RFID

LOW AND HIGH FREQUENCY

HIGHLIGHTS

- ✓ Low- and high-frequency (LF and HF) systems networkable on ContriNET or on conventional PC using USB connection
- ✓ Widest fieldbus coverage on market

LF system

- ✓ All-metal housings, IP 68 and IP 69K
- ✓ Food safe and saltwater resistant (316L/V4A)
- ✓ All tags embeddable in metal

HF system

- ✓ ISO/IEC 15693 compatible
- ✓ Fast data transfer time
- ✓ User-defined password protection features

NEW

- ✓ HF Read/Write Modules with IO-Link
- ✓ HF VHT tags for high temperatures
- ✓ LF and HF Read/Write Modules with USB connection

RFID SYSTEMS

RFID (Radio Frequency IDentification) is used in numerous automation and logistics domains. It allows objects to be identified by means of electronic labels (transponders or tags).

Compared to classic systems, such as bar codes or laser marking, RFID technology offers important advantages. Transponder information can be read or written even when there is no direct line of sight between it and the Read/Write Module. In addition, information can be added, modified or replaced. It is a useful technology for automated production, reducing human error while increasing reliability, flexibility and traceability.

ConIdent® (also called ConID) is the general name of the Contrinex RFID system, including transponders, Read/Write Modules and interfaces in both low frequency (LF) and high frequency (HF) technology.

ContriNET is the product name of the Contrinex RFID network and protocol. The ContriNET protocol uses an RS485 physical layer, which allows LF and/or HF Read/Write Modules to be daisy-chained, reducing the total number of interfaces.

- Up to 10 ContriNET RWMs with one USB interface
- Up to 31 ContriNET RWMs with one industrial bus interface
- Up to 254 ContriNET RWMs on a half-duplex RS485 interface

While the usual interfaces allow connection of a limited number of Read/Write Modules (typically 4), ContriNET RWMs can be used to reduce the number of interfaces, which makes the cost of a ConID system more economic than solutions proposed by the competitors.

In principle, a ContriNET network can extend to a length of 200 m

An RFID system always has the structure illustrated on page 371.

TECHNOLOGY

LOW FREQUENCY (LF) RFID (31.25 KHZ)

Contrinex LF RFID technology features not only conventional plastic components, but also a range of all-metal Read/Write Modules and transponders in stainless steel. These devices are particularly suitable for difficult operating environments where they will be exposed to cleaning, harsh chemicals, water and frost. They are also highly resistant to mechanical shocks.

- Non-standard technology (proprietary data communication)
- Reads and writes through metal
- Works in a metallic environment (fully embeddable)
- High resistance in harsh environments

HIGH FREQUENCY (HF) RFID (13.56 MHZ)

Contrinex HF RFID technology complies with ISO/IEC 15693 and is therefore open to any components that meet this standard. HF systems allow fast communication between transponders and Read/Write Modules as well as extended functionality for tag data protection.

ISO/IEC 15693

Anti-collision, in case of multiple tag detection

Very high temperature tags (VHT 180C / 356F) embeddable in metal Ultra high temperature tags (UHT 250C / 482F)

RFID COMPONENTS

TRANSPONDERS (TAGS)

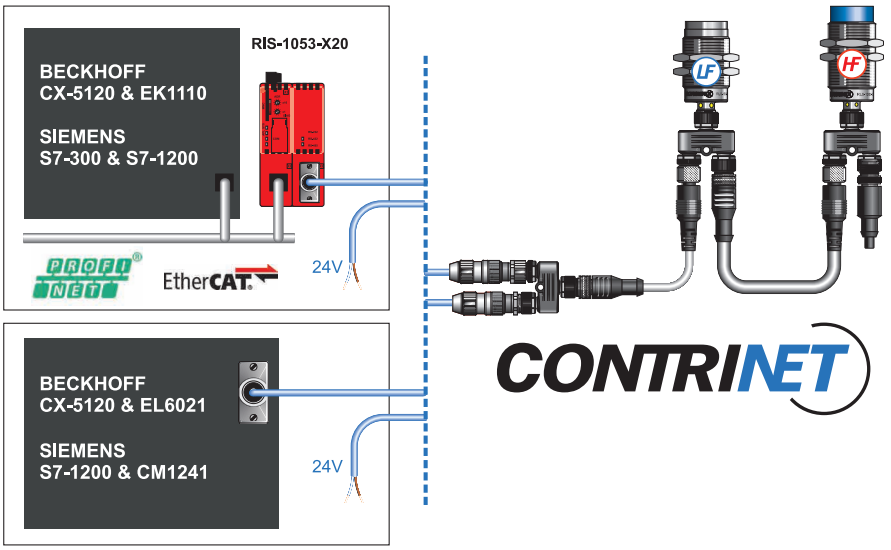
A transponder is an electronic product that stores data. Transponder memory includes a unique preset number as an identifier and a memory area for writing user application data in relation to tagged product information. Writeable data may include, for example, the object's history or the parameters of operations to which it will be subjected.

READ/WRITE MODULES (RWMS)

A Read/Write Module is a device that allows data to be read from or written to a transponder.

INTERFACES

An interface connects the Read/Write Modules to an industrial fieldbus. ConID interfaces are available for PROFIBUS, DeviceNet, EtherNet/IP, PROFINET, EtherCAT, POWERLINK, Ethernet TCP/IP and USB.



Communication between the RWM and any tags is provided by the modulation of a carrier frequency.

PRODUCT FAMILIES

BASIC

Contrinex Basic RFID components are ideal for general identification and monitoring tasks in almost any industry. The family includes low- and high-frequency passive, plastic transponders (tags) and threaded Read/Write Modules (RWMs). All devices are insensitive to dirt. HF components (13.56 MHZ) are fully ISO/IEC 15693-compliant, while LF components (31.25 kHz) utilize a proprietary data communication protocol. If the ContriNET protocol is used, LF and HF components can share one network, including the full range of interfaces.

LF Basic tags are embeddable and available in diameters of 20 mm, 30 mm and 50 mm. Maximum read/write distances when used with Basic M30 RWMs range from 25 mm to 41 mm. Housings have an IP67 enclosure rating and are temperature resistant from -40 ... +125°C (-40 to +257°F). **LF Basic RWMs** are non-embeddable and, when used with a 50 mm Basic tag, offer maximum read/write distances of 37 mm for the M18 type and 41 mm for the M30 type.

HF Basic tags are non-embeddable and available in diameters from 9 mm to 50 mm. Maximum read/write distances when used with Basic M30 RWMs range from 14 mm to 60 mm. Housings have an IP67 enclosure rating and are temperature resistant from -40 ... +125°C (-40 to +257°F).

HF Basic RWMs are non-embeddable and, when used with a 50 mm Basic tag, offer maximum read/write distances of 42 mm for the M18 type and 60 mm for the M30 type.

INTRODUCTION

EXTREME

The **Extreme** family of metal, low-frequency components is particularly suitable for use in harsh environments, such as the steel industry, agriculture and other outdoor applications. It comprises stainless-steel (V2A / AISI 304) passive tags and threaded RWMs that utilize proprietary LF data communication (31.25 kHz). All components are insensitive to dirt and designed for outstanding performance in metallic environments. If the ContriNET protocol is used, these LF components can share one network with HF types, including the full range of interfaces.

LF Extreme tags are readable/writable through metal and available in diameters of 10 mm, 16 mm, 26 mm, M16 and M30. Mounting is fully embeddable, including in metal, and maximum read/write distances when used with Extreme M30 RWMs range from 4 mm to 13 mm. Housings have an IP68 enclosure rating and are temperature resistant from -40 ... +95°C (-40 to +203°F). In addition, a non-embeddable M30 type is also available with a maximum read/write distance of 12 mm and an IP68 & IP69K enclosure rating. LF Extreme RWMs are non-embeddable and, when used with a 26 mm Extreme tag, offer maximum read/write distances of 12 mm for the M18 type and 13 mm for the M30 type. They have an IP68 & IP69K enclosure rating.

WASHDOWN

The **Washdown** family of full-metal, low-frequency components has been designed for demanding wash-in-place applications within the food, pharmaceutical and other industries. Passive tags from this family offer the highest mechanical and chemical resistance, being fully sealed, laser welded and made of food-grade stainless steel (V4A / AISI 316L). As a result, they are highly corrosion-proof, saltwater resistant and withstand aggressive solvents.

With an enclosure rating of IP68 & IP69K, Washdown components resist high-pressure cleaning and function reliably in water. They have also been optimized for a wide operating temperature range: -40 to +125°C (-40 to +257°F). If the ContriNET protocol is used, LF RWMs can share one network with HF types, including the full range of interfaces.

LF Washdown tags are readable/writable through metal, insensitive to dirt and available in diameters of 10 mm, 16 mm, 26 mm, M16 and M30. Mounting is fully embeddable, including in metal, and maximum read/write distances when used with Washdown M30 RWMs range from 4 mm to 13 mm. In addition, a non-embeddable M30 tag is also available with a maximum read/write distance of 12 mm.

LF Washdown RWMs are non-embeddable and, when used with a 26 mm Washdown tag, offer maximum read/write distances of 12 mm for the M18 type and 13 mm for the M30 type.

HIGH TEMPERATURE

With 100 % silicone-free construction and thermal cycling reliability of 1000 hours (or 1000 cycles), passive tags from the High Temperature family are ideal for use in paintshops and other high temperature environments. Tags are insensitive to dirt and their housings have an IP68 & IP69K enclosure rating. HF tags (13.56 MHZ) are fully ISO/IEC 15693-compliant, while LF tags (31.25 kHz) utilize proprietary data communication.

HF High Temperature tags offer the highest temperature resistance with a range of non-embeddable, silicone-free LCP types for temperatures from -25 ... +250°C (-13 to +482°F). Based on EEPROM or FRAM technology, memory size ranges from 128 Bytes to 2048 Bytes. Tag diameter is 50 mm and, when used with a Basic M30 HF RWM, the maximum read/write distance is 60 mm. Life expectancy is exceptionally long, even under intense read/write and temperature cycling.

For temperatures in the range -25 ... +180°C (-13 to +356°F), a PPS type is also available. With a diameter of 26 mm, this HF tag is suitable for embeddable mounting in metal. The maximum read/write distance with a Basic M30 RWM is 31 mm.

IO-Link

The **IO-Link** family of high frequency read/write modules (HF RWMs) with IO-Link interface V 1.1 has been designed for easy, cost-effective integration into existing control systems.

These non-embeddable HF RWMs are available in sizes M18 and M30. When used with a 50 mm diameter tag, they offer maximum read/write distances of 42 mm for the M18 type and 60 mm for the M30 type. They can be operated either as IO-Link devices or in standard I/O mode (SIO) with conditional binary outputs. In stand-alone SIO mode the conditional output switch enables either tag detection or data block comparison.

With two operating modes and simplified plug-and-play installation, these HF RWMs reduce installation costs, typically in the logistics, mechanical engineering and automotive industries.

USB

The USB family of low- and high-frequency read/write modules (RWMs) is ideal for user access control stations and tag programming by PC. USB RWMs are robust, economical and easy to mount thanks to standard threaded housings. Available in four sizes (M18/M30 x 35 mm and M18/M30 x 50 mm), they offer read/write distances up to 60 mm with a tag diameter of 50 mm. HF RWMs (13.56 MHZ) are fully ISO/IEC 15693-compliant, while LF RWMs (31.25 kHz) utilize proprietary data communication. Host communication relies on the hexadecimal-based ContriNET protocol, which allows LF and HF RWMs to use the same demo software as standard (Basic) ContriNET RWMs. Drivers are available for Windows XP, 7, 10, CE4 & CE5 operating systems.

SUPPORT TOOLS

For each product, a dedicated package of all the necessary support tools (software, firmware, drivers, DLL files, 3D-CAD models, etc.) can be downloaded from the relevant product-finder page on the Contrinex website.

APPLICATIONS

WASHING STATIONS

In the harsh environment of a washing station, RFID transponders and Read/Write Modules (RWMs) are exposed to hot water, mechanical shocks, corrosive chemicals and high-pressure jetting. Despite these challenges, identification systems must operate continuously with high reliability.

Typically, RFID tags are mounted on the part carriers. On arrival at the washing station, information from the tag is used to select the correct washing cycle for the part type and process.

LF Washdown advantages

ConIdent® Washdown passive tags require no power source, minimal maintenance and function reliably in water. Designed to withstand high pressure cleaning and aggressive solvents, their rugged, full-metal, laser welded housings are fully sealed against water penetration (IP 68 or IP 69K) and withstand temperatures up to 125C (+257F). Their extended sensing range reduces the risk of mechanical damage. RWMs that withstand pressure washing are also available.

MACHINE TOOLS

The presence under pressure of lubricating and cooling fluids, combined with metal particles, makes the machine tool environment particularly difficult. Identification components must resist fluid penetration to prevent machine downtime and ensure the RFID system reliability.

An industrial network of Read/Write Modules (RWMs), interfaces and tags forms a complete RFID system to control the path of each workpiece through all machining cycles, programming and logging every step.

LF Extreme advantages

Components from the ConIdent® Extreme family offer outstanding performance in metallic environments. All-metal tags and RWMs are insensitive to dirt and resistant to corrosion, impact and abrasion. When embedded in metal, they are impervious with an IP68 & IP69K enclosure rating. Tags are optimized for operating temperatures from -40 to +95C (-40 to +203F) and RWMs, which utilize proprietary data communication (31.25 kHz), are not influenced by the presence of metal particles.

TESTING LINES

Product testing lines may comprise several test stations, each performing a fixed sequence of tests. For efficient real-time monitoring, identification systems must integrate well into the overall control system.

In a typical RFID system, part carriers are equipped with tags and every test station has a Read/Write Module (RWM). To program the testing machine, the RWM reads from each tag the type of test required for an individual part. After each test, the RWM writes the results back into the appropriate tag memory address/location. Test reports are automatically forwarded to the controller for product acceptance or rejection and fault correction.

HF Basic advantages

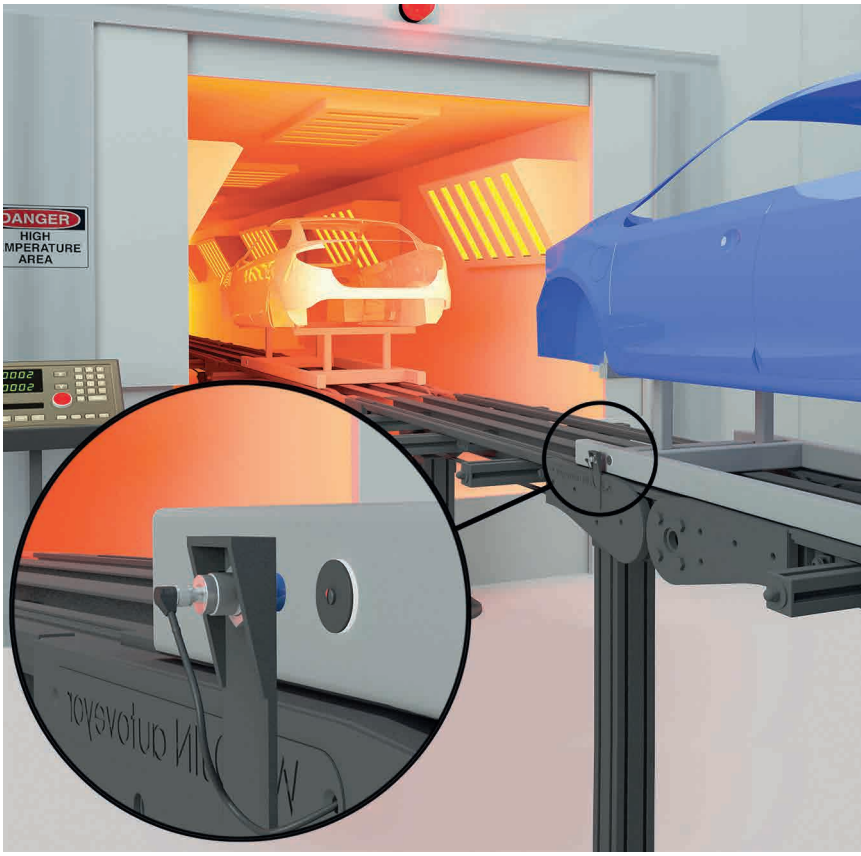
ConIdent® HF Basic tags and RWMs are fully compatible with ISO/IEC 15693, with fast data transfer times and a comprehensive range of interfaces for the widest fieldbus coverage on the market. Thanks to user-defined password protection features, data security is also excellent.

HF Basic RWMs use the powerful ContriNET protocol, which allows LF and HF RWMs to be daisy-chained on the same network. The HF RFID system also includes IO-Link and USB families. IO-Link RWMs allow easy system integration and USB RWMs enable direct connection to a PC.

PAINT SHOPS

Identification components in paint shops are exposed to a variety of rinsing, coating and burning operations, including electrophoresis. Since soiling makes visual identification difficult or impossible, rugged RFID systems are an excellent solution.

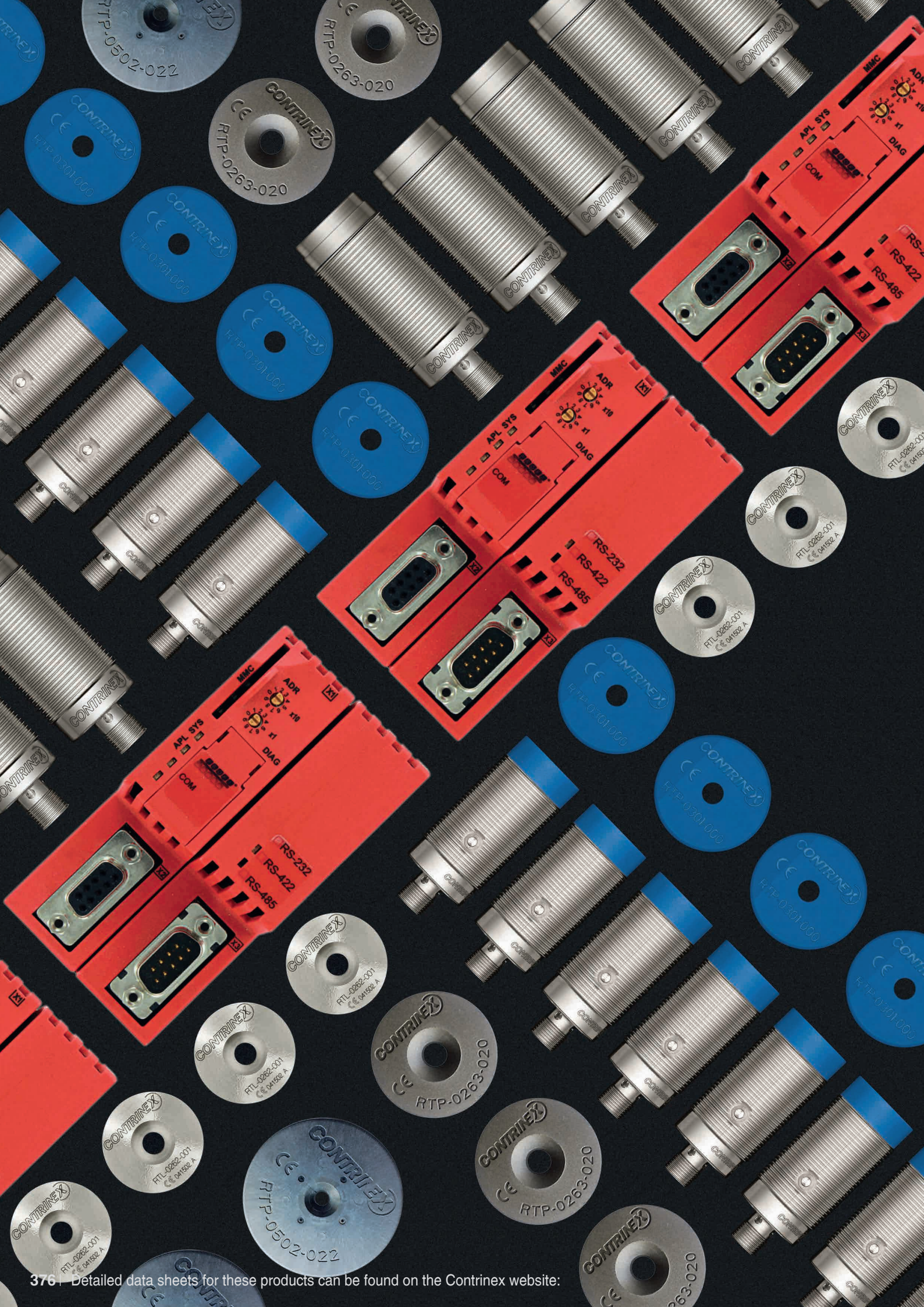
The RFID tag accompanies each product throughout all painting processes. It can store individual data, including customer requirements, directly on the product or carrier. This allows highly automated customized processes, with smaller batches and central data storage.



HF High Temperature advantages

The ConIdent® High Temperature family includes 100 % silicone-free tags that are ideal for paint-shop applications. Life expectancy is exceptionally long, even under intense read/write and temperature cycling.

- Tag RTP-0263-020, for embedded or non-embedded mounting in metal; Ø 26 mm (1.02”), temperature resistant up to 180C (356F)
- Tag RTP-0502-022, RTP-0502-062, RTP- 0502-082, non-embeddable; Ø 50 mm (1.97”), temperature resistant up to 250C (482F) and 100 % silicone-free


MMC
ADR
x10
x1
APL SYS
DIAG
COM
RS-232
RS-422
RS-485
RTP-0502-022
RTP-0263-020
RTL-0262-001
041502 A
RTP-0301-000

RFID

LF HF TRANSPONDERS 391-401

LF HF READ/WRITE MODULES (RWM) 402-417

LF HF INTERFACES 418-429

LF HF ACCESSORIES 430-439

PROGRAM OVERVIEW

LF LOW FREQUENCY

FAMILY	HOUSING SIZE	READ/ WRITE DISTANCE	BASIC	EXTREME	WASHDOWN
TRANSPONDER	∅ 10	0 ... 13 mm		p. 394	p. 396
	∅ 16	0 ... 19 mm		p. 394	p. 396
	M16	0 ... 13 mm		p. 395	p. 397
	∅ 20	0 ... 28 mm	p. 393		
	∅ 26	0 ... 26 mm		p. 394	p. 396
	∅ 30	0 ... 29 mm	p. 393		
	M30	0 ... 23 mm		p. 395	p. 397
	∅ 50	0 ... 41 mm	p. 393		

FAMILY	HOUSING SIZE	READ/ WRITE DISTANCE	BASIC	EXTREME	WASHDOWN	USB
RWM	M18	0 ... 36 mm	p. 404	p. 404	p. 405	p. 414
	M30	0 ... 41 mm	p. 404	p. 405	p. 405	p. 414

FAMILY	HOUSING SIZE	TCP / IP	PROFIBUS	DEVICENET	PROFINET ETHERNET-IP ETHERCAT POWERLINK	USB
INTERFACE	100 x 52		p. 420	p. 421	p. 421	
	120 x 80 155 x 96	p. 423				
	67 x 66					p. 428

HIGH FREQUENCY

FAMILY	HOUSING SIZE	READ/ WRITE DISTANCE	BASIC	HIGH TEMPERATURE
TRANSPONDER	∅ 9	0 ... 14 mm	p. 400	
	∅ 16	0 ... 31 mm	p. 400	
	∅ 20	0 ... 25 mm	p. 399	
	∅ 26	0 ... 31 mm		p. 400
	∅ 30	0 ... 45 mm	p. 399	
	∅ 50	0 ... 50 mm	p. 399	p. 401

FAMILY	HOUSING SIZE	READ/ WRITE DISTANCE	BASIC	IO-LINK	USB
RWM	M18	0 ... 42 mm	p. 406	p. 411	p. 415
	M30	0 ... 60 mm	p. 406	p. 411	p. 415

FAMILY	HOUSING SIZE	TCP / IP	PROFIBUS	DEVICENET	PROFINET ETHERNET-IP ETHERCAT POWERLINK	USB
INTERFACE	100 x 52		p. 420	p. 421	p. 421	
	120 x 80 155 x 96	p. 423				
	67 x 66					p. 428

LOW FREQUENCY

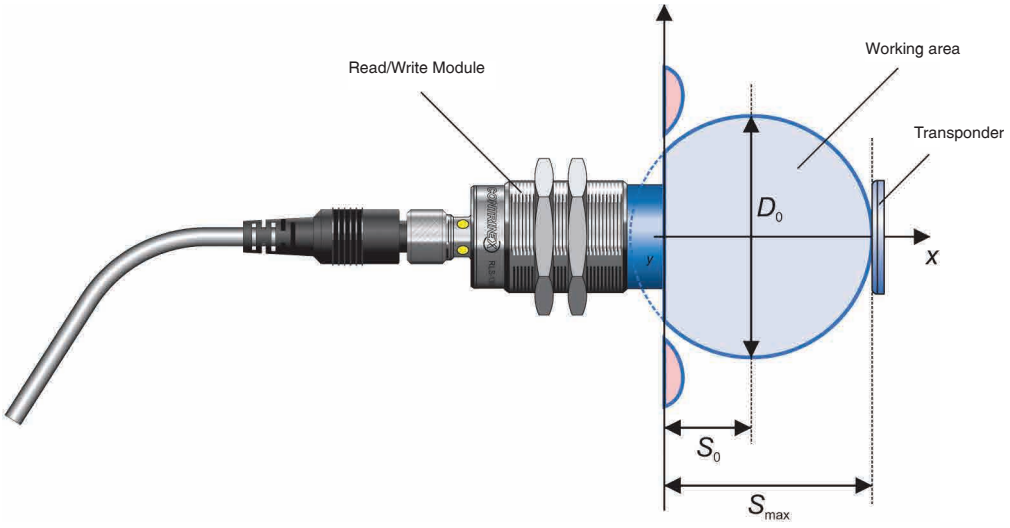
TRANSPONDER	TYPE	PART NO.	IC	USER DATA (BYTE)	MOUNTING
	Full metal - V2A	RTF-1300-000	EM4056	240	Non-embeddable
	Full metal - V4A	RTL-0102-001	EM4056	240	Embeddable
	Full metal - V4A	RTL-0162-001	EM4056	240	Embeddable
	Full metal - V4A	RTL-0262-001	EM4056	240	Embeddable
	Full metal - V4A	RTL-1302-001	EM4056	240	Non-embeddable
	Full metal - V4A	RTL-2162-001	EM4056	240	Embeddable
	Full metal - V4A	RTL-2302-001	EM4056	240	Embeddable
	Metal - V2A	RTM-0100-000	EM4056	240	Embeddable
	Metal - V2A	RTM-0160-000	EM4056	240	Embeddable
	Metal - V2A	RTM-0260-000	EM4056	240	Embeddable

TRANSPONDER OVERVIEW

MAX. READING DISTANCE (MM) SMAX MEASURED IN FREE AIR	TEMPERATURE RANGE			
	MIN (°C)	MAX (°C)	TESTED	
			DURATION	CYCLES
21 RLS-1181-030	-40	+80 Operating	-	-
23 RLS-1301-030	-40	+95 Storage		
13 RLS-1181-030	-40	+125 Operating	-	-
14 RLS-1301-030	-40	+125 Storage		
17 RLS-1181-030	-40	+125 Operating	-	-
19 RLS-1301-030	-40	+125 Storage		
23 RLS-1181-030	-40	+125 Operating	-	-
26 RLS-1301-030	-40	+125 Storage		
16 RLS-1181-030	-40	+125 Operating	-	-
18 RLS-1301-030	-40	+125 Storage		
13 RLS-1181-030	-40	+125 Operating	-	-
13 RLS-1301-030	-40	+125 Storage		
16 RLS-1181-030	-40	+125 Operating	-	-
18 RLS-1301-030	-40	+125 Storage		
13 RLS-1181-030	-40	+80 Operating	-	-
14 RLS-1301-030	-40	+95 Storage		
17 RLS-1181-030	-40	+80 Operating	-	-
19 RLS-1301-030	-40	+95 Storage		
23 RLS-1181-030	-40	+80 Operating	-	-
26 RLS-1301-030	-40	+95 Storage		

LOW FREQUENCY

TRANSPONDER	TYPE	PART NO.	IC	USER DATA (BYTE)	MOUNTING
	Metal - V2A	RTM-2160-000	EM4056	240	Embeddable
	Metal - V2A	RTM-2300-000	EM4056	240	Embeddable
	Plastic STD	RTP-0201-000	EM4056	240	Embeddable
	Plastic STD	RTP-0301-000	EM4056	240	Embeddable
	Plastic STD	RTP-0501-000	EM4056	240	Embeddable



RFID performance, operating zone

TRANSPONDER OVERVIEW

MAX. READING DISTANCE (MM) SMAX MEASURED IN FREE AIR	TEMPERATURE RANGE			
	MIN (°C)	MAX (°C)	TESTED	
			DURATION	CYCLES
13 RLS-1181-030	-40	+80 Operating	-	-
13 RLS-1301-030	-40	+95 Storage		
16 RLS-1181-030	-40	+80 Operating	-	-
18 RLS-1301-030	-40	+95 Storage		
25 RLS-1181-030	-40	+125 Operating	100 h	100
28 RLS-1301-030	-40	+125 Storage		
26 RLS-1181-030	-40	+125 Operating	100 h	100
29 RLS-1301-030	-40	+125 Storage		
36 RLS-1181-030	-40	+125 Operating	-	-
41 RLS-1301-030	-40	+125 Storage		

$$D_0 = 2 \cdot (S_{max} - S_0)$$

$$V_{R_{max}} = \frac{D_0}{T_R} = \frac{2 \cdot (S_{max} - S_0)}{T_0 + N \cdot T_{R0}}$$

$$V_{W_{max}} = \frac{D_0}{T_W} = \frac{2 \cdot (S_{max} - S_0)}{T_0 + N \cdot T_{W0}}$$

RFID performance, calculation of maximum read and write speed

HIGH FREQUENCY

TRANSPONDER	TYPE	PART NO.	IC	USER DATA (BYTE)	MOUNTING
	Plastic STD	RTP-0201-020	I-Code SLI-S	160	Non-embeddable
	Plastic VHT	RTP-0263-020	I-Code SLI-S	160	Embeddable
	Plastic STD	RTP-0301-020	I-Code SLI-S	160	Non-embeddable
	Plastic STD	RTP-0501-020	I-Code SLI-S	160	Non-embeddable
	Plastic STD	RTP-0090-020	I-Code SLI-S	160	Non-embeddable
	Plastic STD	RTP-0160-020	I-Code SLI-S	160	Non-embeddable
	Plastic UHT	RTP-0502-022	I-Code SLI-S	160	Non-embeddable
	Plastic UHT	RTP-0502-062	MB89R118C	2000	Non-embeddable
	Plastic UHT	RTP-0502-082	I-Code SLI	112	Non-embeddable

TRANSPONDER OVERVIEW

MAX. READING DISTANCE (MM) SMAX MEASURED IN FREE AIR	TEMPERATURE RANGE			
	MIN (°C)	MAX (°C)	TESTED	
			DURATION	CYCLES
14 RLS-1183-020	-25	+85 Operating	-	-
25 RLS-1303-020	-40	+125 Storage		
21 RLS-1183-020	-25	+180 Operating	1000 h	1000
31 RLS-1303-020	-40	+180 Storage		
26 RLS-1183-020	-25	+85 Operating	-	-
45 RLS-1303-020	-40	+125 Storage		
31 RLS-1183-020	-25	+85 Operating	-	-
47 RLS-1303-020	-40	+125 Storage		
14 RLS-1183-020	-20	+85 Operating	500 h	500
14 RLS-1303-020	-20	+110 Storage		
19 RLS-1183-020	-20	+85 Operating	500 h	500
31 RLS-1303-020	-20	+110 Storage		
38 RLS-1183-020	-25	+150 Operating	1000 h	1000
50 RLS-1303-020	-25	+250 Storage		
21.5 RLS-1183-020	-25	+150 Operating	1000 h	1000
44.5 RLS-1303-020	-25	+250 Storage		
33 RLS-1183-020	-25	+150 Operating	1000 h	1000
42.5 RLS-1303-020	-25	+250 Storage		

READ/WRITE MODULES

RWM	TYPE	PART NO.	STANDARD	ENCLOSURE RATING	MOUNTING
	Full metal - V2A	RLS-1180-030	Proprietary	IP 68 / IP 69K	Non-embeddable
	Plastic head	RLS-1181-030	Proprietary	IP 67	Non-embeddable
	USB - Plastic head	RLS-1181-230	Proprietary	IP 67	Non-embeddable
	Full metal - V2A	RLS-1300-030	Proprietary	IP 68 / IP 69K	Non-embeddable
	Plastic head	RLS-1301-030	Proprietary	IP 67	Non-embeddable
	USB - Plastic head	RLS-1301-230	Proprietary	IP 67	Non-embeddable
	USB - Plastic head	RLS-1181-220	ISO/IEC 15693	IP 67	Non-embeddable
	USB - Plastic head	RLS-1181-220-120	ISO/IEC 15693	IP 67	Non-embeddable
	IO-Link - Plastic head	RLS-1181-320	ISO/IEC 15693	IP 67	Non-embeddable
	Plastic head	RLS-1183-020	ISO/IEC 15693	IP 67	Non-embeddable
	USB - Plastic head	RLS-1301-220	ISO/IEC 15693	IP 67	Non-embeddable
	USB - Plastic head	RLS-1301-220-120	ISO/IEC 15693	IP 67	Non-embeddable
	IO-Link - Plastic head	RLS-1301-320	ISO/IEC 15693	IP 67	Non-embeddable
	Plastic head	RLS-1303-020	ISO/IEC 15693	IP 67	Non-embeddable

OVERVIEW

MAX. READING DISTANCE (MM) SMAX MEASURED IN FREE AIR	TEMPERATURE RANGE			
	MIN (°C)	MAX (°C)	TESTED	
			DURATION	CYCLES
12 RTP-0301-000	-25	+80 Operating	-	-
	-25	+80 Storage		
36 RTP-0501-000	-25	+80 Operating	-	-
	-25	+80 Storage		
36 RTP-0501-000	-25	+70 Operating	-	-
	-25	+70 Storage		
12 RTP-0301-000	-25	+80 Operating	-	-
	-25	+80 Storage		
41 RTP-0501-000	-25	+80 Operating	-	-
	-25	+80 Storage		
41 RTP-0501-000	-25	+70 Operating	-	-
	-25	+70 Storage		
31 RTP-0501-020	-25	+70 Operating	-	-
	-25	+70 Storage		
31 RTP-0501-020	-25	+70 Operating	-	-
	-25	+70 Storage		
40.5 RTP-0502-082	-25	+80 Operating	-	-
	-25	+80 Storage		
31 RTP-0501-020	-25	+80 Operating	-	-
	-25	+80 Storage		
60 RTP-0501-020	-25	+70 Operating	-	-
	-25	+70 Storage		
60 RTP-0501-020	-25	+70 Operating	-	-
	-25	+70 Storage		
62.5 RTP-0502-022	-25	+80 Operating	-	-
	-25	+80 Storage		
50 RTP-0502-022	-25	+80 Operating	-	-
	-25	+80 Storage		

MAX. CONVEYOR SPEED

RWM		TYPE	PART NO.	STANDARD	ENCLOSURE RATING	MOUNTING
LF		Full metal - V2A	RLS-1180-030	Proprietary	IP 68 / IP 69K	Non-embeddable
		Plastic head	RLS-1181-030	Proprietary	IP 67	Non-embeddable
		USB - Plastic head	RLS-1181-230	Proprietary	IP 67	Non-embeddable
		Full metal - V2A	RLS-1300-030	Proprietary	IP 68 / IP 69K	Non-embeddable
		Plastic head	RLS-1301-030	Proprietary	IP 67	Non-embeddable
		USB - Plastic head	RLS-1301-230	Proprietary	IP 67	Non-embeddable
HF		USB - Plastic head	RLS-1181-220	ISO/IEC 15693	IP 67	Non-embeddable
		USB - Plastic head	RLS-1181-220-120	ISO/IEC 15693	IP 67	Non-embeddable
		IO-Link - Plastic head	RLS-1181-320	ISO/IEC 15693	IP 67	Non-embeddable
		Plastic head	RLS-1183-020	ISO/IEC 15693	IP 67	Non-embeddable
		USB - Plastic head	RLS-1301-220	ISO/IEC 15693	IP 67	Non-embeddable
		USB - Plastic head	RLS-1301-220-120	ISO/IEC 15693	IP 67	Non-embeddable
		IO-Link - Plastic head	RLS-1301-320	ISO/IEC 15693	IP 67	Non-embeddable
		Plastic head	RLS-1303-020	ISO/IEC 15693	IP 67	Non-embeddable

FOR READ/WRITE OPERATIONS

S_{MAX} (MM)	S_0 (MM)	D_0 (MM)	N	V_{RMAX} 32 BITS DATA(CM/S)	V_{WMAX} 32 BITS DATA(CM/S)	TARGET
12	0	24	2	8.3	5.6	RTP-0301-000
36	12	48	2	16.6	11.2	RTP-0501-000
36	12	48	2	16.6	11.2	RTP-0501-000
12	0	24	2	8.3	5.6	RTP-0301-000
41	15	52	2	17.9	12.1	RTP-0501-000
41	15	52	2	17.9	12.1	RTP-0501-000
31	8	46	1	230	191.7	RTP-0501-020
31	8	46	1	230	191.7	RTP-0501-020
40.5	15.5	50	1	250	208.3	RTP-0502-082
31	8	46	1	230	191.7	RTP-0501-020
60	27	66	1	330	275	RTP-0501-020
60	27	66	1	330	275	RTP-0501-020
62.5	29.5	66	1	330	275.0	RTP-0502-022
50	27	66	1	330	275	RTP-0502-022


CONTRINEX
RTP-0502-022
RTP-0201-000
RTL-0262-001
123456
RTP-0263-029
RTP-0501-000
RTM-2300-000

TRANSPONDERS FOR ALL ENVIRONMENTS

TRANSPONDERS

LOW FREQUENCY

HIGH FREQUENCY

KEY ADVANTAGES

✓ Passive (no battery)

LF

✓ Stainless steel tags (transponders) for harsh environments
✓ Insensitive to dirt
✓ All tags embeddable in metal
✓ Tags readable/writeable through metal
✓ Food safe and saltwater resistant tags, IP68 & IP69K

HF

✓ Compatible with ISO/IEC 15693
✓ Insensitive to dirt
✓ Tags for temperatures up to 250C (482F)
✓ PPS tags that can be embedded in metal, IP68 & IP69K

STRUCTURE OF MEMORY

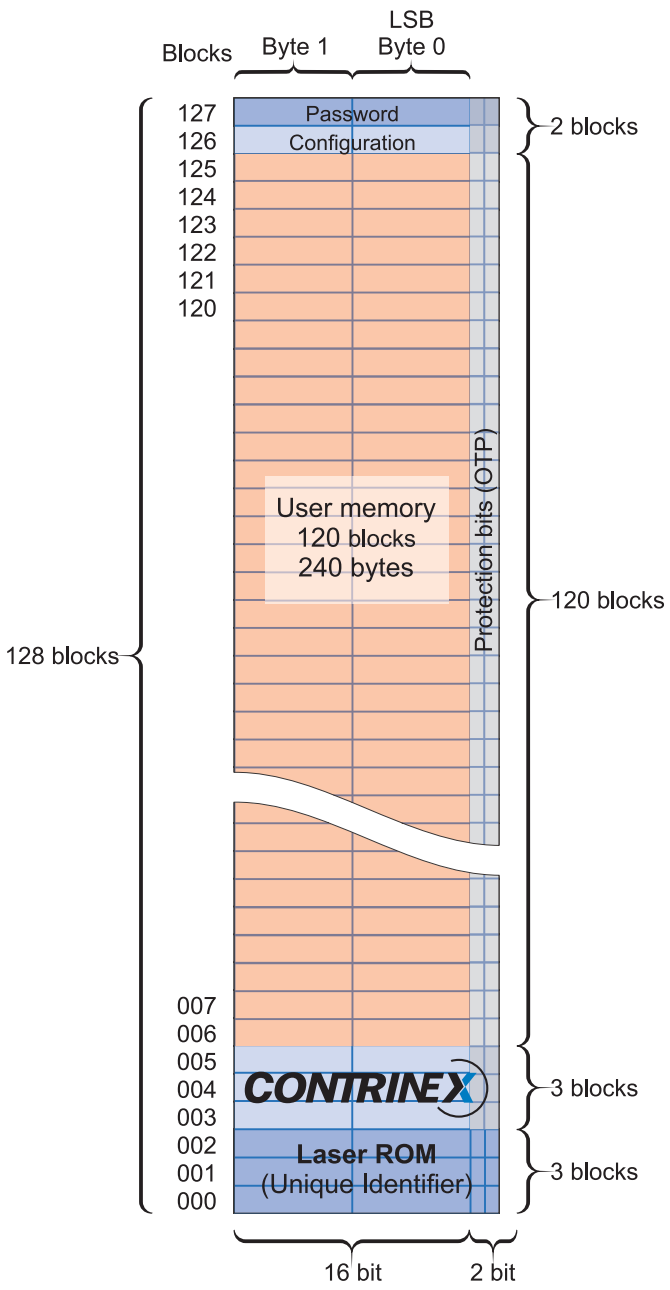
FAMILY

HOUSING SIZE MM

MAX. READ/WRITE DISTANCE MM

TECHNICAL DATA

Compatible IC type	EM4056
Read/write memory	240 bytes
Read only memory	12 bytes
Number of bits per block	16 bits
Standard	Proprietary



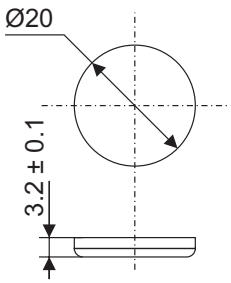
Various tag memory protection possibilities are provided, including password protection and OTP read and write protection of data blocks.

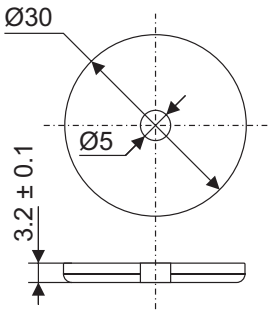
DATA

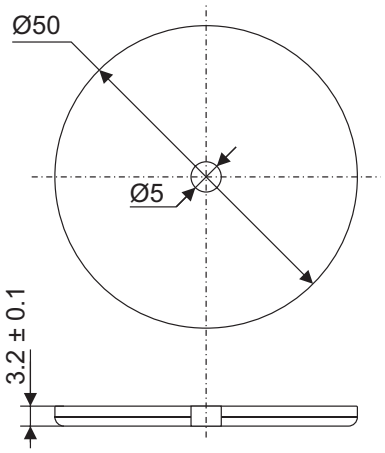
Housing material	
Mounting	
Ambient temperature range	
Storage temperature range	
Weight	
Part reference	

TRANSPONDERS

BASIC	BASIC	BASIC
Ø 20	Ø 30	Ø 50
28	29	41



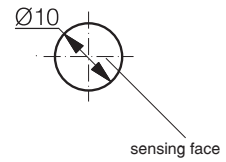


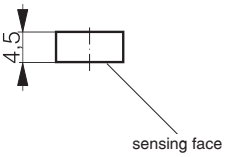


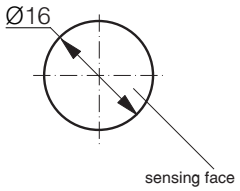
PBTP glass-fiber reinforced	PBTP glass-fiber reinforced	PBTP glass-fiber reinforced
Embeddable	Embeddable	Embeddable
-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F
-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F
1.3 g	2.3 g	5.7 g
RTP-0201-000	RTP-0301-000	RTP-0501-000

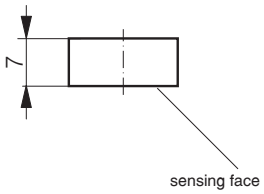
LOW FREQUENCY

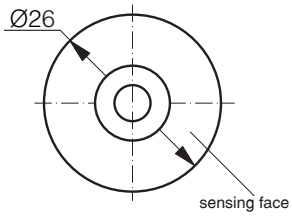
FAMILY	EXTREME	EXTREME	EXTREME
HOUSING SIZE MM	Ø 10	Ø 16	Ø 26
MAX. READ/WRITE DISTANCE MM	13	19	26

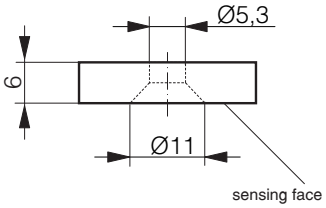






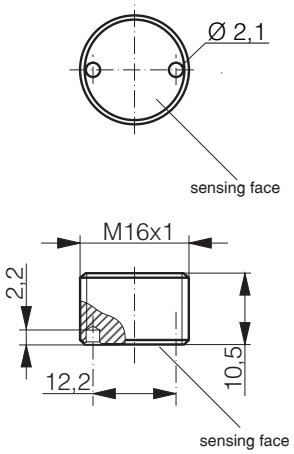
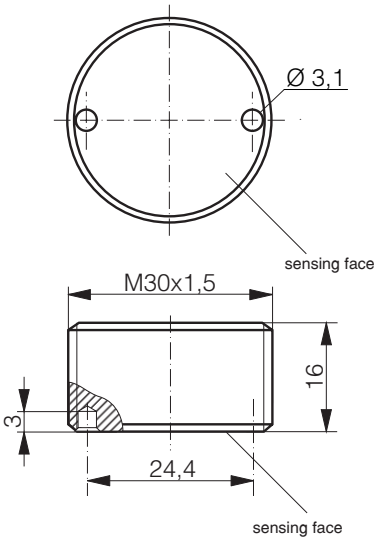
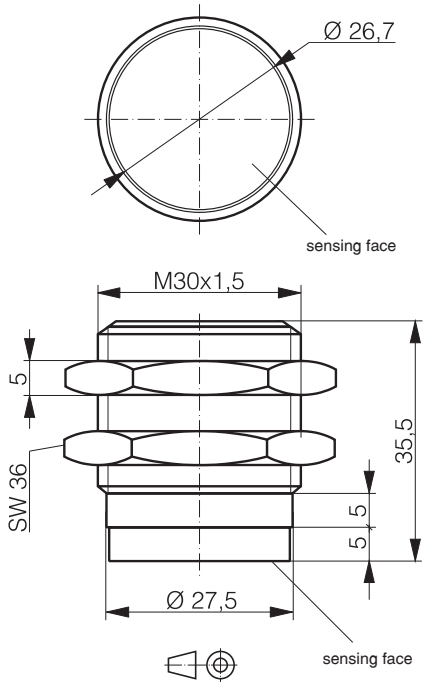






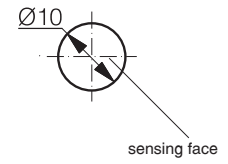
DATA			
Housing material	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A
Mounting	Embeddable	Embeddable	Embeddable
Ambient temperature range	-40 ... +80°C / -40 ... +176°F	-40 ... +80°C / -40 ... +176°F	-40 ... +80°C / -40 ... +176°F
Storage temperature range	-40 ... +95°C / -40 ... +203°F	-40 ... +95°C / -40 ... +203°F	-40 ... +95°C / -40 ... +203°F
Weight	1.1 g	2.7 g	7.0 g
Part reference	RTM-0100-000	RTM-0160-000	RTM-0260-000

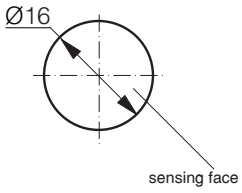
TRANSPONDERS

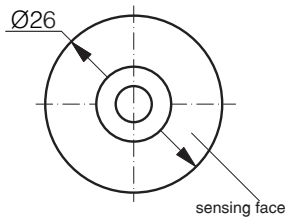
EXTREME	EXTREME	EXTREME
M16	M30	M30
13	18	23
		
		
Stainless steel V2A	Stainless steel V2A	Stainless steel V2A
Embeddable	Embeddable	Non-embeddable
-40 ... +80°C / -40 ... +176°F	-40 ... +80°C / -40 ... +176°F	-40 ... +80°C / -40 ... +176°F
-40 ... +95°C / -40 ... +203°F	-40 ... +95°C / -40 ... +203°F	-40 ... +95°C / -40 ... +203°F
6.9 g	31.4 g	98.7 g
RTM-2160-000	RTM-2300-000	RTF-1300-000

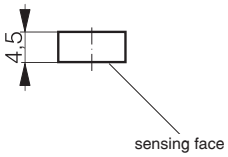
LOW FREQUENCY

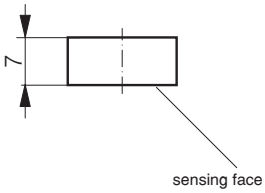
FAMILY	WASHDOWN	WASHDOWN	WASHDOWN
HOUSING SIZE MM	Ø 10	Ø 16	Ø 26
MAX. READ/WRITE DISTANCE MM	13	19	26

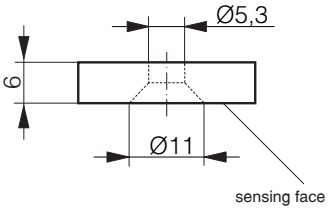








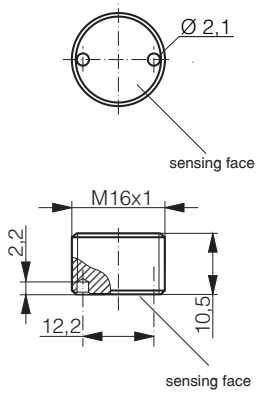


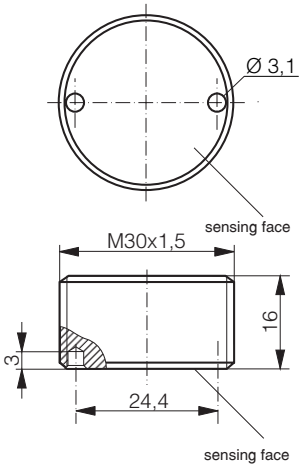


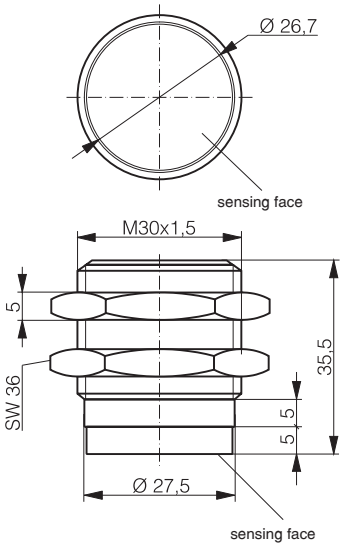
DATA			
Housing material	Stainless steel V4A	Stainless steel V4A	Stainless steel V4A
Mounting	Embeddable	Embeddable	Embeddable
Ambient temperature range	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F
Storage temperature range	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F
Weight	1.5 g	3.3 g	12.5 g
Part reference	RTL-0102-001	RTL-0162-001	RTL-0262-001

TRANSPONDERS

WASHDOWN	WASHDOWN	WASHDOWN
M16	M30	M30
13	18	23







Stainless steel V4A	Stainless steel V4A	Stainless steel V4A
Embeddable	Embeddable	Non-embeddable
-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F
-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F
7.9 g	33.1 g	44.1 g
RTL-2162-001	RTL-2302-001	RTL-1302-001

STRUCTURE OF MEMORY

FAMILY

HOUSING SIZE MM

MAX. READ/WRITE DISTANCE MM

TECHNICAL DATA	-020 OR -022
Compatible IC type	NXP I·Code SLI-S
Read/write memory	160 bytes
Read only memory	96 bytes
Number of bits per block	32 bits
Standard	ISO/IEC 15693

TECHNICAL DATA	-062
Compatible IC type	FUJITSU MB89R118C
Read/write memory	2000 bytes
Read only memory	48 bytes
Number of bits per block	64 bits
Standard	ISO/IEC 15693

TECHNICAL DATA	-082
Compatible IC type	NXP I·Code SLI
Read/write memory	112 bytes
Read only memory	16 bytes
Number of bits per block	32 bits
Standard	ISO/IEC 15693

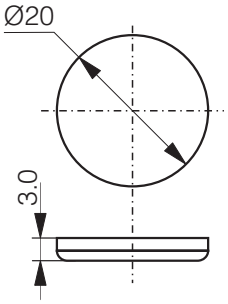
Various tag memory protection possibilities are provided, including password protection and OTP write protection of data blocks.

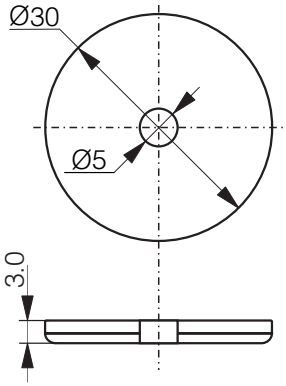
DATA

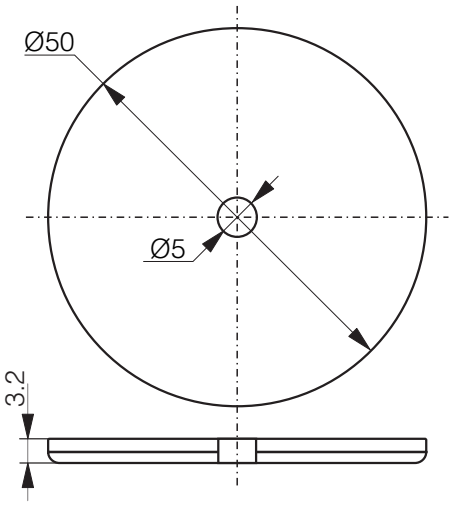
Housing material
Mounting
Ambient temperature range
Storage temperature range
Weight
Part reference

TRANSPONDERS

BASIC	BASIC	BASIC
Ø 20	Ø 30	Ø 50
25	45	47



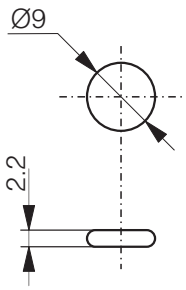


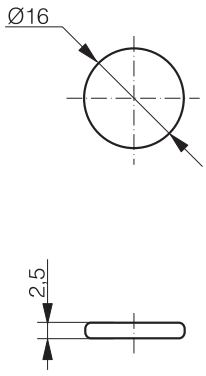


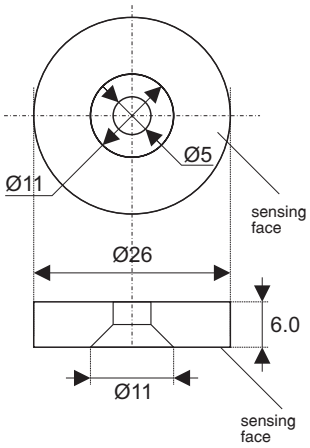
PBTP glass-fiber reinforced	PBTP glass-fiber reinforced	PBTP glass-fiber reinforced
Non-embeddable	Non-embeddable	Non-embeddable
-25 ... +85°C / -13 ... +185°F	-25 ... +85°C / -13 ... +185°F	-25 ... +85°C / -13 ... +185°F
-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F	-40 ... +125°C / -40 ... +257°F
1.3 g	2.7 g	6.6 g
RTP-0201-020	RTP-0301-020	RTP-0501-020

HIGH FREQUENCY

FAMILY	BASIC	BASIC	HIGH TEMPERATURE
HOUSING SIZE MM	Ø 9	Ø 16	Ø 26
MAX. READ/WRITE DISTANCE MM	14	31	31

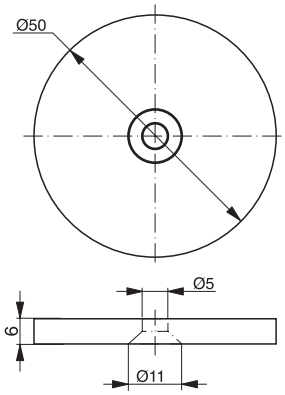
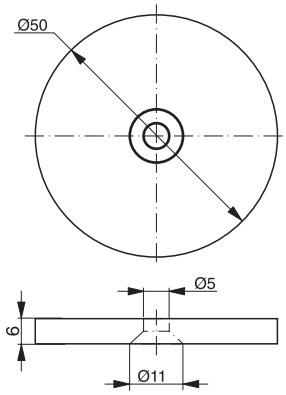
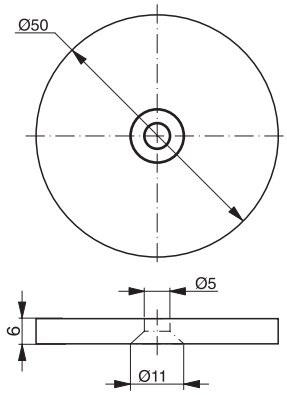


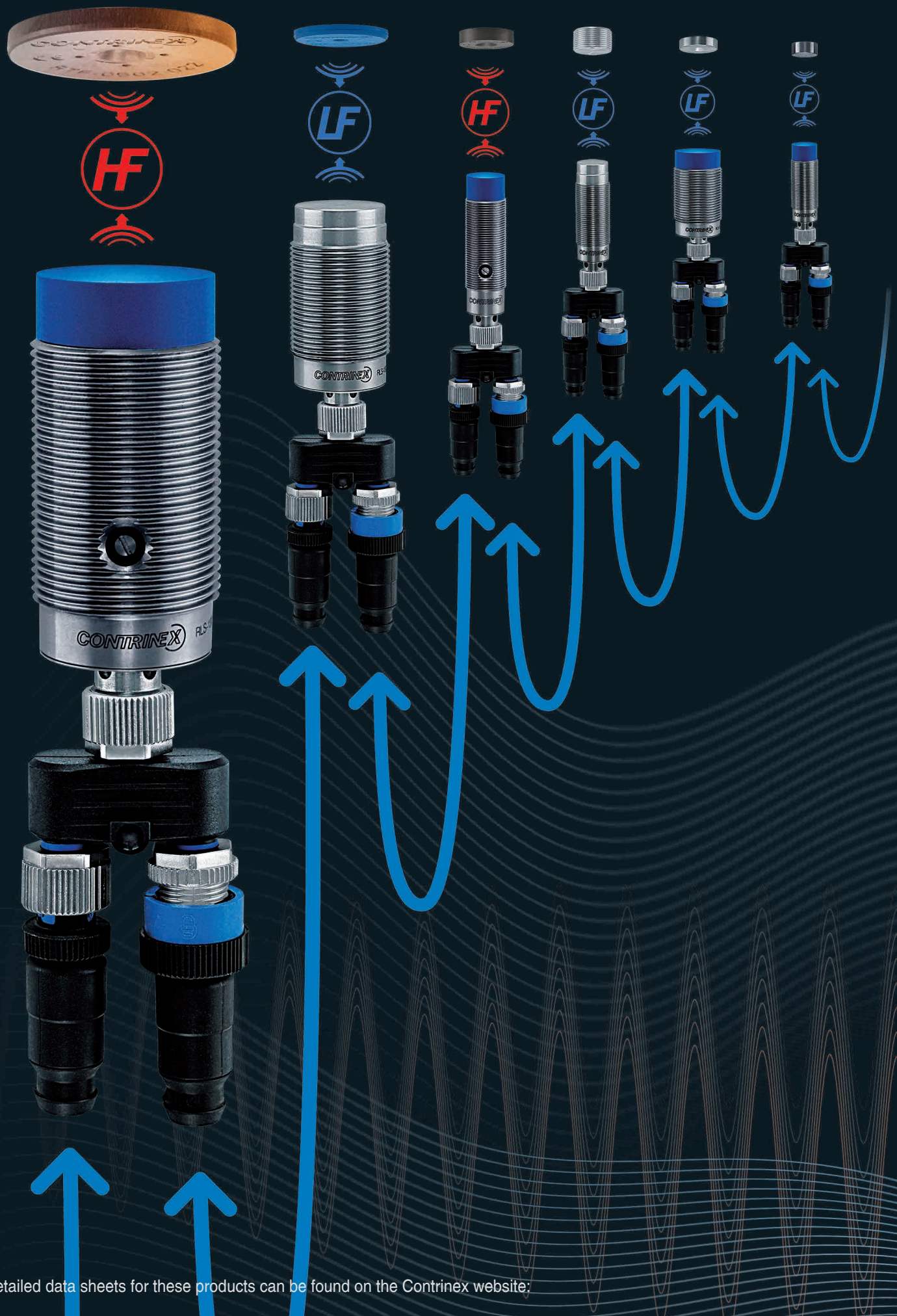




DATA			
Housing material	PPS + Epoxy	PPS + Epoxy	PPS, silicone free
Mounting	Non-embeddable	Non-embeddable	Embeddable
Ambient temperature range	-20 ... +85°C / -4 … +185°F	-20 ... +85°C / -4 … +185°F	-25 ... +180°C / -13 … +356°F
Storage temperature range	-20 ... +110°C / -4 … +230°F	-20 ... +110°C / -4 … +230°F	-40 ... +180°C / -40 … +356°F
Weight	0.25 g	0.75 g	3.3 g
Part reference	RTP-0090-020	RTP-0160-020	RTP-0263-020

TRANSPONDERS

HIGH TEMPERATURE	HIGH TEMPERATURE	HIGH TEMPERATURE
Ø 50	Ø 50	Ø 50
50	44	42
		
		
LCP, silicone free	LCP, silicone free	LCP, silicone free
Non-embeddable	Non-embeddable	Non-embeddable
-25 ... +150°C / -13 ... +302°F	-25 ... +150°C / -13 ... +302°F	-25 ... +150°C / -13 ... +302°F
-40 ... +250°C / -40 ... +482°F	-40 ... +250°C / -40 ... +482°F	-40 ... +250°C / -40 ... +482°F
16.9 g	16.9 g	16.9 g
RTP-0502-022	RTP-0502-062	RTP-0502-082


HF
LF
HF
LF
LF
LF
CONTRINEX
CONTRINEX

CONTRINET READ/ WRITE MODULES

LOW FREQUENCY

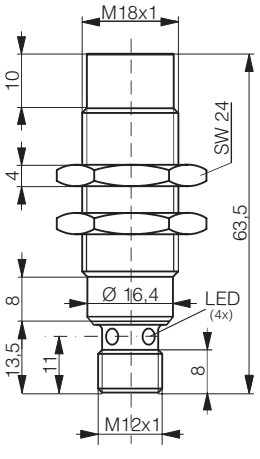
HIGH FREQUENCY

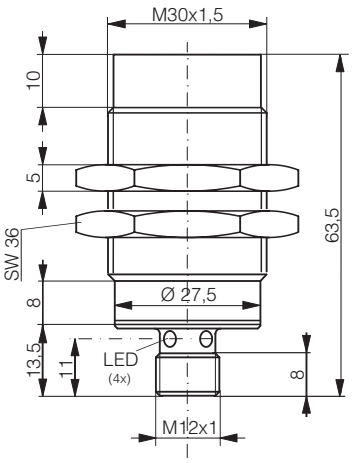
KEY ADVANTAGES

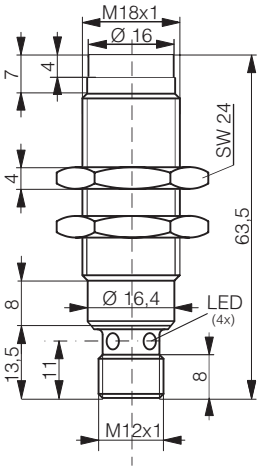
- ✓ Powerful RS485 network protocol for LF and HF systems
- ✓ Threaded Read/Write Modules (RWMs) with S12 connector and RS485 output
- ✓ LF and HF RWMs can be mixed on the same network
- ✓ Rugged all-metal LF RWMs with impervious sensing face

READ/WRITE MODULES

FAMILY	BASIC	BASIC	EXTREME
HOUSING SIZE	M18	M30	M18
MAX. READ/WRITE DISTANCE MM	36	41	12

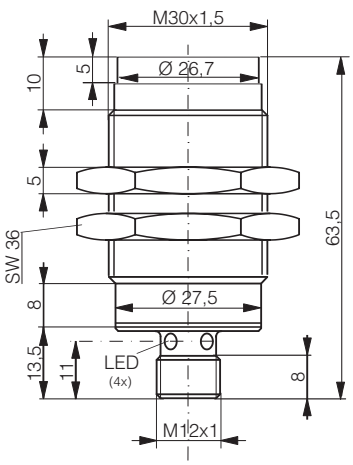
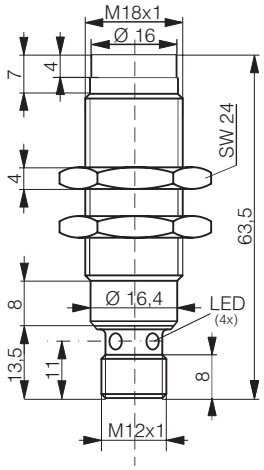
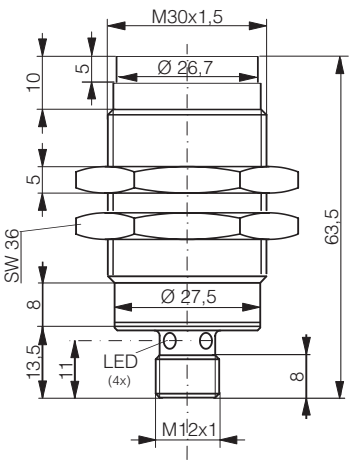






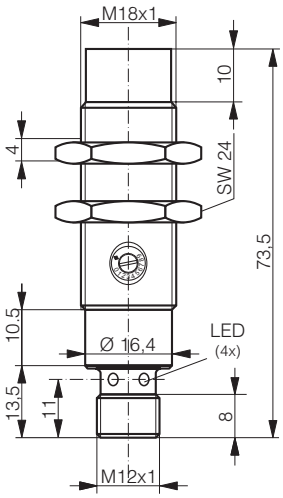
DATA			
Housing material	PBTP / chrome-plated brass	PBTP / chrome-plated brass	Stainless steel V2A
Max. current consumption	30 mA	30 mA	30 mA
Mounting	Non-embeddable	Non-embeddable	Non-embeddable
Ambient temperature range	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F
Storage temperature range	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F
Connection type	Connector S12	Connector S12	Connector S12
Weight (incl. nuts)	37 g	127 g	37 g
Part reference	RLS-1181-030	RLS-1301-030	RLS-1180-030

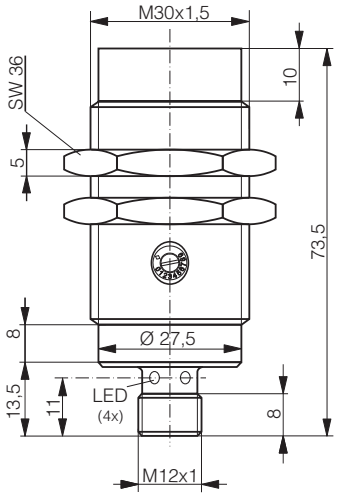
READ/WRITE MODULES

EXTREME	WASHDOWN	WASHDOWN
M30	M18	M30
12	12	12
		
		
Stainless steel V2A	Stainless steel V4A	Stainless steel V4A
30 mA	30 mA	30 mA
Non-embeddable	Non-embeddable	Non-embeddable
-25…+80°C / -13…+176°F	-40…+125°C / -40…+257°F	-40…+125°C / -40…+257°F
-25…+80°C / -13…+176°F	-40…+125°C / -40…+257°F	-40…+125°C / -40…+257°F
Connector S12	Connector S12	Connector S12
127 g	37 g	127 g
RLS-1300-030	RLS-1182-031	RLS-1302-031

READ/WRITE MODULES

FAMILY	BASIC	BASIC
HOUSING SIZE	M18	M30
MAX. READ/WRITE DISTANCE MM	31	50

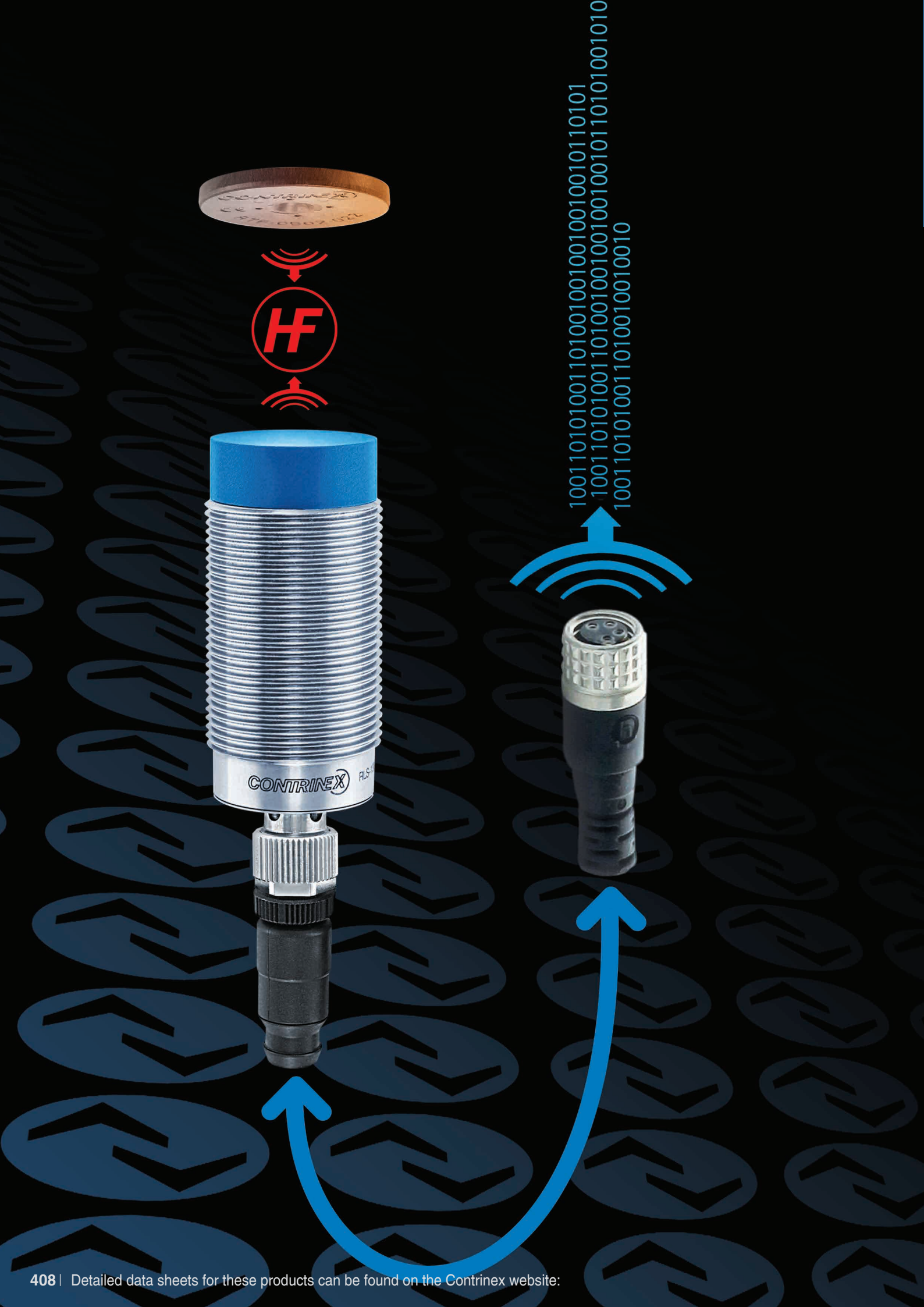




DATA		
Housing material	PBTP / Stainless steel V2A	PBTP / Stainless steel V2A
Max. current consumption	60 mA	60 mA
Mounting	Non-embeddable	Non-embeddable
Ambient temperature range	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F
Storage temperature range	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F
Connection type	Connector S12	Connector S12
Weight (incl. nuts)	37 g	95 g
Part reference	RLS-1183-020	RLS-1303-020


HF


LF


HF
CONTRINEX
1001101010011010010010010010110101
1001101010011010010010010010110101
1001101010011010010010010010

IO-LINK READ/ WRITE MODULES

HIGH FREQUENCY

KEY ADVANTAGES

- ✓ Threaded Read/Write Modules (RWMs) with S12 connector
- ✓ IO-Link interface V1.1
- ✓ M18 and M30
- ✓ Two operating modes:
  - ✓ As IO-Link device, three process-data configurations:
    - ✓ Scan UID
    - ✓ Scan user data
    - ✓ Scan read/write command
  - ✓ As stand-alone SIO with conditional output switch:
    - ✓ Tag presence
    - ✓ Data block comparison

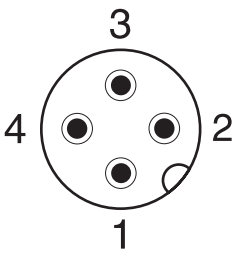
AT A GLANCE

- High frequency Read/Write Modules (RWMs) with IO-Link interface
- Compatible with ISO 15693 transponders (4- or 8-byte memory block)
- IO-Link interface V1.1
- Two operating modes:
  - As IO-Link device, three process-data configurations:
    - Scan UID
    - Scan user data
    - Scan read/write command
  - As stand-alone SIO with conditional output switch:
    - Tag presence
    - Data block comparison

FAMILY
HOUSING SIZE
MAX. READ/WRITE DISTANCE MM

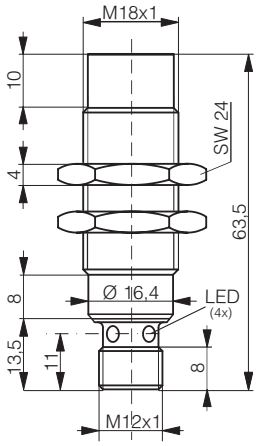
WIRING DIAGRAM

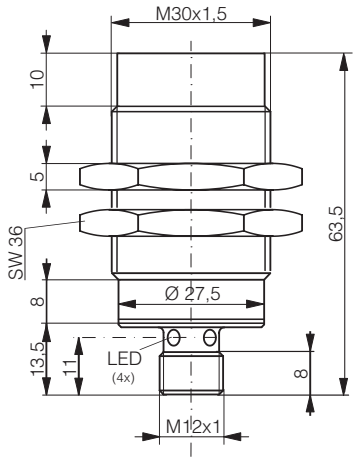
PIN	SIGNAL	FUNCTION
1	L+	+24 V
2	Q2	DO (tag presence or data comparison)
3	L-	0V
4	C/Q1	SDCI/SIO (tag presence or data comparison)



DATA
Housing material
Max. current consumption
Mounting
Ambient temperature range
Storage temperature range
Connection type
Degree of protection
Weight (with nuts)
Part reference

IO-LINK	IO-LINK	
M18	M30	
40	62	





IO-Link	IO-Link	
PBTP / Chrome-plated brass	PBTP / Chrome-plated brass	
50 mA	50 mA	
Non-embeddable	Non-embeddable	
-25 ... +80°C / -13 ... +176°F	-25 ... +80°C / -13 ... +176°F	
-25 ... +80°C / -13 ... +176°F	-25 ... +80°C / -13 ... +176°F	
Connector S12	Connector S12	
IP 67	IP 67	
51 g	120 g	
RLS-1181-320	RLS-1301-320	


HF
LF

USB READ/WRITE MODULES

LOW FREQUENCY

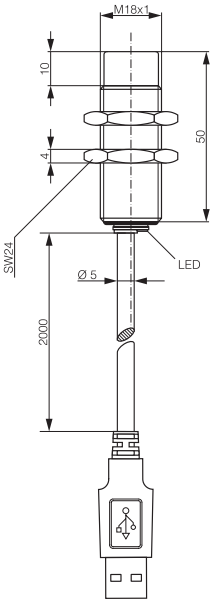
HIGH FREQUENCY

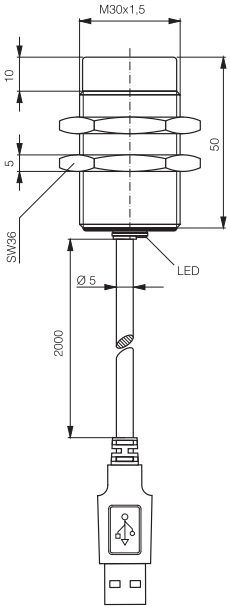
KEY ADVANTAGES

- ✓ Direct connection of Read/Write Module (RWM) to PC
- ✓ Compatible with ContriNET LF/HF DEMO software
- ✓ LF and HF types in sizes M18 and M30

READ/WRITE MODULES

FAMILY	USB	USB
HOUSING SIZE	M18	M30
MAX. READ/WRITE DISTANCE MM	36	41

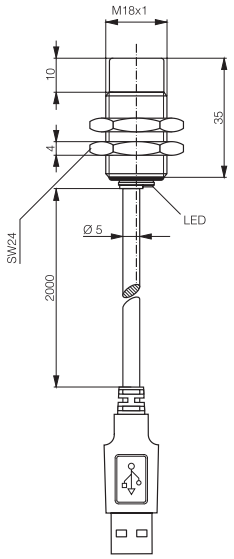


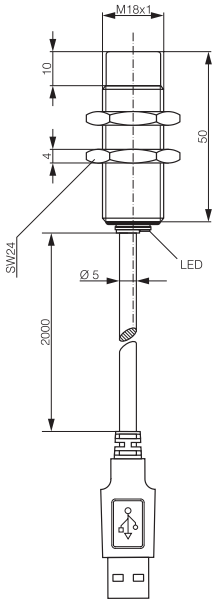


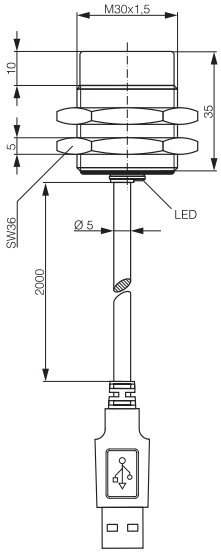
DATA		
Housing material	PBTP / chrome-plated brass	PBTP / chrome-plated brass
Max. current consumption	200 mA	200 mA
Mounting	Non-embeddable	Non-embeddable
Ambient temperature range	-25 ... +80°C / -13 ... +176°F	-25 ... +80°C / -13 ... +176°F
Storage temperature range	-25 ... +80°C / -13 ... +176°F	-25 ... +80°C / -13 ... +176°F
Connection type	USB A male	USB A male
Weight (incl. nuts)	107 g	144 g
Part reference	RLS-1181-230	RLS-1301-230

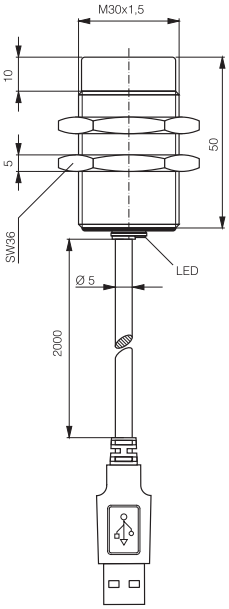
READ/WRITE MODULES

USB	USB	USB	USB
M18	M18	M30	M30
31	31	60	60



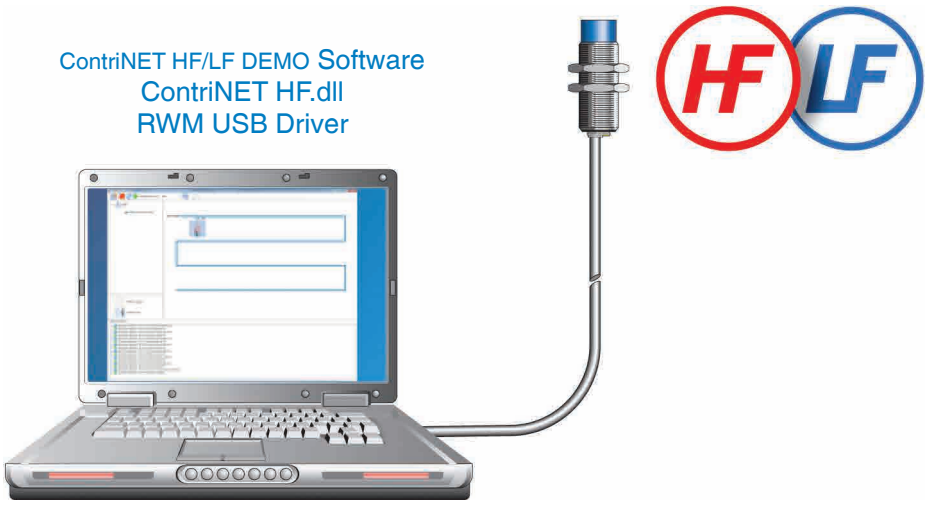






PBTP / chrome-plated brass	PBTP / chrome-plated brass	PBTP / chrome-plated brass	PBTP / chrome-plated brass
200 mA	200 mA	200 mA	200 mA
Non-embeddable	Non-embeddable	Non-embeddable	Non-embeddable
-25 ... +70°C / -13 ... +158°F	-25 ... +70°C / -13 ... +158°F	-25 ... +70°C / -13 ... +158°F	-25 ... +70°C / -13 ... +158°F
-25 ... +70°C / -13 ... +158°F	-25 ... +70°C / -13 ... +158°F	-25 ... +70°C / -13 ... +158°F	-25 ... +70°C / -13 ... +158°F
USB A male	USB A male	USB A male	USB A male
97 g	107 g	144 g	165 g
RLS-1181-220-120	RLS-1181-220	RLS-1301-220-120	RLS-1301-220

APPLICATION WITH USB READ/WRITE MODULE



The default address of USB read/write modules is 254.

USB read/write modules are not networkable, but they have a ContriNET firmware. In particular, they are compatible with ContriNET HF/LF DEMO software and other ContriNET support tools.


HF


LF


Ready
P1 Link
A
B
C
D
E
Port 1
GND
AC In
AC/DC+ In
Backup DC+ In
Voltage Range:
9-48VDC
8-24VAC
Link
Ready
Power
Reset
Run
DB9
OFF
Console
Terminal
Ethernet
RX TX
RS-232/422&485
1
CONTRINEX
Ethernet Serial Server
RIS-1613-400
CONTRINEX
RIS-1053-520
858188 A

MARKET-LEADING FIELDBUS COVERAGE

INTERFACES

LOW FREQUENCY

HIGH FREQUENCY

KEY ADVANTAGES

- ✓ Widest fieldbus coverage on market
- ✓ Interfaces for connection of ContriNET to PROFIBUS, DeviceNet, EtherNet/IP, PROFINET, EtherCAT, POWERLINK and Ethernet TCP/IP
- ✓ Comprehensive accessories including T-connectors and line terminators

NEW:

- ✓ TCP/IP interface in lightweight plastic, 120 mm x 80 mm x 30 mm

INTERFACES

FIELDBUS	PROFIBUS-DP
HOUSING SIZE MM	100 X 52 X 64

AT A GLANCE

- Compact, ready-to-use device
- Allows connection of ContriNET to an industrial fieldbus
- Synthetic housing in ABS
- Mounting on rail DIN EN 60715

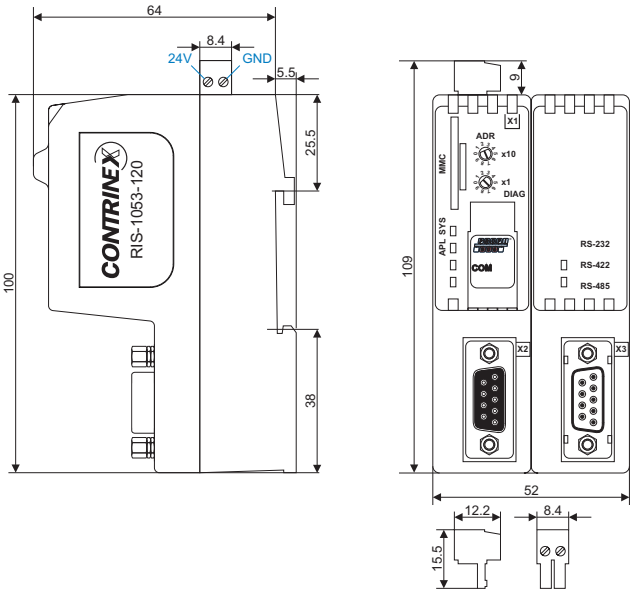
FIELDBUS

PROFIBUS	RIS-1053-120
DeviceNet	RIS-1053-220
EtherNet/IP	RIS-1053-320
PROFINET	RIS-1053-520
EtherCAT	RIS-1053-620
POWERLINK	RIS-1053-820

FIRMWARE

On SD card

Selectable using the RIS-1053-X20 card configurator software

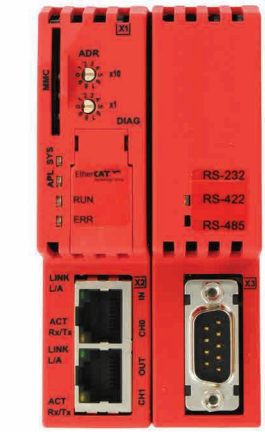


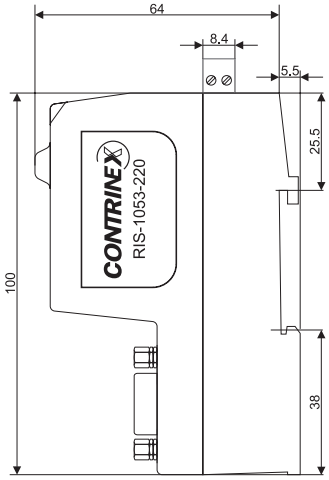
DATA

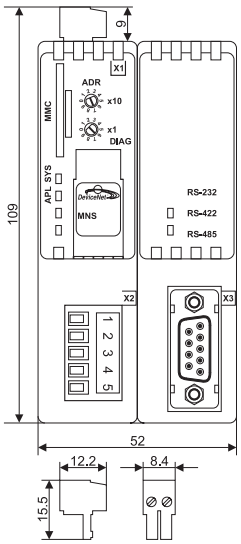
Housing material	ABS
Mounting	DIN rail EN 60715
Ambient temperature range	0 … +50°C / +32 … +122°F
Storage temperature range	0 … +50°C / +32 … +122°F
Weight	150 g
Part reference	RIS-1053-120

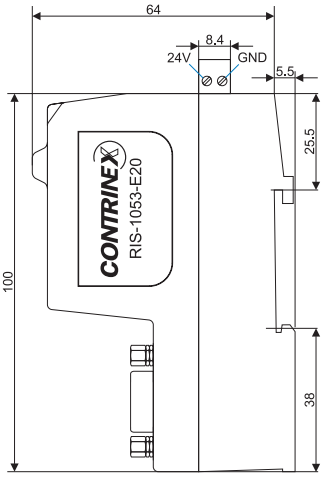
INTERFACES

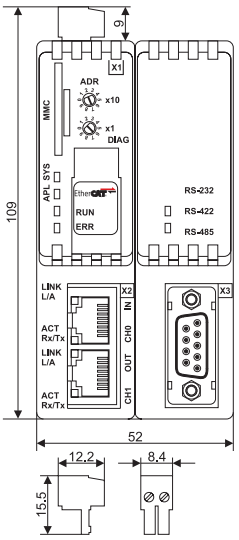
DEVICENET	ETHERNET/IP / PROFINET IO ETHERCAT / POWERLINK
100 X 52 X 64	100 X 52 X 64







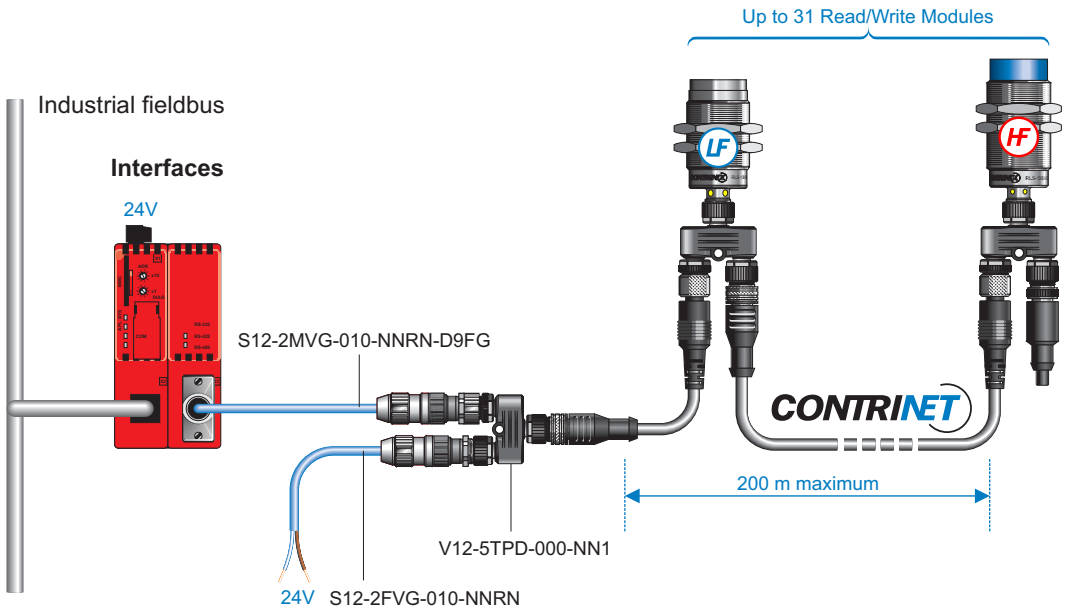




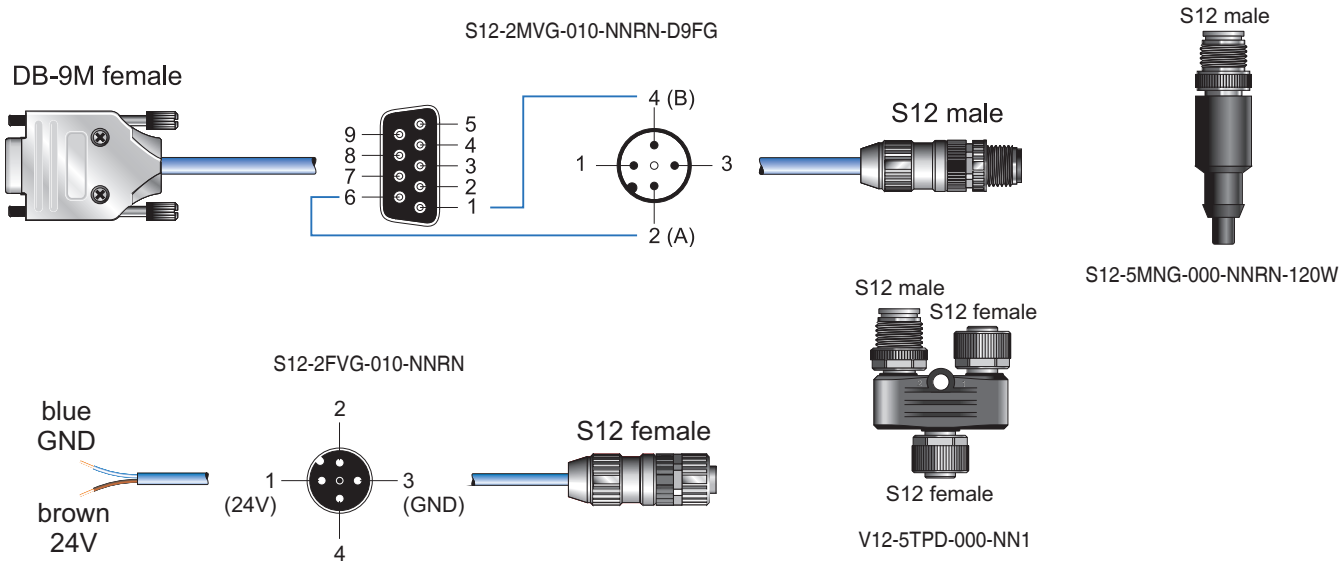
ABS	ABS
DIN rail EN 60715	DIN rail EN 60715
0 ... +50°C / +32 ... +122°F	0 ... +50°C / +32 ... +122°F
0 ... +50°C / +32 ... +122°F	0 ... +50°C / +32 ... +122°F
150 g	150 g
RIS-1053-220	RIS-1053-E20

INTERFACES

CONTRINET APPLICATION WITH INTERFACES



ACCESSORIES TO CONNECT INTERFACES TO CONTRINET



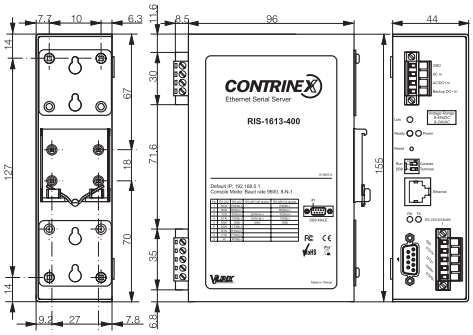
*Other cables available on pages 438-439

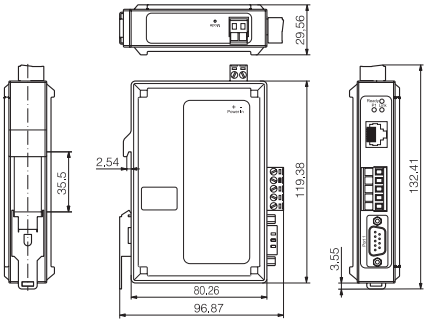
DATA

S12-2MVG-010-NNRN-D9FG	S12 - DB9 - RS485 - PVC 1 m
S12-2FVG-010-NNRN	24V - S12 power supply cable
V12-5TPD-000-NN1	S12 T-connector
S12-4MNG-000-NNT2	S12 male connector
S12-4FNG-000-NNT2	S12 female connector
S12-5MNG-000-NNRN-120W	S12 ContriNET terminator 120 Ω

TCP/IP INDUSTRIAL INTERFACE

HOUSING SIZE MM	155 X 96 X 44	120 X 80 X 30

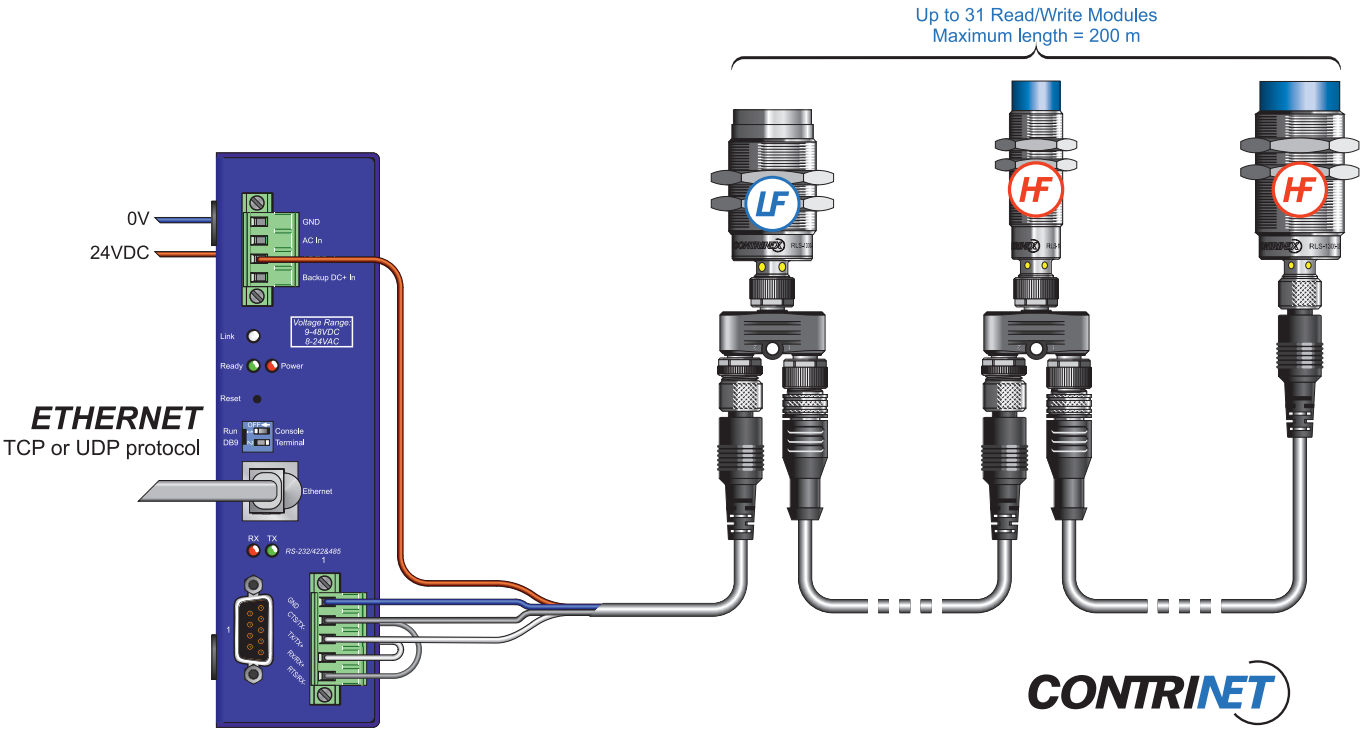




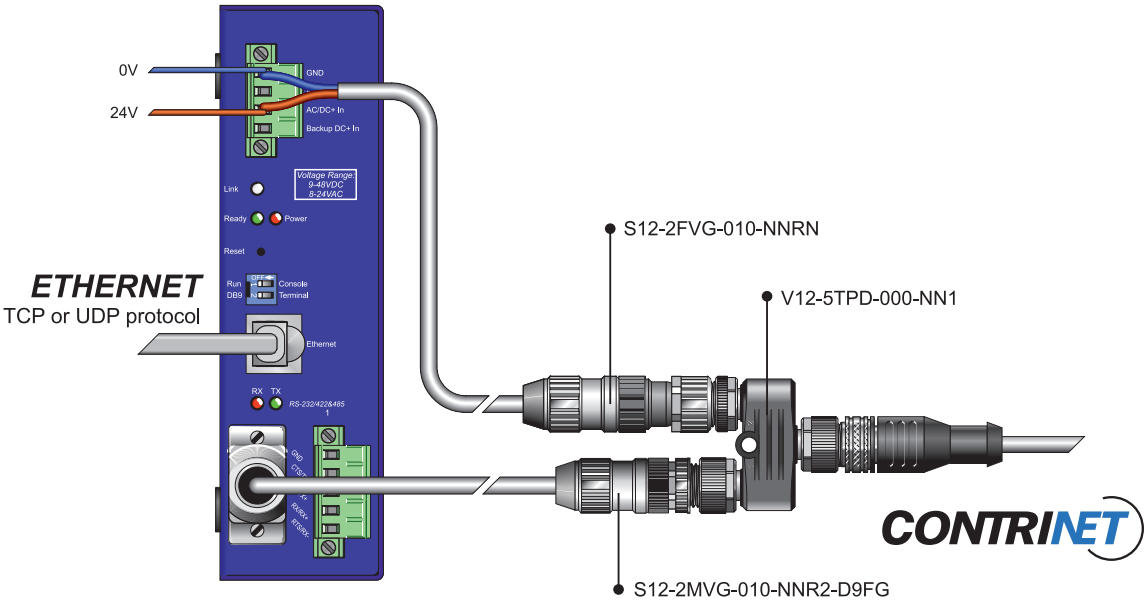
DATA		
Housing material	Metal	Plastic
Mounting	DIN rail EN 60715	DIN rail EN 60715
Ambient temperature range	-10 ... +80°C / -14 … +176°F	-40 ... +80°C / -40 … +176°F
Storage temperature range	-20 ... +85°C / -14 … +185°F	-40 ... +85°C / -40 … +185°F
Weight (with nuts)	635 g	149.7 g
Part reference	RIS-1613-400	RIS-1208-400

APPLICATION EXAMPLES WITH RIS-1613-400

RIS-1613-400 Miniconnect

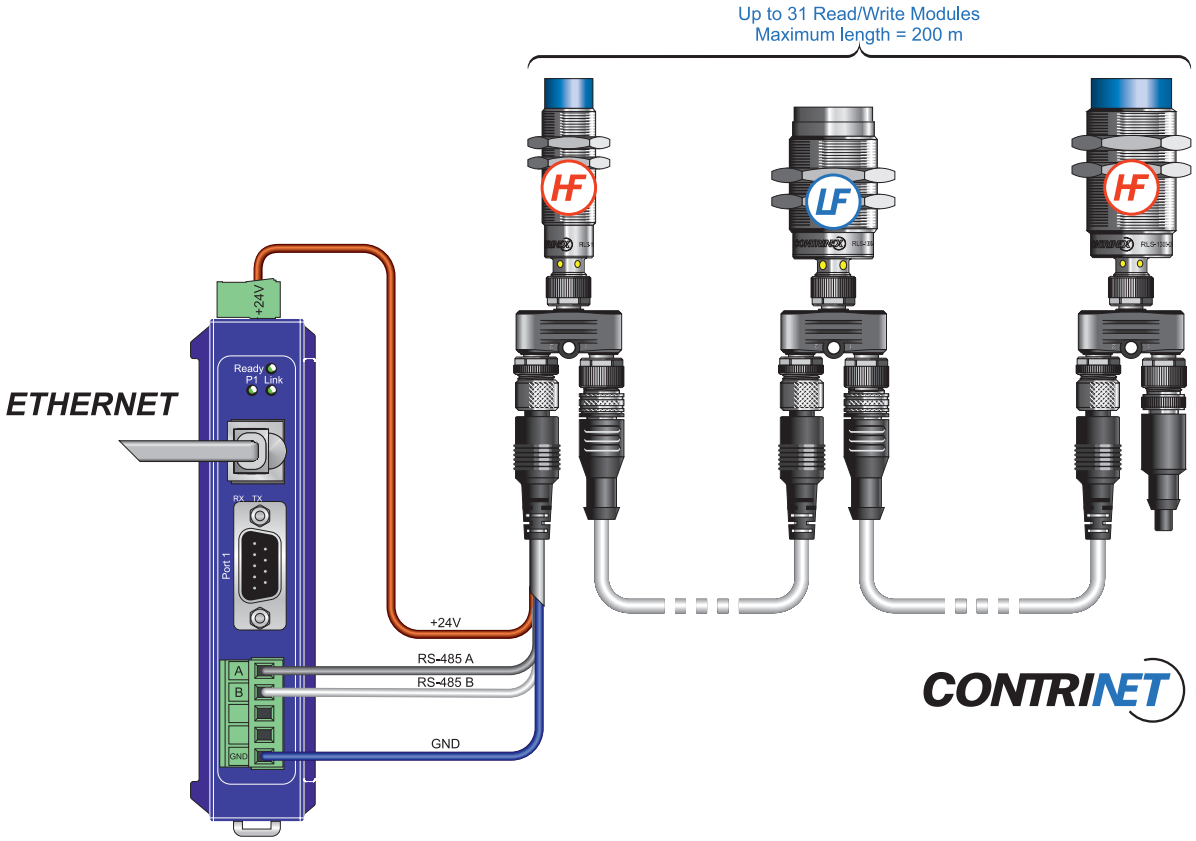


RIS-1613-400 DB-9M

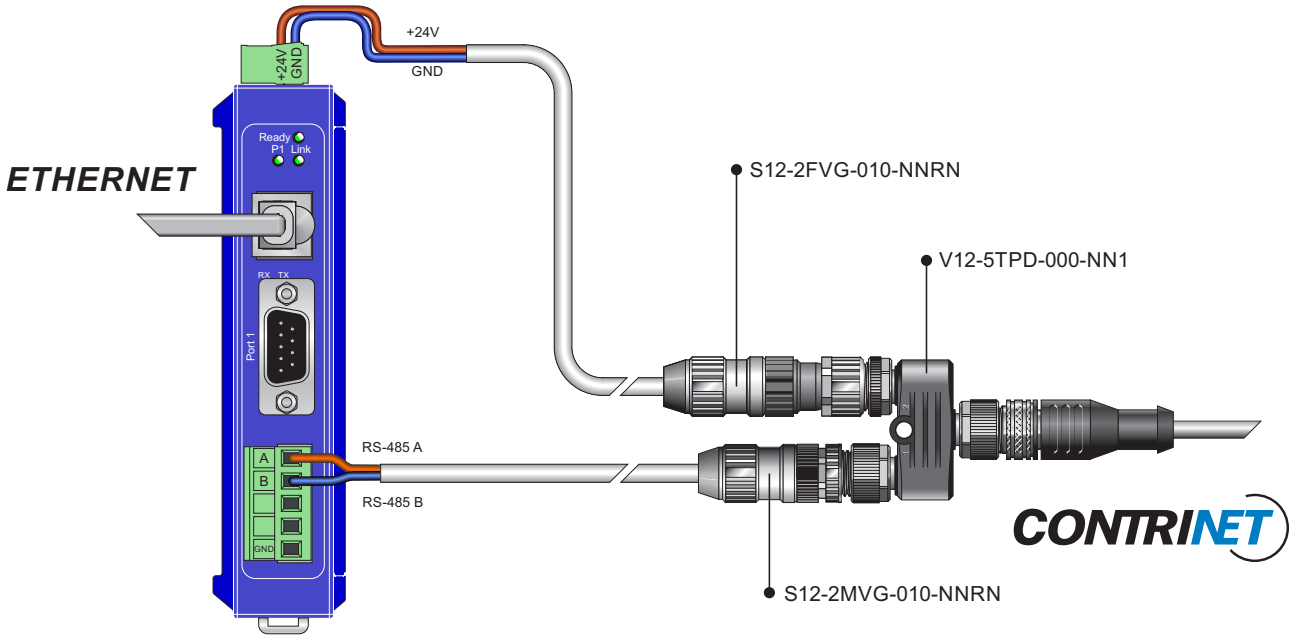


APPLICATION EXAMPLES WITH RIS-1208-400

RIS-1208-400 Miniconnect

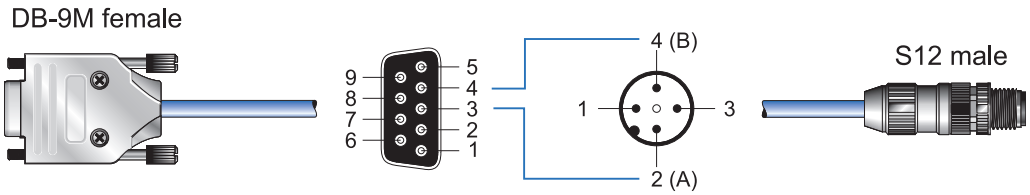


RIS-1208-400 S12-2MVG

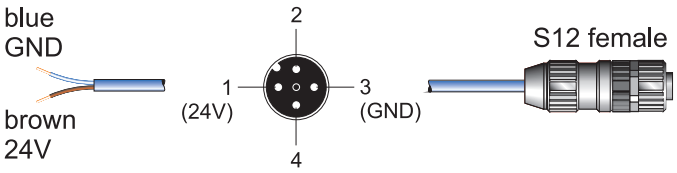


ACCESSORIES TO CONNECT INTERFACES TO CONTRINET

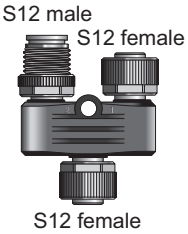
S12-2MVG-010-NNR2-D9FG



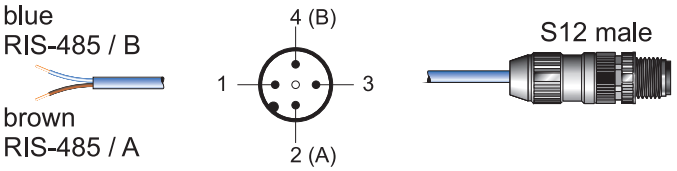
S12-2FVG-010-NNRN



V12-5TPD-000-NN1



S12-2MVG-010-NNRN



S12-5MNG-000-NNRN-120W

*Other cables available on pages 438-439

DATA

S12-2MVG-010-NNR2-D9FG	S12 - DB9 - RS485 - PVC 1 m - RIS-1613-400
S12-2FVG-010-NNRN	S12 - 24V - power supply cable
V12-5TPD-000-NN1	S12 T-connector
S12-5MNG-000-NNRN-120W	S12 ContriNET terminator 120 Ω
S12-2MVG-010-NNRN	S12 - RS485 - PVC 1 m


HF


LF

USB ADAPTOR

HOUSING SIZE MM	67 X 66 X 28

AT A GLANCE

- Synthetic ABS housing
- Serial RS485 connection to ContriNET
- USB connection to control PC

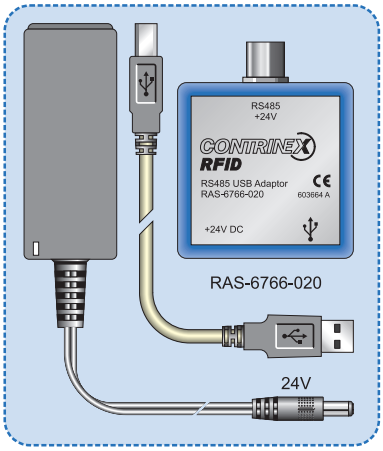
LEDS

Red LED:

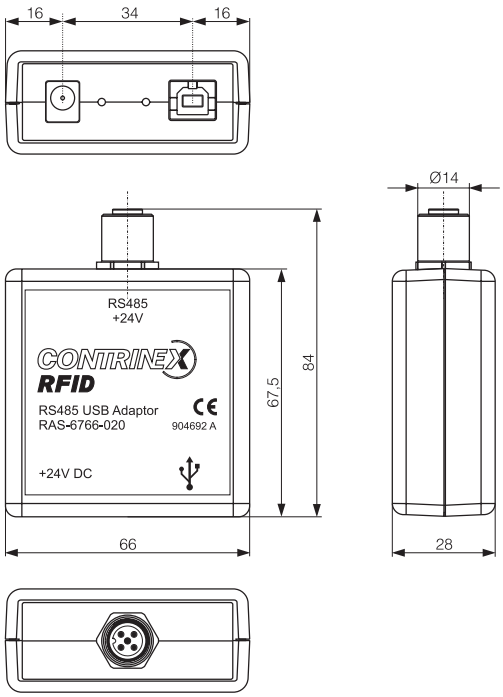
Describes the connection control PC - USB connector.

Green LED:

Indicates that the device is fed by an external power supply unit.



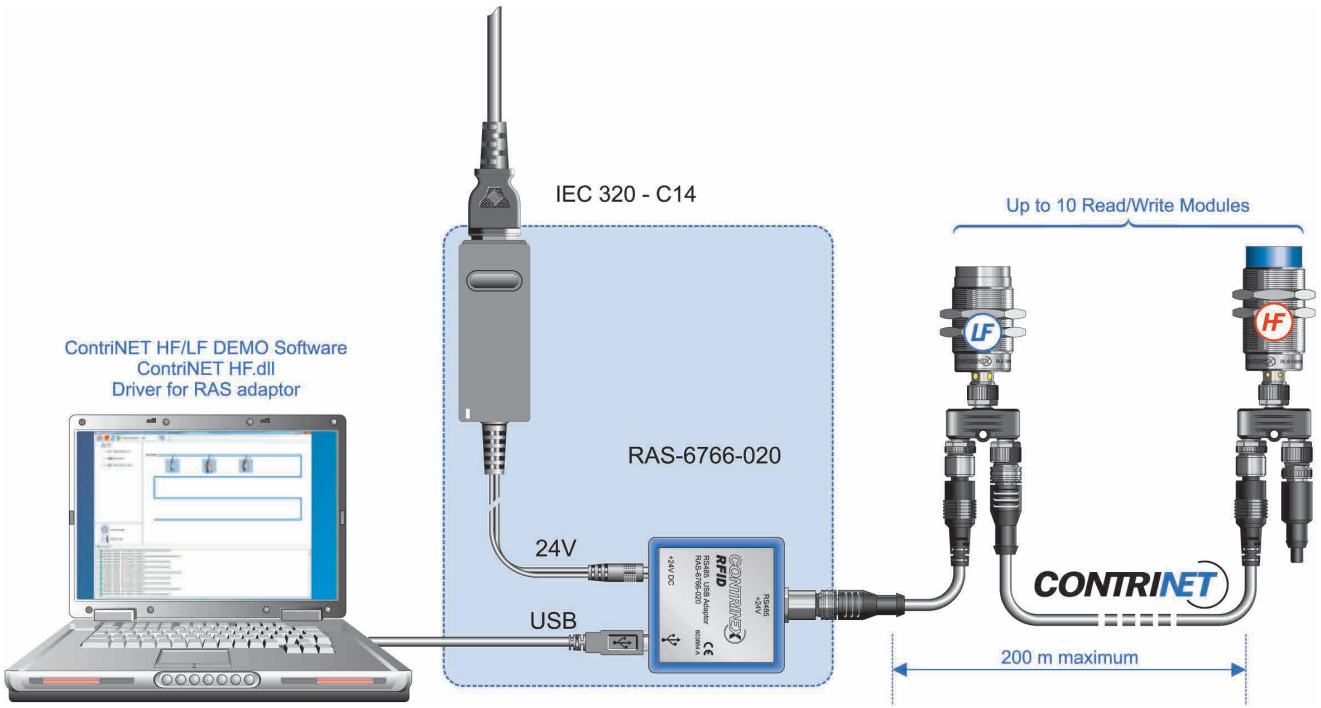
The set contains:
1 USB adaptor, 1 power supply, 1 USB cable



DATA

Housing material	ABS
Power supply	24 V
Max. current consumption	625 mA
Connection (RS485 side)	Connector S12
Ambient temperature range	0 … +50°C / +32 … +122°F (with external power supply unit)
Storage temperature range	-40 … +85°C / -40 … +185°F
Weight	67 g
Part reference	RAS-6766-020

APPLICATION WITH USB ADAPTOR



CONNECTION

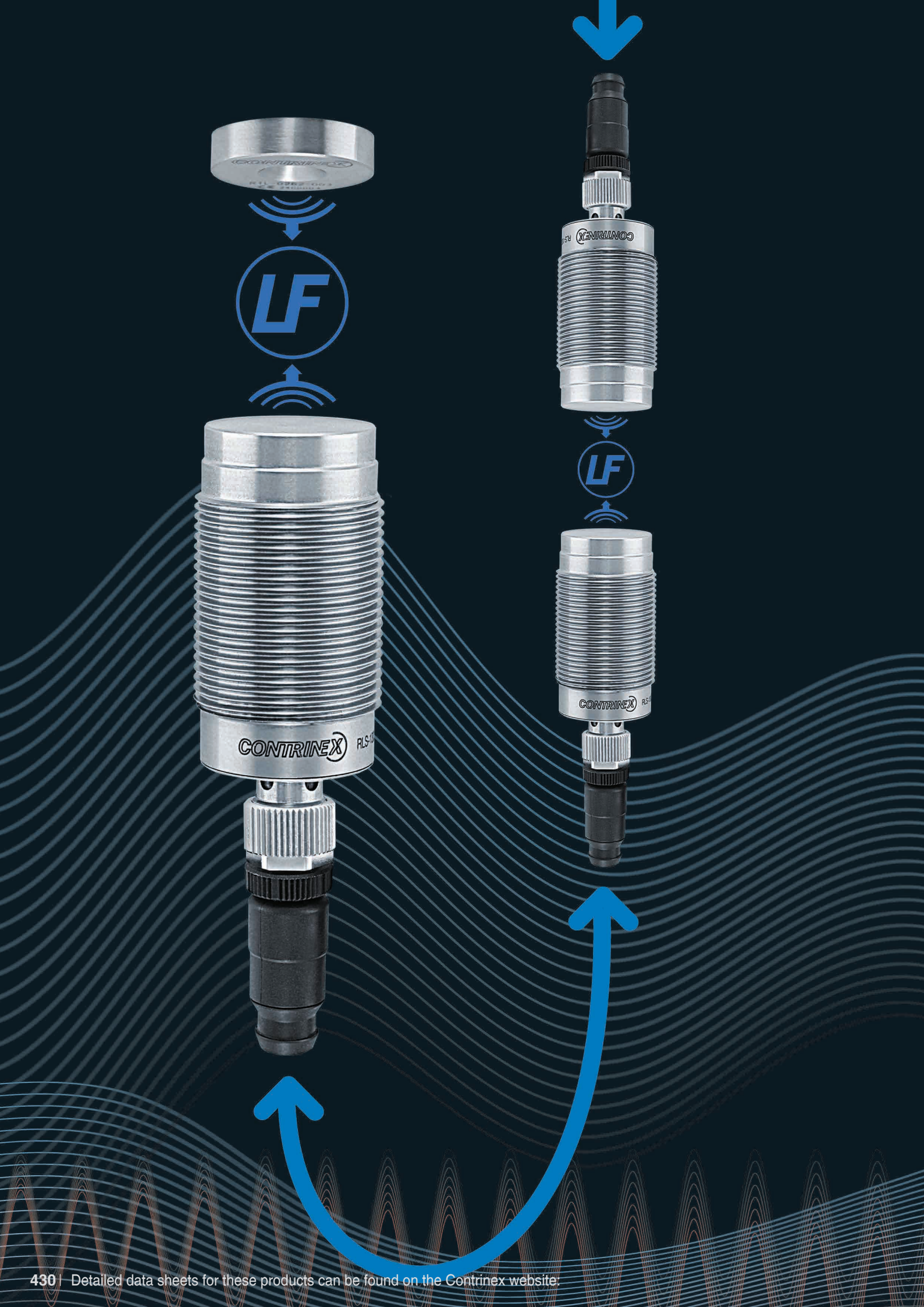
The adaptor acts as the interface between a network of Read/Write Modules and the USB port of the control PC. The delivery package includes a USB cable.

EXTERNAL POWER SUPPLY UNIT

An external power supply unit (24V / 15W, 625 mA) is included in the delivery package.

DRIVERS AND SOFTWARE

Drivers compatible with the various Windows versions and software for demonstration and training (ContriNET HF/LF) can be downloaded from the RAS-6766-020 product page of the Contrinex website.


LF
CONTRINEX
LF
CONTRINEX

ACCESSORIES

LOW FREQUENCY

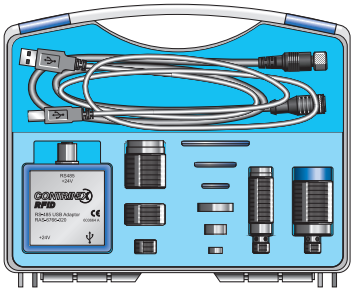
HIGH FREQUENCY

RFID ACCESSORIES

- ✓ Starter kits
- ✓ Handheld device
- ✓ RFID couplers
- ✓ Cables for RFID couplers
- ✓ Standard cables
- ✓ Quick-lock cables

STARTER KITS

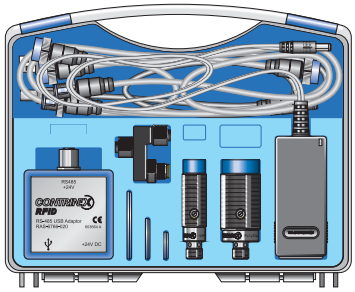
DIMENSIONS MM	255 X 205 X 60



The low-frequency starter kit contains all components necessary for a simple RFID application:

- 1 USB adaptor RAS-6766-020
- 1 Full-metal Read/Write Module M18
- 1 Read/Write Module M30
- 1 set of transponders
- Cable connectors

The necessary ContriNET HF/LF software can be downloaded from the starter kit product page of the Contrinex website.



The high-frequency starter kit contains all components necessary for a simple RFID application:

- 1 USB adaptor RAS-6766-020
- 1 Read/Write Module M18
- 1 Read/Write Module M30
- 1 set of transponders
- Cable connectors

The necessary ContriNET HF/LF software can be downloaded from the starter kit product page of the Contrinex website.

DATA	
STARTER-KIT RFID LF	1 USB adaptor, 2 RWMs, 6 tags, 2 T-connectors, 1 power supply, 1 USB cable,
	2 connecting cables
STARTER-KIT RFID HF	1 USB adaptor, 2 RWMs, 5 tags, 2 T-connectors, 1 power supply, 1 USB cable,
	2 connecting cables

HANDHELD DEVICE

DIMENSIONS MM	155 X 75 X 49 (WITH DOCKING STATION)

RPA-0111-000 / RPA-0112-000

The handheld LF read/write device may be used to read and write ConID LF transponders. Its most important features are as follows:

- Portable and light
- No connector
- Robust and ergonomic housing
- Simple navigation
- Integrated RFID Read/Write Module
- Alphanumeric LC display with 16 characters
- 34 alphanumeric and function keys
- Integrated clock and calendar
- Belt clip
- 128 KB memory

The handheld read/write device features a NiMH battery pack, which charges automatically when positioned on its docking station. The latter enables the read/write device to communicate by means of an RS232 interface.

DATA	
RPA-0111-000	Handheld read/write device with docking station with EU adapter
RPA-0110-000	Handheld read/write device without docking station
RPA-0101-000	Docking station with EU adapter
RPA-0112-000	Handheld read/write device with docking station with US adapter
RPA-0102-000	Docking station with US adapter

AT A GLANCE

- Metal threaded cylindrical housings
- Sensing face of PBTP (polybutylene terephthalate) or stainless steel V2A
- Insensitive to dirt
- Passive (without power supply)

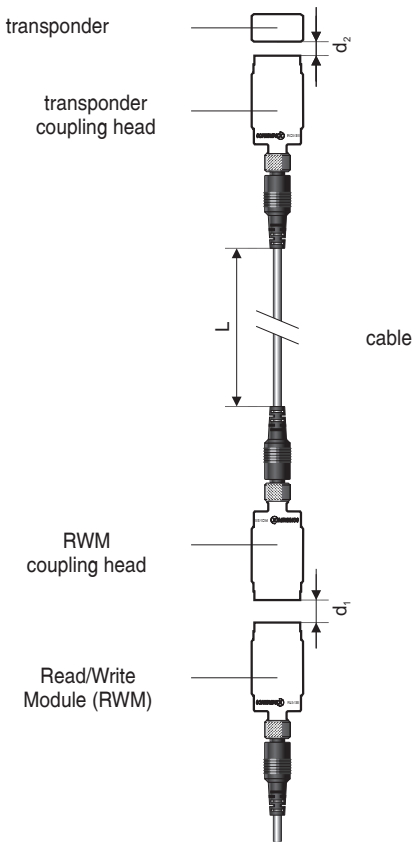
An RFID coupler consists of two coupling heads linked by a cable. It is passive and enables data to be transferred between the Read/Write Module and the transponder, acting as a contact-free extension for data transfer.

A coupler is used whenever a double mechanical interface is required.

CONNECTION

The coupling heads feature 4-pole S12 connectors. The cable connectors have been designed specifically for use with RFID couplers and are equipped with 4-pole sockets at both ends.

The coupling heads must not be connected to the power supply, nor to an interface device.



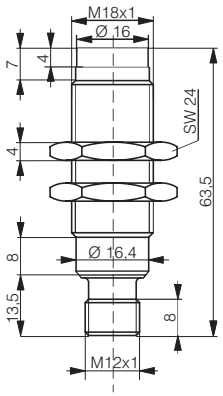
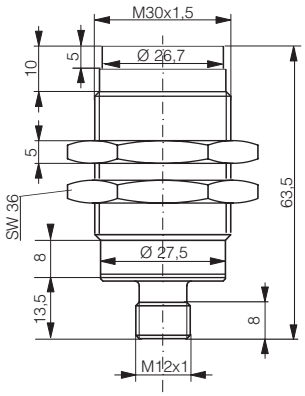
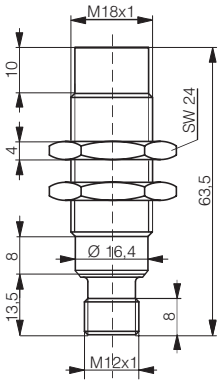
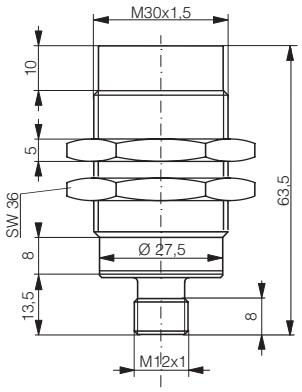
HOUSING SIZE

DATA

Housing material
Sensing face material
Mounting
Ambient temperature range
Storage temperature range
Connection type
Degree of protection
Weight (with nuts)
Part reference

ACCESSORIES

RFID COUPLERS

M18	M30	M18	M30
COUPLING HEAD	COUPLING HEAD	COUPLING HEAD	COUPLING HEAD
			
			
Stainless steel V2A	Stainless steel V2A	Chrome-plated brass	Chrome-plated brass
Stainless steel V2A	Stainless steel V2A	PBTP	PBTP
Non-embeddable	Non-embeddable	Non-embeddable	Non-embeddable
-25 … +80°C / -13 … +176°F	-25 … +80°C / -13 … +176°F	-25 … +80°C / -13 … +176°F	-25 … +80°C / -13 … +176°F
-25 … +80°C / -13 … +176°F	-25 … +80°C / -13 … +176°F	-25 … +80°C / -13 … +176°F	-25 … +80°C / -13 … +176°F
Connector S12	Connector S12	Connector S12	Connector S12
IP 68 & IP 69 K	IP 68 & IP 69 K	IP 67	IP 67
51 g	120 g	51 g	120 g
RCS-1180-000*	RCS-1300-000*	RCS-1181-000*	RCS-1301-000*

* Coupling heads must not be connected to the power supply, nor to an interface device!

AT A GLANCE

- Metal threaded cylindrical housings
- Sensing face of PBTP (polybutylene terephthalate)
- Insensitive to dirt
- Passive (without power supply)

An RFID coupler consists of two coupling heads linked by a cable. It is passive and enables data to be transferred between the Read/Write Module and the transponder, acting as a contact-free extension for data transfer.

A coupler is used whenever a double mechanical interface is required.

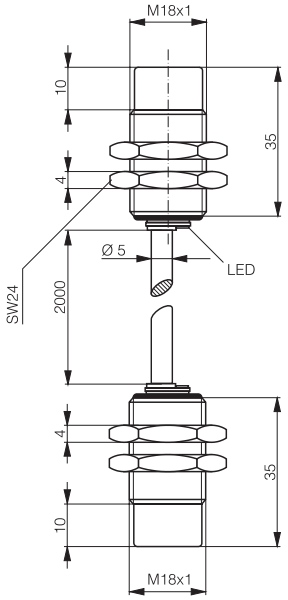
HOUSING SIZE

DATA

Housing material
Sensing face material
Mounting
Ambient temperature range
Storage temperature range
Connection type
Degree of protection
Weight (with nuts)
Part reference

RFID COUPLERS

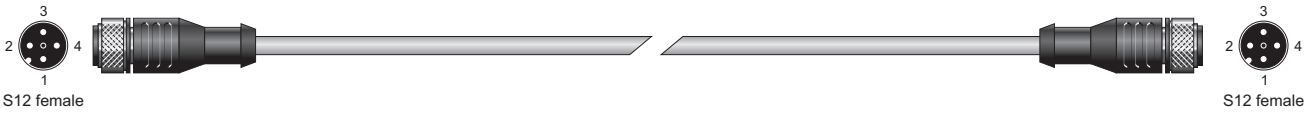
M18		
COUPLING HEAD		



Chrome-plated brass		
PBTP		
Non-embeddable		
-25 … +80°C / -13 … +176°F		
-25 … +80°C / -13 … +176°F		
PVC cable		
IP 67		
80 g		
RCK-1181-020		

CABLES

CABLES FOR RFID COUPLERS LF



PART REFERENCE	TYPE	CABLE	LENGTH
S12-4FUG-010-NNRN-12FG	Socket straight / socket straight	PUR	1 m
S12-4FUG-020-NNRN-12FG	Socket straight / socket straight	PUR	2 m
S12-4FUG-050-NNRN-12FG	Socket straight / socket straight	PUR	5 m

PART REFERENCE	TYPE	CABLE	LENGTH
S12-4FUW-010-NNRN-12FG	Socket right angle / socket straight	PUR	1 m
S12-4FUW-020-NNRN-12FG	Socket right angle / socket straight	PUR	2 m
S12-4FUW-050-NNRN-12FG	Socket right angle / socket straight	PUR	5 m

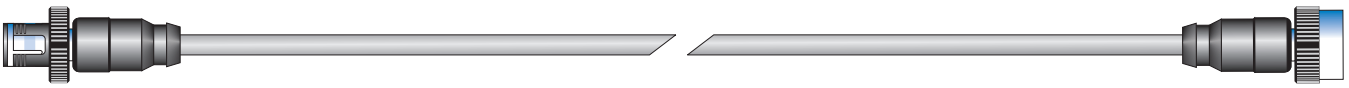
PART REFERENCE	TYPE	CABLE	LENGTH
S12-4FUW-010-NNRN-12FW	Socket right angle / socket right angle	PUR	1 m
S12-4FUW-020-NNRN-12FW	Socket right angle / socket right angle	PUR	2 m
S12-4FUW-050-NNRN-12FW	Socket right angle / socket right angle	PUR	5 m

CABLES

STANDARD CABLES

PART REFERENCE	TYPE	CABLE	LENGTH
S12-4FVG-006-12MG	Socket straight / plug straight	PVC	0.6 m
S12-4FVG-020-12MG	Socket straight / plug straight	PVC	2 m
S12-4FVG-050-12MG	Socket straight / plug straight	PVC	5 m
S12-4FUG-006-12MG	Socket straight / plug straight	PUR	0.6 m
S12-4FUG-020-12MG	Socket straight / plug straight	PUR	2 m
S12-4FUG-050-12MG	Socket straight / plug straight	PUR	5 m

QUICK-LOCK CABLES



PART REFERENCE	TYPE	CABLE	LENGTH
S12-4FVG-003-NNNQ-12MG	Socket straight/ plug straight	PVC	0.3 m
S12-4FVG-006-NNNQ-12MG	Socket straight / plug straight	PVC	0.6 m
S12-4FUG-003-NNNQ-12MG	Socket straight / plug straight	PUR	0.3 m
S12-4FUG-006-NNNQ-12MG	Socket straight / plug straight	PUR	0.6 m

TRANSPONDERS

RTM-0160-000

RFID PRODUCT R

TRANSPONDER T

SERIES

All metal V2A	F
All metal, laser welded V4A	L
Metal V2A	M
Plastic	P

TYPE

Smooth sleeve	0
Non-embeddable	1
Embeddable	2

SIZE

Diameter [mm]	XX

TEMPERATURE

Standard up to + 80°C	0
High up to +125°C	1
Ultra high up to +250°C	2

TECHNOLOGY

Low Frequency EM4056	0
High Frequency ISO 15693 ICode SLI-S	2
High Frequency ISO 15693 FRAM MBR89R1186	6
High Frequency ISO 15693 ICode SLI	8

PROGRAMMING

Blank	0
Preprogrammed	1

MATERIAL

Epoxy	0
PBTP	1
LCP	2
PPS	3

Part reference	*Chapter/page*	*Part reference*	*Chapter/page*
RTF-1300-000	4/395	RTP-0201-020	4/399
RTL-0102-001	4/396	RTP-0263-020	4/400
RTL-0162-001	4/396	RTP-0301-000	4/393
RTL-0262-001	4/396	RTP-0301-020	4/399
RTL-1302-001	4/397	RTP-0501-000	4/393
RTL-2162-001	4/397	RTP-0501-020	4/399
RTL-2302-001	4/397	RTP-0502-022	4/401
RTM-0100-000	4/394	RTP-0502-062	4/401
RTM-0160-000	4/394	RTP-0502-082	4/401
RTM-0260-000	4/394		
RTM-2160-000	4/395		
RTM-2300-000	4/395		
RTP-0090-020	4/400		
RTP-0160-020	4/400		
RTP-0201-000	4/393		

READ/WRITE MODULES

RLS-1181-030 (-120)

RFID PRODUCTS	R
READ/WRITE MODULE	L
CONNECTION	S

S12 connector, 4-pins	
USB A male	

TYPE

Non-embeddable	1

SIZE

M18	18
M30	30

SHORT HOUSING

TEMPERATURE

Standard up to + 80°C	0
High up to +125°C	1

TECHNOLOGY

ContriNET HF	2
ContriNET LF	3

NETWORK

ContriNET	0
USB	2
IO-Link	3

MATERIAL

Stainless steel V2A	0
PBTP / chrome-plated brass	1
Stainless steel V4A	2
PBTP / stainless steel V2A	3

Part reference	*Chapter/page*
RLS-1180-030	4/404
RLS-1181-030	4/404
RLS-1181-220	4/415
RLS-1181-220-120	4/415
RLS-1181-230	4/414
RLS-1181-320	4/411
RLS-1182-031	4/405
RLS-1183-020	4/406
RLS-1300-030	4/405
RLS-1301-030	4/404
RLS-1301-220	4/415
RLS-1301-220-120	4/415
RLS-1301-230	4/414
RLS-1301-320	4/411
RLS-1302-031	4/405
RLS-1303-020	4/406

INTERFACES

RIS-1053-120

RFID PRODUCTS	R

MODULE	
Adaptor	A
Interface	I

CONNECTOR	S

SIZE	
RAS	
67 mm x 66 mm	6766
RIS	
100 mm x 52 mm x 64 mm	1053

COMMAND SET	
Standard	0

PROTOCOL	
ContriNET	2

FIELDBUS	
RAS	
USB	0
RIS	
PROFIBUS	1
DeviceNet	2
EtherNet/IP	3
PROFINET	5
EtherCAT	6
POWERLINK	8
TCP/IP	4

Part reference	*Chapter/page*
RAS-6766-020	4/428
RIS-1053-120	4/420
RIS-1053-220	4/421
RIS-1053-320	4/421
RIS-1053-520	4/421
RIS-1053-620	4/421
RIS-1053-820	4/421
RIS-1613-400	4/423
RIS-1208-400	4/423