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General Catalog

CONTRINEX

NEW

INDUCTIVE SENSORS

- Full Inox Basic with IO-Link
- Full Inox Weld-Immune, M8
- Full Inox C23, cubic with IO-Link
- High Temperature, 230°C (440°F)

PHOTOELECTRIC SENSORS

- Contrast sensor with IO-Link
- C12: Cubic Subminiature
- C23: Cubic with IO-Link
- C23 Distance: Triangulation
- C55 Distance: TOF

SAFETY

- Type 2 light curtains for hand protection

RFID

- LF + HF R/W modules in ContriNet
- HF tags for 180°C (356°F), embeddable in metal
- HF tags for 250°C (482°F)
- EtherCat interface

A Swiss Company

CONTRINEX

Contrinex is a leading manufacturer of sensors for factory automation. The Swiss company, headquartered in Givisiez near Fribourg (CH), has a unique and innovative range of products whose features far surpass those of standard sensors.

Since its foundation in 1972 by Peter Heimlicher, Dipl Ing ETH, Contrinex has grown from a one-man operation to a multinational group with over 500 employees worldwide. More than 15 subsidiaries cover the core markets in Europe, Asia, North and South America.

At a glance

- Technology leading manufacturer of inductive and photoelectric sensors as well as safety and RFID systems
- World market leader for miniature sensors, sensors with long operating distances and devices for particularly demanding operating conditions (all-metal, high-pressure and high-temperature resistant sensors)
- Represented in over 60 countries worldwide, headquarters in Switzerland
- 8000 products

Technology leader for sensor intelligence and industrial RFID

CONTRINEX - SENSE MORE, DO MORE

INTELLIGENT SENSORS FOR THE 4TH INDUSTRIAL REVOLUTION: INDUSTRY 4.0

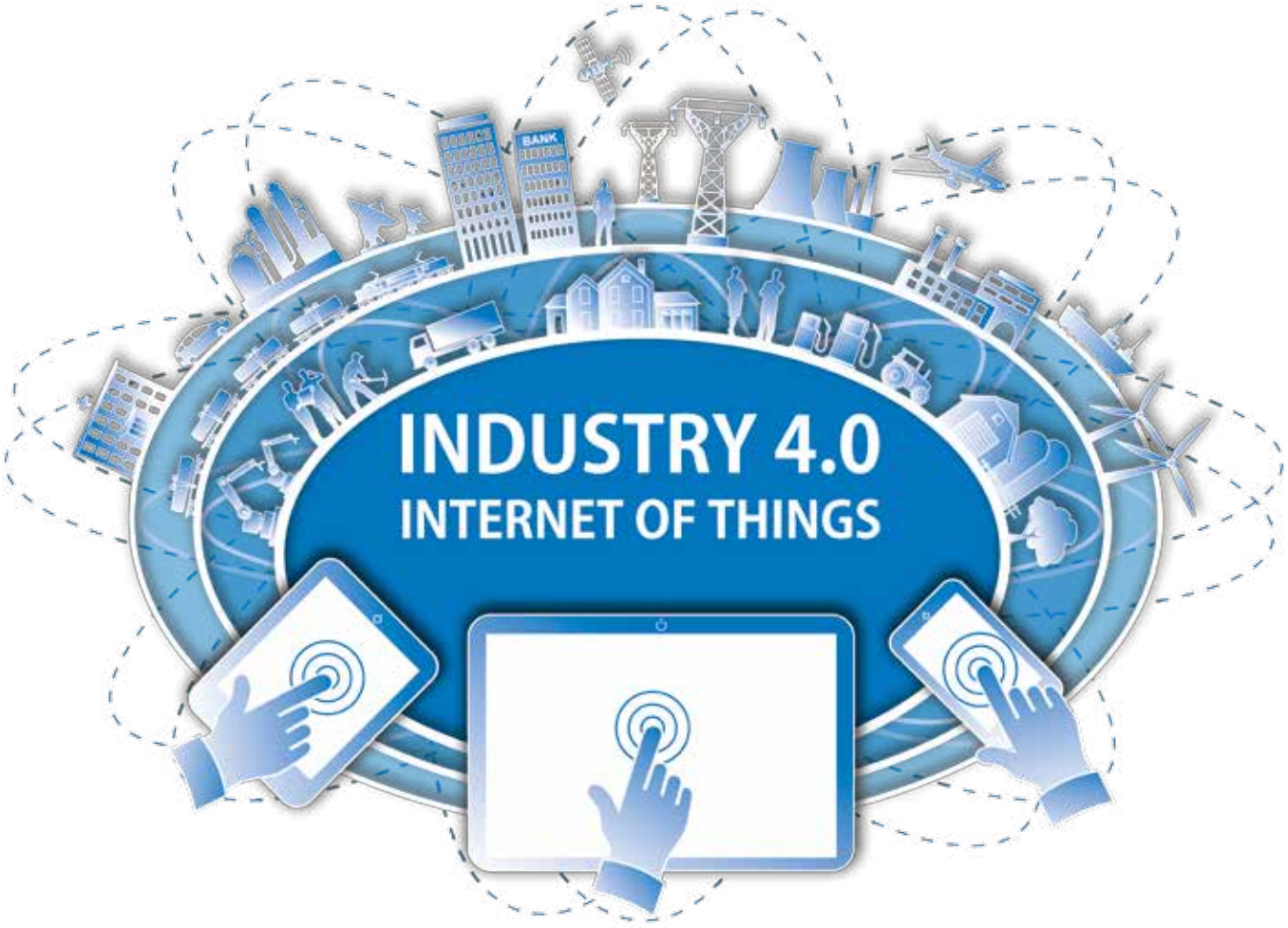
Fit for the future with IO-Link

Intelligent sensors are the fundamental building blocks of modern smart factories. They enable sensor-supported production resources (machines, robots, etc.) to configure, control, manage and optimize themselves. Precise, reliable sensor data is now more essential than ever.

Sensors from Contrinex, the leader in intelligent sensor technology, ensure excellent data quality. To communicate that data, all Contrinex inductive and photoelectric ASIC sensors will be equipped with IO-Link as standard. Customers use either the sensor's binary PNP output or its intelligent IO-Link interface. Both are available in one and the same device.

Another advantage is the fact that, with Contrinex sensors, there is no extra charge for IO-Link. This makes them not only quick and simple to install, but also highly economic.

As the first standardized IO technology worldwide (IEC 61131-9) for communication with sensors and actuators, IO-Link is crucial to the 4th Industrial Revolution. By installing Contrinex ASIC sensors with IO-Link, users can make themselves fit for the future.



MARKET-LEADING INNOVATION

1979 Sensor business starts with self-contained subminiature inductive sensors: Ø4 mm (instead of M8 before)

1982 Launch of inductive sensor with patented Condist® technology – market leadership with operating distances 3x standard

1986 Launch of Ø3 mm inductive sensors, now market leader for subminiature inductive sensors

1996 Market launch of Ø4 mm subminiature photoelectric sensors

1999 Launch of world's first inductive sensor with full-metal housing – thanks to patented Condet® technology

2005 Integration of Contrinex's excellent performance for inductive sensors in CMOS-ASIC (Application-Specific Integrated Circuit), a proprietary development

2007 Launch of RFID products for closed loop industrial applications. First RFID product range with tags and readers in full-metal housing

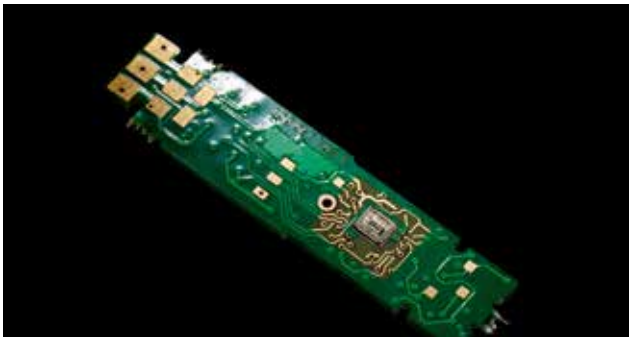
2008 Launch of Safetinex®, the industrial safety product range

2009 The smart sensor is born. Launch of next generation ASIC, a "system on a chip", including IO-Link interface

2011 Development starts on Contrinex's first ASIC for photoelectric sensors

2014 Launch of photoelectric sensor with new generation Contrinex ASIC and IO-Link

Early inductive sensor produced for own use in 1973 (special version for extreme conditions)



ASIC sensor technology

Safety product range

Subminiature photoelectric sensor

SENSORS

INDUCTIVE
BASIC
MINIATURE
EXTREME
EXTRA PRESSURE
HIGH PRESSURE
EXTRA TEMPERATURE
HIGH TEMPERATURE
WASHDOWN
ANALOG OUTPUT
2-WIRE
WELD-IMMUNE
SPECIAL

PHOTOELECTRIC
CYLINDRICAL SUBMINIATURE
CYLINDRICAL MINIATURE
CYLINDRICAL SMALL
CUBIC SUBMINIATURE
CUBIC MINIATURE
CUBIC SMALL
CUBIC COMPACT
FIBER-OPTIC AMPLIFIERS, FIBERS

ULTRASONIC
MINIATURE
SMALL
COMPACT

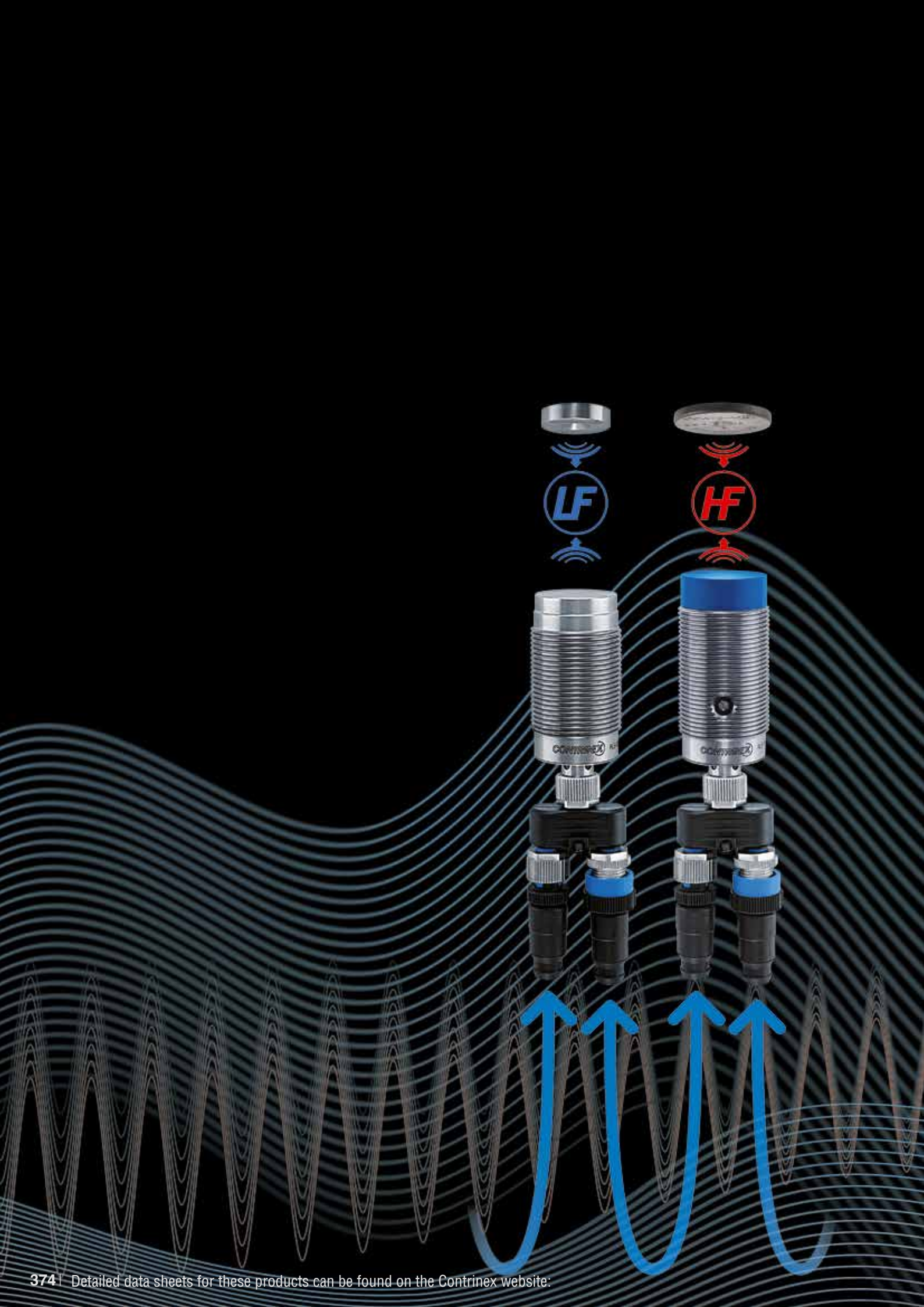
CAPACITIVE
BASIC
HIGH PERFORMANCE

SAFETY

LIGHT CURTAINS
FINGER PROTECTION type 4
HAND PROTECTION type 4 and type 2
SAFETY RELAYS
ACCESS CONTROL type 4

RFID

LOW AND HIGH FREQUENCY
TRANSPONDERS
CONTRINET
USB READ/WRITE MODULES
HANDHELD DEVICES
ACCESSORIES
SOFTWARE
STARTER KITS


LF
HF

RFID

HIGH AND LOW FREQUENCY

HIGHLIGHTS

✓ High and low frequency systems networkable on ContriNet

Low-frequency system

✓ All-metal housings, IP 68 and IP 69K
✓ Food safe and saltwater resistant (316L/V4A)
✓ VHT tags for very high temperatures, up to 180°C (356°F)
✓ All tags embeddable in metal

High-frequency system

✓ ISO/IEC 15693 compatible
✓ VHT tags for very high temperatures, embeddable in metal
✓ UHT tags for ultra high temperatures, up to 250°C (482°F)
✓ IO-Link read/Write Modules

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 vision 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® 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 name of the Contrinex RFID network. This network is particularly user friendly since it allows the connection of LF and/or HF Read/Write Modules in the same network, reducing the number of interfaces. **ContriNet** is an RS485 network with a specific Contrinex protocol.

An RFID system always has the structure illustrated on page 379.

LOW FREQUENCY (LF) RFID (31.25 kHz)

Contrinex LF RFID technology features not only conventional 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 highly resistant to mechanical shocks.

- Reads and writes through metal
- Works in a metallic environment
- Works in harsh environments
- Non-standard technology
- Very high temperature tags (VHT 180°C / 356°F) embeddable in metal

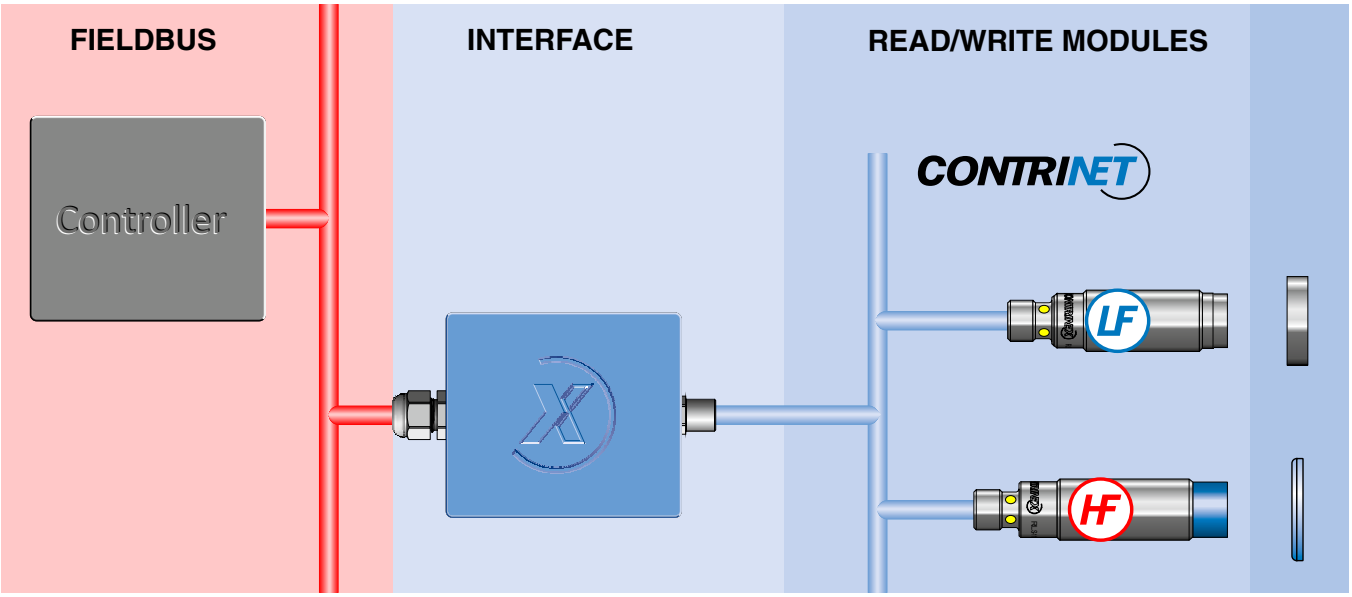
HIGH FREQUENCY (HF) RFID (13.56 MHz)

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

RFID COMPONENTS

- **Transponders (or tags):** A transponder is an electronic label that stores data. Transponder memory includes a unique preset number as an identifier and a writeable zone specific to the object. 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 written to or read from a transponder.
- **Interface:** The interface connects the Read/Write Modules to an industrial fieldbus.



Communication between the RWM and any tags is provided by the modulation of a carrier. The frequency indicated for any RFID system is the frequency of its carrier.

APPLICATIONS

WASHING STATIONS

In the harsh environment of a washing station, RFID transponders and Read/Write Modules 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.

ConIdent® advantages

ConID passive tags require no power source and minimal maintenance. Rugged, low frequency tags with all-metal housings are sealed to IP 67 or IP 69K to resist water penetration and can withstand temperatures up to 180°C (+356°F). Their extended sensing range reduces the risk of mechanical damage. Read/write units interface directly with customer control systems.

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 downtime and ensure the reliability of data.

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

ConIdent® advantages

All-metal, low-frequency tags and Read/Write Modules are resistant to corrosion, impact and abrasion. For use in the harshest environments, laser welded tags are fully sealed and can be embedded in metal. They function reliably in water, withstand high pressure cleaning and resist aggressive solvents. Tags are optimized for operating temperatures from -40 to +180°C (-40 to +356°F) and have a protection rating of IP 68 and IP 69K. Read/Write Modules 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 diagnosis, 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. Test reports are automatically forwarded to the controller for product acceptance or rejection and fault correction.

ConIdent® advantages

The Contrinex HF RFID system includes numerous interfaces for integration into control systems. The structure is extremely simple, with just one master for all Read/Write Modules. Direct connection to an RS485 bus is possible. ConID HF software allows RFID components to be tested using an ordinary PC. System stability and EMC characteristics are very good.

PAINT SHOPS

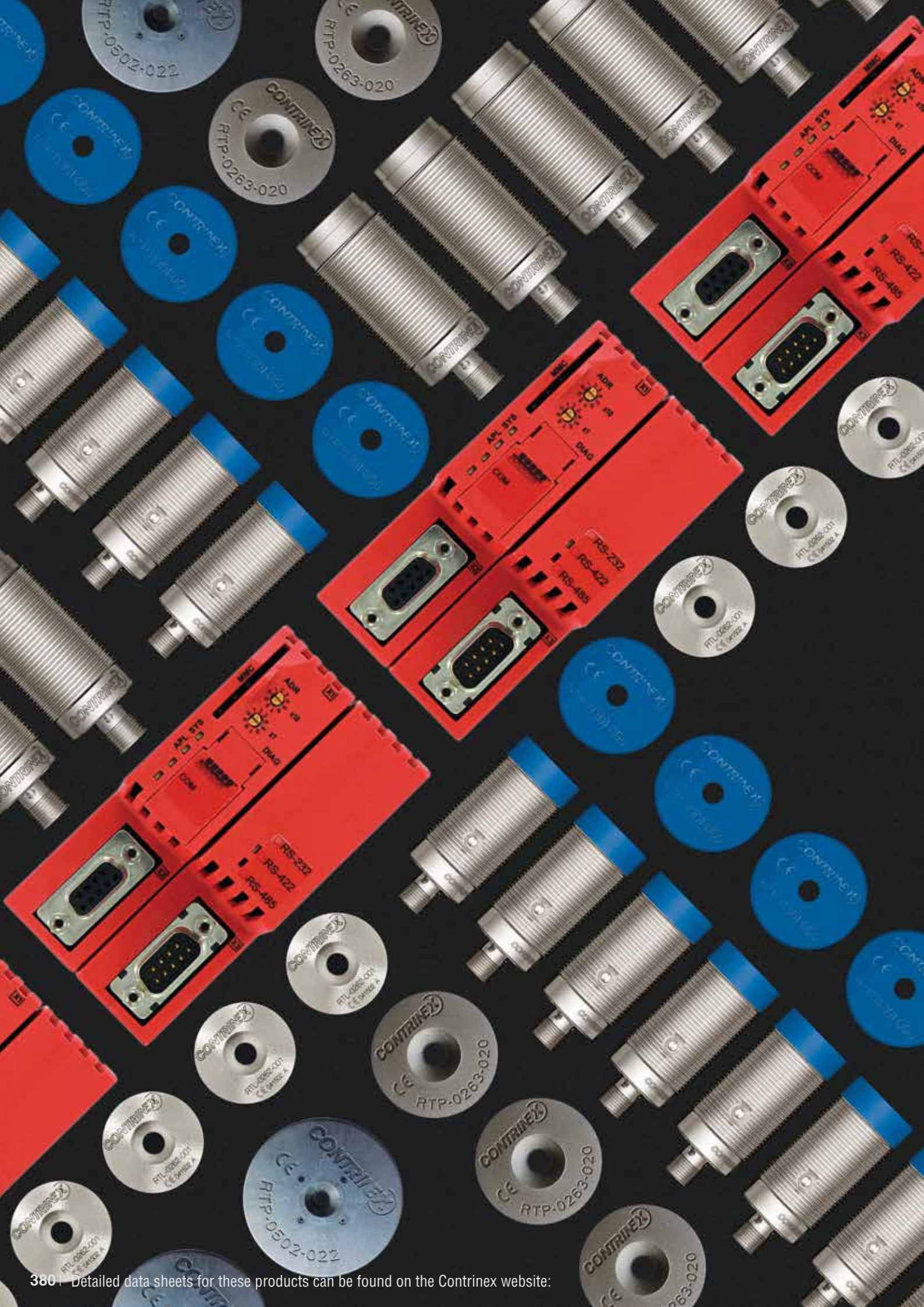
Identification components in paint shops are exposed to a variety of rinsing, coating and burning operations, including electrophoresis. Since soiling makes visual identification difficult or impossible, rugged RFID systems are an excellent solution.

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

ConIdent® advantages

The high-frequency system includes specially adapted, high-temperature tags with IP68/IP69K protection. Their silicone-free composition makes them ideal for paint-shop applications. They are resistant to various detergents and can be read/written directly on leaving the high temperature zone (cooling not required):

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



 Detailed data sheets for these products can be found on the Contrinex website:

PROGRAM OVERVIEW

		LOW FREQUENCY	HIGH FREQUENCY
TRANSPONDERS	Transponders	p. 386-391	p. 392-395
CONTRINET	Read/Write Modules	p. 400-401	p. 401
	Interfaces:	p. 402-406	p. 402-406
	PROFIBUS-DP	p. 402	p. 402
	DeviceNet	p. 403	p. 403
	EtherNet/IP / PROFInet IO	p. 403	p. 403
	EtherCat / POWERLINK	p. 403	p. 403
	TCP/IP industrial interfaces	p. 405-406	p. 405-406
	USB Adaptor	p. 407-408	p. 407-408
IO-LINK R/W MODULES	IO-Link Read/Write Modules		p. 412-413
USB R/W MODULES	USB Read/Write Modules	p. 416	p. 417
SOFTWARE	Demonstration software	p. 426	p. 426
	Tree View	p. 426	p. 426
	Working area / Captured packets	p. 427	p. 427

TRANSPONDER OVERVIEW

LOW FREQUENCY TRANSPONDERS (PASSIVE)

TRANSPONDER	Mounting	Material	Characteristics	Page
RTM / RTF Ø 10 - Ø 26 M16 - M30	Embeddable or non-embeddable	Stainless steel V2A	-40 ... +80°C (-40 to +176°F)	388-389
RTL Ø 10 - Ø 26 M16 - M30	Embeddable or non-embeddable	Stainless steel V4A	-40 ... +125°C or +180°C (-40 ... +257°F or +356°F) IP 68 & IP 69K Food safe Corrosion resistant	390-391
RTP Ø 20 - Ø 50	Embeddable	PBTP glass-fiber reinforced	-40 ... +125°C (-40 to +257°F) IP 68 & IP 69K Food safe Corrosion resistant Insensitive to soiling	387

HIGH FREQUENCY TRANSPONDERS (PASSIVE)

TRANSPONDER	Mounting	Material	Characteristics	Page
RTP Ø 20 - Ø 50	Non-embeddable	PBTP glass-fiber reinforced	-25 ... +85°C (-13 to +185°F) IP 67 Compatible with ISO/IEC 15693 Insensitive to soiling	393
RTP Ø 9	Non-embeddable	PPS and epoxy	-25 ... +85°C (-13 to +185°F) IP 67 Compatible with ISO/IEC 15693 Insensitive to soiling	394
RTP Ø 50	Non-embeddable	LCP	-25 ... +250°C (-13 to +482°F) IP 68 & IP 69K Compatible with ISO/IEC 15693 Insensitive to soiling	395
RTP Ø 26	Embeddable mounting in metal	PPS	-25 ... +180°C (-13 to +356°F) IP 68 & IP 69K Compatible with ISO/IEC 15693 Insensitive to soiling	394


CONTRINEX
RTP-0502-022
RTL-0602-001
RTM-2300-000
1011010010001110100010111000

TRANSPONDERS FOR ALL ENVIRONMENTS

TRANSPONDERS

LOW FREQUENCY

HIGH FREQUENCY

KEY ADVANTAGES

- ✓ Passive (no battery)
- ✓ LF and HF can be used in same application

LF

- ✓ Stainless steel tags (transponders) for harsh environments
- ✓ Insensitive to soiling
- ✓ Food safe and saltwater resistant tags, IP 69K
- ✓ Tags readable/writeable through metal

HF

- ✓ Compatible with ISO/IEC 15693
- ✓ Insensitive to soiling
- ✓ Tags for temperatures up to 250°C (482°F)
- ✓ PPS tags that can be embedded in metal, IP 69K

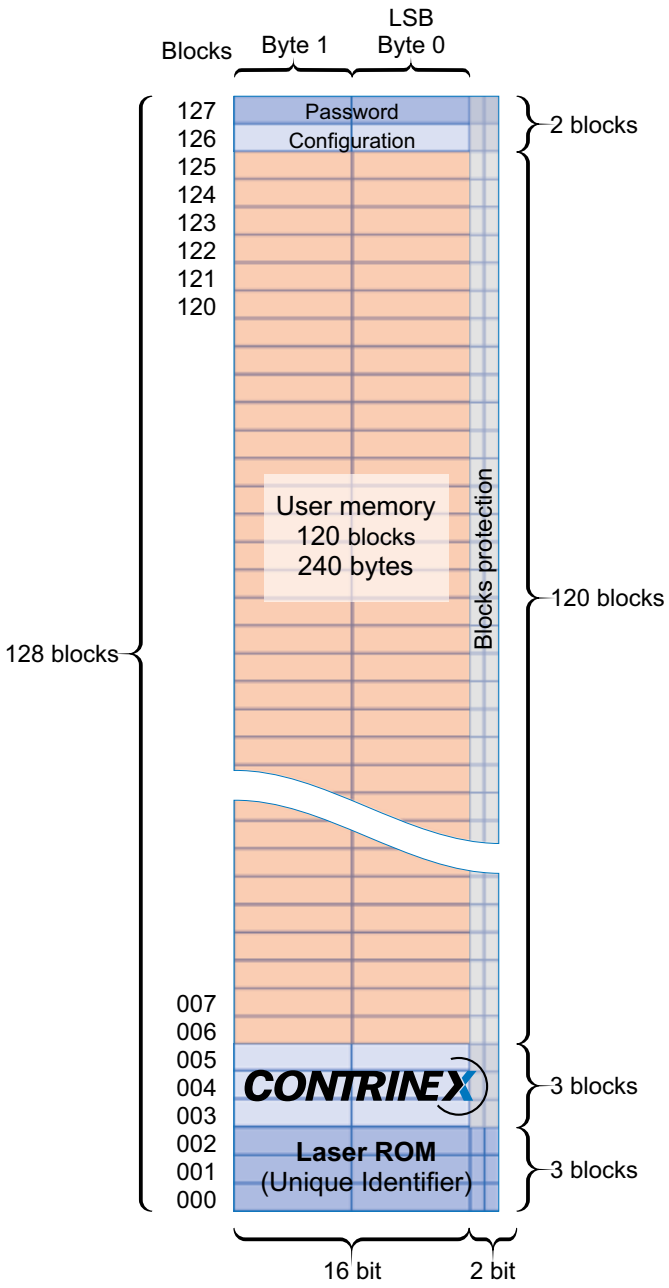
STRUCTURE OF MEMORY

PLASTIC

HOUSING SIZE	
MAX. READ/WRITE DISTANCE MM	

TECHNICAL DATA

Compatible IC type	EM4056
Read/write memory	240 byte
Read only memory	12 byte



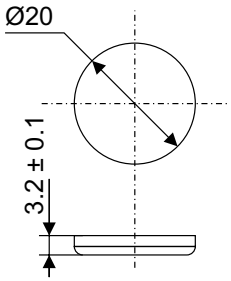
Various tag memory protection possibilities are provided, including password protection and OTP write protection of data blocks.

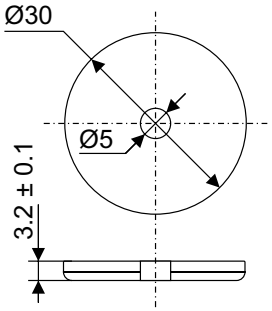
DATA

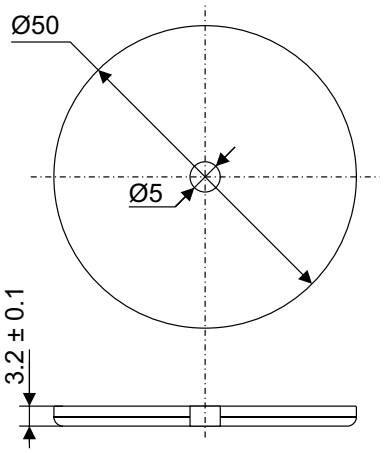
Housing material	
Mounting	
Ambient temperature range	
Weight	
Part reference	

TRANSPONDERS

Ø 20	Ø 30	Ø 50
28	29	41



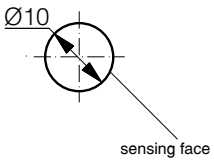


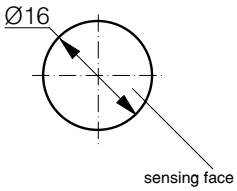


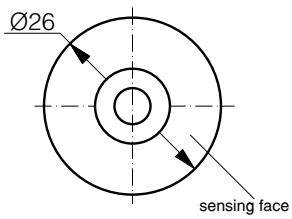
PBTP glass-fiber reinforced	PBTP glass-fiber reinforced	PBTP glass-fiber reinforced
Embeddable	Embeddable	Embeddable
-40 ... +125°C / -40 … +257°F	-40 ... +125°C / -40 … +257°F	-40 ... +125°C / -40 … +257°F
1.3 g	2.3 g	5.7 g
RTP-0201-000	RTP-0301-000	RTP-0501-000

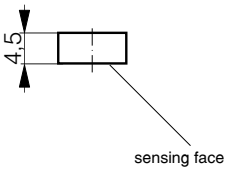
STAINLESS STEEL V2A

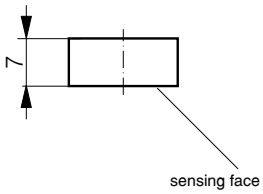
HOUSING SIZE MM	Ø 10	Ø 16	Ø 26
MAX. READ/WRITE DISTANCE MM	17	19	27

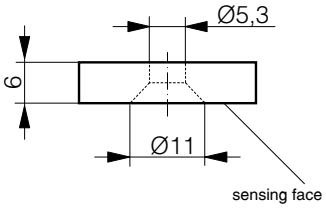








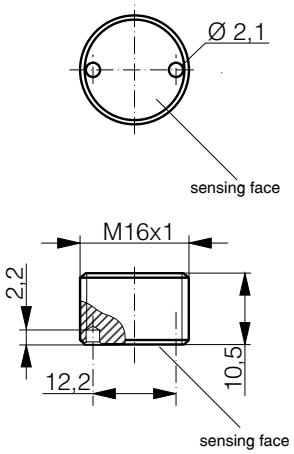


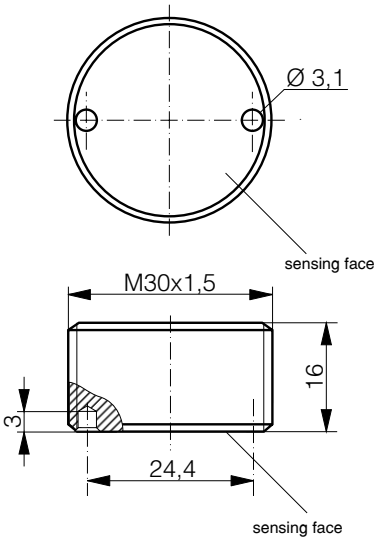


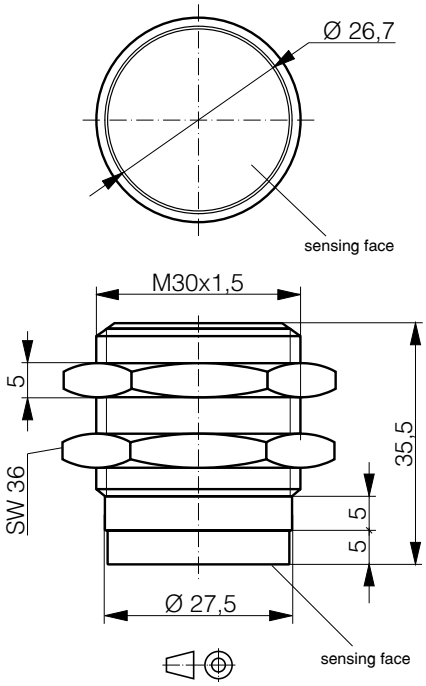
DATA			
Housing material	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A
Mounting	Embeddable	Embeddable	Embeddable
Ambient temperature range	-40 ... +80°C / -40 … +176°F	-40 ... +80°C / -40 … +176°F	-40 ... +80°C / -40 … +176°F
Weight	1.1 g	2.7 g	7.0 g
Part reference	RTM-0100-000	RTM-0160-000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

TRANSPONDERS

M16	M30	M30
13	18	23



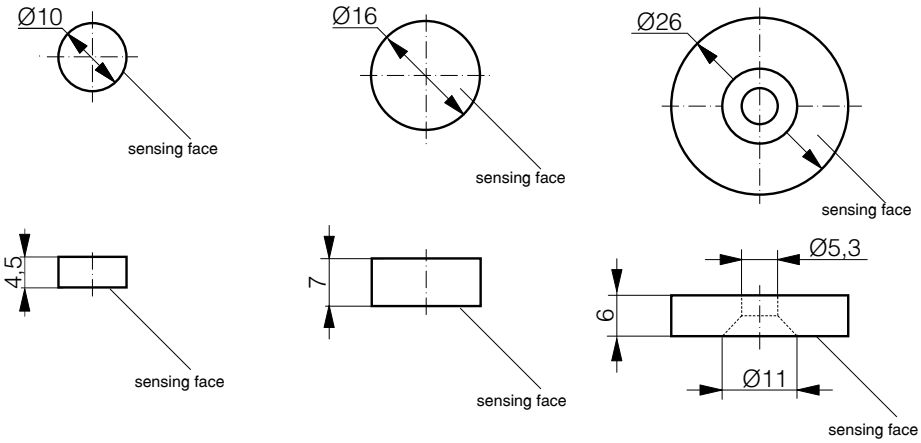




Stainless steel V2A	Stainless steel V2A	Stainless steel V2A
Embeddable	Embeddable	Non-embeddable
-40 ... +80°C / -40 … +176°F	-40 ... +80°C / -40 … +176°F	-40 ... +80°C / -40 … +176°F
6.9 g	31.4 g	98.7 g
RTM-2160-000	RTM-2300-000	RTF-1300-000

STAINLESS STEEL V4A, LASER WELDED

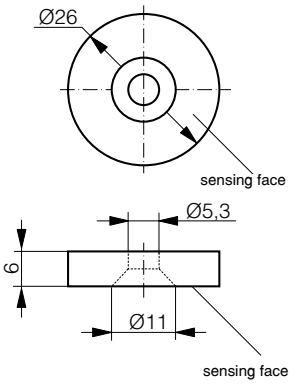
HOUSING SIZE MM	Ø 10	Ø 16	Ø 26
MAX. READ/WRITE DISTANCE MM	17	19	27

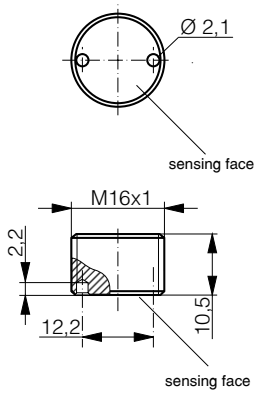


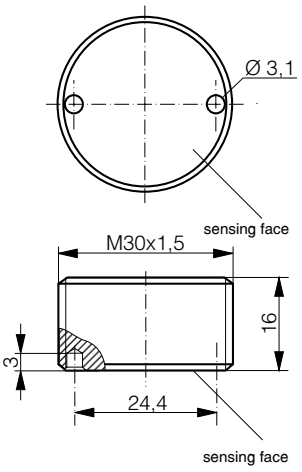
DATA			
Housing material	Stainless steel V4A	Stainless steel V4A	Stainless steel V4A
Mounting	Embeddable	Embeddable	Embeddable
Ambient temperature range	-40 ... +125°C / -40 … +257°F	-40 ... +125°C / -40 … +257°F	-40 ... +125°C / -40 … +257°F
Weight	1.5 g	3.3 g	12.5 g
Part reference	RTL-0102-001	RTL-0162-001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

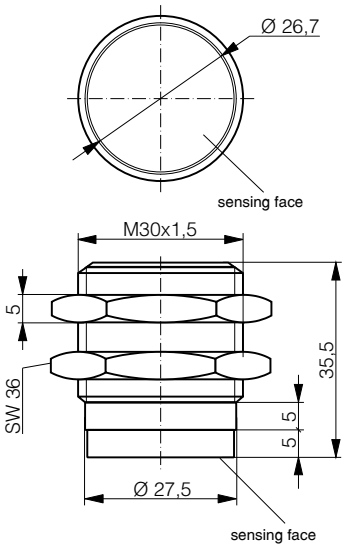
TRANSPONDERS

Ø 26	M16	M30	M30
27	13	18	23









Stainless steel V4A	Stainless steel V4A	Stainless steel V4A	Stainless steel V4A
Embeddable	Embeddable	Embeddable	Non-embeddable
-40 ... +180°C / -40 … +356°F	-40 ... +125°C / -40 … +257°F	-40 ... +125°C / -40 … +257°F	-40 ... +125°C / -40 … +257°F
12.5 g	7.9 g	33.1 g	44.1 g
RTL-0262-003	RTL-2162-001	RTL-2302-001	RTL-1302-001

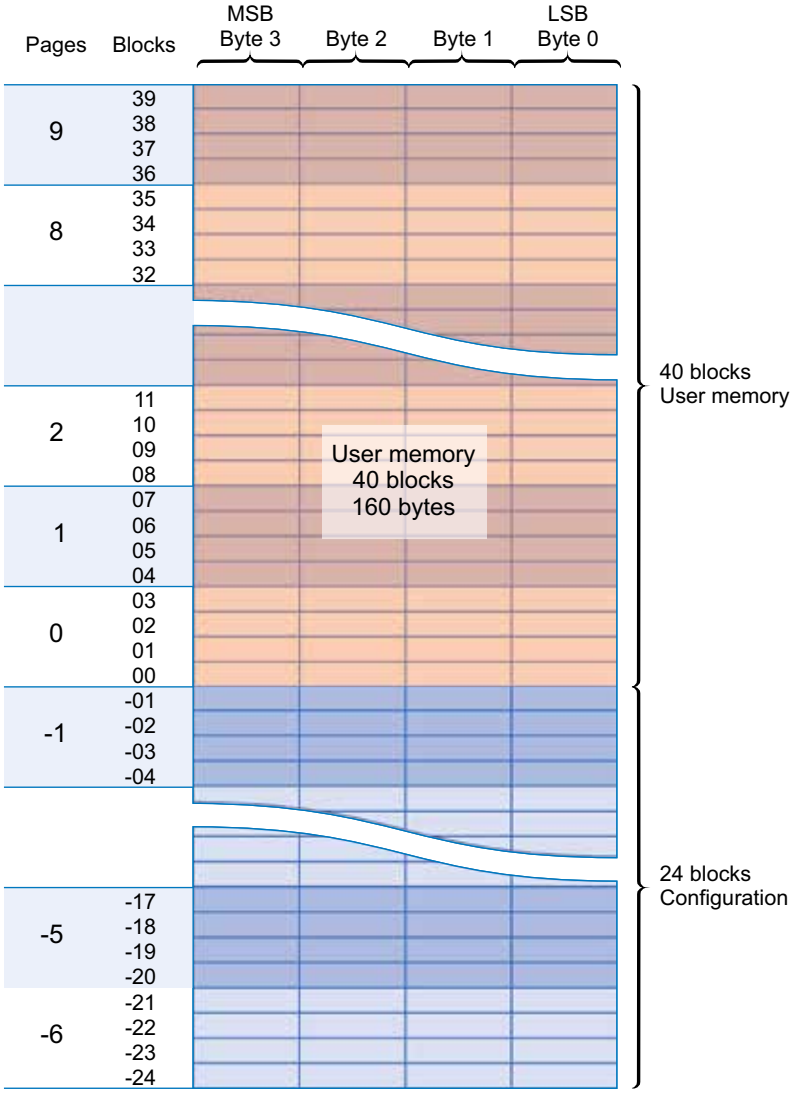
STRUCTURE OF MEMORY

PLASTIC

HOUSING SIZE MM	
MAX. READ/WRITE DISTANCE MM	

TECHNICAL DATA

Compatible IC type	SL2 ICS53 I·Code SLI-S
Read/write memory	160 byte
Read only memory	96 byte
Standard	ISO/IEC 15693



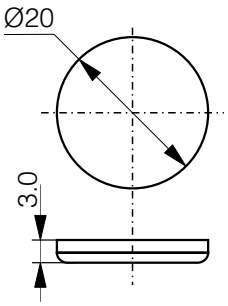
Various tag memory protection possibilities are provided, including password protection and OTP write protection of data blocks.

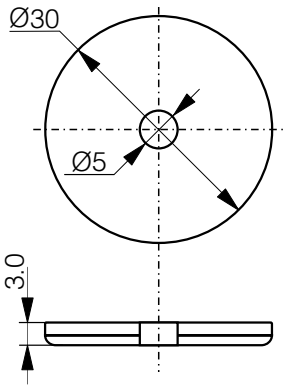
DATA

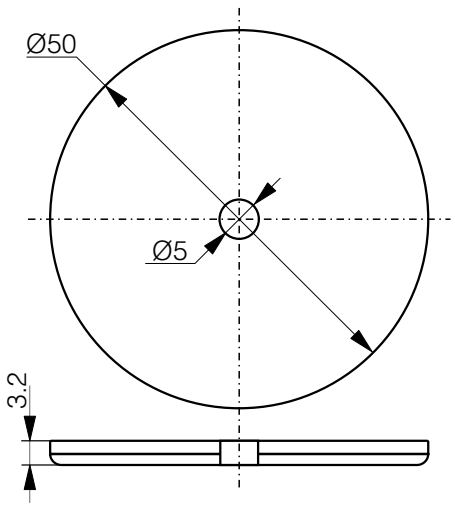
Housing material	
Mounting	
Ambient temperature range	
Weight	
Part reference	

TRANSPONDERS

Ø 20	Ø 30	Ø 50
26	36	47

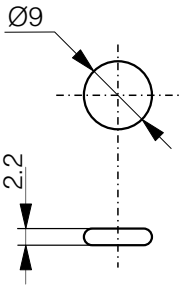


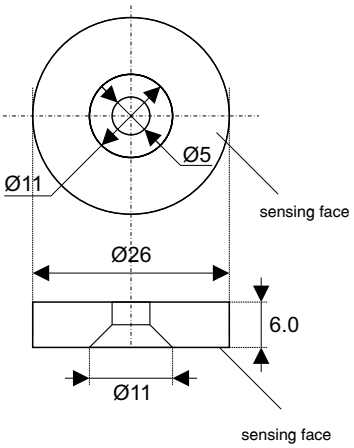




PBTP glass-fiber reinforced	PBTP glass-fiber reinforced	PBTP glass-fiber reinforced
Non-embeddable	Non-embeddable	Non-embeddable
-25 ... +85°C / -13 ... +185°F	-25 ... +85°C / -13 ... +185°F	-25 ... +85°C / -13 ... +185°F
1.3 g	2.7 g	6.6 g
RTP-0201-020	RTP-0301-020	RTP-0501-020

	PLASTIC	PLASTIC EMBEDDABLE IN METAL
HOUSING SIZE	Ø 9	Ø 26
MAX. READ/WRITE DISTANCE MM	16	34



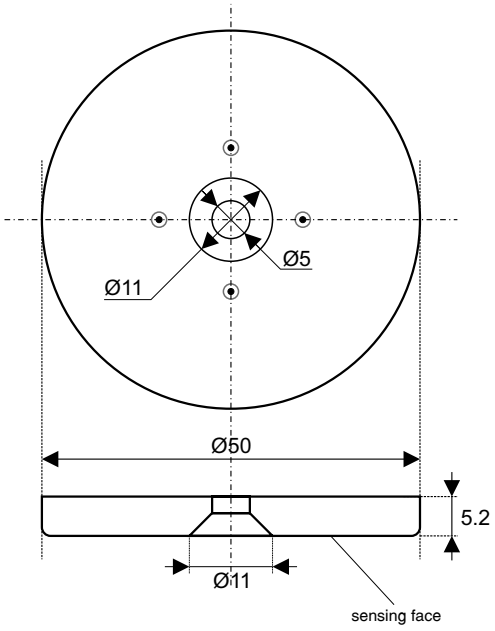


DATA		
Housing material	PPS + Epoxy	PPS, silicone free
Mounting	Non-embeddable	Embeddable
Ambient temperature range	-40 ... +85°C / -40 … +185°F	-25 ... +180°C / -13 … +356°F
Weight	0.25 g	3.3 g
Part reference	RTP-0090-020	RTP-0263-020

PLASTIC ULTRA HIGH TEMPERATURE

Ø 50

60



LCP (Liquid Crystal Polymer), silicone free	
Non-embeddable	
-25 ... +250°C / -13 … +482°F	
16.9 g	
RTP-0502-022	


HF
LF
HF
LF
LF
LF
CONTRINEX

THE CONTRINEX NETWORK

CONTRINET

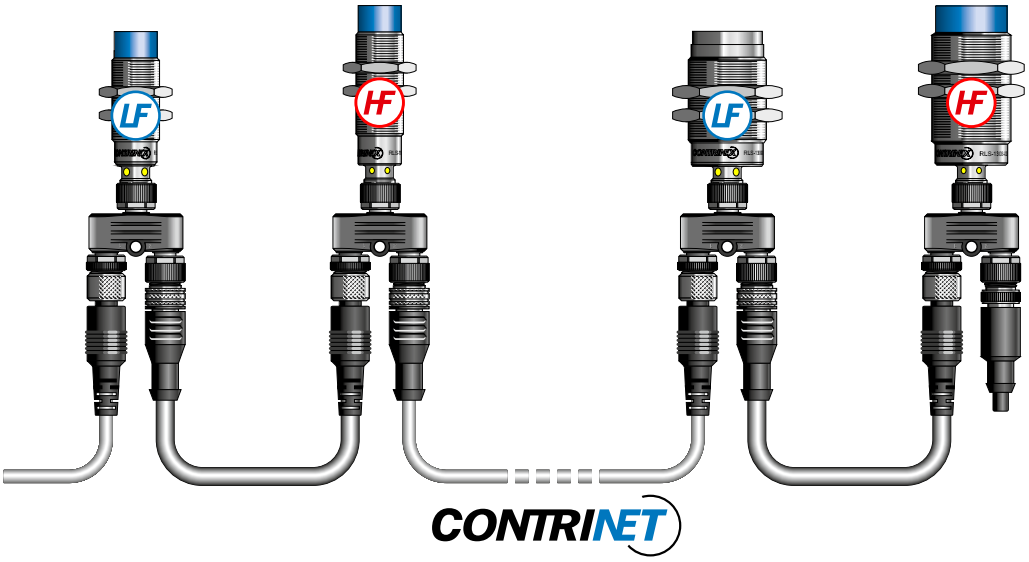
LOW FREQUENCY

HIGH FREQUENCY

KEY ADVANTAGES

- ✓ Powerful RS485 network 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 RWMs with impervious sensing face
- ✓ High-temperature RWMs for up to +125°C (257°F)
- ✓ Interfaces for most industrial fieldbuses and USB

CONTRINET: THE CONTRINEX NETWORK



ContriNet is the RFID network of Contrinex. It is an RS485 physical network with a specific Contrinex protocol. Full documentation is provided.

ContriNet allows LF and/or HF Read/Write Modules to be connected in series:

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

While the usual interfaces allow connection of a limited number of Read/Write Modules, the ContriNet network can be used to reduce the number of interfaces, which makes the ConID system more economic.

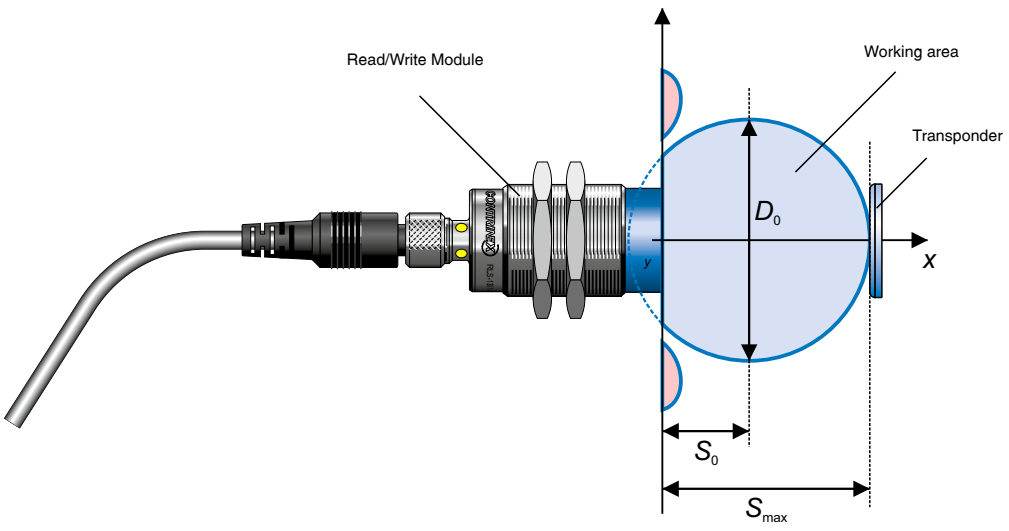
In principle, a ContriNet network can extend to a length of 200 m.

LOW FREQUENCY

LF	RLS-1180-030		RLS-1300-030		RLS-1181-030		RLS-1301-030	
	S_{max}	D_o	S_{max}	D_o	S_{max}	D_o	S_{max}	D_o
RTP-0201-000	7.7	14.0	4.5	22.2	25.4	28.8	28.0	32.3
RTP-0301-000	11.9	23.2	12.2	26.2	25.9	32.6	28.7	36.5
RTP-0501-000	7.4	59.1	7.8	47.8	36.3	49.3	40.7	52.2
RTM-0100-000	8.4	13.0	8.6	19.0	16.5	12.6	13.4	20.7
RTM-0160-000	10.7	15.9	12.1	21.6	17.1	21.1	18.7	25.7
RTM-0260-000	12.5	22.2	12.9	23.8	22.6	28.6	26.1	21.9
RTM-2160-000	6.3	8.6			12.5	16.0	12.5	20.4
RTM-2300-000	8.6	15.4	4.4	26.5	15.6	19.9	18.0	22.6
RTF-1300-000	11.9	20.4	12.4	22.8	20.7	26.6	22.8	29.8

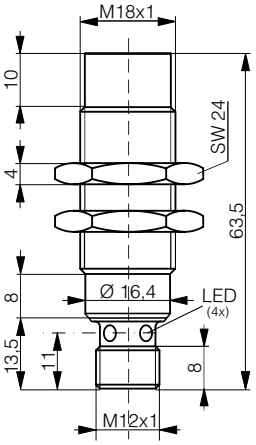
HIGH FREQUENCY

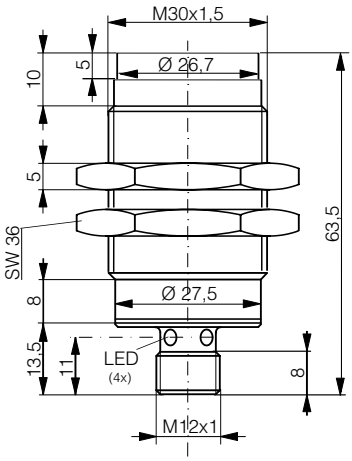
HF	RLS-1183-020		RLS-1303-020		
	S_{max}	D_o	S_{max}	D_o	
RTP-0201-020	14	19	26	31	
RTP-0301-020	29	34	36	41	
RTP-0501-020	24	46	47	54	
RTP-0090-020	9	13	16	22	
RTP-0263-020	22	26	34	37	
RTP-0502-020	42	50	60	65	

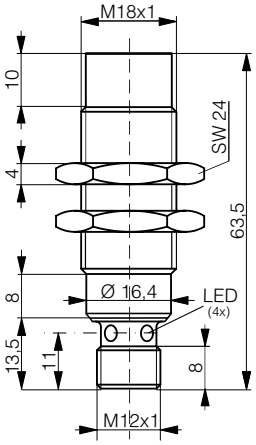


LOW FREQUENCY READ/WRITE MODULE

HOUSING SIZE	M18	M30	M18
MAX. READ/WRITE DISTANCE MM	12	13	37



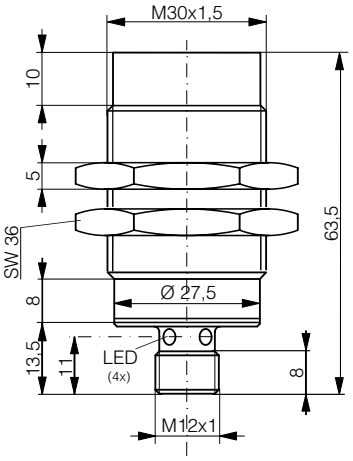


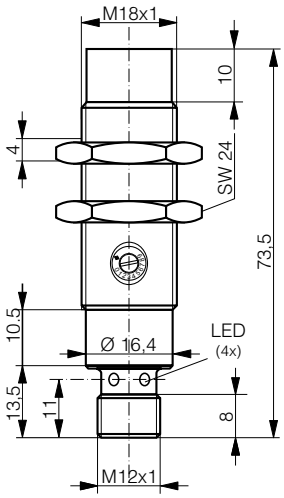


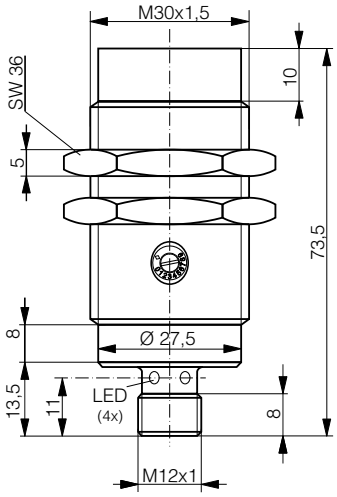
DATA			
Housing material	Stainless steel V2A	Stainless steel V2A	PBTP / chrome-plated brass
Max. current consumption	30 mA	30 mA	30 mA
Mounting	Non-embeddable	Non-embeddable	Non-embeddable
Ambient temperature range	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F
Storage temperature range	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F	
Connection type	Connector S12	Connector S12	Connector S12
Weight (incl. nuts)	37 g	127 g	37 g
Part reference	RLS-1180-030	RLS-1300-030	RLS-1181-030

HIGH FREQUENCY READ/WRITE MODULE

M30	M18	M30
41	42	60







PBTP / chrome-plated brass	PBTP / Stainless steel V2A	PBTP / Stainless steel V2A
30 mA	60 mA	60 mA
Non-embeddable	Non-embeddable	Non-embeddable
-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F	-25…+80°C / -13…+176°F
Connector S12	Connector S12	Connector S12
127 g	37 g	95 g
RLS-1301-030	RLS-1183-020	RLS-1303-020

CONTRINET INTERFACES

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

AT A GLANCE

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

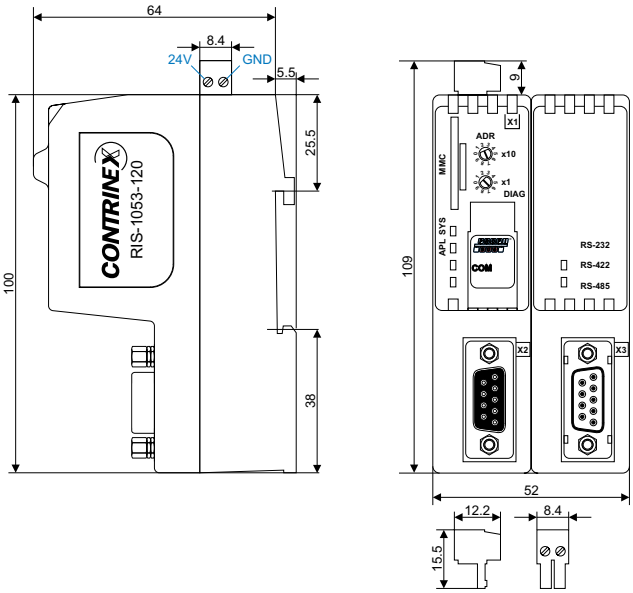
FIELDBUS

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

FIRMWARE

On SD card

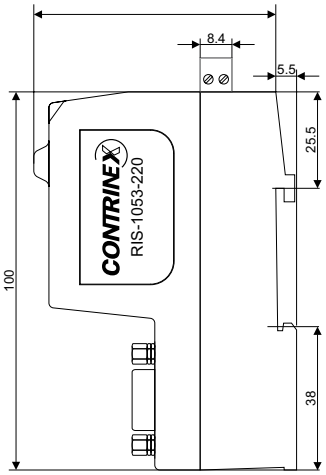
Selectable using the RIS-1053-X20 card configurator software

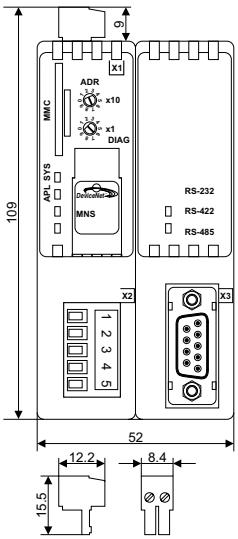


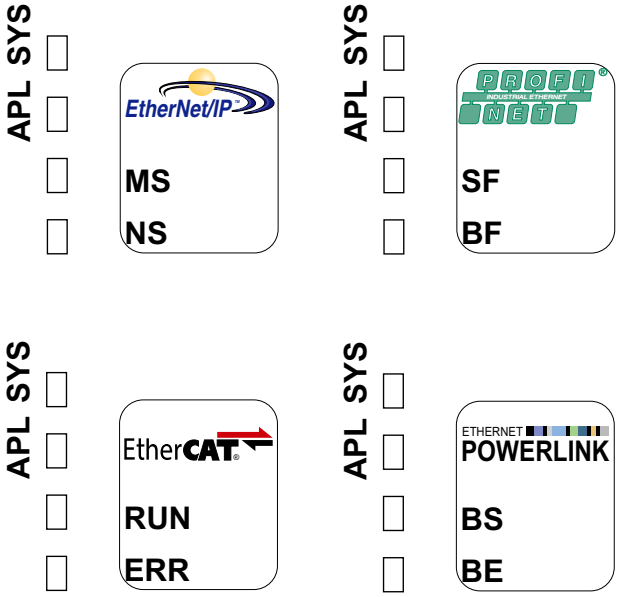
DATA

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

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

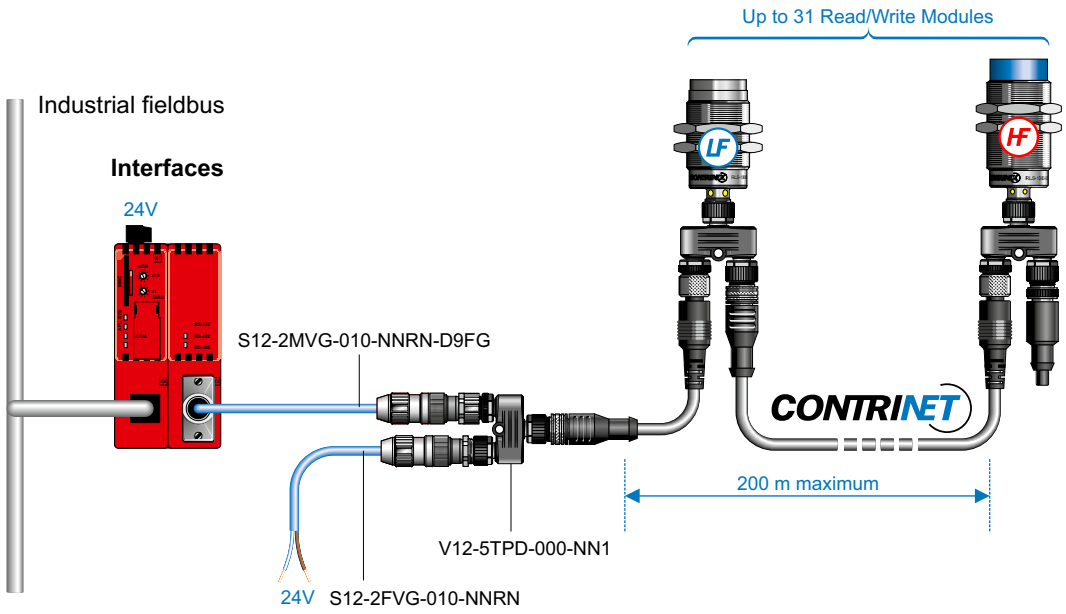




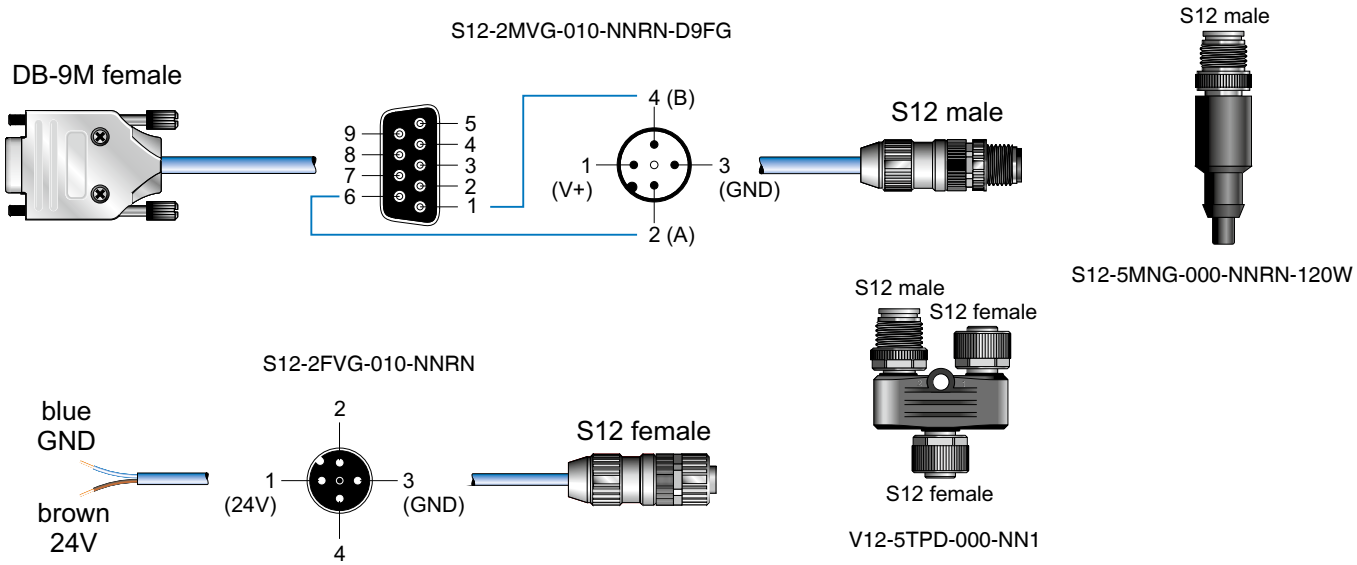


ABS	ABS
DIN rail EN 60715	DIN rail EN 60715
0 … +50°C / +32 … +122°F	0 … +50°C / +32 … +122°F
0 … +50°C / +32 … +122°F	0 … +50°C / +32 … +122°F
150 g	150 g
RIS-1053-220	RIS-1053-E20

CONTRINET APPLICATION WITH INTERFACES



ACCESSORIES TO CONNECT INTERFACES TO CONTRINET



*Other cables available page 423

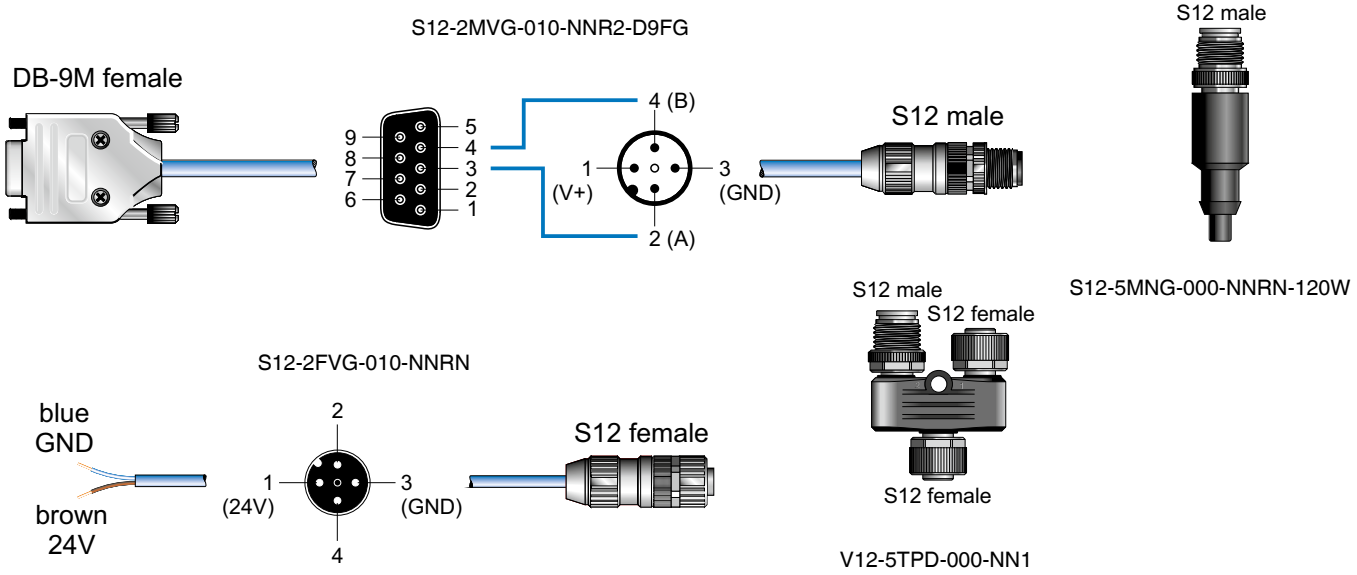
DATA

S12-2MVG-010-NNRN-D9FG	S12 - DB9 RIS HF 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

RIS-1613-400

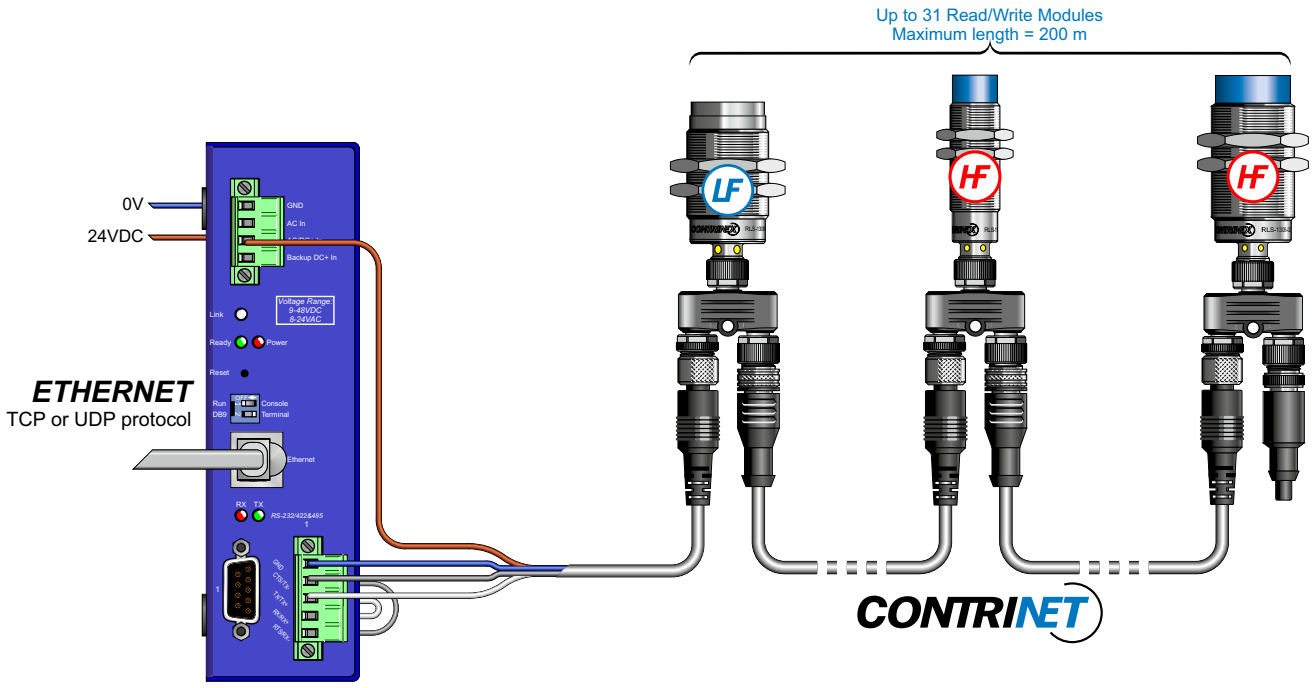
ACCESSORIES TO CONNECT TCP/IP INTERFACE TO CONTRINET



DATA

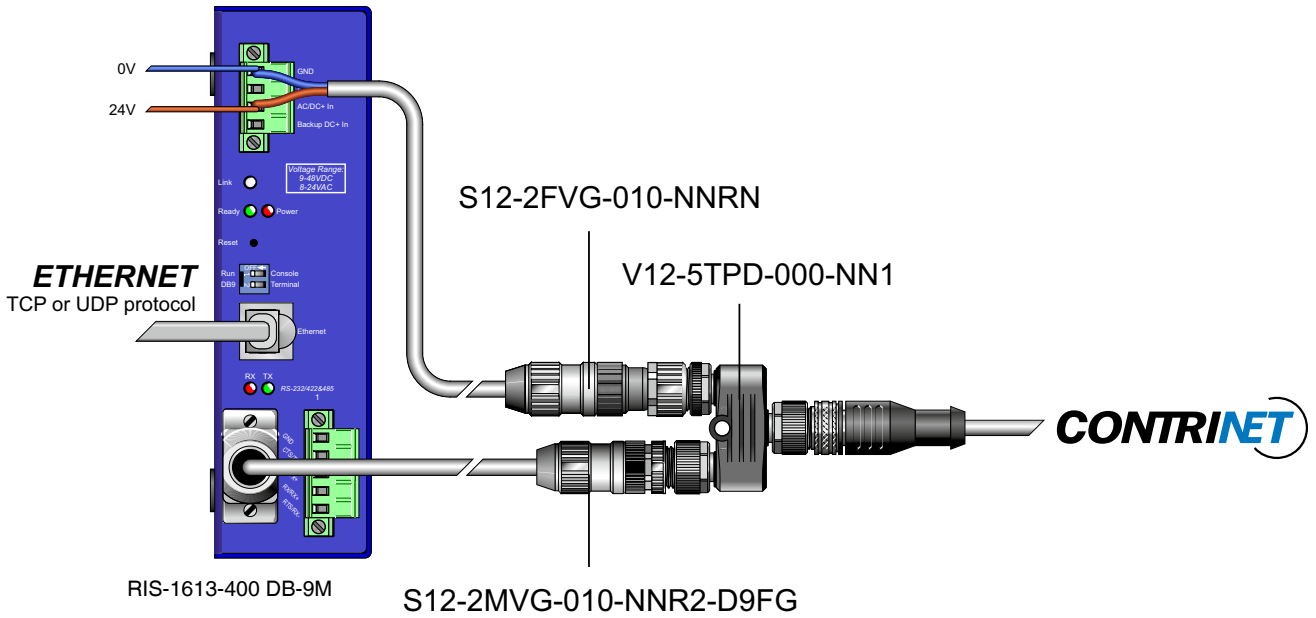
S12-2MVG-010-NNR2-D9FG	DB9 - S12 cable
S12-2FVG-010-NNRN	24V - S12 power supply cable
V12-5TPD-000-NN1	S12 T-connector
S12-5MNG-000-NNRN-120W	S12 ContriNet terminator 120 Ω

APPLICATION WITH CONNECTOR MINICONNECT



RIS-1613-400 Miniconnect

APPLICATION WITH CONNECTOR DB-9M



RIS-1613-400 DB-9M

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

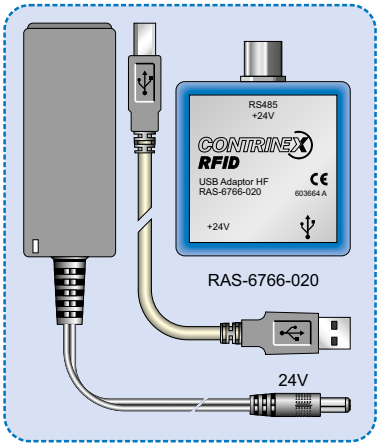
LEDS

Red LED:

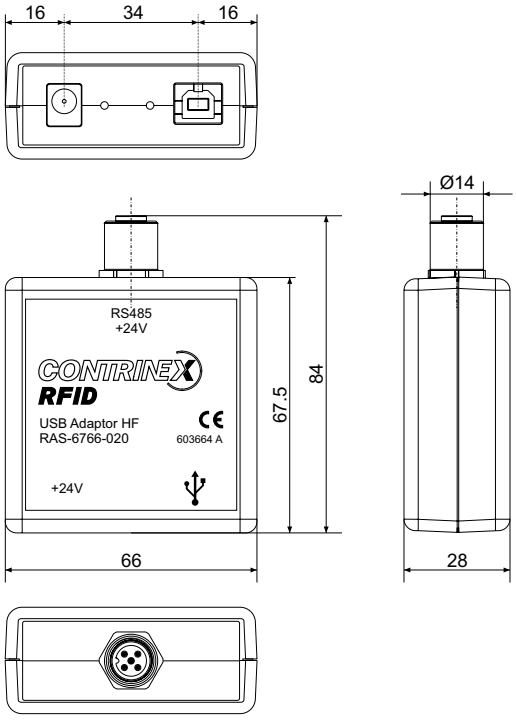
Describes the connection control PC - USB connector.

Green LED:

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



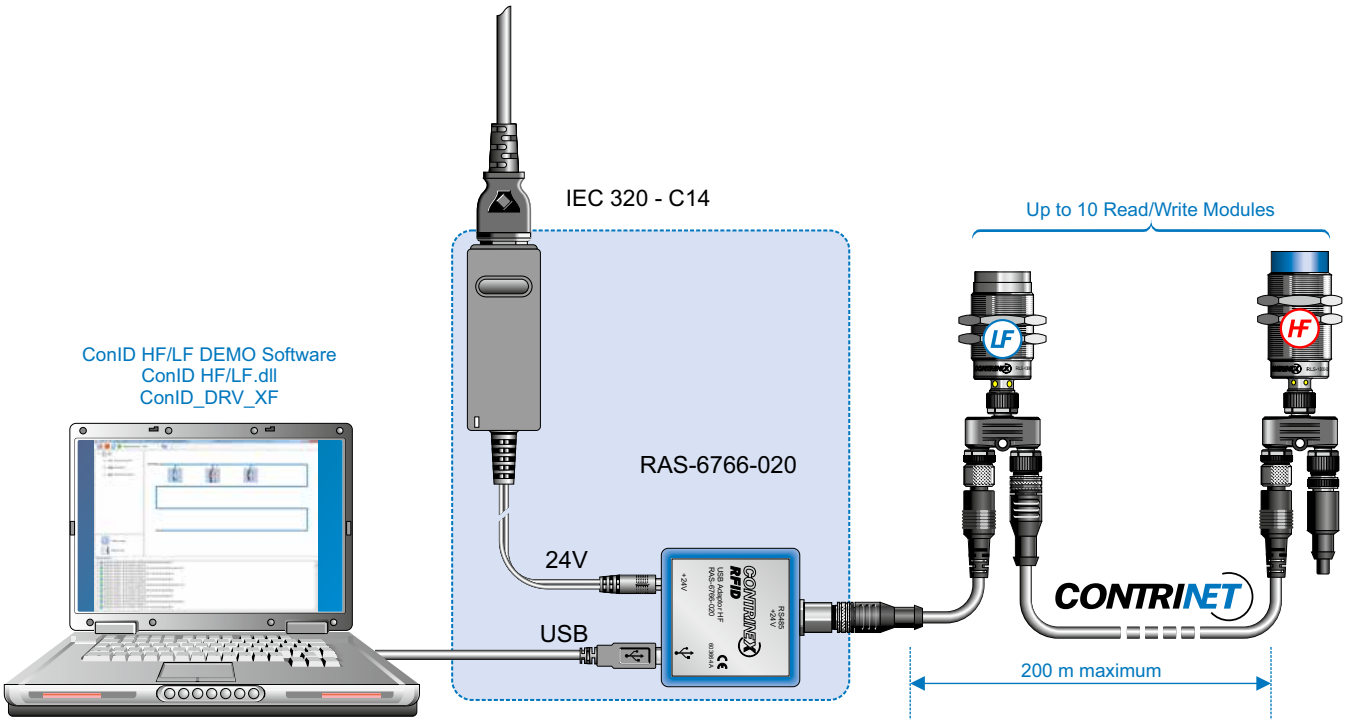
The set contains:
1 USB adaptor, 1 power supply, 1 USB cable



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

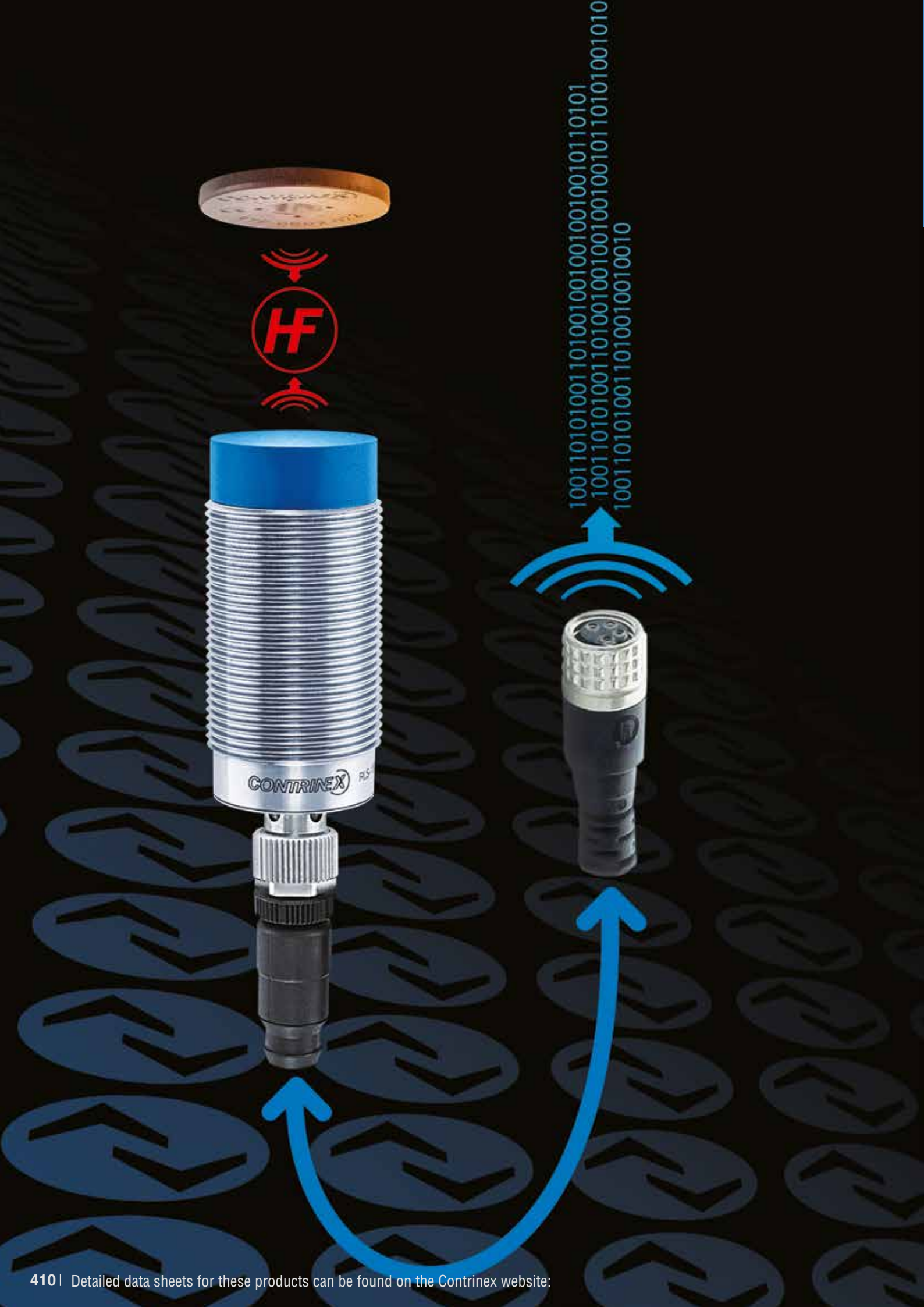
An external power supply unit (24V / 15W, 625 mA) is included in the delivery package.

DRIVERS AND SOFTWARE

Drivers (ConID Driver XX) compatible with the various Windows versions and software for demonstration and training use (ConID HF/LF) can be downloaded from the Contrinex website.

HF


LF


HF
CONTRINEX
1001101010011010010010010110101
1001101010011010010010010110101
1001101010011010010010010

EASY TO GO !

IO-LINK R/W 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
  - ✓ As stand-alone SIO with conditional output switch:
    - ✓ Tag presence
    - ✓ Data block comparison

RFID IO-LINK RWM

HOUSING SIZE	
MAX. READ/WRITE DISTANCE MM	

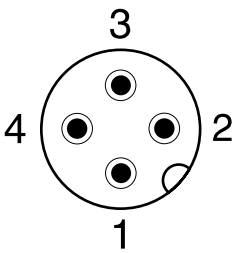
AT A GLANCE

- High frequency Read/Write Modules (RWMs) with IO-Link interface
- Compatible with ISO 15693 transponders (4 or 8-bytes memory block)
- IO-Link interface V1.1
- Two operating modes:
  - As IO-Link device
  - As stand-alone SIO with conditional output switch:
    - Tag presence
    - Data block comparison

IO-Link

WIRING DIAGRAM

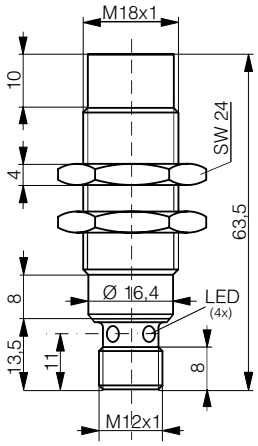
PIN	SIGNAL	FUNCTION
1	L+	+24 V
2	I/Q	DO (tag presence)
3	L-	0V
4	C/Q	SDCI/SIO (tag presence or data comparison)

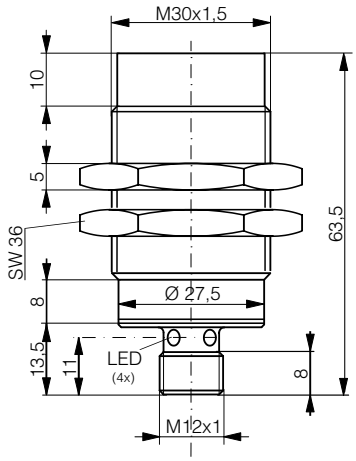


DATA	
Housing material	
Max. current consumption	
Mounting	
Ambient temperature range	
Storage temperature range	
Connection type	
Degree of protection	
Weight (with nuts)	
Part reference	

IO-LINK R/W MODULES

M18	M30	
42	60	





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 R/W MODULES

LOW FREQUENCY

HIGH FREQUENCY

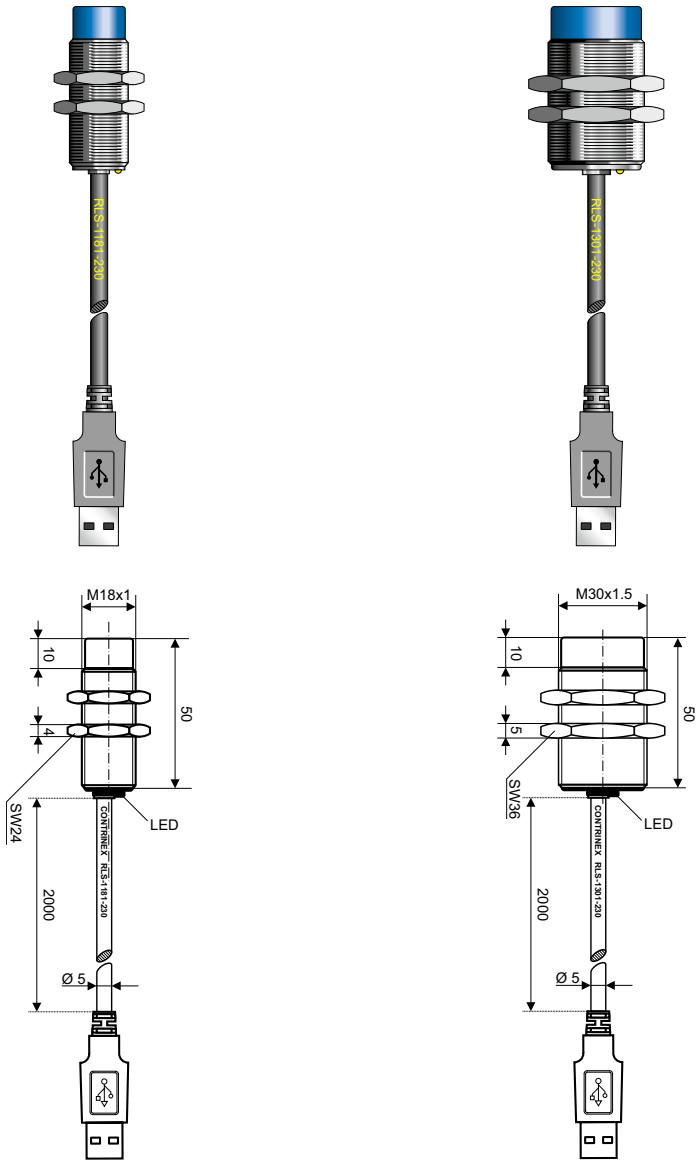
KEY ADVANTAGES

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

USB R/W MODULES

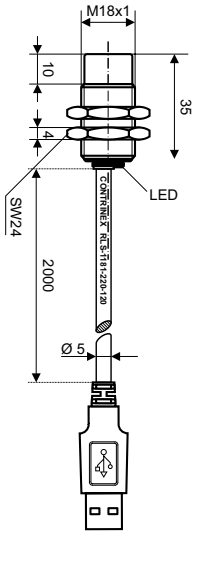
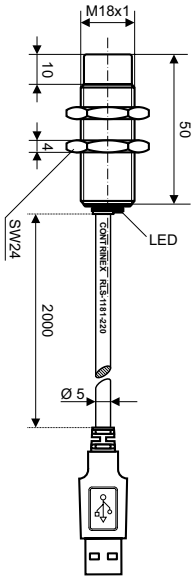
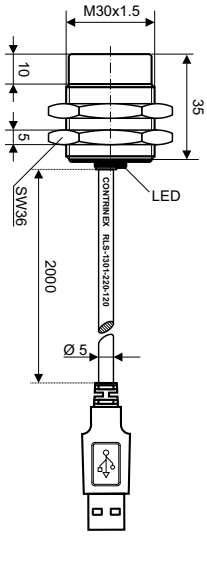
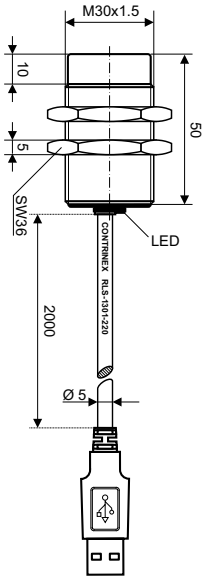
LOW FREQUENCY USB READ/WRITE MODULE

HOUSING SIZE	M18	M30
MAX. READ/WRITE DISTANCE MM	28	38

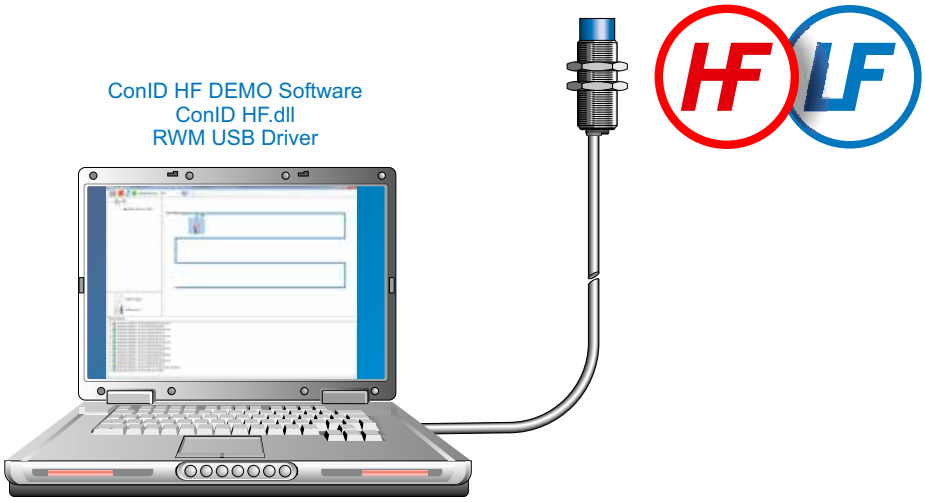


DATA		
Housing material	PBTP / chrome-plated brass	PBTP / chrome-plated brass
Max. current consumption	200 mA	200 mA
Mounting	Non-embeddable	Non-embeddable
Ambient temperature range	-25 ... +80°C / -13 … +176°F	-25 ... +80°C / -13 … +176°F
Storage temperature range	-25 ... +80°C / -13 … +176°F	-25 ... +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

HIGH FREQUENCY USB READ/WRITE MODULE

M18	M18	M30	M30
35	35	50	50
			
			
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 compatible with ContriNet but they have the same firmware. In particular, they are compatible with DEMO program ConID HF/LF.

HF


LF


LF
CONTRINEX
LF
CONTRINEX

ACCESSORIES

LOW FREQUENCY

HIGH FREQUENCY

RFID accessories

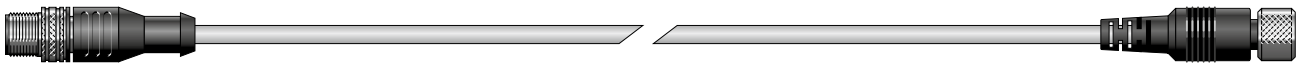
✓ Standard cables

✓ Quick-lock cables

SHIELDED CABLES

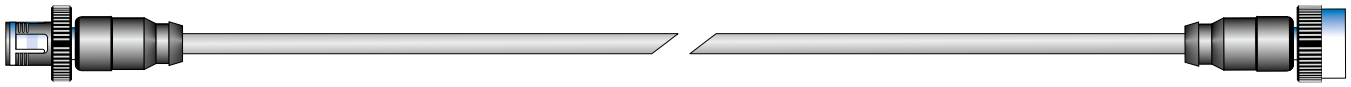
PART REFERENCE	TYPE	CABLE	LENGTH
S12-4FUG-020-NWRN-12MG	Socket straight / plug straight	PUR	2 m
S12-4FUG-050-NWRN-12MG	Socket straight / plug straight	PUR	5 m

STANDARD CABLES

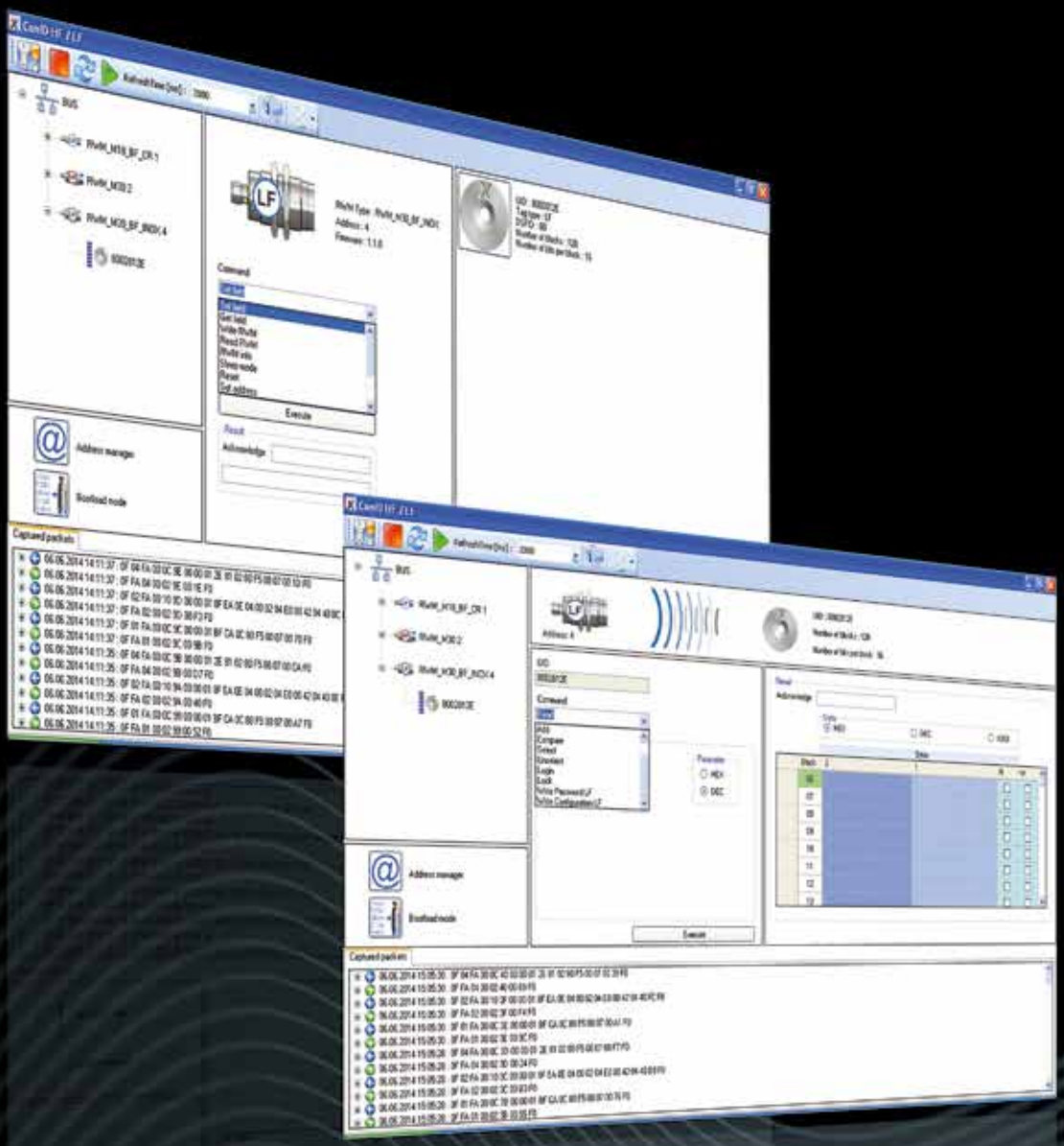


PART REFERENCE	TYPE	CABLE	LENGTH
S12-4FVG-006-12MG	Socket straight / plug straight	PVC	0.6 m
S12-4FVG-020-12MG	Socket straight / plug straight	PVC	2 m
S12-4FVG-050-12MG	Socket straight / plug straight	PVC	5 m
S12-4FUG-006-12MG	Socket straight / plug straight	PUR	0.6 m
S12-4FUG-020-12MG	Socket straight / 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
S12-4FVG-010-NNNQ-12MG	Socket straight / plug straight	PVC	1 m
S12-4FVG-015-NNNQ-12MG	Socket straight / plug straight	PVC	1.5 m
S12-4FVG-020-NNNQ-12MG	Socket straight / plug straight	PVC	2 m
S12-4FVW-003-NNNQ-12MG	Socket right angle / plug straight	PVC	0.3 m
S12-4FVW-006-NNNQ-12MG	Socket right angle / plug straight	PVC	0.6 m
S12-4FVW-010-NNNQ-12MG	Socket right angle / plug straight	PVC	1 m
S12-4FVW-015-NNNQ-12MG	Socket right angle / plug straight	PVC	1.5 m
S12-4FVW-020-NNNQ-12MG	Socket right angle / plug straight	PVC	2 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
S12-4FUG-010-NNNQ-12MG	Socket straight / plug straight	PUR	1 m
S12-4FUG-015-NNNQ-12MG	Socket straight / plug straight	PUR	1.5 m
S12-4FUG-020-NNNQ-12MG	Socket straight / plug straight	PUR	2 m
S12-4FUW-003-NNNQ-12MG	Socket right angle / plug straight	PUR	0.3 m
S12-4FUW-006-NNNQ-12MG	Socket right angle / plug straight	PUR	0.6 m
S12-4FUW-010-NNNQ-12MG	Socket right angle / plug straight	PUR	1 m
S12-4FUW-015-NNNQ-12MG	Socket right angle / plug straight	PUR	1.5 m
S12-4FUW-020-NNNQ-12MG	Socket right angle / plug straight	PUR	2 m



CONTRINET TOOL FOR DEMONSTRATION, TRAINING AND DEVELOPMENT

SOFTWARE

LOW FREQUENCY

HIGH FREQUENCY

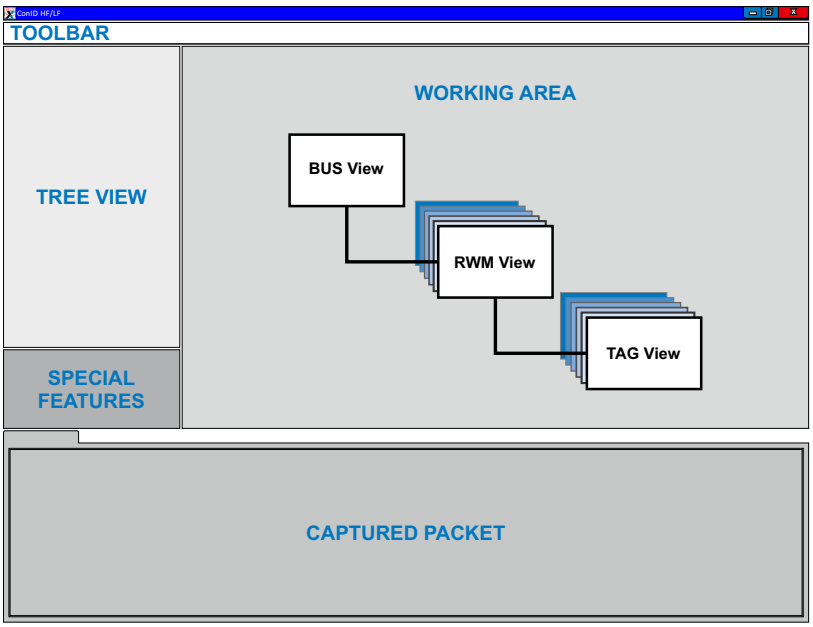
KEY ADVANTAGES

- ✓ User-friendly screen
- ✓ Intuitive control
- ✓ Access to individual components
- ✓ Detailed frame analysis

DEMONSTRATION AND TRAINING SOFTWARE, CONID HF-LF

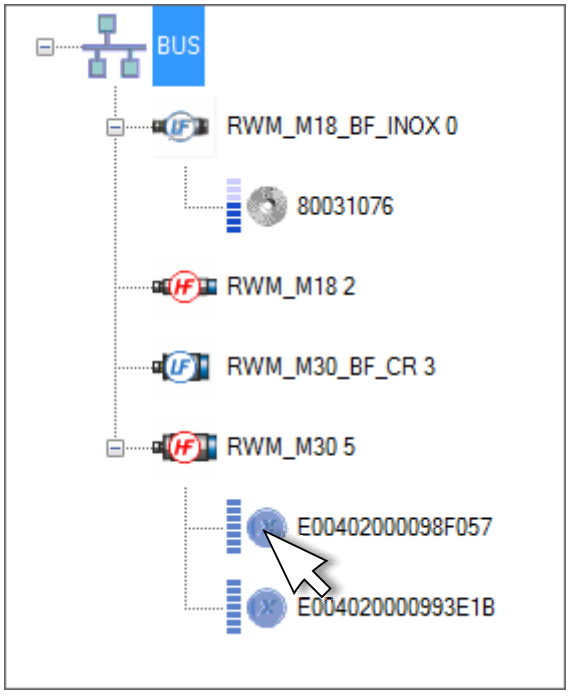
ConID HF-LF software allows users to familiarize themselves with Contrinex RFID and, in particular, understand how ContriNet works.

A user-friendly screen allows intuitive control of the various program options. It is divided into five fields, allowing the user to access a specific component to which chosen commands will apply.



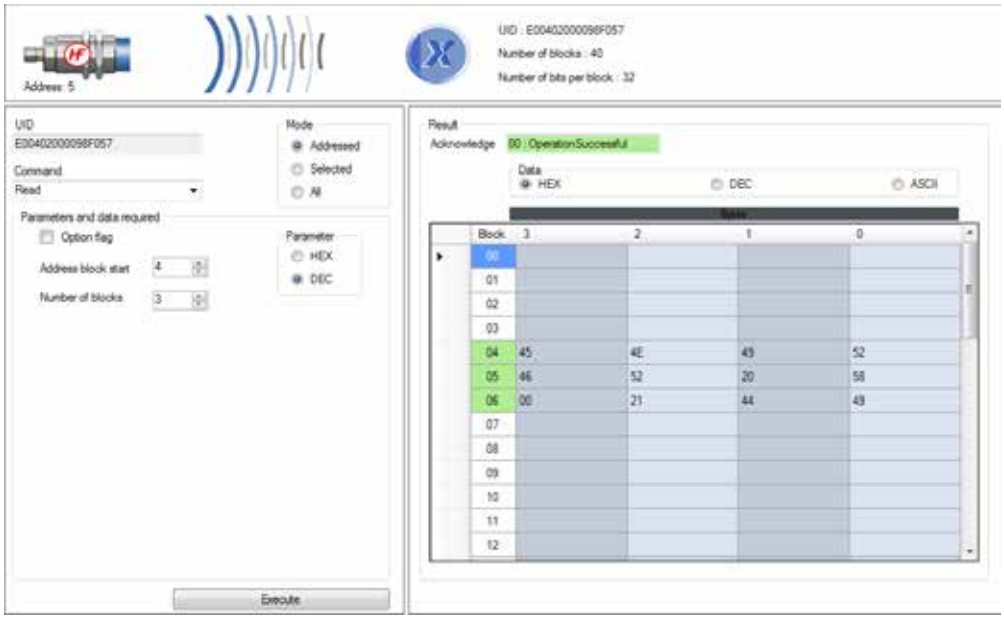
TREE VIEW

The Tree View describes the ContriNet network as a whole, i.e. all Read/Write Modules connected to the network and the transponders in front of the RWMs.



WORKING AREA

To access commands specific to any one of these components, just click the mouse on a component to display in the work area all the possible commands for that component. For example, the following shows the work area displayed after clicking on an HF transponder.



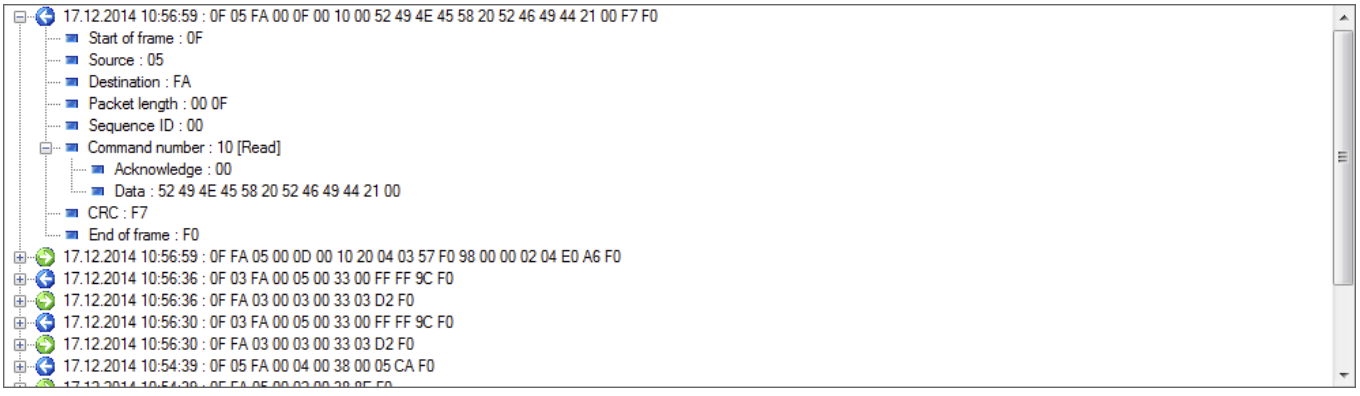
The work area consists of three fields:

- The upper field showing the component involved and its attributes
- The command field, below left
- The results box, below right

CAPTURED PACKETS

Another interesting field concerns captured packets. This field contains frames of all past transactions between the PC controller and a specific Read/Write Module.

These frames can be opened, allowing the user to decrypt each byte in the frame.



This tool is extremely useful because it shows the structure of exchanged frames and provides full information to the integrator during programming of the controller or PLC that controls the industrial bus.

TRANSPONDERS

RTM-0160-000

RFID PRODUCT R

TRANSPONDER T

SERIES

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

TYPE

Smooth sleeve	0
Not embedabble	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	0
High Frequency ICode SLI-S ISO 15693	2

PROGRAMMING

Blank	0
Preprogrammed	1

MATERIAL

Epoxy	0
PBTP	1
LCP	2
PPS	3

READ/WRITE MODULES

RLS-1181-030

RFID PRODUCTS	R
READ/WRITE MODULE	L
CONNECTION	S
S12 connector, 4-pins	
USB A male	

TYPE	
Smooth sleeve	0
Non-embedabble	1
Embeddable	2

SIZE	
M18	18
M30	30

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

TECHNOLOGY	
ConIdent HF	2
ConIdent 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	6/400
RLS-1181-030	6/400
RLS-1181-220	6/417
RLS-1181-220-120	6/417
RLS-1181-230	6/416
RLS-1181-320	6/413
RLS-1183-020	6/401
RLS-1300-030	6/400
RLS-1301-030	6/401
RLS-1301-220	6/417
RLS-1301-220-120	6/417
RLS-1301-230	6/416
RLS-1301-320	6/413
RLS-1303-020	6/401

INTERFACES

RIS-1053-120

RFID PRODUCTS	R

MODULE	
Adaptor	A
Interface	I

CONNECTOR	S

SIZE	
RAS	
66 mm x 67 mm	6766
RIS	
100 mm x 52 mm x 64 mm	105

CONNECTIVITY	
Fieldbus / ContriNet	3

COMMAND SET	
Standard	0

PROTOCOL	
ContriNet	2

FIELDBUS	
RAS	
USB	0
RIS	
PROFIBUS-DP	1
DeviceNet	2
EtherNet/IP	3
PROFInet IO	5
EtherCAT	6
POWERLINK	8
TCP/IP	400

Part reference	*Chapter/page*
RAS-6766-020	6/407
RIS-1053-120	6/402
RIS-1053-220	6/403
RIS-1053-320	6/402
RIS-1053-520	6/402
RIS-1053-620	6/402
RIS-1053-820	6/402
RIS-1613-400	6/405

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