Power supplies

Version 2023

Weidmüller

Orange Selection

Quick and easy planning

As a planning engineer, do you want to select products easily and receive them quickly? From a partner you can rely on? Then plan with the Orange Selection from Weidmüller in the future. The Orange Selection items are always available, carefully selected and the portfolio consists of more than 1,500 items to fully cover your standard needs.

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We have summarised all the advantages of the Orange Selection on our website.

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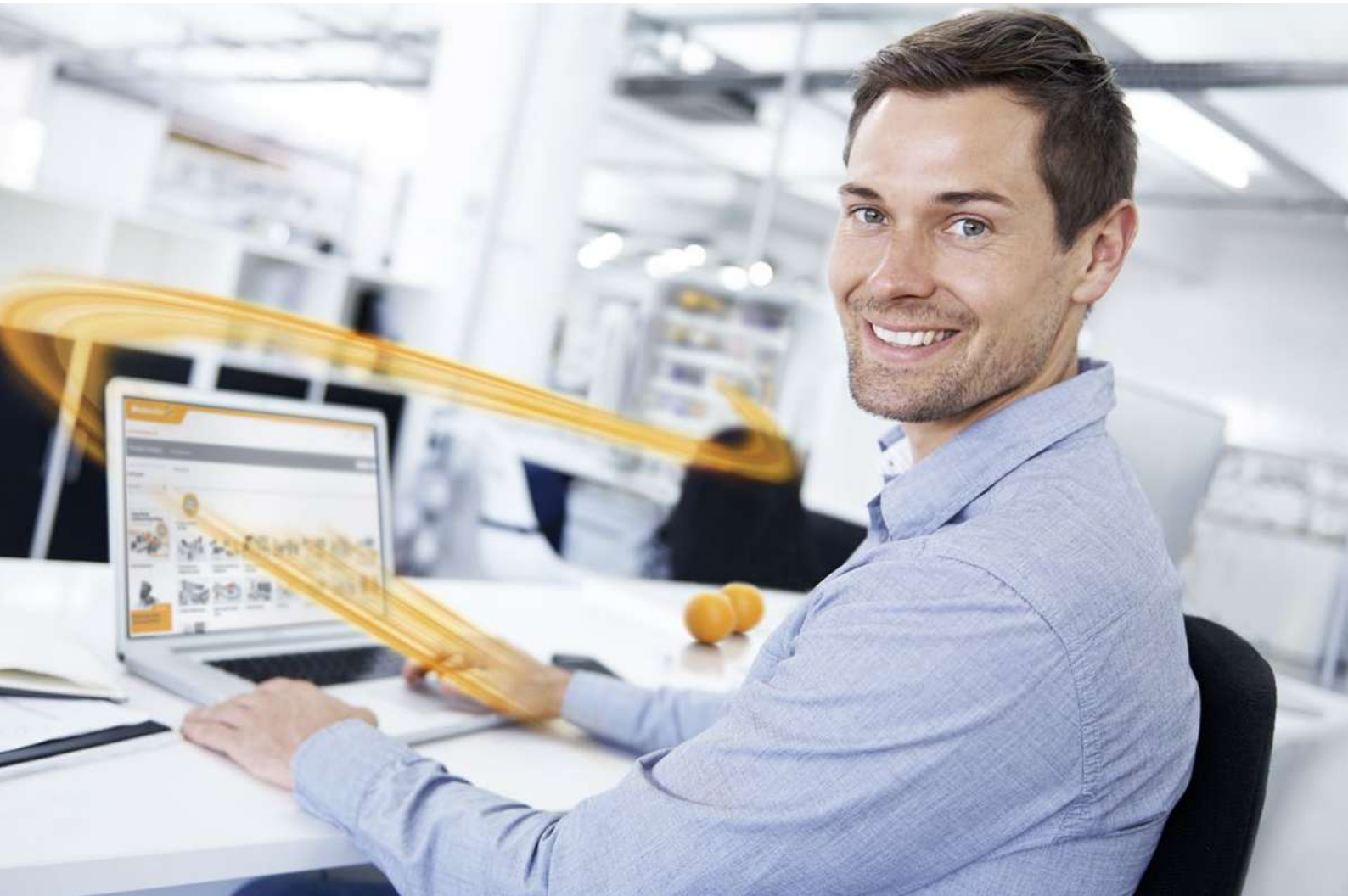


Power supplies
Catalogue 4.3

Power supplies – Overview

connectPower 1ph PROtop

- Single-phase switched-mode power supply module
- High MTBF values
- Cl. I Div. 2 + ATEX
- Power category 72...960 W
- Output 12, 24 and 48 V DC

connectPower 3ph PROtop

- Multiphase switched-mode power supply module
- 3× 320...575 V AC or 2× 360...575 V AC
- 450...800 V DC
- UL approval
- Power category 120...960 W

connectPower PROtop DCDC

- DCL technology for excellent dynamic range
- Operating modes: single / parallel operation and adjustable short-circuit behaviour (continuous current or switch-off)
- High durability up to 15 years, MTBF > 1.000.000 hours

connectPower PROtop UW

- DCL technology for excellent dynamic range
- Operating modes: single / parallel operation and adjustable short-circuit behaviour (continuous current or switch-off)
- High durability up to 15 years, MTBF > 1.000.000 hours

connectPower 1ph PROmax

- Single-phase switched-mode power supply module
- Slim design
- High efficiency
- Power category from 70...960 W
- International approvals

connectPower 3ph PROmax

- 3-phase switched-mode power supply module
- Slim design
- High efficiency
- Power category 120...960 W
- Wide range of approvals

connectPower 1ph PROeco

- Single-phase switched-mode power supply modules
- Slim design
- Large temperature range from –25 °C to 70 °C
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

connectPower 3ph PROeco

- 3-phase switched-mode power supply modules
- Slim design
- Large temperature range from –25 °C to 70 °C
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

connectPower PRObas

- Single-phase switched-mode power supply modules
- Compact design
- Flexible mounting
- High efficiency
- Robust & reliable

connectPower PRO-PM

- Wall mounting
- Flat design
- Metal housing
- Power category 25...350 W
- Universal input and output voltages

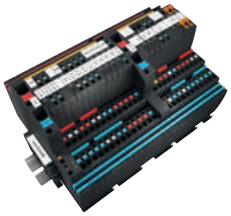
connectPower 1ph INSTA POWER

- Single-phase switched-mode power supply modules for the distribution board
- Compact form
- Power category 16 and 96 W
- Input and output voltage 5...48 V
- International approvals

topGUARD

- Electronic load monitoring
- Integrated potential distribution
- IO Link capable
- CANopen capable
- Status notification LEDs

maxGUARD



- Electronic load monitoring
- Status notification LEDs and potential-free contact
- Reset input
- Compact design

connectPower UPS control units

- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature, for a long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis

connectPower Battery modules

- Maintenance-free, lead-acid batteries from 1.3 Ah to 17 Ah
- Integrated temperature sensor for an extended service life
- Integrated fuse for reliable activation
- Buffer times up to 40 A / 30 min or 10 A / 90 min
- Robust metal housing for wall mounting

connectPower Buffer modules

- Buffer time: 320 ms @ 20 A or 230 ms @ 40 A
- Wide-ranging approvals and broad temperature range
- Status indicator via LEDs and signal connections
- Space-saving and maintenance-free
- Suitable for parallel connection

connectPower DC/DC converters

- Compact form
- Metal housing
- International approvals
- High degree of efficiency
- DCL peak load reserve up to 600%

connectPower Redundancy modules

- Fast status diagnosis via LED display and status relay
- Universally applicable due to wide range of variants (max. up to 80 A output current)
- Wide range of approvals (e.g. cULus, Class I, Div. 2, ATEX and IECEx)

Power supplies – Overview

connectPower Diode modules

- Diode module for 100 % decoupling of switching power supplies
- Optimal power doubling
- Max. up to 40 A Output current
- International approvals

Communication modules

- Tool-free assembly
- Protection class IP20
- Flexible to adapt PROtop and topGUARD to different communication protocols
- Available in CANopen and IO-Link

Service and support

Service connects – worldwide
Page V.2

- Service connects – worldwide
- Engineering services and customised products
- easyConnect – Your Industrial Service Platform
- Support Center
- Additional support services
- Weidmüller Configurator

Digital ordering options
Page V.10

Purchasing made easy:
- Weidmüller eShop
- OCI interface
- EDI interface

Find the perfect product to meet your requirement

Our extensive portfolio of power supplies at a glance

Series / family			Input side			Output side					Additional functions						Recommendation for application								Order No.
	Page	Description	Phases	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	Rated current [A]	Power rating [W]	Derating at [°C]	Load reserve	Type of contact	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering	
PROtop	A.4	PRO TOP1 72W 24V 3A	1	85...277	80...410	24	3	72	> 60	130 % permanently with ≤ 40 °C	NO	-25...+70 Start up @ -40	90	> 1	III	LR BV ABS SEMI F47 cULus Cl1Div2 EAC	●	●	●	●					2466850000
		PRO TOP1 120W 24V 5A				24	5	120					91				●	●	●	●					2466870000
		PRO TOP1 240W 24V 10A				24	10	240					92.5				●	●	●	●					2466880000
		PRO TOP1 480W 24V 20A				24	20	480					93.5				●	●	●	●					2466890000
		PRO TOP1 960W 24V 40A				24	40	960					94.5				●	●	●	●					2466900000
		PRO TOP1 120W 12V 10A				12	10	120					91				●	●	●	●					2466910000
		PRO TOP1 480W 48V 10A				48	10	480					93.5				●	●	●	●					2467030000
		PRO TOP1 960W 48V 20A				48	20	960					94.5				●	●	●	●					2466920000
		PRO TOP1 72W 24V 3A F				24	3	72					90				●	●	●	●					2568970000
		PRO TOP1 120W 24V 5A F				24	5	120					91				●	●	●	●					2568980000
		PRO TOP1 240W 24V 10A F				24	10	240					92.5				●	●	●	●					2568990000
		PRO TOP1 120W 12V 10A F				12	10	120					91				●	●	●	●					2569000000
		PRO TOP3 120W 24V 5A	2/3	3 x 320-3 x 575/ 2 x 360-2 x 575	450...800 (max. 500 acc. to UL508)	24	5	120					89				●	●	●	●					2467060000
		PRO TOP3 240W 24V 10A				24	10	240					93				●	●	●	●					2467080000
		PRO TOP3 480W 24V 20A				24	20	480					94				●	●	●	●					2467100000
		PRO TOP3 960W 24V 40A				24	40	960					95.3				●	●	●	●					2467120000
		PRO TOP3 480W 48V 10A				48	10	480					94				●	●	●	●					2467150000
		PRO TOP3 960W 48V 20A				48	20	960					95.3				●	●	●	●					2467170000
PROtop	A.16	PRO TOP1 72W 24V 3A CO	1	85...277	80...410	24	3	72	> 60	130 % permanently with ≤ 40 °C	NO	-40...+70	90	> 1	III	LR BV ABS SEMI F47 cULus Cl1Div2 ATEX IECEX EAC					●	●		●	2466970000
		PRO TOP1 120W 24V 5A EX				24	5	120					91								●	●		●	2466980000
		PRO TOP1 240W 24V 10A EX				24	10	240					92.5								●	●		●	2466990000
		PRO TOP1 480W 24V 20A EX				24	20	480					93.5								●	●		●	2467000000
		PRO TOP1 960W 24V 40A EX				24	40	960					94.5								●	●		●	2467010000
		PRO TOP1 120W 12V 10A EX				12	10	120					91								●	●		●	2467020000
		PRO TOP1 480W 48V 10A EX				48	10	480					93.5								●	●		●	2467040000
		PRO TOP1 960W 48V 20A CO				48	20	960					94.5								●	●		●	2467050000
		PRO TOP3 120W 24V 5A CO	2/3	3 x 320-3 x 575/ 2 x 360-2 x 575	450...800 (max. 500 acc. to UL508)	24	5	120					89								●	●		●	2467070000
		PRO TOP3 240W 24V 10A CO				24	10	240					93								●	●		●	2467090000
		PRO TOP3 480W 24V 20A CO				24	20	480					94								●	●		●	2467110000
		PRO TOP3 960W 24V 40A CO				24	40	960					95.3								●	●		●	2467130000
		PRO TOP3 960W 36V 26.6A CO				36	27	960					95.3								●	●		●	2467140000
		PRO TOP3 480W 48V 10A CO				48	10	480					94								●	●		●	2467160000
		PRO TOP3 960W 48V 20A CO				48	20	960					95.3								●	●		●	2467180000
PROtop DCDC	A.26	PRO TOPDC 24V/24V 5A	/	/	14 V...31.2 V (linear Derating from 18 V...14 V. 60% rated load @ Uin 14 V)	24	5	120	> 60	130 % permanently with ≤ 40 °C	NO	-25...+70	89	>1	I II III	TÜV DNV cULus EAC ABS Cl1Div2 IECEX ATEX	●	●	●	●					2627650000
		PRO TOPDC 24V/24V 10A				24	10	240					91				●	●	●	●					2627640000
		PRO TOPDC 24V/24V 20A				24	20	480					91				●	●	●	●					2627630000
		PRO TOPDC 24V/48V 10A				48	10	480					91				●	●	●	●					2627660000
		PRO TOPDC 24V/24V 10A EX				24	10	240				-40...+70	91								●	●		●	2467300000
		PRO TOPDC 24V/24V 20A EX				24	20	480					91								●	●		●	2467310000
		PRO TOPDC 24V/24V 5A EX				24	5	120					89								●	●		●	2467290000
PROtop UW	A.34	PRO TOP2 120W 24V 5A UW	1/2	85...550 V AC (Derating: 2 %/1 V @ 85...100 V AC)	90...800 V DC (Derating: 1 %/1 V @ 90...120 V DC)	24	5	120	> 60	130 % permanently with ≤ 40 °C	NO	-40...+70	89	>1	III	TÜV DNV LR ABS EAC ATEX IECEX BV	●	●	●	●					2467230000
		PRO TOP2 240W 24V 10A UW				24	10	240					91.5				●	●	●	●					2467250000
		PRO TOP2 240W 48V 5A UW				48	5	240					91.5				●	●	●	●					2467270000
		PRO TOP2 120W 24V 5A UW EX				24	5	120					89				●	●	●	●					2467240000
		PRO TOP2 240W 24V 10A UW EX				24	10	240					91.5				●	●	●	●					2467260000

NO = Schließer
CO = Wechsler
Start-up @ –40 °C = Im Bereich von –40 bis –25 °C läuft das Gerät an, jedoch können einige technischen Parameter abweichen (z. B. Ripple-Spannung).

Series / family			Input side			Output side					Additional functions						Recommendation for application								Order No.
	Page	Description	Phases	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	Rated current [A]	Power rating [W]	Derating at [°C]	Load reserve	Type of contact	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering	
PROmax	A.42	PRO MAX 72W 24V 3A	1	85...277	80...370	24	3	72	> 60	130 % permanently with ≤ 40 °C	CO	-25...+70	90	> 0.5	III				●	●	●	●	●	●	1478100000
		PRO MAX 120W 24V 5A				24	5	120					90						●	●	●	●	●	●	1478110000
		PRO MAX 180W 24V 7.5A				24	7.5	180					90						●	●	●	●	●	●	1478120000
		PRO MAX 240W 24V 10A				24	10	240					91						●	●	●	●	●	●	1478130000
		PRO MAX 480W 24V 20A				24	20	480					91						●	●	●	●	●	●	1478140000
		PRO MAX 960W 24V 40A				24	40	960					91.5						●	●	●	●	●	●	1478150000
		PRO MAX 70W 5V 14A				5	14	70					86						●	●	●	●	●	●	1478210000
		PRO MAX 72W 12V 6A				12	6	72					89						●	●	●	●	●	●	1478220000
		PRO MAX 120W 12V 10A				12	10	120					89						●	●	●	●	●	●	1478230000
		PRO MAX 240W 48V 5A				48	5	240					91						●	●	●	●	●	●	1478240000
		PRO MAX 480W 48V 10A				48	10	480					91.5						●	●	●	●	●	●	1478200000
		PRO MAX 960W 48V 20A				48	20	960					92.5						●	●	●	●	●	●	1478270000
		PRO MAX3 120W 24V 5A	2/3	3 x 320-3 x 575/ 2 x 360-2 x 575	450...800 (max. 500 acc. to UL508)	24	5	120					90						●	●	●	●	●	●	1478170000
		PRO MAX3 240W 24V 10A				24	10	240					91						●	●	●	●	●	●	1478180000
		PRO MAX3 480W 24V 20A				24	20	480					91.5						●	●	●	●	●	●	1478190000
		PRO MAX3 960W 24V 40A				24	40	960					92.5						●	●	●	●	●	●	1478200000
PROeco	A.54	PRO ECO 72W 24V 3A	1	85...264	80...370	24	3	72	> 40		NO	-25...+70	87	> 0.5	II		●	●		●					1469470000
		PRO ECO 120W 24V 5A				24	5	120					87				●	●		●					1469480000
		PRO ECO 240W 24V 10A				24	10	240					90				●	●		●					1469490000
		PRO ECO 480W 24V 20A				24	20	480					91				●	●		●					1469510000
		PRO ECO 960W 24V 40A				24	40	960					93				●	●		●					1469520000
		PRO ECO 72W 12V 6A				12	6	72					90				●	●		●					1469570000
		PRO ECO 120W 12V 10A				12	10	120					90				●	●		●					1469580000
		PRO ECO 240W 48V 5A				48	5	240					90				●	●		●					1469590000
		PRO ECO 480W 48V 10A				48	10	480					90				●	●		●					1469610000
		PRO ECO3 120W 24V 5A	2/3	3 x 320-3 x 575/ 2 x 360-2 x 575	450...800 (max. 500 acc. to UL508)	24	5	120					89				●	●		●					1469530000
		PRO ECO3 240W 24V 10A				24	10	240					93				●	●		●					1469540000
		PRO ECO3 480W 24V 20A				24	20	480					94				●	●		●					1469550000
		PRO ECO3 960W 24V 40A				24	40	960					95.3				●	●		●					1469560000
PRObas	A.66	PRO BAS 30W 24V 1.3A	1	85...264 (Derating @ 100 V AC)	110...370 V DC (Derating @ < 120 V DC)	24	1.3	30	> 55	/	/	-25...+70	89	> 0.5	II		●	●							2838500000
		PRO BAS 30W 12V 2.6A				12	2.6	30					89				●	●							2838510000
		PRO BAS 30W 5V 6A				5	6	30					87				●	●							2838400000
		PRO BAS 60W 24V 2.5A				24	2.5	60					90				●	●							2838410000
		PRO BAS 60W 12V 5A				12	5	60					90				●	●							2838420000
		PRO BAS 90W 24V 3.8A				24	3.8	90					89.4				●	●							2838430000
		PRO BAS 120W 24V 5A				24	5	120					90				●	●							2838440000
		PRO BAS 120W 12V 10A				12	0	120					90				●	●							2838450000
		PRO BAS 240W 24V 10A				24	10	240			NO		94				●	●							2838460000
		PRO BAS 240W 48V 5A				48	5	240					95				●	●							2838470000
		PRO BAS 480W 24V 20A				24	10	480					95				●	●							2838480000
		PRO BAS 480W 48V 10A				48	20	480					95				●	●							2838490000

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Our extensive portfolio of power supplies at a glance

Series / family			Input side			Output side					Additional functions						Recommendation for application								Order No.
	Page	Description	Phases	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	Rated current [A]	Power rating [W]	Derating at [°C]	Load reserve	Type of contact	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering	
PRO-PM	A.76	PRO PM 100W 12V 8.5A	1	90...264	/	12	8.5	100	> 50	/	/	-20...+70	84	/	II	cULus, CCC	●	●	●						2660200285
		PRO PM 100W 24V 4.5A				24	4.5	100					86				●	●	●						2660200286
		PRO PM 100W 48V 2.3A				48	2.3	100					86				●	●	●						2660200287
		PRO PM 150W 12V 12.5A				12	12.5	150					84				●	●	●						2660200288
		PRO PM 150W 24V 6.5A				24	6.5	150					86				●	●	●						2660200289
		PRO PM 150W 48V 3.3A				48	3.3	150					86				●	●	●						2660200290
		PRO PM 250W 12V 21A				12	21	250					84				●	●	●						2660200291
		PRO PM 250W 24V 10.5A				24	10.5	250					86				●	●	●						2660200292
		PRO PM 250W 48V 5.2A				48	5.2	250					86				●	●	●						2660200293
		PRO PM 350W 24V 14.6A				24	14.6	350					86				●	●	●						2660200294
		PRO PM 350W 48V 7.3A				48	7.3	350					86				●	●	●						2660200295
		PRO PM 35W 12V 3A				12	3	35					84				●	●	●						2660200278
		PRO PM 35W 24V 1.5A				24	1.5	35					86				●	●	●						2660200279
		PRO PM 35W 48V 0.75A				48	0.75	35					86				●	●	●						2660200280
		PRO PM 35W 5V 7A				5	7	35					82				●	●	●						2660200277
		PRO PM 75W 12V 6A				12	6	75					84				●	●	●						2660200282
		PRO PM 75W 24V 3.2A				24	3.2	75					86				●	●	●						2660200283
		PRO PM 75W 48V 1.6A				48	1.6	75					86				●	●	●						2660200284
		PRO PM 75W 5V 14A				5	14	75					82				●	●	●						2660200281
INSTA POWER	A.90	PRO INSTA 16W 24V 0.7A	1	85...264 (Derating @ 100 V AC)	95...370	24	0.7	16	> 55	/	/	-25...+70	82.5	750.000	II	CE, TÜV, cULus, Cl.1 Div.2, NEC Cl.2 (only 2580260000)	●	●	●						2580180000
		PRO INSTA 30W 12V 2.6A				12	2.6	30					85				●	●	●						2580220000
		PRO INSTA 30W 24V 1.3A				24	1.3	30					86				●	●	●						2580190000
		PRO INSTA 30W 5V 6A				5	6	30					82				●	●	●						2580210000
		PRO INSTA 60W 12V 5A				12	5	60					86				●	●	●						2580240000
		PRO INSTA 60W 24V 2.5A				24	2.5	60					89				●	●	●						2580230000
		PRO INSTA 90W 24V 3.8A				24	3.8	90					87				●	●	●						2580250000
		PRO INSTA 96W 24V 4A				24	4	96					87				●	●	●						2580260000
		PRO INSTA 96W 48V 2A				48	2	96					89				●	●	●						2580270000

Note: Product overview for the maxGUARD product range in chapter B.

Series / family			Input side	Output side				Additional functions								Recommendation for application								Order No.
	Page	Description	DC input voltage [V]	Rated voltage [V]	configurable range [V]	Rated current [A]	Power rating [W]	Type of contact	Parallel connection option	Side-by-side connectability	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering	
USV	C.2	CP DC UPS 24V 20A/10A	20-30	U_{in}-0.3 VU_{in}-0.3 V		10 / 20	240 / 480	NO / SSC	/	●	-25 ... +70	> 98	> 1	III		●	●	●	●				●	1370050010
		CP DC UPS 24V 40A				40	960			●						●	●	●	●				●	1370040010
		PRO DC BUFFER 24V 20A	24	22	22 V / Vin-1 V DC	20	480	NO	Yes	●	-25 ... +70	> 98 buffer mode	2.5	III		●	●	●	●				●	2786240000
		PRO DC BUFFER 24V 40A				40	960			●					IECEX ATEX	●	●	●	●				●	2786250000
		DURA ECO LA-BAT 24V 1.2AH	24	24		10 A / 7.8 min	1,2 Ah	/	≤ 2	●	Charge: -15 ... +50°C, Discharge: -20 ... +60°C			III	ABS BV	●	●	●	●				●	2789890000
		DURA ECO LA-BAT 24V 3.4AH				10 A / 11.3 min	3.4 Ah			●						●	●	●	●				●	2789900000
		DURA ECO LA-BAT 24V 7AH				10 A / 26.5 min	7 Ah			●						●	●	●	●				●	2789910000
		DURA ECO LA-BAT 24V 12AH				10 A / 51 min	12 Ah			●						●	●	●	●				●	2789920000
		DURA ECO LA-BAT 24V 17AH				10 A / 81 min	17 Ah			●						●	●	●	●					2789930000
DC/DC	D.2	PRO DCDC 120W 24V 5A	18...31.2	24	22.5...29.5	5	120	/	≤ 5	●	-25 ... +70	> 92	> 1	III	ABS CI1Div2			●	●		●		●	2001800000
		PRO DCDC 240W 24V 10A				10	240	NO		●		> 92						●	●		●		●	2001810000
		PRO DCDC 480W 24V 20A				20	480	NO		●		> 93						●	●		●		●	2001820000
DM / RM	E.2	PRO RM 10	10...32	U_{in}-0.13 VU_{in}-0.13 V		2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)	480	NO	yes	●	-40 ... +70	> 98	0.005	III	CI1Div2	●	●	●	●	●	●		●	2486090000
		PRO RM 20		U_{IN}-0.2 V		2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)	960			●		> 98	0.0047			●	●	●	●	●	●		●	2486100000
		PRO RM 40		U_{IN}-0.27 V		3 × 48 A (-40 °C ~ +45 °C), 2 × 40 A (+45 °C ~ +60 °C), 2 × 30 A (+70 °C)	1920			●		> 98	0.0037			●	●	●	●	●	●		●	2486110000
	E.6	PRO DM 10	0...60	U_{in}-0.7 VU_{in}-0.7 V		2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C), 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)	480	/	yes	●	-40 ... +70	> 97	0.44	III		●	●	●	●	●	●		●	2486070000
		PRO DM 20				2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C), 2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)	960			●		> 97	0.32			●	●	●	●	●	●		●	2486080000

Switched-mode power supply units

Optimum power supply for automation technology

The switch-mode power supplies feature a high efficiency, compact dimensions and minimal heat generation.

They are an excellent and reliable solution for providing power in all automation applications – safely providing 24 V DC voltage.

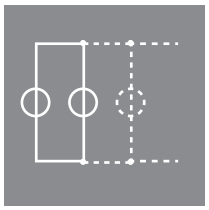
The different product series are optimised for the automation industry: they feature Ex approvals for the processing industry, a flat shape perfect for distribution tasks within buildings and provide decentralised control voltages.

All-purpose usage: with a wide range of AC/DC inputs, single-, double- or three-phase versions and a wide temperature range. Additional performance increases are possible using simple parallel connection. Weidmüller switch-mode power supplies are reliable usable for all applications because of their high efficiency and their resistance to both short circuits and overloads.

Weidmüller offers a system of one- and three-phase switch-mode power supplies especially for the PROtop family. These can be expanded with additional modules to create whole system solutions. The optimal fitting system can be assembled for any type of application: with redundancy circuits containing decoupled outputs, monitoring of the output voltage or triggering of circuit breakers.

International use

A wide-range input (both DC as well as AC voltages can be used; no switching required) and extensive approvals (UL/CSA and GL (EMC 1 – bridge)).

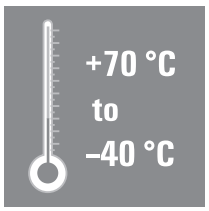


Parallel connection

Module power can be increased by connecting up to five power supplies in parallel without diode module.

Narrow

Space-saving configuration in the switching cabinet through very narrow housing construction and side-by-side connectability.



Robust

Wide temperature range from –40 °C ... +70 °C.

Wide choice

The right power supply for every application: 1-phase 3 A, 5 A, 7.5 A, 10 A, 20 A, 40 A and 3-phase 5 A, 10 A, 20 A, 40 A.

connectPower

connectPower PROtop

connectPower PROtop DCDC

connectPower PROtop UW

connectPower PROmax

connectPower PROeco

connectPower PRObas

connectPower PRO-PM

connectPower INSTA POWER

High-end-power supplies and future proofed

PROtop: Reliable, powerful, efficient and communication-capable

Production processes constantly need to be made more efficient. As well as performance, energy efficiency and sustainability are also playing an increasingly important role in cutting-edge industry. PROtop power supplies combine excellent performance data with exemplary sustainability, which has a positive impact on the productivity of the entire production facility.

PROtop offers a number of advantages that give you a real competitive edge. These include the permanent reduction of energy costs thanks to high efficiencies as well as the increase in plant availability due to long service life and high MTBF values. In addition, there is a high functional density due to the extremely space-saving designs.

PROtop can achieve significant savings compared to conventional power supply units. Its increased efficiency saves an average of 50 kWh per day in a mediumsized production facility with approx. 100 PROtop power supplies working in three-shift operation. This adds up to over 15,000 kWh a year and also improves the facility's carbon footprint. The service life, which is twice as long as that of standard power supplies, also sustainably reduces the costs of repurchase and exchange.

Also in the protection class IP65 available

ORing MOSFETs

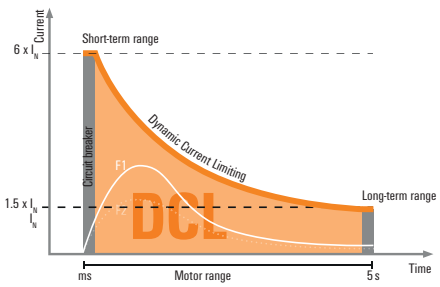
Direct parallel switching without diode modules thanks to integrated ORing MOSFETs for reduced system costs

Sustainable and innovative device concept
- Optimum efficiency levels (up to 95.3 %) for sustainable energy savings
- High MTBF values (> 1,000,000 h) for permanently high system availability

Communication modules can be adapted without tools.

DCL

Outstanding peak load reserves
- High dynamic range thanks to unique DCL (dynamic current limiting) technology
- Continuous peak load reserves from millisecond to second range
- Ideal for reliably triggering circuit breakers or for powerful motor starts



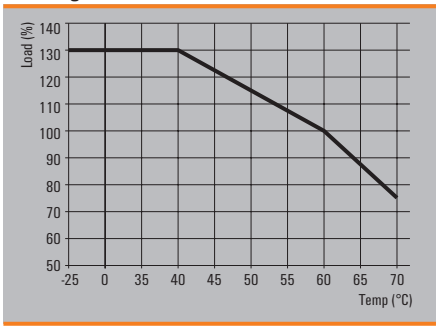
Highly future-proof
- Complete data transparency through to the cloud
- Remote controllability for integration into machine control systems
- CANopen and IO-Link communication protocols

CANopen IO-Link

connectPower PROtop

- DCL technology for an excellent dynamic range
- High energy efficiency (up to 95.4 % efficiency)
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 10 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology

Derating curve



Technical data

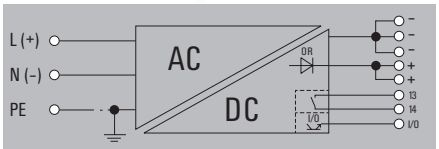
General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature	-25 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	I, with PE connection / 2
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	No
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55024:2010/A1:2015, EN 55035:2017, EN 61000-3-2:2014, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV acc. to IEC 60950-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROtop

- 1-phase power supplies

PRO TOP1 72 W 24 V 3 A

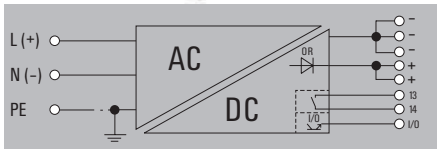
Similar to illustration



Pay attention to polarity of DC connection

PRO TOP1 120 W 24 V 5 A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80 ... 410 V DC	48...410 V DC (Derating 40% @ 48 V DC)
Input fuse (internal) / Inrush current	Yes / max. 5 A	Yes / max. 5 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	3 A @ 60 °C	5 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	2.3Mh	1.9Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	72W	120W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	89%	91%
Power factor (approx.)	> 0.5	> 0.85
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 35 / 130 mm	125 / 35 / 130 mm
Net weight	650 g	850 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator
Number of terminals		3 for L/N/PE	5 (+ + / - - -)	3 for L/N/PE	5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.5 / 1.5	0.2 / 2.5	0.5 / 1.5	0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.5 / 2.5	0.2 / 2.5	0.5 / 2.5	0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		20 / 12	26 / 12	20 / 12	26 / 12
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO TOP1 72W 24V 3A	1	**2466850000**

Type	**Qty.**	**Order No.**
PRO TOP1 120W 24V 5A	1	**2466870000**

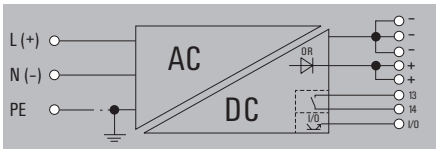
Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

connectPower PROtop

- 1-phase power supplies

PRO TOP1 240 W 24 V 10 A

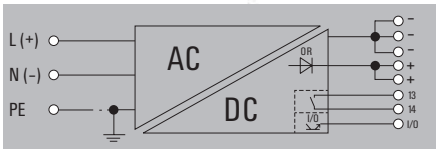
Similar to illustration



Pay attention to polarity of DC connection

PRO TOP1 480 W 24 V 20 A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80 ... 410 V DC	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A	Yes / max. 5 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennr}, Full Load	< 50 mVss @ U_{Nennr}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	10 A @ 60 °C	20 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.6Mh	1.2Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	240W	480W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	92 %	93%
Power factor (approx.)	> 0.9	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 39 / 130 mm	125 / 68 / 130 mm
Net weight	1050 g	1520 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN with actuator	PUSH IN	PUSH IN
Number of terminals		3 for L/N/PE	5 (+ + / - - -)	3 for L/N/PE	5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.5 / 1.5	0.2 / 2.5	0.2 / 10	0.2 / 10
Wire cross-section, flexible min/max	mm²	0.5 / 2.5	0.2 / 2.5	0.2 / 6	0.2 / 6
Wire cross-section, AWG/kcmil min/max		20 / 12	26 / 12	20 / 8	20 / 8
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO TOP1 240W 24V 10A	1	**2466880000**

Type	**Qty.**	**Order No.**
PRO TOP1 480W 24V 20A	1	**2466890000**

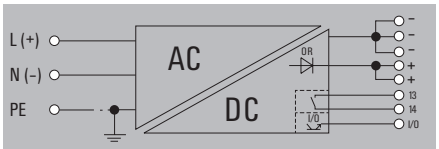
Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

connectPower PROtop

- 1-phase power supplies

PRO TOP1 960 W 24 V 40 A

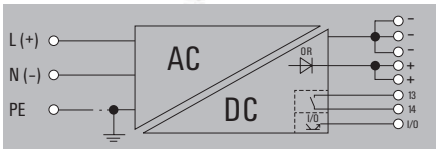
Similar to illustration



Pay attention to polarity of DC connection

PRO TOP1 120 W 12 V 10 A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80 ... 410 V DC	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 5 A
Output		
Rated output voltage	24 V DC ± 1 %	12 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	11...15 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	40 A @ 60 °C	10 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1Mh	1.5Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	960W	120W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	94%	90%
Power factor (approx.)	> 0.9	> 0.85
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 124 / 130 mm	125 / 35 / 130 mm
Net weight	3245 g	850 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN	PUSH IN	PUSH IN with actuator	PUSH IN with actuator
Number of terminals		3 for L/N/PE	5 (+ + / - - -)	3 for L/N/PE	5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.75 / 16	0.75 / 16	0.5 / 1.5	0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.75 / 16	0.75 / 16	0.5 / 2.5	0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		20 / 4	20 / 4	20 / 12	26 / 12
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO TOP1 960W 24V 40A	1	**2466900000**

Type	**Qty.**	**Order No.**
PRO TOP1 120W 12V 10A	1	**2466910000**

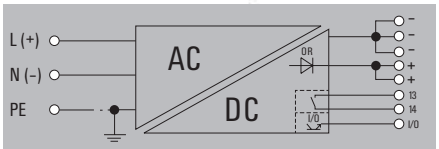
Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

connectPower PROtop

- 1-phase power supplies

PRO TOP1 480 W 48 V 10 A

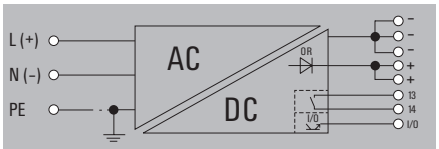
Similar to illustration



Pay attention to polarity of DC connection

PRO TOP1 960 W 48 V 20 A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80 ... 410 V DC	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A	Yes / max. 15 A
Output		
Rated output voltage	48 V DC ± 1 %	48 V DC ± 1 %
Output voltage	45...56 V adjustable with potentiometer or comunication module	45...56 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 100 mV_{PP}
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	10 A @ 60 °C	20 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.1Mh	1Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	480W	960W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	No	No
Degree of efficiency	93%	94%
Power factor (approx.)	> 0.9	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 68 / 130 mm	125 / 124 / 130 mm
Net weight	1520 g	3215 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN	PUSH IN	PUSH IN	PUSH IN
Number of terminals		3 for L/N/PE	5 (+ + / - - -)	3 for L/N/PE	5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.2 / 10	0.2 / 10	0.75 / 16	0.75 / 16
Wire cross-section, flexible min/max	mm²	0.2 / 6	0.2 / 6	0.75 / 16	0.75 / 16
Wire cross-section, AWG/kcmil min/max		20 / 8	20 / 8	20 / 4	20 / 4
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO TOP1 480W 48V 10A	1	**2467030000**

Type	**Qty.**	**Order No.**
PRO TOP1 960W 48V 20A	1	**2466920000**

Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

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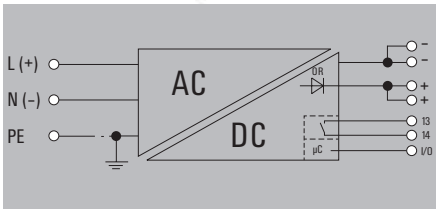
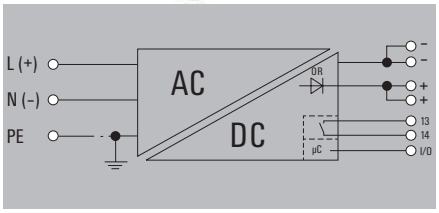
- 1-phase power supplies with output-side screw flange

PRO TOP1 72W 24V 3A F



PRO TOP1 120W 12V 10A F



Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80 ... 410 V DC	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A	Yes / max. 5 A
Output		
Rated output voltage	24 V DC ± 1 %	12 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	11...15 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	3 A @ 60 °C	10 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	2.3Mh	1.5Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	72W	120W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	89%	90%
Power factor (approx.)	> 0.5	> 0.85
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 35 / 130 mm	125 / 35 / 130 mm
Net weight	650 g	850 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

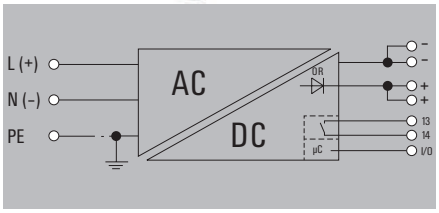
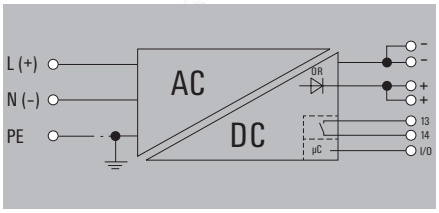
Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator
Number of terminals		3 for L/N/PE	4 (++ / –)	3 for L/N/PE	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.5 / 1.5	0.2 / 2.5	0.5 / 1.5	0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.5 / 2.5	0.2 / 2.5	0.5 / 2.5	0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		20 / 12	26 / 12	20 / 12	26 / 12
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
	PRO TOP1 72W 24V 3A F	1	**2568970000**	PRO TOP1 120W 12V 10A F	1	**2569000000**
Note	Current technical data at catalog.weidmueller.com			Current technical data at catalog.weidmueller.com		

connectPower PROtop

- 1-phase power supplies with output-side screw flange

	PRO TOP1 120W 24V 5A F	PRO TOP1 240W 24V 10A F
		
		

Technical data

Input			
Rated input voltage		110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC		85...277 V AC	85...277 V AC
Frequency range AC		45...65 Hz	45...65 Hz
DC input voltage range		48...410 V DC (Derating 40% @ 48 V DC)	80 ... 410 V DC
Input fuse (internal) / Inrush current		Yes / max. 5 A	Yes / max. 5 A
Output			
Rated output voltage		24 V DC ± 1 %	24 V DC ± 1 %
Output voltage		22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve		150 % (5 s); 600 % (15 ms)	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes		< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$		130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}		5 A @ 60 °C	10 A @ 60 °C
MTBF			
According to Standard		SN 29500	SN 29500
Operating time (hours), min.		1.9Mh	1.6Mh
Ambient temperature		25°C	25°C
Input voltage		230V	230V
Output power		120W	240W
Duty cycle		100%	100%
General data			
Derating		> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability		Yes	Yes
Degree of efficiency		91%	92 %
Power factor (approx.)		> 0.85	> 0.9
AC failure bridging time @ I_{nom}		> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red		Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option		yes, max 10	yes, max 10
Depth x width x height		125 / 35 / 130 mm	125 / 39 / 130 mm
Net weight		850 g	1050 g
Approvals			
Approvals		ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV
Connection data		**Input** / **Output**	**Input** / **Output**
Connection system		PUSH IN with actuator / PUSH IN with actuator	PUSH IN with actuator / PUSH IN with actuator
Number of terminals		3 for L/N/PE / 4 (++ / –)	3 for L/N/PE / 4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.5 / 1.5 / 0.2 / 2.5	0.5 / 1.5 / 0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.5 / 2.5 / 0.2 / 2.5	0.5 / 2.5 / 0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		20 / 12 / 26 / 12	20 / 12 / 26 / 12
Note			

Ordering data

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A F	1	**2568980000**

Type	Qty.	Order No.
PRO TOP1 240W 24V 10A F	1	**2568990000**

Note		
	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

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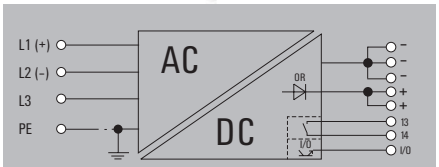
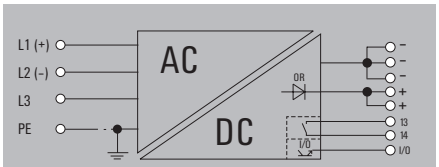
- 3-phase power supplies

PRO TOP3 120 W 24 V 5 A



PRO TOP3 240 W 24 V 10 A



Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A	No / Max. 10 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	5 A @ 60 °C	10 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	2Mh	1.4Mh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	120W	240W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	89%	93%
Power factor (approx.)	> 0.4 @ 3x400 V AC	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 39 / 130 mm	125 / 50 / 130 mm
Net weight	967 g	1120 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator
Number of terminals		4 for L1/L2/L3/PE	5 (+ + / - - -)	4 for L1/L2/L3/PE	5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.5 / 1.5	0.2 / 2.5	0.5 / 1.5	0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.5 / 2.5	0.2 / 2.5	0.5 / 2.5	0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		20 / 12	26 / 12	20 / 12	26 / 12
Note					

Ordering data

	Type	**Qty.**	**Order No.**
	PRO TOP3 120W 24V 5A	1	**2467060000**
Note	Current technical data at catalog.weidmueller.com		

	Type	**Qty.**	**Order No.**
	PRO TOP3 240W 24V 10A	1	**2467080000**
	Current technical data at catalog.weidmueller.com		

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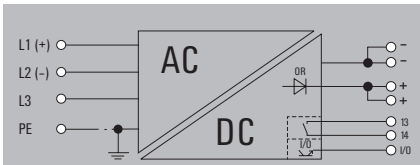
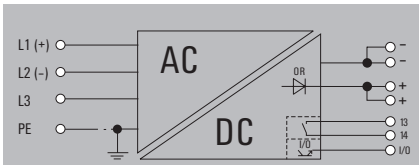
- 3-phase power supplies

	PRO TOP3 480 W 24 V 20 A	PRO TOP3 960 W 24 V 40 A
		
		

Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A	No / Max. 10 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	20 A @ 60 °C	40 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1Mh	1Mh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	480W	960W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	94%	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 68 / 130 mm	175 / 89 / 130 mm
Net weight	1650 g	2490 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN	PUSH IN	PUSH IN	PUSH IN
Number of terminals		4 for L1/L2/L3/PE	4 (++ / –)	4 for L1/L2/L3/PE	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.2 / 10	0.2 / 10	0.75 / 16	0.75 / 16
Wire cross-section, flexible min/max	mm²	0.2 / 6	0.2 / 6	0.75 / 16	0.75 / 16
Wire cross-section, AWG/kcmil min/max		20 / 8	20 / 8	20 / 4	20 / 4
Note					

Ordering data

	Type	**Qty.**	**Order No.**
	PRO TOP3 480W 24V 20A	1	**2467100000**
	PRO TOP3 960W 24V 40A	1	**2467120000**
Note	Current technical data at catalog.weidmueller.com		
	Current technical data at catalog.weidmueller.com		

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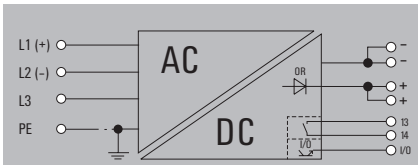
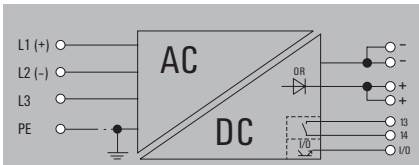
- 3-phase power supplies

	PRO TOP3 480 W 48 V 10 A	PRO TOP3 960 W 48 V 20 A
		
		

Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A	No / Max. 10 A
Output		
Rated output voltage	48 V DC ± 1 %	48 V DC ± 1 %
Output voltage	45...56 V adjustable with potentiometer or comunication module	45...56 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	10 A @ 60 °C	20 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.1Mh	1.2Mh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	480W	960W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	No	No
Degree of efficiency	94%	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 68 / 130 mm	175 / 89 / 130 mm
Net weight	1645 g	2490 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN	PUSH IN	PUSH IN	PUSH IN
Number of terminals		4 for L1/L2/L3/PE	4 (++ / –)	4 for L1/L2/L3/PE	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.2 / 10	0.2 / 10	0.75 / 16	0.75 / 16
Wire cross-section, flexible min/max	mm²	0.2 / 6	0.2 / 6	0.75 / 16	0.75 / 16
Wire cross-section, AWG/kcmil min/max		20 / 8	20 / 8	20 / 4	20 / 4
Note					

Ordering data

	Type	**Qty.**	**Order No.**
	PRO TOP3 480W 48V 10A	1	**2467150000**
Note	Current technical data at catalog.weidmueller.com		

	Type	**Qty.**	**Order No.**
	PRO TOP3 960W 48V 20A	1	**2467170000**
Note	Current technical data at catalog.weidmueller.com		

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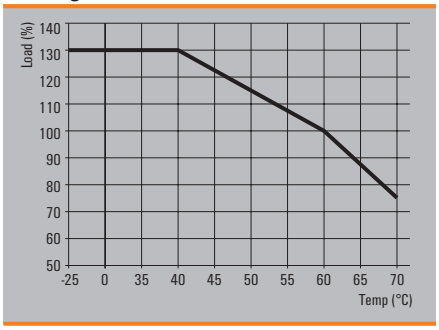
- DCL technology for an excellent dynamic range
- High energy efficiency (up to 95.4 % efficiency)
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 10 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology

Derating curve

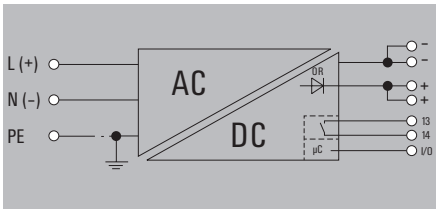
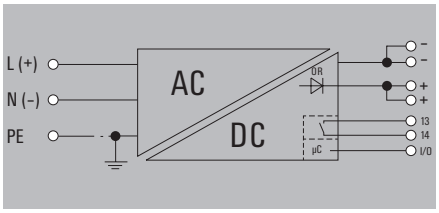


Technical data

General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature	-40 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...100 % no condensation
Protection class / Pollution degree	I, with PE connection / 2
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	Yes
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55024:2010/A1:2015, EN 55035:2017, EN 61000-3-2:2014, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV acc. to IEC 60950-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROtop

- 1-phase power supplies

	PRO TOP1 72W 24V 3A CO	PRO TOP1 120W 24V 5A EX
		
		

Technical data

Input			
Rated input voltage		110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC		85...277 V AC	85...277 V AC
Frequency range AC		45...65 Hz	45...65 Hz
DC input voltage range		80 ... 410 V DC	48...410 V DC (Derating 40% @ 48 V DC)
Input fuse (internal) / Inrush current		Yes / max. 5 A	Yes / max. 5 A
Output			
Rated output voltage		24 V DC ± 1 %	24 V DC ± 1 %
Output voltage		22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve		150 % (5 s); 400 % (15 ms)	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes		< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$		130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}		3 A @ 60 °C	5 A @ 60 °C
MTBF			
According to Standard		SN 29500	SN 29500
Operating time (hours), min.		2.3Mh	1.9Mh
Ambient temperature		25°C	25°C
Input voltage		230V	230V
Output power		72W	120W
Duty cycle		100%	100%
General data			
Derating		> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability		Yes	Yes
Degree of efficiency		89%	91%
Power factor (approx.)		> 0.5	> 0.85
AC failure bridging time @ I_{nom}		> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red		Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option		yes, max 10	yes, max 10
Depth x width x height		125 / 35 / 130 mm	125 / 35 / 130 mm
Net weight		650 g	850 g
Approvals			
Approvals		ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; IECEXTUEV; LLOYDSREG; RINA; RS; TUEV; TUEVSATEX
Connection data		**Input** / **Output**	**Input** / **Output**
Connection system		Clamping yoke / Clamping yoke connection	Clamping yoke / Clamping yoke connection
Number of terminals		3 for L/N/PE / 5 (+ + / - - -)	3 for L/N/PE / 5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.2 / 4 / 0.2 / 4	0.2 / 4 / 0.2 / 4
Wire cross-section, flexible min/max	mm²	0.2 / 4 / 0.2 / 4	0.2 / 4 / 0.2 / 4
Wire cross-section, AWG/kcmil min/max		30 / 12 / 30 / 12	30 / 12 / 30 / 12
Note			

Ordering data

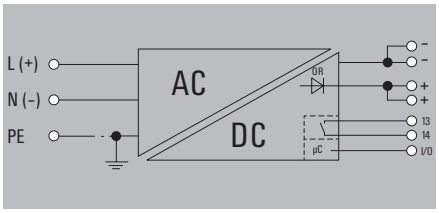
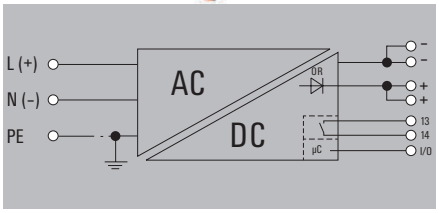
Type	Qty.	Order No.
PRO TOP1 72W 24V 3A CO	1	**2466970000**

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A EX	1	**2466980000**

Note

connectPower PROtop

- 1-phase power supplies

	PRO TOP1 240W 24V 10A EX	PRO TOP1 480W 24V 20A EX
		
		

Technical data

Input			
Rated input voltage		110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC		85...277 V AC	85...277 V AC
Frequency range AC		45...65 Hz	45...65 Hz
DC input voltage range		80 ... 410 V DC	80 ... 410 V DC
Input fuse (internal) / Inrush current		Yes / max. 5 A	Yes / max. 5 A
Output			
Rated output voltage		24 V DC ± 1 %	24 V DC ± 1 %
Output voltage		22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve		150 % (5 s); 600 % (15 ms)	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes		< 50 mVss @ U_{Nennr}, Full Load	< 50 mVss @ U_{Nennr}, Full Load
Reserve capacity @ $U_{Nominal}$		130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}		10 A @ 60 °C	20 A @ 60 °C
MTBF			
According to Standard		SN 29500	SN 29500
Operating time (hours), min.		1.6Mh	1.22Mh
Ambient temperature		25°C	25°C
Input voltage		230V	230V
Output power		240W	480W
Duty cycle		100%	100%
General data			
Derating		> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability		Yes	Yes
Degree of efficiency		92 %	93%
Power factor (approx.)		> 0.9	> 0.9
AC failure bridging time @ I_{nom}		> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red		Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option		yes, max 10	yes, max 10
Depth x width x height		125 / 39 / 130 mm	125 / 68 / 130 mm
Net weight		1.05 g	1520 g
Approvals			
Approvals		ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; IECEXTUEV; LLOYDSREG; RINA; RS; TUEV; TUEVSATEX	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; IECEXTUEV; LLOYDSREG; RINA; RS; TUEV; TUEVSATEX
Connection data			
		Input / **Output**	**Input** / **Output**
Connection system		Clamping yoke / Clamping yoke connection	Clamping yoke / Clamping yoke connection
Number of terminals		3 for L/N/PE / 5 (+ + / - - -)	3 for L/N/PE / 5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.2 / 4 / 0.2 / 4	0.18 / 6 / 0.2 / 6
Wire cross-section, flexible min/max	mm²	0.2 / 4 / 0.2 / 4	0.22 / 4 / 0.5 / 6
Wire cross-section, AWG/kcmil min/max		30 / 12 / 30 / 12	26 / 10 / 24 / 8
Note			

Ordering data

	Type	Qty.	Order No.
	PRO TOP1 240W 24V 10A EX	1	**2466990000**
	PRO TOP1 480W 24V 20A EX	1	**2467000000**
Note			

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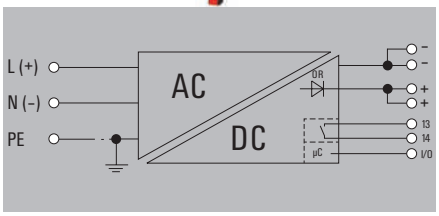
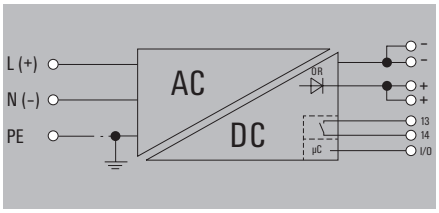
- 1-phase power supplies

PRO TOP1 480W 48V 10A EX



PRO TOP1 960W 48V 20A CO



Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80 ... 410 V DC	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A	Yes / max. 15 A
Output		
Rated output voltage	48 V DC ± 1 %	48 V DC ± 1 %
Output voltage	45...56 V adjustable with potentiometer or comunication module	45...56 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 100 mV_{PP}
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	10 A @ 60 °C	20 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.19Mh	1.15Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	480W	960W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	No	No
Degree of efficiency	93%	94%
Power factor (approx.)	> 0.9	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 68 / 130 mm	125 / 139 / 130 mm
Net weight	1520 g	3382 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; IECEXTUEV; LLOYDSREG; RINA; RS; TUEV; TUEVSATEX	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Clamping yoke	Clamping yoke connection	Clamping yoke	Clamping yoke connection
Number of terminals		3 for L/N/PE	5 (+ + / - - -)	3 for L/N/PE	5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.2 / 6	0.18 / 6	0.2 / 16
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.5 / 6	0.22 / 4	6 / 16
Wire cross-section, AWG/kcmil min/max		26 / 10	24 / 8	26 / 10	22 / 6
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO TOP1 480W 48V 10A EX	1	**2467040000**

Type	**Qty.**	**Order No.**
PRO TOP1 960W 48V 20A CO	1	**2467050000**

Note

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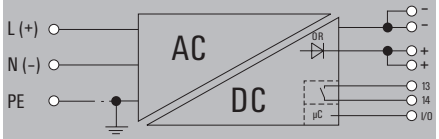
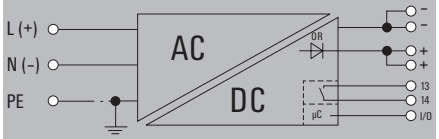
- 1-phase power supplies

	PRO TOP1 960W 24V 40A EX	PRO TOP1 120W 12V 10A EX
		
		

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80 ... 410 V DC	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 5 A
Output		
Rated output voltage	24 V DC ± 1 %	12 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	11...15 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennr}, Full Load	< 50 mVss @ U_{Nennr}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	40 A @ 60 °C	10 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.04Mh	1.5Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	960W	120W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	94%	90%
Power factor (approx.)	> 0.9	> 0.85
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 139 / 130 mm	125 / 35 / 130 mm
Net weight	3382 g	850 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; IECEXTUEV; LLOYDSREG; RINA; RS; TUEV; TUEVSATEX	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; IECEXTUEV; LLOYDSREG; RINA; RS; TUEV; TUEVSATEX

Connection data					
Connection system		Input	Output	Input	Output
Number of terminals		Clamping yoke	Clamping yoke connection	Clamping yoke	Clamping yoke connection
Wire cross-section, rigid min/max	mm²	3 for L/N/PE	5 (+ + / - - -)	3 for L/N/PE	5 (+ + / - - -)
Wire cross-section, flexible min/max	mm²	0.18 / 6	0.2 / 16	0.2 / 4	0.2 / 4
Wire cross-section, AWG/kcmil min/max		0.22 / 4	6 / 16	0.2 / 4	0.2 / 4
Note		26 / 10	22 / 6	30 / 12	30 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP1 960W 24V 40A EX	1	2467010000

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A EX	1	2467020000

Note

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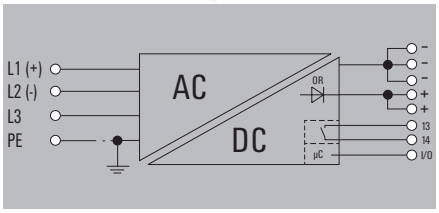
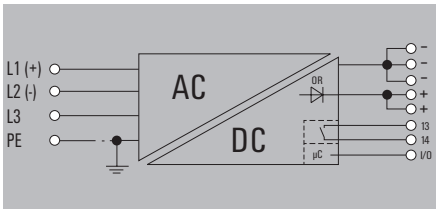
- 3-phase power supplies

PRO TOP3 120W 24V 5A CO



PRO TOP3 240W 24V 10A CO



Technical data

Input			
Rated input voltage		3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC		3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC		45...65 Hz	45...65 Hz
DC input voltage range		450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current		No / Max. 10 A	No / Max. 10 A
Output			
Rated output voltage		24 V DC ± 1 %	24 V DC ± 1 %
Output voltage		22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve		150 % (5 s); 600 % (15 ms)	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes		< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Reserve capacity @ $U_{Nominal}$		130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}		5 A @ 60 °C	10 A @ 60 °C
MTBF			
According to Standard		SN 29500	SN 29500
Operating time (hours), min.		2Mh	1.4Mh
Ambient temperature		25°C	25°C
Input voltage		400V	400V
Output power		120W	240W
Duty cycle		100%	100%
General data			
Derating		> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability		Yes	Yes
Degree of efficiency		89%	93%
Power factor (approx.)		> 0.4 @ 3x400 V AC	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}		> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red		Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option		yes, max 10	yes, max 10
Depth x width x height		125 / 39 / 130 mm	125 / 50 / 130 mm
Net weight		967 g	1120 g
Approvals			
Approvals		ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV
Connection data		**Input** / **Output**	**Input** / **Output**
Connection system		PUSH IN with actuator / PUSH IN with actuator	PUSH IN with actuator / PUSH IN with actuator
Number of terminals		4 for L1/L2/L3/PE / 5 (+ + / - - -)	4 for L1/L2/L3/PE / 5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.5 / 1.5 / 0.2 / 2.5	0.5 / 1.5 / 0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.5 / 2.5 / 0.2 / 2.5	0.5 / 2.5 / 0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		20 / 12 / 26 / 12	20 / 12 / 26 / 12
Note			

Ordering data

Type	Qty.	Order No.
PRO TOP3 120W 24V 5A CO	1	**2467070000**

Type	Qty.	Order No.
PRO TOP3 240W 24V 10A CO	1	**2467090000**

Note

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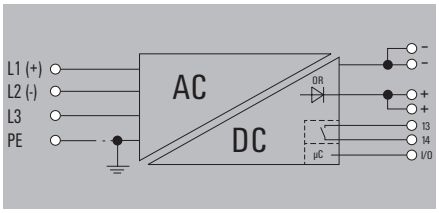
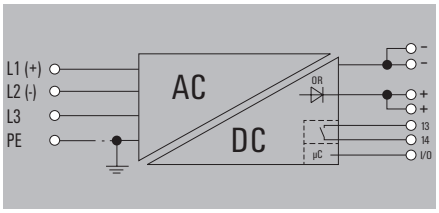
- 3-phase power supplies

	PRO TOP3 480W 24V 20A CO	PRO TOP3 960W 24V 40A CO
		
		

Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A	No / Max. 10 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	20 A @ 60 °C	40 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1Mh	1Mh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	480W	960W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	94%	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 68 / 130 mm	175 / 89 / 130 mm
Net weight	1650 g	2490 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN	PUSH IN	PUSH IN	PUSH IN
Number of terminals		4 for L1/L2/L3/PE	4 (++ / –)	4 for L1/L2/L3/PE	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.2 / 10	0.2 / 10	0.75 / 16	0.75 / 16
Wire cross-section, flexible min/max	mm²	0.2 / 6	0.2 / 6	0.75 / 16	0.75 / 16
Wire cross-section, AWG/kcmil min/max		20 / 8	20 / 8	20 / 4	20 / 4
Note					

Ordering data

	Type	Qty.	Order No.
	PRO TOP3 480W 24V 20A CO	1	2467110000
	PRO TOP3 960W 24V 40A CO	1	2467130000
Note			

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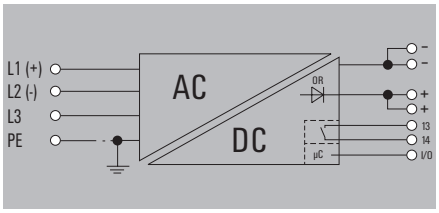
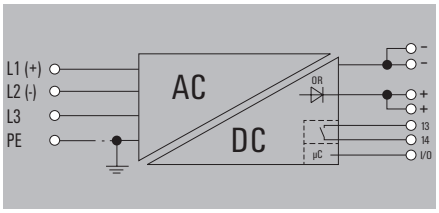
- 3-phase power supplies

PRO TOP3 960W 36V 26,6A CO



PRO TOP3 480W 48V 10A CO



Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A	No / Max. 10 A
Output		
Rated output voltage	36 V DC ± 1 %	48 V DC ± 1 %
Output voltage	33...44 V adjustable with potentiometer or comunication module	45...56 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nennv}, Full Load	< 100 mV ss @ 48 V DC, I Nenn
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	26.6 A @ 60 °C	10 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.24Mh	1.1Mh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	960W	480W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	No	No
Degree of efficiency	95,3 %	94%
Power factor (approx.)	> 0.75 @ 3x400 V AC	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	175 / 89 / 130 mm	125 / 68 / 130 mm
Net weight	2490 g	1645 g
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN	PUSH IN	PUSH IN	PUSH IN
Number of terminals		4 for L1/L2/L3/PE	4 (++ / –)	4 for L1/L2/L3/PE	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.75 / 16	0.75 / 16	0.2 / 10	0.2 / 10
Wire cross-section, flexible min/max	mm²	0.75 / 16	0.75 / 16	0.2 / 6	0.2 / 6
Wire cross-section, AWG/kcmil min/max		20 / 4	20 / 4	20 / 8	20 / 8
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO TOP3 960W 36V 26,6A CO	1	**2467140000**

Type	**Qty.**	**Order No.**
PRO TOP3 480W 48V 10A CO	1	**2467160000**

Note

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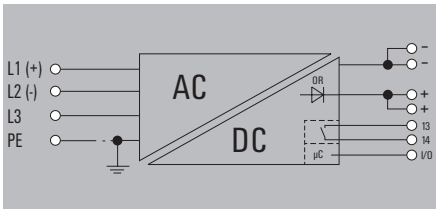
- 3-phase power supplies

PRO TOP3 960W 48V 20A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V adjustable with potentiometer or comunication module
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	20 A @ 60 °C
MTBF	
According to Standard	SN 29500
Operating time (hours), min.	1.2Mh
Ambient temperature	25°C
Input voltage	400V
Output power	960W
Duty cycle	100%
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; EAC; LLOYDSREG; RINA; RS; TUEV

Connection data		**Input**	**Output**
Connection system		PUSH IN	PUSH IN
Number of terminals		4 for L1/L2/L3/PE	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.75 / 16	0.75 / 2.5
Wire cross-section, flexible min/max	mm²	0.75 / 16	0.75 / 16
Wire cross-section, AWG/kcmil min/max		20 / 4	20 / 4

Note

Ordering data

Type	Qty.	Order No.
PRO TOP3 960W 48V 20A CO	1	**2467180000**

Note

PROtop DCDC converter with IoT connection – fit for digitalisation

Powerful, efficient, and reliable isolation

PROtop DCDC converters are used for safe electrical isolation to avoid ground loops that can occur when supplying field devices in production or process plants. DCDC converters can be used on long supply lines to refresh the supply voltage.

The integrated ORing MOSFET reliably decouples possible internal short circuits. It allows direct parallel connection of ACDC and DCDC converters of the PROtop series for redundancy purposes or to increase power. This makes the use of the otherwise common diode or redundancy modules obsolete. Furthermore, PROtop DCDC converters feature the powerful DCL technology – and their communication module allows full data transparency and remote control.

Your special advantages:

- Integrated ORing MOSFET for direct parallel connection for redundancy purposes or to increase power
- Thanks to DCL technology, very high peak current reserves for fuse tripping or for powerful motor starts
- Communication interface for complete data transparency and remote control

Fit for the future thanks to IO-LINK
The optional communication modules, which can be retrofitted at any time, create data transparency, and enable automated parameterisation and remote control.

Redundancy without diode modules
The integrated ORing MOSFET allows direct parallel connection for redundancy purposes or to increase power. Diode and redundancy modules are thus obsolete.

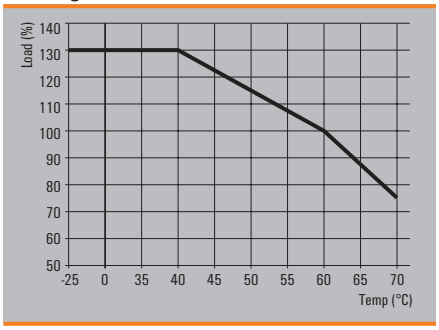
Peak current reserves thanks to DCL
The high peak current reserves of up to 600 % nominal current reliably trigger miniature circuit breakers. In addition, the dynamic current limitation DCL offers high peak currents for powerful motor starting

Optimal for:

connectPower PROtop DCDC

- DCL technology for an excellent dynamic range
- High energy efficiency
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 10 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology

Derating curve



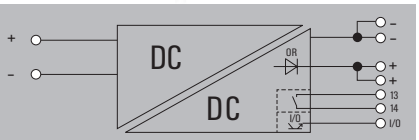
Technical data

General data	
Insulation voltage input / earth	1.41 kV
Insulation voltage output / earth	0.7 kV
Insulation voltage, input/output	1.41 kV
Ambient temperature (operational) / Storage temperature	-25 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	III, with no ground connection, for SELV
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	No
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55035:2017, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, IEC 61000-4-2, IEC 61000-4-3, DIN EN 61000-4-4, EN 61000-4-5:2005, EN 61000-4-6:2008, IEC 61000-4-8
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-17
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV acc. to IEC 60950-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

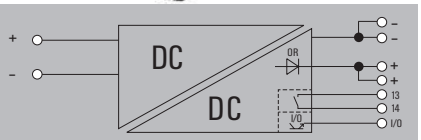
connectPower PROtop DCDC

- DC/DC-Wandler

PRO TOPDC 24V/24V 5A



PRO TOPDC 24V/24V 10A



Technical data

Input		
Rated input voltage	24 V DC	24 V DC
Input current	5.7A @ 24V / 7.6A @ 18V	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / max. 5 A	Yes / Max. 10 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV_{PP}@25 °C	< 40 mV_{PP}@25 °C
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	5 A @ 60 °C	10 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.02Mh	1.32Mh
Ambient temperature	25°C	25°C
Input voltage	24V	24V
Output power	480W	240W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	89%	91%
Mains failure bridge-over time	10ms	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 35 / 130 mm	125 / 43 / 130 mm
Net weight	800 g	1000 g
Approvals		
Approvals	ABS; BURVER; DETNORVER; LLOYDSREG; RINA	ABS; BURVER; DETNORVER; LLOYDSREG; RINA

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator
Number of terminals		2 for (+, -)	4 (++ / –)	2 for (+, -)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.5 / 1.5	0.2 / 2.5	0.5 / 1.5	0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.5 / 2.5	0.2 / 2.5	0.5 / 2.5	0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		20 / 12	26 / 12	20 / 12	26 / 12
Note					

Ordering data

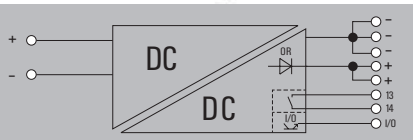
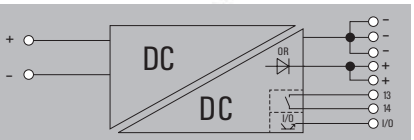
Type	**Qty.**	**Order No.**
PRO TOPDC 24V/24V 5A	1	**2627650000**

Type	**Qty.**	**Order No.**
PRO TOPDC 24V/24V 10A	1	**2627640000**

Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

connectPower PROtop DCDC

- DC/DC converter

	PRO TOPDC 24V/24V 20A	PRO TOPDC 24V/48V 10A
		
		

Technical data

Input		
Rated input voltage	24 V DC	24 V DC
Input current	22A @ 24V / 30A @ 18V	22A @ 24V / 30A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Output		
Rated output voltage	24 V DC ± 1 %	48 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	45...56 V adjustable with potentiometer or comunication module
DCL - peak load reserve	500 % (15 ms); 200 % (5 s)	500 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV_{PP}@25 °C	< 40 mV_{PP}@25 °C
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	20 A @ 60 °C	10 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.02Mh	1.02Mh
Ambient temperature	25°C	25°C
Input voltage	24V	24V
Output power	480W	480W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	No
Degree of efficiency	91%	91%
Mains failure bridge-over time	10ms	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 75 / 130 mm	125 / 75 / 130 mm
Net weight	1746 g	1746 g
Approvals		
Approvals	ABS; BURVER; DETNORVER; LLOYDSREG; RINA	ABS; BURVER; DETNORVER; LLOYDSREG; RINA

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator	PUSH IN with actuator
Number of terminals		2 for (+, -)	5 (+ + / - - -)	2 for (+, -)	5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.2 / 10	0.2 / 10	0.2 / 10	0.2 / 10
Wire cross-section, flexible min/max	mm²	0.2 / 6	0.2 / 6	0.2 / 6	0.2 / 6
Wire cross-section, AWG/kcmil min/max		20 / 8	20 / 8	20 / 8	20 / 8
Note					

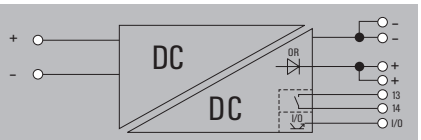
Ordering data

	Type	**Qty.**	**Order No.**
	PRO TOPDC 24V/24V 20A	1	**2627630000**
	PRO TOPDC 24V/48V 10A	1	**2627660000**
Note	Current technical data at catalog.weidmueller.com		
Note	Current technical data at catalog.weidmueller.com		

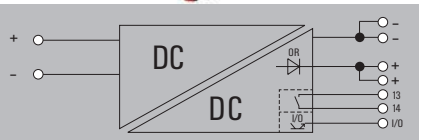
connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 5A EX



PRO TOPDC 24V/24V 10A EX



Technical data

Input		
Rated input voltage	24 V DC	24 V DC
Input current	5.7A @ 24V / 7.6A @ 18V	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / max. 5 A	Yes / Max. 10 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV_{PP}@25 °C	< 40 mV_{PP}@25 °C
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	5 A @ 60 °C	10 A @ 60 °C
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	2.21Mh	1.32Mh
Ambient temperature	25°C	25°C
Input voltage	24V	24V
Output power	120W	240W
Duty cycle	100%	100%
General data		
Derating	> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Yes
Degree of efficiency	89%	91%
Mains failure bridge-over time	10ms	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	yes, max 10
Depth x width x height	125 / 35 / 130 mm	125 / 43 / 130 mm
Net weight	800 g	1000 g
Approvals		
Approvals	ABS; BURVER; DETNORVER; LLOYDSREG; RINA; UKEX	ABS; BURVER; DETNORVER; LLOYDSREG; RINA; UKEX

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Clamping yoke connection	Screw connection	Clamping yoke connection
Number of terminals		2 for (+, -)	4 (++ / –)	2 for (+, -)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.2 / 4	0.2 / 4	0.2 / 4	0.2 / 4
Wire cross-section, flexible min/max	mm²	0.2 / 4	0.2 / 4	0.2 / 4	0.2 / 4
Wire cross-section, AWG/kcmil min/max		30 / 12	30 / 12	30 / 12	30 / 12
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO TOPDC 24V/24V 5A EX	1	**2467290000**

Type	**Qty.**	**Order No.**
PRO TOPDC 24V/24V 10A EX	1	**2467300000**

Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

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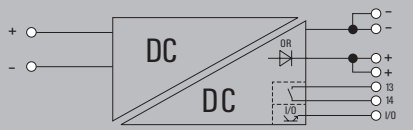
PRO TOPDC 24V/24V 20A EX

- DC/DC converter



Technical data

Input	
Rated input voltage	24 V DC
Input current	22A @ 24V / 30A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve	500 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV_{PP}@25 °C
Reserve capacity @ $U_{Nominal}$	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}	20 A @ 60 °C
MTBF	
According to Standard	SN 29500
Operating time (hours), min.	1.02Mh
Ambient temperature	25°C
Input voltage	24V
Output power	480W
Duty cycle	100%
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 75 / 130 mm
Net weight	1746 g
Approvals	
Approvals	ABS; BURVER; DETNORVER; LLOYDSREG; RINA; UKEX

Connection data		**Input**	**Output**
Connection system		Screw connection	Clamping yoke connection
Number of terminals		2 for (+, -)	4 (++ / --)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.2 / 6
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.5 / 6
Wire cross-section, AWG/kcmil min/max		26 / 10	24 / 8
Note			

Ordering data

Type	**Qty.**	**Order No.**
PRO TOPDC 24V/24V 20A EX	1	**2467310000**

Note	Current technical data at catalog.weidmueller.com

PROtop UW power supplies with ultra wide input voltage range

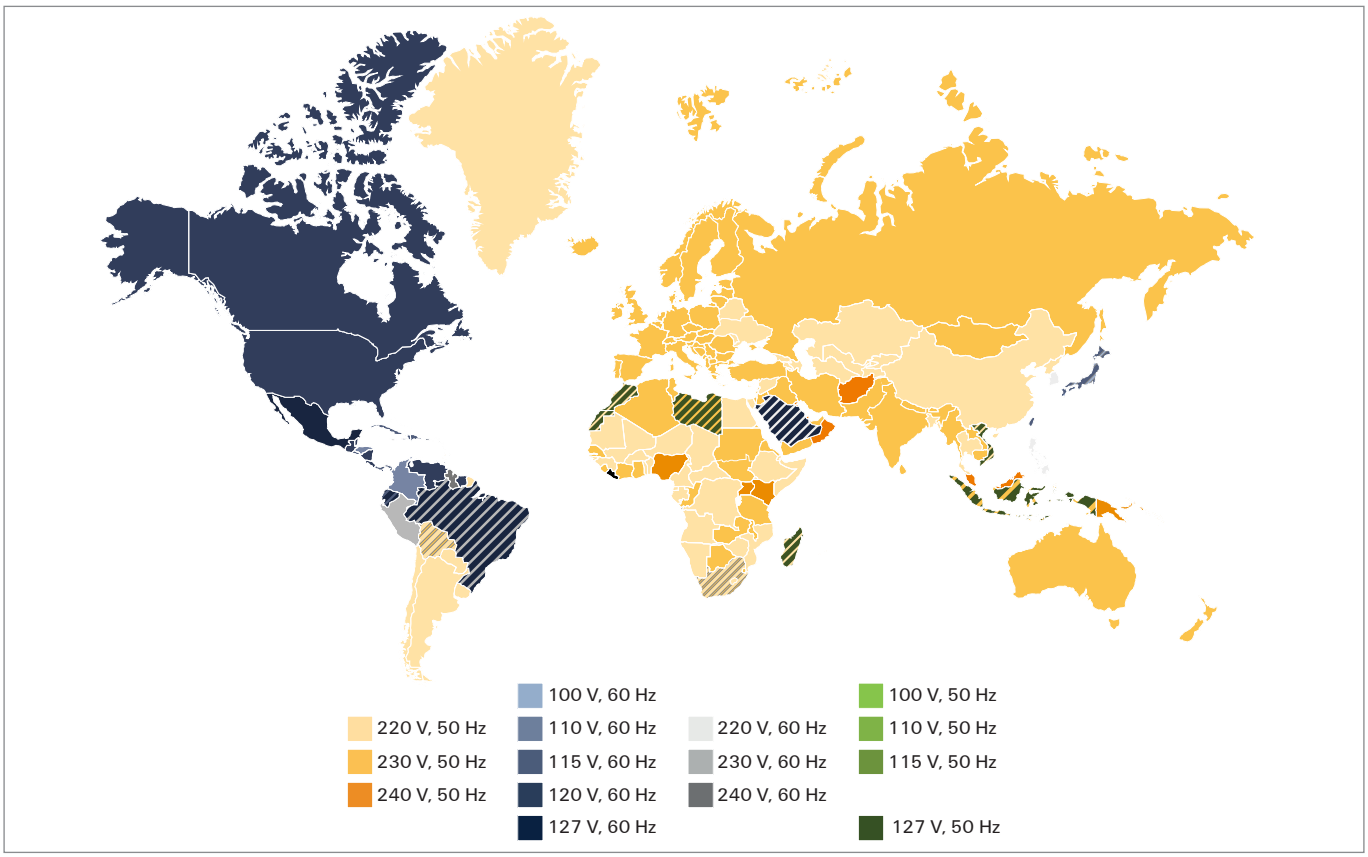
Use only one device for all the mains voltages

An increasing number of machines are being used worldwide. PROtop UW power supply units can be operated on all mains voltages in the world – both on single- and three-phase mains and DC supply networks. The units allow direct parallel connection for redundancy or power increase.

The fully electronic input circuit of our UW power supplies with an ultra-wide input voltage range of 85 – 550 V AC or 90 – 800 V DC allows operation on all supply networks in the world. Device classes up to 240 W ensure the basic supply of small to medium control systems. The integrated ORing MOSFETs of the PROtop family allow direct parallel connection to increase performance as well as the design of redundant power supply systems.

Your special advantages:

- Ultra-wide input voltage range for operation in supply networks worldwide
- Integrated ORing MOSFETs for direct parallel connection for redundancy purposes or to increase power
- DCL technology for high peak current reserves for fuse tripping or motor starts
- Communication interface for data transparency and remote control



Countries with a cross-hatched colour pattern have different supply voltages between the colour-coded voltage supplies.

Operation on all networks worldwide
The fully electronic input stage of the UW power supply units enables continuous operation on single- and three-phase mains supplies of 85 – 550 V AC as well as operation on DC mains supplies of 90 – 800 V DC.

ORing MOSFETs

Direct parallel connection
The integrated ORing MOSFETs enable direct parallel connection for power increase or redundancy without any diode modules.

Fit for the future thanks to IO-LINK
The optional communication modules, which can be retrofitted at any time, ensure data transparency, allow automated parameterization, and enable remote control.

DCL

Peak current reserves thanks to DCL
High peak current reserves of up to 600 % nominal current reliably trigger miniature circuit breakers. In addition, the dynamic current limitation DCL enables high peak currents for powerful motor starts.

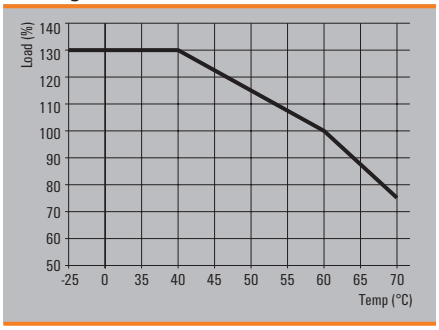
Optimal for:

connectPower PROtop UW

connectPower PROtop2 UW

- DCL technology for an excellent dynamic range
- High energy efficiency
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 10 years, MTBF > 1 000 000 h.
- Extremely slim design

Derating curve

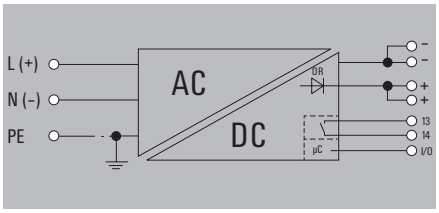


Technical data

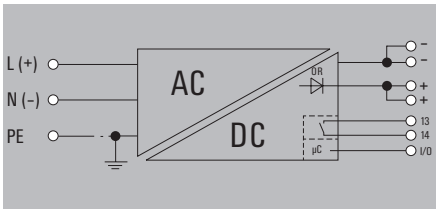
General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Ambient temperature (operational) / Storage temperature	-40 °C...75 °C / -40 °C...85 °C
Humidity at operating temperature	5...100 % no condensation
Protection class / Pollution degree	I, with PE connection / 2
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 61000-3-2:2019, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, EN 61000-3-3:2013+A1:2019, EN 55035:2017, EN 61000-6-1:2019, EN 61000-6-2:2019, IEC 61000-4-2:2008, IEC 61000-4-3:2006+A1:2007+A2:2010, IEC 61000-4-4:2012, IEC 61000-4-5:2014, IEC 61000-4-6:2013, IEC 61000-4-8:2009, IEC 61000-4-11:2004
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60335-1
Safety transformers for switch-mode power supplies	According to EN 61558-2-17
Safety extra-low voltage	SELV acc. to IEC 60950-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROtop2 UW

PRO TOP2 120W 24V 5A UW



PRO TOP2 240W 24V 10A UW



Technical data

Input			
Rated input voltage		100 - 500 V AC / 120 - 500 V DC	100 - 500 V AC / 120 - 500 V DC
Input voltage range AC		85...550 V AC	85...550 V AC
Frequency range AC		45...65 Hz	45...65 Hz
DC input voltage range		90...800 V DC	90...800 V DC
Input fuse (internal) / Inrush current		Yes / max. 5 A	Yes / Max. 10 A
Output			
Rated output voltage		24 V DC ± 1 %	24 V DC ± 1 %
Output voltage		22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve		600 % (12 ms)	600 % (12 ms)
Residual ripple, breaking spikes		< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$		130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}		5 A @ 60 °C	10 A @ 60 °C
MTBF			
According to Standard		SN 29500	SN 29500
Operating time (hours), min.		1.58Mh	1.4Mh
Ambient temperature		25°C	25°C
Input voltage		230V	230V
Output power		120W	240W
Duty cycle		100%	100%
General data			
Derating		> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability		Yes	Yes
Degree of efficiency		89%	91.5%
Power factor (approx.)		> 0.8 @ 230 V AC, > 0.6 @ 400 V AC	> 0.8 @ 230 V AC, > 0.6 @ 400 V AC
Mains failure bridge-over time, min.		20ms	20ms
LED green/red		Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option		yes, max 10	yes, max 10
Depth x width x height		125 / 39 / 130 mm	125 / 50 / 130 mm
Net weight		920 g	1050 g
Conformal coating		No	No
Approvals			
Approvals		CE; UKCA; ABS; DNV; LR; RINA; TUEV; CCSAUS; BV	CE; UKCA; ABS; DNV; LR; RINA; TUEV; CCSAUS; BV
Connection data		**Input** / **Output**	**Input** / **Output**
Connection system		PUSH IN with actuator / PUSH IN with actuator	PUSH IN with actuator / PUSH IN with actuator
Number of terminals		3 for L/N/PE / 4 (++ / –)	3 for L/N/PE / 4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.5 / 2.5 / 0.2 / 2.5	0.5 / 2.5 / 0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.5 / 2.5 / 0.2 / 2.5	0.5 / 2.5 / 0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		26 / 12 / 20 / 12	26 / 12 / 20 / 12
Note			

Ordering data

Type	Qty.	Order No.
PRO TOP2 120W 24V 5A UW	1	**2467230000**

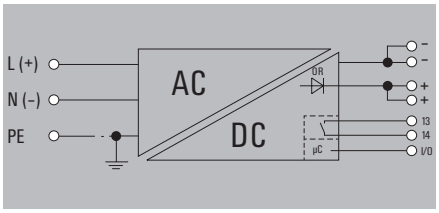
Type	Qty.	Order No.
PRO TOP2 240W 24V 10A UW	1	**2467250000**

Note

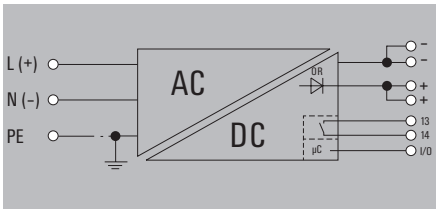
connectPower PROtop2 UW

- 1-phase power supplies with wide voltage input

PRO TOP2 120W 24V 5A UW EX



PRO TOP2 240W 24V 10A UW EX



Technical data

Input			
Rated input voltage		100 - 500 V AC / 120 - 500 V DC	100 - 500 V AC / 120 - 500 V DC
Input voltage range AC		85...550 V AC	85...550 V AC
Frequency range AC		45...65 Hz	45...65 Hz
DC input voltage range		90...800 V DC	90...800 V DC
Input fuse (internal) / Inrush current		Yes / max. 5 A	Yes / Max. 10 A
Output			
Rated output voltage		24 V DC ± 1 %	24 V DC ± 1 %
Output voltage		22.5...28.8 V adjustable with potentiometer or comunication module	22.5...28.8 V adjustable with potentiometer or comunication module
DCL - peak load reserve		600 % (12 ms)	600 % (12 ms)
Residual ripple, breaking spikes		< 50 mVss @ U_{Nennv}, Full Load	< 50 mVss @ U_{Nennv}, Full Load
Reserve capacity @ $U_{Nominal}$		130% permanent at ≤ 40°C, 150 % (5 s)	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}		5 A @ 60 °C	10 A @ 60 °C
MTBF			
According to Standard		SN 29500	SN 29500
Operating time (hours), min.		1.58Mh	1.4Mh
Ambient temperature		25°C	25°C
Input voltage		230V	230V
Output power		120W	240W
Duty cycle		100%	100%
General data			
Derating		> 60°C (2.5% / 1°C)	> 60°C (2.5% / 1°C)
Series switching capability		Yes	Yes
Degree of efficiency		89%	91.5%
Power factor (approx.)		> 0.8 @ 230 V AC, > 0.6 @ 400 V AC	> 0.8 @ 230 V AC, > 0.6 @ 400 V AC
Mains failure bridge-over time, min.		20ms	20ms
LED green/red		Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option		yes, max 10	yes, max 10
Depth x width x height		125 / 39 / 130 mm	125 / 50 / 130 mm
Net weight		892 g	1060 g
Conformal coating		Yes	Yes
Approvals			
Approvals		CE; UKCA; IECEX; ATEX; ABS; BV; DNV; LR; RINA; TUEV; CCSAUS	CE; UKCA; IECEX; ATEX; ABS; BV; DNV; LR; RINA; TUEV; CCSAUS
Connection data		**Input** / **Output**	**Input** / **Output**
Connection system		Clamping yoke connection / Clamping yoke connection	Clamping yoke connection / Clamping yoke connection
Number of terminals		3 for L/N/PE / 4 (++ / –)	3 for L/N/PE / 4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.2 / 4 / 0.2 / 4	0.2 / 4 / 0.2 / 4
Wire cross-section, flexible min/max	mm²	0.2 / 4 / 0.2 / 4	0.2 / 4 / 0.2 / 4
Wire cross-section, AWG/kcmil min/max		30 / 12 / 30 / 12	30 / 12 / 30 / 12
Note			

Ordering data

Type	Qty.	Order No.
PRO TOP2 120W 24V 5A UW EX	1	**2467240000**

Type	Qty.	Order No.
PRO TOP2 240W 24V 10A UW EX	1	**2467260000**

Note

Current technical data at catalog.weidmueller.com

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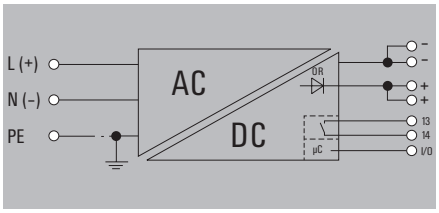
- 1-phase power supplies with wide voltage input

PRO TOP2 240W 48V 5A UW



Technical data

Input		
Rated input voltage		100 - 500 V AC / 120 - 500 V DC
Input voltage range AC		85...550 V AC
Frequency range AC		45...65 Hz
DC input voltage range		90...800 V DC
Input fuse (internal) / Inrush current		Yes / Max. 10 A
Output		
Rated output voltage		48 V DC ± 1 %
Output voltage		45...56 V adjustable with potentiometer or comunication module
DCL - peak load reserve		600 % (12 ms)
Residual ripple, breaking spikes		< 100 mVss @ U_{Nennr}, Full Load
Reserve capacity @ $U_{Nominal}$		130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U_{nom}		5 A @ 60 °C
MTBF		
According to Standard		Telcordia SR-332
Operating time (hours), min.		2.6kh
Ambient temperature		25°C
Input voltage		230V
Output power		240W
Duty cycle		100%
General data		
Derating		> 60°C (2.5% / 1°C)
Series switching capability		No
Degree of efficiency		91.5%
Power factor (approx.)		> 0.8 @ 230 V AC, > 0.6 @ 400 V AC
Mains failure bridge-over time, min.		20ms
LED green/red		Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option		yes, max 10
Depth x width x height		125 / 50 / 130 mm
Net weight		892 g
Conformal coating		No
Approvals		
Approvals		CE; UKCA; ABS; DNV; LR; RINA; TUEV; CCSAUS; BV
Connection data	**Input**	**Output**
Connection system	PUSH IN with actuator	PUSH IN with actuator
Number of terminals	3 for L/N/PE	4 (++ / –)
Wire cross-section, rigid min/max	0.5 / 2.5 mm²	0.2 / 2.5 mm²
Wire cross-section, flexible min/max	0.5 / 2.5 mm²	0.2 / 2.5 mm²
Wire cross-section, AWG/kcmil min/max	26 / 12	20 / 12
Note		

Ordering data

Type	Qty.	Order No.
PRO TOP2 240W 48V 5A UW	1	2467270000

Note

Small metal foot

Type	Order No.
MTA 30 MF	1251320000

Large metal foot

Type	Order No.
MTA 45 MF	1251310000

Small plastic foot

Type	Order No.
MTA 30 BK	1168970000

Large plastic foot

Type	Order No.
MTA 45 BK	1962250000

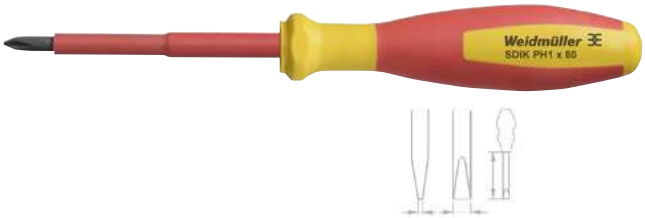
Small wall mounting

Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting

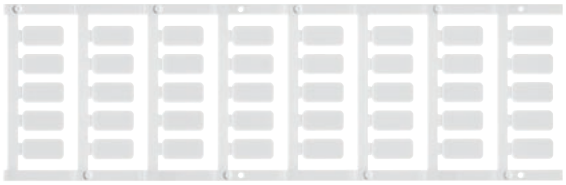
Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0,5	3	100	2749800000

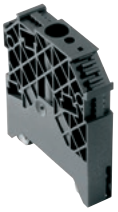
Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

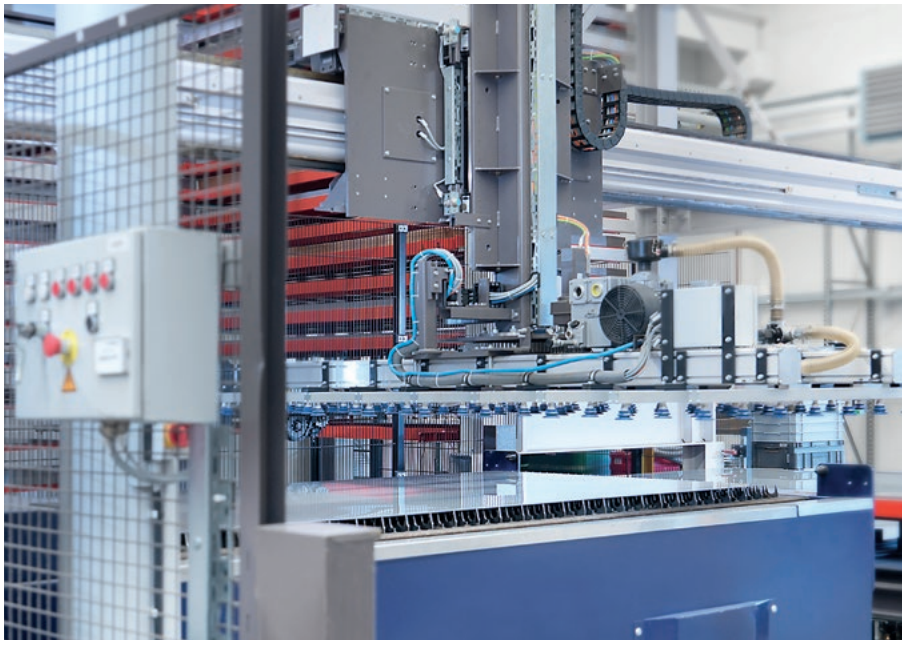
Powerful power supply for machines and systems

PROmax offers flexible solutions for ambitious automation

Power supplies for large systems and machines are particularly challenging. Failures caused by device defects impact the entire production line and can result in high costs.

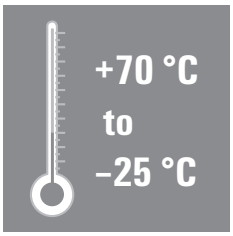
Our high performance and durable PROmax switched-mode power supply units are designed for demanding requirements. Continuous overload of up to 120 % or transient peak loads of 300 % are easy for PROmax to handle.

High boost capability and full power are also enabled over a wide temperature range. Our switched-mode power supply units can be used around the world and are also suitable for tight spaces thanks to their narrow width.



High boost capability for all industrial systems
Whether in large machines and plants, in power engineering or even in light process systems: Thanks to their high boot capability, the space-saving housing geometries, the wide temperature range and the numerous approvals, our PROmax switched-mode power supply units can be used for universal applications and anywhere in the world.

Robust and reliable supply
MTBF values exceeding 500,000 hours and a wide temperature range of –25 °C to +70 °C ensure reliable supply of the systems. Start-up temperatures of –40 °C make the PROmax particularly robust.



Space-saving width
With extremely small width and direct side-by-side fitting, minimal space is required on the DIN rail.

SEMIF47 (EMC1)

Cl. I Div. 2

Universal application
Variants with 3 A to 40 A output current, output voltages of 5 V DC to 48 V DC and numerous approvals (e.g. GL, UL, Class I, Div. 2) enable universal application solutions the world over.

Powerful
Continuous output power of up to 120 % at temperatures up to +45 °C and high output peaks up to 300 % ensure safe operation, also at the limits.

Robust Input
With an AC input voltage range of up to 277 V in single-phase devices and SEMI F47, PROmax is extremely robust.

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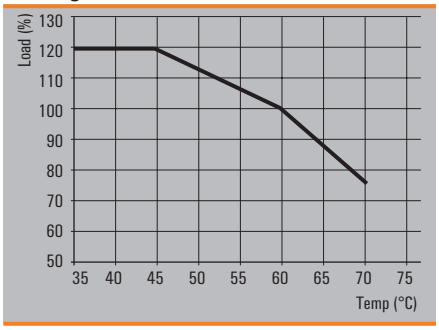
Derating curve



Permitted continuous limit currents [A]

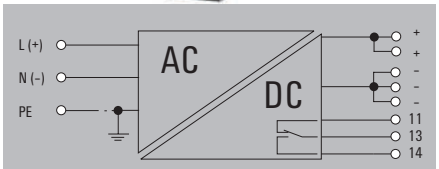
Typ\Temp.	45 °C	50 °C	55 °C	60 °C	65 °C	70 °C
1ph 24 V / 3 A	3,6	3,3	3,2	3	2,6	2,2
1ph 24 V / 5 A	6	5,7	5,4	5	4,4	3,8
1ph 24 V / 7,5 A	9	8,5	8	7,5	6,6	5,6
1ph 24 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 24 V / 20 A	24	22,6	21,4	20	17,6	15
1ph 24 V / 40 A	48	45,2	42,8	40	35,2	30
1ph 5 V / 14 A	16,8	15,8	15	14	12,3	10,5
1ph 12 V / 6 A	7,2	6,8	6,4	6	5,3	4,5
1ph 12 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 48 V / 5 A	6	5,7	5,4	5	4,4	3,8
1ph 48 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 48 V / 20 A	24	22,6	21,4	20	17,6	15
3ph 24 V / 5 A	6	5,7	5,4	5	4,4	3,8
3ph 24 V / 10 A	12	11,3	10,7	10	8,8	7,5
3ph 24 V / 20 A	24	22,6	21,4	20	17,6	15
3ph 24 V / 40 A	48	45,2	42,8	40	35,2	30

Technical data

General data	
Current limiting	> 120% I_N
Insulation voltage input / earth	3.5 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	4 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature / Start-up	-25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	I, with PE connection / 2
Housing version	Metal, corrosion resistant
Status indication	LED red/green and relay (≥21.6 V DC LED green, relay on/ ≤20.6 LED red, relay off)
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
EMC / shock / vibration	
Interference immunity test acc. to	EN 55024, EN 55032, IEC61000-3-2,-3, IEC61000-4-2,-3,-4,-5,-6,-8,-11
Shock	30 g in all directions
Resistance to vibration	2.3 g
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

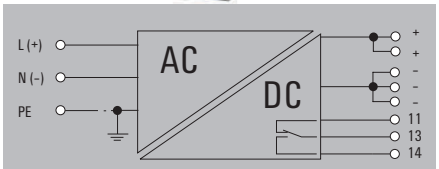
connectPower PROmax

PRO MAX 72W 24V 3A



Pay attention to polarity of DC connection

PRO MAX 120W 24V 5A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	100...240 V AC	100...240 V AC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80...370 V DC	80...370 V DC
AC current consumption	1 A @ 230 V AC / 1.5 A @ 115 V AC	1A @ 230 VAC / 2,5A @ 115 VAC
DC current consumption	1A @ 370 VDC / 1,5A @ 120 VDC	1,5A @ 370 VDC / 2,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker	6 A, Char. B, circuit breaker, 6 A, char. C circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Nominal output current for U_{nom}	3 A @ 60 °C	5 A @ 60 °C
Continous output current @ $U_{Nominal}$	3,6 A @ 45°C, 2,25 A @ 70°C	6.0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ $U_{Nominal}$	3.6 A (1 min), 4.5 A (4s)	6 A (1 min), 7.5 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	9 A (2ms)	15 A (2ms)
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.7Mh	1.5Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	72W	120W
Duty cycle	100%	100%
General data		
Degree of efficiency	89%	89%
Power factor (approx.)	> 0.90 @ 230 V AC	> 0.90 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Parallel connection option	yes, max. 5	yes, max. 5
Depth x width x height	125 / 32 / 130 mm	125 / 40 / 130 mm
Net weight	650 g	858 g
Approvals		
Approvals	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	8 (++,–,11,13,14)	3 for L/N/PE	8 (++,–,11,13,14)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.5 / 6	0.18 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.5 / 4	0.22 / 4	0.5 / 4
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 12	26 / 10	26 / 12
Screwdriver blade		0.8 x 4.0, PZ 1	0.6 x 3.5	0.8 x 4.0, PZ 1	0.6 x 3.5
Note					

Ordering data

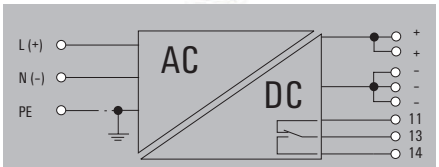
Type	Qty.	Order No.
PRO MAX 72W 24V 3A	1	**1478100000**

Type	Qty.	Order No.
PRO MAX 120W 24V 5A	1	**1478110000**

Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

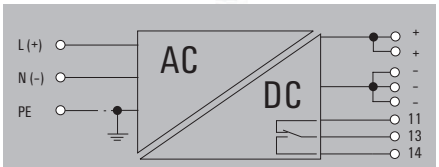
connectPower PROmax

PRO MAX 180W 24V 7,5A



Pay attention to polarity of DC connection

PRO MAX 240W 24V 10A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	100...240 V AC	100...240 V AC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80...370 V DC	80...370 V DC
AC current consumption	1 A @ 230 V AC / 2 A @ 115 V AC	1.5 A @ 230 V AC / 3 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 2A @ 120 VDC	1,5A @ 370 VDC / 3A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Nominal output current for U_{nom}	7,5 A @ 60 °C	10 A @ 60 °C
Continous output current @ $U_{Nominal}$	9 A @ 45°C, 5,6 A @ 70°C	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ $U_{Nominal}$	9 A (1 min), 11.25 A (4s)	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	22,5 A (2ms)	30 A (2ms)
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.4Mh	1.1Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	180W	240W
Duty cycle	100%	100%
General data		
Degree of efficiency	91.5%	91.5%
Power factor (approx.)	> 0.95 @ 230 V AC	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Parallel connection option	yes, max. 5	yes, max. 5
Depth x width x height	125 / 50 / 130 mm	125 / 60 / 130 mm
Net weight	950 g	1050 g
Approvals		
Approvals	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	8 (++,–,11,13,14)	3 for L/N/PE	8 (++,–,11,13,14)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.5 / 6	0.18 / 6	0.18 / 6
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.5 / 4	0.22 / 4	0.22 / 4
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 12	26 / 10	26 / 10
Screwdriver blade		0.8 x 4.0, PZ 1	0.6 x 3.5	0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO MAX 180W 24V 7,5A	1	**1478120000**

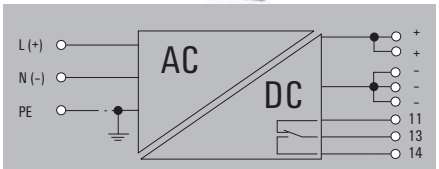
Type	**Qty.**	**Order No.**
PRO MAX 240W 24V 10A	1	**1478130000**

Note	
	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note	
	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

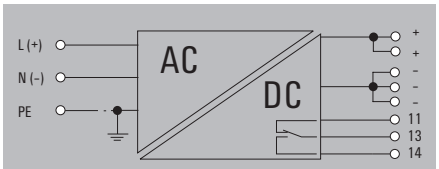
connectPower PROmax

PRO MAX 480W 24V 20A



Pay attention to polarity of DC connection

PRO MAX 960W 24V 40A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	100...240 V AC	100...240 V AC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80...370 V DC	80...370 V DC
AC current consumption	2,3A @ 230 VAC / 4,8A @ 115 VAC	4,52A @ 230 VAC / 10A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 4.8A @ 120 VDC	2,8A @ 370 VDC / 10A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Recommended back-up fuse	16 A, char. B circuit breaker, 10 A, Char. C circuit breaker	20 A, char. B circuit breaker, 16 A, char. C, circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Nominal output current for U_{nom}	20 A @ 60 °C	40 A @ 60 °C
Continous output current @ $U_{Nominal}$	24 A @ 45°C, 15 A @ 70°C	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ $U_{Nominal}$	24 A (1 min), 30 A (4s), 100...240 V AC	48 A (1 min), 60 A (4s), 100...240 V AC
Current capacity (pulse) @ $U_{Nominal}$	60 A (2ms)	120 A (2ms)
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	827kh	539kh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	480W	960W
Duty cycle	100%	100%
General data		
Degree of efficiency	92 %	93%
Power factor (approx.)	> 0.95 @ 230 V AC	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height	150 / 90 / 130 mm	150 / 140 / 130 mm
Net weight	2000 g	3900 g
Approvals		
Approvals	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	8 (++,–,11,13,14)	3 for L/N/PE	8 (++,–,11,13,14)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.18 / 6	0.18 / 6	0.5 / 16
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.22 / 4	0.22 / 4	0.5 / 16
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 10	26 / 10	22 / 8
Screwdriver blade		0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1	1.0 x 5.5
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO MAX 480W 24V 20A	1	**1478140000**

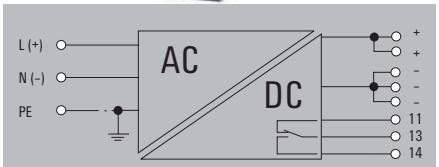
Type	**Qty.**	**Order No.**
PRO MAX 960W 24V 40A	1	**1478150000**

Note	
	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note	
	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

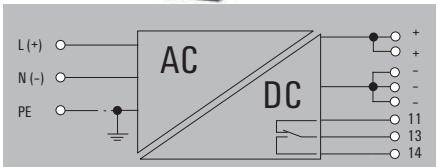
connectPower PROmax

PRO MAX 70W 5V 14A



Pay attention to polarity of DC connection

PRO MAX 72W 12V 6A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	100...240 V AC	100...240 V AC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80...370 V DC	80...370 V DC
AC current consumption	1 A @ 230 V AC / 1.5 A @ 115 V AC	1 A @ 230 V AC / 1.5 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 1,5A @ 120 VDC	1A @ 370 VDC / 1,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker	6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker
Output		
Rated output voltage	5 V DC	12 V DC ± 1 %
Output voltage	4.5...7 V (adjustable via potentiometer)	10...15 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Nominal output current for U_{nom}	14 A @ 60°C	6 A @ 60°C
Continous output current @ $U_{Nominal}$	16,8 A @ 45°C, 10,5 A @ 70°C	7.2 A @ 45°C, 4.5 A @ 70°C
Reserve capacity @ $U_{Nominal}$	16.8 A (1 min), 21 A (4s)	7.2 A (1 min), 9 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	42 A (2ms)	18 A (2ms)
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.4Mh	1.5Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	70W	72W
Duty cycle	100%	100%
General data		
Degree of efficiency	86%	89%
Power factor (approx.)	> 0.90 @ 230 V AC	> 0.90 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms	min. 20 ms
Protection against reverse voltages from the load	> 7.5 V DC	> 18 V DC
Parallel connection option	yes, max. 5	yes, max. 5
Depth x width x height	125 / 32 / 130 mm	125 / 32 / 130 mm
Net weight	650 g	650 g
Approvals		
Approvals	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	8 (++,–,11,13,14)	3 for L/N/PE	8 (++,–,11,13,14)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.5 / 6	0.18 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.5 / 4	0.22 / 4	0.5 / 4
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 12	26 / 10	26 / 12
Screwdriver blade		0.8 x 4.0, PZ 1	0.6 x 3.5	0.8 x 4.0, PZ 1	0.6 x 3.5
Note					

Ordering data

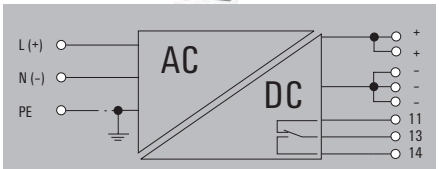
Type	Qty.	Order No.
PRO MAX 70W 5V 14A	1	**1478210000**

Type	Qty.	Order No.
PRO MAX 72W 12V 6A	1	**1478220000**

Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

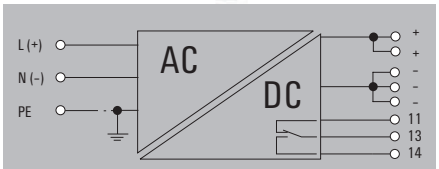
connectPower PROmax

PRO MAX 120W 12V 10A



Pay attention to polarity of DC connection

PRO MAX 240W 48V 5A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	100...240 V AC	100...240 V AC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80...370 V DC	80...370 V DC
AC current consumption	1A @ 230 VAC / 2,5A @ 115 VAC	1.5 A @ 230 V AC / 3 A @ 115 V AC
DC current consumption	1,5A @ 370 VDC / 2,5A @ 120 VDC	1,5A @ 370 VDC / 3A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 6 A, char. C circuit breaker	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output		
Rated output voltage	12 V DC ± 1 %	48 V DC ± 1 %
Output voltage	10...15 V (adjustable via potentiometer)	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Nominal output current for U_{nom}	10 A @ 60 °C	5 A @ 60 °C
Continous output current @ $U_{Nominal}$	12 A @ 45°C, 7,5 A @ 70°C	6.0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ $U_{Nominal}$	12 A (1 min), 15 A (4s)	5 A (1 min), 7.5 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	30 A (2ms)	15 A (2ms)
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.5Mh	1.1Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	120W	240W
Duty cycle	100%	100%
General data		
Degree of efficiency	89%	92.5%
Power factor (approx.)	> 0.90 @ 230 V AC	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms	min. 20 ms
Protection against reverse voltages from the load	> 18 V DC	58...65 V DC
Parallel connection option	yes, max. 5	yes, max. 5
Depth x width x height	125 / 40 / 130 mm	125 / 60 / 130 mm
Net weight	850 g	1050 g
Approvals		
Approvals	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV

Connection data		Input	Output	Input	Output
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	8 (++,–,11,13,14)	3 for L/N/PE	8 (++,–,11,13,14)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.5 / 6	0.18 / 6	0.18 / 6
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.5 / 4	0.22 / 4	0.22 / 4
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 12	26 / 10	26 / 10
Screwdriver blade		0.8 x 4.0, PZ 1	0.6 x 3.5	0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1
Note					

Ordering data

Type	Qty.	Order No.
PRO MAX 120W 12V 10A	1	**1478230000**

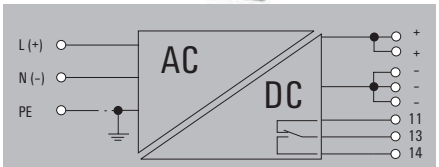
Type	Qty.	Order No.
PRO MAX 240W 48V 5A	1	**1478240000**

Note	
	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note	
	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

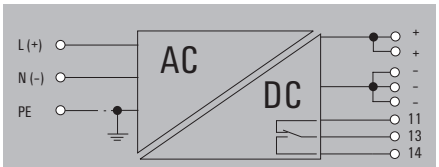
connectPower PROmax

PRO MAX 480W 48V 10A



Pay attention to polarity of DC connection

PRO MAX 960W 48V 20A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	100...240 V AC	100...240 V AC
Input voltage range AC	85...277 V AC	85...277 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	80...370 V DC	80...370 V DC
AC current consumption	2,3A @ 230 VAC / 4,8A @ 115 VAC	4,52A @ 230 VAC / 10A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 4.8A @ 120 VDC	2,8A @ 370 VDC / 10A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Recommended back-up fuse	16 A, char. B circuit breaker, 10 A, Char. C circuit breaker	20 A, char. B circuit breaker, 16 A, char. C, circuit breaker
Output		
Rated output voltage	48 V DC ± 1 %	48 V DC ± 1 %
Output voltage	30...56 V (adjustable via potentiometer)	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Nominal output current for U_{nom}	10 A @ 60 °C	20 A @ 60 °C
Continous output current @ $U_{Nominal}$	12 A @ 45°C, 7,5 A @ 70°C	24 A @ 45°C, 15 A @ 70°C
Reserve capacity @ $U_{Nominal}$	12 A (1 min), 15 A (4s), 100...240 V AC	24 A (1 min), 30 A (4s), 100...240 V AC
Current capacity (pulse) @ $U_{Nominal}$	60 A (2ms)	60 A (2ms)
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	857kh	651kh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	480W	960W
Duty cycle	100%	100%
General data		
Degree of efficiency	93%	94%
Power factor (approx.)	> 0.95 @ 230 V AC	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC	58...65 V DC
Parallel connection option	yes, max. 5	yes, max. 5
Depth x width x height	150 / 90 / 130 mm	150 / 140 / 130 mm
Net weight	2000 g	3950 g
Approvals		
Approvals	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV

Connection data		Input	Output	Input	Output
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	8 (++,–,11,13,14)	3 for L/N/PE	8 (++,–,11,13,14)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.18 / 6	0.18 / 6	0.5 / 16
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.22 / 4	0.22 / 4	0.5 / 16
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 10	26 / 10	22 / 8
Screwdriver blade		0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1	1.0 x 5.5
Note					

Ordering data

Type	Qty.	Order No.
PRO MAX 480W 48V 10A	1	**1478250000**

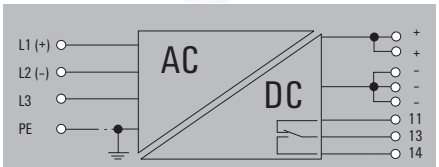
Type	Qty.	Order No.
PRO MAX 960W 48V 20A	1	**1478270000**

Note	
	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note	
	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

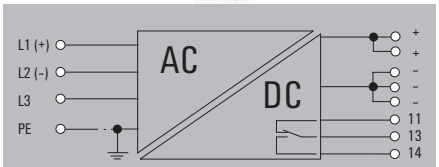
connectPower PROmax

PRO MAX3 120W 24V 5A



Pay attention to polarity of DC connection

PRO MAX3 240W 24V 10A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,28A @ 3*500 VAC / 0,3A @ 3*400 VAC	0,35A @ 3*500 VAC / 0,4A @ 3*400 VAC
DC current consumption	0.18 A @ 800 V DC / 0.3 A @ 450 V DC	0.35 A @ 800 V DC / 0.6 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Recommended back-up fuse	2...3 A, char. C circuit breaker	3 - 5 A, char. C, circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Nominal output current for U_{nom}	5 A @ 60 °C	10 A @ 60 °C
Continous output current @ $U_{Nominal}$	6.0 A @ 45 °C, 3,75 A @ 70 °C	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ $U_{Nominal}$	6 A (1 min), 7.5 A (4s), 400...500 V AC	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	15 A (2ms)	30 A (2ms)
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.7Mh	865kh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	120W	240W
Duty cycle	100%	100%
General data		
Degree of efficiency	90%	91.5%
Power factor (approx.)	> 0.50 @ 3x400 V AC	> 0.85 @ 3*400 V AC
AC failure bridging time @ I_{nom}	min. 20 ms	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Parallel connection option	yes, max. 5	yes, max. 5
Depth x width x height	125 / 40 / 130 mm	125 / 60 / 130 mm
Net weight	783 g	1322 g
Approvals		
Approvals	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		4 for L1/L2/L3/PE	8 (++,–,11,13,14)	4 for L1/L2/L3/PE	8 (++,–,11,13,14)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.5 / 6	0.18 / 6	0.18 / 6
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.5 / 4	0.22 / 4	0.22 / 4
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 12	26 / 10	26 / 10
Screwdriver blade		0.8 x 4.0, PZ 1	0.6 x 3.5	0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1
Note					

Ordering data

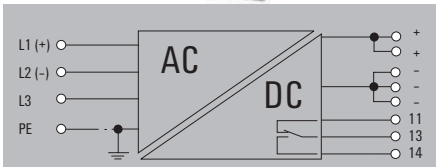
Type	Qty.	Order No.
PRO MAX3 120W 24V 5A	1	**1478170000**

Type	Qty.	Order No.
PRO MAX3 240W 24V 10A	1	**1478180000**

Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

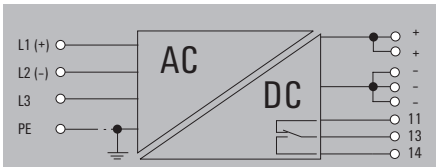
connectPower PROmax

PRO MAX3 480W 24V 20A



Pay attention to polarity of DC connection

PRO MAX3 960W 24V 40A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,7A @ 3*500 VAC / 0,85 @ 3*400 VAC	1,3A @ 3*500 VAC / 1,6A @ 3*400 VAC
DC current consumption	0.7 A @ 800 V DC / 1.2 A @ 450 V DC	1.4 A @ 800 V DC / 2.4 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A	Yes / max. 15 A
Recommended back-up fuse	3 - 5 A, char. C, circuit breaker	6...8 A, char. C circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Nominal output current for U_{nom}	20 A @ 60 °C	40 A @ 60 °C
Continous output current @ $U_{Nominal}$	24 A @ 45°C, 15 A @ 70°C	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ $U_{Nominal}$	24 A (1 min), 30 A (4s)	48 A (1 min), 60 A (4s), 400...500 V AC
Current capacity (pulse) @ $U_{Nominal}$	60 A (2ms)	120 A (2ms)
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	642kh	642kh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	480W	960W
Duty cycle	100%	100%
General data		
Degree of efficiency	91.5%	93.5%
Power factor (approx.)	> 0.85 @ 3*400 V AC	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	min. 20 ms	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height	150 / 70 / 130 mm	150 / 140 / 130 mm
Net weight	1600 g	3400 g
Approvals		
Approvals	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV	CE; cULus; cULusEX; cURus; DETNORVER; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		4 for L1/L2/L3/PE	8 (++,–,11,13,14)	4 for L1/L2/L3/PE	8 (++,–,11,13,14)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.18 / 6	0.18 / 6	0.5 / 16
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.22 / 4	0.22 / 4	0.5 / 16
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 10	26 / 10	22 / 8
Screwdriver blade		0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1	0.8 x 4.0, PZ 1	1.0 x 5.5
Note					

Ordering data

Type	Qty.	Order No.
PRO MAX3 480W 24V 20A	1	**1478190000**

Type	Qty.	Order No.
PRO MAX3 960W 24V 40A	1	**1478200000**

Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Small metal foot

Type	Order No.
MTA 30 MF	1251320000

Large metal foot

Type	Order No.
MTA 45 MF	1251310000

Small plastic foot

Type	Order No.
MTA 30 BK	1168970000

Large plastic foot

Type	Order No.
MTA 45 BK	1962250000

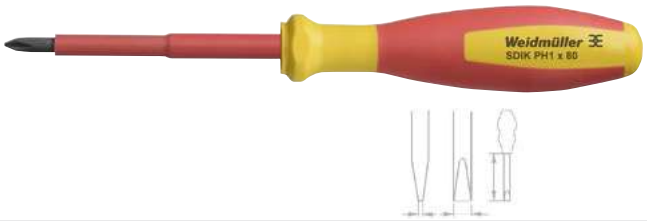
Small wall mounting

Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting

Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver

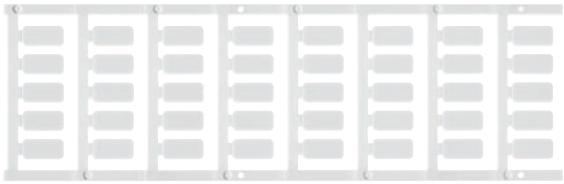


Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0.5	3	100	2749800000

Large screwdriver

Type	Size/AF	a	b	c	Order No.
SDIS 1.0X5.5X125		1	5.5	125	2749850000

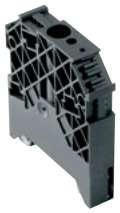
Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

Endwinkel

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

Find the cost-effective solution for your power supply

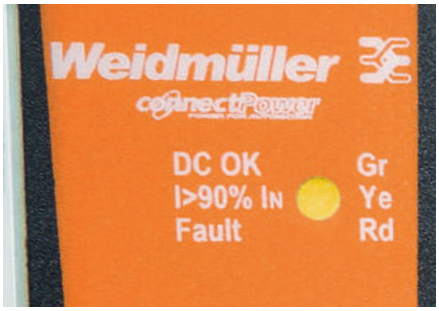
PROeco combines all of the basic functions in a compact design

Even in series machine construction, switched-mode power supply units can create a real competitive edge thanks to above-average performance values. The efficient PROeco series offers all of the basic functions and delivers impressively high performance and flexibility.

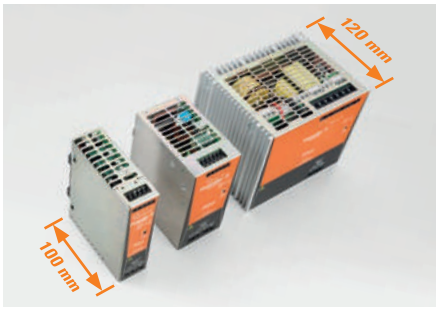
Our PROeco switched-mode power supply units are characterised by their compact design, a high degree of efficiency and the fact that they are extremely easy to service. Thanks to over temperature protection, short-circuit and overload protection, they can be universally used in all applications.

Solutions featuring PROeco are characterised by extensive safety functions and compatibility with our diode modules and UPS components for setting up a redundant power supply.

Rapid status diagnosis
The tricolour LED display and an integrated status relay make it easier to analyse statuses and errors during commissioning and operation.

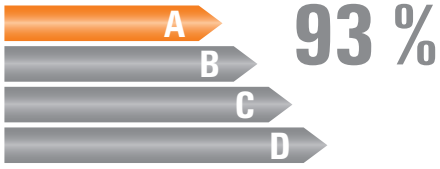


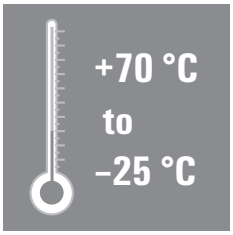
Extremely compact
With a depth of 100 mm, PROeco power supplies even fit into small cabinets.
The compact design also saves up to 50 % space in the cabinet.



Robust and reliable
PROeco power packs work reliably in a wide temperature range from –25 °C to +70 °C and boast a high MTBF value of more than 500,000 hours.

Noticeably energy-saving
A high degree of efficiency of up to 93 % and minimal no-load losses ensure low energy consumption and a long service life.



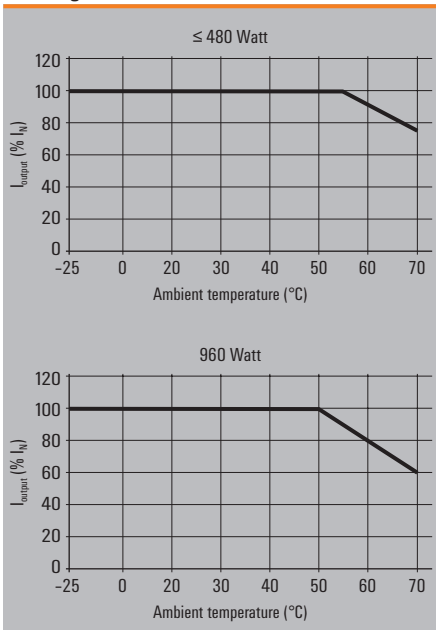


Power supply solution
Together with the uninterruptible DC UPS, the diode modules or CAP modules, you can create a power supply solution that is tailored to your requirements.

PROeco power supplies with basic functionality and a high level of reliability

- Single- and three-phase switched-mode power supply units
- Slim design
- Large temperature range from –25 °C to 70 °C
- The output voltage can be precisely adjusted via the potentiometer on the front
- Remote monitoring via integrated status relay
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

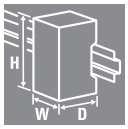
Derating curve



Technical data

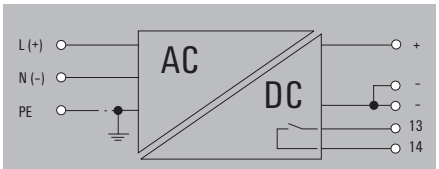
General data	
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Max. perm. air humidity (operational)	5 %...95 % RH
Protection degree	IP20
Protection class	I, with PE connection
Pollution degree	2
Insulation voltage, input/output	3 kV
Insulation voltage input / earth	2 kV
Insulation voltage output / earth	0.5 kV
Parallel connection option	yes, max. 5
Housing version	Metal, corrosion resistant
Mounting position, installation notice	on terminal rail TS 35
Short-circuit protection	Yes
Overload protection	Yes
Protection against over-heating	Yes
EMC / shock / vibration	
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-8 (Fields), EN61000-4-11 (Dips)
Limiting of mains voltage harmonic currents	According to EN 61000-3-2
Resistance to vibration / Shock	1 g according to EN 50178 / 15 g In all directions
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROeco



PRO ECO 72W 24V 3A

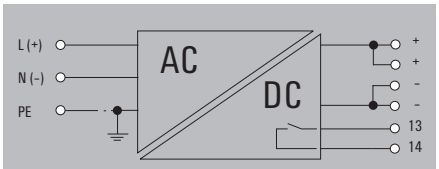
Similar to illustration



Pay attention to polarity of DC connection

PRO ECO 120W 24V 5A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

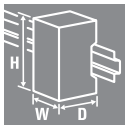
Input		
Rated input voltage	100...240 V AC	100...240 V AC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)	80...370 V DC (Derating @ 120 V DC)
AC current consumption	0,55 A @ 230 V AC / 1,04 A @ 110 V AC	1,26 A @ 230 V AC / 2,24 A @ 110 V AC
DC current consumption	0,22 A @ 370 V DC / 0,68 A @ 120 V DC	0,39 A @ 370 V DC / 1,16 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 40 A	Yes / max. 40 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N	≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N
Nominal output current for U_{nom}	3 A at 55 °C	5 A at 55 °C
Continous output current @ $U_{Nominal}$	3 A @ 55 °C, 2,25 A @ 70 °C	5 A @ 55 °C, 3,75 A @ 70 °C
Capacitive load / Protection against inverse voltage	unrestricted / Yes	unrestricted / Yes
Signalling		
Indication	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC/ <20.4 V DC, overload	Output voltage >21.6 V DC/ <20.4 V DC, overload
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.7Mh	2.1Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	72W	120W
Duty cycle	100%	100%
General data		
Degree of efficiency	87 %	87 %
Power loss idling / nominal load	4 W / 9.5 W	4 W / 15 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	> 0.5...230 V AC / > 0.53...115 V AC	> 0.5...230 V AC / > 0.53...115 V AC
AC failure bridging time @ I_{nom}	> 100 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5	yes, max. 5
Depth x width x height / Net weight	100 / 34 / 125 mm / 557 g	100 / 40 / 125 mm / 675 g
Approvals		
Approvals	CE; cULus; EAC; TUEV	CE; cULus; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	5 (+,–,13,14)	3 for L/N/PE	6 (++,–,13,14)
Wire cross-section, rigid min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 2.5	0.5 / 2.5	0.5 / 2.5	0.5 / 2.5
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 12	26 / 12	26 / 12
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

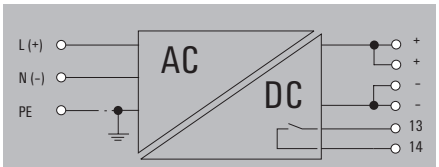
	Type	Qty.	Order No.
	PRO ECO 72W 24V 3A	1	1469470000
	PRO ECO 120W 24V 5A	1	1469480000
Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

connectPower PROeco



PRO ECO 240W 24V 10A

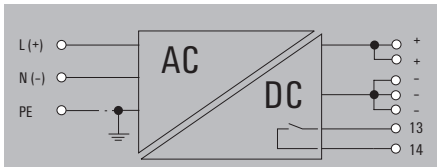
Similar to illustration



Pay attention to polarity of DC connection

PRO ECO 480W 24V 20A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input			
Rated input voltage		100...240 V AC	100...240 V AC
Input voltage range AC		85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC		47...63 Hz	47...63 Hz
DC input voltage range		80...370 V DC (Derating @ 120 V DC)	80...370 V DC (Derating @ 120 V DC)
AC current consumption		1,23 A @ 230 V AC / 2,47 A @ 110 V AC	2,37 A @ 230 V AC / 5,2 A @ 110 V AC
DC current consumption		1,18 A @ 370 V DC / 2,4 A @ 120 V DC	1,55 A @ 370 V DC / 4,65 A @ 120 V DC
Input fuse (internal) / Inrush current		Yes / max. 15 A	Yes / max. 5 A
Output			
Rated output voltage		24 V DC ± 1 %	24 V DC ± 1 %
Output voltage		22...28 V (adjustable via potentiometer)	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes		≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N	≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N
Nominal output current for U_{nom}		10 A @ 55 °C	20 A @ 55 °C
Continous output current @ $U_{Nominal}$		10 A @ 55 °C, 2.5 A @ 70 °C	20 A @ 55 °C, 15 A @ 70 °C
Capacitive load / Protection against inverse voltage		unrestricted / Yes	unrestricted / Yes
Signalling			
Indication		Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Floating contact / Contact load		Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
Relay on/off		Output voltage >21.6 V DC/ <20.4 V DC, overload	Output voltage >21.6 V DC/ <20.4 V DC, overload
MTBF			
According to Standard		SN 29500	SN 29500
Operating time (hours), min.		2Mh	1.5Mh
Ambient temperature		25°C	25°C
Input voltage		230V	230V
Output power		240W	480W
Duty cycle		100%	100%
General data			
Degree of efficiency		90%	91%
Power loss idling / nominal load		2 W / 24 W	5 W / 43 W
Earth leakage current, max.		3.5 mA	3.5 mA
Power factor (approx.)		> 0.94 @ 230 V AC / > 0.99 @ 115 V AC	> 0.98...230 V AC / > 0.98...115 V AC
AC failure bridging time @ I_{nom}		> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option		yes, max. 5	yes, max. 3
Depth x width x height / Net weight		100 / 60 / 125 mm / 1002 g	120 / 100 / 125 mm / 1557 g
Approvals			
Approvals		CE; cULus; EAC; TUEV	CE; cULus; EAC; TUEV
Connection data		**Input** / **Output**	**Input** / **Output**
Connection system		Screw connection / Screw connection	Screw connection / Screw connection
Number of terminals		3 for L/N/PE / 6 (++,–,13,14)	3 for L/N/PE / 7 (++,–,13,14)
Wire cross-section, rigid min/max	mm²	0.5 / 6 / 0.5 / 6	0.5 / 6 / 0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 2.5 / 0.5 / 2.5	0.5 / 2.5 / 0.5 / 2.5
Wire cross-section, AWG/kcmil min/max		26 / 12 / 26 / 12	26 / 12 / 26 / 10
Tightening torque range		/ / 0.5 / 0.6	/ / 0.5 / 0.6
Note			

Ordering data

Type	Qty.	Order No.
PRO ECO 240W 24V 10A	1	1469490000

Type	Qty.	Order No.
PRO ECO 480W 24V 20A	1	1469510000

Note

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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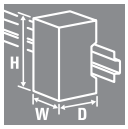
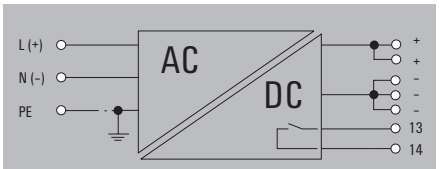
PRO ECO 960W 24V 40A



Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input	
Rated input voltage	100...240 V AC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	4,6 A @ 230 V AC / 9,9 A @ 110 V AC
DC current consumption	2,9 A @ 370 V DC / 9 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N
Nominal output current for U_{nom}	40 A @ 50 °C
Continous output current @ $U_{Nominal}$	40 A @ 50 °C, 24 A @ 70 °C
Capacitive load / Protection against inverse voltage	unrestricted / Yes
Signalling	
Indication	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC/ <20.4 V DC, overload
MTBF	
According to Standard	SN 29500
Operating time (hours), min.	1.06Mh
Ambient temperature	25°C
Input voltage	230V
Output power	960W
Duty cycle	100%
General data	
Degree of efficiency	93%
Power loss idling / nominal load	8 W / 85 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.98...230 V AC / > 0.98...115 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 160 / 125 mm / 3190 g
Approvals	
Approvals	CE; cULus; EAC; TUEV

Connection data	**Input**	**Output**
Connection system	Screw connection	Screw connection
Number of terminals	3 for L/N/PE	7 (++,–,13,14)
Wire cross-section, rigid min/max mm²	0.5 / 6	0.5 / 16
Wire cross-section, flexible min/max mm²	0.5 / 2.5	2.5 / 10
Wire cross-section, AWG/kcmil min/max	26 / 12	22 / 8
Tightening torque range	/	0.5 / 0.6

Note

Ordering data

Type	Qty.	Order No.
PRO ECO 960W 24V 40A	1	1469520000

Note

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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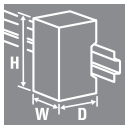
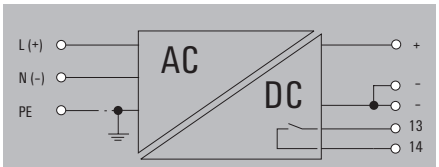


PRO ECO 72W 12V 6A

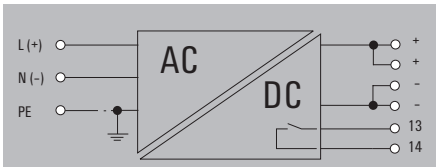
Similar to illustration



Pay attention to polarity of DC connection

PRO ECO 120W 12V 10A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input			
Rated input voltage		100...240 V AC	100...240 V AC
Input voltage range AC		85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC		47...63 Hz	47...63 Hz
DC input voltage range		80...370 V DC (Derating @ 120 V DC)	80...370 V DC (Derating @ 120 V DC)
AC current consumption		0.6 A @ 230 V AC / 1.1 A @ 115 V AC	1.25 A @ 230 V AC / 2.25 A @ 110 V AC
DC current consumption		0.25 A @ 370 V DC / 0.7 A @ 120 V DC	0.4 A @ 370 V DC / 1.2 A @ 120 V DC
Input fuse (internal) / Inrush current		Yes / max. 40 A	Yes / max. 40 A
Output			
Rated output voltage		12 V DC ± 1 %	12 V DC ± 1 %
Output voltage		10...16 V (adjustable via potentiometer)	10...16 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes		≤ 100 ms / < 50 mV ss @ 12 V DC, I Nenn	≤ 100 ms / < 50 mV ss @ 12 V DC, I Nenn
Nominal output current for U_{nom}		6 A @ 55 °C	10 A @ 55 °C
Continous output current @ $U_{Nominal}$		6 A @ 55 °C, 4.5 A @ 60 °C	10 A @ 55 °C, 2.5 A @ 70 °C
Capacitive load / Protection against inverse voltage		unrestricted / Yes	unrestricted / Yes
Signalling			
Indication		Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Floating contact / Contact load		Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
Relay on/off		Output voltage >21.6 V DC/ <20.4 V DC, overload	Output voltage >21.6 V DC/ <20.4 V DC, overload
MTBF			
According to Standard		SN 29500	SN 29500
Operating time (hours), min.		3Mh	2.6Mh
Ambient temperature		25°C	25°C
Input voltage		230V	230V
Output power		72W	120W
Duty cycle		100%	100%
General data			
Degree of efficiency		85 %	87 %
Power loss idling / nominal load		4 W / 15 W	4 W / 20 W
Earth leakage current, max.		3.5 mA	3.5 mA
Power factor (approx.)		> 0.5...230 V AC / > 0.53...115 V AC	> 0.5...230 V AC / > 0.53...115 V AC
AC failure bridging time @ I_{nom}		> 100 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option		yes, max. 5	yes, max. 5
Depth x width x height / Net weight		100 / 34 / 125 mm / 565 g	100 / 40 / 125 mm / 680 g
Approvals			
Approvals		CE; cULus; EAC; TUEV	CE; cULus; EAC; TUEV
Connection data		**Input** / **Output**	**Input** / **Output**
Connection system		Screw connection / Screw connection	Screw connection / Screw connection
Number of terminals		3 for L/N/PE / 5 (+,–,13,14)	3 for L/N/PE / 6 (++,–,13,14)
Wire cross-section, rigid min/max	mm²	0.5 / 6 / 0.5 / 6	0.5 / 6 / 0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 2.5 / 0.5 / 2.5	0.5 / 2.5 / 0.5 / 2.5
Wire cross-section, AWG/kcmil min/max		26 / 12 / 26 / 12	26 / 12 / 26 / 12
Tightening torque range		/ / 0.5 / 0.6	/ / 0.5 / 0.6
Note			

Ordering data

Type	Qty.	Order No.
PRO ECO 72W 12V 6A	1	1469570000

Type	Qty.	Order No.
PRO ECO 120W 12V 10A	1	1469580000

Note

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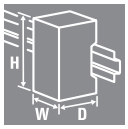
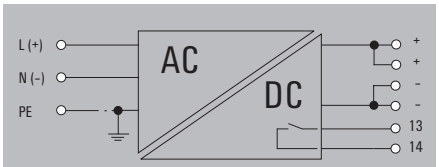


PRO ECO 240W 48V 5A

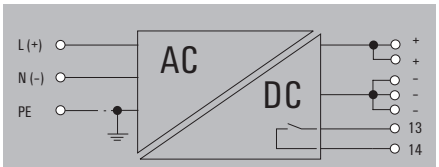
Similar to illustration



Pay attention to polarity of DC connection

PRO ECO 480W 48V 10A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	100...240 V AC	100...240 V AC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)	80...370 V DC (Derating @ 120 V DC)
AC current consumption	1.2 A @ 230 V AC / 2.4 A @ 115 V AC	2.4 A @ 230 V AC / 5.2 A @ 110 V AC
DC current consumption	1.2 A @ 370 V DC / 2.4 A @ 120 V DC	1.5 A @ 370 V DC / 4.6 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / Max. 10 A	Yes / max. 3 A
Output		
Rated output voltage	48 V DC ± 1 %	48 V DC ± 1 %
Output voltage	42...56 V (adjustable via potentiometer)	42...56 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 100 mV ss @ 48 V DC, I Nenn	≤ 100 ms / < 100 mV ss @ 48 V DC, I Nenn
Nominal output current for U_{nom}	5 A at 55 °C	10 A @ 55 °C
Continous output current @ $U_{Nominal}$	5 A @ 55 °C, 3,75 A @ 70 °C	10 A @ 55 °C, 2.5 A @ 70 °C
Capacitive load / Protection against inverse voltage	unrestricted / Yes	unrestricted / Yes
Signalling		
Indication	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC/ <20.4 V DC, overload	Output voltage >21.6 V DC/ <20.4 V DC, overload
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	2Mh	2Mh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	240W	480W
Duty cycle	100%	100%
General data		
Degree of efficiency	92 %	93%
Power loss idling / nominal load	3 W / 23 W	5 W / 50 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	> 0.94 @ 230 V AC / > 0.99 @ 115 V AC	> 0.98...230 V AC / > 0.98...115 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5	yes, max. 3
Depth x width x height / Net weight	100 / 60 / 125 mm / 1.01 g	120 / 100 / 125 mm / 1561 g
Approvals		
Approvals	CE; cULus; EAC; TUEV	CE; cULus; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	6 (++,–,13,14)	3 for L/N/PE	7 (++,–,13,14)
Wire cross-section, rigid min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 2.5	0.5 / 2.5	0.5 / 2.5	0.22 / 4
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 12	26 / 12	26 / 10
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

Type	Qty.	Order No.
PRO ECO 240W 48V 5A	1	1469590000

Type	Qty.	Order No.
PRO ECO 480W 48V 10A	1	1469610000

Note	
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	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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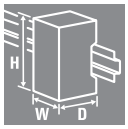
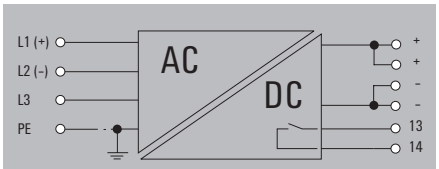


PRO ECO3 120W 24V 5A

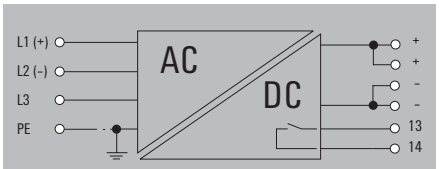
Similar to illustration



Pay attention to polarity of DC connection

PRO ECO3 240W 24V 10A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	47...63 Hz	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0.3 A @ 3 x 500 V AC / 0.4 A @ 3 x 400 V AC	0.6 A @ 3 x 500 V AC / 0.8 A @ 3 x 400 V AC
DC current consumption	0.2 A @ 800 V DC / 0.4 A @ 450 V DC	0.4 A @ 800 V DC / 0.7 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 40 A	Yes / max. 50 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N	≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N
Nominal output current for U_{nom}	5 A at 55 °C	10 A @ 55 °C
Continous output current @ $U_{Nominal}$	5 A @ 55 °C, 3,75 A @ 70 °C	10 A @ 55 °C, 2.5 A @ 70 °C
Capacitive load / Protection against inverse voltage	unrestricted / Yes	unrestricted / Yes
Signalling		
Indication	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC/ <20.4 V DC, overload	Output voltage >21.6 V DC/ <20.4 V DC, overload
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	2.5Mh	1.4Mh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	120W	240W
Duty cycle	100%	100%
General data		
Degree of efficiency	87 %	88%
Power loss idling / nominal load	6 W / 17 W	8 W / 26 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
AC failure bridging time @ I_{nom}	> 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC	> 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
Parallel connection option	yes, max. 5	yes, max. 5
Depth x width x height / Net weight	100 / 40 / 125 mm / 677 g	100 / 60 / 125 mm / 957 g
Approvals		
Approvals	CE; cULus; EAC; TUEV	CE; cULus; cURus; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		4 for L1/L2/L3/PE	6 (++,–,13,14)	4 for L1/L2/L3/PE	6 (++,–,13,14)
Wire cross-section, rigid min/max	mm^2	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm^2	0.5 / 2.5	0.5 / 2.5	0.5 / 2.5	0.5 / 2.5
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 12	26 / 12	26 / 12
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

	Type	Qty.	Order No.
	PRO ECO3 120W 24V 5A	1	1469530000
Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

	Type	Qty.	Order No.
	PRO ECO3 240W 24V 10A	1	1469540000
Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

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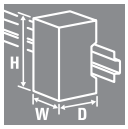
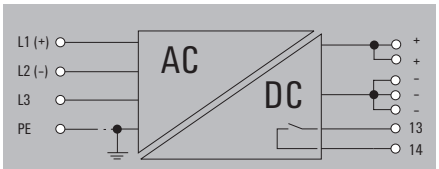


PRO ECO3 480W 24V 20A

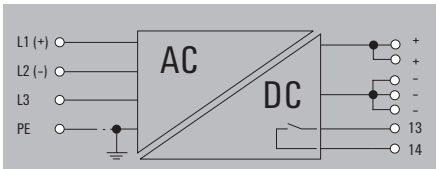
Similar to illustration



Pay attention to polarity of DC connection

PRO ECO3 960W 24V 40A

Similar to illustration



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	47...63 Hz	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	1.2 A @ 3 x 500 V AC / 1.5 A @ 3 x 400 V AC	2,15 A @ 3 x 500 V AC / 2,68 A @ 3 x 400 V AC
DC current consumption	0.7 A @ 800 V DC / 1.2 A @ 450 V DC	1,37 A @ 800 V DC / 2,37 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 50 A	Yes / max. 40 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N	≤ 100 ms / < 50 mV_{PP} @ 24 V DC, I_N
Nominal output current for U_{nom}	20 A @ 55 °C	40 A @ 50 °C
Continous output current @ $U_{Nominal}$	20 A @ 55 °C, 15 A @ 70 °C	40 A @ 50 °C, 24 A @ 70 °C
Capacitive load / Protection against inverse voltage	unrestricted / Yes	unrestricted / Yes
Signalling		
Indication	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	Green LED (U_{output} > 21.6 V DC), Yellow LED (I_{output} > 90 % I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC/ <20.4 V DC, overload	Output voltage >21.6 V DC/ <20.4 V DC, overload
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.3Mh	1.7Mh
Ambient temperature	25°C	25°C
Input voltage	400V	400V
Output power	480W	240W
Duty cycle	100%	100%
General data		
Degree of efficiency	89%	90%
Power loss idling / nominal load	8 W / 48 W	5 W / 95 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
AC failure bridging time @ I_{nom}	> 30 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC	> 25 ms at 3 x 500 V AC / > 20 ms at 3 x 400 V AC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height / Net weight	120 / 100 / 125 mm / 1300 g	120 / 160 / 125 mm / 2899 g
Approvals		
Approvals	CE; cULus; cURus; EAC; TUEV	CE; cULus; cURus; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		4 for L1/L2/L3/PE	7 (++,–,13,14)	4 for L1/L2/L3/PE	7 (++,–,13,14)
Wire cross-section, rigid min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 16
Wire cross-section, flexible min/max	mm²	0.5 / 2.5	0.5 / 2.5	0.5 / 2.5	2.5 / 10
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 10	26 / 12	22 / 8
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

	Type	Qty.	Order No.
	PRO ECO3 480W 24V 20A	1	1469550000
Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

	Type	Qty.	Order No.
	PRO ECO3 960W 24V 40A	1	1469560000
Note	The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Small metal foot

Type	Order No.
MTA 30 MF	1251320000

Large metal foot

Type	Order No.
MTA 45 MF	1251310000

Small plastic foot

Type	Order No.
MTA 30 BK	1168970000

Large plastic foot

Type	Order No.
MTA 45 BK	1962250000

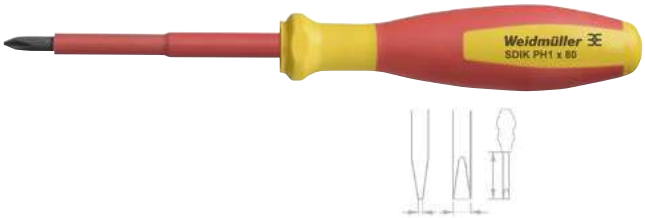
Small wall mounting

Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting

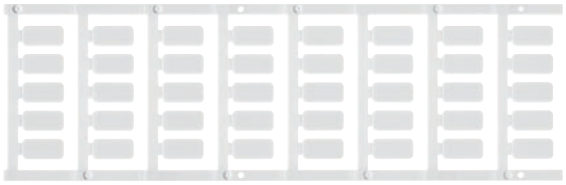
Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0,5	3	100	2749800000

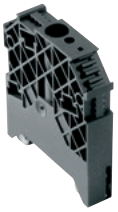
Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

Basic functionality at the highest level

PRObas – highly efficient, reliable, affordable

A safe and stable DC supply voltage is at the heart of many automation applications. The single-phase switched-mode power supply units of the PRObas series were developed to meet high mechanical engineering standards in a cost-effective way. The expertise behind the successful PROeco, PROmax and PROtop series has been incorporated into this attractive product series.

High performance, compact design and a good price-performance ratio are the main characteristics of the new PRObas power supplies. The product family comprises 12 variants with 5V, 12V, 24V or 48V DC output voltage and a wide-range input.
Due to compatibility with our electronic fuses, DC UPS and diode modules, they are also suitable for setting up power management systems.

Your benefits at a glance

- High cost efficiency with strong performance and compact design
- Reliable start-up at -40°C for extreme external conditions
- Universal use due to wide range of variants and international approvals

Space- and energy-saving
With a max. width of 23 to 59 mm, PROBas switching power supply units fit into even the smallest control cabinets. Their high efficiency of up to 95 % and an extremely low idle power loss ensure maximum efficiency.

Flexible mounting
PROBas switching power supply units can either be snapped onto DIN rails or screwed directly to the cabinet wall.

Robust and reliable
PROBas switching power supplies operate reliably in the temperature range from -25 °C to +70 °C and have an MTBF value of over one million hours.

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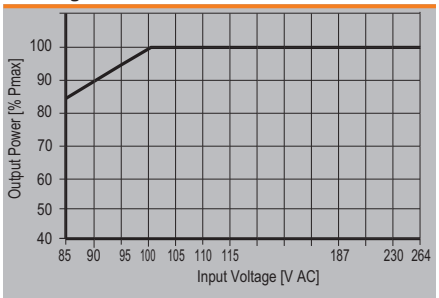
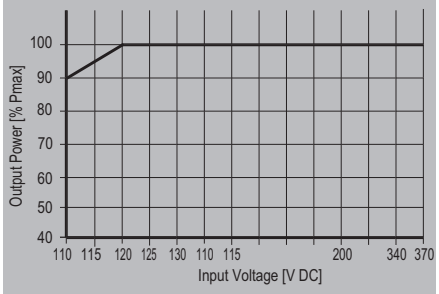
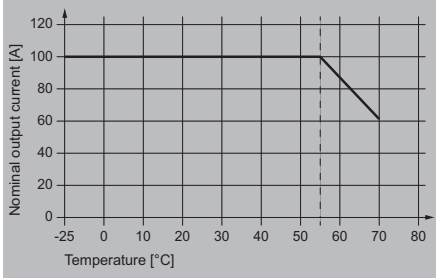
Derating curve







Technical data

General data	
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % rel. humidity, no condensation
Protection degree	IP20
Protection class	II
Pollution degree	1
Insulation voltage, input/output	3.5 kV
Parallel connection option	yes, max. 3
Housing version	Plastic, protective insulation
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Short-circuit protection	Yes
Overload protection	Yes
Protection against over-heating	Yes
EMC / shock / vibration	
Noise emission in accordance with EN55032	Class B
Resistance to vibration / Shock	0.7 g according to EN 50178 / 30 g in all directions
Electrical safety (applied standards)	
For use with electronic equipment	Acc. to EN50178
Safety extra-low voltage	IEC 61010-1, IEC 61010-2-201
Safety transformers for switch-mode power supplies	According to EN 61558-2-16

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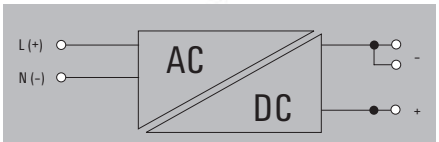
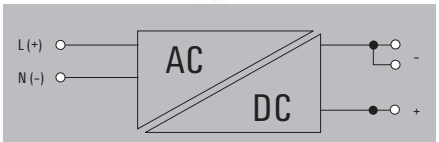
PRO BAS 30W 24V 1.3A



Note polarity for DC connection

PRO BAS 30W 12V 2.6A



Note polarity for DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	110...370 V DC (derating at <120 V DC)	110...370 V DC (derating at <120 V DC)
Current consumption in relation to the input voltage	0.33A @ 230VAC; 0.55A @ 115VAC; 0.29A @ 120V	0.33A @ 230VAC; 0.56A @ 115VAC; 0.29A @ 120V
Input fuse (internal) / Inrush current	Yes / 40 A @ 230 V AC, 25 °C	Yes / 40 A @ 230 V AC, 25 °C
Output		
Rated output voltage	24 V DC	12 V DC
Output voltage	22...28 V	9...16 V
Residual ripple, breaking spikes	≤ 50 mVpp @ full load	≤ 50 mVpp @ full load
Nominal output current for U_{nom}	1.3 A @ 55 °C	2.6 A @ 55 °C
Continous output current @ $U_{Nominal}$	1.3 A @ 55 °C, 0.8 A @ 70 °C	2.6 A @ 55 °C, 1.625 A @ 70°C
Capacitive load	5.5mF	5.5mF
Protection against inverse voltage	Yes	Yes
Signalling		
Status indication	Green LED	Green LED
Floating contact / Contact load	No /	No /
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.56Mh	1.63Mh
Ambient temperature	40°C	40°C
Input voltage	230V	230V
Output power	30W	30W
Duty cycle	100%	100%
General data		
Degree of efficiency	89% @ 230 V AC	89% @ 230 V AC
Power loss idling / nominal load / Power loss, nominal load	0.5 W / 3.3 W	0.5 W / 3.3 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	0.45 @ 120 V AC, 0.47 @ 230 V AC	0.45 @ 120 V AC, 0.48 @ 230 V AC
AC failure bridging time @ I_{nom}	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height / Net weight	85 / 23 / 90 mm / 163 g	85 / 23 / 90 mm / 163 g
Approvals		
Approvals	cCSAus; cULus	cCSAus; cULus

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		2 (L,N)	4 (++ / –)	2 (L,N)	3 (+ / - -)
Wire cross-section, rigid min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 12	26 / 12	26 / 12
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO BAS 30W 24V 1.3A	1	**2838500000**

Type	**Qty.**	**Order No.**
PRO BAS 30W 12V 2.6A	1	**2838510000**

Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

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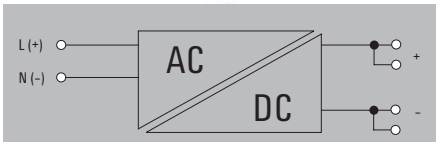
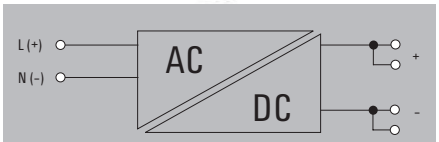
	PRO BAS 30W 5V 6A	PRO BAS 60W 24V 2.5A
		
	 Note polarity for DC connection	 Note polarity for DC connection

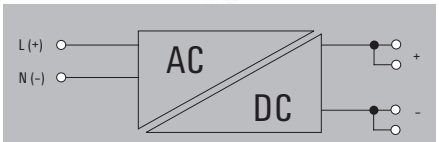
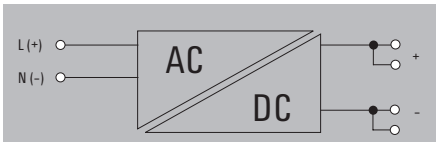
Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	110...370 V DC (derating at <120 V DC)	110...370 V DC (derating at <120 V DC)
Current consumption in relation to the input voltage	0.34A @ 230VAC; 0.56A @ 115VAC; 0.28A @ 120V	0.61A @ 230VAC; 1.01A @ 115VAC; 0.54A @ 120V
Input fuse (internal) / Inrush current	Yes / 40 A @ 230 V AC, 25 °C	Yes / 40 A @ 230 V AC, 25 °C
Output		
Rated output voltage	5 V DC	24 V DC
Output voltage	3...8 V	22...28 V
Residual ripple, breaking spikes	≤ 50 mVpp @ full load	≤ 50 mVpp @ full load
Nominal output current for U_{nom}	6 A @ 55 °C	2.5 A @ 55 °C
Continous output current @ $U_{Nominal}$	6 A @ 55 °C, 3.75 A @ 70 °C	2.5 A @ 55 °C, 1.65 A @ 70°C
Capacitive load	5.5mF	5.5mF
Protection against inverse voltage	Yes	Yes
Signalling		
Status indication	Green LED	Green LED
Floating contact / Contact load	No /	No /
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.9Mh	1.4Mh
Ambient temperature	40°C	40°C
Input voltage	230V	230V
Output power	30W	60W
Duty cycle	100%	100%
General data		
Degree of efficiency	87% @ 230 V AC	90% @ 230 V AC
Power loss idling / nominal load / Power loss, nominal load	0.5 W / 3.9 W	0.5 W / 6 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	0.45 @ 120 V AC, 0.45 @ 230 V AC	0.45 @ 120 V AC, 0.47 @ 230 V AC
AC failure bridging time @ I_{nom}	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height / Net weight	85 / 36 / 90 mm / 245 g	85 / 36 / 90 mm / 259 g
Approvals		
Approvals	cCSAus	cCSAus; cULus

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		2 (L,N)	4 (++ / –)	2 (L,N)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 12	26 / 12	26 / 12
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
	PRO BAS 30W 5V 6A	1	**2838400000**	PRO BAS 60W 24V 2.5A	1	**2838410000**
Note	Current technical data at catalog.weidmueller.com			Current technical data at catalog.weidmueller.com		

connectPower PRObas	PRO BAS 60W 12V 5A	PRO BAS 90W 24V 3.8A
		
	 Note polarity for DC connection	 Note polarity for DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	110...370 V DC (derating at <120 V DC)	110...370 V DC (derating at <120 V DC)
Current consumption in relation to the input voltage	0.62A @ 230VAC; 1.04A @ 115VAC; 0.55A @ 120V	0.89A @ 230VAC; 1.54A @ 115VAC; 0.83A @ 120V
Input fuse (internal) / Inrush current	Yes / 40 A @ 230 V AC, 25 °C	Yes / 40 A @ 230 V AC, 25 °C
Output		
Rated output voltage	12 V DC	24 V DC
Output voltage	9...16 V	22...25 V
Residual ripple, breaking spikes	≤ 50 mVpp @ full load	≤ 50 mVpp @ full load
Nominal output current for U_{nom}	5 A @ 55 °C	3.8 A @ 55 °C
Continous output current @ $U_{Nominal}$	5 A @ 55 °C, 3.125 A @ 70°C	3.8 A @ 55 °C, 2.375 A @ 70°C
Capacitive load	5.5mF	5.5mF
Protection against inverse voltage	Yes	Yes
Signalling		
Status indication	Green LED	Green LED
Floating contact / Contact load	No /	No /
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	1.3Mh	1.23Mh
Ambient temperature	40°C	40°C
Input voltage	230V	230V
Output power	60W	90W
Duty cycle	100%	100%
General data		
Degree of efficiency	90% @ 230 V AC	89,4% @ 230 V AC
Power loss idling / nominal load / Power loss, nominal load	0.5 W / 6 W	0.5 W / 9.5 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	0.45 @ 120 V AC, 0.47 @ 230 V AC	0.45 @ 120 V AC, 0.47 @ 230 V AC
AC failure bridging time @ I_{nom}	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height / Net weight	85 / 36 / 90 mm / 259 g	85 / 47 / 90 mm / 376 g
Approvals		
Approvals	cCSAus; cULus	cCSAus; cULus

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		2 (L,N)	4 (++ / –)	2 (L,N)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 12	26 / 12	26 / 12
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO BAS 60W 12V 5A	1	**2838420000**

Type	**Qty.**	**Order No.**
PRO BAS 90W 24V 3.8A	1	**2838430000**

Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

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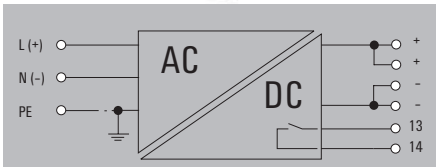
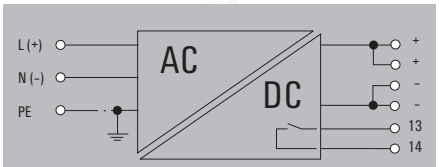
	PRO BAS 120W 24V 5A	PRO BAS 120W 12V 10A
		
	 Pay attention to polarity of DC connection	 Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	110...370 V DC (derating at <120 V DC)	110...370 V DC (derating at <120 V DC)
Current consumption in relation to the input voltage	1.13A @ 230VAC; 2.02A @ 115VAC; 1.11A @ 120V	1.14A @ 230VAC; 2.04A @ 115VAC; 1.12A @ 120V
Input fuse (internal) / Inrush current	Yes / 40 A @ 230 V AC, 25 °C	Yes / 40 A @ 230 V AC, 25 °C
Output		
Rated output voltage	24 V DC	12 V DC
Output voltage	22...28 V	9...16 V
Residual ripple, breaking spikes	≤ 50 mVpp @ full load	≤ 50 mVpp @ full load
Nominal output current for U_{nom}	5 A @ 55 °C	10 A @ 55 °C
Continous output current @ $U_{Nominal}$	5 A @ 55 °C, 3.125 A @ 70°C	10 A @ 55 °C, 6.25 A @ 70°C
Capacitive load	5.5mF	5.5mF
Protection against inverse voltage	Yes	Yes
Signalling		
Status indication	Green LED	Green LED
Floating contact / Contact load	Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	814.2kh	901.4kh
Ambient temperature	40°C	40°C
Input voltage	230V	230V
Output power	120W	120W
Duty cycle	100%	100%
General data		
Degree of efficiency	90% @ 230 V AC	90% @ 230 V AC
Power loss idling / nominal load / Power loss, nominal load	1.5 W / 14.5 W	1.2 W / 15.4 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	0.5 @ 120 V AC, 0.51 @ 230 V AC	0.5 @ 120 V AC, 0.51 @ 230 V AC
AC failure bridging time @ I_{nom}	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height / Net weight	100 / 40 / 130 mm / 490 g	100 / 40 / 130 mm / 490 g
Approvals		
Approvals	cCSAus; cULus	cCSAus; cULus

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	4 (++ / –)	3 for L/N/PE	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 12	26 / 12	26 / 12
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
	PRO BAS 120W 24V 5A	1	**2838440000**	PRO BAS 120W 12V 10A	1	**2838450000**
Note	Current technical data at catalog.weidmueller.com			Current technical data at catalog.weidmueller.com		

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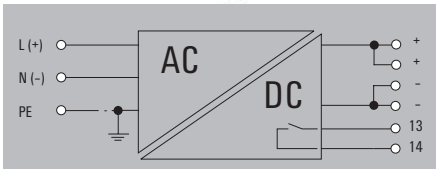
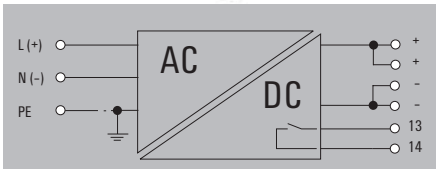
PRO BAS 240W 24V 10A



Pay attention to polarity of DC connection

PRO BAS 240W 48V 5A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	110...370 V DC (derating at <120 V DC)	110...370 V DC (derating at <120 V DC)
Current consumption in relation to the input voltage	1.13A @ 230VAC; 2.29A @ 115VAC; 2.3A @ 120V	1.14A @ 230VAC; 2.3A @ 115VAC; 2.22A @ 120V
Input fuse (internal) / Inrush current	Yes / 20 A @ 230 V AC, 25 °C	Yes / 20 A @ 230 V AC, 25 °C
Output		
Rated output voltage	24 V DC	48 V DC
Output voltage	22...28 V	36...56 V
Residual ripple, breaking spikes	≤ 100 mVpp @ full Load	≤ 100 mVpp @ full Load
Nominal output current for U_{nom}	10 A @ 55 °C	5 A @ 55 °C
Continous output current @ $U_{Nominal}$	10 A @ 55 °C, 6.25 A @ 70°C	5 A @ 55 °C, 3.125 A @ 70°C
Capacitive load	5.5mF	5.5mF
Protection against inverse voltage	Yes	Yes
Signalling		
Status indication	Green LED	Green LED
Floating contact / Contact load	Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	987.3kh	971kh
Ambient temperature	40°C	40°C
Input voltage	230V	230V
Output power	240W	240W
Duty cycle	100%	100%
General data		
Degree of efficiency	94% @ 230 V AC	95% @ 230 V AC
Power loss idling / nominal load / Power loss, nominal load	2 W / 19.5 W	2 W / 19.2 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	0.95 @ 230 V AC, nominal load	0.95 @ 230 V AC, nominal load
AC failure bridging time @ I_{nom}	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height / Net weight	100 / 52 / 130 mm / 693 g	100 / 52 / 130 mm / 693 g
Approvals		
Approvals	cCSAus; cULus	cCSAus; cULus

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	4 (++ / –)	3 for L/N/PE	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 6	0.5 / 6	0.5 / 6	0.5 / 6
Wire cross-section, AWG/kcmil min/max		26 / 12	26 / 12	26 / 12	26 / 12
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

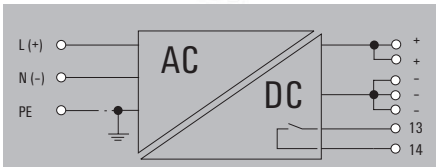
Type	**Qty.**	**Order No.**
PRO BAS 240W 24V 10A	1	**2838460000**

Type	**Qty.**	**Order No.**
PRO BAS 240W 48V 5A	1	**2838470000**

Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

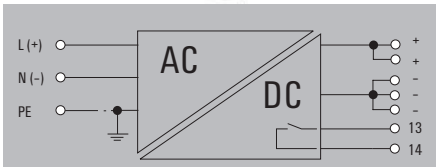
connectPower PRObas

PRO BAS 480W 24V 20A



Pay attention to polarity of DC connection

PRO BAS 480W 48V 10A



Pay attention to polarity of DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	110...370 V DC (derating at <120 V DC)	110...370 V DC (derating at <120 V DC)
Current consumption in relation to the input voltage	2.23A @ 230VAC; 4.58A @ 115VAC; 4.39A @ 120V	2.26A @ 230VAC; 4.58A @ 115VAC; 4.42A @ 120V
Input fuse (internal) / Inrush current	Yes / 20 A @ 230 V AC, 25 °C	Yes / 20 A @ 230 V AC, 25 °C
Output		
Rated output voltage	24 V DC	48 V DC
Output voltage	22...28 V	36...56 V
Residual ripple, breaking spikes	≤ 100 mVpp @ full Load	≤ 100 mVpp @ full Load
Nominal output current for U_{nom}	20 A @ 55 °C	10 A @ 55 °C
Continous output current @ $U_{Nominal}$	20 A @ 55 °C, 12.5 A @ 70°C	10 A @ 55 °C, 6.25 A @ 70°C
Capacitive load	5.5mF	5.5mF
Protection against inverse voltage	Yes	Yes
Signalling		
Status indication	Green LED	Green LED
Floating contact / Contact load	Yes / max. 30 V DC / 1 A	Yes / max. 30 V DC / 1 A
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	563.3kh	674kh
Ambient temperature	40°C	40°C
Input voltage	230V	230V
Output power	480W	480W
Duty cycle	100%	100%
General data		
Degree of efficiency	95% @ 230 V AC	95% @ 230 V AC
Power loss idling / nominal load / Power loss, nominal load	2 W / 30 W	2 W / 30 W
Earth leakage current, max.	3.5 mA	3.5 mA
Power factor (approx.)	0.95 @ 230 V AC, nominal load	0.95 @ 230 V AC, nominal load
AC failure bridging time @ I_{nom}	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3	yes, max. 3
Depth x width x height / Net weight	125 / 59 / 130 mm / 1380 g	125 / 59 / 130 mm / 1380 g
Approvals		
Approvals	cCSAus; cULus	cCSAus; cULus

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	5 (+ + / - - -)	3 for L/N/PE	5 (+ + / - - -)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.18 / 6	0.18 / 6	0.18 / 6
Wire cross-section, flexible min/max	mm²	0.18 / 6	0.18 / 6	0.18 / 6	0.18 / 6
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 10	26 / 10	26 / 10
Tightening torque range		/	0.5 / 0.6	/	0.5 / 0.6
Note					

Ordering data

Type	Qty.	Order No.
PRO BAS 480W 24V 20A	1	**2838480000**

Type	Qty.	Order No.
PRO BAS 480W 48V 10A	1	**2838490000**

Note	Current technical data at catalog.weidmueller.com	Current technical data at catalog.weidmueller.com

PRO-PM – the efficient plate mounted power supply solution

Powering simple automation applications

Simple machines and automation applications require standard power supply solutions with basic functionalities. The new power supplies of the PRO-PM series offer an excellent price/performance ratio and are designed for reliable DC control voltage.

Due to the wide range of variants with output voltages of 5, 12, 24, and 48 V and extensive international approvals, they are suitable for use in many applications. The power range extends from 35 W to 350 W. The individual adaptability makes PRO-PM the right choice for many standard machines.

Your special advantages:

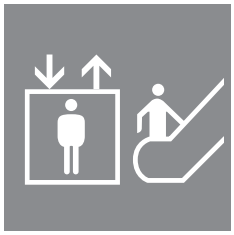
- Especially compact and robust metal housing
- Wide temperature range from -20°C to +70°C – for almost all industrial applications
- Certified according to CE, CCC, and cURus for universal worldwide use

Wide range of applications
The wide temperature range from - 20°C to +70°C as well as international certificates such as CE, cURus, CCC etc. ensure reliable operation worldwide.

Compact design
The low height of only 30 mm saves space and reduces overall system costs

Especially economic
Thanks to the new „Design-to-Cost" concept, PRO-PM power supplies offer a particularly favourable price/performance ratio.

Optimal for:



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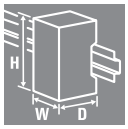

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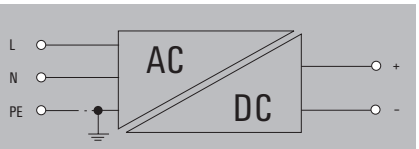
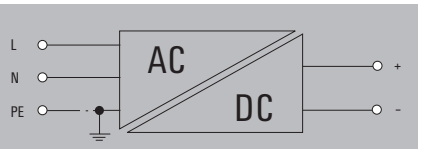
		

Technical data

Input		
Input voltage range AC	90...264 V AC	90...264 V AC
Frequency range AC	47...63 Hz	47...63 Hz
Rated input voltage	100...240 V AC	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C	2 A at 230 V AC, characteristic curve C
Output		
Output voltage	5 V DC	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	7 A	3 A
Output power	35 W	35 W
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 100 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	5.6...6.8 V @ 5 V DC	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms	20 ms
Parallel connection option	Yes, with diode module	Yes, with diode module
General data		
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Humidity	5...95 % RH	5...95 % RH
Degree of efficiency	82 %	84%
Status indication	LED green: ready	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix
Net weight	223 g	220 g
Approvals	CE	CE
Screw connection		
Connection cross-section, solid, min. / max.	0.34 / 4 mm²	0.34 / 4 mm²
Depth x width x height	99 / 82 / 30 mm	99 / 82 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 35W 5V 7A	1	2660200277

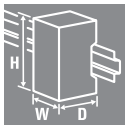
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Type	Qty.	Order No.
PRO PM 35W 12V 3A	1	2660200278

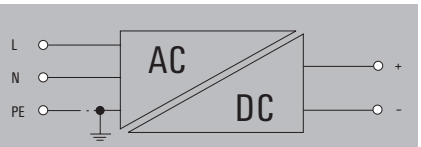
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Note

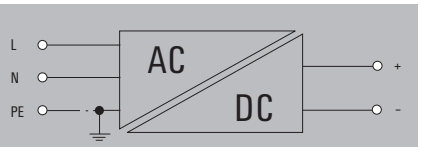
connectPower PRO-PM



PRO PM 35W 24V 1.5A



PRO PM 35W 48V 0.75A



Technical data

Input		
Input voltage range AC	90...264 V AC	90...264 V AC
Frequency range AC	47...63 Hz	47...63 Hz
Rated input voltage	100...240 V AC	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C	2 A at 230 V AC, characteristic curve C
Output		
Output voltage	24 V DC	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	1.5 A	0.75 A
Output power	35 W	35 W
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 150 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms	20 ms
Parallel connection option	Yes, with diode module	Yes, with diode module
General data		
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Humidity	5...95 % RH	5...95 % RH
Degree of efficiency	86%	86%
Status indication	LED green: ready	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix
Net weight	223 g	223 g
Approvals	CE	CE
Screw connection		
Connection cross-section, solid, min. / max.	0.34 / 4 mm²	0.34 / 4 mm²
Depth x width x height	99 / 82 / 30 mm	99 / 82 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 35W 24V 1.5A	1	2660200279

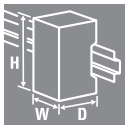
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Type	Qty.	Order No.
PRO PM 35W 48V 0.75A	1	2660200280

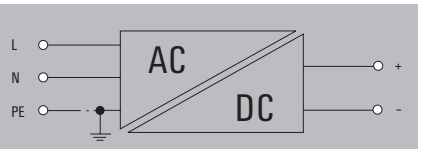
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Note

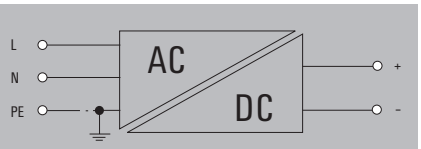
connectPower PRO-PM



PRO PM 75W 5V 14A



PRO PM 75W 12V 6A



Technical data

	PRO PM 75W 5V 14A	PRO PM 75W 12V 6A
Input		
Input voltage range AC	90...264 V AC	90...264 V AC
Frequency range AC	47...63 Hz	47...63 Hz
Rated input voltage	100...240 V AC	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C	4 A at 230 V AC, characteristic curve C
Output		
Output voltage	5 V DC	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	14 A	6 A
Output power	75 W	75 W
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 100 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	5.6...6.8 V @ 5 V DC	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms	20 ms
Parallel connection option	Yes, with diode module	Yes, with diode module
General data		
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Humidity	5...95 % RH	5...95 % RH
Degree of efficiency	82 %	84%
Status indication	LED green: ready	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix
Net weight	240 g	240 g
Approvals	CE	CE
Screw connection		
Connection cross-section, solid, min. / max.	0.34 / 4 mm²	0.34 / 4 mm²
Depth x width x height	99 / 97 / 30 mm	99 / 97 / 30 mm

Note

Ordering data

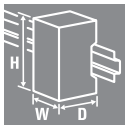
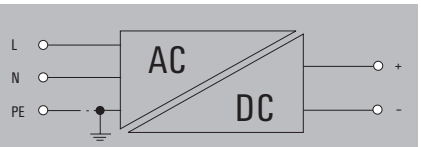
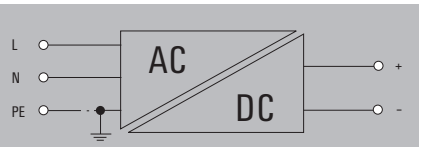
Type	Qty.	Order No.
PRO PM 75W 5V 14A	1	2660200281

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Type	Qty.	Order No.
PRO PM 75W 12V 6A	1	2660200282

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Note

connectPower PRO-PM	PRO PM 75W 24V 3.2A	PRO PM 75W 48V 1.6A
		
		

Technical data

Input		
Input voltage range AC	90...264 V AC	90...264 V AC
Frequency range AC	47...63 Hz	47...63 Hz
Rated input voltage	100...240 V AC	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C	4 A at 230 V AC, characteristic curve C
Output		
Output voltage	24 V DC	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3.2 A	1.6 A
Output power	75 W	75 W
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 150 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms	20 ms
Parallel connection option	Yes, with diode module	Yes, with diode module
General data		
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Humidity	5...95 % RH	5...95 % RH
Degree of efficiency	86%	86%
Status indication	LED green: ready	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix
Net weight	240 g	240 g
Approvals	CE	CE
Screw connection		
Connection cross-section, solid, min. / max.	0.34 / 4 mm²	0.34 / 4 mm²
Depth x width x height	99 / 97 / 30 mm	99 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 75W 24V 3.2A	1	2660200283

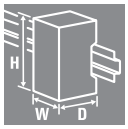
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

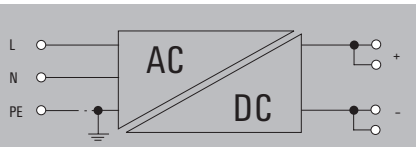
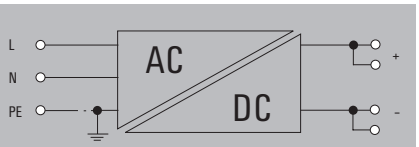
Type	Qty.	Order No.
PRO PM 75W 48V 1.6A	1	2660200284

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Note

connectPower PRO-PM



	PRO PM 100W 12V 8.5A	PRO PM 100W 24V 4.5A
		
		

Technical data

Input		
Input voltage range AC	90...264 V AC	90...264 V AC
Frequency range AC	47...63 Hz	47...63 Hz
Rated input voltage	100...240 V AC	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C	4 A at 230 V AC, characteristic curve C
Output		
Output voltage	12 V DC	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	8.5 A	4.5 A
Output power	100 W	100 W
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 100 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms	20 ms
Parallel connection option	Yes, with diode module	Yes, with diode module
General data		
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Humidity	5...95 % RH	5...95 % RH
Degree of efficiency	84%	86%
Status indication	LED green: ready	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix
Net weight	330 g	330 g
Approvals	CE	CE
Screw connection		
Connection cross-section, solid, min. / max.	0.34 / 4 mm²	0.34 / 4 mm²
Depth x width x height	129 / 97 / 30 mm	129 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 100W 12V 8.5A	1	**2660200285**

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Note

Type	Qty.	Order No.
PRO PM 100W 24V 4.5A	1	**2660200286**

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

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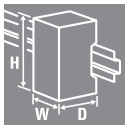
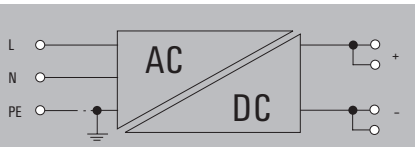
PRO PM 100W 48V 2.3A





Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	2.3 A
Output power	100 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	330 g
Approvals	CE
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm^2
Depth x width x height	129 / 97 / 30 mm

Note

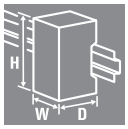
Ordering data

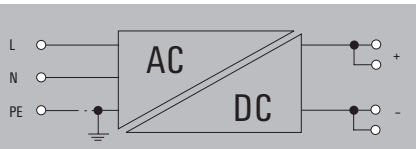
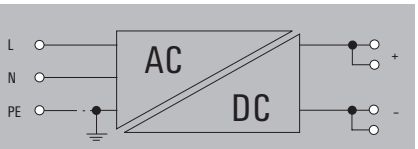
Type	Qty.	Order No.
PRO PM 100W 48V 2.3A	1	2660200287

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM



	PRO PM 150W 12V 12.5A	PRO PM 150W 24V 6.5A
		
		

Technical data

Input		
Input voltage range AC	90...264 V AC	90...264 V AC
Frequency range AC	47...63 Hz	47...63 Hz
Rated input voltage	100...240 V AC	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C	4 A at 230 V AC, characteristic curve C
Output		
Output voltage	12 V DC	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	12.5 A	6.5 A
Output power	150 W	150 W
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 100 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms	20 ms
Parallel connection option	Yes, with diode module	Yes, with diode module
General data		
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Humidity	5...95 % RH	5...95 % RH
Degree of efficiency	84%	86%
Status indication	LED green: ready	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix
Net weight	394 g	394 g
Approvals	CE	CE
Screw connection		
Connection cross-section, solid, min. / max.	0.34 / 4 mm²	0.34 / 4 mm²
Depth x width x height	159 / 97 / 30 mm	159 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 150W 12V 12.5A	1	**2660200288**

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

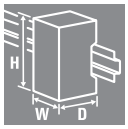
Note

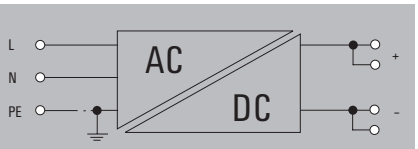
Type	Qty.	Order No.
PRO PM 150W 24V 6.5A	1	**2660200289**

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 150W 48V 3.3A





Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3.3 A
Output power	150 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	394 g
Approvals	CE
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm^2
Depth x width x height	159 / 97 / 30 mm

Note

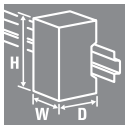
Ordering data

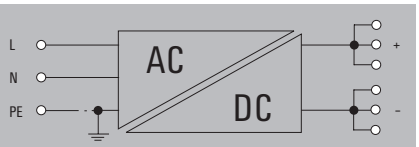
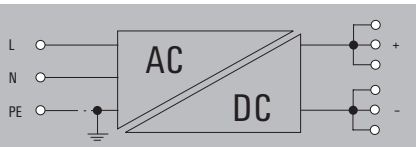
Type	Qty.	Order No.
PRO PM 150W 48V 3.3A	1	2660200290

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM



	PRO PM 250W 12V 21A	PRO PM 250W 24V 10.5A
		
		

Technical data

Input		
Input voltage range AC	90...264 V AC	90...264 V AC
Frequency range AC	47...63 Hz	47...63 Hz
Rated input voltage	100...240 V AC	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C	6 A at 230 V AC, characteristic curve C
Output		
Output voltage	12 V DC	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	21 A	10.5 A
Output power	250 W	250 W
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 100 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms	20 ms
Parallel connection option	Yes, with diode module	Yes, with diode module
General data		
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Humidity	5...95 % RH	5...95 % RH
Degree of efficiency	84%	86%
Status indication	LED green: ready	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix
Net weight	736 g	0.84 g
Approvals	CE	CE
Screw connection		
Connection cross-section, solid, min. / max.	0.34 / 4 mm²	0.34 / 4 mm²
Depth x width x height	215 / 115 / 30 mm	215 / 115 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 250W 12V 21A	1	**2660200291**

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Type	Qty.	Order No.
PRO PM 250W 24V 10.5A	1	**2660200292**

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

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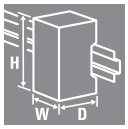
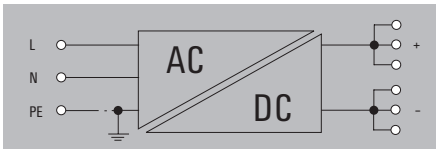
PRO PM 250W 48V 5.2A





Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	5.2 A
Output power	250 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	736 g
Approvals	CE
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm^2
Depth x width x height	215 / 115 / 30 mm

Note

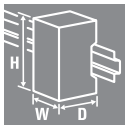
Ordering data

Type	Qty.	Order No.
PRO PM 250W 48V 5.2A	1	**2660200293**

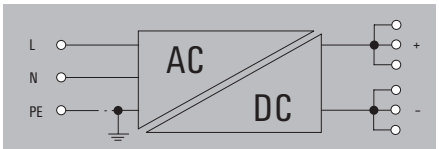
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

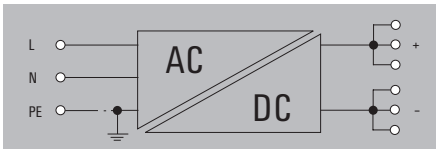
connectPower PRO-PM



PRO PM 350W 24V 14.6A



PRO PM 350W 48V 7.3A



Technical data

Input		
Input voltage range AC	90...264 V AC	90...264 V AC
Frequency range AC	47...63 Hz	47...63 Hz
Rated input voltage	100...240 V AC	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C	6 A at 230 V AC, characteristic curve C
Output		
Output voltage	24 V DC	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	14.6 A	7.3 A
Output power	350 W	350 W
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV_{PP}	< 150 mV_{PP}
Overload protection	120%...180% $I_{nominal}$, hiccup mode with automatic recovery	120%...180% $I_{nominal}$, hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms	20 ms
Parallel connection option	Yes, with diode module	Yes, with diode module
General data		
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Humidity	5...95 % RH	5...95 % RH
Degree of efficiency	86%	86%
Status indication	LED green: ready	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix
Net weight	750 g	750 g
Approvals	CE	CE
Screw connection		
Connection cross-section, solid, min. / max.	0.34 / 4 mm²	0.34 / 4 mm²
Depth x width x height	215 / 115 / 30 mm	215 / 115 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 350W 24V 14.6A	1	**2660200294**

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

Note

Type	Qty.	Order No.
PRO PM 350W 48V 7.3A	1	**2660200295**

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

An everlasting power supply for buildings and machines

INSTA POWER power supplies – compact, efficient and reliable

In building automation and mechanical engineering, many small distributors, meter cabinets and electrical distributions must often be taken into account. Efficient power supply solutions with high power density and high efficiency are in demand here.

The single phase INSTA POWER have a broad power spectrum, compact design, and good price-performance ratio. They operate in a temperature range from -25 °C to +70 °C and have wide range of approvals and wide-range voltage input. They are suitable for a variety of applications, which include signal and telecommunication systems and automation systems with low power requirements up to 96 W.

With its unique combination of particularly slim design, proven PUSH IN connection technology and high cost efficiency, INSTA POWER has decisive advantages over competitive products on the market.

Building automation with the compact power package.

The new INSTA POWER is optimal for the use in building automation. Due to the standardized design with small width, this power supply also finds sufficient space in sub-distribution boards and small distribution boards. Furthermore, the extensive power spectrum of INSTA POWER is an additional advantage for compact applications.

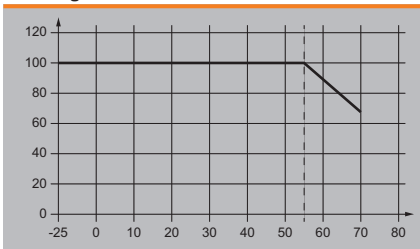
Extremely space- and energy-saving
With a basic depth of only 60 mm, INSTA POWER fits into the smallest control cabinets. The high efficiency of up to 91 % and the extremely low no-load power loss of max. 0.5 W ensure minimum energy costs.

Robust and reliable
INSTA POWER operates reliably in a temperature range from -25 °C to +70 °C (start-up: -40 °C) and have a high MTBF value of more than 1,000,000 hours.

Easy and quick to install
The INSTA POWER devices can either be snapped onto a DIN rail or screwed to the control cabinet wall. The maintenance work and measurements can be carried out conveniently via the PUSH IN connections.

connectPower INSTA POWER

Derating curve



Technical data

General data	
Ambient temperature (operational)	-25 °C...70 °C
Protection degree	IP20
Housing version	Plastic, protective insulation
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Signalling	
LED green	Operating voltage OK
EMC / shock / vibration	
Limiting of mains voltage harmonic currents	According to EN 61000-3-2
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD) | EN 61000-4-3 and EN 61000-4-8 (fields) | EN 61000-4-4 (burst) | EN 61000-4-5 (surge) | EN 61000-4-6 (conducted) | EN 61000-4-11 (dips), EN 61000-4-11 (Dips)
Shock	15 g In all directions
Insulation coordination	
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	4 kV
Insulation voltage input / earth	3.5 kV
Protection class	II
Pollution degree	2
Electrical safety (applied standards)	
For use with electronic equipment	Acc. to EN50178 / VDE0160
Electrical machine equipment	Acc. to EN60204
Protection against dangerous shock currents	Acc. to VDE0106-101
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Safety transformers for switch-mode power supplies	According to EN 61558-2-16

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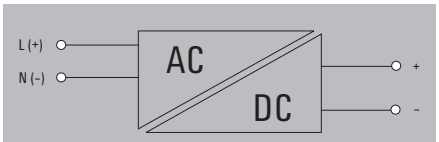
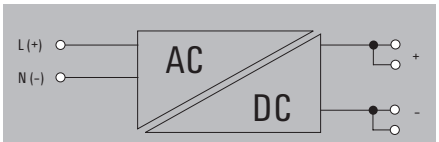
- 1-phase power supplies

PRO INSTA 16 W 24 V 0.7 A



Note polarity for DC connection

PRO INSTA 30 W 5 V 6 A



Note polarity for DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
AC current consumption	0.25 A @ 230 V AC / 0.45 A @ 100 V AC	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	95...370 V DC	95...370 V DC
DC current consumption	0.08 A @ 370V DC /0.22 A @ 120 V DC	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A	max. 40 A
Output		
Rated output voltage	24 V DC ± 1 %	5 V DC ± 2 %
Nominal output current for U_{nom}	0.7 A @ 55 °C	6 A @ 55 °C
Output voltage	22...28 V (adjustable via potentiometer on front)	4...7 V (adjustable via potentiometer on front)
Continous output current @ $U_{Nominal}$	0.7 A @ 55 °C, 0.43 A @ 70 °C	6 A @ 55 °C, 3.75 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Capacitive load	unrestricted	unrestricted
MTBF		
According to Standard	Telcordia SR-332	Telcordia SR-332
Operating time (hours), min.	810kh	896kh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	16W	30W
Duty cycle	100%	100%
General data		
Degree of efficiency	82.5 %	82 %
Power loss idling / nominal load	0.4 W	0.45 W
Power loss, nominal load	3.6 W	5.4 W
Protection against reverse voltages from the load	30...35 V DC	8...10 V DC
Depth x width x height	60 / 22.5 / 90.5 mm	60 / 72 / 90 mm
Net weight	82 g	256 g
Approvals		
Approvals	cCSAus; cULus; TUEV	cCSAus; cULus; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN	PUSH IN with actuator	PUSH IN
Number of terminals		2 (L,N)	2 (+ / -)	2 (L,N)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5
Wire cross-section, flexible min/max	mm²	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5
Wire cross-section, AWG/kcmil min/max		24 / 12	24 / 12	24 / 12	24 / 12
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO INSTA 16W 24V 0.7A	1	**2580180000**

Type	**Qty.**	**Order No.**
PRO INSTA 30W 5V 6A	1	**2580210000**

Note

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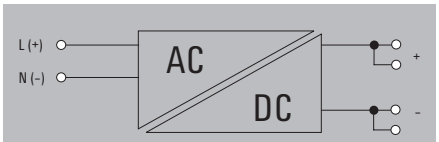
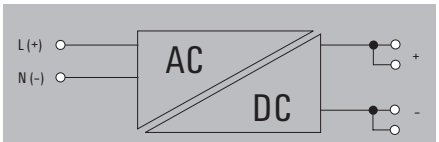
- 1-phase power supplies

PRO INSTA 30 W 12 V 2.6 A



Note polarity for DC connection

PRO INSTA 30 W 24 V 1.3 A



Note polarity for DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
AC current consumption	0.5 A @ 230 V AC / 1.0 A @ 100 V AC	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	95...370 V DC	95...370 V DC
DC current consumption	0.2 A @ 370 V DC / 0.5 A @ 120 V DC	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A	max. 40 A
Output		
Rated output voltage	12 V DC ± 1 %	24 V DC ± 1 %
Nominal output current for U_{nom}	2.6 A @ 55 °C	1.3 A @ 55 °C
Output voltage	9...16 V (adjustable via potentiometer on front)	22...28 V (adjustable via potentiometer on front)
Continous output current @ $U_{Nominal}$	2.6 A @ 55 °C, 1.625 A @ 55 °C	1.3 A @ 55 °C, 0.8 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Capacitive load	unrestricted	unrestricted
MTBF		
According to Standard	Telcordia SR-332	Telcordia SR-332
Operating time (hours), min.	896kh	1143kh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	30W	30W
Duty cycle	100%	100%
General data		
Degree of efficiency	85 %	86%
Power loss idling / nominal load	0.45 W	0.45 W
Power loss, nominal load	5.29 W	4.88 W
Protection against reverse voltages from the load	18...25 V DC	30...35 V DC
Depth x width x height	60 / 54 / 90 mm	60 / 54 / 90 mm
Net weight	192 g	192 g
Approvals		
Approvals	cCSAus; cULus; TUEV	cCSAus; cULus; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN	PUSH IN with actuator	PUSH IN
Number of terminals		2 (L,N)	4 (++ / –)	2 (L,N)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5
Wire cross-section, flexible min/max	mm²	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5
Wire cross-section, AWG/kcmil min/max		24 / 12	24 / 12	24 / 12	24 / 12
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO INSTA 30W 12V 2.6A	1	**2580220000**

Type	**Qty.**	**Order No.**
PRO INSTA 30W 24V 1.3A	1	**2580190000**

Note

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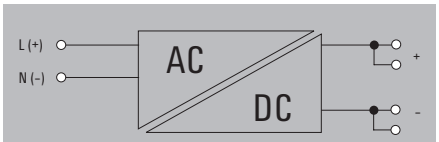
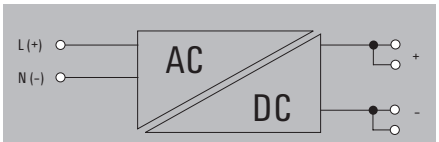
- 1-phase power supplies

PRO INSTA 60 W 12 V 5 A



Note polarity for DC connection

PRO INSTA 60 W 24 V 2.5 A



Note polarity for DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
AC current consumption	0.7 A @ 230 V AC / 1.5 A @ 100 V AC	0.7 A @ 230 V AC / 1.5 A @ 100 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	95...370 V DC	95...370 V DC
DC current consumption	0.25 A @ 370 V DC / 0.8 A @ 120 V DC	0.25 A @ 370 V DC / 0.8 A @ 120 V DC
Inrush current	max. 40 A	max. 40 A
Output		
Rated output voltage	12 V DC ± 1 %	24 V DC ± 1 %
Nominal output current for U_{nom}	5 A @ 55 °C	2.5 A @ 55 °C
Output voltage	9...16 V (adjustable via potentiometer on front)	22...28 V (adjustable via potentiometer on front)
Continous output current @ $U_{Nominal}$	5 A @ 55 °C, 3.75 A @ 70 °C	2.5 A @ 55 °C, 1.56 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Capacitive load	unrestricted	unrestricted
MTBF		
According to Standard	Telcordia SR-332	Telcordia SR-332
Operating time (hours), min.	792kh	1014kh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	60W	60W
Duty cycle	100%	100%
General data		
Degree of efficiency	86%	89%
Power loss idling / nominal load	0.42 W	0.44 W
Power loss, nominal load	8.4 W	6.6 W
Protection against reverse voltages from the load	18...25 V DC	30...35 V DC
Depth x width x height	60 / 72 / 90 mm	60 / 72 / 90 mm
Net weight	258 g	258 g
Approvals		
Approvals	cCSAus; cULus; TUEV	cCSAus; cULus; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN	PUSH IN with actuator	PUSH IN
Number of terminals		2 (L,N)	4 (++ / –)	2 (L,N)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5
Wire cross-section, flexible min/max	mm²	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5
Wire cross-section, AWG/kcmil min/max		24 / 12	24 / 12	24 / 12	24 / 12
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO INSTA 60W 12V 5A	1	**2580240000**

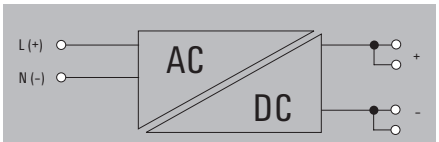
Type	**Qty.**	**Order No.**
PRO INSTA 60W 24V 2.5A	1	**2580230000**

Note

connectPower INSTA POWER

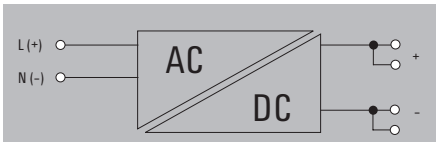
- 1-phase power supplies

PRO INSTA 90 W 24 V 3.8 A



Note polarity for DC connection

PRO INSTA 96 W 24 V 4 A



Note polarity for DC connection

Technical data

Input		
Rated input voltage	110...240 V AC / 120...340 V DC	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)	85...264 V AC (derating at 100 V AC)
AC current consumption	1.2 A @ 230 V AC / 2.4 A @ 100 V AC	1.2 A @ 230 V AC / 2.5 A @ 100 V AC
Frequency range AC	45...65 Hz	45...65 Hz
DC input voltage range	95...370 V DC	95...370 V DC
DC current consumption	0.4 A @ 370 V DC / 1.3 A @ 120 V DC	0.4 A @ 370 V DC / 1.35 A @ 120 V DC
Inrush current	max. 40 A	max. 40 A
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Nominal output current for U_{nom}	3.8 A @ 55 °C	4 A @ 55 °C
Output voltage	22...25 V (adjustable via potentiometer on front)	22...28 V (adjustable via potentiometer on front)
Continous output current @ $U_{Nominal}$	3.8 A @ 55 °C, 2.38 A @ 70 °C	4 A @ 55 °C, 2.5 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load	< 50 mVss @ U_{Nenn}, Full Load
Capacitive load	unrestricted	unrestricted
MTBF		
According to Standard	Telcordia SR-332	Telcordia SR-332
Operating time (hours), min.	619kh	613kh
Ambient temperature	25°C	25°C
Input voltage	230V	230V
Output power	90W	96W
Duty cycle	100%	100%
General data		
Degree of efficiency	87 %	87 %
Power loss idling / nominal load	0.45 W	0.45 W
Power loss, nominal load	11.7 W	12.48 W
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Depth x width x height	60 / 90 / 90 mm	60 / 90 / 90 mm
Net weight	352 g	352 g
Approvals		
Approvals	cCSAus; cULus; TUEV	cCSAus; cULus; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN	PUSH IN with actuator	PUSH IN
Number of terminals		2 (L,N)	4 (++ / –)	2 (L,N)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5
Wire cross-section, flexible min/max	mm²	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5	0.25 / 2.5
Wire cross-section, AWG/kcmil min/max		24 / 12	24 / 12	24 / 12	24 / 12
Note					

Ordering data

Type	**Qty.**	**Order No.**
PRO INSTA 90W 24V 3.8A	1	**2580250000**

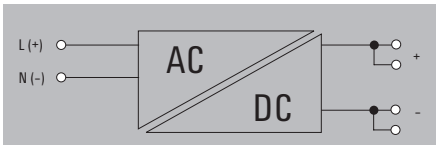
Type	**Qty.**	**Order No.**
PRO INSTA 96W 24V 4A	1	**2580260000**

Note

connectPower INSTA POWER

- 1-phase power supplies

PRO INSTA 96 W 48 V 2 A



Note polarity for DC connection

Technical data

Input	
Rated input voltage	110...240 V AC / 120...340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	1.2 A @ 230 V AC / 2.5 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.4 A @ 370 V DC / 1.35 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	48 V DC ± 1 %
Nominal output current for U_{nom}	2 A @ 55 °C
Output voltage	35...56 V (adjustable via potentiometer on front)
Continous output current @ $U_{Nominal}$	2 A @ 55 °C, 1.25 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn}, Full Load
Capacitive load	unrestricted
MTBF	
According to Standard	Telcordia SR-332
Operating time (hours), min.	648kh
Ambient temperature	25°C
Input voltage	230V
Output power	96W
Duty cycle	100%
General data	
Degree of efficiency	89%
Power loss idling / nominal load	0.45 W
Power loss, nominal load	10.56 W
Protection against reverse voltages from the load	58...62 V DC
Depth x width x height	60 / 90 / 90 mm
Net weight	361 g
Approvals	
Approvals	cCSAus; cULus; TUEV

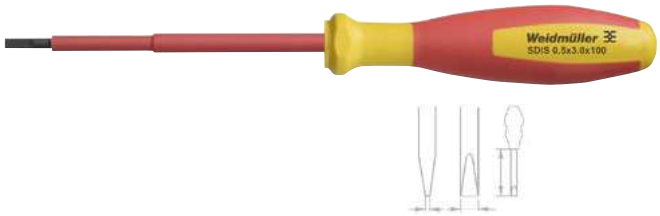
Connection data		**Input**	**Output**
Connection system		PUSH IN with actuator	PUSH IN
Number of terminals		2 (L,N)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.25 / 2.5	0.25 / 2.5
Wire cross-section, flexible min/max	mm²	0.25 / 2.5	0.25 / 2.5
Wire cross-section, AWG/kcmil min/max		24 / 12	24 / 12
Note			

Ordering data

Type	Qty.	Order No.
PRO INSTA 96W 48V 2A	1	2580270000

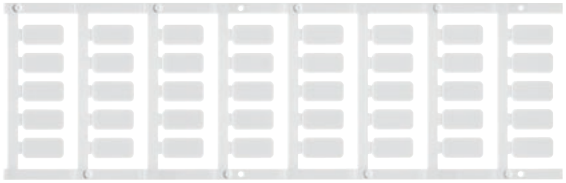
Note

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIS 0.5X3.0X100		0.5	3	100	**2749800000**

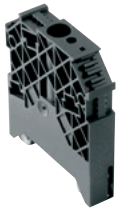
Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	**1248580000**

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	**1162600000**

Electronic load monitoring

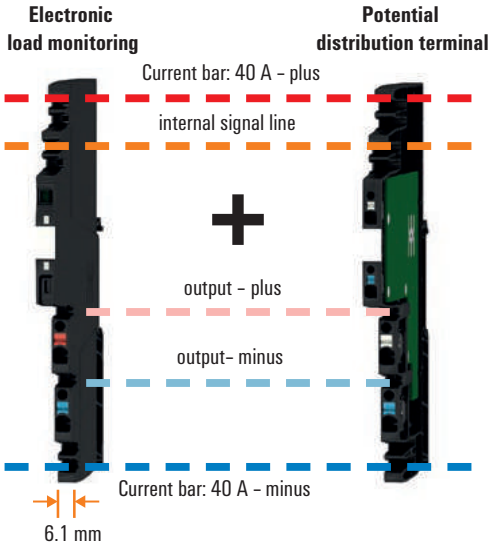
Intelligent protection of DC loads

topGUARD load monitoring system with communication via IO-LINK

Modern machines and plants require load monitoring systems capable of communication. The IO-Link-capable load monitoring system topGUARD offers remote control options, full data transparency, and reliable protection of the 24 V system voltage.

topGUARD is an outstanding supplement to the IO-LINK-capable PROtop power supplies for innovative power management systems. It saves space and time during device installation through an innovative approach to integrated distribution of potential. Parameterisation, control, and provision of all operating data are carried out by plugging in the IO-Link module and integrating an IODD file. The module can be used for PROtop power supplies as well as for topGUARD load monitoring.

Combination of load monitoring and potential distribution

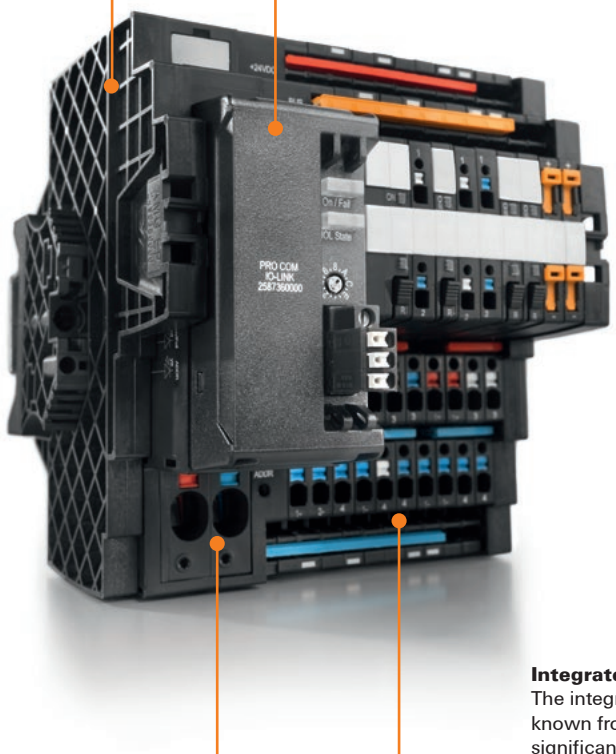


- Three main connection channels: positive, negative and internal signals
- Simple to increase the number of contacts thanks to crossconnection option in the potential distribution terminals

IO-LINK capable
The IO-Link-capable load monitoring system topGUARD offers remote control options, provides operating data for optimal condition monitoring, and enables entirely new control solutions.

Data transparency and remote control thanks to IO-LInk.

IO-Link

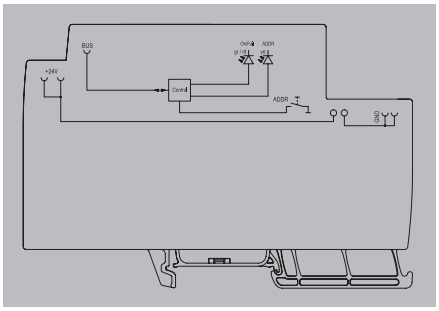


Integrated distribution of potential
The integrated distribution of potential, well known from the maxGUARD concept, takes up significantly less space and saves valuable time during installation.

Modular and innovative
The modular concept enables custom-fit solutions. The first of its kind, voltage-adaptive class 2 load monitoring allows the continued use of 18 to 30 V DC operating voltage.

topGUARD – power-feed module

TGD FIM-C



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Surge protection input, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Address is assigned, Addresses being assigned (slow flashing, 1.5 Hz), Address error (fast flashing, 13 Hz)
LED green/red	Station ok (slow flashing green, 1.5 Hz), Device ok (fast flashing green, 13 Hz), Station error (slow flashing red, 1.5 Hz), Device error (fast flashing red, 13 Hz)
Connection data	
Number of terminals	2 (+,–)
Wire cross-section, AWG/kcmil min/max	18...6
Wire cross-section, flexible min/max	0.75...16 mm²
Wire cross-section, rigid min/max	0.75...10 mm²
Screwdriver blade	1.2 x 6.5
Approvals	
Approvals	cULus
Note	

Ordering data

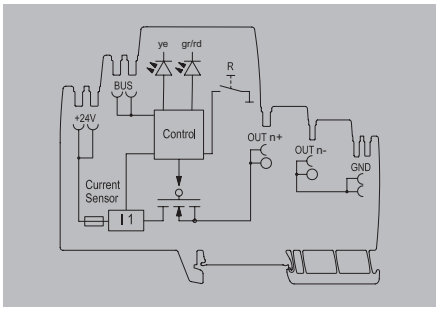
Rated current	Type	Qty.	Order No.
	TGD FIM-C	1	**2625000000**
Note			

Accessories

	Type	Qty.	Order No.
	PRO COM IO-LINK	1	**2587360000**
Note			

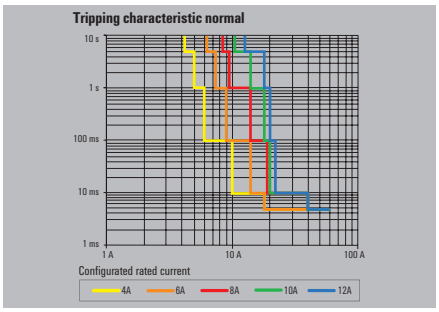
topGUARD – load monitoring adjustable

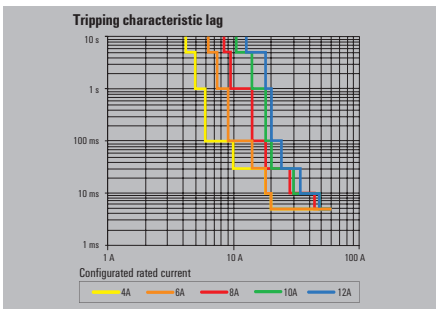
TGD ELM-12



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	4-12 A
adjustable rated current	Yes
Capacitive load	20,000 µF
Function key	
Function key	Activation time < 3s, Reset, ON
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Address is assigned, Address is being assigned (flashing)
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	4 (++ / –)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	cULus
Note	





Ordering data

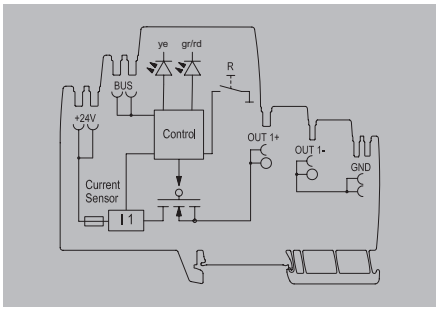
Rated current	Type	Qty.	Order No.
12 A	TGD ELM-12	1	**2624990000**
Note			

Accessories

	Type	Qty.	Order No.
	AMG DIS	10	**2123050000**
	AMG MD	10	**2122930000**
	AMG OD	10	**2122910000**
	AMG PD	10	**2122920000**
Note			

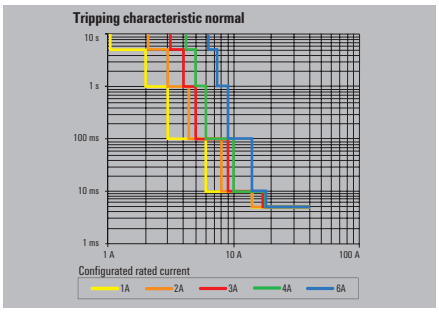
topGUARD – Adjustable load monitoring

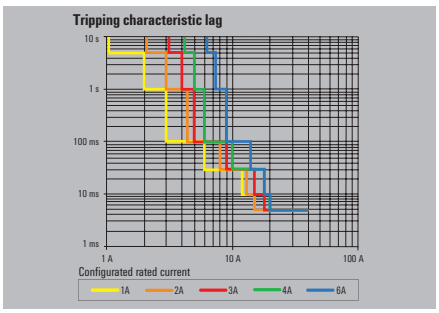
TGD ELM-6



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	1- 6 A
Capacitive load	15,000 µF
adjustable rated current	Yes
Function key	
Function key	Activation time < 3s, Reset, ON
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Address is assigned, Address is being assigned (flashing)
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	cULus
Note	





Ordering data

Rated current	
	6 A
Note	

Type	Qty.	Order No.
TGD ELM-6	1	**2624980000**

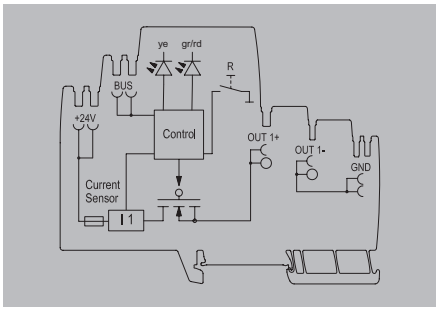
Accessories

Note	

Type	Qty.	Order No.
AMG DIS	10	**2123050000**
AMG MD	10	**2122930000**
AMG OD	10	**2122910000**
AMG PD	10	**2122920000**

topGUARD – Load monitoring class2

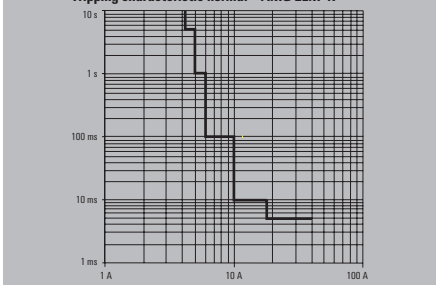
TGD ELM-4 CL2



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Capacitive load	4.700 µF
adjustable rated current	Yes
Function key	
Function key	Activation time < 3s, Reset, ON
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Address is assigned, Address is being assigned (flashing)
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	cULus
Note	

Tripping characteristic normal – AMG ELM-4F



Ordering data

Rated current	
4 A	
Note	

Type	Qty.	Order No.
TGD ELM-4 CL2	1	2656670000

Accessories

Note	

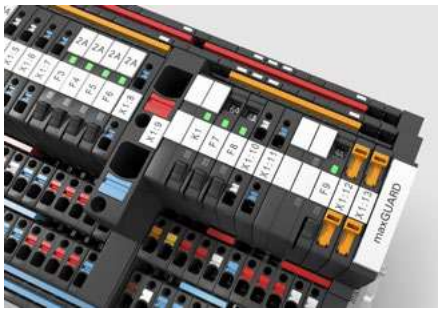
Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

Load monitoring and potential distribution in one complete solution

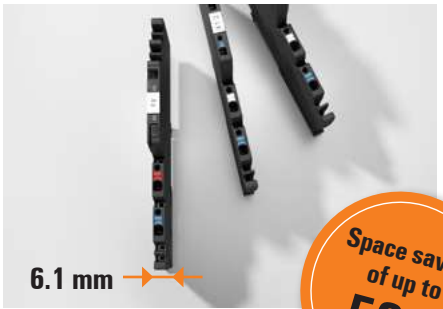
maxGUARD – taking control voltage distribution to a new level

Fail-safe and maintenance-friendly control voltage distributions that can be installed in a time- and space-saving manner are a must for efficient machine and facility operation. With the new maxGUARD system, the terminal blocks (previously installed separately) for distributing potential to the outputs of the electronic load monitors become an integral part of a 24 V DC control voltage distribution solution. The new combination of load monitoring and potential distribution saves time during installation, increases safety against failure and reduces the amount of space required on the terminal rail by 50 %.

Extreme ease of servicing
Sophisticated operating, testing and connection elements permit safe access to all voltage potentials and load circuits during commissioning and maintenance.

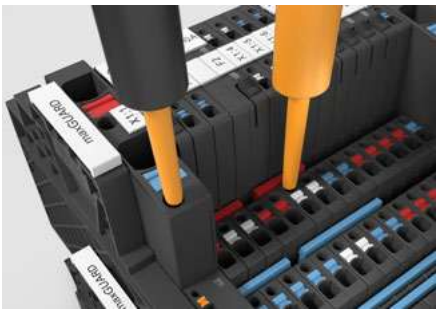


Particularly space-saving
Electronic load monitors and potential distributors with a 6.1 mm pitch.



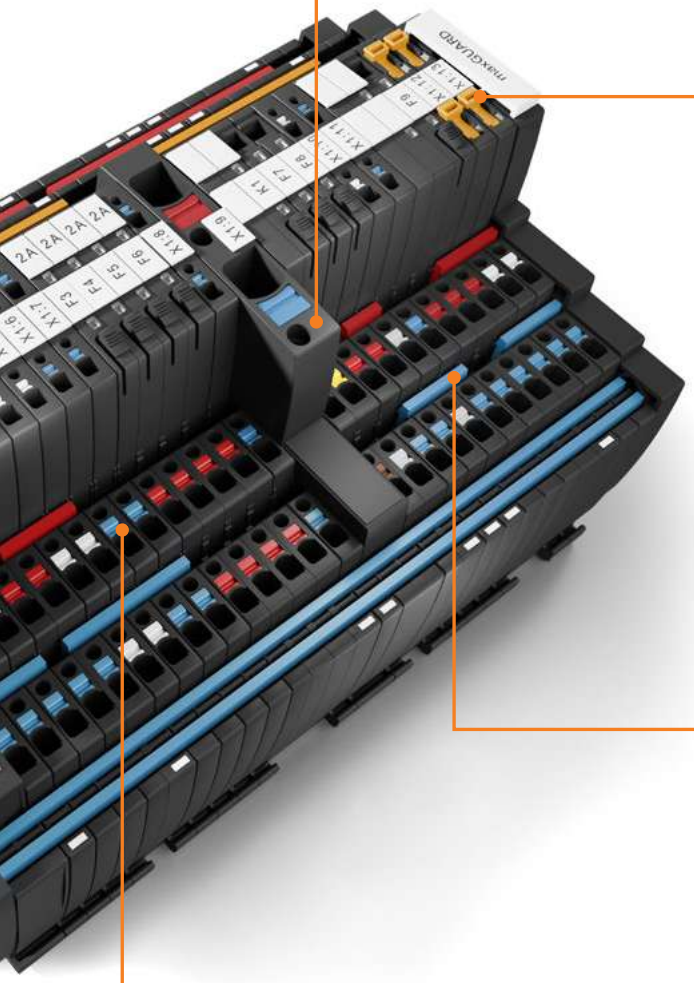
Space saving of up to 50 %

Integrated test point
Consistently integrated test points in the maxGUARD control voltage distribution's input and output speed up troubleshooting operations.



now up to 70°C usable

Practical disconnecting lever
Potential distributor with a disconnecting lever for simple galvanic isolation of the load circuit for testing and checking purposes.



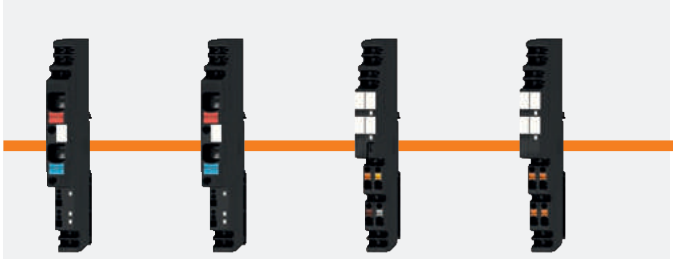
Unique cross-connectors
Less time and effort needed for wiring due to cross-connections between load monitoring and potential distribution terminals.

Time saving of up to 20 %

Can be used in a customised way
The sheer range of variants and the very different potential distribution terminals and additional components enable customised solutions at all times.

maxGUARD – product overview
Flexible and modular design

Supply terminals, control and alarm modules



Supply terminal
16 mm²
Passive

Supply terminal
16 mm²
With alarm and reset function

Control module
Alarm
Reset
I > 90 %
ON/OFF

Alarm module
Potential-free contacts for alarm
I > 90 %

Electronic load monitoring

Fixed-value modules
1 / 2 / 4 / 6 A
6.1 mm housing
8 A / 10 A
12.2 mm housing

Adjustable module
1 - 2 - 3 - 4 - 6 A
6,1 mm housing
4 - 6 - 8 - 10 - 12 A
12,2 mm housing
10 - 12 - 14 - 16 - 18 A
12.2 mm housing

Adjustable module
0.1...1A
6.1 mm housing
with current limiting function

Power-feed, control and alarm module

Alarm module with potential-free contacts for the "Alarm" and "I > 90 %" signals.
Control module with extended control function.
Passive or active power-feed module with reset and alarm function

Type	Order No.
AMG FIM-O	**2081870000**
AMG FIM-C	**2081880000**
AMG FIM-O EX	**2082530000**
AMG FIM-C EX	**2082540000**
AMG CM	**2081900000**
AMG CM EX	**2083360000**
AMG AM	**2081890000**
AMG AM CO	**2082770000**

Load monitoring (fixed value)

Electronic load monitoring with fixed current
(without I > 90 % function)

Type	Order No.
AMG ELM-1F	**2080420000**
AMG ELM-1F EX	**2082040000**
AMG ELM-2F	**2080480000**
AMG ELM-2F EX	**2082050000**
AMG ELM-4F	**2080490000**
AMG ELM-4F EX	**2082060000**
AMG ELM-6F	**2080500000**
AMG ELM-6F EX	**2082310000**
AMG ELM-8F	**2080600000**
AMG ELM-8F EX	**2082320000**
AMG ELM-10F	**2080650000**
AMG ELM-10F EX	**2082430000**

Load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic
(with I > 90 % function)

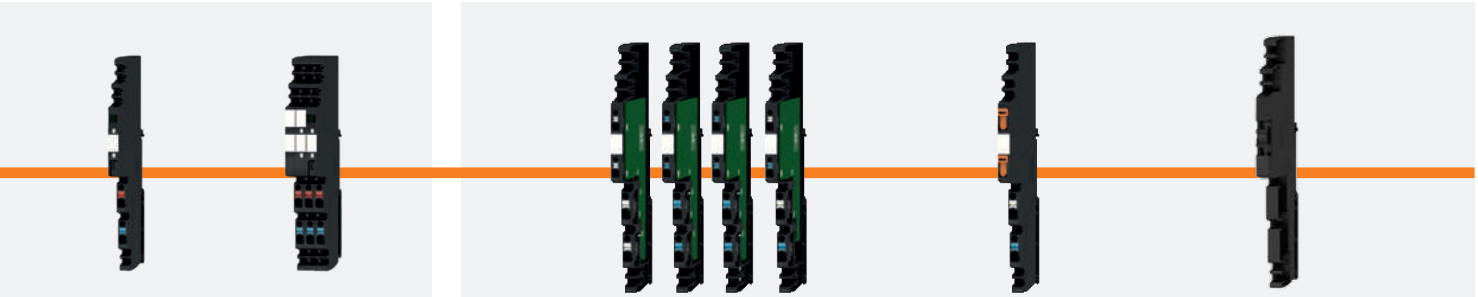
Type	Order No.
AMG ELM-6	**2080360000**
AMG ELM-6 EX	**2082000000**
AMG ELM-12	**2080410000**
AMG ELM-12 EX	**2082010000**
AMG ELM-18	**2859800000**
AMG ELM-18 EX	**2838520000**

Load monitoring adjustable

Load monitoring device with adjustable tripping current und current limiting function (with I > 90 % function)

Type	Order No.
AMG ELM-1 LIM CL2 EX	**2838530000**

Potential distribution and accessories



Fixed-value modules
1 / 2 / 4 A
Class 2
6.1 mm housing

Adjustable modules
with 2-pole output relay
1 - 2 - 3 - 4 - 6 A
18.3 mm housing
4 - 6 - 8 - 10 A
18.3 mm modules

Modules for potential distribution
AMG OD: 2 x Plus, 2 x Minus
AMG PD: 4 x Plus
AMG MD: 4 x Minus
AMG XMD: 4 x Minus (direct)

Terminal block
for all pole disconnection
of the load
AMG DIS

Isolating plate, end plate
and bracket
for isolation, structuring and
proper fit
of the DC station

Load monitoring (fixed value)
Class 2

Electronic load monitoring with fixed rated current
(without I > 90 % pre warning)
Class 2 Approval

Type	Order No.
AMG ELM-1F CL2	2491270000
AMG ELM-2F CL2	2491280000
AMG ELM-4F CL2	2491290000

Load monitoring with relay

Electronic load monitoring with 2-pole output relay for allpole load disconnection; triggering current and triggering characteristic adjustable
(with I > 90 % function)

Type	Order No.
AMG ELM-6D CO	2082440000
AMG ELM-10D CO	2082470000

Potential distributor

Flexible application through various potential distributor.

Type	Order No.
AMG MD	2122930000
AMG MD EX	2495040000
AMG OD	2122910000
AMG OD EX	2495090000
AMG PD	2122920000
AMG PD EX	2495070000
AMG XMD	2122940000
AMG XMD EX	2495080000
AMG DIS	2123050000
AMG DIS EX	2495100000

End plate and Separation plate

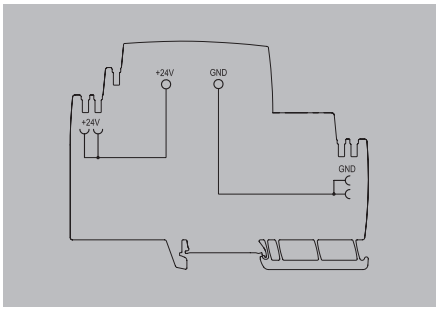
End plate for mechanical stabilization.
Separation plate for logical subdivision.

Type	Order No.
AMG PP	2123000000
AMG EP	2495380000
AMG EP KIT	2500760000

maxGUARD – power-feed module

Passive power-feed module

AMG FIM-0



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Control inputs	No
Overvoltage category	III
Connection data	
Number of terminals	2 (+,–)
Wire cross-section, AWG/kcmil min/max	18...6
Wire cross-section, flexible min/max	0.75...16 mm²
Wire cross-section, rigid min/max	0.75...10 mm²
Screwdriver blade	1.2 x 6.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

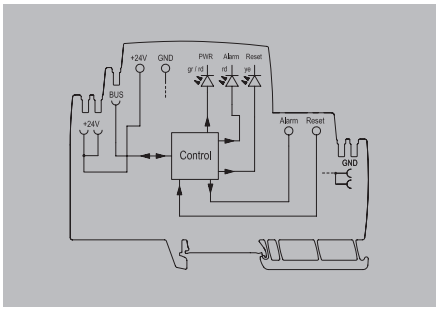
Ordering data

Rated current			
	Type	**Qty.**	**Order No.**
	AMG FIM-0	1	**2081870000**
Note			

maxGUARD – power-feed module

Active power-feed module with reset and alarm function

AMG FIM-C



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18…30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	20 mA
Current consumption (full load)	120 mA
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Control inputs	Reset
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	External reset is signalled, Alarm is signalled
LED green	Operating voltage OK
Red LED	Alarm
Transistor output, positive-switching	Alarm
Connection data	
Number of terminals	2 (+,–)
Wire cross-section, AWG/kcmil min/max	18…6
Wire cross-section, flexible min/max	0.75…16 mm²
Wire cross-section, rigid min/max	0.75…10 mm²
Screwdriver blade	1.2 x 6.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

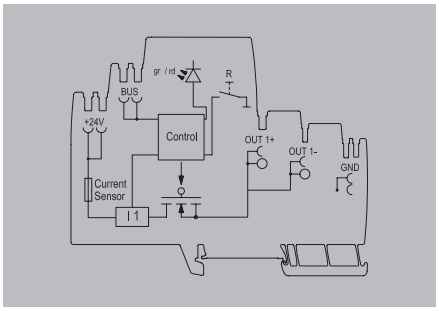
Ordering data

Rated current	Type	Qty.	Order No.
	AMG FIM-C	1	**2081880000**
Note			

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed current (without I > 90% function > 90 %)

AMG ELM - xF

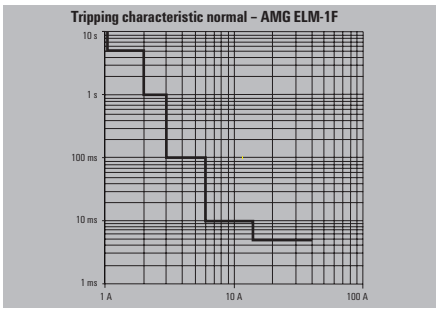


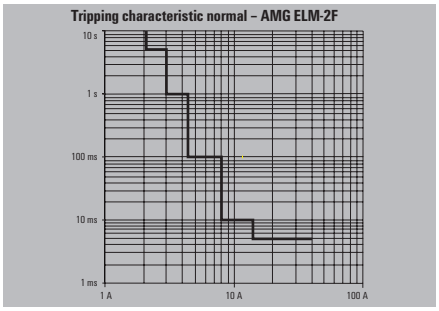
Technical data

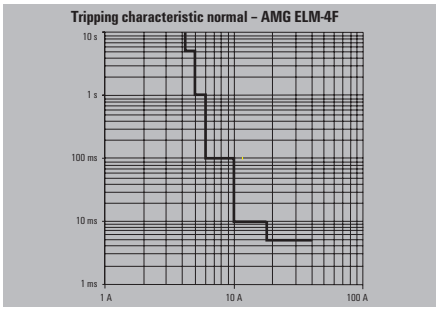
Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle) / Current consumption (full load)	25 mA / I_{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Switch-on delay	1 s
Capacitive load	2080420000: 10,000 µF; 2080480000: 10,000 µF; 2080490000: 10,000 µF; 2080500000: 15,000 µF

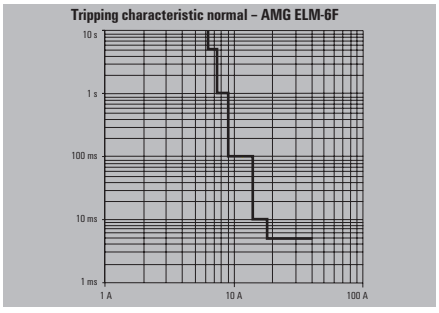
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on

General data	
Relay to activate the output	No
Surge protection input, output, bus	Suppressor diode
Protection degree / Overvoltage category	IP20 / III
Signalling	
LED green	Operation (failure-free)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	









Ordering data

Rated current	Type	Qty.	Order No.
1 A	AMG ELM-1F	1	2080420000
2 A	AMG ELM-2F	1	2080480000
4 A	AMG ELM-4F	1	2080490000
6 A	AMG ELM-6F	1	2080500000
Note			

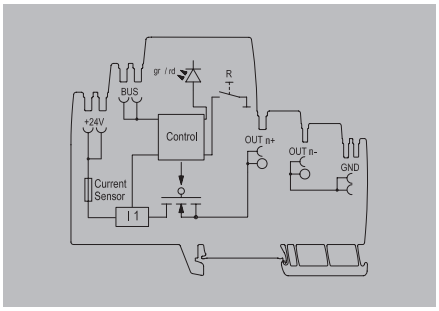
Accessories

	Type	Qty.	Order No.
	AMG DIS	10	2123050000
	AMG MD	10	2122930000
	AMG OD	10	2122910000
	AMG PD	10	2122920000
Note			

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed rated current (without I > 90 % pre warning > 90 %)

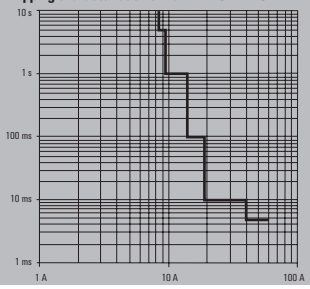
AMG ELM - xF



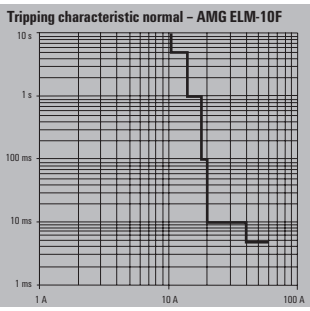
Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Switch-on delay	1 s		
Capacitive load	2080600000: 15,000 µF; 2080650000: 20,000 µF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	4 (++ / –)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	CE; cULus; EAC; TUEV		
Note			

Tripping characteristic normal – AMG ELM-8F



Tripping characteristic normal – AMG ELM-10F



Ordering data

Rated current	Type	Qty.	Order No.
8 A	AMG ELM-8F	1	**2080600000**
10 A	AMG ELM-10F	1	**2080650000**
Note			

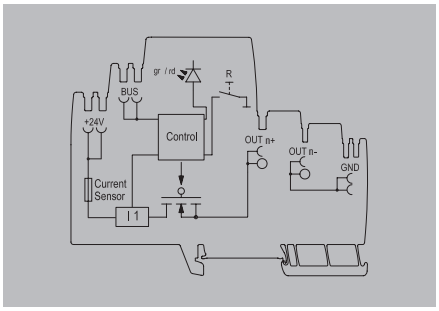
Accessories

	Type	Qty.	Order No.
	AMG DIS	10	**2123050000**
	AMG MD	10	**2122930000**
	AMG OD	10	**2122910000**
	AMG PD	10	**2122920000**
Note			

maxGUARD – load monitoring (fixed value), Class 2

Electronic load monitoring with fixed rated current (without I > 90 % pre warning)
- Class 2 Approval

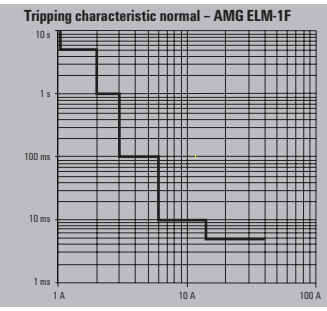
AMG ELM - xF CL2



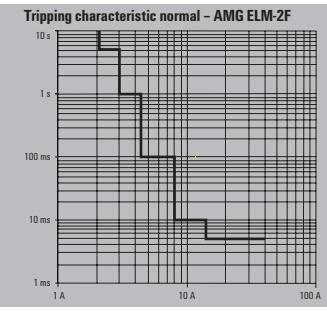
Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Switch-on delay	1 s		
Capacitive load	2491270000: 4.700 µF; 2491280000: 4.700 µF; 2491290000: 4.700 µF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	2 (+ / -)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	CE; cULus; TUEV		
Note			

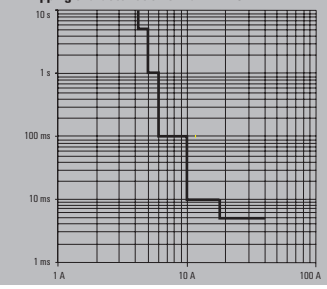
Tripping characteristic normal – AMG ELM-1F



Tripping characteristic normal – AMG ELM-2F



Tripping characteristic normal – AMG ELM-4F



Ordering data

	Type	Qty.	Order No.
1 A	AMG ELM-1F CL2	1	2491270000
2 A	AMG ELM-2F CL2	1	2491280000
4 A	AMG ELM-4F CL2	1	2491290000
Note			

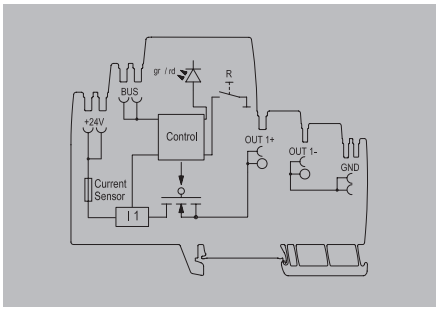
Accessories

	Type	Qty.	Order No.
	AMG DIS	10	2123050000
	AMG MD	10	2122930000
	AMG OD	10	2122910000
	AMG PD	10	2122920000
Note			

maxGUARD – load monitoring adjustable

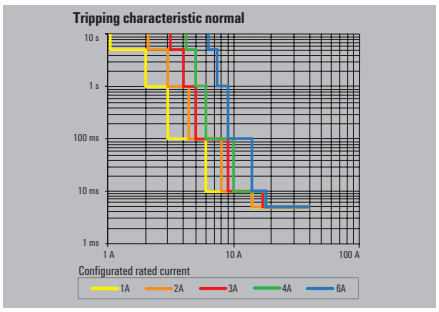
Electronic load monitoring with adjustable triggering current and triggering characteristic

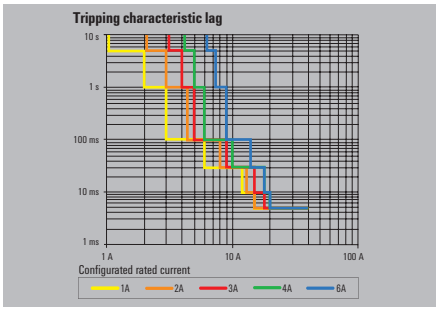
AMG ELM-6



Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Adjustable range	1- 6 A		
Switch-on delay	1 s		
Capacitive load	15,000 µF		
adjustable rated current	Yes		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	2 (+ / -)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	CE; cULus; EAC; TUEV		
Note			





Ordering data

Rated current	Type	Qty.	Order No.
6 A	AMG ELM-6	1	2080360000
Note			

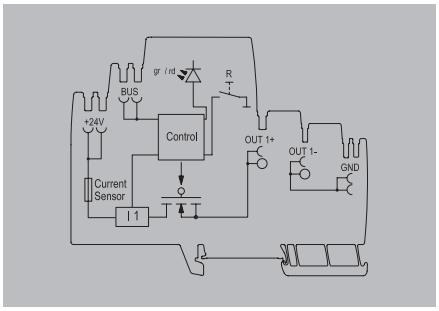
Accessories

	Type	Qty.	Order No.
	AMG DIS	10	2123050000
	AMG MD	10	2122930000
	AMG OD	10	2122910000
	AMG PD	10	2122920000
Note			

maxGUARD – load monitoring adjustable

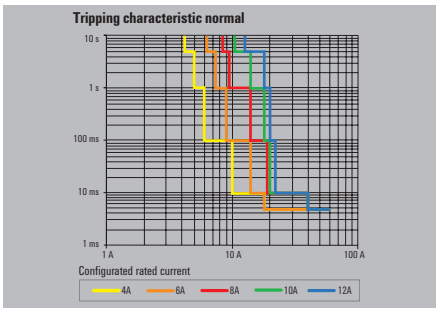
Electronic load monitoring with adjustable trigger current and characteristic (with I > 90 % pre warning > 90 %)

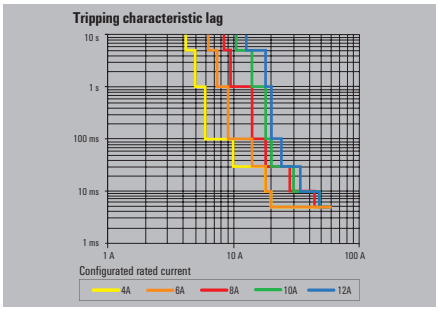
AMG ELM-12



Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Adjustable range	4-12 A		
Switch-on delay	1 s		
adjustable rated current	Yes		
Capacitive load	20,000 µF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	4 (++ / –)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	CE; cULus; EAC; TUEV		
Note			





Ordering data

Rated current	
	12 A
Note	

Type	Qty.	Order No.
AMG ELM-12	1	2080410000

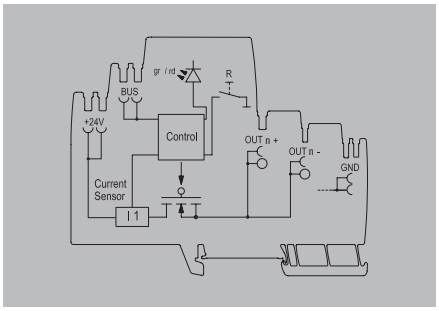
Accessories

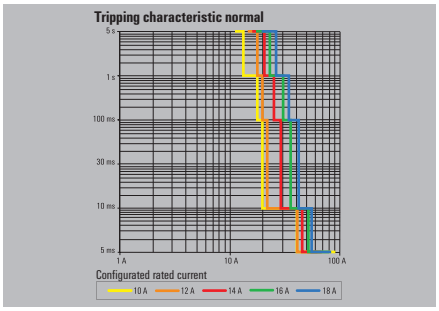
Note	

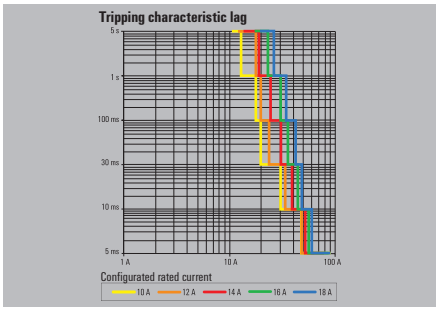
Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

maxGUARD – load monitoring adjustable

AMG ELM-18







Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Adjustable range	10-18 A		
Switch-on delay	1 s		
adjustable rated current	Yes		
Capacitive load	50 mF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	4 (++ / –)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	cULus		
Note			

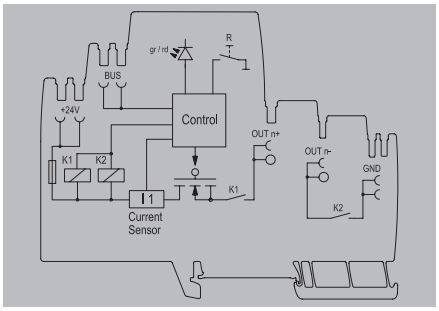
Ordering data

Rated current	Type	Qty.	Order No.
18 A	AMG ELM-18	10	**2859800000**
Note			

maxGUARD – load monitoring with relay

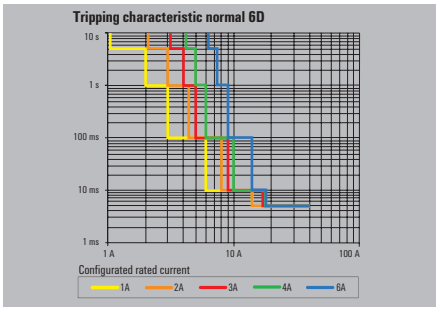
Electronic load monitoring with 2-pole output relay for all-pole load disconnection; triggering current and triggering characteristic adjustable.

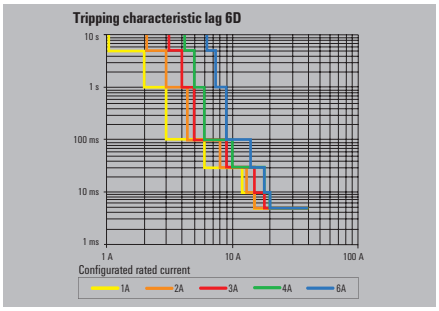
AMG ELM – adjustable with output relay

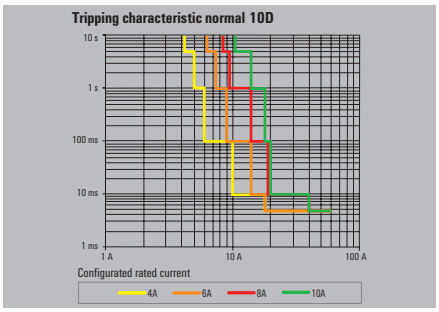


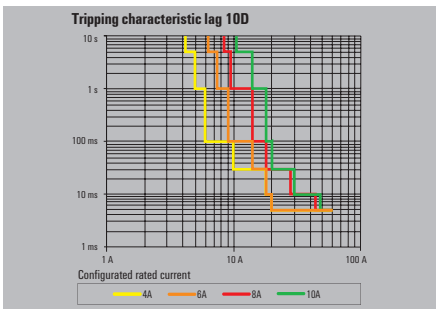
Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	40 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Adjustable range	2082470000: 4- 10 A 2082440000: 1- 6 A		
Switch-on delay	1 s		
adjustable rated current	Yes		
Capacitive load	2082470000: 20,000 µF 2082440000: 15,000 µF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	Yes		
Protection degree / Surge protection	IP20 / Suppressor diode		
Conformal coating	Yes		
Surge protection input, output, bus	Suppressor diode		
Signalling			
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	6 (3x + / 3x -)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	ABS; BURVER; CE; cULus; DETNORVER; EAC; LLOYDSREG; RINA; TUEV		
Note			









Ordering data

Rated current	Type	Qty.	Order No.
6 A	AMG ELM-6D CO	1	2082440000
10 A	AMG ELM-10D CO	1	2082470000
Note			

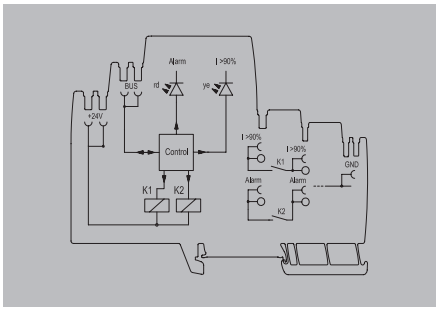
Accessories

	Type	Qty.	Order No.
	AMG DIS	10	2123050000
	AMG MD	10	2122930000
	AMG OD	10	2122910000
	AMG PD	10	2122920000
Note			

maxGUARD – Alarm module

Alarm module with potential-free contacts for the "Alarm" and "I>90%" signals > 90 %".

AMG AM



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	30 mA
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Surge protection input, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Current > 90% Inom (flashing)
Red LED	Alarm
Floating contact	Yes
Status relay (max. load)	Alarm (24 V / 0.1 A), I > 90 % (24 V / 0,1 A)
Connection data	
Number of terminals	4 (2 x NO)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data

Rated current	Type	Qty.	Order No.
	AMG AM	1	**2081890000**
Note			

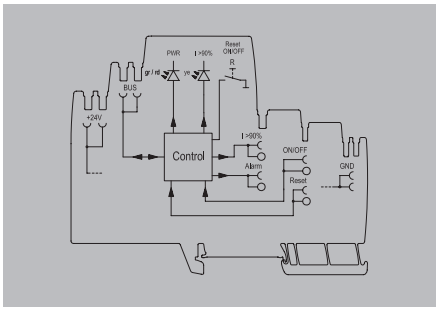
Accessories

Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	**1528130000**
50-pole / red	ZQV 4N/50 RD	5	**2460730000**
50-pole / blue	ZQV 4N/50 BL	5	**1528240000**
2-pole	ZQV 4N/2	60	**1527930000**
2-pole/ red	ZQV 4N/2 RD	60	**2460450000**
2-pole / blue	ZQV 4N/2 BL	60	**1528040000**
Note			

maxGUARD – control module

Control module with extended control function: alarm, reset, I >90% connection/disconnection

AMG CM



Technical data

Input	
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	225 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
General data	
Relay to activate the output	No
Protection degree	IP20
Control inputs	ON/ OFF, Reset
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Transistor output, positive-switching	Pre-warning, Alarm
Connection data	
Number of terminals	2 (Reset / ON)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data

Rated current	Type	Qty.	Order No.
	AMG CM	1	2081900000
Note			

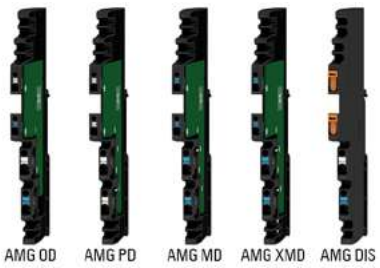
Accessories

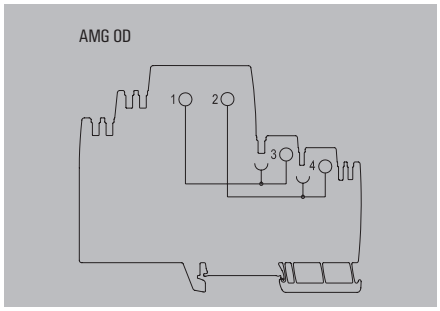
Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	1528130000
50-pole / red	ZQV 4N/50 RD	5	2460730000
50-pole / blue	ZQV 4N/50 BL	5	1528240000
2-pole	ZQV 4N/2	60	1527930000
2-pole/ red	ZQV 4N/2 RD	60	2460450000
2-pole / blue	ZQV 4N/2 BL	60	1528040000
Note			

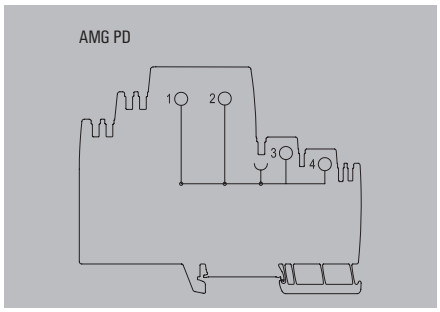
maxGUARD – Potential distributor

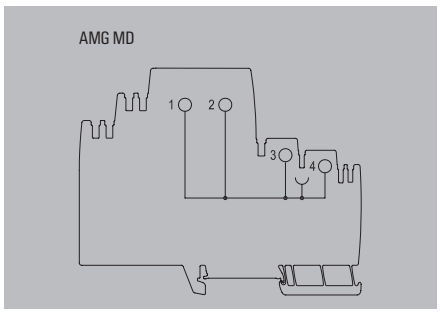
Potential distribution in combination with the electronic load monitoring.

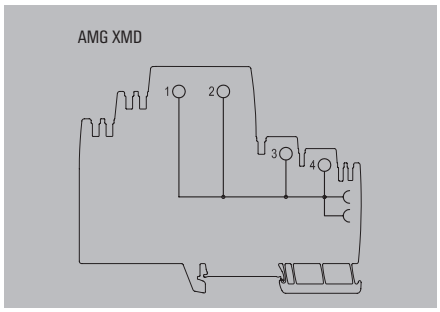
AMG

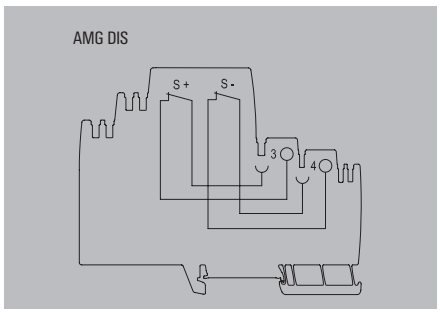












Technical data

General data	
Protection degree	IP20
Total current load per potential	2122910000: 12 A; 2122920000: 12 A; 2122930000: 12 A; 2122940000: 24 A; 2123050000: 12 A
Current load per contact point	12 A
Connection data	
Connection system	PUSH IN
Number of terminals	4 (++ / –), 2 x 1.5 mm², 2 x 2.5 mm²
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data

Type	Qty.	Order No.
AMG OD	10	2122910000
AMG PD	10	2122920000
AMG MD	10	2122930000
AMG XMD	10	2122940000
AMG DIS	10	2123050000

Note

Accessories

Plug-in cross-connection

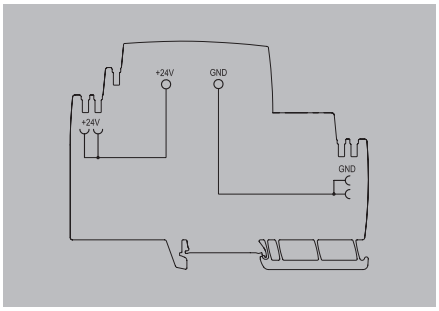
Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	1528130000
50-pole / red	ZQV 4N/50 RD	5	2460730000
50-pole / blue	ZQV 4N/50 BL	5	1528240000
2-pole	ZQV 4N/2	60	1527930000
2-pole/ red	ZQV 4N/2 RD	60	2460450000
2-pole / blue	ZQV 4N/2 BL	60	1528040000

Note

maxGUARD – power-feed module

Passive power-feed module

AMG FIM-0 Ex



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Control inputs	No
Overvoltage category	III
Connection data	
Number of terminals	2 (+,–)
Wire cross-section, AWG/kcmil min/max	18...6
Wire cross-section, flexible min/max	0.75...16 mm²
Wire cross-section, rigid min/max	0.75...10 mm²
Screwdriver blade	1.2 x 6.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DETNORVER; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

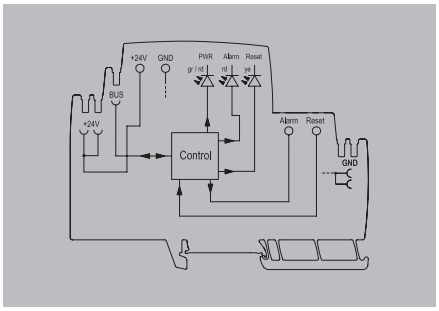
Ordering data

Rated current			
Type	**Qty.**	**Order No.**	
AMG FIM-0 EX	1	**2082530000**	
Note			

maxGUARD – power-feed module

Active power-feed module with reset and alarm function

AMG FIM-C Ex



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18…30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	20 mA
Current consumption (full load)	120 mA
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Control inputs	Reset
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	External reset is signalled, Alarm is signalled
LED green	Operating voltage OK
Red LED	Alarm
Transistor output, positive-switching	Alarm
Connection data	
Number of terminals	2 (+,–)
Wire cross-section, AWG/kcmil min/max	18…6
Wire cross-section, flexible min/max	0.75…16 mm²
Wire cross-section, rigid min/max	0.75…10 mm²
Screwdriver blade	1.2 x 6.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DETNORVER; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

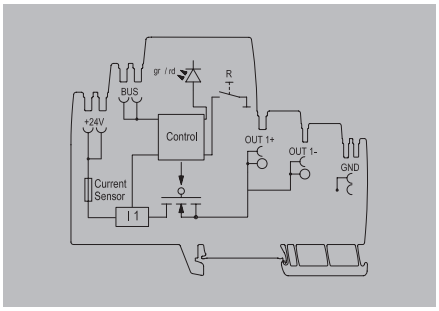
Ordering data

Rated current	Type	Qty.	Order No.
	AMG FIM-C EX	1	2082540000
Note			

maxGUARD – load monitoring (fixed value)

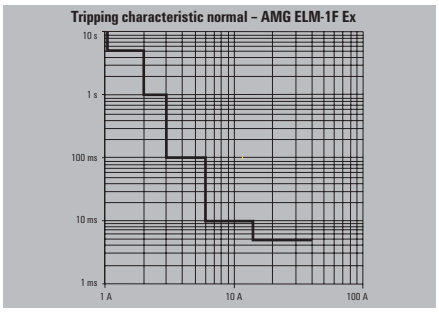
Electronic load monitoring with fixed current (without I > 90% function)

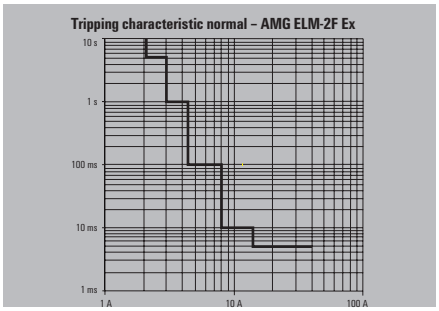
AMG ELM - xF Ex

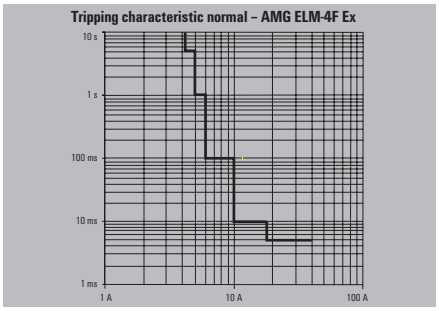


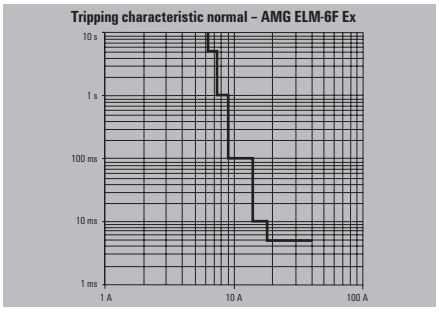
Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle) / Current consumption (full load)	25 mA / I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Switch-on delay	1 s		
Capacitive load	2082040000: 10,000 µF; 2082050000: 10,000 µF; 2082060000: 10,000 µF; 2082310000: 15,000 µF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Surge protection input, output, bus	Suppressor diode		
Protection degree / Overvoltage category	IP20 / III		
Signalling			
LED green	Operation (failure-free)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	2 (+ / -)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DETNORVER; EAC; IECEXULD; LLOYDSREG; RINA; TUEV		
Note			









Ordering data

Rated current	Type	Qty.	Order No.
1 A	AMG ELM-1F EX	1	**2082040000**
2 A	AMG ELM-2F EX	1	**2082050000**
4 A	AMG ELM-4F EX	1	**2082060000**
6 A	AMG ELM-6F EX	1	**2082310000**
Note			

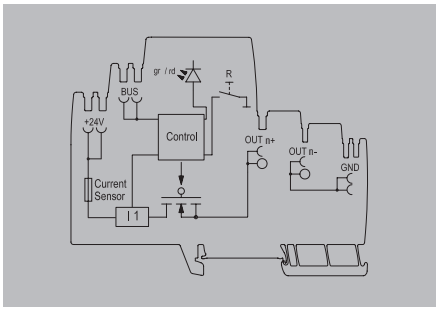
Accessories

	Type	Qty.	Order No.
	AMG OD EX	10	**2495090000**
	AMG PD EX	10	**2495070000**
	AMG MD EX	10	**2495040000**
	AMG XMD EX	10	**2495080000**
	AMG DIS EX	10	**2495100000**
Note			

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed rated current (without I > 90 % pre warning)

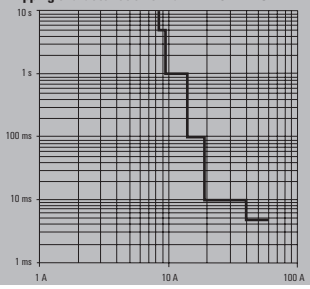
AMG ELM - xF Ex



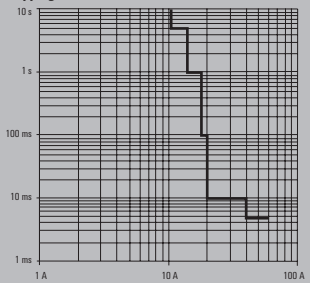
Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Switch-on delay	1 s		
Capacitive load	2082320000: 15,000 µF; 2082430000: 20,000 µF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	4 (++ / –)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DETNORVER; EAC; IECEXULD; LLOYDSREG; RINA; TUEV		
Note			

Tripping characteristic normal – AMG ELM-8F Ex



Tripping characteristic normal – AMG ELM-10F Ex



Ordering data

Rated current	Type	Qty.	Order No.
8 A	AMG ELM-8F EX	1	**2082320000**
10 A	AMG ELM-10F EX	1	**2082430000**
Note			

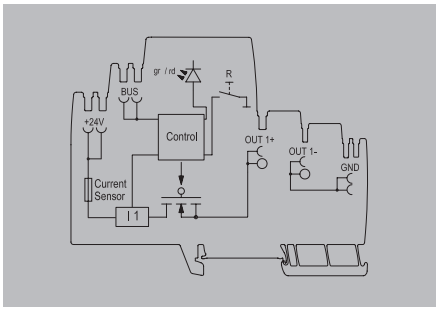
Accessories

	Type	Qty.	Order No.
	AMG OD EX	10	**2495090000**
	AMG PD EX	10	**2495070000**
	AMG MD EX	10	**2495040000**
	AMG XMD EX	10	**2495080000**
	AMG DIS EX	10	**2495100000**
Note			

maxGUARD – load monitoring adjustable

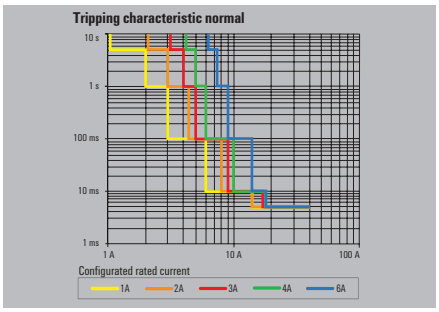
Electronic load monitoring with adjustable triggering current and triggering characteristic

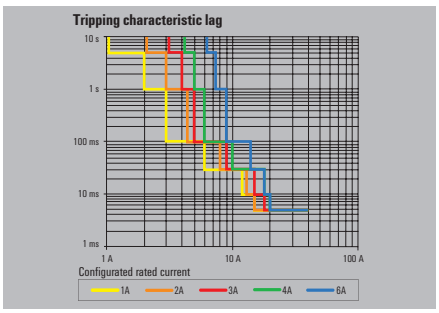
AMG ELM-6 Ex



Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Adjustable range	1- 6 A		
Switch-on delay	1 s		
Capacitive load	15,000 µF		
adjustable rated current	Yes		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	2 (+ / -)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DETNORVER; EAC; IECEXULD; LLOYDSREG; RINA; TUEV		
Note			





Ordering data

Rated current	
	6 A
Note	

Type	Qty.	Order No.
AMG ELM-6 EX	1	**2082000000**

Accessories

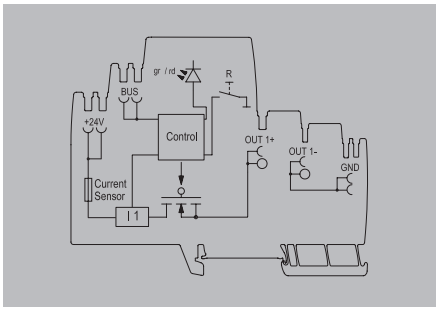
Note	

Type	Qty.	Order No.
AMG OD EX	10	**2495090000**
AMG PD EX	10	**2495070000**
AMG MD EX	10	**2495040000**
AMG XMD EX	10	**2495080000**
AMG DIS EX	10	**2495100000**

maxGUARD – load monitoring adjustable

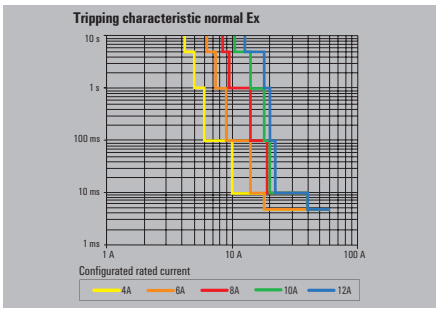
Electronic load monitoring with adjustable trigger current and characteristic (with I > 90 % pre warning)

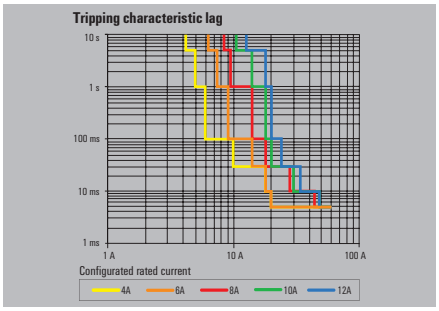
AMG ELM-12 Ex



Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Adjustable range	4-12 A		
Switch-on delay	1 s		
adjustable rated current	Yes		
Capacitive load	20,000 µF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	4 (++ / –)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DETNORVER; EAC; IECEXULD; LLOYDSREG; RINA; TUEV		
Note			





Ordering data

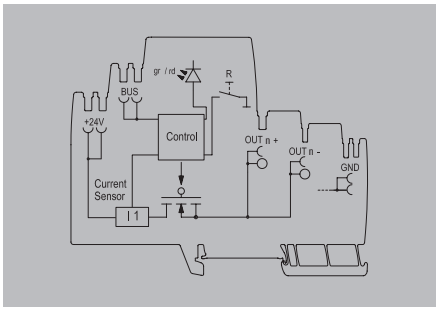
Rated current	Type	Qty.	Order No.
12 A	AMG ELM-12 EX	1	**2082010000**
Note			

Accessories

	Type	Qty.	Order No.
	AMG OD EX	10	**2495090000**
	AMG PD EX	10	**2495070000**
	AMG MD EX	10	**2495040000**
	AMG XMD EX	10	**2495080000**
	AMG DIS EX	10	**2495100000**
Note			

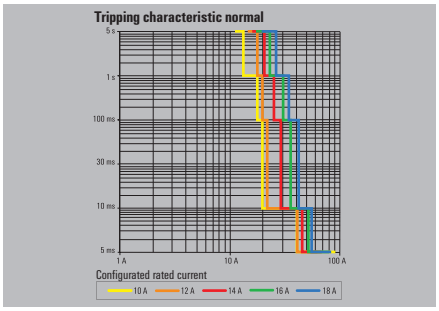
maxGUARD – load monitoring adjustable

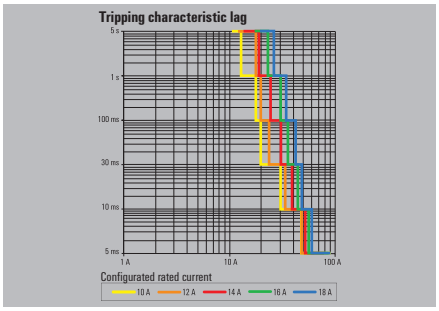
AMG ELM-18 Ex



Technical data

Input			
Input fuse (internal)	Yes		
DC input voltage range	18...30 V DC		
Rated input voltage	24 V DC		
Current consumption (idle)	25 mA		
Current consumption (full load)	I_{OUT} +30 mA		
max. admissible residual ripple at the input	100 mVpp		
Output			
Connection system	PUSH IN		
Triggering characteristic	see characteristic curve		
Adjustable range	10-18 A		
Switch-on delay	1 s		
adjustable rated current	Yes		
Capacitive load	50 mF		
Function key			
LED initial state	LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED	Red LED	LED green
Output, subsequent state	switched off	switched off	switched on
General data			
Relay to activate the output	No		
Protection degree	IP20		
Surge protection input, output, bus	Suppressor diode		
Overvoltage category	III		
Signalling			
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data			
Number of terminals	4 (++ / –)		
Wire cross-section, AWG/kcmil min/max	26...12		
Wire cross-section, flexible min/max	0.14...2.5 mm²		
Wire cross-section, rigid min/max	0.14...2.5 mm²		
Screwdriver blade	0.6 x 3.5		
Approvals			
Approvals	cULus		
Note			





Ordering data

Rated current	Type	Qty.	Order No.
18 A	AMG ELM-18 EX	1	2838520000
Note			

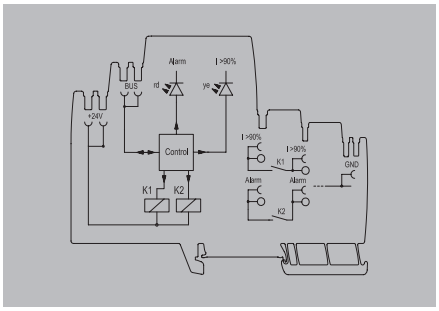
Accessories

	Type	Qty.	Order No.
	AMG OD EX	10	2495090000
	AMG PD EX	10	2495070000
	AMG MD EX	10	2495040000
	AMG XMD EX	10	2495080000
	AMG DIS EX	10	2495100000
Note			

maxGUARD – Alarm module

Alarm module with potential-free contacts for the "Alarm" and "I>90%" signals.

AMG AM CO



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	30 mA
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Surge protection input, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Current > 90% Inom (flashing)
Red LED	Alarm
Floating contact	Yes
Status relay (max. load)	Alarm (24 V / 0.1 A), I > 90 % (24 V / 0,1 A)
Connection data	
Number of terminals	4 (2 x NO)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; DETNORVER; EAC; LLOYDSREG; RINA; TUEV
Note	

Ordering data

Rated current	Type	Qty.	Order No.
	AMG AM CO	1	2082770000
Note			

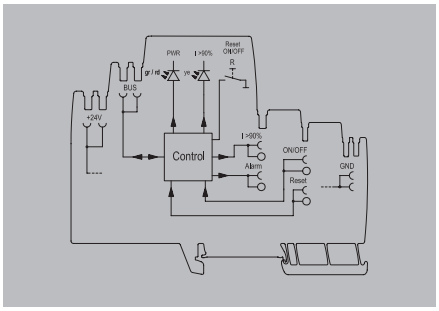
Accessories

Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	1528130000
50-pole / red	ZQV 4N/50 RD	5	2460730000
50-pole / blue	ZQV 4N/50 BL	5	1528240000
2-pole	ZQV 4N/2	60	1527930000
2-pole/ red	ZQV 4N/2 RD	60	2460450000
2-pole / blue	ZQV 4N/2 BL	60	1528040000
Note			

maxGUARD – control module

Control module with extended control function: Alarm, Reset, I>90%, ON/OFF

AMG CM Ex



Technical data

Input	
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	225 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Control inputs	ON/ OFF, Reset
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Transistor output, positive-switching	Pre-warning, Alarm
Connection data	
Number of terminals	2 (Reset / ON)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DETNORVER; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

Ordering data

Rated current	Type	Qty.	Order No.
	AMG CM EX	1	**2083360000**
Note			

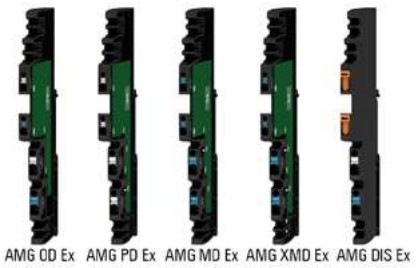
Accessories

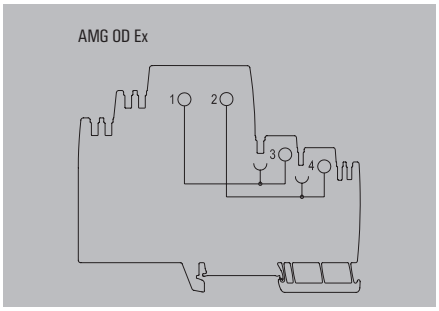
Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	**1528130000**
50-pole / red	ZQV 4N/50 RD	5	**2460730000**
50-pole / blue	ZQV 4N/50 BL	5	**1528240000**
2-pole	ZQV 4N/2	60	**1527930000**
2-pole/ red	ZQV 4N/2 RD	60	**2460450000**
2-pole / blue	ZQV 4N/2 BL	60	**1528040000**
Note			

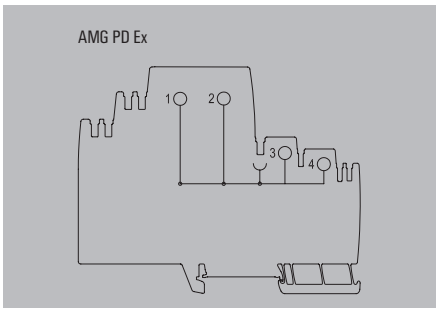
maxGUARD – Potential distributor

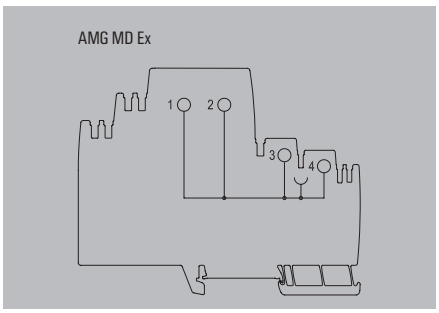
Potential distribution in combination with the electronic load monitoring.

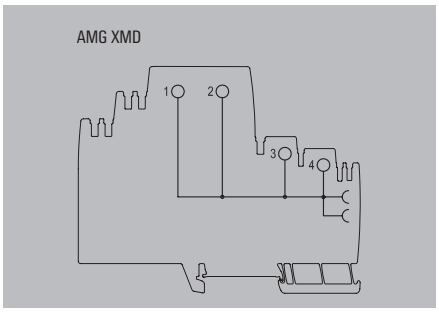
AMG

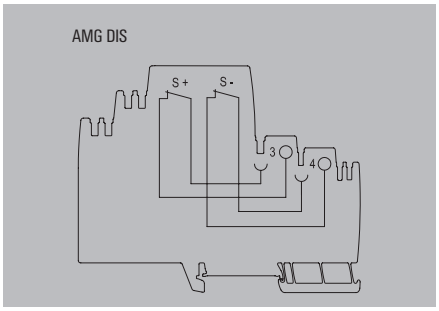












Technical data

General data	
Protection degree	IP20
Total current load per potential	2495090000: 12 A; 2495070000: 12 A; 2495040000: 12 A; 2495080000: 24 A; 2495100000: 12 A
Current load per contact point	12 A
Connection data	
Connection system	PUSH IN
Number of terminals	4 (++ / –), 2 x 1.5 mm², 2 x 2.5 mm²
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm²
Wire cross-section, rigid min/max	0.14...2.5 mm²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DETNORVER; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

Ordering data

Type	Qty.	Order No.
AMG OD EX	10	2495090000
AMG PD EX	10	2495070000
AMG MD EX	10	2495040000
AMG XMD EX	10	2495080000
AMG DIS EX	10	2495100000

Note

Accessories

Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	1528130000
50-pole / red	ZQV 4N/50 RD	5	2460730000
50-pole / blue	ZQV 4N/50 BL	5	1528240000
2-pole	ZQV 4N/2	60	1527930000
2-pole/ red	ZQV 4N/2 RD	60	2460450000
2-pole / blue	ZQV 4N/2 BL	60	1528040000

Note

maxGUARD – accessories

Cross-connector orange

	Type	Qty.	Order No.
2-pole	ZQV 4N/2	60	1527930000
3-pole	ZQV 4N/3	60	1527940000
4-pole	ZQV 4N/4	60	1527970000
5-pole	ZQV 4N/5	60	1527980000
6-pole	ZQV 4N/6	20	1527990000
7-pole	ZQV 4N/7	20	1528020000
8-pole	ZQV 4N/8	20	1528030000
9-pole	ZQV 4N/9	20	1528070000
10-pole	ZQV 4N/10	20	1528090000
50-pole	ZQV 4N/50	5	1528130000

Cross-connector blue

Type	Qty.	Order No.
ZQV 4N/2 BL	60	1528040000
ZQV 4N/3 BL	60	1528080000
ZQV 4N/4 BL	60	1528120000
ZQV 4N/5 BL	60	1528140000
ZQV 4N/6 BL	20	1528170000
ZQV 4N/7 BL	20	1528180000
ZQV 4N/8 BL	20	1528190000
ZQV 4N/9 BL	20	1528220000
ZQV 4N/10 BL	20	1528230000
ZQV 4N/50 BL	5	1528240000

Cross-connector red

Type	Qty.	Order No.
ZQV 4N/2 RD	60	2460450000
ZQV 4N/3 RD	60	2460810000
ZQV 4N/4 RD	60	2460800000
ZQV 4N/5 RD	60	2460790000
ZQV 4N/6 RD	20	2460780000
ZQV 4N/7 RD	20	2460770000
ZQV 4N/8 RD	20	2460760000
ZQV 4N/9 RD	20	2460750000
ZQV 4N/10 RD	20	2460740000
ZQV 4N/50 RD	5	2460730000

maxGUARD – accessories

End brackets

Type	Qty.	Order No.
WEW 35/2 SW	50	1061210000
WEW 35/2 V0 GF SW	100	1479000000

Cutting tool for ZQV

Type	Qty.	Order No.
KT 14	1	1157820000

Endplate and separation plate

Type	Qty.	Order No.
AMG PP	40	2123000000
AMG EP 2010	30	2495380000
AMG EP KIT	1	2500760000

Uninterruptible power supplies

Uninterruptible Power Supply DC UPS

Safe energy in automation

In automation, a high-availability 24 V power supply avoids costly machine downtimes machine downtimes caused by mains interruptions.

For short-term interruptions in the range of several 100 ms, it is recommended to use a maintenance-free buffer module with an application-dependent service life of up to ten years.
Longer mains failures are bridged by our uninterruptible power supply unit in conjunction with a battery module. Depending on requirements, these modules supply energy up to 40 A for 30 minutes or 1 A for 30 hours. Battery life is guaranteed by the temperature-compensated charging characteristic.

Weidmüller's uninterruptible power supplies reliably protect 24 V DC consumers from power failures and voltage drops, such as those caused by mains faults, which can affect system availability.

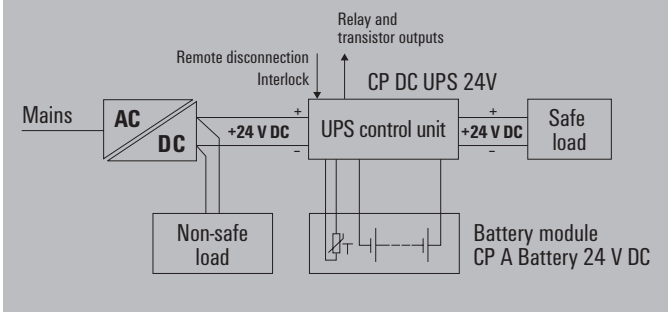
Together with the associated battery module and the power supply unit, the UPS control unit forms a complete DC UPS system with backup times in the range of minutes to hours. The total load is divided into non-safe and safe loads.

Various operating modes are available for precise use. A remote control input for blocking the battery operation as well as numerous signal outputs allow the remote controllability of the UPS.

Your special advantages:

- A wide range of status relays for condition monitoring
- Direct switchover to battery operation in the event of a fault
- Automatic switch back to load when power is restored
- Long battery life due to integrated deep discharge protection
- Optimized charging characteristic

UPS with battery module



Fast error analysis
The charge status display as well as the status and error display enable fast error analysis

Flexible use
Different operating modes enable optimal utilization of the battery energy and thus flexible use

Worldwide use
International approvals (cURus, cULus) as well as TÜV certification enable worldwide use in various applications

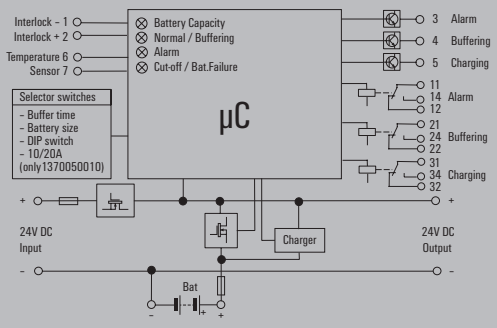
UPS control unit

- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature for long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis

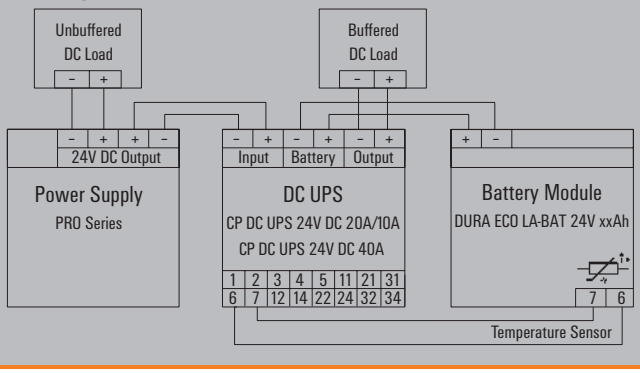
Technical data

Signalling	
Status relay (max. load)	Fault (alarm) (30 V AC/DC 0.1 A), Battery operation (buff.) (30 V AC/DC 0.1 A), Laden (Charg.) (30V AC/DC 0,1A)
Transistor outputs (24...27 V DC max. load 150 mA)	Battery operation (buff.), Charging, Fault (alarm)
Status indicator	Green/yellow LED: normal / buffering, Yellow/red LED: temperature alarm / alarm, Yellow/red LED: switch-off / battery fault
General data	
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 %, no condensation
Protection degree	IP20
Protection class	III, with no ground connection, for SELV
Pollution degree	2
Overvoltage category	III
Insulation voltage	1 kV DC
Protection against reverse voltages from the load	32...34 V DC
Parallel connection option	Yes, max. 2, Yes, with diode module
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Overload protection	Yes
Short-circuit protection	Yes
EMC / shock / vibration	
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD) | EN 61000-4-3 and EN 61000-4-8 (fields) | EN 61000-4-4 (burst) | EN 61000-4-5 (surge) | EN 61000-4-6 (conducted) | EN 61000-4-11 (dips)
Resistance to vibration / Shock	2.3 g / 30 g in all directions
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160

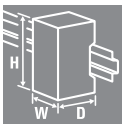
Blockschaltbild



Verdrahtung



UPS control unit



Technical data

	CP DC UPS 24V 20A/10A	CP DC UPS 24V 40A
Input		
Rated input voltage	24 V DC	24 V DC
DC input voltage range	20...30 V DC	20...30 V DC
Input current	≤ 13A (for 10A), ≤ 23A (for 20A)	≤ 43 A
Input fuse (internal)	Yes	Yes
DC current consumption	max. 200 mA (without battery), max. 0.5 A (with fully charged battery)	max. 200 mA (without battery), max. 0.5 A (with fully charged battery)
Reverse polarity protection	Yes	Yes
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	Vo = Vin - 0.2 V normal operation (Imax), Vo = Vin - 0.3 V battery supply (I max)	Vo = Vin - 0.2 V normal operation (Imax), Vo = Vin - 0.3 V battery supply (I max)
Nominal output current for U_{nom}	20 A @ 60 °C	40 A @ 60 °C
Integrated battery charger		
Charging feature	IU characteristic curve	IU characteristic curve
Charging voltage (temperature compensated)	27, 48 V @ 20°C	27, 48 V @ 20°C
Temperature coefficient	- 48 mV / °C	- 48 mV / °C
Charging current	0.15 CA	0.15 CA
Battery availability test	every minute	every minute
Battery module		
Rated voltage	24 V	24 V
Storage medium	1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch	3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch
Parallel connection option	Yes, max. 2	Yes, max. 2
Operating elements and control inputs		
Output current selector switch	20 A, 10 A	
Selector switch battery	1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service	3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service
Selector switch buffer times	0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0	0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0
Function DIP switch	Inversion of transistor outputs, Operation without temperature probe	Inversion of transistor outputs, Operation without temperature probe
Remote disconnection (Interlock)	Yes	Yes
Temperature probe	NTC 100 kΩ	NTC 100 kΩ
General data		
Buffer times	Depending on the connected battery	Depending on the connected battery
Degree of efficiency	≥ 96% normal mode, battery is being charged, ≥ 98% normal mode, battery is charged, ≥ 98% buffer mode	≥ 96% normal mode, battery is being charged, ≥ 98% normal mode, battery is charged, ≥ 98% buffer mode
Power loss	< 10 W	< 10 W
Depth x width x height / Net weight	150 / 66 / 130 mm / 1139 g	150 / 66 / 130 mm / 1051.8 g
Approvals		
Approvals	BURVER; CE; cULus; DETNORVER; EAC; TUEV	BURVER; CE; cULus; DETNORVER; EAC; TUEV

Connection data		**Input/output/battery**	**Signal**	**Input/output/battery**	**Signal**
Wire connection method		Screw connection	Screw connection	Screw connection	Screw connection
Wire cross-section, rigid min/max	mm²	0.5 / 16	0.2 / 1.5	0.5 / 16	0.2 / 1.5
Wire cross-section, flexible min/max	mm²	0.5 / 16	0.2 / 1.5	0.5 / 16	0.2 / 1.5
Wire cross-section, AWG/kcmil min/max		26 / 6	30 / 15	26 / 6	30 / 15
Tightening torque	Nm	1.2...1.5		1.2...1.5	
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
	CP DC UPS 24V 20A/10A	1	**1370050010**	CP DC UPS 24V 40A	1	**1370040010**
Note						

Small metal foot

Type	Order No.
MTA 30 MF	1251320000

Large metal foot

Type	Order No.
MTA 45 MF	1251310000

Small plastic foot

Type	Order No.
MTA 30 BK	1168970000

Large plastic foot

Type	Order No.
MTA 45 BK	1962250000

Small wall mounting

Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

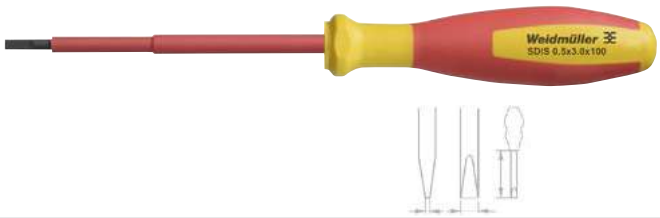
Large wall mounting

Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Temperature probe

Type	Kabellänge	Order No.
CP DC UPS TF25	2.5 m	1444540000
CP DC UPS TF05	0.5 m	1444480000

Small screwdriver

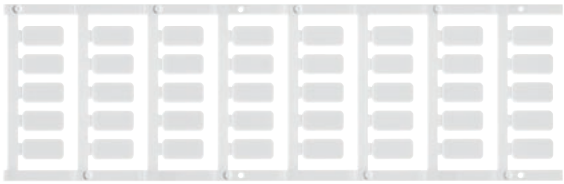


Type	Size/AF	a	b	c	Order No.
SDIS 0.5X3.0X100		0.5	3	100	2749800000

Large screwdriver

Type	Size/AF	a	b	c	Order No.
SDIS 1.0X5.5X125		1	5.5	125	2749850000

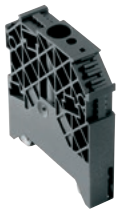
Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

Flexible and easy to use uninterruptible power supplies

Bridge network failures of up to 30 hours with our DC-UPS systems

If sensitive process have to run reliably in a 24/7 operation, then the automation components need an everlasting supply. Using our uninterruptible power supply units in conjunction with the suitable battery modules ensure a reliable operation even in case of network failures.

The 5 battery modules with capacities from 1,2 Ah to 17Ah can supply up to 40 A for 30 minutes or 1 A for 30 hours and are fully compatible with the DC UPS control units CP DC UPS 24V 20A/10A & CP DC UPS 24V 40A.
And for sure, the DURAeco series is a flexible & ease of use solution in a cost-effective design.

Your benefits

- Sealed and maintenance-free VRLA batteries with 4,1 ... 7 years design lifetime
- Trouble-free exchange of existing batteries in running machineries due to the same footprint & drilling dimensions in comparison to the previous models
- Fully compatible with the control units CP DC UPS 24V 20A/10A & CP DC UPS 24V 40A
- Economical design

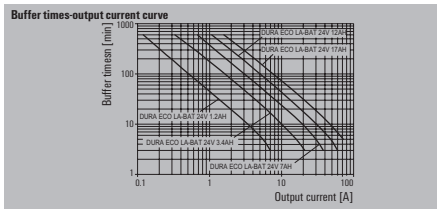
Quick and easy mounting
DIN rail and 4-hole mounting for fast installation

Integrated temperature measurement
Integrated temperature sensor for optimum charging and a long service life

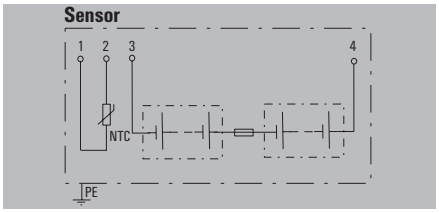
Universally applicable
Comprehensive approval and test marks for use in the international field and in many industries

Battery modules

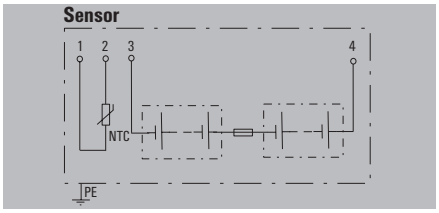
- Maintenence-free lead-acid batteries from 1.2 Ah to 17 Ah
- Integrated temperature sensor for optimal battery charging
- Capacity up to 40 A / 30 min or 1 A / 30 hrs
- Robust metal housing for wall mounting



DURA ECO LA-BAT 24V 1.2AH



DURA ECO LA-BAT 24V 3.4AH



Technical data

Rated input voltage	24 V DC	24 V DC
Nominal capacity	1.3 Ah	3.4 Ah
Charging current, max.	0.2 A	0.51 A
Overload and short circuit protection	10 A fuse	25 A fuse
Buffer time 10A	7.2 min	11.3 min
Buffer time 20A		5 min
Output current, max.	15 A	25 A
Parallel connection option	Yes	Yes
Series switching capability	No	No
Temperature probe	NTC 100 kΩ	NTC 100 kΩ
General data		
Battery type	VRLA Lead-Acid	VRLA Lead-Acid
Life expectancy	5.650000	5.650000
Ambient temperature	Charge: -15...+50°C, Discharge: -20...+60°C	Charge: -15...+50°C, Discharge: -20...+60°C
Storage temperature	-20 °C...60 °C	-20 °C...60 °C
Latest commissioning	9 months	9 months
Humidity	5...95 % RH	5...95 % RH
Protection class	III, with no ground connection, for SELV	III, with no ground connection, for SELV
Protection degree	IP20	IP20
Vibration DIN rail/wall in accordance with IEC 68-2-6	0.7 / 0.7 g	0.7 / 0.7 g
Shock wall acc. to IEC 68227	30 g	30 g
Depth x width x height / Net weight	124 / 52 / 149.5 mm / 1750 g	166 / 108 / 141 mm / 3900 g
Approvals		
Approvals	ABS; BURVER; cULus; DETNORVER; TUEV	ABS; BURVER; cULus; DETNORVER; TUEV

Connection data		**Input/output/battery**	**Signal**	**Input/output/battery**	**Signal**
Wire connection method			Pluggable screw connection		Pluggable screw connection
Wire cross-section, rigid min/max	mm²	0.2 / 4	0.2 / 4	0.5 / 16	0.2 / 1.5
Wire cross-section, flexible min/max	mm²	0.2 / 4	0.2 / 4	0.5 / 10	0.2 / 1.5
Wire cross-section, AWG/kcmil min/max		24 / 12	24 / 12	24 / 6	24 / 16

Note

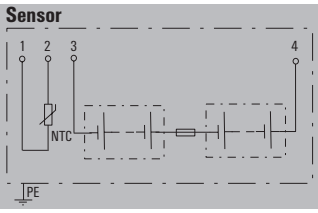
Ordering data

Type	Qty.	Order No.
DURA ECO LA-BAT 24V 1.2AH	1	2789890000

Note

Type	Qty.	Order No.
DURA ECO LA-BAT 24V 3.4AH	1	2789900000

DURA ECO LA-BAT 24V 7AH

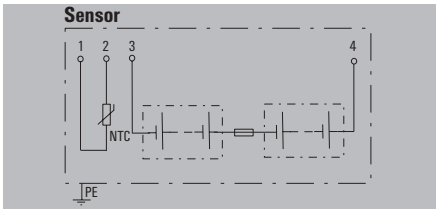


24 V DC	
7 Ah	
1.08 A	
2x25 A fuse	
26.5 min	
11.5 min	
50 A	
Yes	
No	
NTC 100 kΩ	
VRLA Lead-Acid	
5.650000	
Charge: -15...+50°C, Discharge: -20...+60°C	
-20 °C...60 °C	
9 months	
5...95 % RH	
III, with no ground connection, for SELV	
IP20	
- / 0.7 g	
30 g	
135 / 162 / 158 mm / 6120 g	
ABS; BURVER; cULus; DETNORVER; TUEV	

Input/output/battery	Signal
	Pluggable screw connection
0.5 / 16	0.2 / 1.5
0.5 / 10	0.2 / 1.5
24 / 6	24 / 16

Type	Qty.	Order No.
DURA ECO LA-BAT 24V 7AH	1	2789910000

DURA ECO LA-BAT 24V 12AH

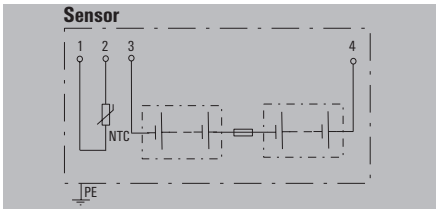


24 V DC	
12 Ah	
1.8 A	
2x25 A fuse	
51 min	
22.7 min	
50 A	
Yes	
No	
NTC 100 kΩ	
VRLA Lead-Acid	
5.650000	
Charge: -15...+50°C, Discharge: -20...+60°C	
-20 °C...60 °C	
9 months	
5...95 % RH	
III, with no ground connection, for SELV	
IP20	
- / 0.7 g	
30 g	
135 / 229 / 158 mm / 9700 g	
ABS; BURVER; cULus; DETNORVER; TUEV	

Input/output/battery	Signal
	Pluggable screw connection
0.5 / 16	0.2 / 1.5
0.5 / 10	0.2 / 1.5
24 / 6	24 / 16

Type	Qty.	Order No.
DURA ECO LA-BAT 24V 12AH	1	2789920000

DURA ECO LA-BAT 24V 17AH



24 V DC	
17 Ah	
2 A	
2x25 A fuse	
81 min	
34.2 min	
50 A	
Yes	
No	
NTC 100 kΩ	
VRLA Lead-Acid	
5.650000	
Charge: -15...+50°C, Discharge: -20...+60°C	
-20 °C...60 °C	
9 months	
5...95 % RH	
III, with no ground connection, for SELV	
IP20	
- / 0.7 g	
30 g	
189 / 242 / 178 mm / 14300 g	
ABS; BURVER; cULus; DETNORVER; TUEV	

Input/output/battery	Signal
	Pluggable screw connection
0.5 / 16	0.2 / 1.5
0.5 / 10	0.2 / 1.5
24 / 6	24 / 16

Type	Qty.	Order No.
DURA ECO LA-BAT 24V 17AH	1	2789930000

Operate automation applications with maximum reliability
maxSHIELD DC buffer modules for the uninterrupted 24 V systems

Voltage interruptions of several 100 ms in automation applications can lead to cost-intensive machine and system downtimes. These can be avoided with an uninterruptible 24 V power supply.

Weidmüller's maintenance-free maxSHIELD DC buffer modules guarantee an uninterruptible power supply and are therefore an important basis for 24 V systems. They supply the required voltage to the electronic load to bridge outages. The maintenance-free electrolytic capacitors enable continuous operation at ambient temperatures of up to +70°C . Optionally, a parallel connection is possible to bridge longer failures or to increase the output power.

Simple and flexible combination
The DC buffer modules provide flexible limit selection between 22.5V DC and VIN-1 V. They can also be operated in parallel to increase bridging time or output power.

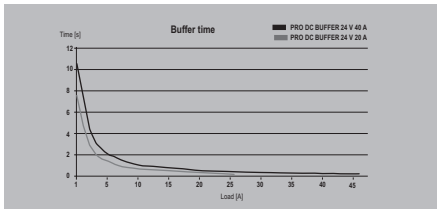
Space-saving and maintenance-free
Due to the compact design, with only 55 or 65 mm width, the DC buffer module can be placed directly next to power supplies in the control cabinet.

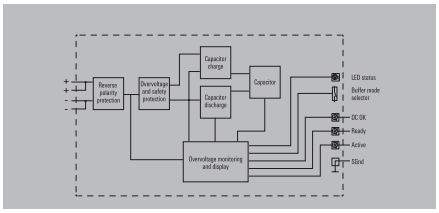
Universally applicable
International approvals such as cULus, ATEX, and IECex as well as a wide operating temperature range enable use in a wide variety of applications worldwide.

Buffer modules

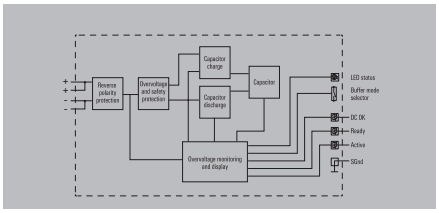
- Buffer time: 320ms @ 20 A or 230 ms @ 40 A
- Extensive approvals and wide temperature range
- Status display by LEDs and signal connections
- Space-saving and maintenance-free
- Parallel switchable

PRO DC BUFFER 24V 20A





PRO DC BUFFER 24V 40A



Technical data

Input		
Rated input voltage	24 V DC	24 V DC
Input current	0...21 A	0...41 A
DC current consumption	<0.2 A @ no load, <1 A @ charging process for typ. 10s	<0.2 A @ no load, <1 A @ charging process for typ. 10s
DC input voltage range	22.5 - 30 V DC	22.5 - 30 V DC
Output		
Mains failure bridge-over time, min.	200mS	200mS
Output voltage	22.2 ± 0.4 V DC / Vin-1 V(± 0.4 V)	22.2 ± 0.4 V DC / Vin-1 V(± 0.4 V)
Output voltage	Corresponds to the input voltage	Corresponds to the input voltage
Output current at 40 °C	25 A	25 A
Rated current	20 A	40 A
Parallel connection option	Yes	Yes
Overload and short circuit protection	Yes	Yes
Surge protection	33 V...35 V	33 V...35 V
Display		
Status indicator	Green LED	Green LED
MTBF		
According to Standard	SN 29500	SN 29500
Operating time (hours), min.	2.5Mh	2.5Mh
Ambient temperature	25°C	25°C
Input voltage	24V DC	24V DC
Output power	480W	960W
Duty cycle	100%	100%
Mains failure bridge-over time		
Mains failure bridge-over time, min.	200mS	200mS
Output current	20A	40A
Output voltage	22.2V	22.2V
General data		
Degree of efficiency	≥ 98% buffer mode	≥ 98% buffer mode
Storage medium	Internal condenser	Internal condenser
Ambient temperature (operational)	-25 °C...70 °C	-25 °C...70 °C
Humidity	5...95 %, no condensation	5...95 %, no condensation
Depth x width x height / Net weight	130 / 55 / 125 mm / 1043 g	130 / 65 / 125 mm / 1142 g
Approvals		
Approvals	CE; CSAEX; cULus; TUEV	CE; CSAEX; cULus; TUEV

Connection data		**Input / Output**	**Signal**	**Input / Output**	**Signal**
Connection system		Screw connection	PUSH IN	Screw connection	PUSH IN
Number of terminals		4 (++ / –)	4	4 (++ / –)	4
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.2 / 1.5	0.5 / 16	0.2 / 1.5
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.2 / 1.5	0.5 / 16	0.2 / 1.5
Wire cross-section, AWG/kcmil min/max		26 / 10	28 / 14	22 / 8	28 / 14
Tightening torque range	Nm	0.5 / 0.6		0.5 / 0.6	
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
	PRO DC BUFFER 24V 20A	1	**2786240000**	PRO DC BUFFER 24V 40A	1	**2786250000**
Note						

DC/DC converters

Stabilise control voltages in 24 V DC systems

Compact and powerful DC/DC converters for an everlasting supply

Maximum supply reliability and minimum downtimes indicate a good power supply system. However, the increasing complexity of supply solutions and the increased use of battery back-up systems can have a negative impact on the stability of the DC control voltage. Supply disruptions, e. g. voltage fluctuations as a result of different potentials or voltage drops as a result of long cables may occur as a result. These issues can often lead to cost-intensive production disruptions.

The DC/DC converter balances out voltage fluctuations, such as those arising as a result of unregulated voltage supplies. Voltage drops at the end of long cables are also balanced out. With protection class III for floating systems and galvanic isolation, the DC/DC converters are particularly well-suited for use with independent supply systems.

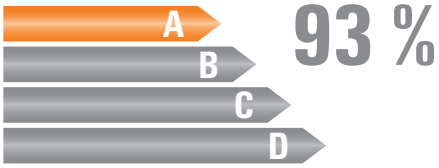
As well as having above-average performance characteristics, the DC/DC converter also stands out thanks to its slim design, ease of servicing and high degree of efficiency of up to 94 %. It also has a wide range of safety functions and can be combined with PROtop, PROeco or PROmax power supplies. It is also possible to combine UPS components, diode and redunancy modules with the DC/DC converter in order to establish a redundant power supply. All of these features make the DC converter a real all-rounder when it comes to 24 V DC supply voltages.

Your special advantages:

- Reliable and powerful
- The long-lasting Power Boost of up to 120 % and high peak currents of up to 600 % of the rated current for 16 ms guarantee reliable starting and safe operation even within limit ranges.

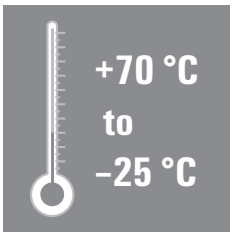
In floating voltage systems, e. g. with emergency power battery systems in marine engineering, the control voltage needs to be galvanically isolated from the battery voltage

Extremely compact and energy-efficient
The compact design saves up to 30 % space in the control cabinet. The high degree of efficiency of up to 93 % ensures low energy costs.

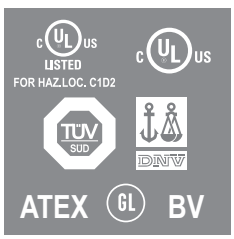


Quick status diagnostics and maintenance
The preventative function monitoring via LED display, the status relay and transistor outputs make it easier to carry out status and error analyses during commissioning and operation.

Robust and reliable
Weidmüller DC/DC converters function reliably over a large temperature range of between –25 °C and +70 °C (start-up: –40 °C), and with a high MTBF value of over 1,000,000 hours.



All-purpose usage
Variants with 5 A, 10 A and 20 A and international approvals (e. g. cULus, Class I, Div. 2, ATEX, GL, DNV) allow for global use in a range of different applications.



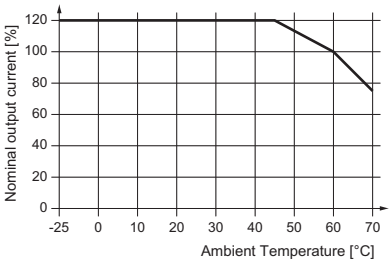
ConnectPower DC/DC converter

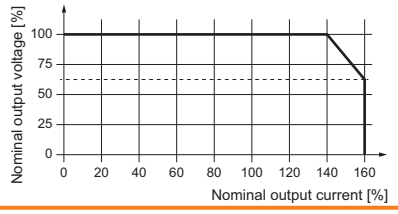
Derating curve

Event		LED (Gr/Ye/Rd) g r = "DC OK" Ye = "i > 90% I_N"	LED (Ye)	Transistor status outputs			Status
Input	Output	Rd = "FAul T"	"I ow u_{IN}"	DC OK	i > 90% i_N	I ow u_{IN}	relay
U_{IN} < 14 V	–	OFF	ON	Low	Low	Low	OFF
U_{IN} = 14...19.2 V *1)	I < 90 % I_N	Gr	ON	High	Low	Low	ON
	I > 90 % I_N	Ye	ON	High	High	Low	ON
	U < 20.4 V	Rd	ON	Low	Low	Low	OFF
U_{IN} > 19.2 V	I < 90 % I_N	Gr	OFF	High	Low	High	ON
	I > 90 % I_N	Ye	OFF	High	High	High	ON
	U < 20.4 V	Rd	OFF	Low	Low	High	OFF

Gr = grün / green / verte / verde / verde / verde / 绿色
Ye = gelb / yellow / jaune / giallo / amarillo / amarelo / 黄色
Rd = rot / red / rouge / rosso / rojo / vermelho / 红色
*1) während des Betriebes / during operations / en cours de fonctionnement / durante l'esercizio / durante el servicio / durante a operação / 运行过程中

Signal states



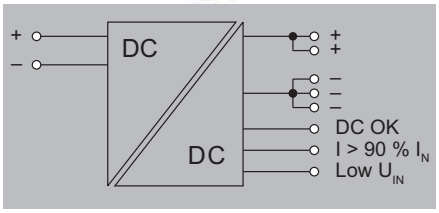


Technical data

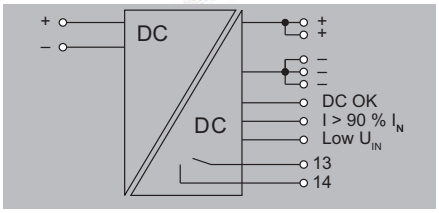
General data	
Current limiting	150% I_{out}
Insulation voltage input / earth	1.5 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	1.5 kV
Ambient temperature (operational) / Storage temperature / Start-up	-25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	III, with no ground connection, for SELV / 2
MTBF	1250000
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between., 50 mm clearance at top and bottom for free air circulation, mountable side by side without clearance
EMC / shock / vibration	
Interference immunity test acc. to	EN 61000-4-2 (ESD), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-3 (HF field)
Shock	30 g in all directions
Resistance to vibration	2.3 g (15 Hz...150 Hz)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

ConnectPower DC/DC converter

PRO DCDC 120W 24V 5A



PRO DCDC 240W 24V 10A



Technical data

Input		
Rated input voltage	24 V DC	24 V DC
DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)	14...32 V (during operation), 18...32 V (commissioning)
Input fuse (internal)	Yes	Yes
Inrush current / Inrush Current Limitation	Max. 10 A / Yes	max. 15 A / Yes
Recommended back-up fuse	10 A, Char. B circuit breaker, 10 A, Char. C circuit breaker	25 A, Char.B circuit breaker, 25 A, Char.C circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer on front)	22.5...29.5 V (adjustable via potentiometer on front)
Continous output current @ $U_{Nominal}$	5 A @ 40 °C, 6 A @ 45°C, 3,75 A @ 70°C	10 A @ 60 °C, 12 A @ 45°C, 7,5 A @ 70°C
Output power	120 W	240 W
Ramp-up time	≤ 9 ms (Uout: 10%...90%)	≤ 9 ms (Uout: 10%...90%)
Capacitive load	unrestricted	unrestricted
Parallel connection option	yes, max. 5 (without diode module)	yes, max. 5 (without diode module)
Reserve capacity @ $U_{Nominal}$	600% IN for 16 ms	600% IN for 16 ms
Residual ripple, breaking spikes	max. 20 mVpp @ 24 VDC, IN	max. 20 mVpp @ 24 VDC, IN
Protection against inverse voltage / Overload protection	Yes / Yes	Yes / Yes
General data		
AC failure bridging time @ I_{nom}	> 10 ms @ 24 V DC	> 12 ms @ 24 V DC
Protection against reverse voltages from the load	33...34 V DC	33...34 V DC
Start-up	≥ -40 °C	≥ -40 °C
Current limiting	150% I_{out}	150% I_{out}
Power loss idling / nominal load	2 W / 11 W	2 W / 22 W
Degree of efficiency	Typ.: 92 %	Typ.: 92 %
Signalling		
Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U_{IN}: 20 mA max., short-circuit-proof	DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U_{IN}: 20 mA max., short-circuit-proof
Floating contact		Yes
Relay on/off / Contact load	/	Output voltage > 21.6 V / < 20.4 V / max. 30 V DC / 0.5 A
Approvals		
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; LLOYDSREG; RINA; TUEV	ABS; BURVER; cULus; cULusEX; DETNORVER; LLOYDSREG; RINA; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		2 for (+, -)	8 (+ / - / signal)	2 for (+, -)	10 (+ / - / signal)
Wire cross-section, rigid min/max	mm²	0.2 / 4	0.2 / 2.5	0.08 / 4	0.2 / 2.5
Wire cross-section, flexible min/max	mm²	0.2 / 4	0.2 / 2.5	0.08 / 4	0.2 / 2.5
Wire cross-section, AWG/kcmil min/max		30 / 12	24 / 14	30 / 12	24 / 14
Tightening torque		0.4 / 0.5	0.4 / 0.5	0.4 / 0.5	0.4 / 0.5
Note					

Ordering data

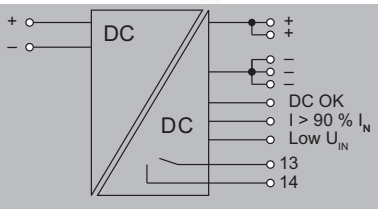
Type	**Qty.**	**Order No.**
PRO DCDC 120W 24V 5A	1	**2001800000**

Type	**Qty.**	**Order No.**
PRO DCDC 240W 24V 10A	1	**2001810000**

Note

ConnectPower DC/DC converter

PRO DCDC 480W 24V 20A



Technical data

Input	
Rated input voltage	24 V DC
DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)
Input fuse (internal)	Yes
Inrush current / Inrush Current Limitation	max. 30 A / Yes
Recommended back-up fuse	40 A, Char. B circuit breaker, 40 A, Char. C circuit breaker

Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer on front)
Continous output current @ $U_{Nominal}$	20 A @ 60 °C, 24 A @ 45°C, 15 A @ 70°C
Output power	480 W
Ramp-up time	≤ 9 ms (Uout: 10%...90%)
Capacitive load	unrestricted
Parallel connection option	yes, max. 3
Reserve capacity @ $U_{Nominal}$	600% IN for 16 ms
Residual ripple, breaking spikes	max. 20 mVpp @ 24 VDC, IN
Protection against inverse voltage / Overload protection	Yes / Yes
General data	
AC failure bridging time @ I_{nom}	> 10 ms @ 24 V DC
Protection against reverse voltages from the load	33...34 V DC
Start-up	≥ -40 °C
Current limiting	150% I_{out}
Power loss idling / nominal load	3 W / 40 W
Degree of efficiency	typ. > 93%
Signalling	
Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U_{IN}: 20 mA max., short-circuit-proof
Floating contact	Yes
Relay on/off / Contact load	Output voltage > 21.6 V / < 20.4 V / max. 30 V DC / 0.5 A
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DETNORVER; LLOYDSREG; RINA; TUEV

Connection data		Input	Output
Connection system		Screw connection	Screw connection
Number of terminals		2 for (+, -)	10 (+ / - / signal)
Wire cross-section, rigid min/max	mm²	0.5 / 16	0.18 / 6
Wire cross-section, flexible min/max	mm²	0.5 / 16	0.18 / 6
Wire cross-section, AWG/kcmil min/max		22 / 8	26 / 10
Tightening torque		1.2 / 1.5	0.4 / 0.5
Note			

Ordering data

Type	Qty.	Order No.
PRO DCDC 480W 24V 20A	1	2001820000

Note

Redundancy- and diode modules

Reliable protection of sensitive system components
Redundancy- and diode modules

In many automation applications, power supply systems are required that function reliably even if a power supply unit fails. With our optimally coordinated supplementary modules, a permanent supply concept is created. Weidmüller's diodes and redundancy modules connect two power supplies to each other in order to compensate for the failure of one device.

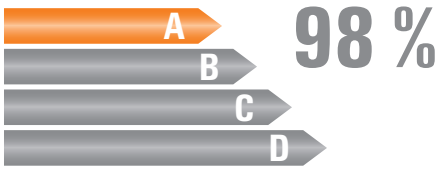
Diode modules

The diode modules allow with 20 A or 40 A output current to the construction of safe power supply systems.

Redundancy modules

Redundancy modules increase system availability is decisive. Each redundant branch is able to supply full output load. The 24-V control voltage remains stable in the event of a power supply failure. The use of MOSFETs in our redundancy modules allows for a optimum efficiency.

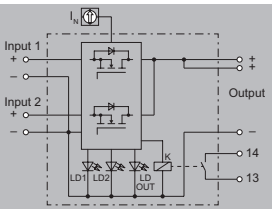
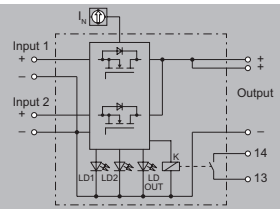
The space- and energy-saving system solution
- The compact design saves up to 30 % space in the switch cabinet
- The high degree of efficiency of up to 98 % ensures for low energy costs



Redundancy module
- Up to 40 A per input
- Individually adjustable current warning for Overload directly at the device
- Suitable for EX areas

Diode module
- Ideal for setting up trouble-free systems
- In versions with 20 or 40 A output current obtainable
- Also suitable for small systems

connectPower redundancy modules

	PRO RM 10	PRO RM 20
		
		

Technical data

Input		
DC input voltage range	10 ... 32 V DC	10 ... 32 V DC
Input current	2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)	2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)
Output		
Rated output voltage	V_{INPUT}-typ. 0.13 V	V_{INPUT}-typ. 0.2 V
Continous output current @ $U_{Nominal}$	1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C)	1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C)
General data		
Ambient temperature (operational)	-40 °C...70 °C	-40 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Derating	> 60°C / 75% @ 70°C	> 60°C / 75% @ 70°C
Degree of efficiency	> 98%	> 98%
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Depth x width x height / Net weight	125 / 30 / 130 mm / 497 g	125 / 38 / 130 mm / 558 g
Approvals	cULus; DETNORVER; EAC; TUEV	cULus; DETNORVER; EAC; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		PUSH IN	PUSH IN	PUSH IN	PUSH IN
Number of terminals		4 (+,+,–,–)	2 (+ / -)	4 (+,+,–,–)	2 (+ / -)
Wire cross-section, rigid min/max	mm²	0.2 / 2.5	0.2 / 10	0.2 / 10	0.75 / 16
Wire cross-section, flexible min/max	mm²	0.2 / 2.5	0.2 / 6	0.2 / 6	0.75 / 16
Wire cross-section, AWG/kcmil min/max		26 / 12	24 / 8	24 / 8	20 / 4
Tightening torque range		/	/	/	/
Note					

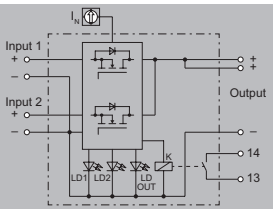
Ordering data

	Type	Qty.	Order No.
Screw connection	PRO RM 10	1	2486090000
Screw connection	PRO RM 20	1	2486100000

Note		

connectPower redundancy modules

PRO RM 40



Technical data

Input	
DC input voltage range	10 ... 32 V DC
Input current	2 × 48 A (-40 °C ~ +45 °C), 2 × 40 A (+45 °C ~ +60 °C), 2 × 30 A (+70 °C)
Output	
Rated output voltage	V_{INPUT}-typ. 0.16 V
Continous output current @ $U_{Nominal}$	1 × 96 A (-40 °C ~ +45 °C), 1 × 80 A (+45 °C ~ +60 °C), 1 × 60 A (+70 °C)
General data	
Ambient temperature (operational)	-40 °C...70 °C
Storage temperature	-40 °C...85 °C
Derating	> 60°C / 75% @ 70°C
Degree of efficiency	> 98%
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Depth x width x height / Net weight	125 / 52 / 130 mm /
Approvals	cULus; DETNORVER; EAC; TUEV

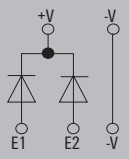
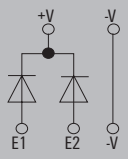
Connection data		Input	Output
Connection system		Pluggable screw connection	Screw connection
Number of terminals		4 (+,+,–,–)	2 (+ / -)
Wire cross-section, rigid min/max	mm²	0.2 / 16	0.5 / 16
Wire cross-section, flexible min/max	mm²	0.5 / 16	0.5 / 35
Wire cross-section, AWG/kcmil min/max		22 / 6	20 / 1
Tightening torque range		/	/ 4
Note			

Ordering data

	Type	Qty.	Order No.
Screw connection	PRO RM 40	1	2486110000

Note

connectPower diode modules

	PRO DM 10	PRO DM 20
		
		

Technical data

Input		
DC input voltage range	0...60 V DC	0...60 V DC
Input current	2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)	2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)
Output		
Rated output voltage	V_{INPUT}-typ. 0.7 V	V_{INPUT}-typ. 0.7 V
Continous output current @ $U_{Nominal}$	1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C)	1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C)
General data		
Ambient temperature (operational)	-40 °C...70 °C	-40 °C...70 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Derating	> 60°C / 75% load @ 70°C	> 60°C / 75% load @ 70°C
Degree of efficiency	> 97% @ 24 V Input voltage	> 97% @ 24 V Input voltage
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Depth x width x height / Net weight	125 / 32 / 125 mm / 501 g	125 / 32 / 125 mm / 552 g
Approvals	cULus; TUEV	cULus; TUEV

Connection data		**Input**	**Output**	**Input**	**Output**
Connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		4 (1+, 2+, 1-, 2-)	4 (++ / –)	4 (1+, 2+, 1-, 2-)	4 (++ / –)
Wire cross-section, rigid min/max	mm²	0.18 / 6	0.18 / 6	0.18 / 6	0.5 / 16
Wire cross-section, flexible min/max	mm²	0.22 / 4	0.22 / 6	0.22 / 4	0.5 / 16
Wire cross-section, AWG/kcmil min/max		26 / 10	26 / 10	26 / 10	22 / 8
Tightening torque range		/	0.5 / 0.6	/	1.2 / 1.5
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
Screw connection	PRO DM 10	1	**2486070000**	PRO DM 20	1	**2486080000**
Note						

Communication modules

Exploiting the potential of industry 4.0

Communication modules for continuous networking of your components

The communication capability of machines, plant components and IT systems is a basic prerequisite for exploiting the potential of industry 4.0 and increasing the future security of plants.

Weidmüller's plug-in communication modules enable individual components to exchange relevant data with the cloud. This lays the foundation for targeted process optimization using condition monitoring and remote controllability - factors that play a decisive role in increasing efficiency, quality, process stability and availability can contribute.

The communication modules are designed according to IP20 protected, can be operated without tools and can be flexibly adapted to different customisable communication protocols.

PRO COM CANopen

PRO COM CANopen connects the device-internal interface of a Weidmüller basic unit (e.g. PROtop) with the CAN bus system of a plant control system.
The CANopen fieldbus protocol is used for this purpose. The communication module is equipped with two RJ45-sockets (CAN 1-1 and 1-2) and is connected via the Basic unit supplied with power.

Range of functions:
- Read out device data and identification
- Read out process data and process alarms
- Reading event and status data
- Configuring the Base Device
- Specify operating modes and setpoints
- Display operating states

PRO COM IO-Link

PRO COM IO-Link connects the device-internal interface of a Weidmüller basic device (e.g. PROtop or topGUARD) to the communication system of a plant control system using the IO-Link communication protocol. The communication module has a three-pole connection socket for the communication cable and is supplied with power via IO-Link Master.

Range of functions:
- Read out device data and identification
- Read out process data and process alarms
- Reading event and status data
- Configuring the Base Device
- Specify operating modes and setpoints
- Display operating states

PRO COM Display

The display module enables service technicians to sporadically check output voltage and current without the aid of a multimeter. During initial commissioning, the output voltage can be conveniently adjusted using buttons, whereby the current voltage is displayed continuously. If the display module is permanently attached to the PROtop power supply, the remaining service life can easily be determined and displayed.

- Ideal for quick testing of output voltage and current by the service technician
- Tool-free voltage adjustment at the touch of a button with simultaneous voltage display
- Simple service life prediction with programmable pre-warning and signal output

PRO COM CANopen

PRO COM CAN OPEN

Technical data

System data	
Connection type	2 x RJ45 plug-in connectors
Field bus protocol	CANopen
Module type	plug-on module
Interface	PROtop interconnection interface
General data	
Ambient temperature (operational)	-25 °C...70 °C
Protection degree	IP20
Weight	36 g
Depth x width x height	33.6 / 35 / 74.4 mm
Approvals	
Approvals	ABS; BURVER; cULus; DETNORVER; LLOYDSREG; RINA; RS

Note

Ordering data

Type	Qty.	Order No.
PRO COM CAN OPEN	1	**2467320000**

Note

PRO COM IO-LINK

PRO COM IO-LINK

Technical data

System data	
Connection type	IO-Link
IO link standard	IEC 61131-9
Compatible IO-Link Master	Beckhoff, GE, Rockwell, Siemens, Weidmüller
Module type	plug-on module
Interface	topGUARD interconnection interface, PROtop interconnection interface

General data	
Ambient temperature (operational)	-25 °C...70 °C
Protection degree	IP20
Weight	29 g
Depth x width x height	33.6 / 35 / 74.4 mm
Approvals	
Approvals	cULus

Note

Ordering data

Type	Qty.	Order No.
PRO COM IO-LINK	1	2587360000

Note

Display module

PRO COM Display 7S

PRO COM Display 7S

Technical data

General data	
Ambient temperature (operational)	-25 °C...70 °C
Protection degree	IP20
Weight	93 g
Depth x width x height	33.6 / 34 / 74.4 mm
Approvals	
Approvals	cULus

Note

Ordering data

Type	Qty.	Order No.
PRO COM DISPLAY 7S	1	**2466960000**

Note

Service and support

Our expertise for your requirements
Service connects – worldwide

Automation technology functions are becoming more complex in a globally-oriented world facing ambitious targets in terms of energy efficiency and smart production. We are your equal partners for the best connections in Industrial Connectivity.

Our personal support answers all questions reliably and expertly. During planning, installation or operation our service and support offer is your best companion.

In short: Weidmüller's global service combines our expertise with your requirements.

Your way to our service
www.weidmueller.com/service

Engineering services and customised products

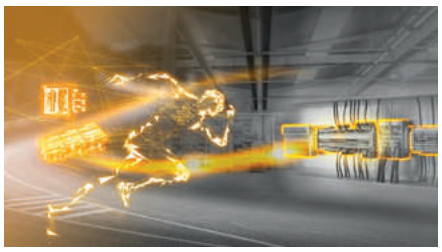
Automation engineering and connectivity consulting belongs to our services as well as assembly of engineered products. We also support the process from the idea to the product with our Weidmüller Configurator and the Configure-to-Order process.

Consulting and engineering
The challenge for you is reducing costs and increasing efficiency. This requires intelligent, individual solutions. Whether it is modified products, pre-fitted mounting rails or complete small cabinets – our application centres provide a highly qualified custom-made engineering and production service.

Connectivity Consulting
Increase your competitiveness - supported by our experts
Our drive is to optimise your competitiveness. That's why our team of experts supports you in significantly increasing your efficiency in electrical machine design and control cabinet construction. With proven products and services from the Weidmüller portfolio – and with the experience gained from over 300 projects worldwide.

Assembled terminal rails - Flexibly designed to suit your requirements
Your processes in panel building have to be fast, flexible and productive. This is the only way you can cut your costs and increase efficiency. Depending on the application in question, you will have different requirements with respect to the engineering service, delivery speed and flexibility to be provided.

Modified and assembled enclosures - Competitive advantages included
To compete internationally, your plants need to satisfy high standards of safety, quality and performance. The smart combination of consultation, application expertise and industry know-how is our key to finding a custom-fit solution for your application. Reduce costs and increase efficiency.



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Your ticket to the world of digital service
easyConnect – Your Industrial Service Platform

Our cloud-based platform is your ticket to the world of digital services from Weidmüller, and the intuitive and future-proof tool for your way to the Industrial IoT. Realise your use cases easily, consistently and without any relevant prior knowledge, thanks to the perfect interaction of platform, devices and diverse software services.

As an open, modular and perfectly integrable system, the platform is your enabler for a wide range of use cases. Increase your efficiency and unleash your full innovation potential with easyConnect.

Interested in using easyConnect?
Learn how to get started with easyConnect step-by-step.

www.weidmueller.com/easyconnect

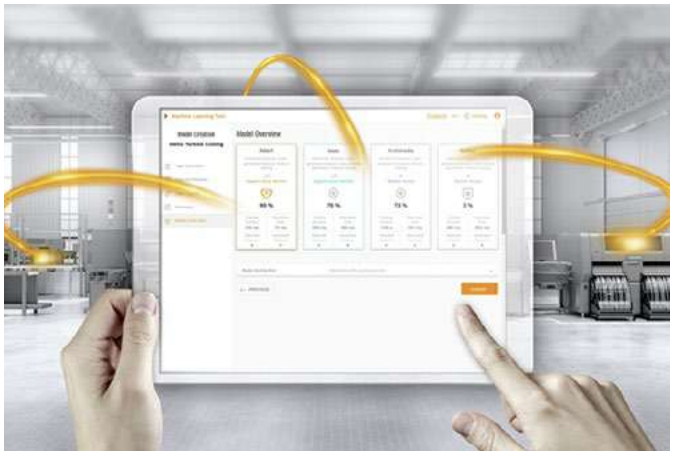
Why should you use easyConnect?

- You want to enter your digital transformation step-by-step?
- You want to make the step into Industrial IOT, but have no or little IT expertise?
- You want to use your digital data for smart & scalable services?
- You want to offer digital services (such as customised dashboard) to your customers?
- You want to improve your service offering and efficiency, e.g. through remote access?
- You feel Weidmüller's digital services are interesting, but you have „your cloud" already?

Weidmüller comes up with the solution: easyConnect, the new digitalisation platform. It bundles Weidmüller's digital services at one place in the cloud and connects them with various Weidmüller devices.

With easyConnect you start digitalising your application step-by-step without ballast in a secure way.

The following services are initially available on easyConnect:



Device management
Adding and managing cloud-connected devices is typically the first step in any Industrial IoT use case.

Asset management
The asset management service is a modelling tool that allows users to model their assets and processes and link them to relevant time series data.

Remote access (u-link)
u-link guarantees a quick and secure access to machines and plants while also allowing for efficient management.

Data visualisation
easyConnect data visualisation services enable users to view, monitor and display live and historical data.

AutoML
With Weidmüller Industrial AutoML, you can optimize operations, increase product quality and develop new business models by benefiting from advanced analytics.

Expand the possibilities of our products

Our Support Center provides you with comprehensive, clear and personal assistance

Receive fast and intuitive support to get the most out of our products in your application. In our new Support Center you can search or navigate to the many application notes, product information, video tutorials or software downloads of our products.

- **Everything at a glance –** One central support hub, where all relevant information is available
- **Powerful search –** Provides filter functions for various types of information and products
- **Different views and navigations –** Content provided in views product information, engineering support or software downloads
- **More than 170,000 downloads –** Application notes, video tutorials, templates and examples, user documentation, engineering data, ...
- **Personal contact –** Direct access to your personal technical contact in your country

Explore the world of our new Support Center
support.weidmueller.com

Additional support services

Training and Webinars
Stay tuned in a world that is accelerating. In our entertaining interactive webinars, we offer you the opportunity to learn about new products and technology topics and to interact with our experts.

Repairs and replacement parts
We offer repair and components for our Workplace Solutions as well as assistance for other Weidmüller products. Find out how our experts can help you with your repair request.

Security advisory board
Our Product Security Incident Response Team (PSIRT) continuously informs you about possible security-related vulnerabilities of our products.

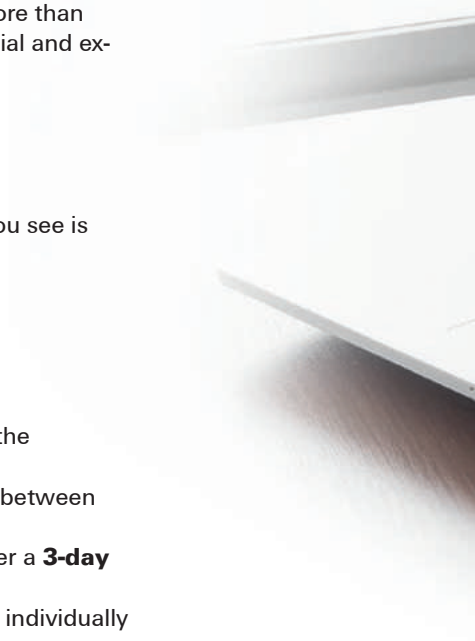
Engineering data
For the quick integration of our products into your design, there are a lot of digital product data for engineering systems like EPLAN, Zuken E3.series, WSCAD and many others available for download.

Product change notifications
Technical modifications of our products always available online.

Technical product catalogues
Technical data for our entire program in Industrial Connectivity for download in PDF-format.

From the idea to the finished solution

Weidmüller Configurator: intuitive, uncomplicated & fast digital engineering



Digital engineering can be so easy – with the Weidmüller Configurator!

It´s a **free to use** software application to easily configure industrial solutions. It features more than **12,000 articles** from multiple product families including rail-mounted components, industrial and ex-certified enclosures, Heavy Duty Connectors, remote I/O-systems and PCB connectors.

Unleash the full power of digital engineering:

Our application wizards help you choose the right articles.
Place, mark or modify them to your needs and get your solution **visualized in 3D –** what you see is what you get!

Our promise: Speed up your solution planning process by up to 70%!

Your benefits:

- **Proven configuration designs in real 3D:** The plausibility and collision check with the complete digital documentation ensures that you can rely 100% on your configuration.
- **Seamless E-CAD Roundtrip:** Interfaces enable the simple exchange of product data between the WMC and all common engineering tools, such as Zuken E3 or EPLAN Electric P8.
- **Sample Service & Fast Delivery Service:** to support your design-in process, we offer a **3-day sample service** for many products. Inquire them directly online – for free!
  You want your solution right away? Our **Fast Delivery Service** guarantees delivery of individually assembled terminal strips or enclosures within a few days.

Get started online now!

The Weidmüller Configurator makes solution planning easy. Visit our website for more information, tutorials and download it for free:

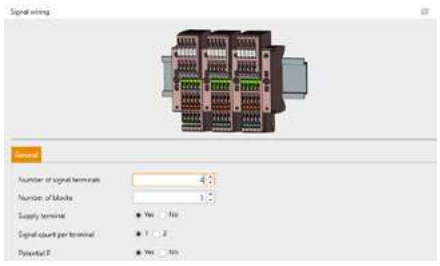
www.weidmueller.com/wmc

or register on **easyconnect.weidmueller.com**
and use it online.

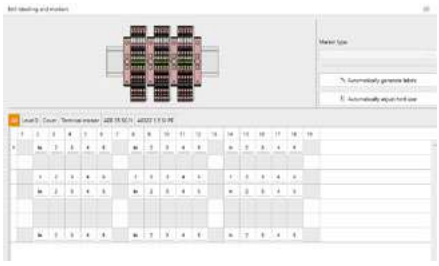
WMC

E3. series

ePLAN electric P8



Wizards:
Design complete applications within few clicks – even without detailed product knowledge – for signal wiring, load monitoring, instrument transformers, enclosures, remote I/O-systems and many more.



Assistants:
Finalize your solutions with supporting assistants to add cross-connectors, markers or colors and verify the faultlessness. Automatic modes save valuable time!

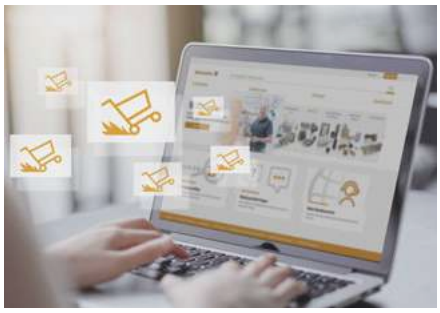
1-click documentation:
Get assembly drawings for production – only 1 click. Bill of material – only 1 click. The complete solution documentation including all component data sheets – you´re right, only 1 click!

Digital ordering options
Your digital ordering options at Weidmüller

Find and easily select the products you need, with convenient ordering: as your Partner in Industrial Connectivity, we know what counts in purchasing. That is why we offer you a variety of options for ordering products from us and optimising your purchasing processes to meet your individual requirements and your workflow. The choice is yours.

Order via the Weidmüller eShop

Our eShop offers you access to the complete Weidmüller product range around the clock – directly from a PC, tablet, or smartphone. The intuitive user guidance supports you as you select from over 50,000 products. Technical data, prices, and availabilities are available at any time. The shopping basket with check out function lets you place an order in seconds. Convenient additional functions like CSV upload, order history, reports, or custom order templates make your ordering processes even more efficient.



Order via the OCI interface

The Open Catalogue Interface (OCI) facilitates the exchange of data between your enterprise resource planning system and our eShop. This means that our eShop is integrated into your system via an OCI interface, so you have access to our complete product catalogue from your enterprise resource planning system. You can filter and select products, place them in your shopping basket and place direct orders without changing your software application. The open OCI standard is supported worldwide from a variety of software providers.

Order via the EDI interface

Our Electronic Data Interchange (EDI) also offers you the option of ordering our products directly from your enterprise resource planning system. All order data is transmitted automatically to our system and processed immediately. Orders, order confirmations, invoices, and delivery notices are transmitted lightning fast. This helps you make your purchasing processes even more efficient.

We will be glad to advise you on which solutions are suitable for you and how implementation is possible.
Get in touch with us
www.weidmueller.com/digital-order

Glossary/Technical appendix

Power Supplies – Overview

Power supplies are important links in the energy supply chain of automation systems. Unregulated power supplies or regulated switched-mode power supplies are at the heart of every electrical cabinet. 24 V DC has emerged as the standard control voltage for the supply of electrical sub-assemblies and systems. But other control voltages are also required. The correct power supply is a critical factor for the reliable operation of the supplied components. Thus it must be chosen with particular attention.

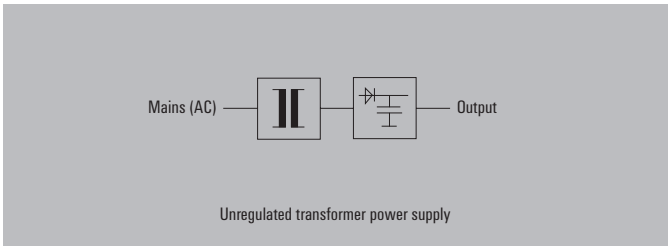
Regulated power supplies from Weidmüller have proven themselves reliable over many years in the supply of electrical sub-assemblies and systems. They perform reliably and safely – even under harsh industrial conditions – in all sectors of machine construction, industrial automation, and the power and process industries.

Weidmüller offers custom-fit solutions for practically all of your requirements:

- Switch-mode power supplies
- DC/DC converters
- Diode and redunancy modules
- UPS control modules
- Electronic load monitoring

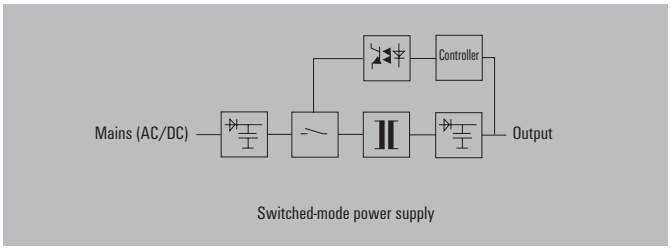
How they work

Unregulated power supply units consist of a mains power transformer that transforms the input voltage into a different AC voltage. The units then make use of a rectifier and a filter circuit to smooth out the DC output voltage.



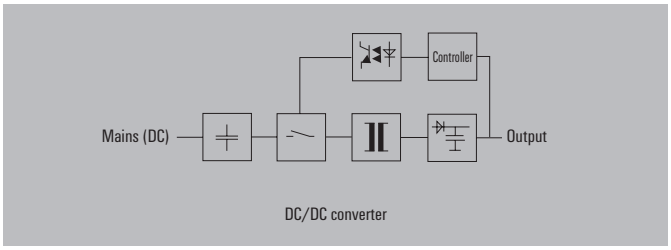
Unregulated transformer power supply

Regulated power supply units in the range up to 1,000 W are usually designed as primary switched-mode power units. The mains AC voltage is then rectified and transformed in high frequency to the secondary side using switching transistors and power transformers. This is followed by the rectifier and filter circuit in order to generate the DC output voltage. A control circuit compares the current and voltage on the output side to the specified target values and then generates a control signal for the switching transistors. This permits compensation for load changes and mains voltage fluctuations. As a result, the output voltage remains stable. These power supply units are increasingly being operated with DC input voltages (e.g. the Weidmüller PROtop, PROeco, PROmax, etc.).



Switched-mode power supply

A DC/DC converter is a variation of the classic switched mode power supply. The switching strategy is similar but there is no input rectifier. Starting with a specified DC input voltage, DC/DC converters generate a different DC voltage at a similar or different level. They are used to adapt different voltage levels and also for isolating potentials.



DC/DC converter

In use around the globe

Weidmüller's power supply units have been designed for use around the world. They can be used in practically all applications throughout the world because of their CE label and many other national and international approvals. Their wide input voltage ranges and compatibility with various mains power connections increases their global appeal.

Temperature range

During operation, power supply units generate power losses. In Weidmüller's switched-mode power supplies, the resulting heat is dispersed using natural air currents only. The design, which does not make use of a ventilation fan, is an example of our uncompromised durability standard. Weidmüller's power supply units, depending on the model, can be used in temperatures ranging from -40 °C to +70 °C.

Compact and efficient design

Weidmüller's switched-mode power supplies are extra small because they take advantage of the above-average degree of efficiency offered by the latest technologies. The power supplies from Weidmüller – whether they are book-shaped with minimised base surface, or variants with reduced height for use in distributor boxes – always provide the proper cost-saving solution.

Standards and approvals

Standard/Approval	Description
DIN EN 50178 (VDE 0160)	Electronic equipment for use in power installations
DIN EN 60950-1 (VDE 0805-1)	IT Equipment – Safety – Part 1: General requirements
DIN EN 61558-1 (VDE 0570-1)	Safety of transformers, power supply units, throttles and similar devices Part 1: General requirements and tests
DIN EN 61558-2-17 (VDE 0570 Part 2-17)	Safety of transformers, power supply units and similar devices Part 2-17: Special requirements for switch-mode power supply transformers
DIN EN 60204-1 (VDE 0113-1)	Safety of machinery – Electrical equipment of machinery – Part 1: General requirements
DIN VDE 0100-410	Construction of power installations with rated voltages up to 1,000 V Part 4: Protective measures Chapter 41: Protection against electrical shock
DIN EN 61204-1	Power supply units for low voltages, with direct-current-output – properties
DIN EN 60947-1	Low-voltage switching devices – Part 1: General definitions
DIN EN 61140	Protection against electrical shock - common requirements for facilities and operating equipment
IEC 38	Supplementary notes relating to status of international standards and European harmonisation of mains voltages 230/400 V
73/23 EWG	Electrical equipment for use within specific voltage limits (Low Voltage Directive)
2004/108/EG (89/336 EWG)	Electromagnetic compatibility (EMC Directive)
2006/42/EG (98/37 EG)	Safety of machines (directive covering mechanical equipment)
UL	Safety approval for the United States market
CSA	Safety approval for the Canadian market
GL	Test specifications for electrical/electronic devices and systems for use in marine technology
UL1310	Class 2 power supplies (limited energy)
UL1604	Electrical equipment for use in dangerous surroundings

Standard/Approval	Description
SEMI F47	Resistance of electronic devices against voltage drops
2006/95/EG (72/23/EWG)	Low Voltage Directive
EN 60721-3-2	Classification of surrounding conditions
EN 60664-1 (VDE0110-1)	Insulation coordination for electrical equipment
C22.2 No. 107.1	General standards for power supplies (Canadian standard)
EN 61000-3-2	Limiting of mains voltage harmonic currents
EN 61000-4-x	Interference immunity tests

Glossary

A

AC/DC converter	Conventional switched-mode power supplies generate a DC voltage from an AC voltage. For this reason they are sometimes also called AC/DC converters. Such devices are increasingly compatible for use with DC input voltages. The primary and secondary sides are typically electrically isolated.
Ambient temperature (operational)	The ambient operating temperature (the min. and max. values) together with the output current and voltage ratings can be used to describe the power capabilities of a power supply unit.

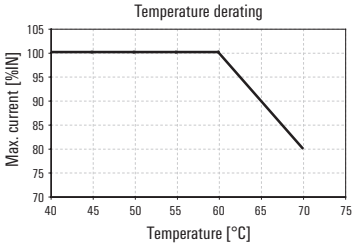
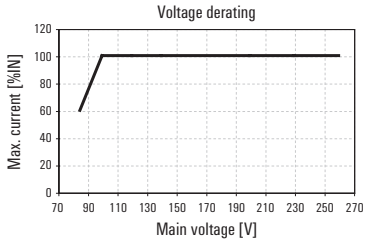
B

Burst	A burst is a quick low-power burst pulse which can, for example, simulate welding equipment phenomena. Similar phenomena can also result from switching operations on the mains supply. This test can be used to demonstrate immunity against quick transients.

C

Class of protection	Electrical equipment is classified according to varying classes of protection. These classes define the particular safety measures that are required to avoid an electrical shock. The most widely used power supplies correspond with protection class I. The basic requirement of protection class I is for a basic insulation and for the earthing of all conductive housing parts. If the basic insulation fails, then the earthed conductive housing serves to prevent an electrical shock. For this reason, devices in protection class I are equipped with an earth (PE) connection.
Connecting power supply units in parallel	Power supplies can only be connected in parallel when this is clearly permitted by the manufacturer. Parallel connections are then normally tied to certain conditions. This is a typical way to increase the output power (for example, when extending a facility). Power supplies are also wired in parallel in order to design in redundant power supply systems. The parallel circuit is not wired straight though but connects using decoupling diodes. → Redundancy
Cooling	Cooling is used by components or devices to prevent them from overheating. A variety of cooling strategies are available – two of the most common are natural and forced-air cooling. Natural (convection-based) cooling takes advantage of the natural air currents. Manufacturers must then ensure that there is sufficient air flow by specifying the clearance gaps and mounting positions that are required above and below the ventilation openings. Forced-air cooling normally uses a fan to dissipate any heat that has been generated. When fans are used in a device, they have the effect of increasing the likelihood of device outages. For this reason, a power supply with natural cooling methods is generally preferred.

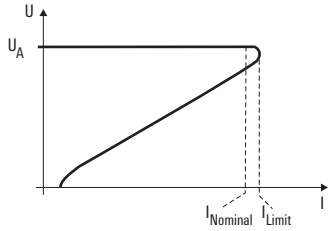
D

DC/DC converter	DC/DC converters are switched-mode power supplies that convert a specific DC voltage into another voltage. They are a variant of the AC/DC converter. DC/DC converters, in their simplest implementation, do not isolate voltage potentials. They are used only for adapting voltages. Improved DC/DC converters have isolated voltages. A safety isolating transformer in the power element ensures the required electrical isolation. Besides the voltage adaptation, the isolation of the voltage potentials is an important factor.
Derating	For power supply devices, derating generally refers to the reduction in power as influenced by the surrounding temperature and the input voltage. A temperature derating often occurs starting at a surrounding temperature of 50 °C. The rated power is guaranteed up to this temperature. The available power continually declines as the temperature heats up above this level. This is typically specified in %/K. A voltage-dependent specification is another form of derating For switched-mode power supplies, the derating begins below a specific input voltage. So a switched-mode power supply with a wide input range can typically work under full power with 115 V AC input voltage. However at 85 V AC it can only produce 60 % of the power rating. The coefficient is usually specified in %/V.  
Diode modules	Diode modules are used to construct a redundant power supply system. They are important for decoupling the power supply unit. Thus, a short circuit that occurs on the output of a power supply unit will not influence the output voltage.

E

Efficiency	The degree of efficiency is equal to the ratio of output power to input power and is expressed in percent. The degree of efficiency can be between 70 and 90 %, depending on the dimensions and type of technology in use.
EMC (electromagnetic compatibility)	Electromagnetic compatibility describes the interference emissions caused by an electronic device and the level of immunity against external electrical influences. Interference emissions can be caused by cabling and wires or by radiated emissions. Immunity measures the resistance against such wire-based emissions and against radiated emissions such as electrostatic fields and magnetic fields. Electric devices must also be protected against electrostatic discharges.

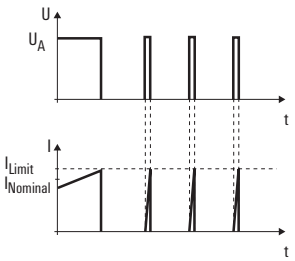
F

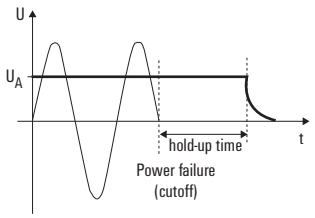
Foldback characteristic curve	The foldback characteristic curve is a special type of output curve that protects the power supply unit from overloads. When a specific current limit is exceeded (for example, by 110 or 120 % of the nominal level), the current is limited electronically and lowered to a very low, safe value. This downward-sloping characteristic curve means that it is not sufficient to simply eliminate the overload. The load must be reduced significantly more so that the adjustment control can return to the normal voltage control. Thus this solution is not suitable for many applications and is becoming less popular. 

G

Galvanic isolation	Galvanic (electrical) isolation ensures that no electrical connections can exist between the primary and the secondary sides. Opto modules and transformers are the typical components used.

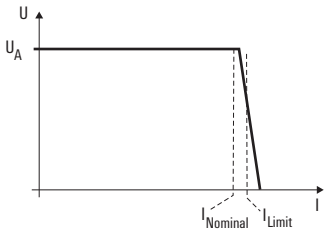
H

Hiccup mode	The hiccup mode is a special output characteristic curve that protects power supply units from overloads and short circuits. The unit switches off at a specified current limit (for example, 110 or 120 % on the nominal rating) and then switches back on after a certain delay. This leads to a pulsating mode of operations which can only revert to continual operations after the overload has been eliminated. The main disadvantage here is that the connected consumer load must be restarted after every pause. A restart may not be possible with motors or large capacitive loads since the restart current peak may once again exceed the defined limit. 

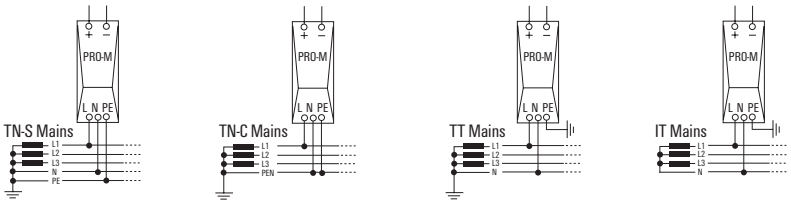
Hold-up time (mains-failure bridging time)	The hold-up time (also known as the mains-failure bridging time) is the interval from the start of the mains outage to the point in time when the output voltage can no longer be maintained at its original level. The hold-up time indicates how long a mains outage may last before it influences the output voltage. For DC power supplies, EN 61204 requires a bridging time of at least 20 ms. 

I

Input voltage range	This refers to the minimum and maximum input voltage at which the rated output specifications can be maintained.
Inrush current	The inrush current refers to the peak current that occurs when turning on a consumer load. Switched-mode power supplies have storage capacitors in the input which can cause significant current peaks while the mains power is being switched on. A variety of circuitry solutions can be used to attenuate these current peaks. In the simplest solution, an inrush limiter is used. Active switching can be used in other cases. The peak current specification indicates which upstream fuse should be used in the circuit. If a fuse is selected which is too sensitive, it can trigger when the mains power is switched on.

IU characteristic curve	The IU characteristic curve is a special output characteristic curve that protects power supply units from overloads and short circuits. It offers the best performance with regards to overload and short circuit capabilities. A current limit is activated at a specific current level (for example, 110 or 120 % on the nominal rating). As the load continues to increase, the output voltage is reduced according to the current limit curve until it reaches a level approaching zero volts. Thus a pulsating mode of operations is avoided for short-term overloads. Large capacitive loads or motors are brought back up along the slope of the current-limit characteristic curve. After a short circuit or overload is fixed, the IU characteristic curve offers the advantage of immediately returning to the normal voltage control mechanism. The full output voltage is then immediately available. The IU characteristic curve is becoming the established standard for modern power supplies. Additional variants are available which pertain to the peak current capacity and the slope of the current-limit characteristic curve. 

M

Mains harmonics	Power supplies can experience harmonics caused by mains rectification on the input side. These harmonics are multiples of the mains frequencies. Existing standards define specific limit values since such harmonics can significantly lower the mains quality.
Mains system types	This refers to the types of mains supply systems. Systems differ in their method of earthing and the implementation of the phase wire, PE wire and central-point wire. Common mains systems include the TN, IT and TT networks. The individual mains types can also differ in their voltage levels and frequencies. 
MTBF (mean time between failure)	The MTBF is a statistical value that specifies the probability that a product will fail. It is typically specified in hours and normally assumes a temperature of 25 °C. The probability of failure depends largely on the ambient surroundings. The key variables are the type of load and the ambient temperature.

O

Output characteristic curves	The output characteristic curves of power supply devices are determined by current and voltage. Unregulated devices do not have a current limit. In the case of an overload or short circuit, fuses or temperature switches are used to protect the device. Regulated devices are protected against overload and short circuits by means of various output characteristic curves. In this case, the system attempts to prevent any activation of fuses or temperature switches. The mandatory manual reset which follows an overload or short circuit can then be avoided. Common output characteristic curves include the hiccup mode, the foldback characteristic curve or the IU characteristic curve. → Hiccup mode, foldback characteristic curve, IU characteristic curve
Overvoltage category	Power supply units are classified into overvoltage categories according to the immunity against mains surges and transient voltages.

P

PELV (protective extra-low voltage)	This is a functional DC voltage with secure isolation according to EN 50178. As with SELV, a reinforced or double insulation is used between the primary and secondary sides. However, the secondary side is earthed.
PFC (power factor correction)	The power factor correction can be either passive or active in relation to power supply devices. The reactive power resulting from the bridge rectification puts a significant strain on the power supply network. The relatively poor power efficiency factor that results can be improved by using passive components (such as filters) or an active electronic mechanism. For switched-mode power supplies, PFC usually refers to the active variant of the power factor correction. Power factors of almost 1 can be reached when using an active PFC. Practically no reactive power is drawn from the mains supply network; therefore the strain on the mains network is relatively low.
Pollution severity	Pollution severity describes the environment and ambient conditions that a device requires in order for it to function smoothly. Significant environmental variables include condensation or air containing dust and oil.
Power-boost or boost	The power-boost function is the surge current handling capacity in the seconds to minutes range. This function is often required for starting up DC motors. DC motors have a high start-up current and often require several seconds before they have achieved their rated rotational speed. The power-boost function helps to optimise this start-up phase.
Power factor	The power factor is the ratio of reactive power to apparent power. It is an indicator of the device performance with respect to the load on the mains power network. Depending on the technology in use, the power factor for power supplies can be between 0.45 and nearly 1.

Power loss	For power supply units, the power loss specification indicates the thermal output emitted during nominal (rated) operations. This is a key specification used by engineers when designing the climate control systems within electrical cabinets. It is calculated as the difference between the input and output power and can also take the degree of efficiency into account.
Power rating	The continual output permitted under the rated conditions.
Power supply units connected in series	Power supplies can only be connected in series when this is clearly permitted by the manufacturer. Such series connections are then normally tied to certain conditions. They can be used to increase the output voltage. This is not widely implemented.
Protection degree	According to DIN EN 60529, devices can be classified according to their protection degrees. The numeric code (for example, IP 20) defines two protection degrees: protection against touch or penetration by external objects (the first digit) and protection against water penetration (the second digit). Switched-mode power supplies intended for use in electrical cabinets or similar enclosures are often designed with IP 20 protection. The first digit (in this case, 2) ensures finger protection. The second digit (0) indicates that no protection against water is provided.
Pulsed current capacity	The pulsed current capacity describes the dynamic performance of a switched-mode power supply. Capacitive consumer loads, with their high inrush currents, put a particular strain on a switched-mode power supply. Peak values are reached (in the ms range) which amount to levels many times higher than the mains current. If the current control mechanism reacts too quickly, this can lead to voltage drops and can cause problems for loads which are connected in parallel. For this reason, power supplies are often equipped with a surge current limiting factor based on time. This allows a high current output for only a few ms which can be much higher than the rated current.

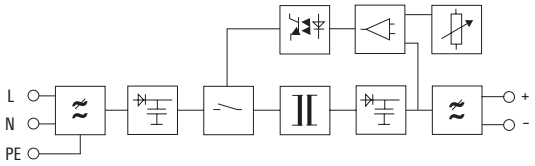
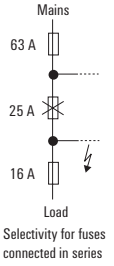
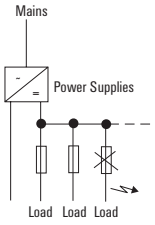
R

Rated control voltage	The nominal value of the sparkover voltage for the relay.
Rated input voltage	The input voltage required at which, under the normal mains voltage fluctuations, the output levels can be kept stable. It usually corresponds to the rated voltage for the electric utility's power grid.
Rated output current	The long-term current permitted under the rated conditions.
Rated output voltage	The nominal output voltage used for the rated specifications. It usually corresponds to the factory default output voltage.

Redundancy	A power supply system is considered redundant if it is constructed so that it has partial power supplies which are independent of each other and each of these can individually deliver the output load. When a fault occurs, therefore, it is still possible to continue to supply the connected rated load. In reality, at least two power supplies are connected in parallel using decoupling diodes. In this way, a short circuit in the output of one power supply will not lead to the failure of the entire power supply system. → Diode modules
Regulated power supply units	Switched-mode power supplies, as opposed to more common power supply units, have become established as the standard for the 10–1,000 W power range. They produce a stable output voltage with minimal residual ripple, even when influenced by fluctuations in the mains voltage, mains frequency or load. Their small size and weight is a result of their superior efficiency degree. The electronic control mechanism typically ensures a constant output voltage that varies ±1 %.
Residual ripple	The residual ripple describes the ratio of superimposed AC voltage to DC voltage on the output side of the power supplies. In addition to a percent specification, the superimposed ripple is often specified in mV_{SS} for switched-mode power supplies.
Resistance to shock	Resistance to shock refers to mechanical immunity against impacts in any direction. This is a key factor while the product is being transported.
Response time	The response time is the time that a power supply unit needs to compensate for a disturbance (for example, a load fluctuation).

S

Switching frequency	Switched-mode power supplies are normally operated with switching frequencies from 20 to 200 kHz. The HF or power transformer is switched on an off using transistors at this switching frequency. Small, compact units can be built with this method in comparison with the traditional 50/60 Hz transformers.

Switched-mode power supply units	The switching pulse can be either primary or secondary. Thus there are primary switched-mode and secondary switched-mode power supply units. Secondary switched-mode power supply units are no longer of much significance. The primary switched-mode power supplies are now the focus of attention. The pulse refers to the high-frequency on and off switching of the transformer or transmitter in order to transmit energy. The high frequency allows the use of extra small inductive and capacitive components, particularly for the transmitter. In comparison to transformer-based power supply units, the weight and volume required are much reduced. 
Selectivity	When surge protection equipment is connected in series, selectivity refers to the ability of only one upstream fuse to trigger selectively in the event of an overload. The differentiation can take into account current or also time. With DC power supply systems, selectivity refers to the separate fusing of load circuits on the DC side. In this case as well, only the proper series fuse should trigger in the event of an overload. Fuses in DC circuits play a critical role since the power supplies must react to upcoming short circuits with a speedy cut-off or by limiting the current. Usually electronic fuses are used for this purpose.  Selectivity for fuses connected in series  Selectivity for DC systems
SELV (safety extra low voltage)	SELV refers to extra-low safety voltages according to IEC/EN 60950. Reinforced or doubled insulation between the primary and secondary sides is used to prevent electric shock. The output voltage here is sufficiently low so that it does not pose an injury risk if a person comes into direct contact.
Surge	A surge is a high-power voltage pulse which can be caused by, for example, a lightning strike. The switching operations from large consumer loads can also generate such voltage surges on the mains network. The surge test is used to demonstrate the immunity against high-power voltage pulses.

T

Temperature range	The temperature range specifies the minimum and maximum ambient temperatures for which a device can start up and run continuously.

U

Unregulated power supply units	Unregulated power supplies consist mainly of a transformer, a rectifier and an Elkos filter. Since no controlling system is in place, mains voltage fluctuations influence the DC voltage side. Unregulated power supply units are very sturdy; they can be used in applications where a stabilised DC voltage is not necessary (for example, power supply to contactors).

V

Vibration resistance	Vibration resistance describes the resistance against constant mechanical vibrations that occur during operations. Rail and ship applications place stricter demands for vibration resistance on the device.

W

Wide-range input	Modern switched-mode power supplies often feature a wide input range. They can be run under a wide range of voltages: from min. to max. rated voltages including the tolerance limits. They do not require any manual range switching.

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2580210000	PRO INSTA 30W 5V 6A	A.93
2580210000	PRO INSTA 30W 5V 6A	VIII
2580220000	PRO INSTA 30W 12V 2.6A	A.94
2580220000	PRO INSTA 30W 12V 2.6A	VIII
2580230000	PRO INSTA 60W 24V 2.5A	A.95
2580230000	PRO INSTA 60W 24V 2.5A	VIII
2580240000	PRO INSTA 60W 12V 5A	A.95
2580240000	PRO INSTA 60W 12V 5A	VIII
2580250000	PRO INSTA 90W 24V 3.8A	A.96
2580250000	PRO INSTA 90W 24V 3.8A	VIII
2580260000	PRO INSTA 96W 24V 4A	A.96
2580260000	PRO INSTA 96W 24V 4A	VIII
2580270000	PRO INSTA 96W 48V 2A	A.97
2580270000	PRO INSTA 96W 48V 2A	VIII
2587360000	PRO COM IO-LINK	B.4
2587360000	PRO COM IO-LINK	F.5

2620000000

2624980000	TGD ELM-6	B.6
2624990000	TGD ELM-12	B.5
2625000000	TGD FIM-C	B.4
2627630000	PRO TOPDC 24V/24V 20A	A.30
2627630000	PRO TOPDC 24V/24V 20A	VI
2627640000	PRO TOPDC 24V/24V 10A	A.29
2627640000	PRO TOPDC 24V/24V 10A	VI
2627650000	PRO TOPDC 24V/24V 5A	A.29
2627650000	PRO TOPDC 24V/24V 5A	VI
2627660000	PRO TOPDC 24V/48V 10A	A.30
2627660000	PRO TOPDC 24V/48V 10A	VI

2650000000

2656670000	TGD ELM-4 CL2	B.7

2660000000

2660200277	PRO PM 35W 5V 7A	A.78
2660200277	PRO PM 35W 5V 7A	VIII
2660200278	PRO PM 35W 12V 3A	A.78
2660200278	PRO PM 35W 12V 3A	VIII
2660200279	PRO PM 35W 24V 1.5A	A.79
2660200279	PRO PM 35W 24V 1.5A	VIII
2660200280	PRO PM 35W 48V 0.75A	A.79
2660200280	PRO PM 35W 48V 0.75A	VIII
2660200281	PRO PM 75W 5V 14A	A.80
2660200281	PRO PM 75W 5V 14A	VIII
2660200282	PRO PM 75W 12V 6A	A.80
2660200282	PRO PM 75W 12V 6A	VIII
2660200283	PRO PM 75W 24V 3.2A	A.81
2660200283	PRO PM 75W 24V 3.2A	VIII
2660200284	PRO PM 75W 48V 1.6A	A.81
2660200284	PRO PM 75W 48V 1.6A	VIII
2660200285	PRO PM 100W 12V 8.5A	A.82
2660200285	PRO PM 100W 12V 8.5A	VIII
2660200286	PRO PM 100W 24V 4.5A	A.82
2660200286	PRO PM 100W 24V 4.5A	VIII
2660200287	PRO PM 100W 48V 2.3A	A.83
2660200287	PRO PM 100W 48V 2.3A	VIII
2660200288	PRO PM 150W 12V 12.5A	A.84
2660200288	PRO PM 150W 12V 12.5A	VIII
2660200289	PRO PM 150W 24V 6.5A	A.84
2660200289	PRO PM 150W 24V 6.5A	VIII
2660200290	PRO PM 150W 48V 3.3A	A.85
2660200290	PRO PM 150W 48V 3.3A	VIII
2660200291	PRO PM 250W 12V 21A	A.86
2660200291	PRO PM 250W 12V 21A	VIII
2660200292	PRO PM 250W 24V 10.5A	A.86
2660200292	PRO PM 250W 24V 10.5A	VIII
2660200293	PRO PM 250W 48V 5.2A	A.87
2660200293	PRO PM 250W 48V 5.2A	VIII
2660200294	PRO PM 350W 24V 14.6A	A.88
2660200294	PRO PM 350W 24V 14.6A	VIII
2660200295	PRO PM 350W 48V 7.3A	A.88
2660200295	PRO PM 350W 48V 7.3A	VIII

2740000000

2749800000	SDIS 0.5X3.0X100	A.40
2749800000	SDIS 0.5X3.0X100	A.53
2749800000	SDIS 0.5X3.0X100	A.64
2749800000	SDIS 0.5X3.0X100	A.98
2749800000	SDIS 0.5X3.0X100	C.6
2749850000	SDIS 1.0X5.5X125	A.53
2749850000	SDIS 1.0X5.5X125	C.6
2749890000	SDIK PH1 X 80	A.40
2749890000	SDIK PH1 X 80	A.53
2749890000	SDIK PH1 X 80	A.64

2780000000

2786240000	PRO DC BUFFER 24V 20A	C.14
2786240000	PRO DC BUFFER 24V 20A	IX
2786250000	PRO DC BUFFER 24V 40A	C.14
2786250000	PRO DC BUFFER 24V 40A	IX
2789890000	DURA ECO LA-BAT 24V 1.2AH	C.10
2789890000	DURA ECO LA-BAT 24V 1.2AH	IX
2789900000	DURA ECO LA-BAT 24V 3.4AH	C.10
2789900000	DURA ECO LA-BAT 24V 3.4AH	IX
2789910000	DURA ECO LA-BAT 24V 7AH	C.11
2789910000	DURA ECO LA-BAT 24V 7AH	IX
2789920000	DURA ECO LA-BAT 24V 12AH	C.11
2789920000	DURA ECO LA-BAT 24V 12AH	IX
2789930000	DURA ECO LA-BAT 24V 17AH	C.11
2789930000	DURA ECO LA-BAT 24V 17AH	IX

2830000000

2838400000	PRO BAS 30W 5V 6A	A.70
2838400000	PRO BAS 30W 5V 6A	VII
2838410000	PRO BAS 60W 24V 2.5A	A.70
2838410000	PRO BAS 60W 24V 2.5A	VII
2838420000	PRO BAS 60W 12V 5A	A.71
2838420000	PRO BAS 60W 12V 5A	VII
2838430000	PRO BAS 90W 24V 3.8A	A.71
2838430000	PRO BAS 90W 24V 3.8A	VII
2838440000	PRO BAS 120W 24V 5A	A.72
2838440000	PRO BAS 120W 24V 5A	VII
2838450000	PRO BAS 120W 12V 10A	A.72
2838450000	PRO BAS 120W 12V 10A	VII
2838460000	PRO BAS 240W 24V 10A	A.73
2838460000	PRO BAS 240W 24V 10A	VII
2838470000	PRO BAS 240W 48V 5A	A.73
2838470000	PRO BAS 240W 48V 5A	VII
2838480000	PRO BAS 480W 24V 20A	A.74
2838480000	PRO BAS 480W 24V 20A	VII
2838490000	PRO BAS 480W 48V 10A	A.74
2838490000	PRO BAS 480W 48V 10A	VII
2838500000	PRO BAS 30W 24V 1.3A	A.69
2838500000	PRO BAS 30W 24V 1.3A	VII
2838510000	PRO BAS 30W 12V 2.6A	A.69
2838510000	PRO BAS 30W 12V 2.6A	VII
2838520000	AMG ELM-18 EX	B.30

2850000000

2859800000	AMG ELM-18	B.19

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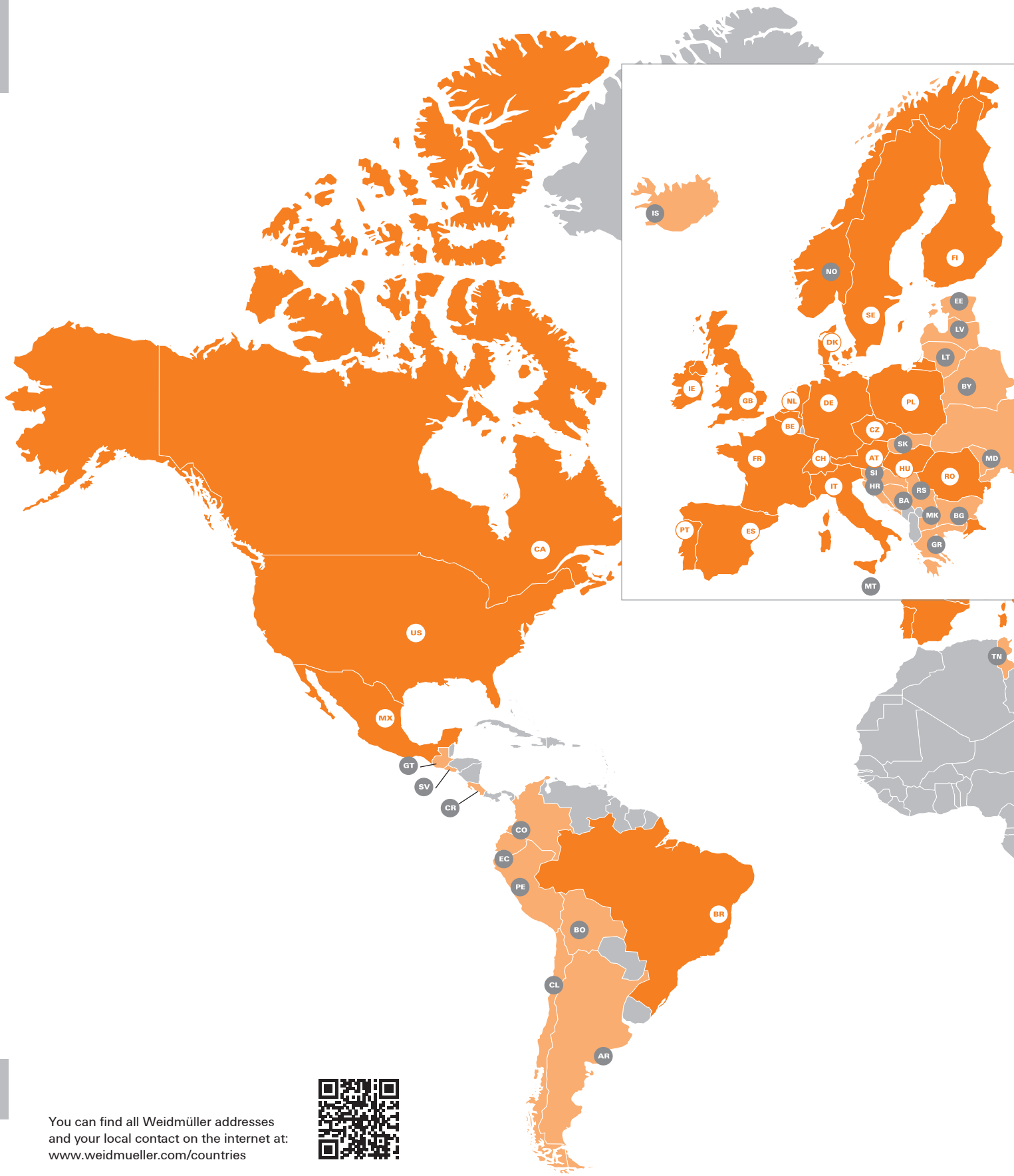

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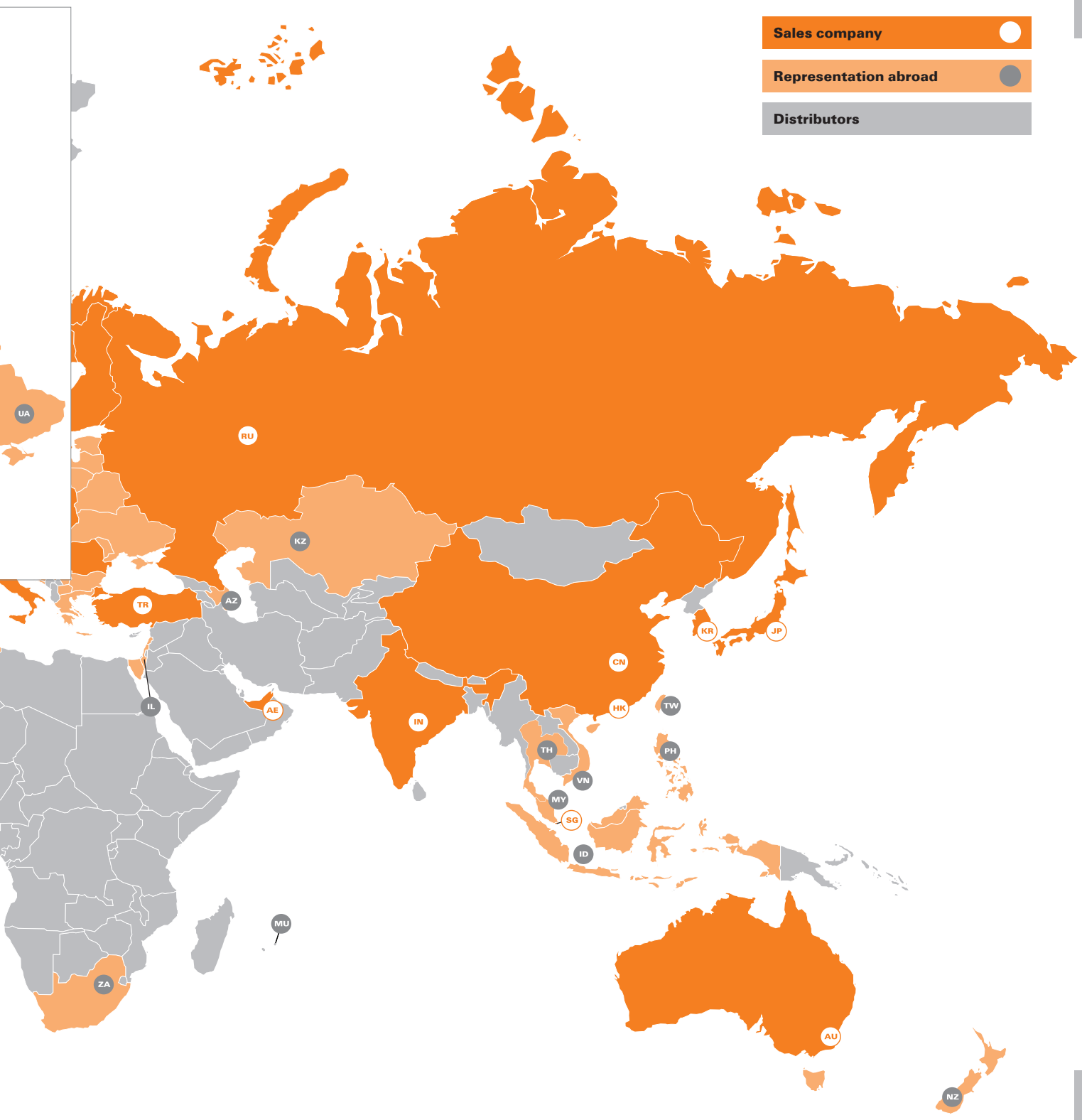
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