 24.29**	29	**MGV 24.40**	40	
size "104.27"	**CGV 24.229**	29x2	**MGV 24.240**	40x2	
size "104.27"	**CGV 24.36**	36	**MGV 24.50**	50	
size "44.27"					**CGC 06**
size "57.27"					**CGC 10**
size "77.27"					**CGC 16**
size "104.27"					**CGC 24**

dimensions in mm

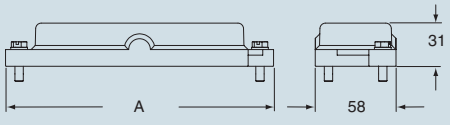
CGO/MGO and **CGV/MGV**



part No.	A	B
CGO/MGO and CGV/MGV 06	133	101
CGO/MGO and CGV/MGV 10	145	101
CGO/MGO and CGV/MGV 16	165	111
CGO/MGO and CGV/MGV 24	192.5	111

dimensions in mm

CGC



part No.	A
CGC 06	133
CGC 10	145
CGC 16	165
CGC 24	192.5

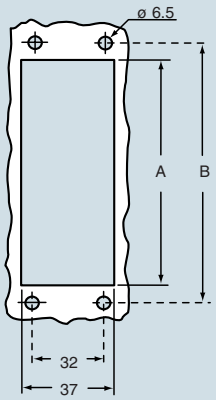
dimensions indicated are not binding
and may be changed without notice

inserts with screw fixing centre distance:
44 x 27 mm (enclosures CGI 06 B)
57 x 27 mm (enclosures CGI 10 B)
77 x 27 mm (enclosures CGI 16 B)
104 x 27 mm (enclosures CGI 24 B)

bulkhead mounting housings

description	part No.
size "44.27"	**CGI 06 B**
size "57.27"	**CGI 10 B**
size "77.27"	**CGI 16 B**
size "104.27"	**CGI 24 B**

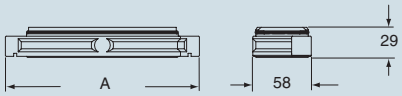
panel cut-out for bulkhead mounting housings in mm



part No.	A	B
CGI 06 B	54	70
CGI 10 B	67	83
CGI 16 B	88	103
CGI 24 B	104	130

dimensions in mm

CGI..B



part No.	A
CGI 06 B	133
CGI 10 B	145
CGI 16 B	165
CGI 24 B	192.5

dimensions indicated are not binding
and may be changed without notice

inserts with screw fixing centre distance:
44 x 27 mm (enclosures CGO/MGO and CGV/MGV 06 B)
57 x 27 mm (enclosures CGO/MGO and CGV/MGV 10 B)
77 x 27 mm (enclosures CGO/MGO and CGV/MGV 16 B)
104 x 27 mm (enclosures CGO/MGO and CGV/MGV 24 B)

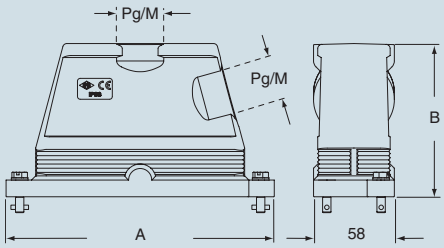
hoods

covers

description	part No.	entry Pg	part No.	entry M	part No.
side entry					
size "44.27"	**CGO 06.16 B**	16	**MGO 06.25 B**	25	
size "44.27"	**CGO 06.21 B**	21	**MGO 06.32 B**	32	
size "44.27"	**CGO 06.29 B**	29			
size "57.27"	**CGO 10.16 B**	16	**MGO 10.25 B**	25	
size "57.27"	**CGO 10.21 B**	21	**MGO 10.32 B**	32	
size "57.27"	**CGO 10.29 B**	29			
size "77.27"	**CGO 16.21 B**	21	**MGO 16.32 B**	32	
size "77.27"	**CGO 16.29 B**	29	**MGO 16.40 B**	40	
size "77.27"	**CGO 16.36 B**	36	**MGO 16.50 B**	50	
size "104.27"	**CGO 24.21 B**	21	**MGO 24.32 B**	32	
size "104.27"	**CGO 24.29 B**	29	**MGO 24.40 B**	40	
size "104.27"	**CGO 24.36 B**	36	**MGO 24.50 B**	50	
top entry					
size "44.27"	**CGV 06.16 B**	16	**MGV 06.25 B**	25	
size "44.27"	**CGV 06.21 B**	21	**MGV 06.32 B**	32	
size "44.27"	**CGV 06.29 B**	29	**MGV 06.40 B**	40	
size "57.27"	**CGV 10.16 B**	16	**MGV 10.25 B**	25	
size "57.27"	**CGV 10.21 B**	21	**MGV 10.32 B**	32	
size "57.27"	**CGV 10.29 B**	29	**MGV 10.40 B**	40	
size "77.27"			**MGV 16.25 B**	25	
size "77.27"			**MGV 16.225 B**	25x2	
size "77.27"	**CGV 16.21 B**	21	**MGV 16.32 B**	32	
size "77.27"	**CGV 16.221 B**	21x2			
size "77.27"	**CGV 16.29 B**	29	**MGV 16.40 B**	40	
size "77.27"	**CGV 16.36 B**	36	**MGV 16.50 B**	50	
size "104.27"			**MGV 24.325 B**	25x3	
size "104.27"	**CGV 24.21 B**	21	**MGV 24.32 B**	32	
size "104.27"			**MGV 24.232 B**	32x2	
size "104.27"	**CGV 24.29 B**	29	**MGV 24.40 B**	40	
size "104.27"	**CGV 24.229 B**	29x2	**MGV 24.240 B**	40x2	
size "104.27"	**CGV 24.36 B**	36	**MGV 24.50 B**	50	
size "44.27"					**CGC 06 B**
size "57.27"					**CGC 10 B**
size "77.27"					**CGC 16 B**
size "104.27"					**CGC 24 B**

dimensions in mm

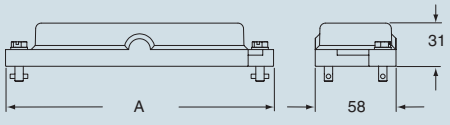
CGO/MGO..B and **CGV/MGV..B**



part No.	A	B
CGO/MGO and CGV/MGV 06 B	133	101
CGO/MGO and CGV/MGV 10 B	145	101
CGO/MGO and CGV/MGV 16 B	165	111
CGO/MGO and CGV/MGV 24 B	192.5	111

dimensions in mm

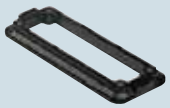
CGC..B



part No.	A
CGC 06 B	133
CGC 10 B	145
CGC 16 B	165
CGC 24 B	192.5

dimensions indicated are not binding
and may be changed without notice

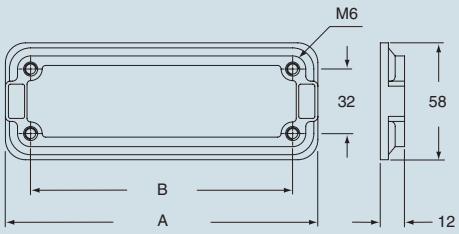
frames for bulkhead mounting housings



description	part No.
size ”44.27”	**CG 06 FL**
size ”57.27”	**CG 10 FL**
size ”77.27”	**CG 16 FL**
size ”104.27”	**CG 24 FL**

dimensions in mm

CG..FL



part No.	**A**	**B**
CG 06 FL	96	70
CG 10 FL	109	83
CG 16 FL	129	103
CG 24 FL	156	130

dimensions indicated are not binding
and may be changed without notice

inserts with screw fixing centre distance:
66 x 16 mm (enclosures CZAV/MZAV/MZFV 25...)
57 x 27 mm (enclosures CAV/MAV/MFV 10...)
77.5 x 27 mm (enclosures CAV/MAV/MFV 16... and CAF/MAF/MFF 16...)
104 x 27 mm (enclosures CAV/MAV/MFV 24... and CAF/MAF/MFF 24...)

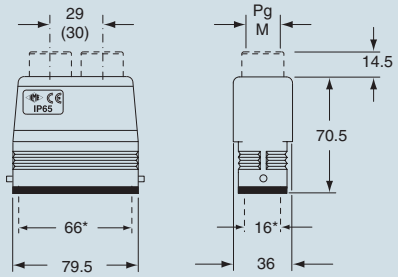
hoods with double top entry

hoods with double front entry

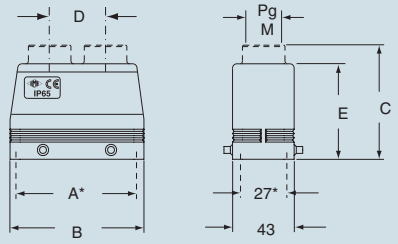
description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
with pegs for 1 lever used with enclosures size "66.16"	**CZAV 25 L216**	16 x 2	**MZAV 25 L220**	20 x 2				
with pegs for 1 lever, without adaptor used with enclosures size "66.16"			**MZFV 25 L220**	20 x 2				
with pegs for 2 lever - used with enclosures size "57.27" - used with enclosures size "77.27" - used with enclosures size "77.27" - used with enclosures size "104.27" - used with enclosures size "104.27"	**CAV 10.213** **CAV 16.216** **CAV 16.221** **CAV 24.221** **CAV 24.229**	13.5 x 2 16 x 2 21 x 2 21 x 2 29 x 2	**MAV 10.220** **MAV 16.220** **MAV 16.225** **MAV 24.232**	20 x 2 20 x 2 25 x 2 32 x 2				
with pegs for 2 lever, without adaptor - used with enclosures size "57.27" - used with enclosures size "77.27" - used with enclosures size "77.27" - used with enclosures size "104.27"			**MFV 10.220** **MFV 16.220** **MFV 16.225** **MFV 24.232**	20 x 2 20 x 2 25 x 2 32 x 2				
with pegs for 2 lever - used with enclosures size "77.27" - used with enclosures size "104.27"					**CAF 16.221** **CAF 24.221**	21 x 2 21 x 2	**MAF 16.225** **MAF 24.225**	25 x 2 25 x 2
with pegs for 2 lever, without adaptor - used with enclosures size "77.27" - used with enclosures size "104.27"							**MFF 16.225** **MFF 24.225**	25 x 2 25 x 2

dimensions in mm

CZAV L2, (MZAV L2) and **[MZFV L2]**



CAV, **MAV** and **MFV**

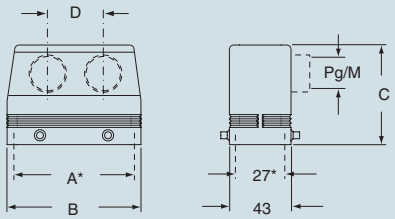


part No.	A*	B	C	D	E
CAV 10.213/(MAV 10.220)	57	73	81	26 (28.5)	70
CAV 16.216/(MAV 16.220)	77.5	93.5	89	35 (30)	76
CAV 16.221/MAV 16.225	77.5	93.5	90.5	40	76
CAV 24.221/MAV 24.232	104	120	92	50	76
CAV 24.229	104	120	92	50	76
MFV 10.220	57	73	--	28.5	70
MFV 16.220	77.5	93.5	--	30	76
MFV 16.225	77.5	93.5	--	40	76
MFV 24.232	104	120	--	50	76

*) screw fixing centre distance

dimensions in mm

CAF and **MAF/MFF**



part No.	A*	B	C	D
CAF 16.221 / MAF/MFF 16.225	77.5	93.5	76	40
CAF 24.221 / MAF/MFF 24.225	104	120	76	50

*) screw fixing centre distance

dimensions indicated are not binding and may be changed without notice

inserts with screw fixing centre distance:
49 x 16 mm (enclosures CZAC 15 L)
66 x 16 mm (enclosures CZAC 25 L)
44 x 27 mm (enclosures CAC 06 L)
57 x 27 mm (enclosures CAC 10)
77.5 x 27 mm (enclosures CAC 16)
104 x 27 mm (enclosures CAC 24)
104 x 27 mm (enclosures CQO / MQO and CQV / MQV)

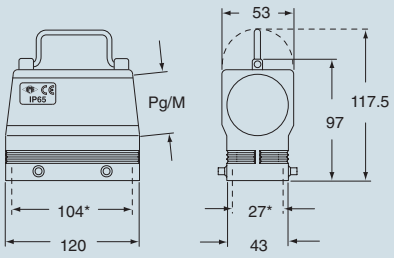
enlarged hoods, side or top entry

hoods without entry, to be pierced

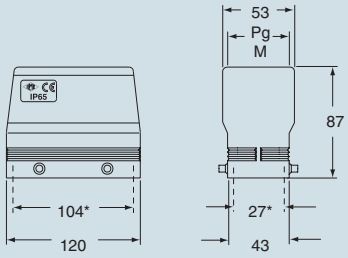
description	part No.	entry Pg	part No.	entry M	part No. with 2 pegs	part No. with 4 pegs
used with enclosures size "104.27"						
- with pegs for two levers, side entry	**CQO 24**	36	**MQO 24.40**	40		
- with pegs for two levers, top entry	**CQV 24**	36	**MQV 24.40**	40		
with pegs for levers						
- used with enclosures size "49.19"					**CZAC 15 L**	
- used with enclosures size "66.16"					**CZAC 25 L**	
- used with enclosures size "44.27"					**CAC 06 L**	
- used with enclosures size "57.27"					**CAC 10 L**	**CAC 10**
- used with enclosures size "77.27"					**CAC 16 L**	**CAC 16**
- used with enclosures size "104.27"					**CAC 24 L**	**CAC 24**

dimensions in mm

CQO and **MQO**



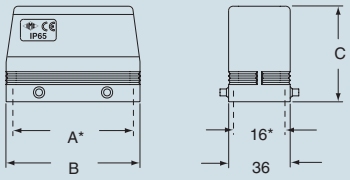
CQV and **MQV**



*) screw fixing centre distance

dimensions in mm

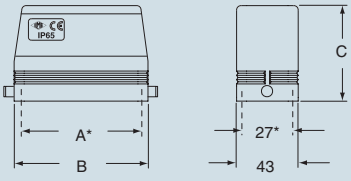
CZAC L



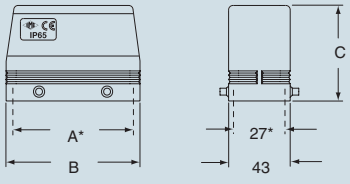
part No.	A*	B	C
CZAC 15 L	49.5	63	64.5
CZAC 25 L	66	79.5	70.5

*) screw fixing centre distance

CAC L



CAC



part No.	A*	B	C
CAC 06 L	44	60	70
CAC 10 - CAC 10 L	57	73	70
CAC 16 - CAC 16 L	77.5	93.5	76
CAC 24 - CAC 24 L	104	120	76

*) screw fixing centre distance

dimensions indicated are not binding and may be changed without notice

cable passing hoods
degree of protection IP54

cable passing housings

description	part No.	part No.
with pegs for two levers - 3 holes for round cables Ø 5 ÷ 13.5 mm - 4 holes for round cables Ø 5 ÷ 13.5 mm	**CYR 16.3** **CYR 24.4**	
with two levers - for hoods CYR 16.3 - for hoods CYR 24.4		**CHI 16** **CHI 24**

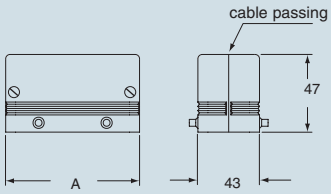
CYR enclosures for round cables

The CYR enclosures are used in installations that require a passage for round cables for data transmission (e.g. computers or PLC) via equipment such as command or control panels, ensuring a good condition of the cable connections.

The enclosures are in two parts and have sealing gaskets to preserve the degree of protection of the equipment. The enclosures also contain a rapid cable block device.

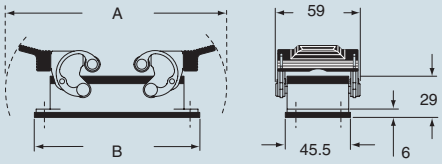
The CYR 16.3 and 24.4 can be used with the bulkhead enclosures CHI 16 and CHI 24 respectively.

dimensions in mm

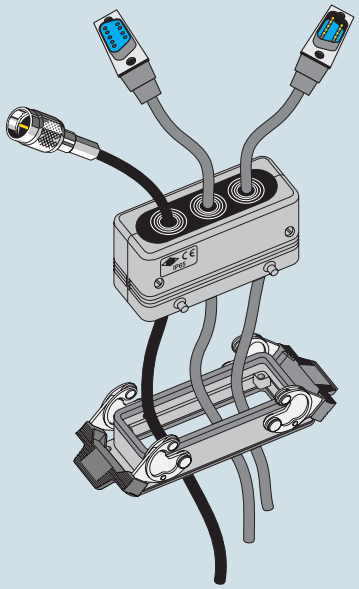


part No.	A	grommet entry	nr.
CYR 16.3	93.5	ø 5 / 13.5	3
CYR 24.4	120	ø 5 / 13.5	4

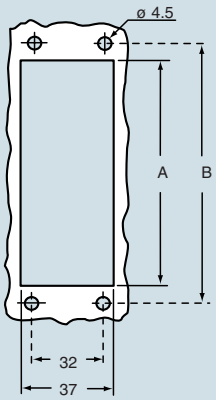
dimensions in mm



part No.	A	B
CHI 16	153	115.5
CHI 24	179.5	142.5



CHI housings panel cut-out in mm



part No.	A	B
CHI 16	88	103.5
CHI 24	104	130

dimensions indicated are not binding
and may be changed without notice

enclosures : page
size "77.27" ..... 179 ÷ 188

inserts with screw fixing centre distance :
77.5 x 27 mm

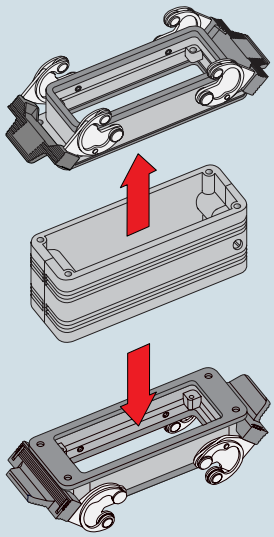
enclosures for in-line joints
degree of protection IP65

bulkhead housings
for in-line joint

description	part No.	part No.
without housings (to be ordered separately) made in two halves	**CYG 16**	
use with CYG for in-line joint - with one lever, without cover - with one lever and cover - with two levers - with pegs - with pegs and aluminium cover - with pegs and plastic cover		**CHI 16 L** **CHI 16 LS** **CHI 16** **CHI 16 C** **CHI 16 CS** **CHI 16 CP**

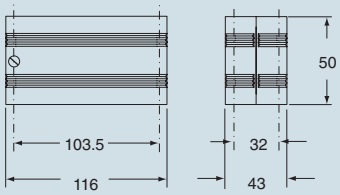
CYG 16 in-line joint
- the joint is made with the CYG 16 enclosure and two bulkhead housings "size 77.27" with one or two levers (to be ordered separately).
- the joint is ideal for use with extension connections and/or as adaptor.
- made in two halves to facilitate conductor cabling.
- two inserts in various combinations may be inserted in the joint (to be ordered separately):

» female/female inserts (as adaptor joint)
» male/male inserts (as adaptor joint)
» female/male inserts (as extension joint)



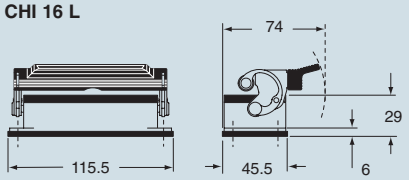
dimensions indicated are not binding
and may be changed without notice

dimensions in mm

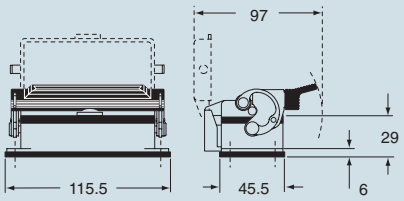


dimensions in mm

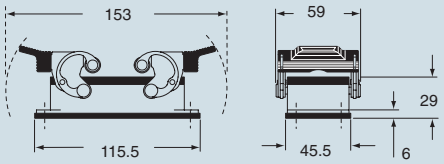
CHI 16 L



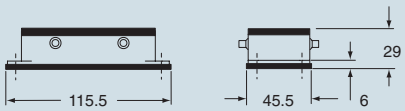
CHI 16 LS



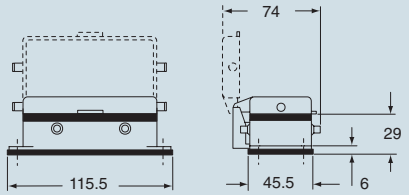
CHI 16



CHI C



CHI 16 CS/CP



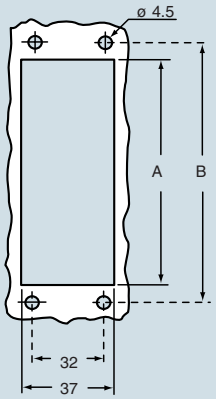
inserts with screw fixing centre distance:
44 x 27 mm (enclosures CHI and CAP/MAP 06...)
57 x 27 mm (enclosures CHI and CAP/MAP 10...)
77.5 x 27 mm (enclosures CHI and CAP/MAP 16...)
104 x 27 mm (enclosures CHI and CAP/MAP 24...)

bulkhead mounting housings for central lever

surface mounting housings, high construction with 2 entries for central lever

description	part No.	part No.	entry Pg	part No.	entry M
bulkhead mounting with pegs for central lever size "44.27" size "57.27" size "77.27" size "104.27"	 **CHI 06 YC** **CHI 10 YC** **CHI 16 YC** **CHI 24 YC**				
surface mounting, high construction, with pegs, for central lever size "44.27" size "57.27" size "77.27" size "104.27"		 **CAP 06 YC229** **CAP 10 YC229** **CAP 16 YC229** **CAP 24 YC229**	 29x2 29x2 29x2 29x2	 **MAP 06 YC232** **MAP 10 YC232** **MAP 16 YC232** **MAP 24 YC232**	 32x2 32x2 32x2 32x2

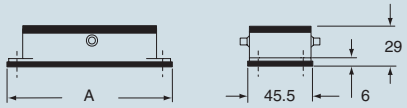
panel cut-out bulkhead mounting housings in mm



part No.	A	B
CHI 06 YC	54	70
CHI 10 YC	67	83
CHI 16 YC	88	103
CHI 24 YC	104	130

dimensions in mm

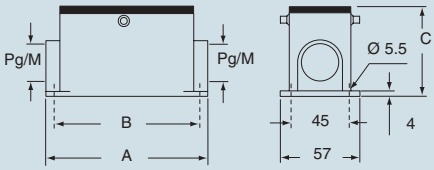
CHI YC



part No.	A
CHI 06 YC	82.5
CHI 10 YC	95.5
CHI 16 YC	115.5
CHI 24 YC	142.5

dimensions in mm

CAP YC and **MAP YC**



part No.	A	B	C
CAP 06 YC / MAP 06 YC	82	70	57
CAP 10 YC / MAP 10 YC	93.5	82	57
CAP 16 YC / MAP 16 YC	117	105	77
CAP 24 YC / MAP 24 YC	144	132	80

dimensions indicated are not binding and may be changed without notice

special enclosures

inserts with screw fixing centre distance :

44 x 27 mm (enclosures CAO/MAO and CAV/MAV 06...)

57 x 27 mm (enclosures CAO/MAO and CAV/MAV 10...)

77.5 x 27 mm (enclosures CAO/MAO and CAV/MAV 16...)

104 x 27 mm (enclosures CAO/MAO and CAV/MAV 24...)

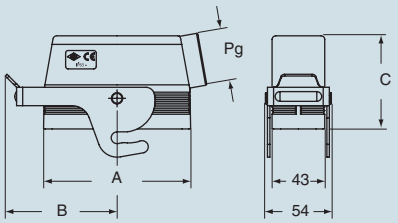
hoods with central lever

hoods with central lever

description	part No.	entry Pg	part No.	entry M	part No.	entry Pg	part No.	entry M
side entry, high construction								
size "44.27"	**CAO 06 YX21**	21	**MAO 06 YX25**	25				
size "44.27"	**CAO 06 YX29**	29	**MAO 06 YX32**	32				
size "57.27"	**CAO 10 YX21**	21	**MAO 10 YX32**	32				
size "57.27"	**CAO 10 YX29**	29	**MAO 10 YX40**	40				
size "77.27"	**CAO 16 YX21**	21	**MAO 16 YX32**	32				
size "77.27"	**CAO 16 YX29**	29	**MAO 16 YX40**	40				
size "104.27"	**CAO 24 YX21**	21	**MAO 24 YX32**	32				
size "104.27"	**CAO 24 YX29**	29	**MAO 24 YX40**	40				
top entry, high construction								
size "44.27"					**CAV 06 YX21**	21	**MAV 06 YX25**	25
size "44.27"					**CAV 06 YX29**	29	**MAV 06 YX32**	32
size "57.27"					**CAV 10 YX21**	21	**MAV 10 YX32**	32
size "57.27"					**CAV 10 YX29**	29	**MAV 10 YX40**	40
size "77.27"					**CAV 16 YX21**	21	**MAV 16 YX32**	32
size "77.27"					**CAV 16 YX29**	29	**MAV 16 YX40**	40
size "104.27"					**CAV 24 YX21**	21	**MAV 24 YX32**	32
size "104.27"					**CAV 24 YX29**	29	**MAV 24 YX40**	40

dimensions in mm

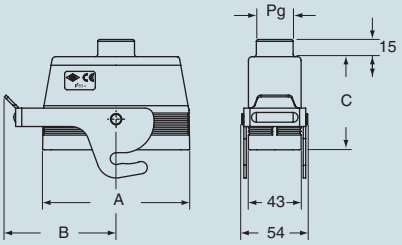
CAO..YX and **MAO..YX**



part No.	A	B	C
CAO 06 YX/MAO 06 YX	60	70	70
CAO 10 YX/MAO 10 YX	73	70	70
CAO 16 YX/MAO 16 YX	93.5	76	76
CAO 24 YX/MAO 24 YX	120	87	76

dimensions in mm

CAV..YX and **MAV..YX**



part No.	A	B	C
CAV 06 YX/MAV 06 YX	60	70	70
CAV 10 YX/MAV 10 YX	73	70	70
CAV 16 YX/MAV 16 YX	93.5	76	76
CAV 24 YX/MAV 24 YX	120	87	76

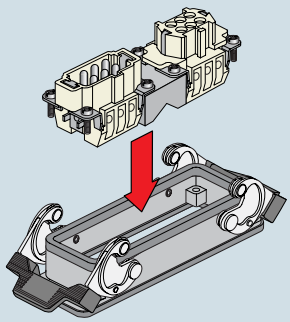
dimensions indicated are not binding
and may be changed without notice

insert combination block

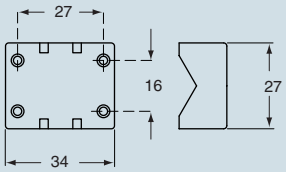
description	part No.
in die-cast aluminium alloy for coupling of two inserts (see below)	**CBGF**

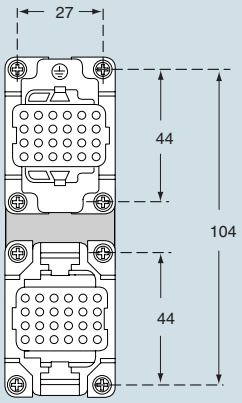
[1] to be used only with enclosures with 2 levers, size 57.27, 77.27 and 104.27

CBGF combination block
- allows the insertion of two inserts “size 44.27“ in enclosures “size 104.27“ and on the following COB series types: COB TCQ, COB 24 BC, COB TSF, COB TSFS, COB 24 CMS.
- allows female and male contacts in the same enclosures or support.
- allows mixed contacts in the same enclosures or support (e.g. CNF 6 poles 16A + CDDF 24 poles 10A).



dimensions in mm





enclosures: page
size “104.27” ..... 191 ÷ 200

panel supports: page
COB..... 214 ÷ 215

inserts with screw fixing centre distance:
(2x) 44 x 27 mm

metal handles for replacement

part No.
CR TM-1

enclosures
(only with 2 levers): page
size “57.27” ..... 167 ÷ 176
size “77.27” ..... 179 ÷ 188
size “104.27” ..... 191 ÷ 200

panel supports: page
COB..... 214 ÷ 215

inserts with screw fixing centre distance:
(2x) 44 x 27 mm

dimensions indicated are not binding
and may be changed without notice

support for rail mounting DIN EN 60715

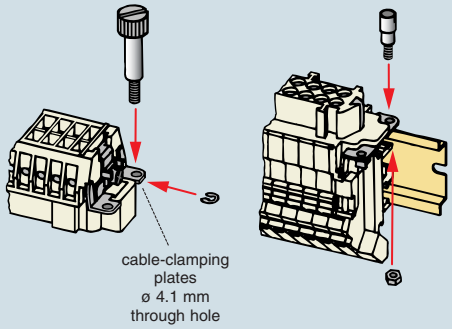
CT/CTS/CTE/CTSE inserts coupling screws cable-clamping plates

description	part No.	part No.
supports for CT, CTS, CTE, CTSE inserts	**CT APE**	
bush for CT, CTS, CTE, CTSE inserts screw pin for CN, CC, CS, CD, CNE, CCE, CSE inserts		**CRBF** **CRBM**
straight cable clamping plate angled cable clamping plate		**CRAD** **CRAS**

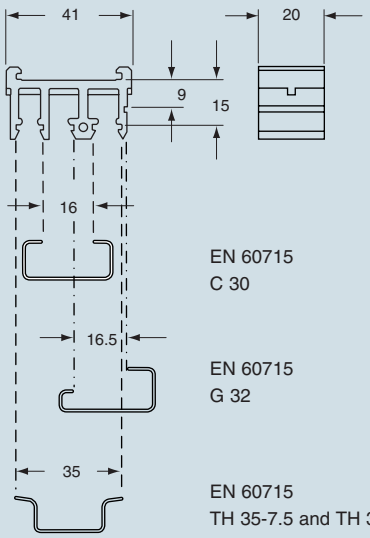
Coupling screws for CT/CTE inserts

The use of CRBF (female) and CRBM (male) coupling screws is recommended to guarantee a stable and safe coupling between inserts (without enclosures) with terminal blocks and inserts without terminal blocks.

CRBM **CRBF**



dimensions in mm



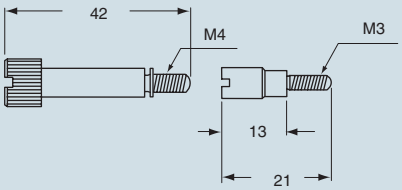
EN 60715
C 30

EN 60715
G 32

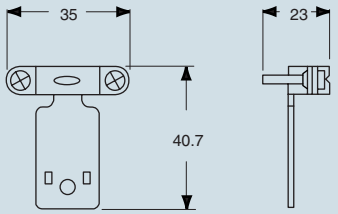
EN 60715
TH 35-7.5 and TH 35-15

dimensions in mm

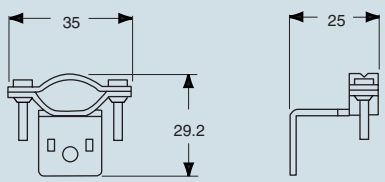
CRBM **CRBF**



CRAD



CRAS

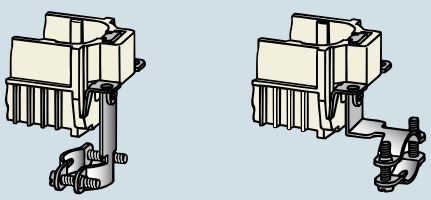


Note: for conductor groups or cable with Ø min = 12 mm and Ø max = 23 mm

Use of cable-clamping plates

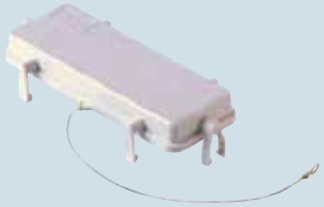
In accordance with the recommendations of standard IEC 60352-2, the weight of the conductor groups or multipolar cables must not cause any stress on the contacts inside the inserts. It is therefore advisable to use cable-clamping plates in those inserts without enclosures

CRAD **CRAS**



dimensions indicated are not binding
and may be changed without notice

temporary protection cover for transportation

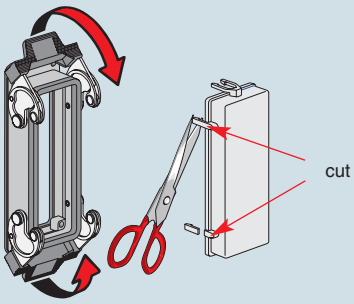


pliers for uncoupling connectors

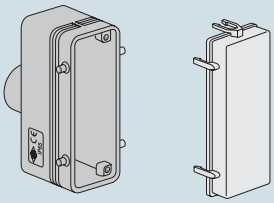
description	part No.	part No.
for housings and hoods - with 1 or 2 levers, 2 or 4 pegs	**CPT 24**	
for housings and hoods - with 2 levers and 4 pegs		**CPES**

use

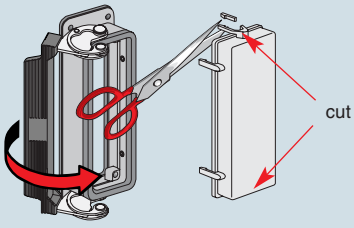
CPT 24 for enclosures with 2 levers



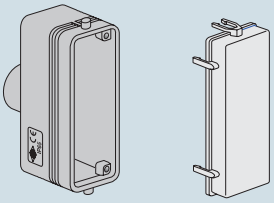
CPT 24 for enclosures with 4 pegs



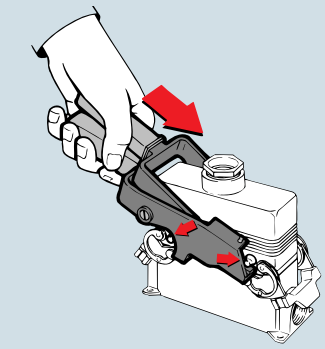
CPT 24 for enclosures with 1 lever

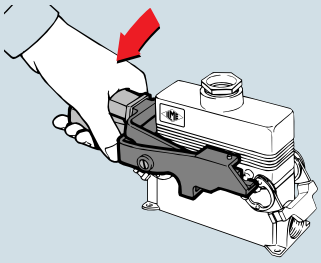


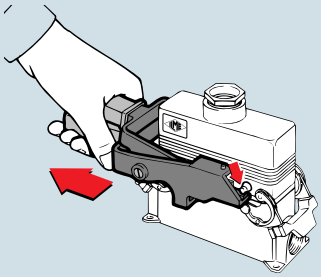
CPT 24 for enclosures with 2 pegs

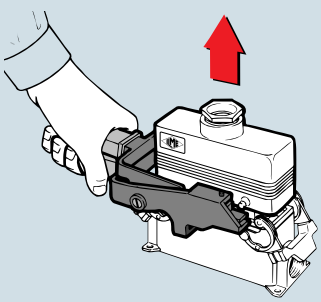


use









inserts :

interface for printed circuit

6A contacts for interface silver and gold plated

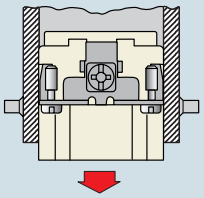
description	part No.	part No.	part No.
interface module with 6 female contacts - for printed circuit up to 2.4 mm thick	**CIF 2.4**		
6A female contacts for female inserts with terminal Ø 1 mm		**CDFA 6A** silver plated	**CDFD 6A** gold plated
6A male contacts for male inserts with terminal Ø 1 mm		**CDMA 6A**	**CDMD 6A**

CIF interface

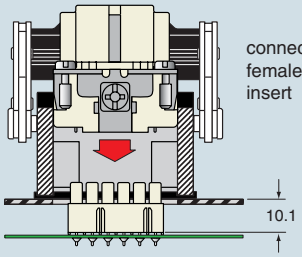
The interface block is made according to the multipole connector used by assembling a suitable number of CIF modules (see table).

inserts serie	poles n°	modules "CIF" n°
CDD	24	4
CDD	42	7
CDD	72	12
CDD	108	18
CX	8/24	4
CX	6/36	6
CX (MIXO)	12	2

The block is then welded on the printed circuit on which the multipole connector (female or male) equipped with coupling contacts will then be inserted.



connector female or male insert

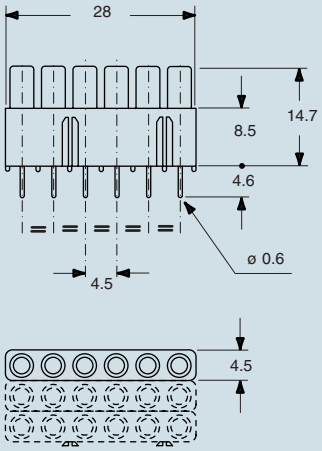


connector female or male insert

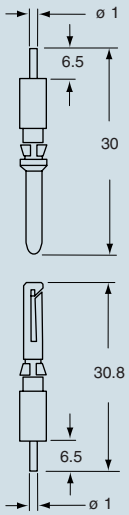
CIF interface welded on printed circuit

dimensions indicated are not binding and may be changed without notice

dimensions in mm



dimensions in mm



accessories

Use M3 passing screws tightened with nut and washer (not included). Verify connection continuity of coupled connectors

plates for D-SUB inserts (IEC 60807-2) CZ / MZ / MZF enclosures

plates for D-SUB inserts (IEC 60807-2) CH / CA and MH / MA / MF enclosures

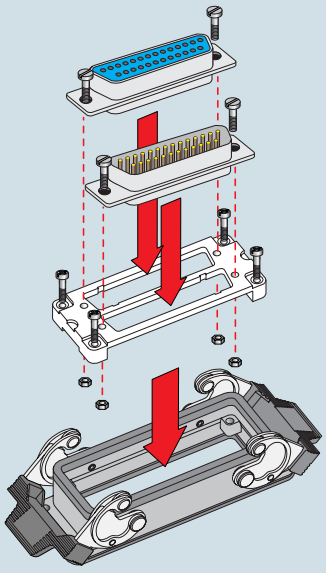
description	part No.	for enclosures size	part No.	for enclosures size
for 1 D-SUB insert 9 poles (not included)	**CR 09 AD**	“49.16”	**CR 09 AD1**	“44.27”
for 1 D-SUB insert 15 poles (not included)	**CR 15 AD**	“49.16”	**CR 15 AD1**	“44.27”
for 1 D-SUB insert 25 poles (not included)	**CR 25 AD**	“49.16”	**CR 25 AD1**	“57.27”
for 1 D-SUB insert 37 poles (not included)	**CR 37 AD**	“66.16”	**CR 37 AD1**	“77.27”
for 1 D-SUB insert 50 poles (not included)	**CR 50 AD**	“66.16”	**CR 50 AD1**	“77.27”
for 2 D-SUB inserts 9 poles (not included)			**CR 09 AD2**	“44.27”
for 2 D-SUB inserts 15 poles (not included)			**CR 15 AD2**	“44.27”
for 2 D-SUB inserts 25 poles (not included)			**CR 25 AD2**	“57.27”
for 2 D-SUB inserts 37 poles (not included)			**CR 37 AD2**	“77.27”
for 2 D-SUB inserts 50 poles (not included)			**CR 50 AD2**	“77.27”

Plates CR...AD, CR...AD1 and CR...AD2
For machinery or command equipment that need connection with programming and control electronic devices. The plate housings have notches for the rear insertion of cabled D-SUB inserts.

CR...AD
mounting on bulkhead housings and hoods
one-way mounting in bulkhead housings or hoods.

CR...AD1 and CR...AD2
mounting on bulkhead housings (Figure 1)
The D-SUB connector must be mounted on the side marked with the letter “A“

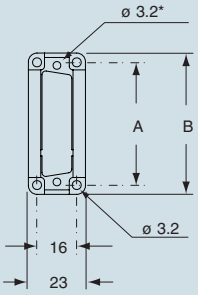
mounting on hoods (Figure 2)
The D-SUB connector must be mounted on the side marked with the letter “T“



dimensions indicated are not binding and may be changed without notice

dimensions in mm

CR...AD



*** For passing screws type M3**

the electrical continuity is guaranteed only if mounted in our enclosures.

part No.	A	B
CR 09 AD	49.5	56.5
CR 15 AD	49.5	56.5
CR 25 AD	49.5	56.5
CR 37 AD	66	73.5
CR 50 AD	66	73.5

dimensions in mm

CR...AD1

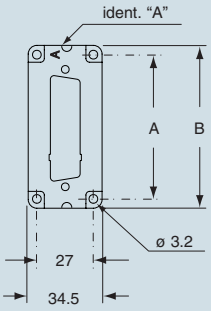


Figure 1

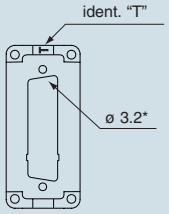


Figure 2

CR...AD2

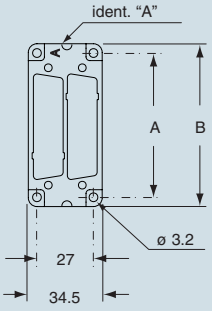


Figure 1

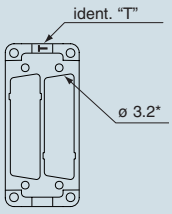


Figure 2

*** For passing screws type M3**

part No.	A	B
CR 09 AD1 / 2	44	51.5
CR 15 AD1 / 2	44	51.5
CR 25 AD1 / 2	57	64.5
CR 37 AD1 / 2	77.5	85
CR 50 AD1 / 2	77.5	85

enclosures *): **size "104.62"**

standard ..... page: 208

*) normally bulkhead type

kit for control equipment plate only

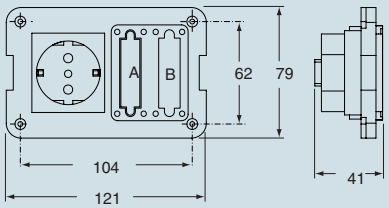
kit for control equipment plate with enclosure

description	part No.	for enclosure	part No.
with Schuko® socket 16A and 2 seats for: CR 09 AD, CR 15 AD, CR 25 AD plates	**SDS**	CHI 48 LS	
with Schuko® socket 16A and 2 seats for: CR 09 AD, CR 15 AD, CR 25 AD plates			**CHSDS**

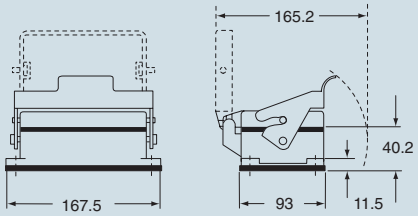
Kit for control equipment

For machinery or command equipment that need connection with programming and control electronic devices.
The kit includes the Schuko® socket and 2 seats for the CR…AD plates (not included) for D-SUB inserts (not included).
Personal computers, notebooks or printers can be power supplied using a 16A socket.
Monitors, printers and other peripheral devices may be interfaced using D-SUB connectors

dimensions in mm



dimensions in mm

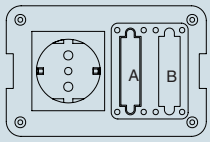


CR…AD plates usable

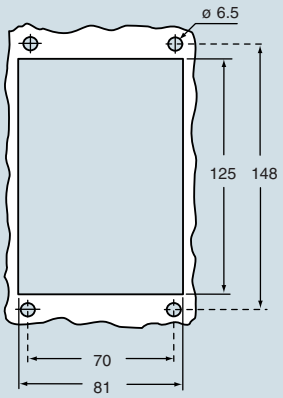
part No.	
CR 09 AD	for 1 D-SUB insert 9 poles (not included)
CR 15 AD	for 1 D-SUB insert 15 poles (not included)
CR 25 AD	for 1 D-SUB insert 25 poles (not included)

Closed seat "A" for use with one insert only. The closing is achieved by means of a plastic membrane that can easily be removed if the second seat is required.

CR.. AD plates to be ordered separately



housing panel cut-out in mm



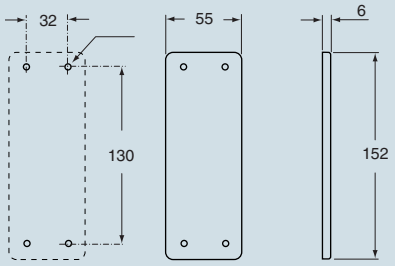
dimensions indicated are not binding and may be changed without notice

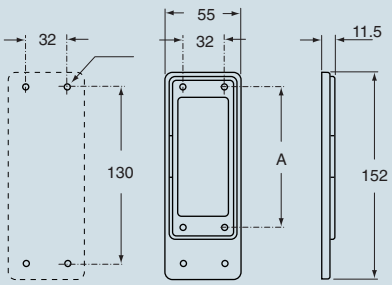
24 pole closure or reduction plate

extraction tool for MIXO BUS connectors

description	part No.	part No.
in autoextinguishing thermoplastic resin with gasket in vinil-nitrile elastomer	**CRH 24**	
in self-extinguishing thermoplastic resin with gasket in vinil-nitrile elastomer - for enclosures CHI size “44.27” - for enclosures CHI and CMI size “57.27” - for enclosures CHI and CMI size “77.27” - for enclosures CHI and CMI size “104.27”	 **CRZ 06** **CRZ 10** **CRZ 16** **CRZ 24**	
for the extraction of the BUS shielded connectors from the MIXO BUS insert		**CX BES**

dimensions in mm





CRZ	A
06	70
10	83
16	103
24	130

dimensions indicated are not binding and may be changed without notice

inserts: page

ground terminals for shielded cables (for MIXO series) clamps for cables Ø 5 mm and Ø 10 mm

anchorages for earth connecting several cables (for MIXO series)

description	part No.	part No.
in zinc iron, to be mounted on MIXO frames in bulkhead mounting housings and high construction hoods - enclosures "44.27" and MIXO frames for 2 inserts - enclosures "57.27" and MIXO frames for 3 inserts - enclosures "77.27", "77.62" and MIXO frames for 4 inserts - enclosures "104.27", "104.62" and MIXO frames for 6 inserts	**CR 06 ST** **CR 10 ST** **CR 16 ST** **CR 24 ST**	
to be mounted on CR..ST ground terminals clamp for shielding cables Ø 5 mm clamp for shielding cables Ø 10 mm	**CR 05 CA** **CR 10 CA**	
in zinc iron, to be mounted on MIXO frames in bulkhead mounting housings and high construction hoods - enclosures "44.27" and MIXO frames for 2 inserts - enclosures "57.27" and MIXO frames for 3 inserts - enclosures "77.27", "77.62" and MIXO frames for 4 inserts - enclosures "104.27", "104.62" and MIXO frames for 6 inserts		**CR 06 AT** **CR 10 AT** **CR 16 AT** **CR 24 AT**

Anchorages CR .. ST are designed for installation on the frames of the MIXO modular connectors, for earth connecting the screening braid of shielded cables.

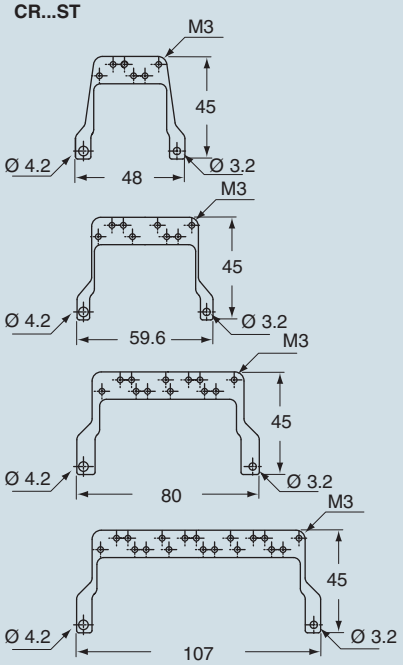
With the CR..ST anchorages we advise you to use high construction hoods top entry.

Anchorages CR .. AT are designed for installation on the frames of the MIXO modular connectors for earth connecting several cables.

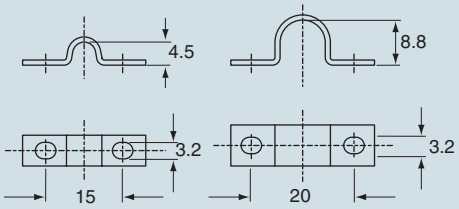
dimensions indicated are not binding and may be changed without notice

dimensions in mm

CR...ST

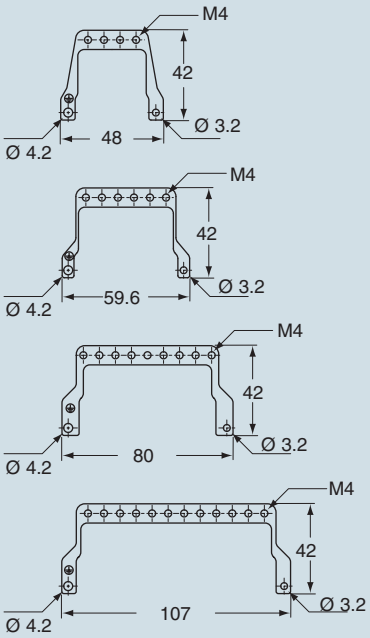


CR...CA



dimensions in mm

CR...AT



accessories

inserts: page

screw fixing centre distance:
44 x 27 mm, 57 x 27 mm,
77.5 x 27 mm, 104 x 27 mm

ground terminals for shielded cables
clamps for cables Ø 5 mm and Ø 10 mm

anchorages for earth connecting several cables

IN PREPARATION

description	part No.	part No.
in zinc iron, to be mounted on the connectors in bulkhead mount. housings, high constr. hoods and COB series - enclosures and inserts "44.27" - enclosures and inserts "57.27" - enclosures and inserts "77.27", "77.62" - enclosures and inserts "104.27", "104.62"	 **CR 06 SC** **CR 10 SC** **CR 16 SC** **CR 24 SC**	
to be mounted on CR..SC ground terminals clamp for shielding cables Ø 5 mm clamp for shielding cables Ø 10 mm	 **CR 05 CA** **CR 10 CA**	
in zinc iron, to be mounted on the connectors in bulkhead mount. housings, high constr. hoods and COB series - enclosures and inserts "44.27" - enclosures and inserts "57.27" - enclosures and inserts "77.27", "77.62" - enclosures and inserts "104.27", "104.62"		 **CR 06 AC** **CR 10 AC** **CR 16 AC** **CR 24 AC**

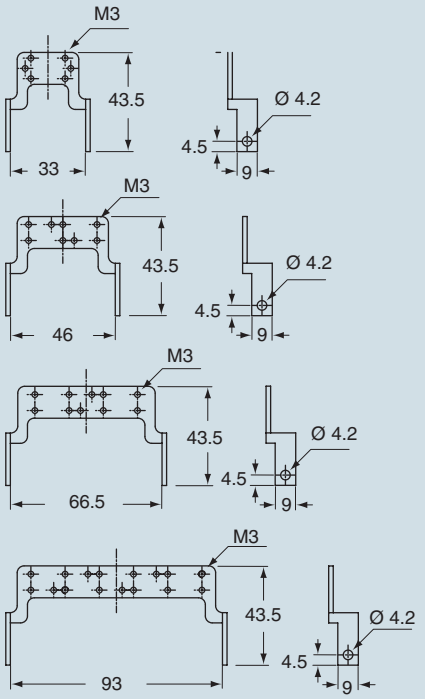
Anchorages CR .. SC are designed for installation on the connectors, for earth connecting the screening braid of shielded cables.

With the CR..SC anchorages, we advise you to use high construction hoods top entry.

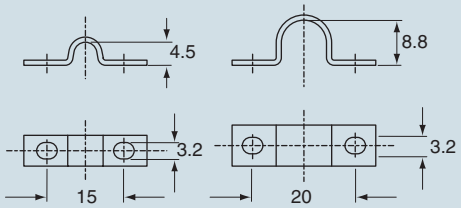
Anchorages CR .. AC are designed for installation on the connectors, for earth connecting several cables.

dimensions in mm

CR...SC

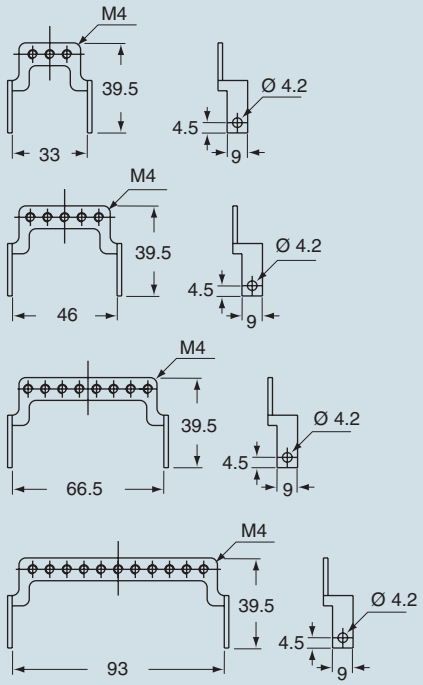


CR...CA



dimensions in mm

CR...AC



dimensions indicated are not binding
and may be changed without notice

The CR..FS series anchorages are employed for use of connector inner fittings (normal or MIXO modular) without enclosures and enable securing cables with clamps to prevent transmitting friction forces to contacts.
CR..SS anchorages (with grip to facilitate detachment) are used for earth connecting several conductors and/or of the screen of shielded cables

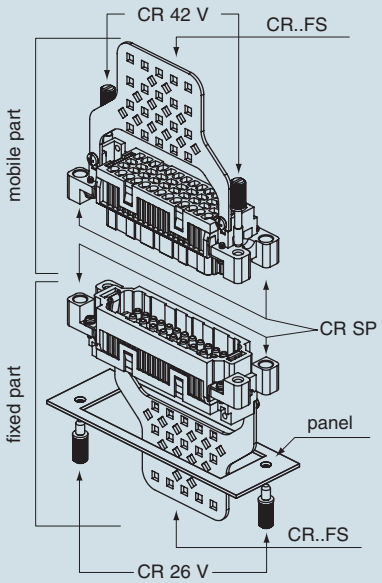
* except CT, CTS, CTE and CTSE

grip panels for cables outside enclosure equipped with fixing screws and rings

supports, screws and clamps for grip panels of cables outside enclosure

description	part No.	part No.
in zinc iron, to be mounted on: - inserts size "44.27" * and MIXO frames for 2 inserts - inserts size "57.27" * and MIXO frames for 3 inserts - inserts size "77.27" * and MIXO frames for 4 inserts - inserts size "104.27" * and MIXO frames for 6 inserts	 **CR 06 FS** **CR 10 FS** **CR 16 FS** **CR 24 FS**	
for shielded cables, to be mounted on: - inserts size "77.27" * and MIXO frames for 4 inserts - inserts size "104.27" * and MIXO frames for 6 inserts	 **CR 16 SS** **CR 24 SS**	
supports in die-cast zinc N° 2 pieces equipped with fixing screws and rings for earth connecting		**CR SP**
short screws in zinc iron, N° 2 pieces long screws in zinc iron, N° 2 pieces		**CR 26 V** **CR 42 V**
to be mounted on CR..SS anchorage clamp for shielding cables Ø 5 mm clamp for shielding cables Ø 10 mm		 **CR 05 CA** **CR 10 CA**

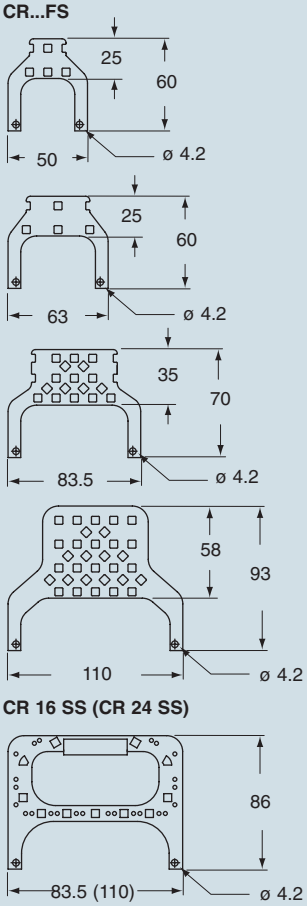
In the fixed part, a pair of CR SP supports is fitted on the connector, using its securing screws. A CR..FS or CR..SS anchorage is fitted on the supports, using the supplied securing screws and washers. All parts are secured on the rear panel with the pair of CR 26 V viton screws.
In the mobile part too, a pair of CR SP supports are fitted on the connector and a CR..FS or CR..SS anchorage is secured on it. The pair of CR 42 V screws fasten the mobile part to the fixed part.
Note: By unscrewing the CR 26 V panel screws, the whole assembly (mobile part+fixed part) can be removed from the panel for inspection.



dimensions indicated are not binding
and may be changed without notice

dimensions in mm

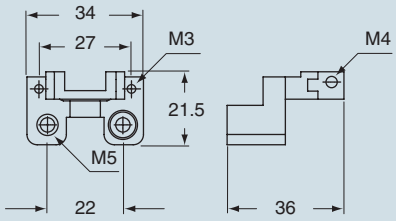
CR...FS



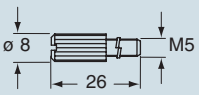
CR 16 SS (CR 24 SS)

dimensions in mm

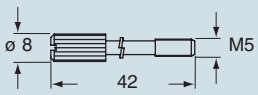
CR SP



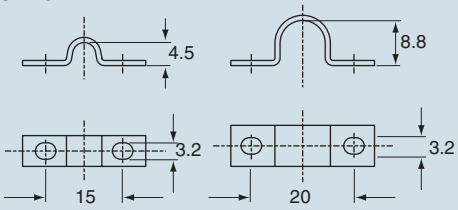
CR 26 V



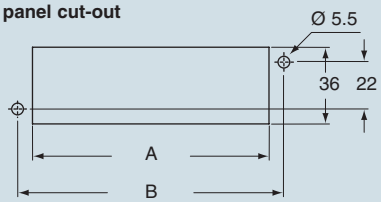
CR 42 V



CR...CA



panel cut-out



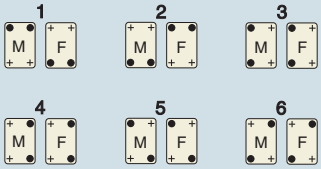
poles	06	10	16	24
A	52	65	85.5	112
B	65	78	98.5	125

single code pins for 6 codings

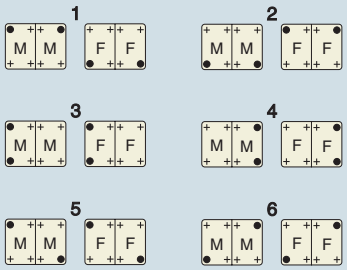
selectivity using single code pins

description	part No.	part No.
single code pin (not for MIXO inserts)	stainless steel **CR 20**	zinc plated iron **CR 20 D**
single code pin (for MIXO inserts only)	stainless steel **CR 20 CX**	zinc plated iron **CR 20 CX D**
code pins for CQ 05, CD 07 and CD 08 inserts - plastic pin for insertion instead of crimp contact	**CR CP**	

application with single insert



application with double inserts

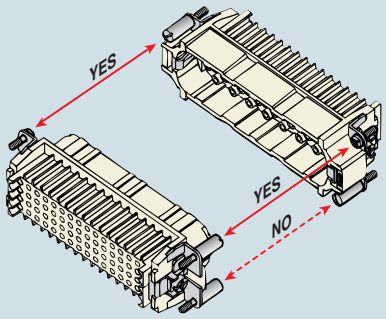


● code pin (CR 20/CR 20 D and CR 20 CX/CR 20 CX D)
\+ normal fixing screw
M = male insert
F = female insert

CR 20/CR 20 D and CR 20 CX/CR 20 CX D code pins

Each series of connector inserts is made in such a way as to make incorrect coupling between inserts of different series impossible.
When a number of identical connectors with different functions are mounted closely together these must be selected in such a way as to prevent the coupling of a mobile part on a non-corresponding fixed part and consequent damage and breakdown.

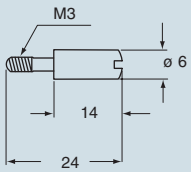
Code pins are supplied to apply in place of the normal insert fastening screws (see example below). In this way the coupling of identical connectors is assured. The combination of code pins makes it possible to obtain a high number of selective couplings.



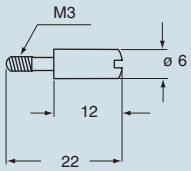
dimensions indicated are not binding and may be changed without notice

dimensions in mm

CR 20 / CR 20 D

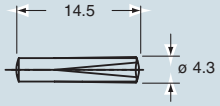


CR 20 CX / CR 20 CX D

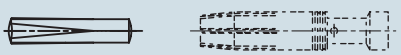


CR CP

In the CD 07 and CD 08 inserts the coding pin is inserted instead of a crimp contact



In the CQ 05 inserts the coding pin is inserted inside the crimp contact housed in the insert



double code pins for 16 codings

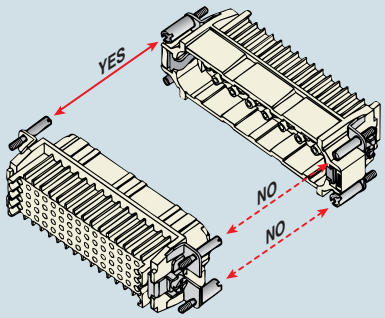
selectivity using double code pins and guides

description	part No.	part No.
double code pins (not for MIXO inserts) - male pin - female pin	stainless steel **CRM** **CRF**	zinc plated iron **CRM D** **CRF D**
double code pins (for MIXO inserts only) - male pin - female pin	stainless steel **CRM CX** **CRF CX**	zinc plated iron **CRM CX D** **CRF CX D**

Code pins
- CRM/CRM D and CRF/CRF D
- CRM CX/CRM CX D and CRF CX/CRF CX D

Each series of connector inserts is made in such a way as to make incorrect coupling between inserts of different series impossible.
When a number of identical connectors with different functions are mounted closely together these must be selected in such a way as to prevent the coupling of a mobile part on a non-corresponding fixed part and consequent damage and breakdown.

Code pins are supplied to apply in place of the normal insert fastening screws (see example below). In this way the coupling of identical connectors is assured. The combination of code pins makes it possible to obtain a high number of selective couplings.

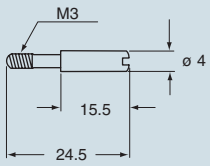


Even when coding is not necessary, the use of CRM and CRF pins with the CD and CDD inserts is advisable to limit fluctuation during the insertion and removal of the connectors and prevent damage to the contacts. Within this context, the DIN 43 652 standard requires an angular longitudinal fluctuation limit of ± 5°.

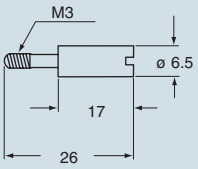
dimensions indicated are not binding
and may be changed without notice

dimensions in mm

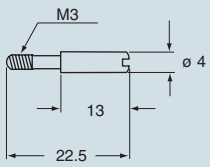
CRM / CRM D



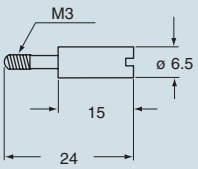
CRF / CRF D



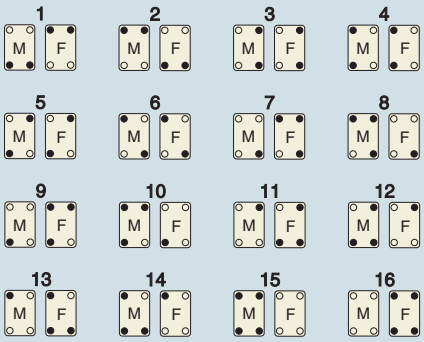
CRM CX / CRM CX D



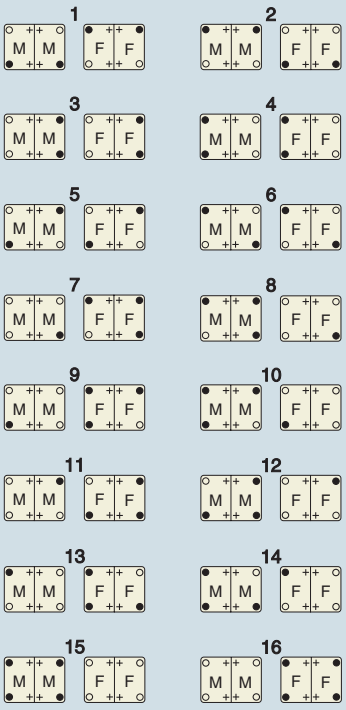
CRF CX / CRF CX D



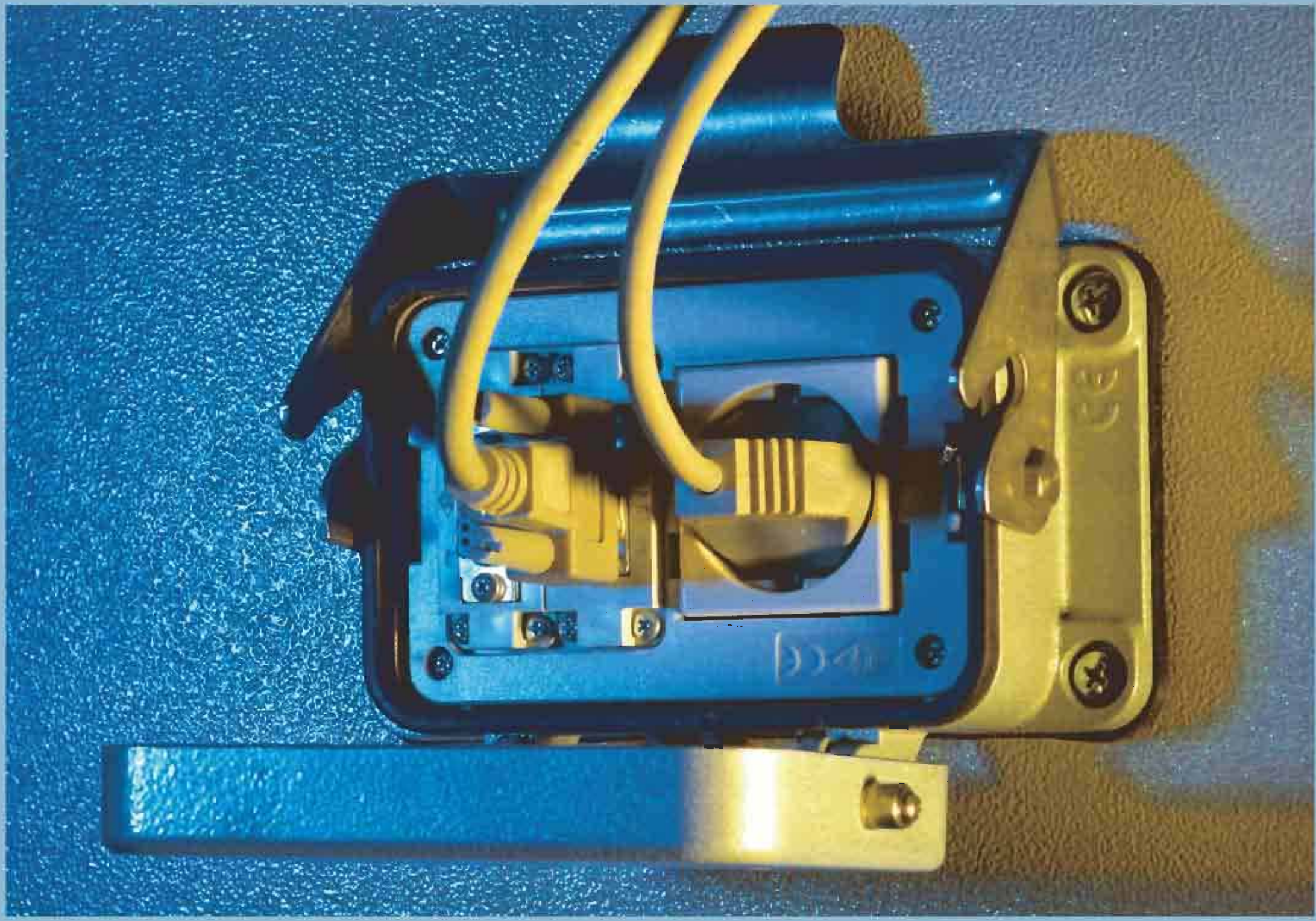
application with single insert



application with double inserts



● female code pin (CRF/CRF D and CRF CX/CRF CX D)
○ male code pin (CRM/CRM D and CRM CX/CRM CX D)
\+ normal fixing screw
M = male insert
F = female insert



The crimping concept

The crimp connection is an irreversible connection between one or two conductors and a crimp contact. The crimp connection is obtained by pinching or pressing the contact metal - or shaft - firmly with the crimping tool.
A good crimp connection is provided by a suitable combination between the crimping base, the crimping part of the contact metal, i.e. the crimp contact, firmly with and the section of the conductor.
These comments refer to crimped connections carried out with copper flexible conductors in class 5 (flexible) or 6 (extra flexible) according to standards IEC 60228 and IEC 60228-A (Italian standard CEI 20-29).
Solid copper conductors (class 1) or in other materials (aluminium , iron, etc) often require special precautions for contacts and for crimping tools, to be agreed with the manufacturer.
The main technical advantages provided by crimping connections over soldered connections are:

- The process does not use heat and does not require materials.
- Perfect connection is acquired that is intrinsic with cold soldering.
- No degradation of the elastic characteristics of the female contacts (a problem that arises with soldering temperatures).
- No health risks connected with the use of heavy metals or fumes generated from the soldering process.
- Preservation of the conductor's flexibility immediately upon connection.
- No conductors with burned, discoloured or overheated insulating material.
- Excellent reproducibility of the performances of the electrical and mechanical connections.
- facilitated production controls.

Other advantages obtained by crimping connections over screw terminal connections are:

- Less drop of currency in the connector contacts.
- High stability in time even in the presence of vibrations.
- High duration in presence of corrosion (gastight).
- Individual insertion of the contacts in the connector (it is possible to eliminate unnecessary contacts).
- Less time required for connection.
- Possibility of pre-production of the terminated conductors with crimp contacts.
- Easy substitution of individual contacts during maintenance.
- Possibility of selectively isolating the circuits during maintenance via the extraction of the contacts from the connector.

The crimped connections are covered by European standard EN 60352-2 (1994-10) by the subsequent Amendments A1 (1977-01) and A2 (2002-03), corresponding to international standard IEC 60352-2 (1990-04) and by Amendment 1 (1996-11) with Amendment 1 (1996-11) and Amendment 2 (2002-02). This standard including a practical guide. The main points are as follows.
The quality of a crimp connection depends mostly on the state of the surface of the materials and their quality, with regard to both the pin and (especially the crimping foot or shaft) the conductor.
To obtain a good quality crimp connection, an essential parameter is the mechanical retention of the conductor in the contact. The standard distinguishes contacts with a closed crimping shaft, which are intrinsically stronger, from contacts with an open crimping foot.
The ILME crimp contacts have a closed shaft and an inspection hole, which ensures better mechanical performance compared to the open shaft type, providing greater sturdiness and mechanical stability during use. The contacts are obtained by turning and, therefore, guarantee better electrical performance (better conductivity).
Amendment 2 has debatably unified the minimum tensile stress resistance values specified for open shaft contacts (see curve B in Figure 5) and closed shaft contacts (see curve A in Figure 5), putting them in the same category as the lower ones, achieved by crimped connections obtained with open shaft contacts. This amounts to a criticisable relaxation of the suitability requirements both for contacts with a closed crimping shaft - typically massive and obtained by turning - and for the crimping tools specifically for these contacts.
ILME therefore continues to refer to the values of curve A in Figure 5 of standard EN 603352-2 (1994): the ILME crimping contacts - with closed shaft - used with flexible copper conductors with a section in the indicated ranges and correctly crimped with the recommended tools, guarantee connections with tensile stress resistance not inferior to the values in the table below (as a reference, we also indicate the corresponding tensile stress unit value R_t /S [N/mm²]).

Section S		Resistance to traction R_t	R_t/S
AWG	mm²	(N)	(N/mm²)
26	0.12	18	150
-	0.14	21	150
24	0.22	33	150
-	0.25	37.5	150
22	0.32	48	150
-	0.37	55.5	150
20	0.5	75	150
-	0.75	112.5	150
18	0.82	125	150
-	1.0	150	150
16	1.3	195	150
-	1.5	220	147
14	2.1	300	143
-	2.5	325	130
12	3.3	430	130
-	4.0	500	125
10	5.3	635	120
-	6.0	650	108

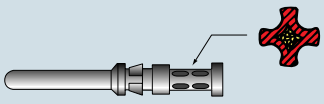
The criterion adopted for the tensile stress resistance values prescribed by standard EN 60352-2 is that this resistance be at least 60% of the ultimate tensile stress unit of the same conductor in soft copper. This applies to conductor sections of up to about 1.5 mm²; for larger sections, the ratio drops slightly because friction contributes to retention. Friction increases linearly according to seat diameter, whereas the section increases squared.

Selecting the crimping tool and relevant controls

When you have selected quality crimp contacts and conductors, the next step and most important step is to select the correct work tool. The practical guide of standard EN 60352-2 provides the following recommendations on the subject. They list some of the ideal requirements for crimping tools, some optional characteristics, but, above all, they provide a preview of the indispensable controls:

a) The crimping tools and the contacts used must be supplied by the same manufacturer, otherwise the user must assume all responsibility for the quality and reliability of the crimp connections.
b) The crimping tools must function correctly and provide a correct crimp without damage to the pin or the component to crimp.
c) In order to obtain a reliable crimp connection, a crimping device with a mechanism that controls the entire crimping cycle must be used. At the end of the crimping cycle the handles and the ratchet must return to the open position.
d) In all cases the crimping operation must be made in one single phase, with no further interventions.
e) The removable parts of the tool such as the crimping dies and the locators must be designed in such a way as to make it possible to be inserted within the tool only in the correct manner.
f) The tools must be supplied with the appropriate means for a correct positioning of the pins to be crimped and of the conductors during crimping.
g) The tools must be designed in such a way so that only the necessary adjustments may be made.
h) The action of the tool must be such that both the pin to be crimped and the fixture of the isolation (when present) are respectively crimped or compressed with a single action.
i) The design of the tool must ensure that the dies for a particular tool may be interchangeable within tools of the same type.
If they are not interchangeable, the identification of tools for which they are suitable must be marked on the dies.
j) The tools may be designed so as to produce a marking or coding of the die on the pin to be crimped so that the crimping may be checked for verification of the correct die.
k) The design of the tool must allow the verification of the dies with gauges to measure wear. The gauge verification method must be that specified by the manufacturer of the tools.

With suitable flexible copper conductors, the crimping tool proposed by ILME gives 8 impression crimp (see figure) in conformity with standard EN 60352-2.
Periodic control of the wear of the crimping matrixes can be carried out with the appropriate "go - no go" gauges (purchased separately). For extra operational details, consult the following pages on tools, and the relevant instruction sheets and/or use and maintenance manuals.



The manual and automatic crimping tools selected by ILME are carefully designed to ensure symmetrical deformation of the crimping area of the contact and wire, by means of their own, internal high pressure forming parts. The positioner ensures that the wire and crimp contact meet in the appropriate part of the tool. Sprung mechanisms built into the tools ensure that the contacts are not inserted in the tool before the indenters are fully open, and that the tool does not open before the crimping process has been completed.
The **CCPZ MIL** (for 10A and 16A crimp contacts) and **CXPZ D** (for 40A crimp contacts) manual crimping tools are suitable for use when compressed air sources are unavailable, for low or medium-low work loads.
The **CCPZ RN** (for 10A, 16A and 40A crimp contacts) manual crimping tool is also suitable for for low or medium-low work loads.
The **CCPZP** pneumatic crimping bench tool without automatic positioner (for 10A and 16A crimp contacts) is suitable for use in the workshop (where compressed air is available) for high or medium-high work loads. Using the same manual crimping tool turrets it is possible to change rapidly from crimping on male contacts to crimping on female contacts of the same series (10A and 16A).
The **CCPZPA** pneumatic crimping bench tool with automatic positioner (for 10A and 16A crimp contacts) is suitable for workshop jobs (where compressed air is available) for medium-high or high work loads. It is recommended in particular for crimping high quantities of contacts that are the same type or have the same section, thus saving a significant amount of time thanks to automatic operation and reduced operator fatigue. Where the type or kind of contact must be changed frequently, it is preferred to use the version without automatic positioner.
The **CCPZP** pneumatic crimping bench tool without automatic positioner (for 40A crimp contacts) is suitable for use in the workshop (where compressed air is available) for high or medium-high work loads. By using the same positioners as those of manual crimper CXPZ D, the size of a contact can be rapidly changed with one of the same type. However, the positioner must be changed in order to change over from male to female contacts.
In any case, the quality of the results from the crimping tools, combined with the ILME crimp contacts, is identical and at the highest market levels, exceeding the requirements of the standard EN 60352-2.
Although the crimping appliances and tools suggested here include a set of control automatisms and mechanisms, which prevent the chief misunderstandings and errors, the operator is advised to always take care not to work in inappropriate conditions.

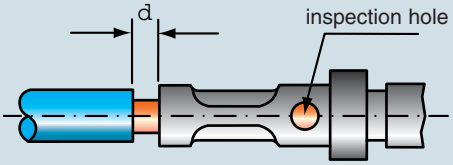
The crimping operation

The practical guide in standard EN 60352-2 supplies further general information regarding crimp contacts for multipole connectors.

1. Insertion of the conductor in the crimp contacts

The conductor must be correctly positioned in the pin to be crimped.
The crimping indentations must be correctly positioned on the foot to be crimped.
There must be sufficient space, in conformity with the manufacturer's instructions, between the end of the insulating material of the conductor and the pin to be crimped ("d").
As a general rule, the stripping length is equal to the pin insertion depth + 1 mm (for sections up to 1 mm^2) and + 2 mm (for sections from 1 to 10 mm^2).
When using closed crimp pins with an inspection hole, the crimp conductor must be visible through the inspection holes.

* Keeping the conductor strands visible above the contact collar enables you to check correct strippping, i.e. make sure no strands have been cut. This also ensures a certain flexibility for the connection, by not transmitting to the contact any flexure stresses caused by installation. However, in practice, some operators give priority to insulation, by reducing to zero the gap between cable insulation and the contact collar.



2. Insertion of crimped contacts in the connector insert

It is recommended that the crimped contacts be perfectly straight and inserted within the contact slots in a single operation and without excessive force until a clicking sound is heard.
The correct retention of the contact should be verified with a light pulling of the wire. Non alignment of the crimped contacts must be avoided because this could cause possible loosening of the retention springs and consequently jeopardise the retention of the contact in the insert.
For small section conductors (≤ 0.35 mm^2) or for specific application, the use of the insertion tool specified by the manufacturer is recommended.

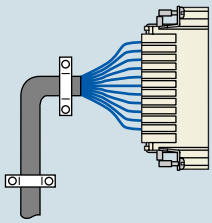
3. Removal of inserted contacts

In the case of incorrect insertion or wiring substitution, inserted contacts may only be removed using the removal tools specified by the manufacturer.

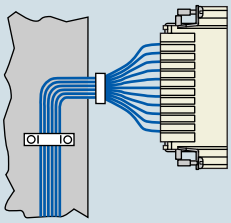
4. Mounting and flexure of multiwired bundles or multipolar cables with crimp contacts

Bundles of conductors or multipolar cables with crimp contacts for multipole connectors must not cause stress to the inserted contacts with their weight as this would cause the contacts to bend over to the coupling area of the connectors and consequently damage them.
The connectors must therefore be provided with cable clamps or the conductor bundles or multipolar cables must be mounted as described in the figures herebelow.

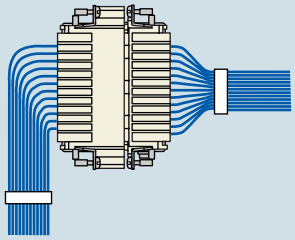
Multipolar cable



Conductor cables



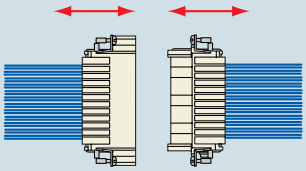
If the conductor bundles or the multipolar cables have to be immediately folded over on the back of the connector insert, it is recommended not to use any mechanical force in the axial direction with respect to the coupled contacts.
The figure herebelow shows a correct bending and clamping of the multiwire bundles using the crimp contacts.



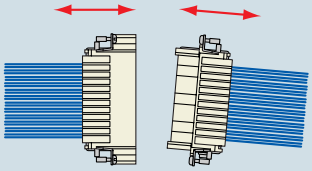
5. Coupling and uncoupling of multipolar connectors with crimp contacts

In order to prevent stress on the crimp contacts, the connectors must be coupled and uncoupled in the axial direction with respect to the contacts, without touching the conductor bundles or cables.
Standard DIN 43652 (incorporated into specification EN 175301-801) that applies to the ILME inserts of the CD series (this recommendation is also valid for the CDD series) prescribes a maximum deflection from the axis of ± 5° on the greater side and ± 2° on the smaller side.

correct



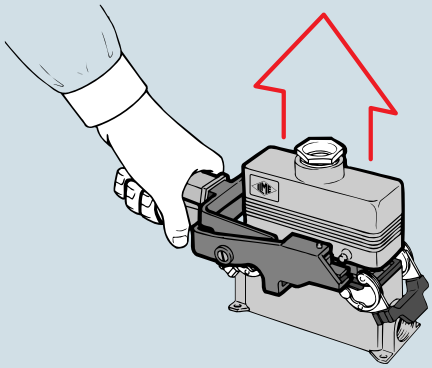
incorrect



To keep the play within this limit, especially during the uncoupling phase, guide pins CRM and CRF may be used.
The use of ILME pliers (code number CPES) is recommended for the uncoupling operations for CD inserts (64 poles) and CDD inserts (108 poles).
The pliers work on the fulcrum and lever principle and perform the following main tasks:

I - Reduce effort and coupling times to the minimum, even when working in the most impractical and inaccessible points;
II - Perform the uncoupling of multipolar connectors in full conformity of standard DIN 43652 (now EN 175301-801).

The pliers allow the extraction of the inserts to be made perfectly axially with respect to the contacts, evenly distributing the pressure on four points (housing pins).



* the underlined polarities indicate those contacts that require the tools shown in this page

manual crimping tool
turret heads - gauge

insertion tool
removal tools - tip

description	part No.	part No.
crimping tool for **10A** and **16A** contacts DANIELS AF8 model (turret excluded)	**CCPZ MIL**	
turret heads (see note) - for **10A** contacts (CDF and CDM series) - for **16A** contacts (CCF and CCM series)	**CCTP 10** **CCTP 16**	
"go / no go" control gauge to verify indenter closure (see note)	**CCPNP**	
insertion tool for insertion of the contacts into the inserts for crimped contacts up to 0.75 mm²		**CCINA**
removal tools for the extraction of contacts from the inserts - for **10A** contacts [1] - for **16A** contacts [2]		**CCES** **CQES**
replacement tip for CCES removal tool		**CCPR**

Notes:

[1] for CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)
[2] for CQ, CQE, CCE, CMCE inserts (excluded 16+2) and MIXO module (16A)
for CC, CDC, CMCE (16+2), CX inserts (contacts 16A insert CX 8/24) using a flat 3 mm screwdriver.

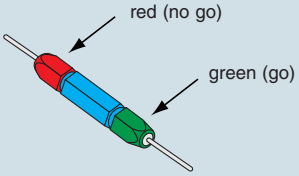
Positioning turret
conforms to international standard MIL-C-22520/1

- An interchangeable and indispensable accessory of the CCPZ MIL crimping tool, it precisely positions the contact where crimping is performed. Each series of contacts requires its own turret.

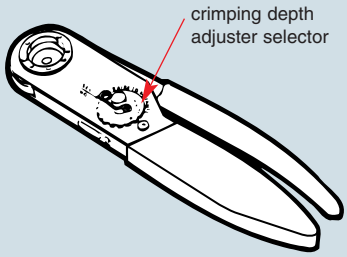
"go / no go" control gauge
conforms with international standard MIL-C-22520/3

- A tool used to periodically check that the crimping tool meets standard requirements.

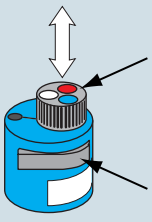
CCPNP



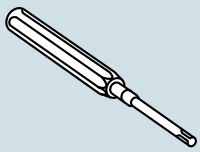
CCPZ MIL



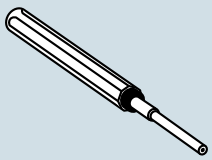
CCTP



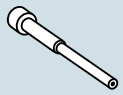
CCINA



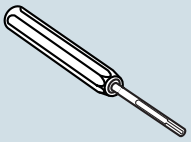
CCES



CCPR RN



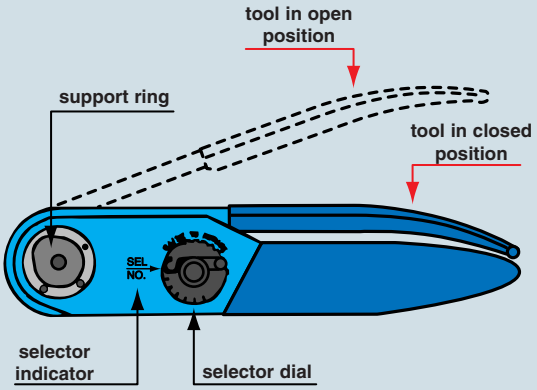
CQES



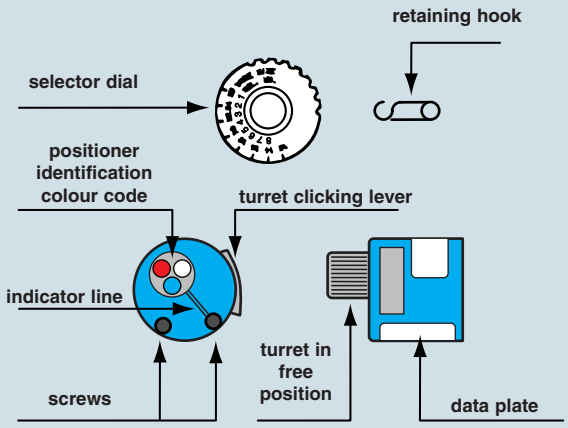
General specifications
The CCPZ MIL crimping tool conforms to the international standard MIL-C-22520/1. Crimping is performed with 8 pressure points. The tool is equipped with a geared mechanism to control the complete crimping cycle.
The tool must be equipped with an interchangeable turret (CCTP) according to the series of contacts to be crimped.

Crimping range
Wire section: dimension from 0.12 mm² (26 AWG) to 4 mm² (12 AWG).

Caution!
The handle of the tool must be in the open position when the turret is installed, disassembled or opened. If not, the turret and the crimping tool may be damaged.



CCTP turret installation
1. The crimping tool must be in the open position.
2. Press the clicking lever that releases the turret in the adjustment position.
3. Position the previously selected CCTP turret on the support ring located on the crimping tool (matching the special pin on the base of the turret with the corresponding hole on the support ring), aligning the tapped holes with the socket head screws.
4. With the CCTP turret positioned against the support ring, tighten the socket head screws with the 3.5 mm Allen wrench (supplied with the kit).
5. Refer to the data plate on the CCTP turret. From the colour code column, select the colour of the positioner that corresponds to the appropriate code and dimension of the contact to be crimped.
6. With the CCTP turret in the adjustment position, turn the turret until the colour-coded positioner is aligned with the indicator line. Press the turret until it clicks into the connected position.
7. Refer to the data plate on the CCTP turret. From the column indicating the proper conductor section, determine the number that corresponds to the contact being used.
8. Remove the retaining hook from the crimping tool selector dial. Lift the selector dial and turn it until the selector number is aligned with the indicator (SEL.NO.). Replace the retaining hook (if necessary).



Crimping instructions
1. Insert the contact and the prepared conductor through the opening of the indenter in the turret positioner.
2. Tighten the crimping tool handle until the stop gear is released. The tool will return to the open position.
3. Check the position of the crimping on the contact crimping foot. Ideally, the crimping should be between the inspection hole and the top edge of the crimping foot. The head of the contact should not be squared and the inspection hole should be intact.

Crimping tool maintenance
No maintenance is required. However, it is good practice to keep the indenter tips free from residual deposits of the coloured band (some types of crimp contacts as per MIL standards are identified by coloured bands in the crimping area) and any other debris. A metal brush may be used for this purpose.
The following is strongly recommended:

1. DO NOT immerse the tools in a solution to clean them.
2. DO NOT brush oil in the tools to lubricate them.
3. DO NOT try to disassemble the tool or repair it.

This is a high-precision manual crimping tool and must be used as such.
For automatic crimping operations refer to the CCPZP and/or CCPZPA crimping tool models.

Removing the CCPT turret
With the crimping tool in the open position, to disassemble the turret, loosen the socket head screws using the 3.5 mm Allen wrench (supplied with the kit).
After the threads are released from the support ring, pull off the turret with a straight movement.

Instructions to check calibration
The operations to check the crimping tool must be carried out with the selector dial in position 4 and the CCPNP gauge. **ATTENTION! Do not crimp the gauge.**

Calibration check
Put the crimping tool in the completely closed position.

"GO" - Insert the end (green) of the gauge as shown **(Fig. 1).**
The gauge must pass freely between the indenter tips.

"NO GO" - Insert the end (red) of the gauge as shown **(Fig. 2).**
The gauge should not pass through the opening.

Gauge	tool selector pos. No.	Ø A ± 0.00254 mm (go) green	Ø B ± 0.00254 mm (no go) red
CCPNP	**4**	0.991 (mm)	1.118 (mm)

Fig. 1

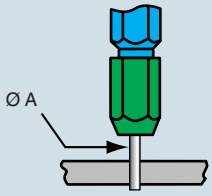
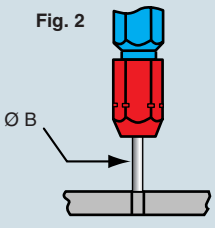


Fig. 2



for contacts of insert series: page

CX 6/36* ..... (40A) 118
CX 12/2* ..... (40A) 119
MIXO ..... (40A) 126

* the underlined polarities indicate those contacts that require the tools shown in this page

**) On request is possible to supply the pneumatic crimping tool version (part. No. CXPZP D), please contact us for further details.

manual crimping tool **)
turret heads
gauge

removal tool

description	part No.	part No.
crimping tool for **40A** DANIELS M309 model (turret excluded)	**CXPZ D**	
turret heads (see note) - for male contacts **40A** - for female contacts **40A**	**CXTP 40 M** **CXTP 40 F**	
"go / no go" control gauge to vertify indenter closure (see note)	**CXPNP**	
removal tool for the extraction of contacts from the inserts - for **40A** contacts		**CXES**

Notes:

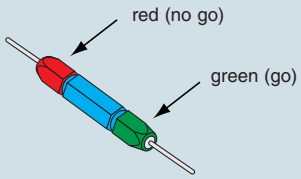
Positioning turret

- An interchangeable and indispensable accessory of the CXPZ D crimping tool, it precisely positions the contact where crimping is performed. Each series of contacts (male or female) requires its own turret.

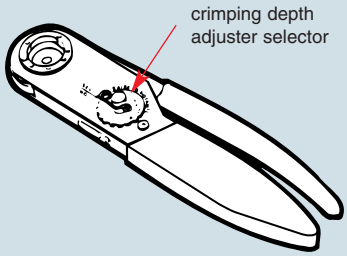
"go / no go" control gauge

- A tool used to periodically check that the crimping tool meets standard requirements.

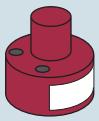
CXPNP



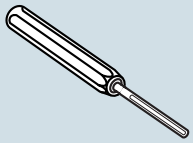
CXPZ D



CXTP 40 M and CXTP 40 F



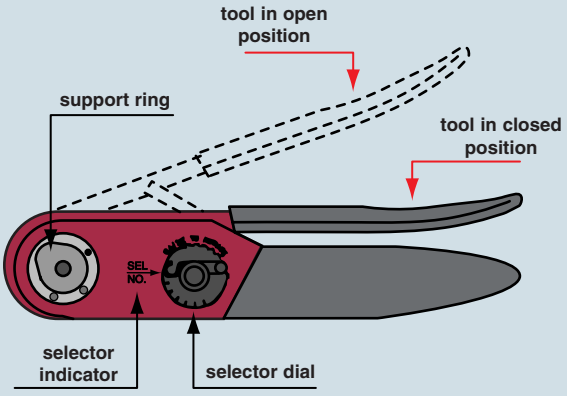
CXES



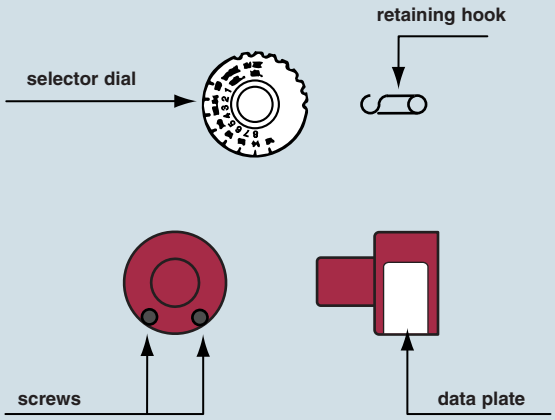
General specifications
The CXPZ D crimping tool performed with 8 pressure points. The tool is equipped with a geared mechanism to control the complete crimping cycle.
The tool must be equipped with an interchangeable turret (CXTP) according to the series of contacts to be crimped.

Crimping range
Wire section:
dimension from 1.5 mm² (16 AWG) to 6 mm² (10 AWG)

Caution!
The handle of the tool must be in the open position when the turret is installed, disassembled or opened. If not, the turret and the crimping tool may be damaged.



CXTP turret installation
1. The crimping tool must be in the open position.
2. Choose the turret to be used, according to the contacts that should be crimped (male or female).
3. Position the previously selected CXTP turret on the support ring located on the crimping tool (matching the special pin on the base of the turret with the corresponding hole on the support ring), aligning the tapped holes with the socket head screws.
4. With the CXTP turret positioned against the support ring, tighten the socket head screws with the 3.5 mm Allen wrench (supplied with the kit).
5. Refer to the data plate on the CXTP turret. From the column indicating the proper conductor section, determine the number that corresponds to the contact being used.
6. Remove the retaining hook from the crimping tool selector dial. Lift the selector dial and turn it until the selector number is aligned with the indicator (SEL.NO.). Replace the retaining hook (if necessary).



Crimping instructions
1. Insert the contact and the prepared conductor through the opening of the indenter in the turret positioner.
2. Tighten the crimping tool handle until the stop gear is released. The tool will return to the open position.
3. Check the position of the crimping on the contact crimping foot. Ideally, the crimping should be between the inspection hole and the top edge of the crimping foot. The head of the contact should not be squared and the inspection hole should be intact.

Crimping tool maintenance
No maintenance is required. However, it is good practice to keep the indenter tips free from residual deposits of the coloured band (some types of crimp contacts as per MIL standards are identified by coloured bands in the crimping area) and any other debris. A metal brush may be used for this purpose.
The following is strongly recommended:

1. DO NOT immerse the tools in a solution to clean them.
2. DO NOT brush oil in the tools to lubricate them.
3. DO NOT try to disassemble the tool or repair it.

This is a high-precision manual crimping tool and must be used as such.

Removing the CXPT turret
With the crimping tool in the open position, to disassemble the turret, loosen the socket head screws using the 3.5 mm Allen wrench (supplied with the kit).
After the threads are released from the support ring, pull off the turret with a straight movement.

Instructions to check calibration
The operations to check the crimping tool must be carried out with the selector dial in position 4 and the CCPNP gauge. **ATTENTION! Do not crimp the gauge.**

Calibration check
Put the crimping tool in the completely closed position.

"GO" - Insert the end (green) of the gauge as shown **(Fig. 1).**
The gauge must pass freely between the indenter tips.

"NO GO" - Insert the end (red) of the gauge as shown **(Fig. 2).**
The gauge should not pass through the opening.

Gauge	tool selector pos. No.	Ø A ± 0.00254 mm (go) green	Ø B ± 0.00254 mm (no go) red
CXPNP	**4**	1.549 (mm)	1.676 (mm)

Fig. 1

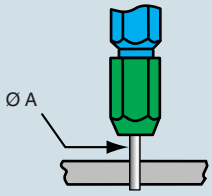
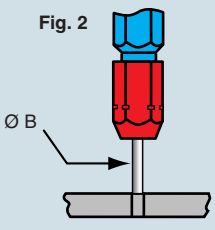


Fig. 2



for contacts of insert series:	page
CD ..... (10A)	35 ÷ 43
CDD ..... (10A)	49 ÷ 56
CDC ..... (16A)	59 ÷ 63
CQ ..... (16A)	64
CQE ..... (16A)	66 ÷ 71
CC ..... (16A)	72 ÷ 82
CCE ..... (16A)	84 ÷ 94
CMCE ..... (16A)	102 ÷ 113
CX 8/24 ..... (16A/10A)	117
CX 6/36 ..... (40A/10A)	118
CX 12/2 ..... (40A/10A)	119
MIXO.... (40A/16A/10A)	127 ÷ 134

manual crimping tool
gauge

insertion tool
removal tools - tip

description	part No.	part No.
crimping tool for **10A, 16A and 40A** contacts RENNSTEIG model (turret included)	**CCPZ RN**	
"go / no go" control gauge to verify indenter closure (see note)	**CCPNP RN**	
insertion tool for insertion of the contacts into the inserts for crimped contacts up to 0.75 mm²		**CCINA**
removal tools for the extraction of contacts from the inserts - for **10A** contacts [1] - for **16A** contacts [2] - for **40A** contacts [3]		**CCES** **CQES** **CXES**
replacement tip for CCES removal tool		**CCPR RN**

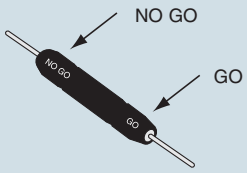
Notes:

[1] for CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)
[2] for CQ, CQE, CCE, CMCE inserts (excluded 16+2) and MIXO module (16A)
for CC, CDC, CMCE (16+2), CX inserts (contacts 16A insert CX 8/24) using a flat 3 mm screwdriver
[3] for CX inserts (40A contacts) and MIXO module (40A)

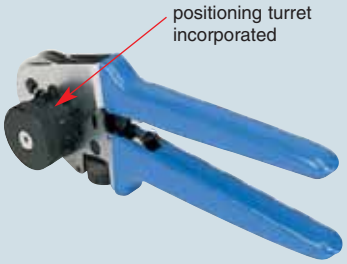
"go / no go" control gauge

- A tool used to periodically check that the crimping tool meets standard requirements.

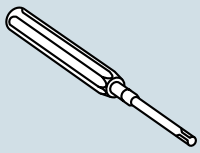
CCPNP RN



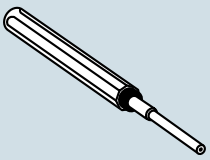
CCPZ RN



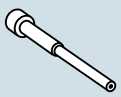
CCINA



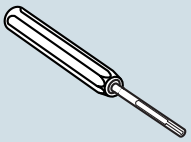
CCES



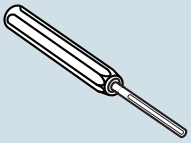
CCPR RN



CQES

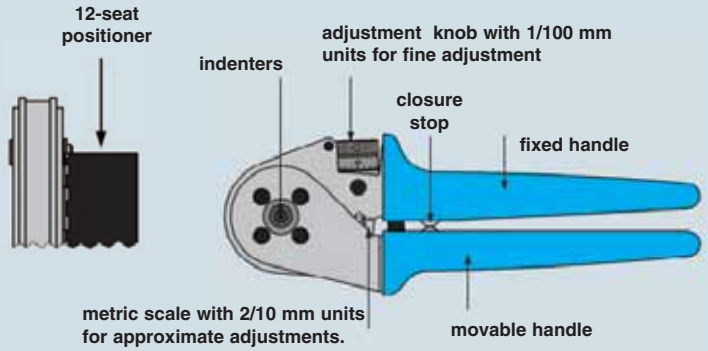


CXES



General specifications
The CCPZ RN crimping tool crimps with 8 pressure points, obtaining similar results to the prescriptions of standard MIL-C-22520/1. The tool has a geared mechanism for controlling the complete crimping cycle, and houses a positioning turret with 12 positions, three of which can be used for positioning the ILME male and female crimping contacts of series CD (10A max), CC (16A max) and CX (40A max).

Crimping range
Wire section: dimension from 0.14 mm² (26 AWG) to 6 mm² (10 AWG)



Description of tool
Crimping tool components: a first mobile handle, with a precision stop mechanism with teeth and an opening limiting guide; a second fixed handle with metric scale (units of 2/10 mm); an adjustment system with fine step adjustments of 1/100 mm; four indenters; a 12-seat positioner, fully rotating through 360° for accurate positioning of contacts. A reference table engraved on the tool surface provides the positioner (POS) number and crimping depth (SET) to select according to the type and size of the ILME contact (the crimping tool can be set to any crimping depth which may be required by the contact manufacturer).

Crimping instructions
The reference matrix on the crimping tool indicates the correct seat of the positioner (POS 1,2, or 3) to select, and the crimping depth (SET) to adjust for the contact to be crimped. The contact is inserted through the crimper entry hole on the opposite side of the positioner. The contact is closed by closing the handles in the first stop position, in order to prevent the contact coming out off the crimper and to facilitate fitting the conductor in the contact.
The precision stop mechanism with teeth ensures consistently precise crimps, by forcing the crimper to close completely and finish the crimping cycle before the crimper can be re-opened.

Adjustment tool

Positioner seat = 1

CDMA/D (male) CDFA/D (female)	Section (mm²)	Crimp depth (mm)
0.3	0.14	1.3
	0.25	
	0.37	
0.5	0.5	1.55
0.7	0.75	1.55
1.0	1.0	1.55
1.5	1.5	1.55
2.5	2.5	1.55

Positioner seat = 2

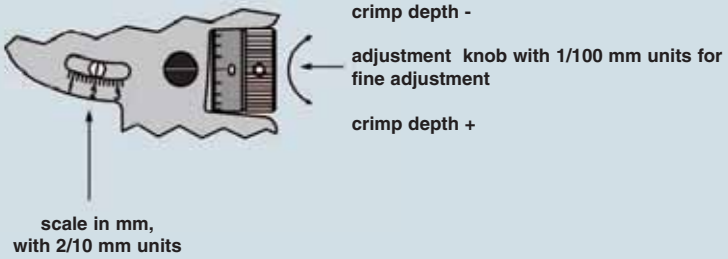
CCMA/D (male) CCFA/D (female)	Section (mm²)	Crimp depth (mm)
0.5	0.5	1.55
0.7	0.75	1.55
1.0	1.0	1.55
1.5	1.5	1.8
2.5	2.5	1.8
4.0	4	2.0

Positioner seat = 3

CXMA/D (male) CXFA/D (female)	Section (mm²)	Crimp depth (mm)
1.5	1.5	1.55
2.5	2.5	1.8
4.0	4	2.0
6.0	6	2.5

Adjustment of crimp depth
Crimp depth to be adjusted ad follows:
the adjustment knob should be turned clockwise to reduce crimping depth, and anticlockwise to increase it.

Adjustment tolerances:
- 1 scale mark on the knob = adjustment of 1/100 mm (0.01 mm)
- 1 complete rotation of knob = adjustment of 2/10 mm (0.2 mm, this indication can be read on the knob and on the approximate scale)
- 5 knob rotations = adjustment of 1.0 mm (this indication can be read on the scale)



Maintenance and repair
Keep the crimping tool clean and store it correctly when not in use. The joints need to be lubricated periodically, and the pin stop circular clips must always stay in position.
This is a high precision crimping tool and must be used as such.

Calibration check
The crimping tool is adjusted in the manufacturer's plant. To ensure correct calibration, we advise you to check the tool with a gauge every working day.
This is easily done with the CCPNP RN cylindrical gauge in the 2.0 mm Ø position.
ATTENTION!: Do not crimp the gauge.
Crimping depth of 2 mm can be adjusted with the adjustment knob (scale marked on "2", screw indicator on "0" as shown in the above figure).

Put the crimping tool in the completely position.

"GO" - Insert the end of the gauge as shown (**Fig. 1**).
The gauge must pass freely between the indenter tips.

"NO GO" - Insert the end of the gauge as shown (**Fig. 2**).
The gauge should not pass through the opening.

Gauge	tool selector pos. No.	Ø A GO	Ø B NO GO
CCPNP RN	**2**	1.94 (mm)	2.06 (mm)

Fig. 1

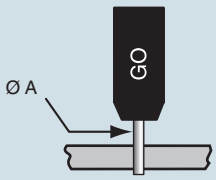
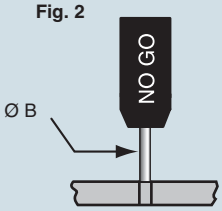


Fig. 2



for contacts of insert series:		page
CD	(10A)	35 ÷ 43
CDD	(10A)	49 ÷ 56
CDC	(16A)	59 ÷ 63
CQ	(16A)	64
CQE	(16A)	66 ÷ 71
CC	(16A)	72 ÷ 82
CCE	(16A)	84 ÷ 94
CMCE	(16A)	102 ÷ 113
CX 8/24	(16A/10A)	117
CX 6/36*	(10A)	118
CX 12/2*	(10A)	119
MIXO	(16A/10A)	127 ÷ 134

* the underlined polarities indicate those contacts that require the tools shown in this page

pneumatic crimping tool
turret heads - gauge

insertion tool
removal tools - tip

description	part No.	part No.
pneumatic crimping tool for **10A** and **16A** contacts model DANIELS WA27F (turret excluded)	**CCPZP**	
turret heads (see note) - for **10A** contacts (CDF and CDM series) - for **16A** contacts (CCF and CCM series)	**CCTP 10** **CCTP 16**	
support for CCPZP pneumatic crimping tool	**CCSPZP**	
pneumatic foot valve	**CCVPP**	
"go / no go" control gauge to verify indenter closure (see note)	**CCPNP**	
insertion tool for insertion of the contacts into the inserts for crimped contacts up to 0.75 mm²		**CCINA**
removal tools for the extraction of contacts from the inserts - for **10A** contacts [1] - for **16A** contacts [2]		**CCES** **CQES**
replacement tip for CCES removal tool		**CCPR RN**

Notes:

[1] for CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)
[2] for CQ, CQE, CCE, CMCE inserts (excluded 16+2) and MIXO module (16A)
for CC, CDC, CMCE (16+2), CX inserts (contacts 16A insert CX 8/24) using a flat 3 mm screwdriver

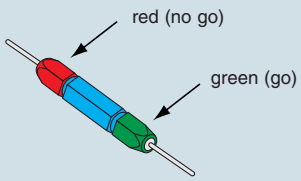
Positioning turret
conforms to international standard MIL-C-22520/1

- An interchangeable and indispensable accessory of the CCPZP crimping tool, it precisely positions the contact where crimping is performed. Each series of contacts requires its own turret.

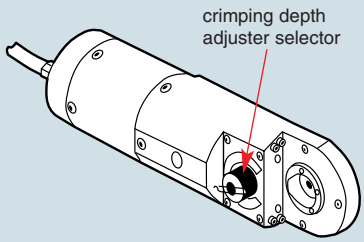
"go / no go" control gauge
conforms to international standard MIL-C-22520/3

- A tool used to periodically check that the crimping tool meets standard requirements.

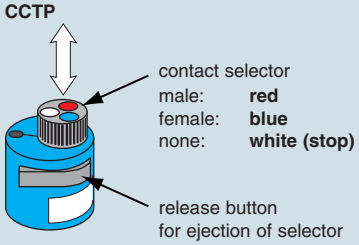
CCPNP



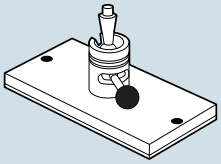
CCPZP



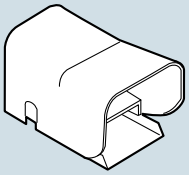
CCTP



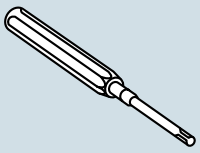
CCSPZP



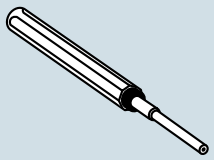
CCVPP



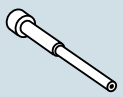
CCINA



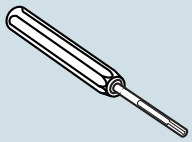
CCES



CCPR RN



CQES

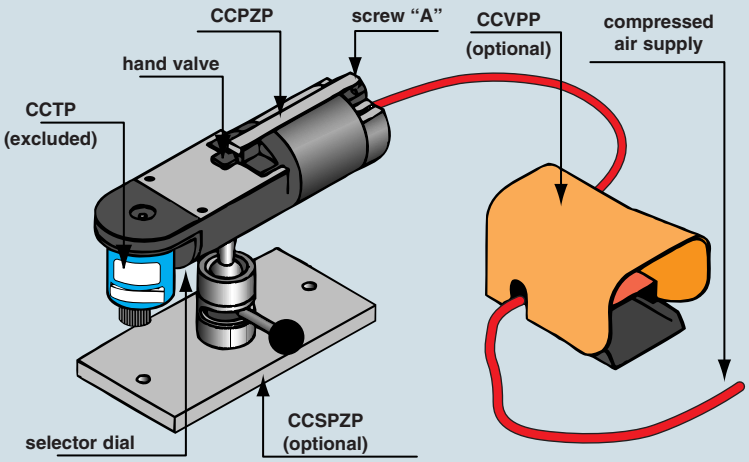


crimping tools

General specifications
This is the pneumatic version of the crimping tool. Crimping is performed with 8 pressure points. The tool is equipped with a geared mechanism to control the complete crimping cycle.
The tool must be equipped with an interchangeable turret (CCTP) according to the series of contacts to be crimped.
It is possible to use a hand valve (located on the crimping tool) or a foot valve (optional). The tool operating pressure is 5.5 ÷ 8.3 bar. It is recommended to utilise a lubrication, adjustment and air filtering unit.

Crimping range
Wire section: dimension from 0.12 mm² (26 AWG) to 4 mm² (12 AWG).

Operation with foot valve (optional)
Connect the foot valve between the compressed air source and the tool air inlet. Lower the hand valve and stop it in the lowered position with the stop screw (A) using a 1.5 mm Allen wrench.



Checking the crimping complete cycle control mechanism
Correct operation can be checked based on the following procedure:
1. Install a CCTP turret.
2. Reduce the pressure to 1 bar.
3. Using a contact that corresponds to the installed turret, with size 0.5, and a wire with section 0.5 mm², use the crimping tool, referring to the crimping instructions. The indenters will not reach the fully closed position and the contact will be internally blocked if the geared mechanism is operating correctly.
4. To release the partially crimped contact, increase the air pressure of the line to 5.5 ÷ 8.3 bar and again use the crimping tool. It will then complete the crimping, allowing the indenters to return to the fully open position.

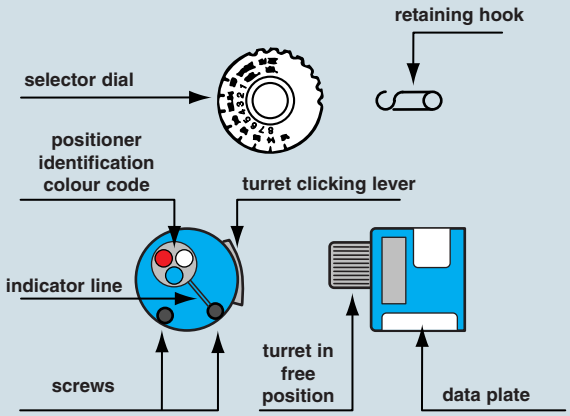
Crimping instructions
1. Insert the contact and the prepared conductor through the opening of the indenter in the turret positioner.
2. Activate the hand valve or the optional foot valve. Once crimping has been completed, the tool will return to the open position.
3. Check the position of the crimping on the contact crimping foot. Ideally, the crimping should be between the inspection hole and the top edge of the crimping foot. The head of the contact should not be squared and the inspection hole should be intact.

Crimping tool maintenance
No maintenance is required. However, it is good practice to keep the indenter tips free from residual deposits of the coloured band (some types of crimp contacts as per MIL standards are identified by coloured bands in the crimping area) and any other debris. A metal brush may be used for this purpose.
The following is strongly recommended:

1. DO NOT immerse the tools in a solution to clean them.
2. DO NOT brush oil in the tools to lubricate them.
3. DO NOT try to disassemble the tool or repair it.

This is a high-precision crimping tool and must be used as such.

CCTP turret installation
1. Position the previously selected CCTP turret on the support ring located on the crimping tool (matching the special pin on the base of the turret with the corresponding hole on the support ring), aligning the tapped holes with the socket head screws.
2. With the CCTP turret positioned against the support ring, tighten the socket head screws with the 3.5 mm Allen wrench (supplied with the kit).
3. Refer to the data plate on the CCTP turret. From the colour code column, select the colour of the positioner that corresponds to the appropriate code and dimension of the contact to be crimped.
4. With the CCTP turret in the adjustment position, turn the turret until the colour-coded positioner is aligned with the indicator line. Press the turret until it clicks into the connected position.
5. Refer to the data plate on the CCTP turret. From the column indicating the proper conductor section, determine the number that corresponds to the contact being used.
6. Remove the retaining hook from the crimping tool selector dial. Lift the selector dial and turn it until the selector number is aligned with the indicator (SEL.NO.). Replace the retaining hook (if necessary).



Removing the CCPT turret
With the crimping tool in the open position, to disassemble the turret, loosen the socket head screws using the 3.5 mm Allen wrench (supplied with the kit).
After the threads are released from the support ring, pull off the turret with a straight movement.

Releasing a partially crimped contact
To release a partially crimped contact, do the following:
1. Increase the air pressure to 8.5 bar and use the crimping tool. If the increase in air pressure does not release the contact, do the following.
2. Turn the selector dial clockwise to the highest lockable setting (the selector dial must be in the blocked position before continuing). Use the crimping tool.
3. If it does not release after several attempts, contact the ILME offices.

Instructions to check calibration
The operations to check the crimping tool must be carried out with the selector dial in position 4 and the CCPNP gauge. **CAUTION! Do not crimp the gauge.**

Calibration check
Put the crimping tool in the completely closed position.

"GO" - Insert the end (green) of the gauge as shown **(Fig. 1).**
The gauge must pass freely between the indenter tips.

"NO GO" - Insert the end (red) of the gauge as shown **(Fig. 2).**
The gauge should not pass through the opening.

Gauge	tool selector pos. No.	Ø A ± 0.00254 mm (go) green	Ø B ± 0.00254 mm (no go) red
CCPNP	**4**	0.991 (mm)	1.118 (mm)

Fig. 1

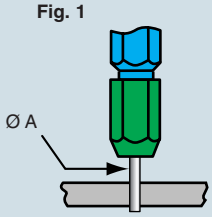
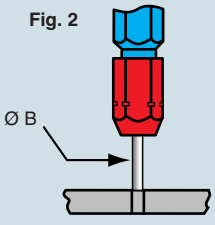


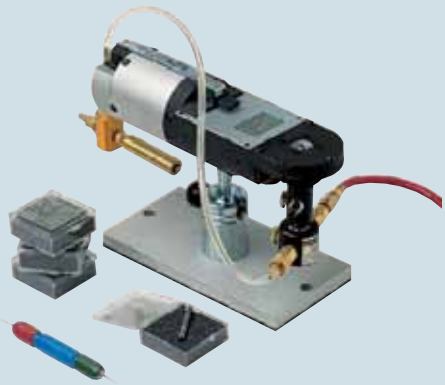
Fig. 2



for contacts of insert series:	page
CD ..... (10A)	35 ÷ 43
CDD ..... (10A)	49 ÷ 56
CDC ..... (16A)	59 ÷ 63
CQ ..... (16A)	64
CQE ..... (16A)	66 ÷ 71
CC ..... (16A)	72 ÷ 82
CCE ..... (16A)	84 ÷ 94
CMCE ..... (16A)	102 ÷ 113
CX 8/24 ..... (10A/16A)	117
CX 6/36* ..... (10A)	118
CX 12/2* ..... (10A)	119
MIXO ..... (10A/16A)	127 ÷ 134

* the underlined polarities indicate those contacts that require the tools shown in this page

pneumatic crimping tool with automatic positioner - inserts - gauge



insertion tool removal tools - tip

description	part No.	part No.
crimping tool with automatic positioner model DANIELS WA27FAP (inserts excluded)	**CCPZPA**	
positioner inserts (see note) - male contacts **10A** (CDM series) - female contacts **10A** (CDF series)	**CCTPADM** **CCTPADF**	
- male contacts **16A** (CCM series) - female contacts **16A** (CCF series)	**CCTPACM** **CCTPACF**	
"go / no go" control gauge to verify indenter closure (see note)	**CCPNP**	
insertion tool for insertion of the contacts into the inserts for crimped contacts up to 0.75 mm²		**CCINA**
removal tools for the extraction of contacts from the inserts - for **10A** contacts [1] - for **16A** contacts [2]		**CCES** **CQES**
replacement tip for CCES removal tool		**CCPR RN**

Notes:

[1] for CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)

[2] for CQ, CQE, CCE, CMCE inserts (excluded 16+2) and MIXO module (16A)
for CC, CDC, CMCE (16+2), CX inserts (contacts 16A insert CX 8/24) using a flat 3 mm screwdriver

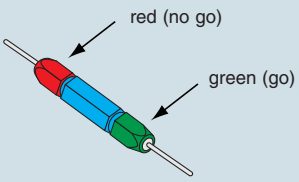
Positioner inserts

- Interchangeable and indispensable accessories of the CCPZPA crimping tool precisely position the contact where crimping is performed.
Each contact requires its own positioner insert selected according to the type of contact (10A or 16A) and the kind (male or female).

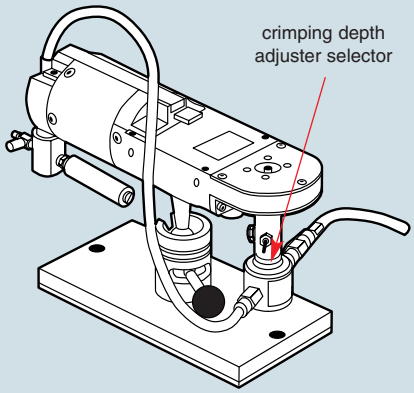
"go / no go" control gauge
conforms with international standard MIL-C-22520/3

- A tool used to periodically check that the crimping tool meets standard requirements.

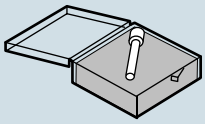
CCPNP



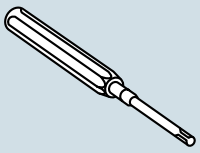
CCPZPA



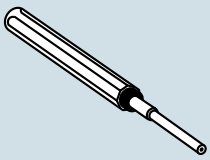
CCTPADM and CCTPADF
CCTPACM and CCTPACF



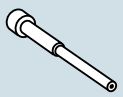
CCINA



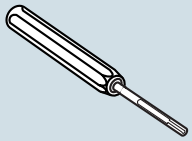
CCES



CCPR RN



CQES

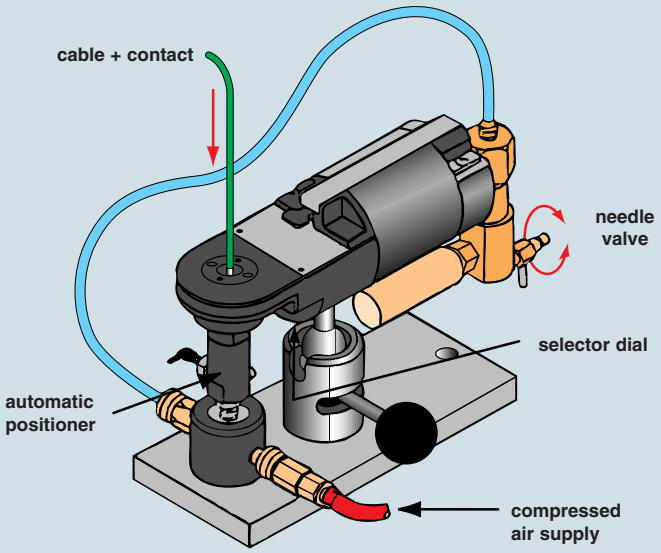


crimping tools

General specifications
This is the pneumatic version of the manual crimping tool. Crimping is performed with 8 pressure points. The tool is equipped with a geared mechanism to control the complete crimping cycle.
Thanks to the automatic positioner it is possible to crimp simply by inserting the uncrimped contact + wire into the tool crimping cavity.
It is also necessary to order the interchangeable positioner inserts relative to the series of contacts to be crimped.
The tool operating pressure is 5.5 ÷ 8.3 bar. It is recommended to utilise a lubrication, adjustment and air filtering unit.

Crimping range
Wire section: dimension from 0.12 mm² (26 AWG) to 4 mm² (12 AWG).

Fig. A (complete crimping tool)



Checking the crimping complete cycle control mechanism
Correct operation can be checked based on the following procedure:
1. Reduce the pressure to 1 bar.
2. Using a contact that corresponds to the installed positioner, with size 0.5, and a wire with section 0.5 mm², use the crimping tool, referring to the crimping instructions. The indenters will not reach the fully closed position and the contact will be internally blocked if the geared mechanism is operating correctly.
3. To release the partially crimped contact, increase the air pressure of the line to 5.5 ÷ 8.3 bar and again use the crimping tool. It will then complete the crimping, allowing the indenters to return to the fully open position.

Crimping instructions
1. To obtain the suitable selector number, refer to the data plate located on the cover of the positioner case, and adjust the selector dial as specified.
2. Insert the contact and the prepared conductor through the opening of the indenter in the crimping tool casing **(Fig. A)**.
3. Exert slight pressure until the crimping tool automatically crimps the contact. **CAUTION: Wire sections less than 0.34 mm² (24 AWG) up to 0.08 mm² (28 AWG) or equivalent are not sufficiently rigid, so that it may be rather difficult to push the contact + wire.**
4. Check the position of the crimping on the contact crimping foot. Ideally, the crimping should be between the inspection hole and the top edge of the crimping foot. The head of the contact should not be squared and the inspection hole should be intact.

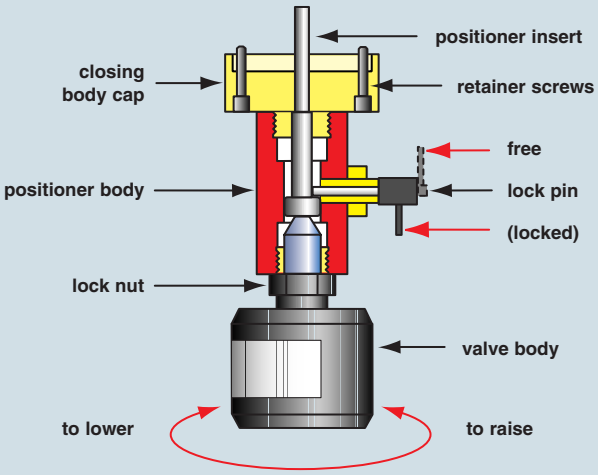
Crimping tool maintenance
No maintenance is required. However, it is good practice to keep the indenter tips free from residual deposits of the coloured band (some types of crimp contacts as per MIL standards are identified by coloured bands in the crimping area) and any other debris. A metal brush may be used for this purpose.
The following is strongly recommended:

1. DO NOT immerse the tools in a solution to clean them.
2. DO NOT brush oil in the tools to lubricate them.
3. DO NOT try to disassemble the tool or repair it.

This is a high-precision crimping tool and must be used as such.

Installation or replacement of a positioner insert
1. Disconnect the workshop compressed air source.
2. Disconnect the air hoses from the automatic positioner (rapid connectors).
3. Remove the connection screws, using the 3.5 mm Allen wrench (supplied with the kit), to separate the automatic positioner from the crimping tool.
4. Unscrew the positioner closing housing.
5. Install or replace the proper positioner insert in the positioner housing, replacing the underlying spring.
6. Reverse the operations, as described from point 4 to point 1.

Fig. B (automatic positioner)



Crimping position adjustment (Fig. B)
1. Release the automatic positioner from the crimping tool body (see points 1 and 2 "Installation replacement of a positioner insert").
2. While holding the positioner body in position using a 19 mm wrench, loosen the lock nut with a 14 mm wrench.
3. Push the positioner insert toward the bottom and lock it using the lock pin.
4. If the pin doesn't lock, unscrew the valve body toward the bottom.
5. With the pin locked, tighten the valve body toward the top until it strikes against the positioner insert.
6. While maintaining that position, tighten the lock nut.
7. Replace and connect the positioner on the crimping tool.
8. Release the lock pin in the "free" position.

Instructions to check calibration
The operations to check the crimping tool must be carried out with the selector dial in position 4 and the CCPNP gauge. **CAUTION! Do not crimp the gauge.**

Calibration check
1. Disconnect the compressed air.
2. Push the positioner insert toward the bottom and lock it using the lock pin.
3. Reconnect the compressed air.
4. Turn the needle valve counterclockwise to open the air supply **(Fig. A)**.
5. The indenters will extend and remain in the extracted position until the valve is closed.
6. Check using the gauge, referring to the "go / no go" instructions reported below.
7. When the calibration check has been completed, close the needle valve turning it clockwise **(Fig. A)**.
8. Put the lock pin in the "free" position.

"GO" - Insert the end (green) of the gauge as shown **(Fig. 1).**
The gauge must pass freely between the indenter tips.

"NO GO" - Insert the end (red) of the gauge as shown **(Fig. 2).**
The gauge should not pass through the opening.

Gauge	tool selector pos. No.	Ø A ± 0.00254 mm (go) green	Ø B ± 0.00254 mm (no go) red
CCPNP	**4**	0.991 (mm)	1.118 (mm)

Fig. 1

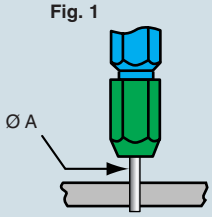
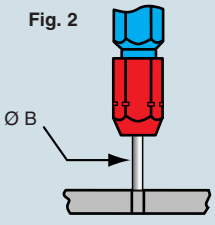


Fig. 2



* These items are also shown in various sections throughout the catalogue.

* These items are also shown in various sections throughout the catalogue

* These items are also shown in various sections throughout the catalogue

* These items are also shown in various sections throughout the catalogue