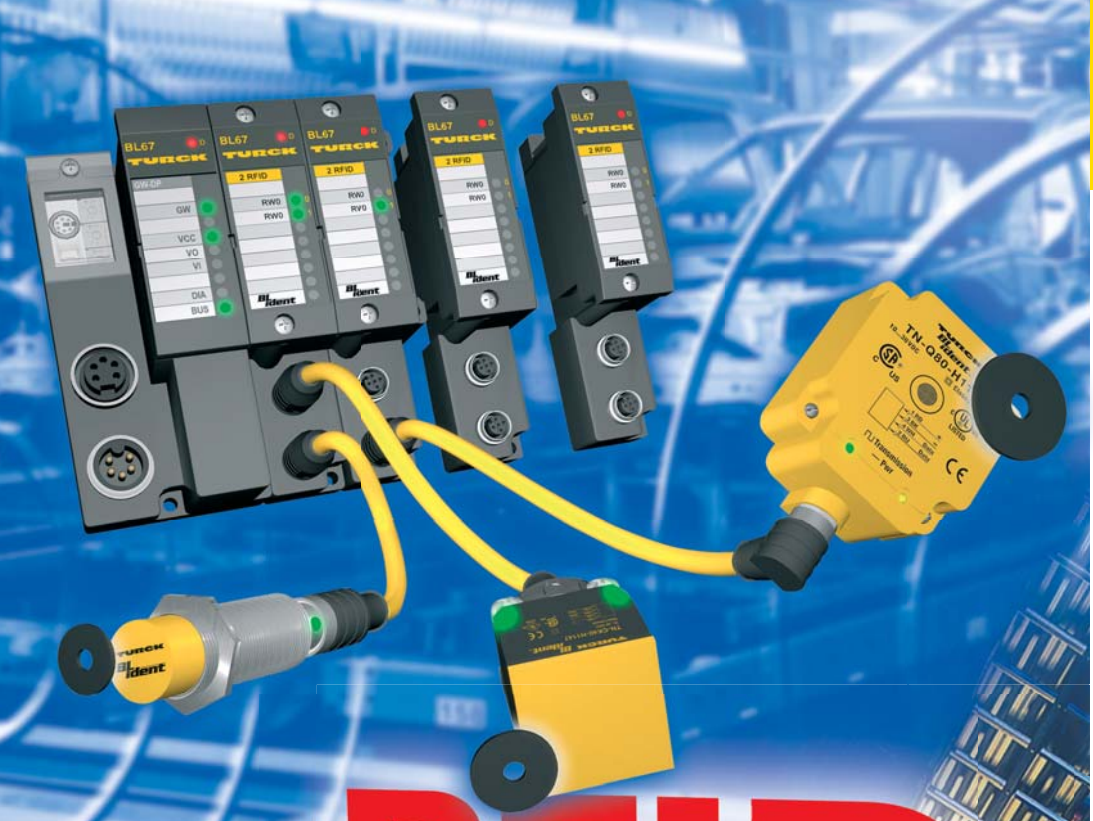
TURCK works

Industrial Automation

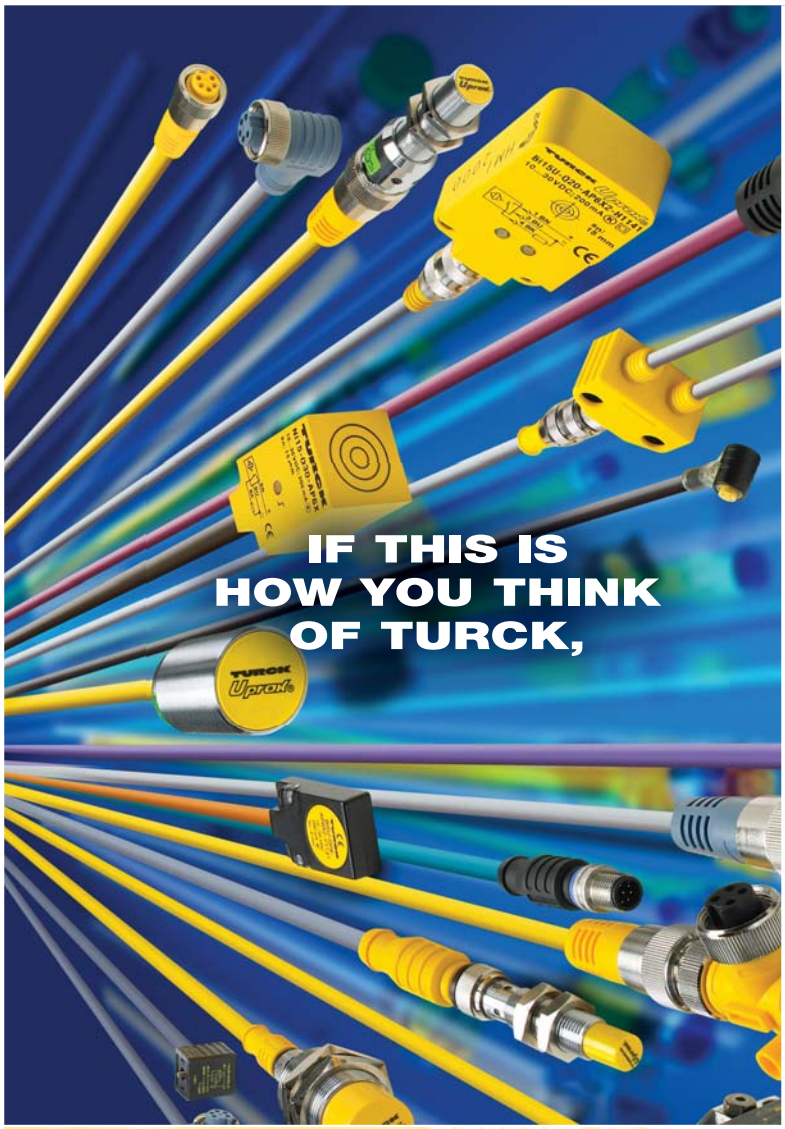
MODULAR RFID-SYSTEM



RFID

BL ident®

www.turck.com



TURCK works

Industrial Automation

Remote I/O Products

MORE THAN JUST SENSORS AND CABLES... TURCK REMOTE I/O.

	OUTSIDE the Enclosure	INSIDE the Enclosure
Modular I/O Systems	**BL67** • Connectorized • Free configuration software • Integrated valve interface ***piconet***® • Miniature size • Connectorized • High-speed fiber-optic subnet	**BL20** • Integrated motor starters • Free configuration software • AC I/O
I/O Stations	**AIM** • -40° to 70°C • Rugged 50G shock/vibration • Fully encapsulated	**FDN20** • Highest density, smallest footprint • Drive interface • OEM applications

The best I/O available.

No matter what I/O you need, we've got you covered. TURCK has a complete line of I/O products designed to save you time and money. With five product families and thousands of part numbers, TURCK has exactly the right product for your applications. Many I/O products are custom designed for specific applications, including interfacing directly with motors, drives, valves, operator panels, push buttons and analog and digital sensors. With TURCK you don't have to be locked into proprietary PLC I/O solutions. From your PLC to every point in your automation application, TURCK works! Visit our website today to order a Network I/O catalog containing over 590 pages of innovative products.

Call us with your next application:

1-800-544-7769

email: turckusa@turck.com

www.turck.com

····Sense It!····Connect It!····Bus It!

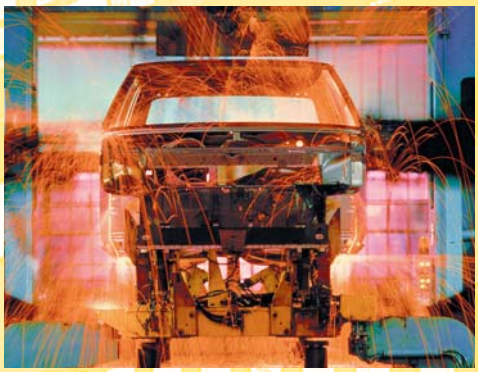
TURCK – Your First Choice In Industrial Automation

TURCK is one of the leading manufacturers in the industrial automation sector. All our activities are focused on improving our customer's manufacturing processes. Our strategy is simple yet challenging: We want to provide our customers with simply the best – quickly, flexibly and reliably.

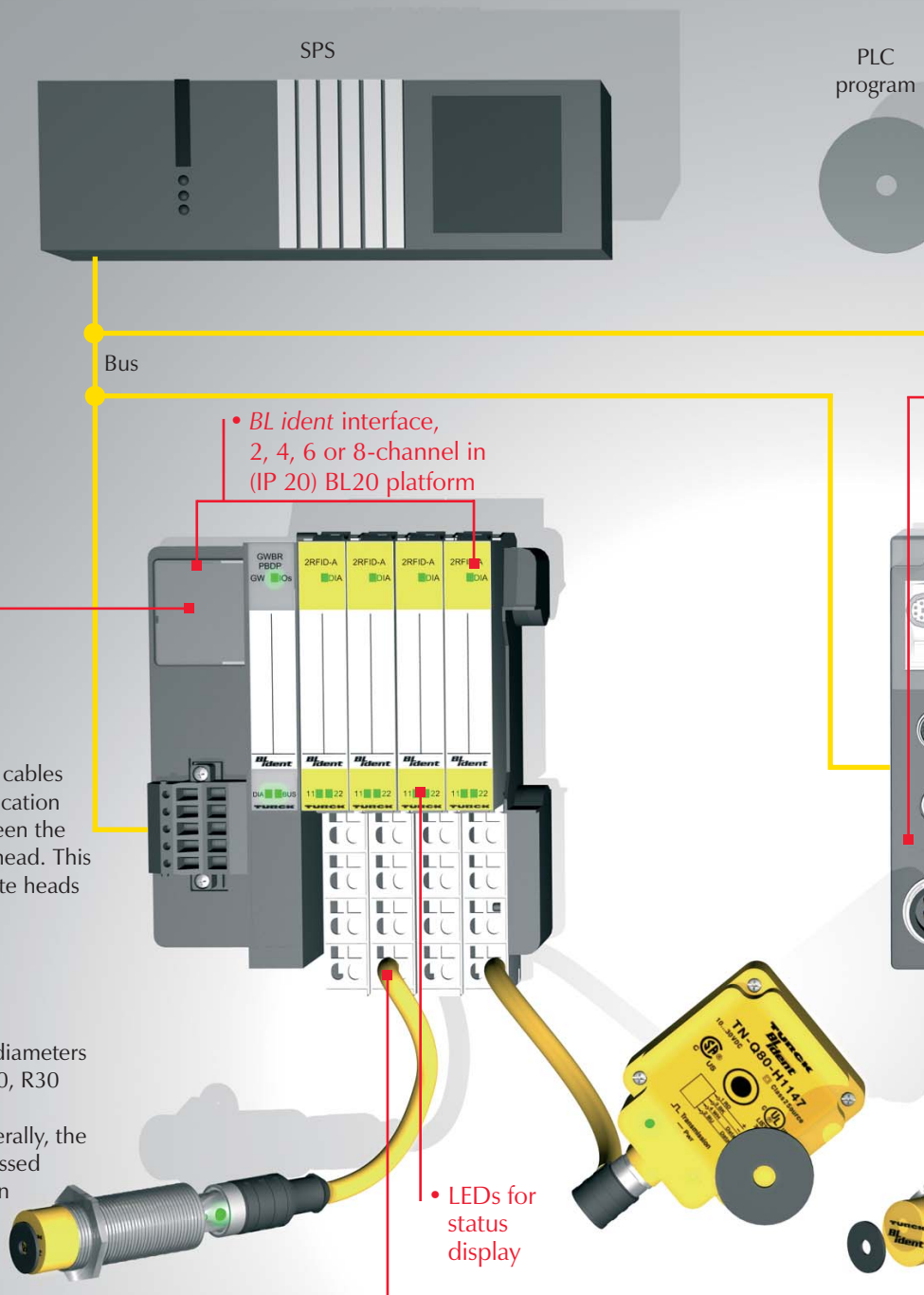
Maintaining close cooperation with our customers is a key factor to success. We constantly strive to provide expert application engineering and customer service support to ensure the continued productivity and cost-efficiency of industrial installations worldwide.

With production sites in Germany, Switzerland, the USA and China, **TURCK** is capable of swiftly adapting to the specific needs of customers throughout the world.

We believe in innovation as a constant process through the continuous development of new products and solutions for the future benefit of our customers and partners.



BL ident – Modular RFID Systems

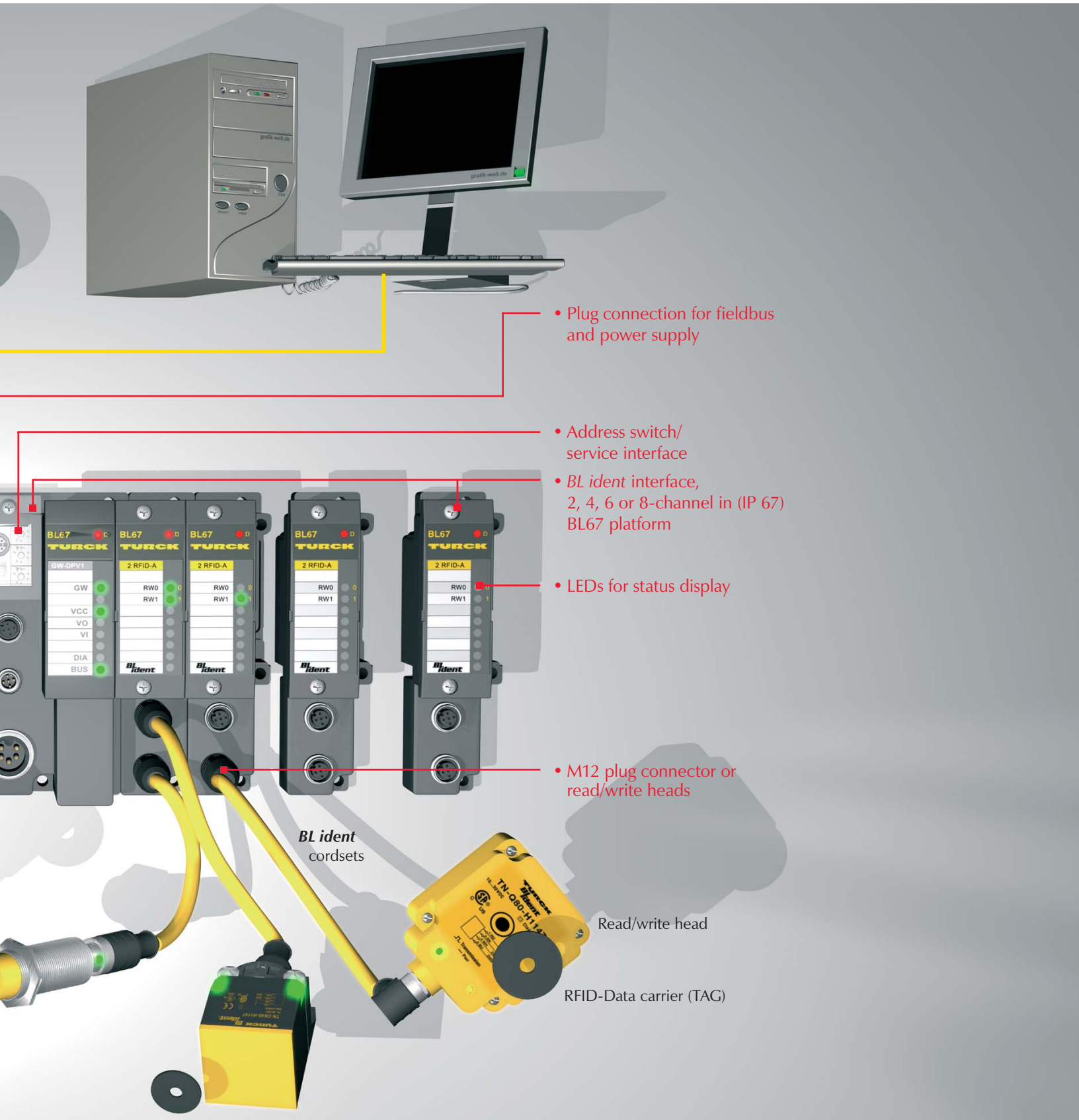


BL ident Cordsets

Molded (M12) ***eurofast*® *BL ident*** cables are available for reliable communication along the transmission path between the interface module and read/write head. This makes connection of the read/write heads simple and fail-safe.

BL ident Data Carriers

The data carriers are available in diameters of 16, 20, 30 and 50 mm. The R20, R30 and R50 units are available with EEPROM or FRAM memory. Generally, the FRAM data carriers may be processed by a power of ten times faster than the EEPROM data carriers, and withstand 10^{10} write operations (in comparison to EEPROMs approx. 10^5 operations).



BL ident RFID From TURCK

Higher Application Speed Leads to Production Effeciency

- Data carriers with minimal read/write time of 0.5 ms per byte

Modular Design Provides Flexible Integration into Existing Systems

- 2, 4, 6 or 8-channel interfaces
- Various shapes of read/write heads to meet specific application requirements: cylindrical M18 and M30, square CK40 and Q80, as well as ring-shaped S32XL
- Read-write heads with air interfaces (read-write intervals) between 15 and 145 mm
- Tested standard function blocks for varying types of controls for complex functions and troubleshooting

Expanded Temperature Range

- Data carriers for temperatures up to 210°C (410°F)

State-of-the-Art Storage Technology

- Long-life FRAM data carriers for virtually an unlimited number of write operations

Simple Integration into Control Environment

- Standard functions blocks and interfaces for PROFIBUS®-DP, DeviceNet™, Modbus-TCP, PROFINET, and EtherNet/IP™
- By using programmable gateways in RFID systems to alleviate processor and network loads it will significantly optimize your network. Programmable gateways are programmed with CoDeSys software available free of charge from our website. CoDeSys is a IEC 61131-3 standard which includes ladder logic programming.

Typically, a plant's efficiency is highly dependent on the maximum possible speed of the transport equipment. While many conventional RFID systems allow only static read and write operations, the new ***BL ident*** system from **TURCK** is capable of reading and writing at all times. Data can be exchanged even when the data carrier is in motion. With a read-write time of 0.5 ms per byte, ***BL ident*** is one of the fastest inductive RFID systems on the market. Even transport speeds of over 10 ms are achievable.

BL ident is available with 2, 4, 6 or 8-channels. ***BL ident*** systems may be integrated into existing systems, including PROFIBUS-DP, DeviceNet, Modbus-TCP, PROFINET, and EtherNet/IP. All while providing IP 20 or IP 67 protection.

BL ident data carriers are available with a temperature resistance of up to 210°C (410°F), for 30 minutes in addition to standard data carriers for temperatures up to 120°C (248°F).

Use of state-of-the-art FRAM storage technology allows 10^{10} write operations and an unlimited number of read operations on **TURCK** data carriers. This makes replacing data carriers practically unnecessary; even when used in applications requiring repeated write operations. This dramatically increases the availability of the equipment. And all data remains stored on the data carriers for 10 years (at appropriate ambient temperatures).

Modular And Simple To Integration

BL ident Interfaces

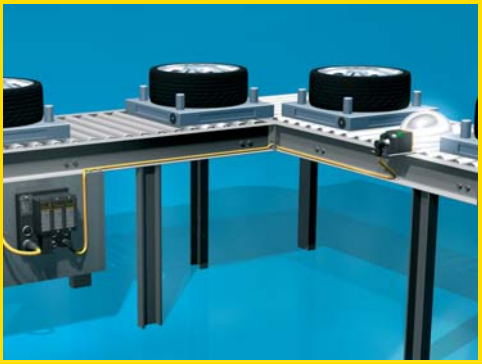
BL ident modularity provides customization in both IP 20 rated cabinet installation and IP 67 rated field installations.

Depending on the system requirements, up to 8-channels can be added in a single node. All channels operate in parallel so that there is no time delay during communication between the data carrier and module. Additional functions, such as intentional switch-off of individual heads, are integrated when they are installed close to one another.

A large memory of 32 kBytes allows asynchronous processing of the individual commands. Standard function modules and or sample code are available for integration into the control and fieldbus environment. Contact factory for assistance.

LEDs display diagnostics for the individual RFID channels and fieldbus-specific diagnostic messages.

Additional standard input/output modules may also reside in the same rack configuration.

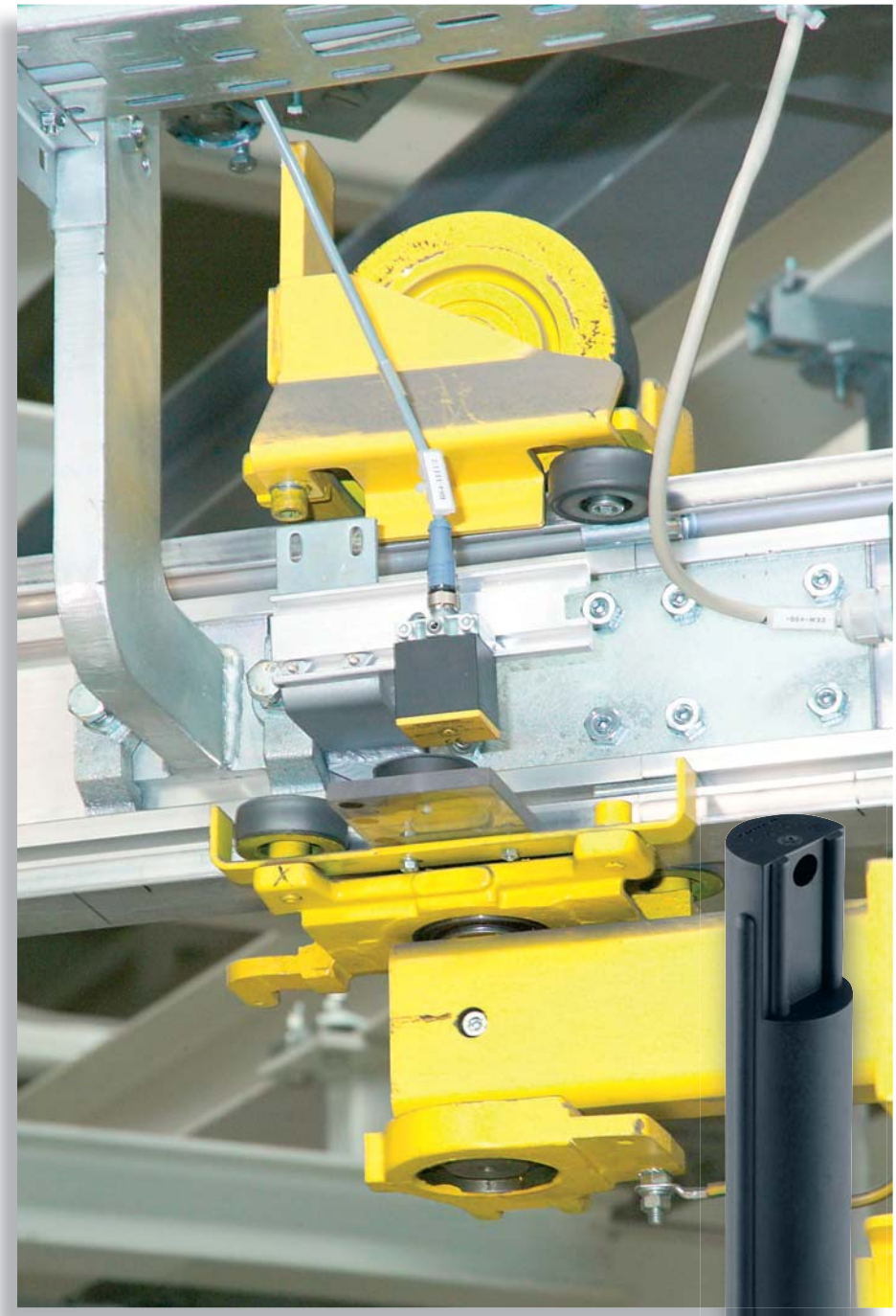


BL ident Interface Modules Adapt to the Application

2, 4, 6 or 8-channel versions
Field installation provides IP 67 protection
Switch cabinet installation provides IP 20 protection
Channels operate in parallel so that there are no delays – even in multiple channel setups – for interruption-free production

TURCK
RFID Products

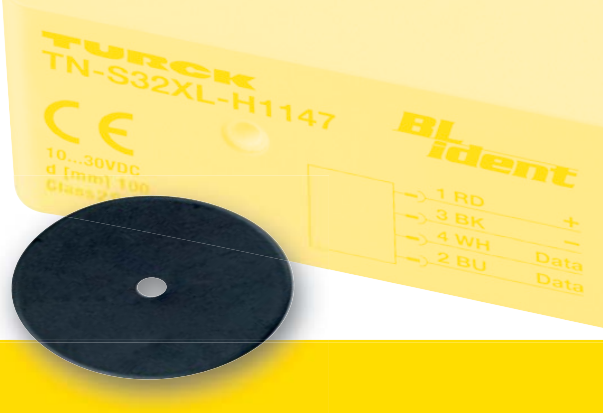
Roughed And Temperature Resistant



Until now, using RFID in extreme temperature applications has been nearly impossible, incredibly expensive and highly unreliable.

TURCK has successfully solved the challenges of these installations by developing data carriers (TAGs) resistant to temperatures up to 210°C (410°F) for 30 min. With the ability to read and write data immediately after high temperature exposure, plant productivity and efficiency greatly increases.

BL ident data carriers guarantee data retention for up to 10 years at appropriate ambient temperatures.



The space saving shapes of these high-temperature data carriers (110 x 95 x 70 mm as well as cylindrical (diameter 22 mm, length 135 mm)) allow use in applications with limited space.

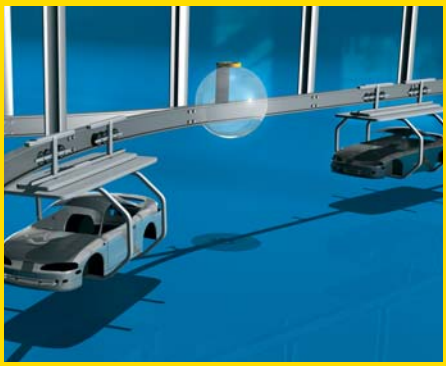
Fast And Durable

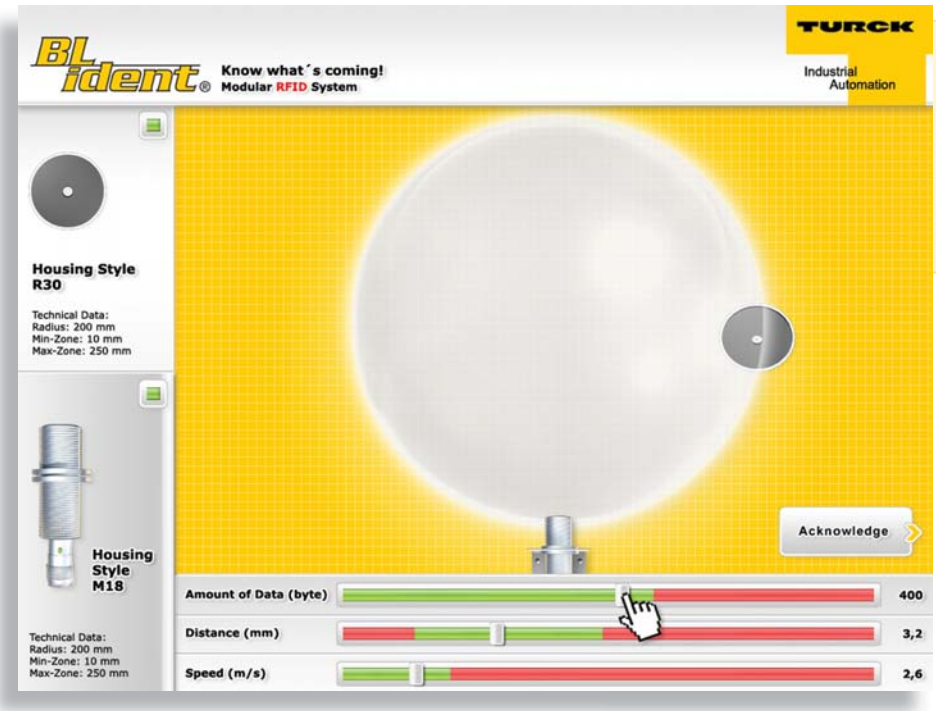
BL ident data carriers (TAG's) operate at a frequency of 13.56 MHz, and are therefore significantly faster than conventional 125 kHz systems.

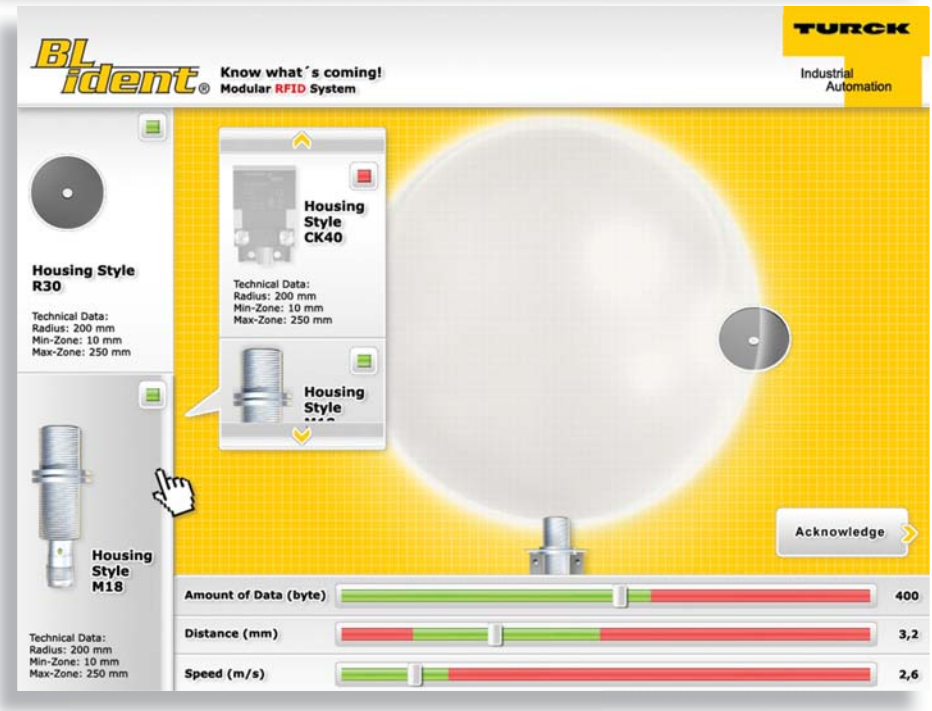
Data carriers with EEPROM or FRAM memories are available. TAG's with FRAM memories allow significantly higher data transfer rates for reading and writing at conveying speeds of higher than 10 ms.

In addition to the higher speed, FRAM memories can also withstand significantly more write operations than EEPROMs.

While the maximum limit for EEPROMs is usually reached after 100,000 cycles, FRAMs allow up to 1 Billion write operations. Even at 100,000 write operations per day, this equates to a service life of 27 years.







Using RFID poses a lot of questions, such as:

- *How fast can the products run past the read/write heads?*
- *How close do the products have to be when they run past the read/write heads?*

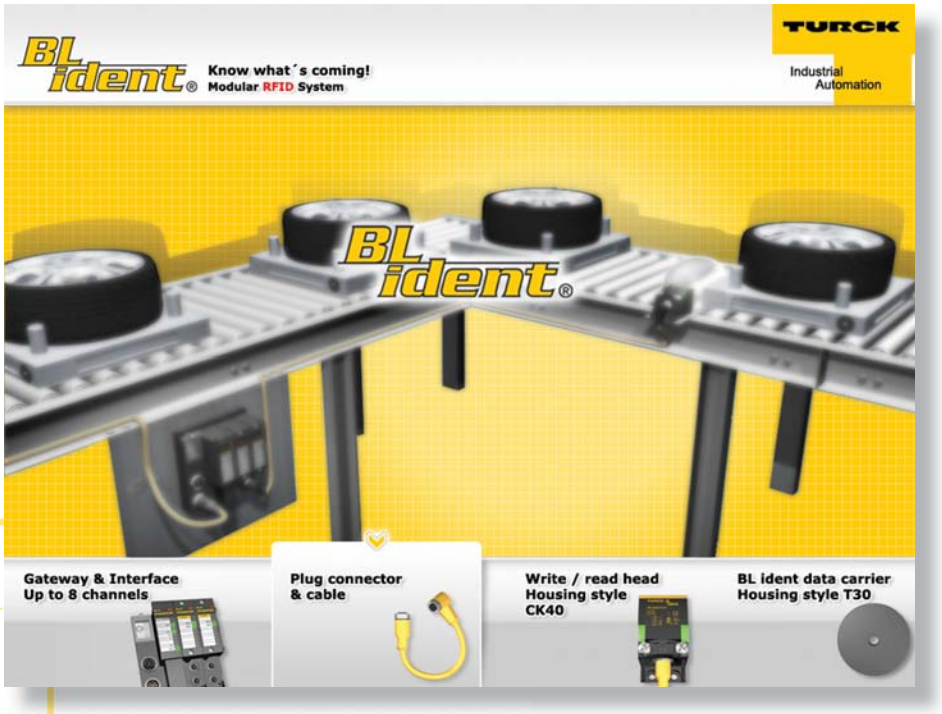
Most users are uncertain of what RFID can do. General information, such as recommended read/write interval or transfer rate, are usually insufficient for evaluating the equipment for a specific application, because of variables such as data quantity, speed and distance result from a complex interaction between the read/write heads and data carriers.

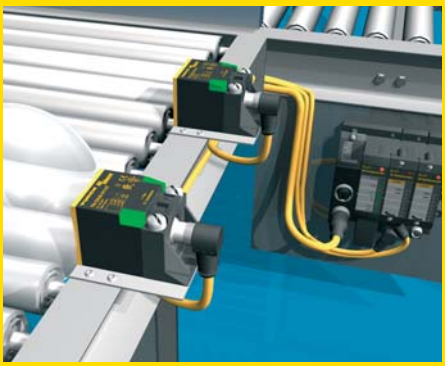
TURCK's *BL ident* configurator can simulate an application and aid in equipment selection. Application parameters and values can be found quickly and easily by using the configurator.

When two or more read/write heads are installed directly next to one another, they can be switched on and off alternately. This prevents any mutual interference.

The free online configurator, available at www.turck.com, uses the entire **TURCK** product database to supply up-to-date data. In addition to simulating the application, the configurator also generates the corresponding data sheets and documents.

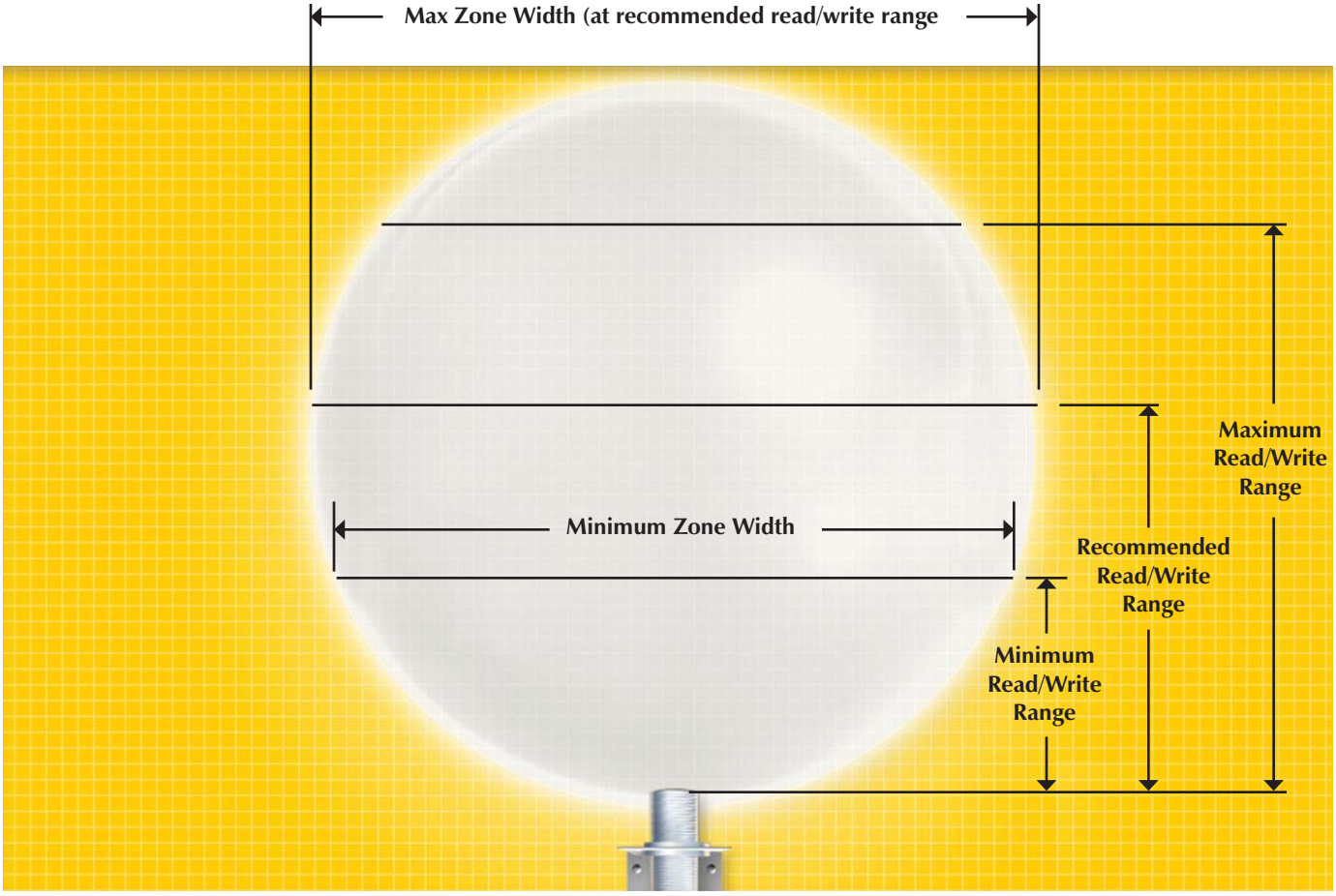
Standard function blocks are available for system integration into the various bus and control environments, like PROFIBUS®-DP, Ethernet and DeviceNet™. This simplifies the complex programs for the various read/write commands and allocation of the channels.



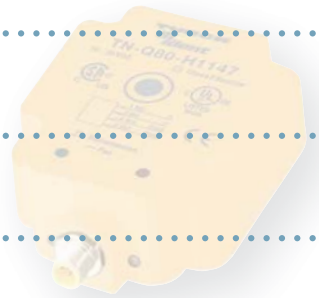


Even limited installation space no longer present any problems for implementation of your application.

Explanation of RFID Read Zone Dimensions



Use this drawing as a reference when researching tag/transceiver combinations for your application.



BL ident – Type Code

Interfaces

B L 6 7 – GW – D P V 1

GW Gateway
PG Programmable

BL67:
Housing BL67,
Degree of protection IP 67

BL20:
Housing BL20,
Degree of protection IP 20

DPV1: PROFIBUS DPV1
DN: DeviceNet™
EN: Ethernet/Modbus-TCP
EN-PN: Ethernet/PROFINET
EN-IP: Ethernet/IP

Read-Write Heads (Transceiver)

T N – C K 4 0 – H 1 1 4 7

Housing style:
B flush
N non flush

TURCK

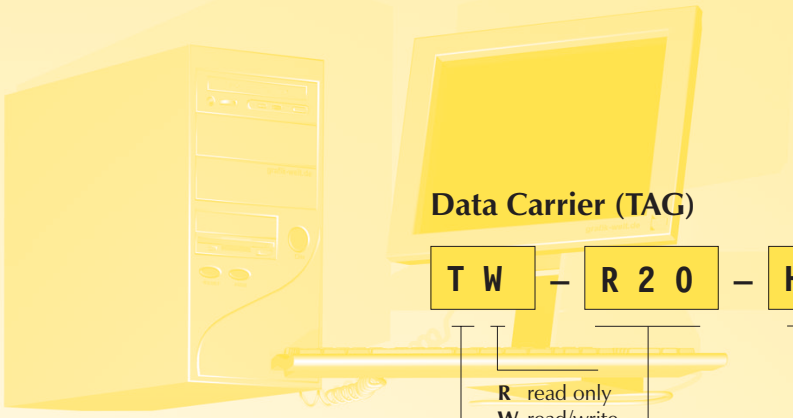
Housing:
M18 Threaded barrel
M30 Threaded barrel
CK40 Rectangular, 40 x 40 mm
Q80 Rectangular, 40 mm high
S32XL Ring type, 32 mm high

Internal code:
7 Special assignment

Number of contacts
4

Mechanical version:
1 straight

Connector housing:
H1 ***eurofast*** ® connector (M12 x 1)



Data Carrier (TAG)

T W – R 2 0 – H T – K 2

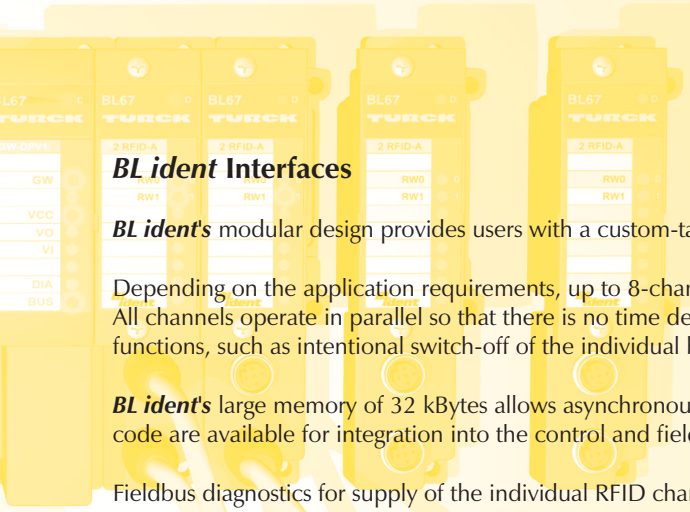
R read only
W read/write

TURCK

Dimensions:
R16: Ø 16
R20: Ø 20
R22: Ø 22
R30: Ø 30
R50: Ø 50

Memory size:
K2 2 kByte
B64 64 Byte
B128 128 Byte

HT High temperature



BL ident Interfaces

BL ident's modular design provides users with a custom-tailored solution for IP 20 rated cabinet installation and IP 67 rated field installation.

Depending on the application requirements, up to 8-channel interface modules can be set up (in two steps) or supplemented retroactively. All channels operate in parallel so that there is no time delay during communication between the data carrier and module. Additional functions, such as intentional switch-off of the individual heads, are integrated when they are installed in proximity to one another.

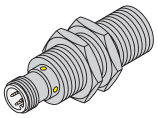
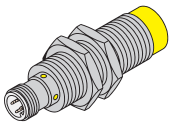
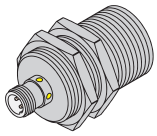
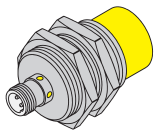
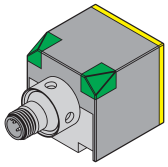
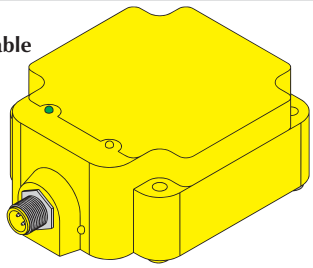
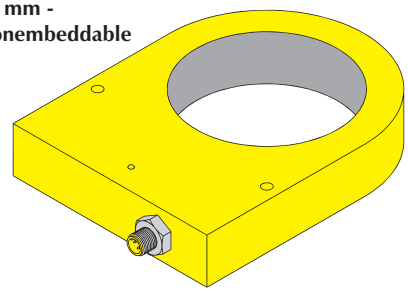
BL ident's large memory of 32 kBytes allows asynchronous processing of the individual commands. Standard function blocks and or sample code are available for integration into the control and fieldbus environment. Contact factory for assistance.

Fieldbus diagnostics for supply of the individual RFID channels is accomplished using LEDs, supplemented by fieldbus-specific diagnostic messages. Additional standard input/output modules may also reside in the same rack configuration.

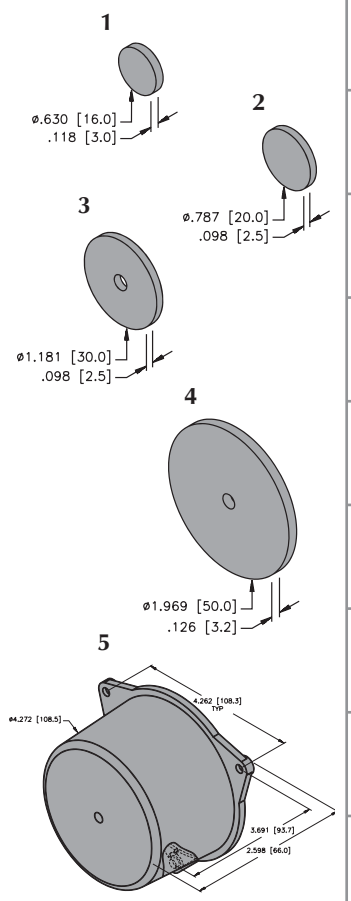
BL ident Read/Write Heads

Data carriers combined with different types of read/write heads can achieve ranges from 15 to 145 mm. Each read/write head is also capable of processing the various types of data carriers in the **TURCK** line, regardless of whether it is an EEPROM or FRAM storage device – only one read/write head is required.

BL ident – Read/Write Heads

Housing	Part Number	ID Number	Installation Conditions	Output Functions	Connection
18 mm - Embeddable 	TB-M18-H1147	M7030001	Flush	Read/write	Only with ***BL ident*** cordsets
18 mm - Nonembeddable 	TN-M18-H1147	M7030002	Non Flush	Read/write	Only with ***BL ident*** cordsets
30 mm - Embeddable 	TB-M30-H1147	M7030003	Flush	Read/write	Only with ***BL ident*** cordsets
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	Non Flush	Read/write	Only with ***BL ident*** cordsets
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	Partial Embedding	Read/write	Only with ***BL ident*** cordsets
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	Non Flush	Read/write	Only with ***BL ident*** cordsets
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	Non Flush	Read/write	Only with ***BL ident*** cordsets

See page 91 - 92 for dimensional drawings.

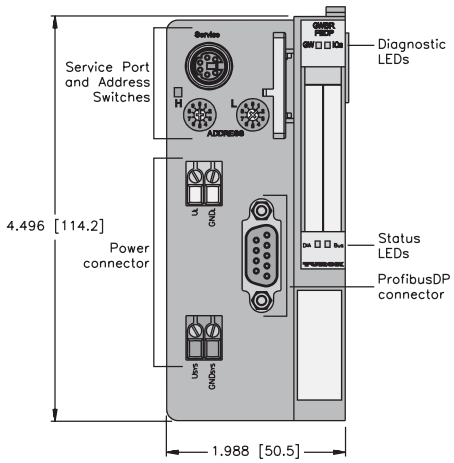
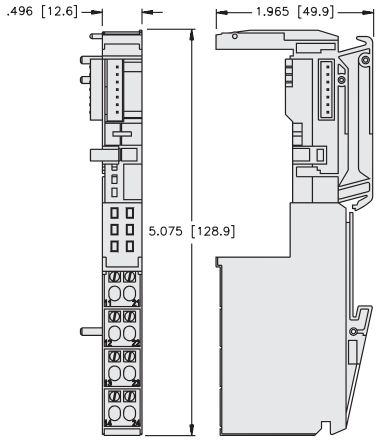
Housing	Part Number	ID Number	Memory Size	Memory Organization	Operating Temperature	Function	Reference
	TW-R16-B128	M6900501	128 Byte	EEPROM	-25 to +85°C (-13 to +185°F)	Read/write	**1**
	TW-R20-B128	M6900502	128 Byte	EEPROM	-25 to +85°C (-13 to +185°F)	Read/write	**2**
	TW-R30-B128	M6900503	128 Byte	EEPROM	-25 to +85°C (-13 to +185°F)	Read/write	**3**
	TW-R50-B128	M6900504	128 Byte	EEPROM	-25 to +85°C (-13 to +185°F)	Read/write	**4**
	TW-R20-K2	M6900505	2 kByte	FRAM	-20 to +85°C (-4 to +185°F)	Read/write	**2**
	TW-R30-K2	M6900506	2 kByte	FRAM	-20 to +85°C (-4 to +185°F)	Read/write	**3**
	TW-R50-K2	M6900507	2 kByte	FRAM	-20 to +85°C (-4 to +185°F)	Read/write	**4**
	TW-R50-90-HT-B128	M1542326	128 Byte	EEPROM	-40 to +210°C (-40 to +410°F)	Read/write	**5**
	TW-R50-90-HT-K2	M1542329	2 kByte	FRAM	-40 to +210°C (-40 to +410°F)	Read/write	**5**

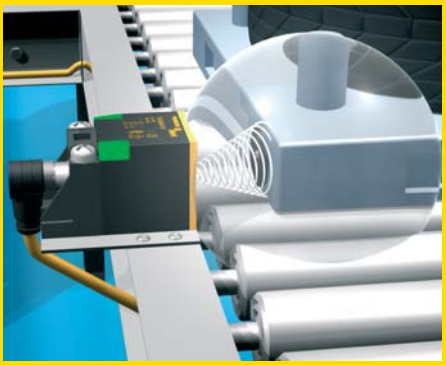
Extreme Temperatures
What can you do when the temperatures are below -20°C or above 70°C?

BL ident data carriers from **TURCK** are designed for extreme temperatures. A specially developed jacket protects the data carriers against extreme temperatures, from -40 to 210°C (-40 to 410°F) for 30 min.

TURCK data carriers can even be used in applications such as painting lines in the automotive industry, which prohibited use of RFID products until now.

BL ident – Supported IP 20 Devices

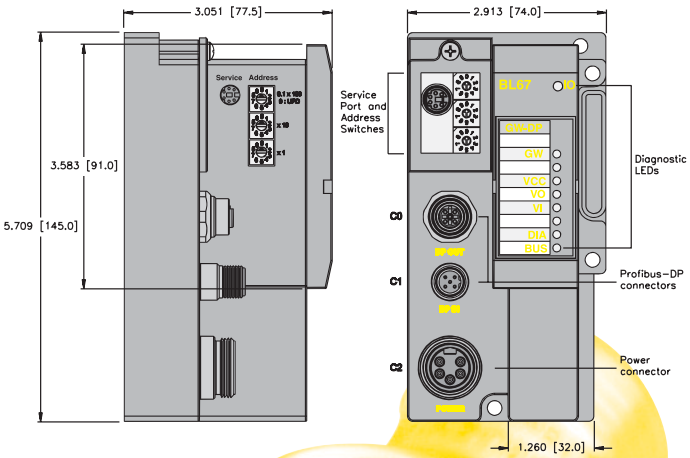
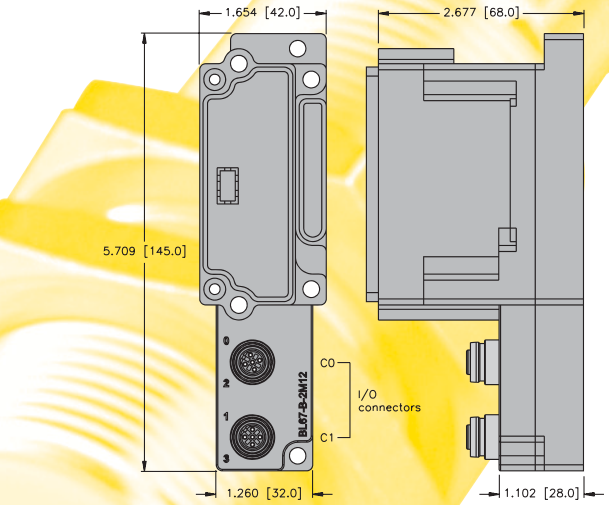
Housing	Part Number	ID Number	Bus
	BL20-GW-DPV1 BL20-GWBR-DN BL20-GW-EN-IP BL20-PG-EN BL20-PG-EN-IP	M6827234 M6827168 M6827247 M6827249 M6827248	PROFIBUS - DPV1 DeviceNet™ Ethernet/IP Modbus/TCP - Programmable Ethernet/IP - Programmable
	BL20-2RFID-A	M6827233	Two channel RFID extension module, acyclical exchange of data, used for most standard installations
	BL20-2RFID-C	M6827239	Two channel RFID extension module, cyclical exchange of data. Designed specifically for Profibus PLC's that only support DPV0
	BL20-S4T-SBBS	M6827046	Base module



Some applications require read/write heads be located very close to one another where it is virtually impossible to prevent mutual interference.

In such cases, the channels can be switched on and off so that the channel with a TAG in its interface (transmission window) is active.

BL ident – Supported IP 67 Devices

Housing	Part Number	ID Number	Bus
	BL67-GW-DPV1 BL67-GW-DN BL67-GW-EN-IP BL67-GW-EN-PN BL67-PG-EN BL67-PG-EN-IP BL67-PG-DP	M6827232 M6827183 M6827229 M6827228 M6827241 M6827246 M6827240	PROFIBUS®-DPV1 DeviceNet™ Ethernet/IP™ PROFINET Modbus/TCP - Programmable Ethernet/IP - Programmable PROFIBUS - DPV1
	BL67-2RFID-A	M6827225	Two channel RFID extension module, acyclical exchange of data, used for most standard installations
	BL67-2RFID-C	M6827238	Two channel RFID extension module, cyclical exchange of data. Designed specifically for Profibus PLC's that only support DPV0
	BL67-B-2M12	M6827186	Base module

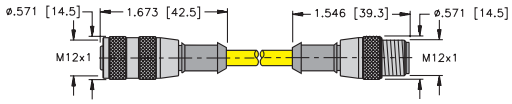
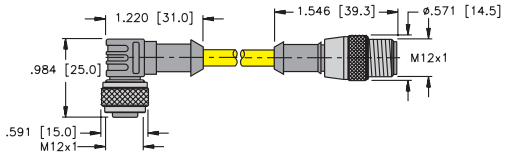
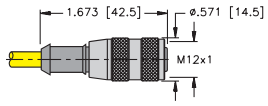
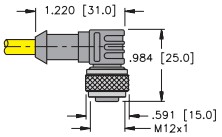
HIGH TEMPERATURE APPLICATIONS

Up until now, it was only possible to integrate data carriers in high temperature applications with expensive hardware and maintenance costs. Total failure of the data carriers were a daily problem and valuable production lost when waiting to read or write data while the data carrier cooled to within operating specifications.

TURCK has successfully addressed this application by designing a series of data carriers resistant to temperatures of up to 210°C (410°F). Additionally, ability to perform immediate read or write functions after running through the high temperature zone increases productivity and efficiency of your plant.

The space saving shapes of these high temperature data carriers allow adaptation even in applications with limited space.

Application note: Data Carrier TW-R22-HT-B128 must be used with Read-Write Head TNER-Q80-H1147/S1126.

Housing	Part Number	ID Number	Description
	RK 4.5T-2-RS 4.5T/S2501	U3-01243	***BL ident*** cordset Female straight, male straight, 2 m
	RK 4.5T-5-RS 4.5T/S2501	U3-01247	***BL ident*** cordset Female straight, male straight, 5 m
	RK 4.5T-10-RS 4.5T/S2501	U3-01241	***BL ident*** cordset Female straight, male straight, 10 m
	WK 4.5T-2-RS 4.5T/S2501	U3-01246	***BL ident*** cordset Female angled, male straight, 2 m
	WK 4.5T-5-RS 4.5T/S2501	U3-01239	***BL ident*** cordset Female angled, male straight, 5 m
	WK 4.5T-10-RS 4.5T/S2501	U3-01237	***BL ident*** cordset Female angled, male straight, 10 m
	RK 4.5T-2/S2051	U3-01240	***BL ident*** cordset Female straight, 2 m
	RK 4.5T-5/S2501	U3-01245	***BL ident*** cordset Female straight, 5 m
	RK 4.5T-10/S2501	U3-01238	***BL ident*** cordset Female straight, 10 m
	WK 4.5T-2/S2051	U3-01244	***BL ident*** cordset Female angled, 2 m
	WK 4.5T-5/S2501	U3-01248	***BL ident*** cordset Female angled, 5 m
	WK 4.5T-10/S2501	U3-01242	***BL ident*** cordset Female angled, 10 m
	CABLE RFID/S2501-30M	RB51347-30M	***BL ident*** bulk cable 30 m
	CABLE RFID/S2501-75M	RB51347-75M	***BL ident*** bulk cable 75 m
	CABLE RFID/S2501-150M	RB51347-150M	***BL ident*** bulk cable 150 m
	CABLE RFID/S2501-225M	RB51347-225M	***BL ident*** bulk cable 225 m
	CABLE RFID/S2501-300M	RB51347-300M	***BL ident*** bulk cable 300 m

Note: Custom cable lengths available. 50 meter maximum length.

Prefabricated cordsets are available for reliable data transfer between the read/write head and ***BL ident*** interface.

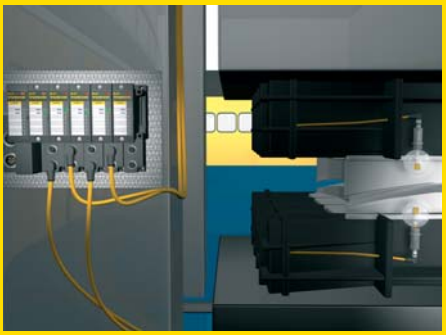
Cable Characteristics:

- Shielded
- PVC outer jacket
- Highly flexible
- Resistant to oil
- High mechanical stability
- UL approved

BL ident – Handheld

TURCK data carriers are easily programmed by a handheld programming unit for reading and writing to the data carriers at any location.

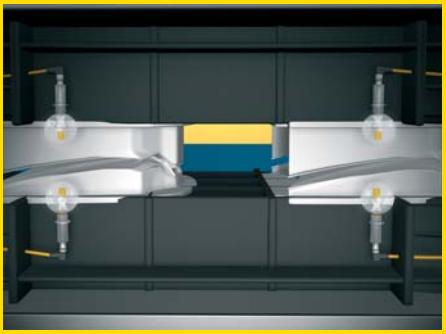
The data is displayed on an illuminated touchscreen (display in decimal, binary, hexadezimal and ASCII code) where it can be edited and written to the appropriate data carrier as required.



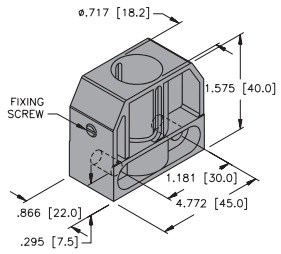
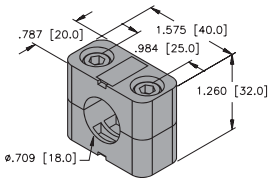
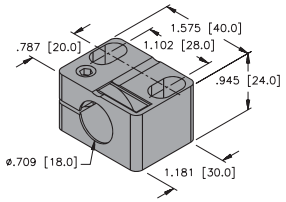
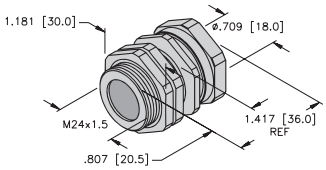
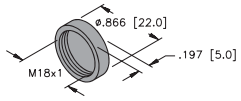
The ***BL ident*** handheld operates with MS Windows CE. Data transfer is as simple as exporting an MS Excel file.

Part Number	ID Number	Description
PD-IDENT-PF	M1542336	Protective foil for display (25 pieces)
PD-IDENT-DS	M1542333	Docking station, incl. power pack, RS232 cable
PD-IDENT-RB	M1542337	Replacement battery
PD-IDENT-BC	M1542335	Battery charger
PD-IDENT-RS	M1542338	Replacement pins (25 pieces)
PD-IDENT-CB	M1542334	Carrying case
PD-IDENT	M1542331	Handheld incl. docking station
PD-IDENT-WLAN	M1542340	Handheld with WLAN feature

Other Features Include:
- Automatic read operation
- Automatic comparison of data records
- Definition of password protected areas
- Optional WLAN, Bluetooth and GPRS features



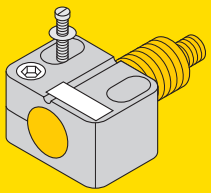
The WLAN connection allows the ***BL ident*** handheld to transfer data directly to an SPC or PC – regardless of the location. This means that the data is always available – even when the automated system is standing still.

Housing	Part Number	ID Number	Description	Material	Sensor Types
	BS18	M6947100	Mounting block for cylindrical sensors Ø 18 mm	Polyamid	Threaded barrel M18
	BSN18	M6947200	Mounting clamp for cylindrical sensors Ø 18 mm	PBT	Threaded barrel M18
	BST-18B	M6947214	Mounting block with mechanical lock for cylindrical sensors Ø 18 mm	Polyamid	Threaded barrel M18
	BST-18N	M6947215	Mounting block without mechanical lock for cylindrical sensors Ø 18 mm	Polyamid	Threaded barrel M18
	QM-18	M6945102	Mounting brackets for cylindrical sensors Ø 18 mm	Chrome-plated brass	Threaded barrel M18
	CAP 18-PTFE	A3055	Protective teflon caps	PTFE	Threaded barrel M18, for embeddable sensors
	CAP-18N-PTFE	A3056	Protective teflon caps	PTFE	Threaded barrel M18, for nonembeddable sensors

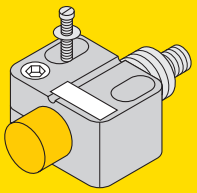
Mounting Blocks:

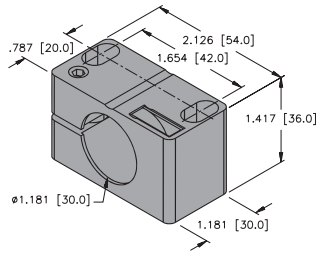
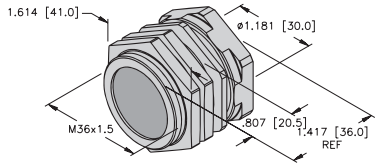
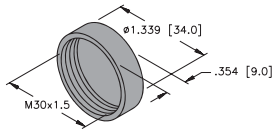
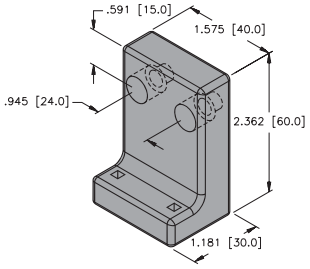
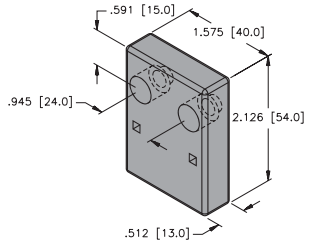
- Mounting:
  - B version with mechanical lock,
  - N version without mechanical lock
- Position of fixing mounting clamps is retained during replacement of sensors
- Modular structure via mounting accessories
- Universal labelling plates

B version
– with mechanical lock



N version
– without mechanical lock



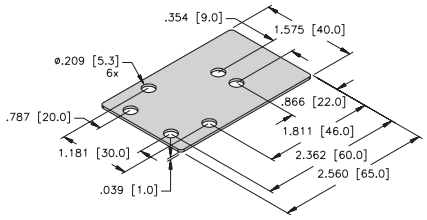
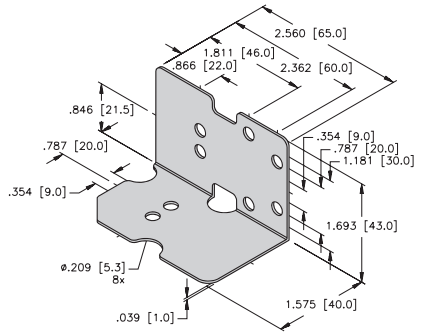
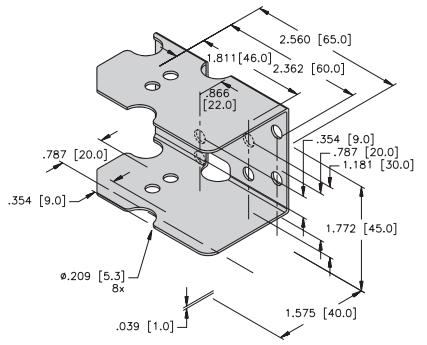
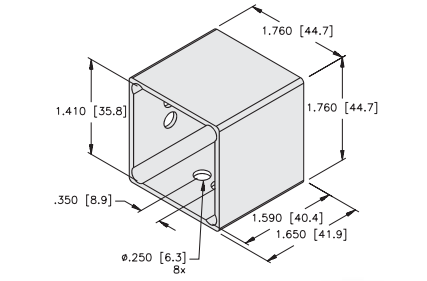
Housing	Part Number	ID Number	Description	Material	For Sensor Types
	BST-30B	M6947216	Mounting block with mechanical lock for cylindrical sensors Ø 30 mm	Polyamid	Threaded barrel M30
	BST-30N	M6947217	Mounting block without mechanical lock for cylindrical sensors Ø 30 mm	Polyamid	Threaded barrel M30
	QM-30	M6945103	Mounting brackets for cylindrical sensors Ø 30 mm	Chrome-plated brass	Threaded barrel M30
	CAP 30-PTFE	A3057	Protective teflon caps	PTFE	Threaded barrel M30, for embeddable sensors
	CAP 30N-PTFE	A3058	Protective teflon caps	PTFE	Threaded barrel M30, for nonembeddable sensors
	BST-UH	M6947219	Mounting accessories for mounting blocks	Polyamid	Threaded barrel M18 Threaded barrel M30
	BST-UV	M6947218	Mounting accessories for mounting blocks	Polyamid	Threaded barrel M18 Threaded barrel M30

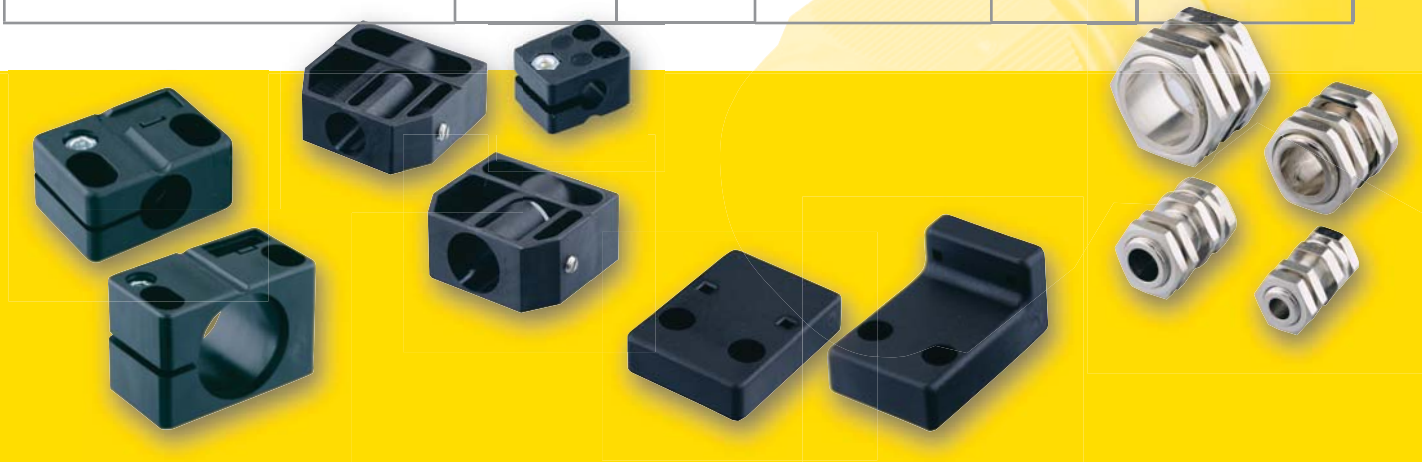
TURCK offers a wide range of accessories for installation and protection of sensors.

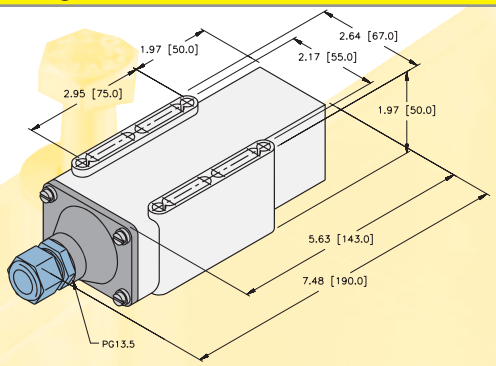
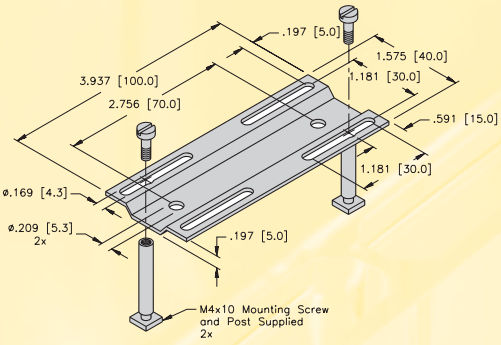
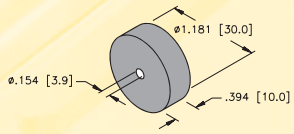
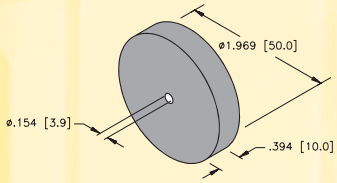
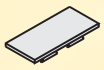
Mounting blocks as well as quick mounting brackets are offered for all cylindrical versions, diameter 6.5 mm, M8x1, M12x1, M18x1 and M30x1.5.

The JS 025/037 mounting rail facilitates installation and adjustment of CP40 and CK40 model sensors.

Protective holders which also simplify installation of CK40 and CP40 model sensors offer additional protection against mechanical damage.

Housing	Part Number	ID Number	Description	Material	For Sensor Types
	MF-CK40-1S	M6900481	Protective housing for CK40, single side	Metal	Rectangular CK40
	MF-CK40-2S	M6900482	Protective housing for CK40, angle	Metal	Rectangular CK40
	MF-CK40-3S	M6900483	Protective housing for CK40, U profile	Metal	Rectangular CK40
	T-CK40-T-FC	A5202	Protective teflon caps	PTFE	Rectangular CK40
	T-CK40-D-FC	A5160	Protective cap, resistant to high temperatures	Derlin	Rectangular CK40

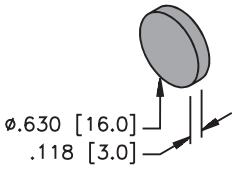


Housing	Part Number	ID Number	Description	Material	For Sensor Types
	SG40/2	M6900369	Temperature resistant protective housing for CP40	Ultem	Rectangular CK40
	JS 025/037	M69429	Mounting rail for housing CK40	Stainless steel	Rectangular CK40
	DS-R30	M6900512	Spacer ring for data carrier Ø 30 mm[1]	Plastic	
	DS-R50	M6900386	Spacer ring for data carrier Ø 50 mm*	Plastic	
	BST-BS	M6947220	Labeling plate for BST- fixing clamps	Plastic	All

* Spacer to provide minimum distance required between data carrier and metal ferrous mounting surface.

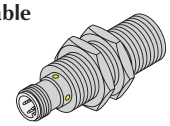
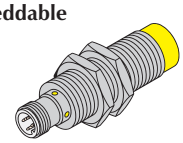
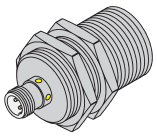
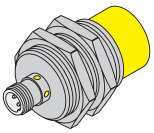
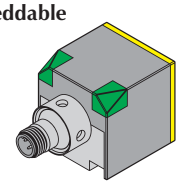
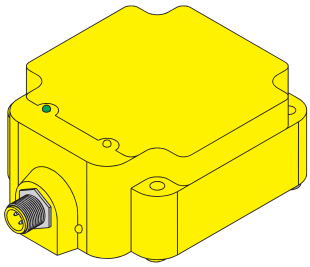
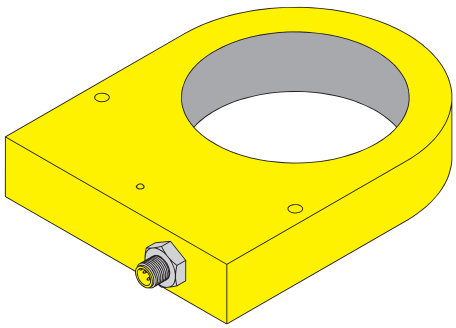
RFID System - Data Carrier (Read/Write)

- **Data Carrier (Read/Write)**
- **Memory Size 128 Byte**
- **EEPROM**

Housing	Part Number	Function Principle
	TW-R16-B128	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .157-2.48 in. (4-63 mm).

Part Number	TW-R16-B128
ID Number	M6900501
Storage Data	
Operating frequency	13.56 MHz
Memory size	128 Byte
Number of read operations	unlimited
Number of write operations	10^5
Read time (typical)	2 ms/Byte
Write time (typical)	3 ms/Byte
Memory organization	EEPROM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-25 to +85°C (-13 to +185°F)
Ambient temperature	-25 to +120°C (-13 to +248°F)
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	Epoxyd, molded plastic

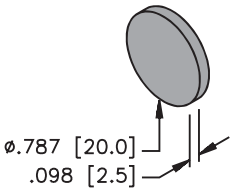
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
18 mm - Embeddable 	TB-M18-H1147	M7030001	.236 (6)	.157 (4)	.512 (13)	.551 (14)	.709 (18)	2.835 (72)
18 mm - Nonembeddable 	TN-M18-H1147	M7030002	.472 (12)	.157 (4)	.984 (25)	.827 (21)	1.063 (27)	4.252 (108)
30 mm - Embeddable 	TB-M30-H1147	M7030003	.433 (11)	.354 (9)	.866 (22)	.709 (18)	.866 (22)	3.465 (88)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	.630 (16)	.354 (9)	1.260 (32)	1.102 (28)	1.417 (36)	5.669 (144)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	.866 (22)	.433 (11)	1.772 (45)	1.260 (32)	1.575 (40)	6.299 (160)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	1.220 (31)	.512 (13)	2.480 (63)	1.968 (50)	2.480 (63)	9.921 (252)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	1.220 (31)	.630 (16)	2.480 (63)	2.835 (72)	3.543 (90)	14.173 (360)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

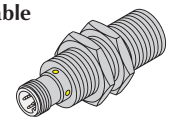
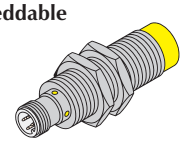
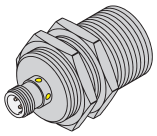
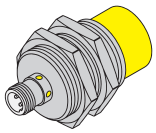
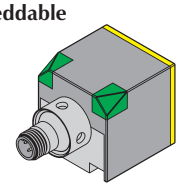
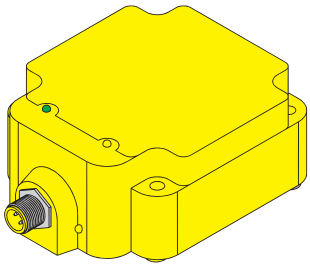
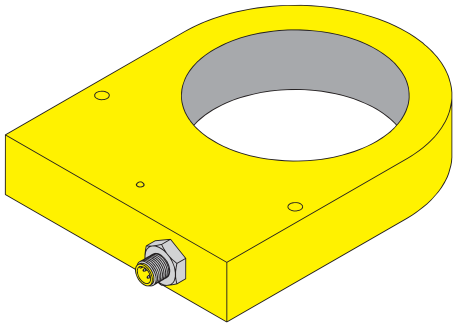
RFID System - Data Carrier (Read/Write)

- **Data Carrier (Read/Write)**
- **Memory Size 128 Byte**
- **EEPROM**

Housing	Part Number	Function Principle
	TW-R20-B128	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .157-2.835 in. (4-72 mm). TAGs available with EEPROM or FRAM memory.

Part Number	TW-R20-B128
ID Number	M6900502
Storage Data	
Operating frequency	13.56 MHz
Memory size	128 Byte
Number of read operations	Unlimited
Number of write operations	10^5
Read time (typical)	2 ms/Byte
Write time (typical)	3 ms/Byte
Memory organization	EEPROM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-40 to +85°C (-40 to +185°F)
Ambient temperature	-25 to +85°C (-13 to +185°F)
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	Epoxyd

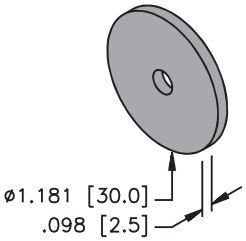
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
18 mm - Embeddable 	TB-M18-H1147	M7030001	.236 (6)	.157 (4)	.512 (13)	.630 (16)	.827 (21)	3.307 (84)
18 mm - Nonembeddable 	TN-M18-H1147	M7030002	.512 (13)	.197 (5)	1.024 (26)	.906 (23)	1.142 (29)	4.567 (116)
30 mm - Embeddable 	TB-M30-H1147	M7030003	.472 (12)	.394 (10)	.945 (24)	.748 (19)	.945 (24)	3.780 (96)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	.630 (16)	.394 (10)	1.299 (33)	1.102 (28)	1.299 (33)	5.197 (132)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	.945 (24)	.472 (12)	1.929 (49)	1.457 (37)	1.850 (47)	6.299 (160)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	1.299 (33)	.709 (18)	2.638 (67)	2.244 (57)	2.835 (72)	9.921 (252)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	1.417 (36)	.709 (18)	2.835 (72)	3.228 (82)	4.055 (103)	16.220 (412)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

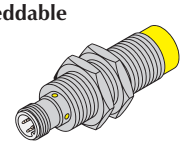
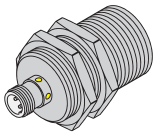
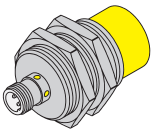
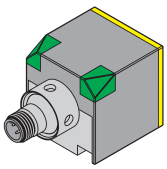
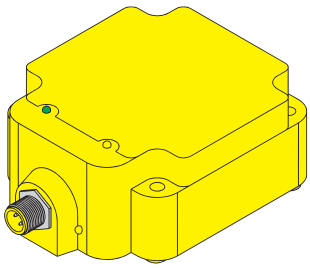
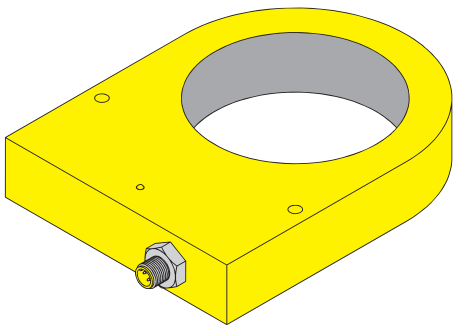
RFID System - Data Carrier (Read/Write)

- **Data Carrier (Read/Write)**
- **Memory Size 128 Byte**
- **EEPROM**

Housing	Part Number	Function Principle
	TW-R30-B128	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .236-3.543 in. (6-90 mm). TAGs available with EEPROM or FRAM memory.

Part Number	TW-R30-B128
ID Number	M6900503
Storage Data	
Operating frequency	13.56 MHz
Memory size	128 Byte
Number of read operations	Unlimited
Number of write operations	10^5
Read time (typical)	2 ms/Byte
Write time (typical)	3 ms/Byte
Memory organization	EEPROM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-40 to +85°C (-40 to +185°F)
Ambient temperature	-25 to +85°C (-13 to +185°F)
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	Epoxyd

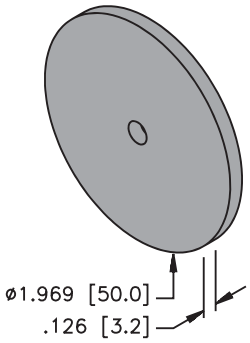
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
18 mm - Nonembeddable 	TN-M18-H1147	M7030002	.512 (13)	.236 (6)	1.063 (27)	.945 (24)	1.220 (31)	4.882 (124)
30 mm - Embeddable 	TB-M30-H1147	M7030003	.551 (14)	.433 (11)	1.102 (28)	.827 (21)	1.102 (28)	4.409 (112)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	.787 (20)	.433 (11)	1.575 (40)	1.260 (32)	1.614 (41)	6.457 (164)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	1.063 (27)	.512 (13)	2.126 (54)	1.693 (43)	2.126 (54)	8.504 (216)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	1.575 (40)	.866 (22)	3.150 (80)	2.520 (64)	3.189 (81)	12.756 (324)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	1.772 (45)	.866 (22)	3.543 (90)	3.661 (93)	4.606 (117)	18.425 (468)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

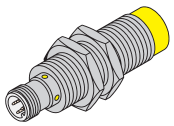
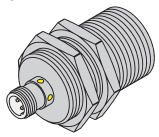
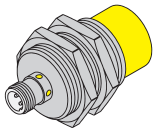
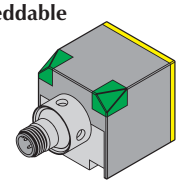
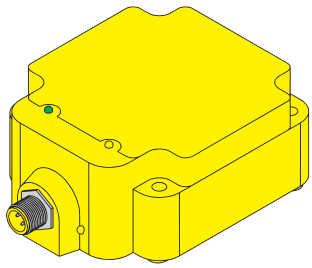
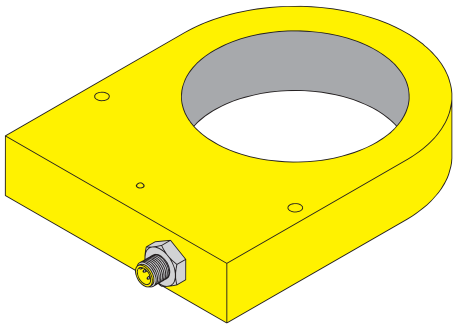
RFID System - Data Carrier (Read/Write)

- **Data Carrier (Read/Write)**
- **Memory Size 128 Byte**
- **EEPROM**

Housing	Part Number	Function Principle
	TW-R50-B128	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .354-5.669 in. (9-144 mm). TAGs available with EEPROM or FRAM memory.

Part Number	TW-R50-B128
ID Number	M6900504
Storage Data	
Operating frequency	13.56 MHz
Memory size	128 Byte
Number of read operations	Unlimited
Number of write operations	10^5
Read time (typical)	2 ms/Byte
Write time (typical)	3 ms/Byte
Memory organization	EEPROM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-40 to +85°C (-40 to +185°F)
Ambient temperature	-25 to +85°C (-13 to +185°F)
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	Epoxyd

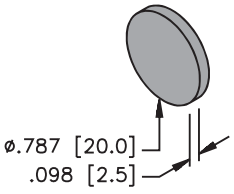
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
18 mm - Nonembeddable 	TN-M18-H1147	M7030002	.709 (18)	.354 (9)	1.417 (36)	1.535 (39)	1.929 (49)	7.717 (196)
30 mm - Embeddable 	TB-M30-H1147	M7030003	.709 (18)	.512 (13)	1.417 (36)	1.220 (31)	1.535 (39)	6.142 (156)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	1.063 (27)	.512 (13)	1.260 (32)	1.968 (50)	2.480 (63)	9.921 (252)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	1.575 (40)	.866 (22)	1.772 (45)	2.520 (64)	3.189 (81)	12.756 (324)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	2.283 (58)	1.220 (31)	4.606 (117)	3.661 (93)	4.606 (117)	18.425 (468)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	2.835 (72)	1.417 (36)	5.669 (144)	4.803 (122)	6.024 (153)	24.094 (612)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

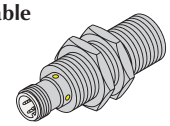
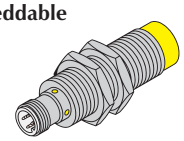
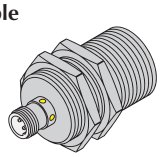
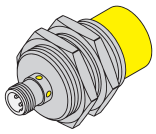
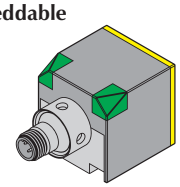
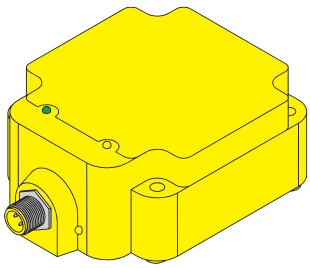
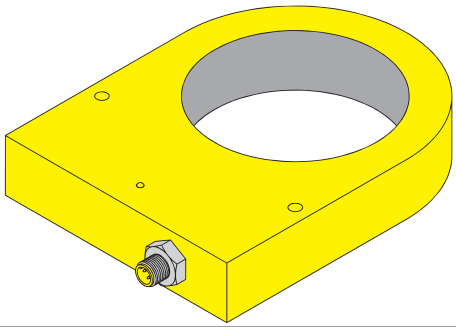
RFID System - Data Carrier (Read/Write)

- **Data Carrier (Read/Write)**
- **Memory Size 2 kByte**
- **FRAM**

Housing	Part Number	Function Principle
	TW-R20-K2	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .157-2.520 in. (4-64 mm). TAGs available with EEPROM or FRAM memory.

Part Number	TW-R20-K2
ID Number	M6900505
Storage Data	
Operating frequency	13.56 MHz
Memory size	2 kByte
Number of read operations	Unlimited
Number of write operations	10^{10}
Read time (typical)	0.5 ms/Byte
Write time (typical)	0.5 ms/Byte
Memory organization	FRAM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-40 to +85°C (-40 to +185°F)
Ambient temperature	-25 to +85°C (-13 to +185°F)
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	PA6

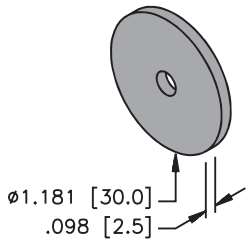
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
18 mm - Embeddable 	TB-M18-H1147	M7030001	.197 (5)	.157 (4)	.433 (11)	.433 (11)	.709 (18)	2.835 (72)
18 mm - Nonembeddable 	TN-M18-H1147	M7030002	.433 (11)	.157 (4)	.906 (23)	.551 (14)	1.024 (26)	4.094 (104)
30 mm - Embeddable 	TB-M30-H1147	M7030003	.394 (10)	.236 (6)	.827 (21)	.630 (16)	.827 (21)	3.307 (84)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	.551 (14)	.315 (8)	1.142 (29)	1.024 (26)	1.142 (29)	4.567 (116)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	.866 (22)	.394 (10)	1.732 (44)	1.299 (33)	1.654 (42)	6.614 (168)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	1.181 (30)	.630 (16)	2.362 (60)	2.008 (51)	2.520 (64)	9.842 (250)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	1.260 (32)	.630 (16)	2.520 (64)	2.913 (74)	3.701 (94)	14.803 (376)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

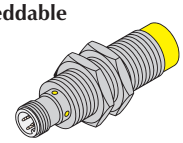
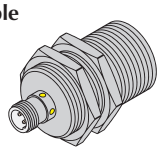
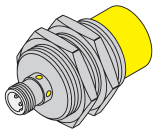
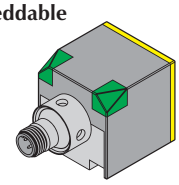
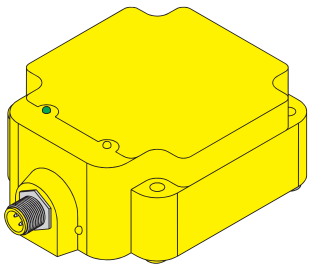
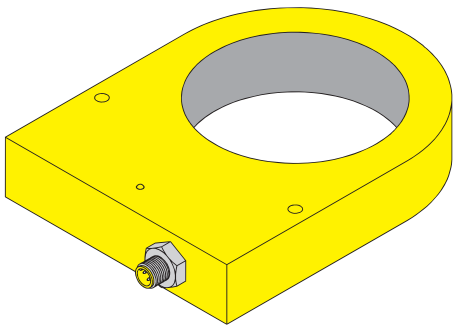
RFID System - Data Carrier (Read/Write)

- **Data Carrier (Read/Write)**
- **Memory Size 2 kByte**
- **FRAM**

Housing	Part Number	Function Principle
	TW-R30-K2	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .236-3.189 in. (6-81 mm). TAGs available with EEPROM or FRAM memory.

Part Number	TW-R30-K2
ID Number	M6900506
Storage Data	
Operating frequency	13.56 MHz
Memory size	2 kByte
Number of read operations	Unlimited
Number of write operations	10^{10}
Read time (typical)	0.5 ms/Byte
Write time (typical)	0.5 ms/Byte
Memory organization	FRAM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-40 to +85°C (-40 to +185°F)
Ambient temperature	-25 to +85°C (-13 to +185°F)
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	PA6

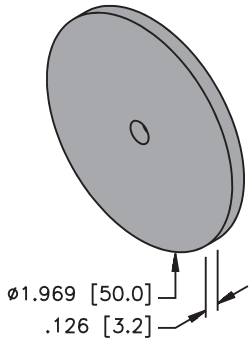
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
18 mm - Nonembeddable 	TN-M18-H1147	M7030002	.472 (12)	.236 (6)	.945 (24)	.827 (21)	1.063 (27)	108
30 mm - Embeddable 	TB-M30-H1147	M7030003	.472 (12)	.354 (9)	.984 (25)	.748 (19)	.984 (25)	3.937 (100)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	.709 (18)	.394 (10)	1.417 (36)	1.102 (28)	1.417 (36)	5.669 (144)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	.945 (24)	.433 (11)	1.890 (48)	1.496 (38)	1.890 (48)	7.559 (192)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	1.417 (36)	.787 (20)	2.835 (72)	2.283 (58)	2.835 (72)	11.338 (288)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	1.575 (40)	.787 (20)	3.189 (81)	3.307 (84)	107	428

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

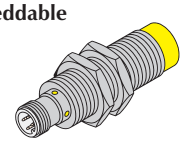
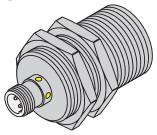
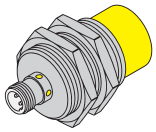
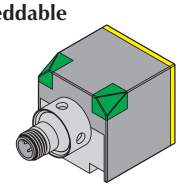
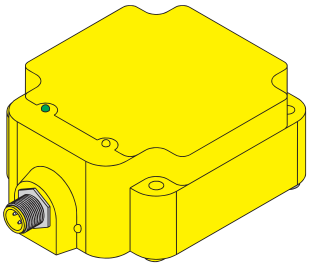
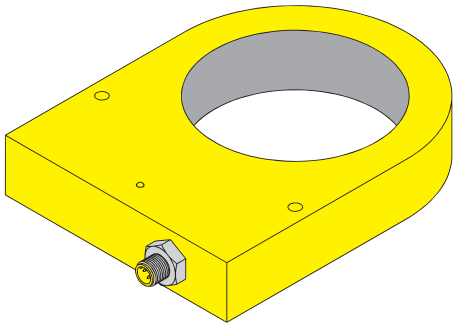
RFID System - Data Carrier (Read/Write)

- **Data Carrier (Read/Write)**
- **Memory Size 2 kByte**
- **FRAM**

Housing	Part Number	Function Principle
	TW-R50-K2	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .315-5.079 in. (8-129 mm). TAGs available with EEPROM or FRAM memory.

Part Number	TW-R50-K2
ID Number	M6900507
Storage Data	
Operating frequency	13.56 MHz
Memory size	2 kByte
Number of read operations	Unlimited
Number of write operations	10^{10}
Read time (typical)	0.5 ms/Byte
Write time (typical)	0.5 ms/Byte
Memory organization	FRAM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-40 to +85°C (-40 to +185°F)
Ambient temperature	-25 to +85°C (-13 to +185°F)
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	PA6

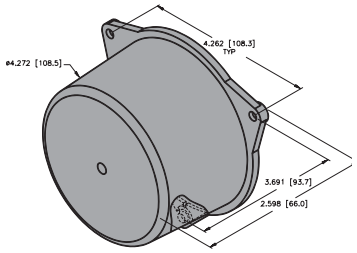
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
18 mm - Nonembeddable 	TN-M18-H1147	M7030002	.630 (16)	.315 (8)	1.260 (32)	.827 (21)	1.732 (44)	6.929 (176)
30 mm - Embeddable 	TB-M30-H1147	M7030003	.630 (16)	.472 (12)	1.260 (32)	.945 (24)	1.378 (35)	5.512 (140)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	.945 (24)	.472 (12)	1.890 (48)	1.772 (45)	2.205 (56)	8.819 (224)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	1.417 (36)	.748 (19)	2.835 (72)	2.244 (57)	2.835 (72)	11.339 (288)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	2.047 (52)	1.063 (27)	4.134 (105)	3.268 (83)	4.134 (105)	16.535 (420)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	2.520 (64)	1.181 (30)	5.079 (129)	4.370 (111)	5.433 (138)	21.732 (552)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

RFID System - High Temperature Data Carrier (Read/Write)

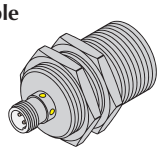
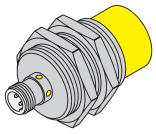
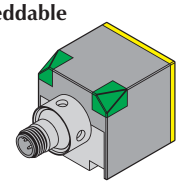
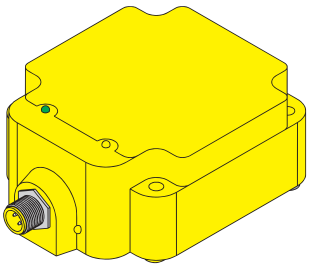
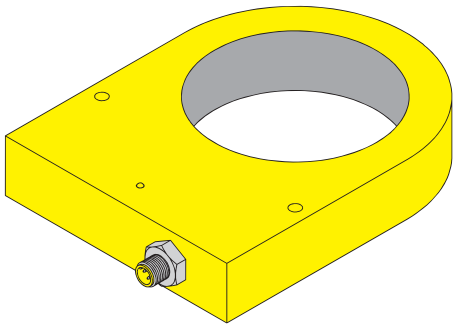
- **High Temperature Data Carrier (Read/Write)**
- **For High Temperatures Up to 210°C (410°F)**
- **Memory Size 128 Byte**
- **EEPROM**

Housing	Part Number	Function Principle
	TW-R50-90-HT-B128	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .512-5.669 in. (13-144 mm). TAGs available with EEPROM or FRAM memory.

Part Number	TW-R50-90-HT-B128
ID Number	M1542326
Storage Data	
Operating frequency	13.56 MHz
Memory size	128 Byte
Number of read operations	Unlimited
Number of write operations	10^5
Read time (typical)	2 ms/Byte
Write time (typical)	3 ms/Byte
Memory organization	EEPROM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-40 to +85°C (-40 to +185°F)
Ambient temperature	-25 to +210°C (-13 to +410°F)*
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	PA66

* Can perform at 210°C (410°F) for 30 minutes.

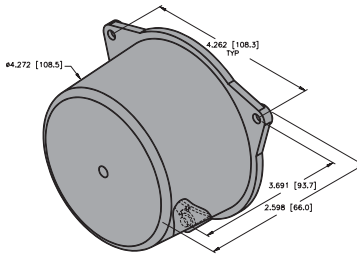
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
30 mm - Embeddable 	TB-M30-H1147	M7030003	.709 (18)	.512 (13)	1.417 (36)	1.220 (31)	1.535 (39)	6.142 (156)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	1.063 (27)	.512 (13)	2.126 (54)	1.968 (50)	2.480 (63)	9.921 (252)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	1.575 (40)	.866 (22)	3.189 (81)	2.520 (64)	3.189 (81)	12.756 (324)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	2.283 (58)	1.220 (31)	4.606 (117)	3.661 (93)	4.606 (117)	18.425 (468)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	2.835 (72)	1.417 (36)	5.669 (144)	4.803 (122)	6.024 (153)	24.094 (612)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

RFID System - High Temperature Data Carrier (Read/Write)

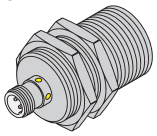
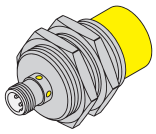
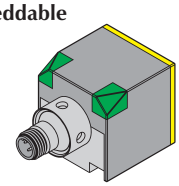
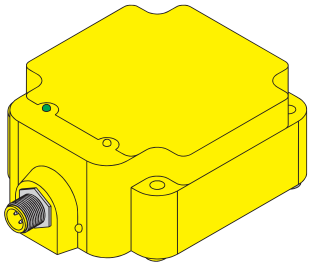
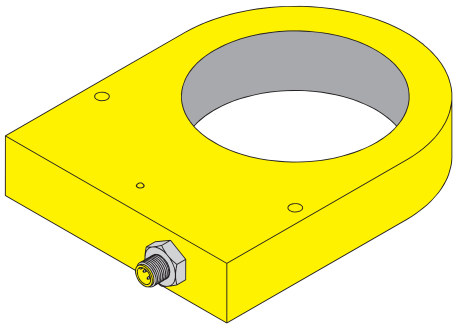
- **High Temperature Data Carrier (Read/Write)**
- **For High Temperatures Up to 210°C (410°F)**
- **Memory Size 2 kByte**
- **FRAM**

Housing	Part Number	Function Principle
	TW-R50-90-HT-K2	The ***BL ident*** data carriers (TAGs) can be written and read without contact with appropriate read/write heads. The operating frequency is 13.56 MHz. The data carriers are passive, i.e. do not have a battery. When they enter the air interface of a read/write head, the power is transferred inductively and the data transfer initiated. The read/write interval varies between .472-5.079 (12-129 mm). TAGs available with EEPROM or FRAM memory.

Part Number	TW-R50-90-HT-K2
ID Number	M1542329
Storage Data	
Operating frequency	13.56 MHz
Memory size	2 kByte
Number of read operations	Unlimited
Number of write operations	10^5
Read time (typical)	0.5 ms/Byte
Write time (typical)	0.5 ms/Byte
Memory organization	FRAM
Installation Guidelines	
Minimum distance between data carrier and metal surface (see accessories on page 26 for spacers)	.4 in (10 mm)
General Data	
Color	Black
Storage temperature	-40 to +85°C (-40 to +185°F)
Ambient temperature	-25 to +210°C (-13 to +410°F)*
Degree of protection (IEC 60529/EN 60529)	IP 68
Housing material	PA66

* Can perform at 210°C (410°F) for 30 minutes.

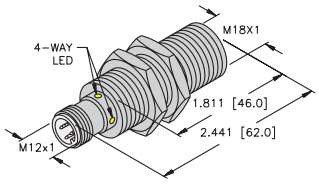
Associated Read/Write Heads

Housing	Part Number	ID Number	Read/Write Range			Zone Width		Distance
						Length		minimum between two read/write heads[1]
			Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
30 mm - Embeddable 	TB-M30-H1147	M7030003	.630 (16)	.472 (12)	1.260 (32)	.945 (24)	1.378 (35)	5.512 (140)
30 mm - Nonembeddable 	TN-M30-H1147	M7030004	.945 (24)	.472 (12)	1.890 (48)	1.772 (45)	2.205 (56)	8.819 (224)
40 mm - Nonembeddable 	TN-CK40-H1147	M7030006	1.417 (36)	.748 (19)	2.835 (72)	2.244 (57)	2.835 (72)	11.339 (288)
80 mm - Nonembeddable 	TN-Q80-H1147	M7030007	2.047 (52)	1.063 (27)	4.134 (105)	3.268 (83)	4.134 (105)	16.535 (420)
32 mm - Nonembeddable 	TN-S32XL-H1147	M7030008	2.520 (64)	1.181 (30)	5.079 (129)	4.370 (111)	5.394 (137)	21.732 (552)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.

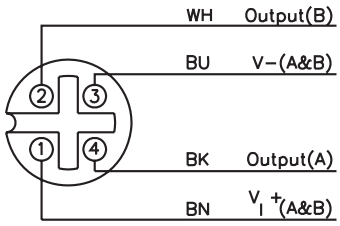
RFID System - Read/Write Head

- **Threaded Barrel, M18x1, Chrome Plated Brass**
- **Flush Mounting**
- **Power Supply (24 VDC) and Function via *BL ident* Interfaces**
- **Connector (M12) *eurofast*®, Connection via *BL ident* Connecting Cable**

Housing	Part Number	Function Principle
	TB-M18-H1147	The ***BL ident*** read/write head (transceiver) is used to exchange data with the data carrier (TAG). Together they form an air interface whose size depends on the combination of transceiver and TAG. The data carriers are passive. When they enter the air interface of the transceiver, the power from the transceiver is transferred inductively and data transfer completed. ***BL ident*** TAGs on the following page can be combined with this ***BL ident*** transceiver. The read/write interval varies between .157-.433 in. (4-11 mm). TAGs available with EEPROM or FRAM memory.

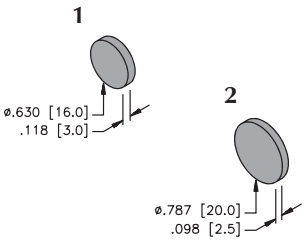
Part Number	TB-M18-H1147
ID Number	M7030001
Mounting Mode	Flush
Ambient temperature	-25 to +210°C (-13 to +410°F)
Data Transfer	Inductive
Output function	4-wire, write/read
Operating frequency	13.56 MHz
Housing	Threaded barrel, M18x1
Housing material	Metal, CuZn, chrome plated
Material active face	Plastic, PA12-GF30
Connection	Connector, M12x1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection	IP 67
Power On Indication	LED solid
Read/write head off	LED .5 Hz
TAG with air interface	LED 3 Hz
Wiring	
Maximum cable length	50 m

Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

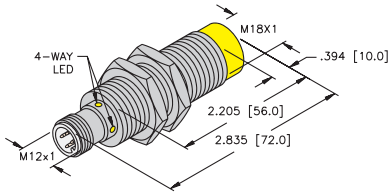
Associated Data Carrier

Housing	Fig.	Part Number	ID Number	Read/Write Range			Zone Width		Distance
							Length		minimum between two read/write heads[1]
				Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
	1	TW-R16-B128	M6900501	.236 (6)	.157 (4)	.512 (13)	.551 (14)	.709 (18)	2.835 (72)
	2	TW-R20-B128	M6900502	.236 (6)	.157 (4)	.512 (13)	.630 (16)	.827 (21)	3.307 (84)
	2	TW-R20-K2	M6900505	.197 (5)	.157 (4)	.433 (11)	.433 (11)	.709 (18)	2.835 (72)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.
10 mm air gap required when mounting to ferrous metal. See accessories on page 26 for spacers.
Ambient temperature: -25 to +85°C (-13 to +185°F).

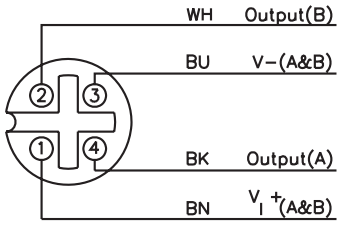
RFID System - Read/Write Head

- **Threaded Barrel, M18x1, Chrome Plated Brass**
- **Flush Mounting**
- **Power Supply (24 VDC) and Function via *BL ident* Interfaces**
- **Connector (M12) *eurofast*®, Connection via *BL ident* Connecting Cable**

Housing	Part Number	Function Principle
	TN-M18-H1147	The ***BL ident*** read/write head (transceiver) is used to exchange data with the data carrier (TAG). Together they form an air interface whose size depends on the combination of transceiver and TAG. The data carriers are passive. When they enter the air interface of the transceiver, the power from the transceiver is transferred inductively and data transfer completed. ***BL ident*** TAGs on the following page can be combined with this ***BL ident*** transceiver. The read/write interval varies between .157-1.417 in. (4-36 mm). TAGs available with EEPROM or FRAM memory.

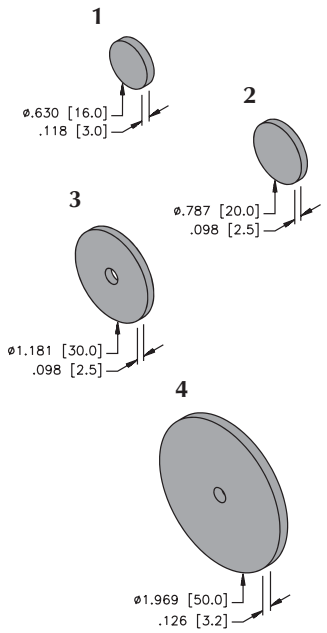
Part Number	TN-M18-H1147
ID Number	M7030002
Mounting Mode	Non flush
Ambient temperature	-25 to +70°C (-13 to +158°F)
Data Transfer	Inductive
Output function	4-wire, write/read
Operating frequency	13.56 MHz
Housing	Threaded barrel, M18 x 1
Housing material	Metal, CuZn, chrome plated
Material active face	Plastic, PA12-GF30
Connection	Connector, M12x1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection	IP 67
Power On Indication	LED solid
Read/write head off	LED .5 Hz
TAG with air interface	LED 3 Hz
Wiring	
Maximum cable length	50 m

Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

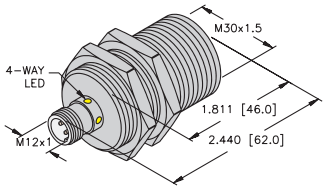
Associated Data Carrier

Housing	Fig.	Part Number	ID Number	Read/Write Range			Zone Width		Distance
							Length		minimum between two read/write heads[1]
				Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
	1	TW-R16-B128	M6900501	.472 (12)	.157 (4)	.984 (25)	.827 (21)	1.063 (27)	4.252 (108)
	2	TW-R20-B128	M6900502	.512 (13)	.197 (5)	1.024 (26)	.906 (23)	1.142 (29)	4.567 (116)
	3	TW-R30-B128	M6900503	.512 (13)	.236 (6)	1.063 (27)	.945 (24)	1.220 (31)	4.882 (124)
	4	TW-R50-B128	M6900504	.709 (18)	.354 (9)	1.417 (36)	1.535 (39)	1.929 (49)	7.717 (196)
	2	TW-R20-K2	M6900505	.433 (11)	.157 (4)	.906 (23)	.551 (14)	1.024 (26)	4.094 (104)
	3	TW-R30-K2	M6900506	.472 (12)	.236 (6)	.945 (24)	.827 (21)	1.063 (27)	4.252 (108)
	4	TW-R50-K2	M6900507	.630 (16)	.315 (8)	1.260 (32)	.827 (21)	1.732 (44)	6.929 (176)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.
10 mm air gap required when mounting to ferrous metal. See accessories on page 26 for spacers.
Ambient temperature: -25 to +85°C (-13 to +185°F).

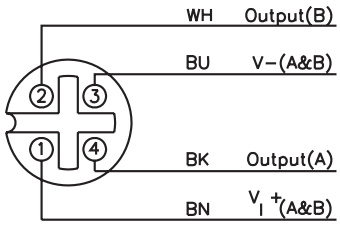
RFID System - Read/Write Head

- **Threaded Barrel, M30x1.5, Chrome Plated Brass**
- **Flush Mounting**
- **Power Supply (24 VDC) and Function via *BL ident* Interfaces**
- **Connector (M12) *eurofast*®, Connection via *BL ident* Connecting Cable**

Housing	Part Number	Function Principle
	TB-M30-H1147	The ***BL ident*** read/write head (transceiver) is used to exchange data with the data carrier (TAG). Together they form an air interface whose size depends on the combination of transceiver and TAG. The data carriers are passive. When they enter the air interface of the transceiver, the power from the transceiver is transferred inductively and data transfer completed. ***BL ident*** TAGs on the following page can be combined with this ***BL ident*** transceiver. The read/write interval varies between .354-1.417 in. (9-36 mm). TAGs available with EEPROM or FRAM memory.

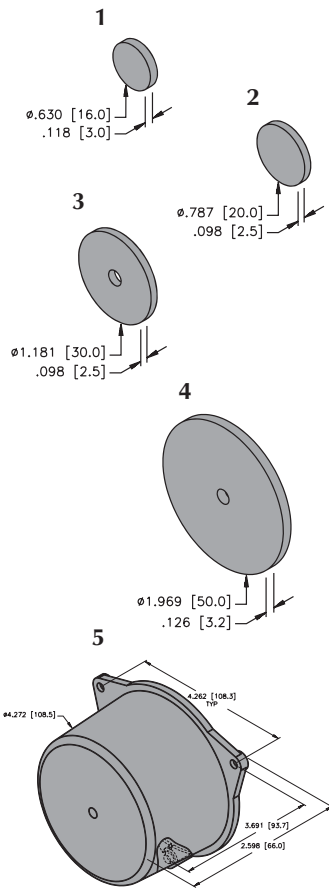
Part Number	TB-M30-H1147
ID Number	M7030003
Mounting Mode	Flush
Ambient temperature	-25 to +70°C (-13 to +158°F)
Data Transfer	Inductive
Output function	4-wire, write/read
Operating frequency	13.56 MHz
Housing	Threaded barrel, M30 x 1.5
Housing material	Metal, CuZn, chrome plated
Material active face	Plastic, PA12-GF30
Connection	Connector, M12x1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection	IP 67
Power On Indication	LED solid
Read/write head off	LED .5 Hz
TAG with air interface	LED 3 Hz
Wiring	
Maximum cable length	50 m

Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

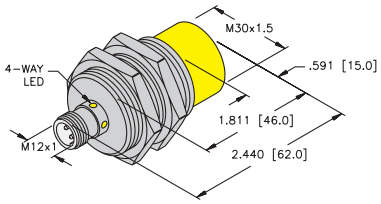
Associated Data Carrier

Housing	Fig.	Part Number	ID Number	Read/Write Range			Zone Width		Distance
							Length		minimum between two read/write heads[1]
				Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
	1	TW-R16-B128	M6900501	.433 (11)	.354 (9)	.866 (22)	.669 (17)	.866 (22)	3.465 (88)
	2	TW-R20-B128	M6900502	.472 (12)	.394 (10)	.945 (24)	.748 (19)	.945 (24)	3.780 (96)
	3	TW-R30-B128	M6900503	.551 (14)	.433 (11)	1.102 (28)	.827 (21)	1.102 (28)	4.409 (112)
	4	TW-R50-B128	M6900504	.709 (18)	.512 (13)	1.417 (36)	1.220 (31)	1.535 (39)	6.142 (156)
	2	TW-R20-K2	M6900505	.394 (10)	.236 (6)	.827 (21)	.630 (16)	.827 (21)	3.307 (84)
	3	TW-R30-K2	M6900506	.472 (12)	.354 (9)	.984 (25)	.748 (19)	.984 (25)	3.937 (100)
	4	TW-R50-K2	M6900507	.630 (16)	.472 (12)	1.260 (32)	.945 (24)	1.378 (35)	5.512 (140)
	5	TW-R50-90-HT-B128	M1542326	.709 (18)	.512 (13)	1.417 (36)	1.220 (31)	1.535 (39)	6.142 (156)
	5	TW-R50-90-HT-K2	M1542329	.630 (16)	.472 (12)	1.260 (32)	.945 (24)	1.378 (35)	5.512 (140)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.
10 mm air gap required when mounting to ferrous metal. See accessories on page 26 for spacers.
Ambient temperature: -25 to +85°C (-13 to +185°F); (-40 to +210°C (-40 to +410°F) for TW-R*-HT....).

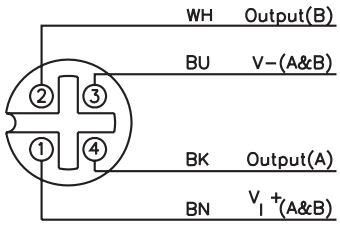
RFID System - Read/Write Head

- **Threaded Barrel, M30x1.5, Chrome Plated Brass**
- **Flush Mounting**
- **Power Supply (24 VDC) and Function via *BL ident* Interfaces**
- **Connector (M12) *eurofast*®, Connection via *BL ident* Connecting Cable**

Housing	Part Number	Function Principle
	TN-M30-H1147	The ***BL ident*** read/write head (transceiver) is used to exchange data with the data carrier (TAG). Together they form an air interface whose size depends on the combination of transceiver and TAG. The data carriers are passive. When they enter the air interface of the transceiver, the power from the transceiver is transferred inductively and data transfer completed. ***BL ident*** TAGs on the following page can be combined with this ***BL ident*** transceiver. The read/write interval varies between .354-2.126 in. (9-54 mm). TAGs available with EEPROM or FRAM memory.

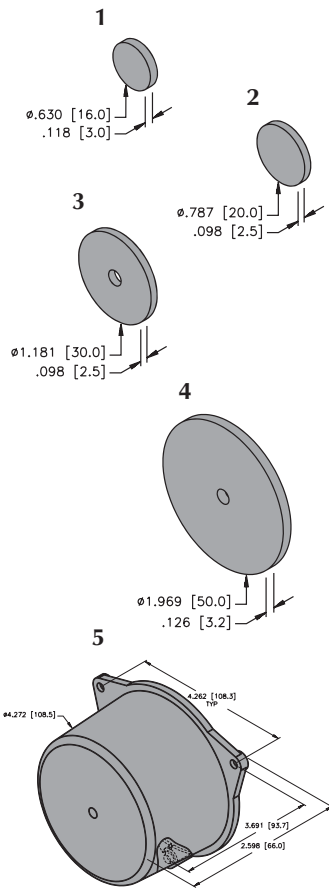
Part Number	TN-M30-H1147
ID Number	M7030004
Mounting Mode	Flush
Ambient temperature	-25 to +70°C (-13 to +158°F)
Data Transfer	Inductive
Output function	4-wire, write/read
Operating frequency	13.56 MHz
Housing	Threaded barrel, M30x1
Housing material	Metal, CuZn, chrome plated
Material active face	Plastic, PA12-GF30
Connection	Connector, M12x1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection	IP 67
Power On Indication	LED solid
Read/write head off	LED .5 Hz
TAG with air interface	LED 3 Hz
Wiring	
Maximum cable length	50 m

Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

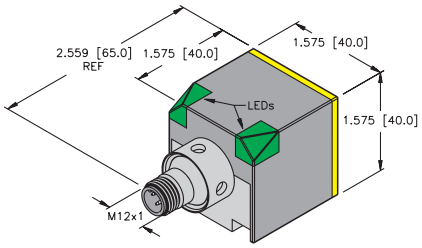
Associated Data Carrier

Housing	Fig.	Part Number	ID Number	Read/Write Range			Zone Width		Distance
							Length		minimum between two read/write heads[1]
				Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
	1	TW-R16-B128	M6900501	.630 (16)	.354 (9)	1.260 (32)	1.102 (28)	1.417 (36)	5.669 (144)
	2	TW-R20-B128	M6900502	.630 (16)	.394 (10)	1.299 (33)	1.102 (28)	1.299 (33)	5.197 (132)
	3	TW-R30-B128	M6900503	.787 (20)	.433 (11)	1.575 (40)	1.260 (32)	1.614 (41)	6.457 (164)
	4	TW-R50-B128	M6900504	1.063 (27)	.512 (13)	2.126 (54)	1.968 (50)	2.480 (63)	9.921 (252)
	2	TW-R20-K2	M6900505	.551 (14)	.315 (8)	1.142 (29)	1.024 (26)	1.142 (29)	4.567 (116)
	3	TW-R30-K2	M6900506	.709 (18)	.394 (10)	1.417 (36)	1.102 (28)	1.417 (36)	5.669 (144)
	4	TW-R50-K2	M6900507	.945 (24)	.472 (12)	1.890 (48)	1.772 (45)	2.205 (56)	8.819 (224)
	5	TW-R50-90-HT-B128	M1542326	1.063 (27)	.512 (13)	2.126 (54)	1.968 (50)	2.480 (63)	9.921 (252)
	5	TW-R50-90-HT-K2	M1542329	.945 (24)	.472 (12)	1.890 (48)	1.772 (45)	2.205 (56)	8.819 (224)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.
10 mm air gap required when mounting to ferrous metal. See accessories on page 26 for spacers.
Ambient temperature: -25 to +85°C (-13 to +185°F); (-40 to +210°C (-40 to +410°F) for TW-R*-HT....).

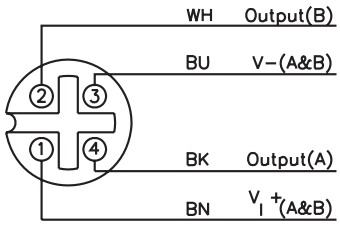
RFID System - Read/Write Head

- **Rectangular, 40 mm High**
- **5-positions Turnable**
- **Plastic, PBT-GF30-V0**
- **Partial Embedding**
- **Power Supply (24 VDC) and Function via *BL ident* Interfaces**
- **Connector (M12) *eurofast*®, Connection via *BL ident* Connecting Cable**

Housing	Part Number	Function Principle
	TN-CK40-H1147	The ***BL ident*** read/write head (transceiver) is used to exchange data with the data carrier (TAG). Together they form an air interface whose size depends on the combination of transceiver and TAG. The data carriers are passive. When they enter the air interface of the transceiver, the power from the transceiver is transferred inductively and data transfer completed. ***BL ident*** TAGs on the following page can be combined with this ***BL ident*** transceiver. The read/write interval varies between .433-3.184 in. (11-81 mm). TAGs available with EEPROM or FRAM memory.

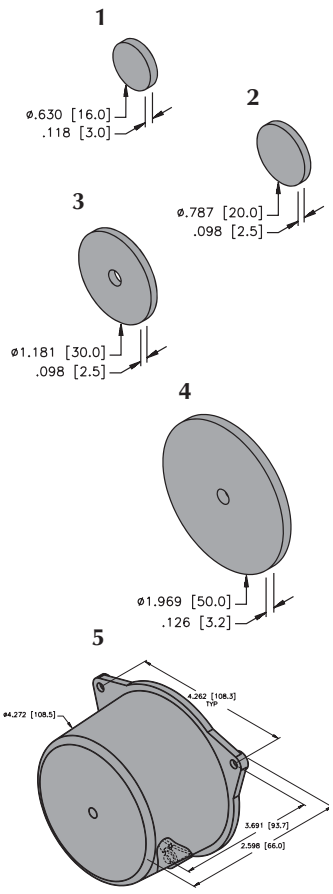
Part Number	TN-CK40-H1147
ID Number	M7030006
Mounting Mode	Non flush, flush mounting possible
Ambient temperature	-25 to +70°C (-13 to +158°F)
Data Transfer	Inductive
Output function	4-wire, write/read
Operating frequency	13.56 MHz
Housing	Rectangular, CK40
Housing material	Plastic, PBT-GF30-V0, black
Material active face	Plastic, PBT-GF30-V0, yellow
Connection	Connector, M12x1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection	IP 67
Power On Indication	LED solid
Read/write head off	LED .5 Hz
TAG with air interface	LED 3 Hz
Wiring	
Maximum cable length	50 m
Accessories	Fixing clamp BS4-CK40 (included in delivery)

Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

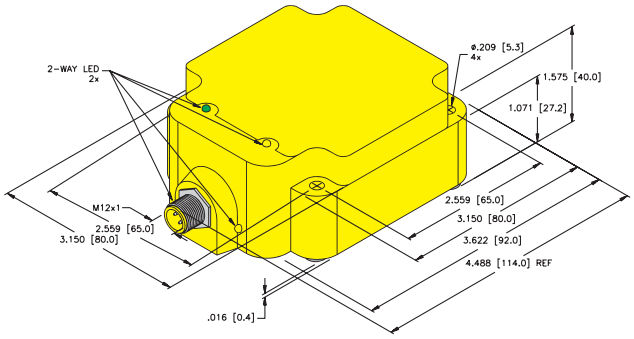
Associated Data Carrier

Housing	Fig.	Part Number	ID Number	Read/Write Range			Zone Width		Distance
							Length		minimum between two read/write heads[1]
				Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
	1	TW-R16-B128	M6900501	.866 (22)	.433 (11)	1.772 (45)	1.260 (32)	1.575 (40)	6.299 (160)
	2	TW-R20-B128	M6900502	.945 (24)	.472 (12)	1.929 (49)	1.457 (37)	1.850 (47)	7.402 (188)
	3	TW-R30-B128	M6900503	1.063 (27)	.512 (13)	2.126 (54)	1.693 (43)	2.126 (54)	8.504 (216)
	4	TW-R50-B128	M6900504	1.575 (40)	.866 (22)	3.189 (81)	2.520 (64)	3.189 (81)	12.756 (324)
	2	TW-R20-K2	M6900505	.866 (22)	.394 (10)	1.732 (44)	1.299 (33)	1.654 (42)	6.614 (168)
	3	TW-R30-K2	M6900506	.945 (24)	.433 (11)	1.890 (48)	1.496 (38)	1.890 (48)	7.559 (192)
	4	TW-R50-K2	M6900507	1.417 (36)	.748 (19)	2.835 (72)	2.244 (57)	2.835 (72)	11.339 (288)
	5	TW-R50-90-HT-B128	M1542326	1.575 (40)	.866 (22)	3.189 (81)	2.520 (64)	3.189 (81)	12.756 (324)
	5	TW-R50-90-HT-K2	M1542329	1.417 (36)	.748 (19)	2.835 (72)	2.244 (57)	2.835 (72)	11.339 (288)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.
10 mm air gap required when mounting to ferrous metal. See accessories on page 26 for spacers.
Ambient temperature: -25 to +85°C (-13 to +185°F); (-40 to +210°C (-40 to +410°F) for TW-R*-HT....).

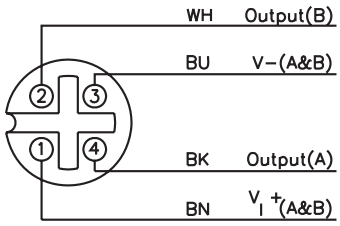
RFID System - Read/Write Head

- **Rectangular, 40 mm High**
- **5-positions Turnable**
- **Plastic, PBT-GF30-V0**
- **Partial Embedding**
- **Power Supply (24 VDC) and Function via *BL ident* Interfaces**
- **Connector (M12) *eurofast*®, Connection via *BL ident* Connecting Cable**

Housing	Part Number	Function Principle
	TN-Q80-H1147	The ***BL ident*** read/write head (transceiver) is used to exchange data with the data carrier (TAG). Together they form an air interface whose size depends on the combination of transceiver and TAG. The data carriers are passive. When they enter the air interface of the transceiver, the power from the transceiver is transferred inductively and data transfer completed. ***BL ident*** TAGs on the following page can be combined with this ***BL ident*** transceiver. The read/write interval varies between .512-4.606 in. (13-117 mm). TAGs available with EEPROM or FRAM memory.

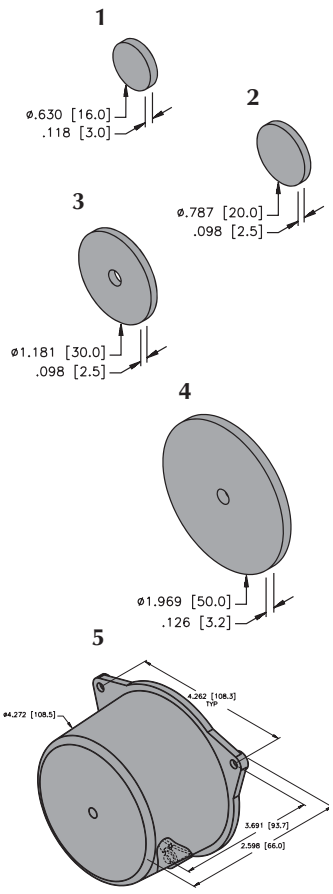
Part Number	TN-Q80-H1147
ID Number	M7030007
Mounting Mode	Non flush, flush mounting possible
Ambient temperature	-25 to +70°C (-13 to +158°F)
Data Transfer	Inductive
Output function	4-wire, write/read
Operating frequency	13.56 MHz
Housing	Rectangular, CK40
Housing material	Plastic, PBT-GF30-V0, yellow
Material active face	Plastic, PBT-GF30-V0, yellow
Connection	Connector, M12x1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection	IP 67
Power On Indication	LED solid
Read/write head off	LED .5 Hz
TAG with air interface	LED 3 Hz
Wiring	
Maximum cable length	50 m

Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

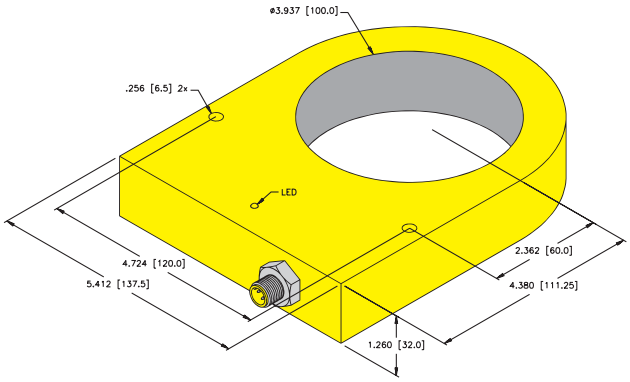
Associated Data Carrier

Housing	Fig.	Part Number	ID Number	Read/Write Range			Zone Width		Distance
							Length		minimum between two read/write heads[1]
				Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
	**1**	TW-R16-B128	M6900501	1.220 (31)	.512 (13)	2.480 (63)	1.968 (50)	2.480 (63)	9.921 (252)
	2	TW-R20-B128	M6900502	1.299 (33)	.709 (18)	2.638 (67)	2.244 (57)	2.835 (72)	11.339 (288)
	3	TW-R30-B128	M6900503	1.575 (40)	.866 (22)	3.150 (80)	2.520 (64)	3.189 (81)	12.756 (324)
	4	TW-R50-B128	M6900504	2.283 (58)	1.220 (31)	4.606 (117)	3.661 (93)	4.606 (117)	18.425 (468)
	2	TW-R20-K2	M6900505	1.181 (30)	.630 (16)	2.362 (60)	2.008 (51)	2.520 (64)	10.079 (256)
	3	TW-R30-K2	M6900506	1.417 (36)	.787 (20)	2.835 (72)	2.283 (58)	2.835 (72)	11.339 (288)
	4	TW-R50-K2	M6900507	2.047 (52)	1.063 (27)	4.134 (105)	3.268 (83)	4.134 (105)	16.535 (420)
	5	TW-R50-90-HT-B128	M1542326	2.283 (58)	1.220 (31)	4.606 (117)	3.661 (93)	4.606 (117)	18.425 (468)
	5	TW-R50-90-HT-K2	M1542329	2.047 (52)	1.063 (27)	4.134 (105)	3.268 (83)	4.134 (105)	16.535 (420)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.
10 mm air gap required when mounting to ferrous metal. See accessories on page 26 for spacers.
Ambient temperature: -25 to +85°C (-13 to +185°F); (-40 to +210°C (-40 to +410°F) for TW-R*-HT....).

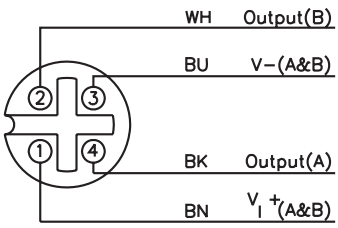
RFID System - Read/Write Head

- **Ring Type, 32 mm High**
- **Plastic, ABS**
- **Non-flush Mountable**
- **Power Supply (24 VDC) and Function via *BL ident* Interfaces**
- **Connector (M12) *eurofast*®, Connection via *BL ident* Connecting Cable**

Housing	Part Number	Function Principle
	TN-S32XL-H1147	The ***BL ident*** read/write head (transceiver) is used to exchange data with the data carrier (TAG). Together they form an air interface whose size depends on the combination of transceiver and TAG. The data carriers are passive. When they enter the air interface of the transceiver, the power from the transceiver is transferred inductively and data transfer completed. ***BL ident*** TAGs on the following page can be combined with this ***BL ident*** transceiver. The read/write interval varies between .630-5.669 in. (16-144 mm). All TAGs available with EEPROM or FRAM memory.

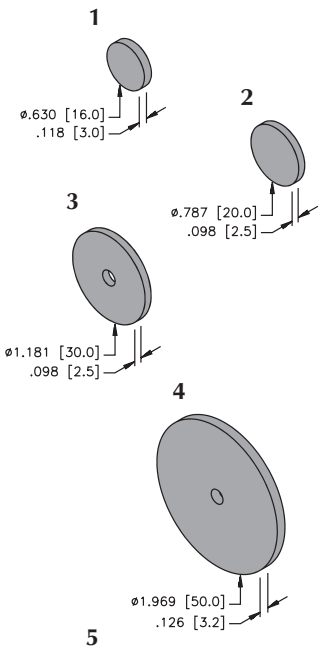
Part Number	TN-S32XL-H1147
ID Number	M7030008
Mounting Mode	Non flush
Ambient temperature	-25 to +70°C (-13 to +158°F)
Data Transfer	Inductive
Output function	4-wire, write/read
Operating frequency	13.56 MHz
Housing	Ring type, S32
Ring inner diameter	100 mm
Housing material	Plastic
Material active face	Plastic, ABS, yellow
Connection	Connector, M12x1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection	IP 67
Power On Indication	LED solid
Read/write head off	LED .5 Hz
TAG with air interface	LED 3 Hz
Wiring	
Maximum cable length	50 m

Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

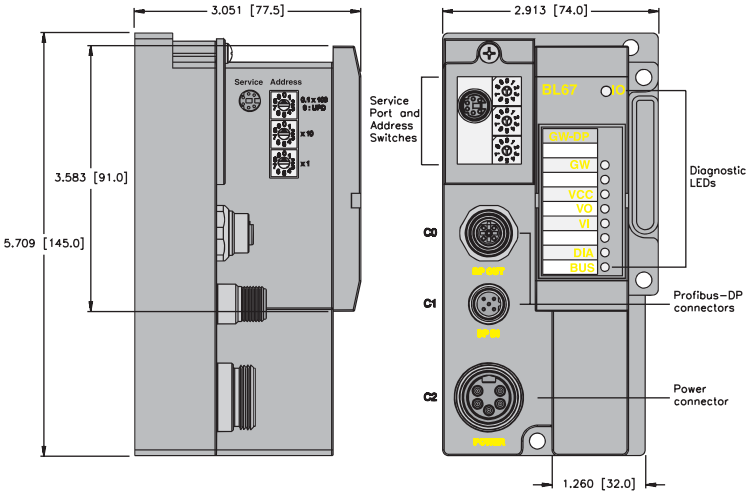
Associated Data Carrier

Housing	Fig.	Part Number	ID Number	Read/Write Range			Zone Width		Distance
							Length		minimum between two read/write heads[1]
				Recomm. inches (mm)	min. inches (mm)	max. inches (mm)	min. inches (mm)	max. inches (mm)	inches (mm)
	1	TW-R16-B128	M6900501	1.220 (31)	.630 (16)	2.480 (63)	2.835 (72)	3.543 (90)	14.173 (360)
	2	TW-R20-B128	M6900502	1.417 (36)	.709 (18)	2.835 (72)	3.228 (82)	4.055 (103)	16.220 (412)
	3	TW-R30-B128	M6900503	1.772 (45)	.866 (22)	3.543 (90)	3.661 (93)	4.606 (117)	18.425 (468)
	4	TW-R50-B128	M6900504	2.835 (72)	1.417 (36)	5.669 (144)	4.803 (122)	6.024 (153)	24.094 (612)
	2	TW-R20-K2	M6900505	1.260 (32)	.630 (16)	2.520 (64)	2.913 (74)	3.701 (94)	14.803 (376)
	3	TW-R30-K2	M6900506	1.575 (40)	.787 (20)	3.189 (81)	3.307 (84)	4.213 (107)	16.850 (428)
	4	TW-R50-K2	M6900507	2.520 (64)	1.181 (30)	5.079 (129)	4.370 (111)	5.433 (138)	21.732 (552)
	5	TW-R50-90-HT-B128	M1542326	2.835 (72)	1.417 (36)	5.669 (144)	4.803 (122)	6.024 (153)	24.094 (612)
	5	TW-R50-90-HT-K2	M1542329	2.520 (64)	1.181 (30)	5.079 (129)	4.370 (111)	5.394 (137)	21.732 (552)

[1] Smaller intervals are possible by alternating switching the read/write heads on and off with software.
10 mm air gap required when mounting to ferrous metal. See accessories on page 26 for spacers.
Ambient temperature: -25 to +85°C (-13 to +185°F); (-40 to +210°C (-40 to +410°F) for TW-R*-HT....).

RFID System - Interface for PROFIBUS®-DP (DPV1) - IP 67

- Connection of Up to 8 *BL ident* Read/Write Heads
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- Two 5-pin Inverse-Coded M12 (*eurofast*®) Connectors for Fieldbus Connection
- 5-pin 7/8" (*minifast*®) Connector for Power Supply
- M12 (*eurofast*) Connector for Connection of Read/Write Heads Using *BL ident* Connecting Cable
- Compatible with Siemens S7-300 PLC's*

Housing	Part Number	ID Number	Function Principle
	BL67-GW-DPV1	M6827232	The ***BL ident*** interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

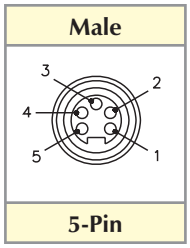
* Other processors may be supported. Contact factory for assistance or check www.turck.com.
See Fieldbus I/O and Media catalog for specific gateway specifications.

Part Number	BL67-GW-DPV1
ID Number	M6827232
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	1 to 125
Fieldbus addressing	3 decimal rotary switches
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	2 x M12, 5-pole, inverse coded
Power supply connection	5-pole, 7/8" (***minifast***®)-connector
Fieldbus terminator	External
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	M12 (***eurofast***®) female connector
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95% (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2

Pinouts

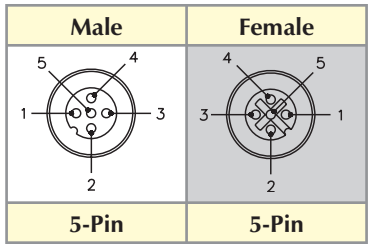
minifast

1 = Gnd
2 = Gnd
3 = PE
4 = V_1
5 = V_0



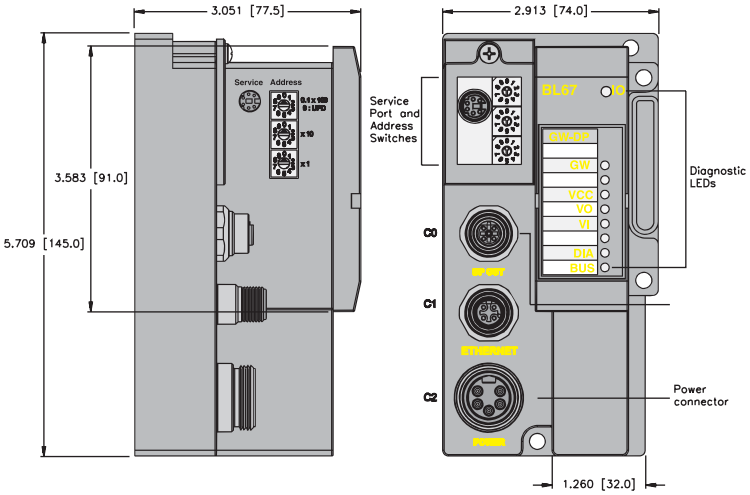
eurofast

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L



RFID System - Interface for PROFIBUS®-DP (DPV1) - IP 67

- Connection of Up to 8 *BL ident* Read/Write Heads
- Programmable According to IEC 61131-3 with CoDeSys
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- One 4-pin M12 (*eurofast*®) Connector, D-coded, for Fieldbus Connection
- 5-pin 7/8" (*minifast*®) Connector for Power Supply
- M12 (*eurofast*) Connector for Connection of Read/Write Heads Using *BL ident* Connecting Cable

Housing	Part Number	ID Number	Function Principle
	BL67-PG-DP	M6827240	The ***BL ident*** programmable interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. By using a programmable gateway, network and PLC usage will decrease. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

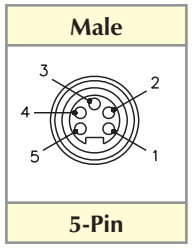
See Fieldbus I/O and Media catalog for specific gateway specifications.

Part Number	BL67-PG-DP
ID Number	M6827240
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	600 mA + 30 mA/module (2 channel)
Fieldbus Address Range	1 to 125
Fieldbus addressing	3 decimal rotary switches
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	2 x M12, 5-pole, inverse coded
Power supply connection	5-pole, 7/8" (***minifast***®)-connector
Fieldbus terminator	External
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	M12 (***eurofast***®) female connector
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95% (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2
PLC Data	
Programming	CoDeSys V2.3
Released for CoDeSys Version	V 2.3.5.8
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Application tasks	1
Number of POUs	1024
Programming interface	RS232 interface, Ethernet RISC 32 bit
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Real time clock	Yes
Program memory	512 kByte
Data memory	512 kByte
Input data	4 kByte
Output data	4 kByte
Non-volatile memory	16 kByte

Pinouts

minifast

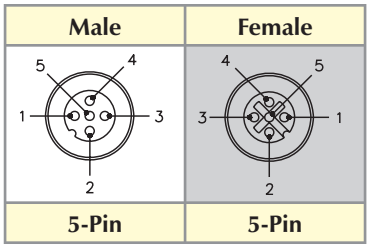
1 = Gnd
2 = Gnd
3 = PE
4 = V_1
5 = V_0



eurofast

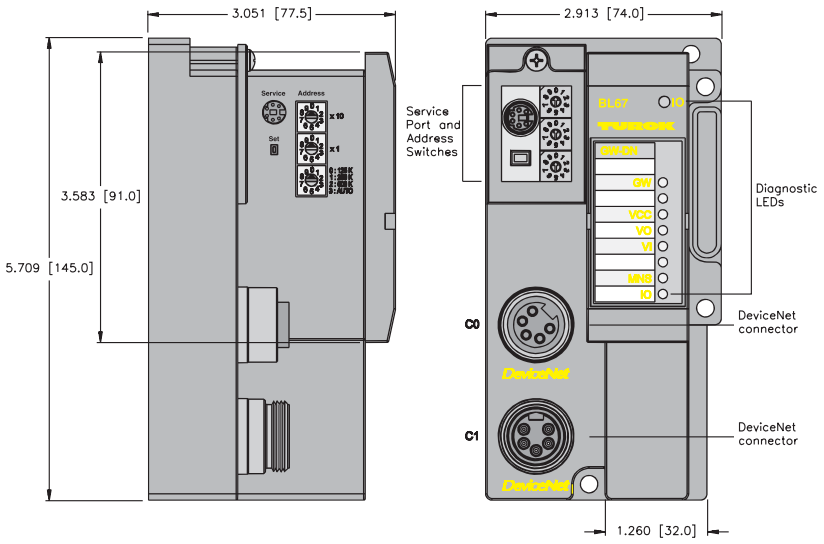
1 = 5 VDC*
2 = BUS_A
3 = Gnd
4 = BUS_B
5 = Shield

* Female Connector only



RFID System - Interface for DeviceNet™ - IP 67

- Connection of Up to 8 *BL ident* Read/Write Heads
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- Two 5-pin 7/8" (*minifast*®) Connectors for Fieldbus Connection
- M12 (*eurofast*) Connector for Connection of Read/Write Heads Using *BL ident* Connecting Cable
- Compatible with Allen-Bradley Controllogix and SLC500 Platforms*

Housing	Part Number	ID Number	Function Principle
	BL67-GW-DN	M6827183	The ***BL ident*** interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/ write heads.

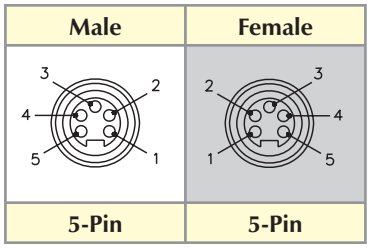
* Other processors may be supported. Contact factory for assistance or check www.turck.com.
See Fieldbus I/O and Media catalog for specific gateway specifications.

Part Number	BL67-GW-DN
ID Number	M6827183
Power Supply	24 VDC
Permissible range	11 to 26 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	1 to 63
Fieldbus addressing	2 decimal rotary switches
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	2 x 7/8" (***minifast***®), 5-pole
Power supply connection	From DeviceNet™ cable
Fieldbus terminator	External
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	M12 (***eurofast***®) female connector
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2

Pinouts

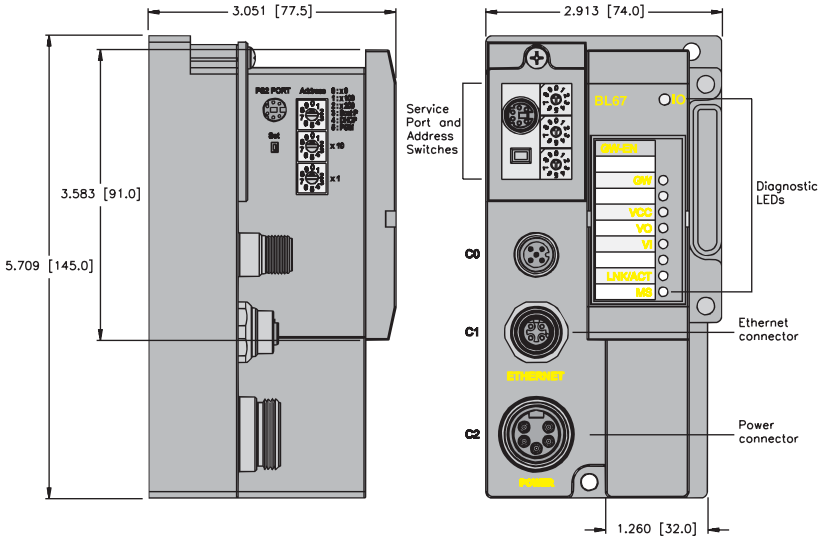
minifast

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L



RFID System - Interface for Modbus-TCP - IP 67

- Connection of Up to 8 *BL ident* Read/Write Heads
- Programmable According to IEC 61131-3 with CoDeSys
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- One 4-Pin M12 (*eurofast*®) Connector, D-Coded, for Fieldbus Connection
- One 5-Pin 7/8" (*minifast*®) Connector for Power Supply
- M12 (*eurofast*) Connector for Connection of Read/Write Heads Using *BL ident* Connecting Cable

Housing	Part Number	ID Number	Function Principle
	BL67-PG-EN	M6827241	The ***BL ident*** programmable interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. By using a programmable gateway, network and PLC usage will decrease. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

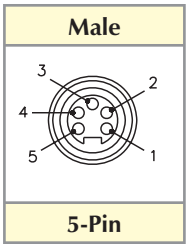
See Fieldbus I/O and Media catalog for specific gateway specifications.

Part Number	BL67-PG-EN
ID Number	M6827241
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	Rotary switches, BOOTP, DHCP, I/O-ASSISTANT
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	M12 (***eurofast***®) -Buchse, 4-pole, D-coded
Power supply connection	5-pole, 7/8" (***minifast***®) -connector
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	M12 (***eurofast***) female connector
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2
PLC Data	
Programming	CoDeSys V2.3
Released for CoDeSys Version	V 2.3.5.8
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Application tasks	1
Number of POUs	1024
Programming interface	RS232 interface, Ethernet
	RISC
	32 bit
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Real time clock	Yes
Program memory	512 kByte
Data memory	512 kByte
Input data	4 kByte
Output data	4 kByte
Non-volatile memory	16 kByte

Pinouts

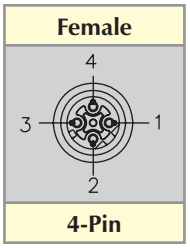
minifast

1 = Gnd
2 = Gnd
3 = PE
4 = V_1
5 = V_0



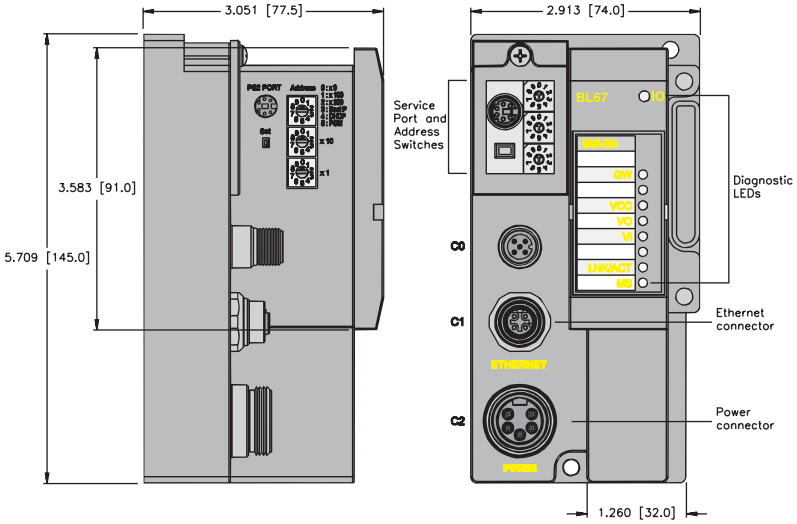
eurofast

1 = TD+
2 = RD+
3 = TD-
4 = RD



RFID System - Interface for PROFINET IO - IP 67

- Connection of Up to 8 *BL ident* Read/Write Heads
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- One 4-Pin M12 (*eurofast*®) Connector, D-Coded, for Fieldbus Connection
- One 5-Pin 7/8" (*minifast*®) Connector for Power Supply
- M12 (*eurofast*) Connector for Connection of Read/Write Heads Using *BL ident* Connecting Cable

Housing	Part Number	ID Number	Function Principle
	BL67-GW-EN-PN	M6827228	The ***BL ident*** interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

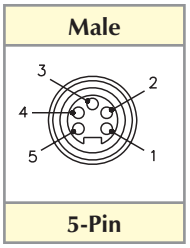
See Fieldbus I/O and Media catalog for specific gateway specifications.

Part Number	BL67-GW-EN-PN
ID Number	M6827228
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	PROFINET conform or with Rotary switches, BOOTP, DHCP, I/O-ASSISTANT
Service interface	PS/2 female connector for I/O-ASSISTANT
Fieldbus connection	M12 (***eurofast***®) -female connector, 4-pole, D-coded
Power supply connection	5-pole, 7/8"(***minifast***®) -connector
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	M12 (***eurofast***) female connector
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2

Pinouts

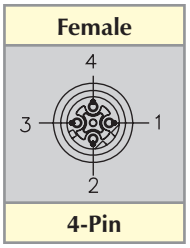
minifast

1 = Gnd
2 = Gnd
3 = PE
4 = V_1
5 = V_0



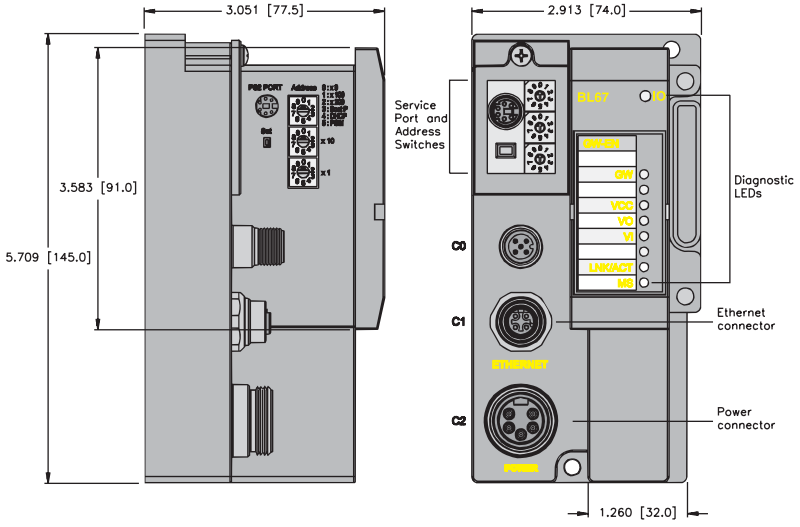
eurofast

1 = TD+
2 = RD+
3 = TD-
4 = RD



RFID System - Interface for EtherNet/IP - IP 67

- Connection of Up to 8 *BL ident* Read/Write Heads
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- One 4-Pin M12 (*eurofast*®) Connector, D-Coded, for Fieldbus Connection
- One 5-Pin 7/8" (*minifast*®) Connector for Power Supply
- M12 (*eurofast*) Connector for Connection of Read/Write Heads Using *BL ident* Connecting Cable
- Compatible with Allen-Bradley Controllogix Platform*

Housing	Part Number	ID Number	Function Principle
	BL67-GW-EN-IP	M6827229	The ***BL ident*** interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

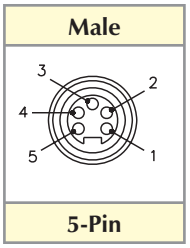
* Other processors may be supported. Contact factory for assistance or check www.turck.com.
See Fieldbus I/O and Media catalog for specific gateway specifications.

Part Number	BL67-GW-EN-IP
ID Number	M6827229
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	Rotary switches, BOOTP, DHCP, I/O-ASSISTANT
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	M12 (***eurofast***®) -Buchse, 4-pole, D-coded
Power supply connection	5-pole, 7/8“(***minifast***®) -connector
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	M12 (***eurofast***) female connector
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidty	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2

Pinouts

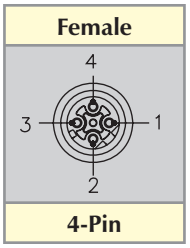
minifast

1 = Gnd
2 = Gnd
3 = PE
4 = V_1
5 = V_0



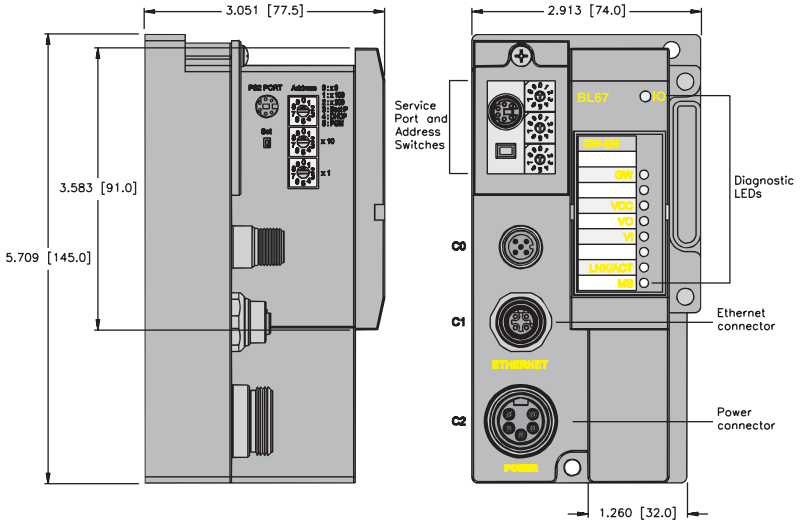
eurofast

1 = TD+
2 = RD+
3 = TD-
4 = RD



RFID System - Interface for EtherNet/IP - IP 67

- Connection of Up to 8 *BL ident* Read/Write Heads
- Programmable According to IEC 61131-3 with CoDeSys
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- One 4-Pin M12 (*eurofast*®) Connector, D-Coded, for Fieldbus Connection
- One 5-Pin 7/8" (*minifast*®) Connector for Power Supply
- M12 (*eurofast*) Connector for Connection of Read/Write Heads Using *BL ident* Connecting Cable

Housing	Part Number	ID Number	Function Principle
	BL67-PG-EN-IP	M6827246	The ***BL ident*** programmable interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. By using a programmable gateway network and PLC usage will decrease. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

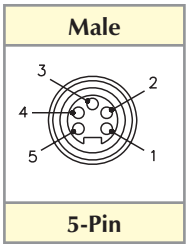
See Fieldbus I/O and Media catalog for specific gateway specifications.

Part Number	BL67-PG-EN-IP
ID Number	M6827246
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	Rotary switches, BOOTP, DHCP, I/O-ASSISTANT
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	M12 (***eurofast***®) -Buchse, 4-pole, D-coded
Power supply connection	5-pole, 7/8“(***minifast***®) -connector
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	M12 (***eurofast***) female connector
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidty	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2
PLC Data	
Programming	CoDeSys V2.3
Released for CoDeSys Version	V 2.3.5.8
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Application tasks	1
Number of POUs	1024
Programming interface	RS232 interface, Ethernet
	RISC
	32 bit
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Real time clock	Yes
Program memory	512 kByte
Data memory	512 kByte
Input data	4 kByte
Output data	4 kByte
Non-volatile memory	16 kByte

Pinouts

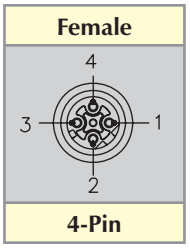
minifast

1 = Gnd
2 = Gnd
3 = PE
4 = V_1
5 = V_0



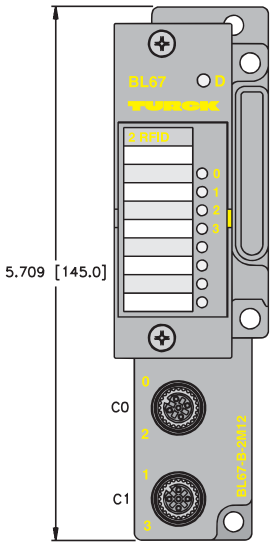
eurofast

1 = TD+
2 = RD+
3 = TD-
4 = RD



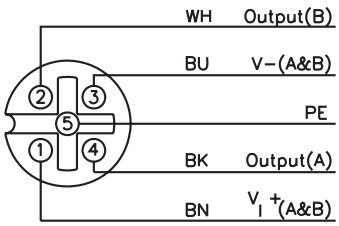
RFID System - Standard RFID Module

- Acyclical Exchange of Data
- Degree of Protection IP 67
- LEDs for Display of Status and Diagnostics
- Electronics Galvanically Isolated From the Field Level Via Opto Couplers
- Connection of 2 *BL ident* Read/Write Heads

Housing	Part Number	ID Number	Function Principle
	BL67-2RFID-A	M6827225	The ***BL ident*** interfaces can be fitted with additional read/write head connections using RFID extension modules. The extension modules are plugged onto purely passive base modules. The field devices are connected via the base modules. Depending on the expansion stage 2, 4, 6 or 8 read/write heads per ***BL ident*** interface can be connected.

Part Number	BL67-2RFID-A
ID Number	M6827225
Number of Channels	2
Nominal voltage Vi	24 VDC
Rated current from field supply	<100 mA
Rated current from module bus	<30 mA
Power loss, typical	<1 W
Inputs/Outputs	
Transmission rate	115.2 kbps
Cable length	50 m
	Electrical isolation of electronics and field level via opto couplers
Simultaneity factor	1
Sensor supply	0.5 A per channel, short-circuit proof
Number of Diagnostic Bytes	4
Number of parameter bytes	8
Number of input bytes	4
Number of output bytes	4
Dimensions (L x W x H)	91 x 32 x 59 mm
Operating temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95% (internal), Level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. to EN 61131

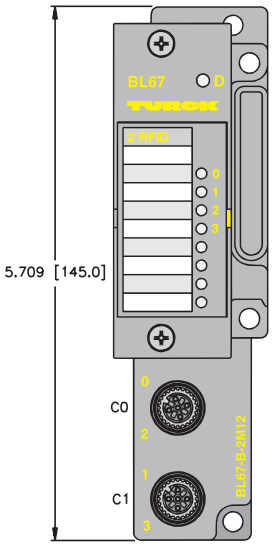
Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

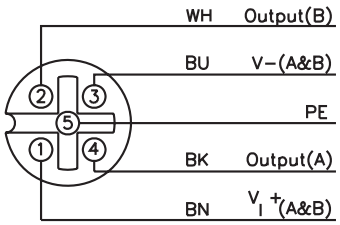
RFID System - RFID Module for DPV0 PLC's

- For Use With the Gateway BL67-GW-DPV1 in DPV0 Mode
- Cyclical Exchange of Data
- Degree of Protection IP 67
- LEDs for Display of Status and Diagnostics
- Electronics Galvanically Isolated From the Field Level Via Opto Couplers
- Connection of 2 *BL ident* Read/Write Heads
- Designed for Profibus DPV0 Systems

Housing	Part Number	ID Number	Function Principle
	BL67-2RFID-C	M6827238	The ***BL ident*** interfaces can be fitted with additional read/write head connections using RFID extension modules. The extension modules are plugged onto purely passive base modules. The field devices are connected via the base modules. Depending on the expansion stage 2, 4, 6 or 8 read/write heads per ***BL ident*** interface can be connected. For use in cyclic systems where acyclic data transmissions is not possible (e.g. Profibus® DPV0).

Part Number	BL67-2RFID-C
ID Number	M6827238
Number of Channels	2
Nominal voltage Vi	24 VDC
Rated current from field supply	<100 mA
Rated current from module bus	<30 mA
Power loss, typical	<1 W
Inputs/Outputs	
Transmission rate	115.2 kbps
Cable length	50 m
	Electrical isolation of electronics and field level via opto couplers
Simultaneity factor	1
Sensor supply	0.5 A per channel, short-circuit proof
Number of Diagnostic Bytes	4
Number of parameter bytes	8
Number of input bytes	4
Number of output bytes	4
Dimensions (L x W x H)	91 x 32 x 59 mm
Operating temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95% (internal), Level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. to EN 61131

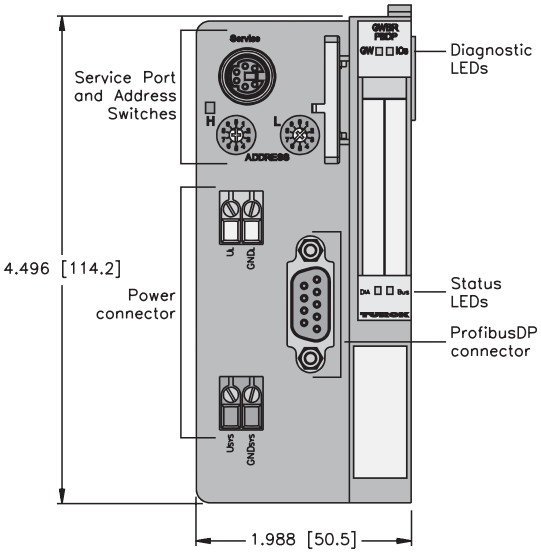
Pinout



Mating Cordset:
RK 4.5T-*-RS 4.5T/S2501

RFID System - Interface for PROFIBUS®-DP (DPV1) - IP 20

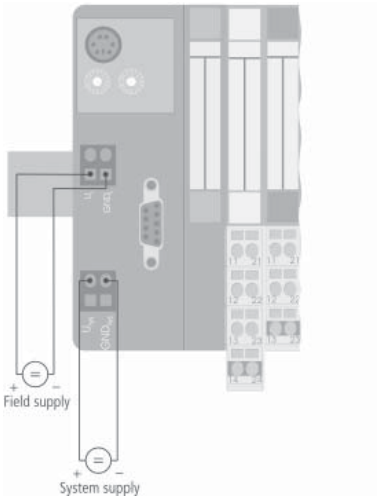
- Interface Between *BL ident* System and PROFIBUS-DP (DPV0)
- Connection of Up to 8 *BL ident* Read/Write Heads
- 2 Decimal Rotating Coding Switches
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- 9-Pin Sub-D Socket
- Connection of Read/Write Heads Using *BL ident* Connecting Cable
- Compatible with Siemens S7-300 Processors*

Housing	Part Number	ID Number	Function Principle
	BL20-GW-DPV1	M6827234	The ***BL ident*** interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

* Other processors may be supported. Contact factory for assitance or check www.turck.com.
See Fieldbus I/O and Media catalog for specific gateway specifications.

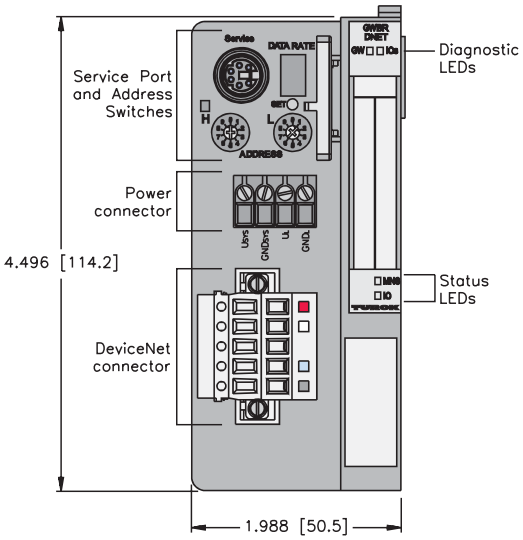
Part Number	BL20-GW-DPV1
ID Number	M6827234
Power Supply	24 VDC / 5 VDC
Field power supply	24 VDC
Permissible range	Acc. EN 61131-2
Rated current from module bus	430 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	1 to 99
Fieldbus addressing	2 rotary switches
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	1 x SUB-D socket
Power supply connection	Screw connection
Fieldbus terminator	External
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	Cage clamp or screw terminals
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidty	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2

Field Power Supply / System Power Supply



RFID System - Interface for DeviceNet™ - IP 20

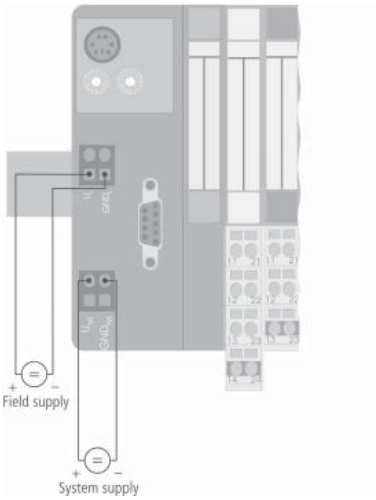
- Interface Between *BL ident* System and DeviceNet
- Connection of Up to 8 *BL ident* Read/Write Heads
- 2 Decimal Rotating Coding Switches
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- Connection to DeviceNet via Open Style Connector
- Connection of Read/Write Heads Using *BL ident* Connecting Cable
- Compatible with Allen-Bradley Controllogix Processors*

Housing	Part Number	ID Number	Function Principle
	BL20-GWBR-DN	M6827168	The ***BL ident*** interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

* Other processors supported. Contact factory for assitance or check www.turck.com
See Fieldbus I/O and Media catalog for specific gateway specifications.

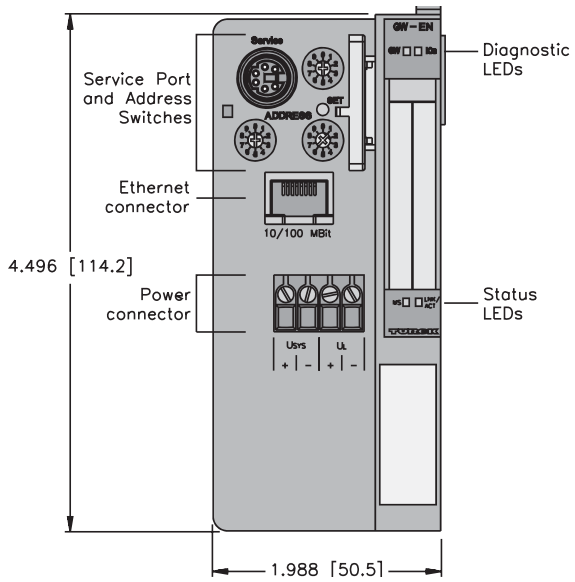
Part Number	BL20-GWBR-DN
ID Number	M6827168
Power Supply	24 VDC / 5 VDC
Field power supply	24 VDC
Permissible range	Acc. EN 61131-2
Rated current from module bus	430 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	1 to 99
Fieldbus addressing	2 rotary switches
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	1 x SUB-D socket
Power supply connection	Screw connection
Fieldbus terminator	External
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	Cage clamp or screw terminals
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidty	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2

Field Power Supply / System Power Supply



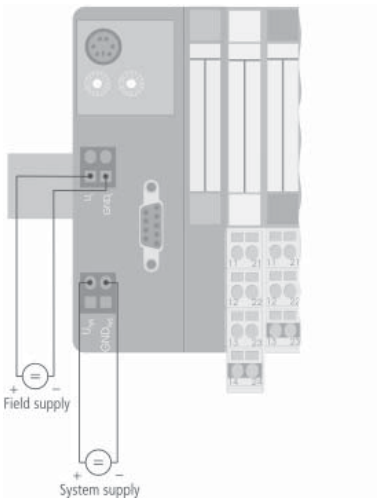
RFID System - Interface for Modbus-TCP - IP 20

- Connection of Up to 8 *BL ident* Read/Write Heads
- Programmable According to IEC 61131-3 with CoDeSys
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- RJ45 Connector for Fieldbus Connection
- Connection of Read/Write Heads Using *BL ident* Connecting Cable

Housing	Part Number	ID Number	Function Principle
	BL20-PG-EN	M6827249	The ***BL ident*** programmable interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. By using a programmable gateway, network and PLC usage will decrease. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

See Fieldbus I/O and Media catalog for specific gateway specifications.

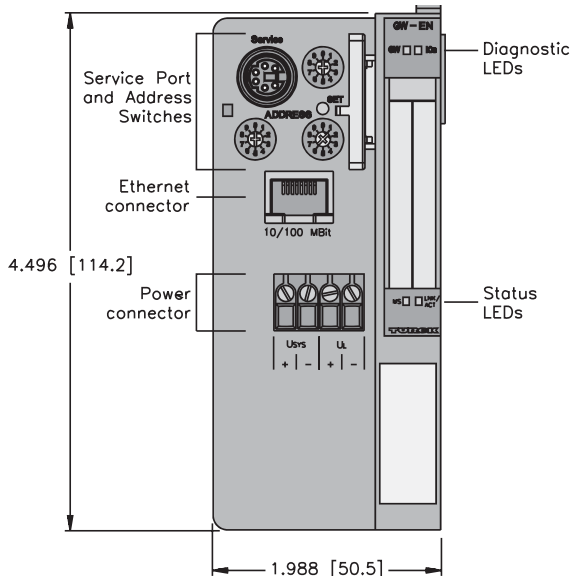
Field Power Supply / System Power Supply



Part Number	BL20-PG-EN
ID Number	M6827249
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	Rotary switches, BOOTP, DHCP, I/O-ASSISTANT
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	RJ45
Power supply connection	Screw connection
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	Cage clamp or screw terminals
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2
PLC Data	
Programming	CoDeSys V2.3
Released for CoDoSys Version	V 2.3.5.8
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Application tasks	1
Number of POUs	1024
Programming interface	RS232 interface, Ethernet
	RISC
	32 bit
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Real time clock	Yes
Program memory	512 kByte
Data memory	512 kByte
Input data	4 kByte
Output data	4 kByte
Non-volatile memory	16 kByte

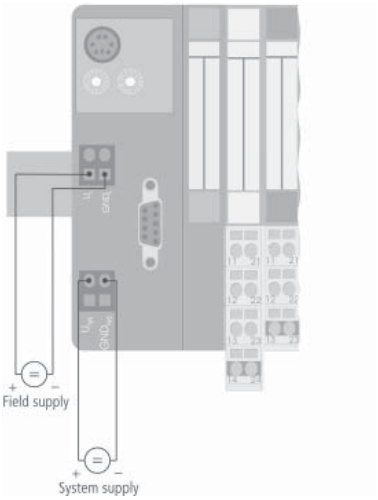
RFID System - Interface for Ethernet/IP IP 20

- Connection of Up to 8 *BL ident* Read/Write Heads
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- RJ45 Connector for Fieldbus Connection
- Connection of Read/Write Heads Using *BL ident* Connecting Cable
- Compatible with Allen-Bradley Controllogix Processor*

Housing	Part Number	ID Number	Function Principle
	BL20-GW-EN-IP	M6827247	The ***BL ident*** interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

* Other processors may be supported. Contact factory for assistance or check www.turck.com.
See Fieldbus I/O and Media catalog for specific gateway specifications.

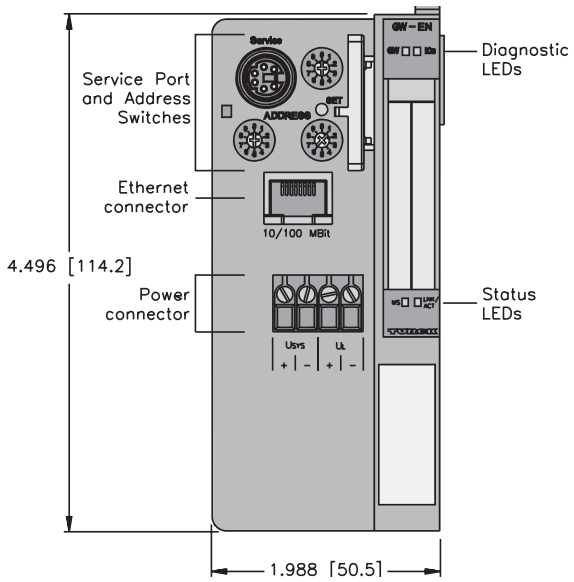
Field Power Supply / System Power Supply



Part Number	BL20-GW-EN-IP
ID Number	M6827247
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	Rotary switches, BOOTP, DHCP, I/O-ASSISTANT
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	RJ45
Power supply connection	Screw connection
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	Cage clamp or screw terminals
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2
PLC Data	
Programming	CoDeSys V2.3
Released for CoDoSys Version	V 2.3.5.8
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Application tasks	1
Number of POUs	1024
Programming interface	RS232 interface, Ethernet
	RISC
	32 bit
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Real time clock	Yes
Program memory	512 kByte
Data memory	512 kByte
Input data	4 kByte
Output data	4 kByte
Non-volatile memory	16 kByte

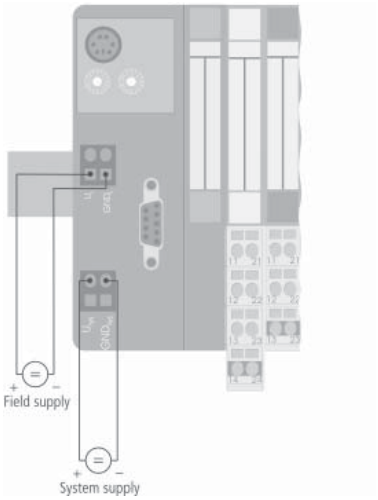
RFID System - Interface for Ethernet/IP IP 20

- Connection of Up to 8 *BL ident* Read/Write Heads
- Programmable According to IEC 61131-3 with CoDeSys
- LEDs for Display of Power Supply, Collective and Bus Errors as Well as Status and Diagnostics
- RJ45 Connector for Fieldbus Connection
- Connection of Read/Write Heads Using *BL ident* Connecting Cable

Housing	Part Number	ID Number	Function Principle
	BL20-PG-EN-IP	M6827248	The ***BL ident*** programmable interface serves for connection of the ***BL ident*** system to the higher priority fieldbus. By using a programmable gateway, network and PLC usage will decrease. 2, 4, 6 or 8 read/write heads can be connected, depending on the type of unit. Data exchange is accomplished in parallel with the individual read/write heads.

See Fieldbus I/O and Media catalog for specific gateway specifications.

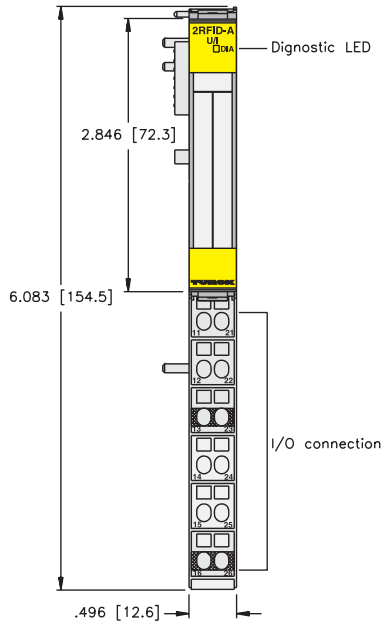
Field Power Supply / System Power Supply



Part Number	BL20-PG-EN-IP
ID Number	M6827248
Power Supply	24 VDC
Permissible range	18 to 30 VDC
Rated current from module bus	650 mA + 30 mA/plate (2 channel)
Fieldbus Address Range	Rotary switches, BOOTP, DHCP, I/O-ASSISTANT
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection	RJ45
Power supply connection	Screw connection
Inputs/Outputs	
Potential separation	Via optocoupler
Read/write head connection	Cage clamp or screw terminals
Read/write head power supply	0.5 A/channel, short-circuit protected
Simultaneity Factor	1
Operating Temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95 % (internal), level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. EN 61131
Shock test	Acc. IEC 68-2-27
Toppling and upsetting	Acc. IEC 68-2-31 and free fall according to IEC 68-2-32
Electromagnetic compatibility	Acc. EN 61131-2
PLC Data	
Programming	CoDeSys V2.3
Released for CoDoSys Version	V 2.3.5.8
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Application tasks	1
Number of POUs	1024
Programming interface	RS232 interface, Ethernet
	RISC
	32 bit
Cycle time	< 1 ms for 1000 IL commands (without I/O cycle)
Real time clock	Yes
Program memory	512 kByte
Data memory	512 kByte
Input data	4 kByte
Output data	4 kByte
Non-volatile memory	16 kByte

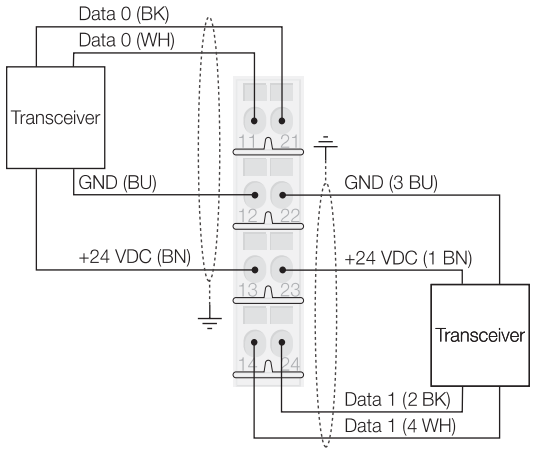
RFID System - Standard RFID Module

- For Use With the Gateway BL20-GW-DPV1 in DPV0 Mode
- Acyclical Exchange of Data
- Degree of Protection IP 20
- LEDs for Display of Status and Diagnostics
- Electronics Galvanically Isolated From the Field Level Via Opto Couplers
- Connection of 2 *BL ident* Read/Write Heads

Housing	Part Number	ID Number	Function Principle
	BL20-2RFID-A	M6827233	The ***BL ident*** interfaces can be fitted with additional read/write head connections using RFID extension modules. The extension modules are plugged onto purely passive base modules. The field devices are connected via the base modules. Depending on the expansion stage 2, 4, 6 or 8 read/write heads per ***BL ident*** interface can be connected.

Part Number	BL20-2RFID-A
ID Number	M6827233
Number of Channels	2
Nominal voltage Vi	24 VDC
Rated current from field supply	<100 mA
Rated current from module bus	<30 mA
Power loss, typical	<1 W
Inputs/Outputs	
Transmission rate	115.2 kbps
Cable length	50 m
	Electrical isolation of electronics and field level via opto couplers
Simultaneity factor	1
Sensor supply	0.5 A per channel, short-circuit proof
Number of Diagnostic Bytes	4
Number of parameter bytes	8
Number of input bytes	4
Number of output bytes	4
Dimensions (L x W x H)	91 x 32 x 59 mm
Operating temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95% (internal), Level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. to EN 61131

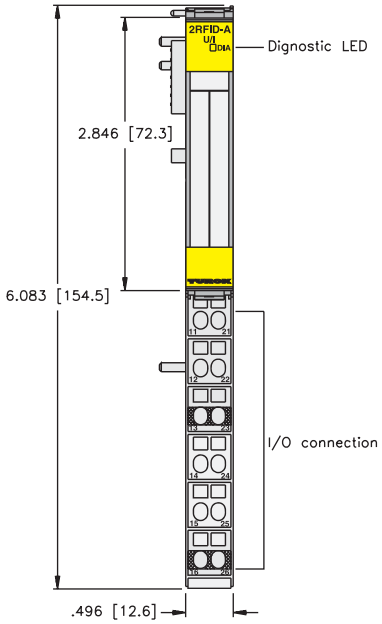
Wiring Diagram



Mating Cordset:
RK 4.5T-*/S2501

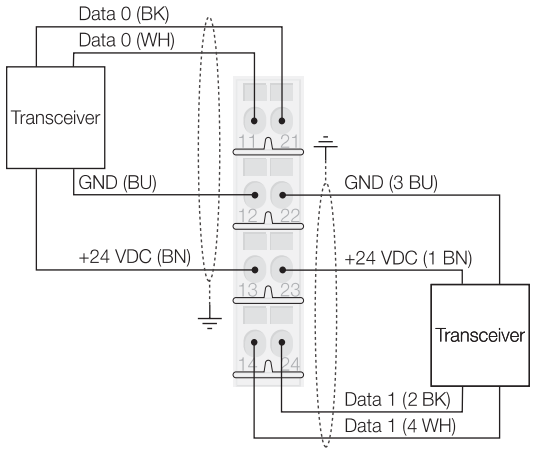
RFID System - RFID Module for DPV0 PLC's

- For Use With the Gateway BL20-GW-DPV1 in DPV0 Mode
- Cyclical Exchange of Data
- Degree of Protection IP 20
- LEDs for Display of Status and Diagnostics
- Electronics Galvanically Isolated From the Field Level Via Opto Couplers
- Connection of 2 *BL ident* Read/Write Heads
- Designed for use in Profibus DPV0 Systems

Housing	Part Number	ID Number	Function Principle
	BL20-2RFID-C	M6827225	The ***BL ident*** interfaces can be fitted with additional read/write head connections using RFID extension modules. The extension modules are plugged onto purely passive base modules. The field devices are connected via the base modules. Depending on the expansion stage 2, 4, 6 or 8 read/write heads per ***BL ident*** interface can be connected. For use in cyclic systems where acyclic data transmissions is not possible (e.g. Profibus® DPV0).

Part Number	BL20-2RFID-C
ID Number	M6827225
Number of Channels	2
Nominal voltage Vi	24 VDC
Rated current from field supply	<100 mA
Rated current from module bus	<30 mA
Power loss, typical	<1 W
Inputs/Outputs	
Transmission rate	115.2 kbps
Cable length	50 m
	Electrical isolation of electronics and field level via opto couplers
Simultaneity factor	1
Sensor supply	0.5 A per channel, short-circuit proof
Number of Diagnostic Bytes	4
Number of parameter bytes	8
Number of input bytes	4
Number of output bytes	4
Dimensions (L x W x H)	91 x 32 x 59 mm
Operating temperature	0 to +55°C (32 to +131°F)
Storage temperature	-25 to +85°C (-13 to +185°F)
Relative humidity	5 to 95% (internal), Level RH-2, no condensation (at 45°C (113°F) storage)
Vibration test	Acc. to EN 61131

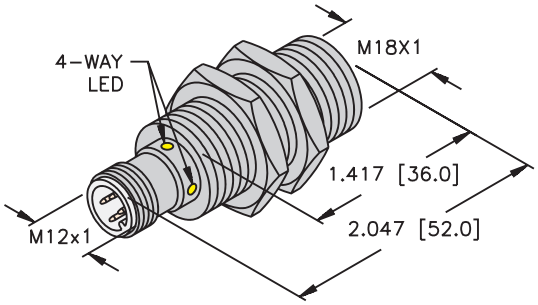
Wiring Diagram



Mating Cordset:
RK 4.5T-*/S2501

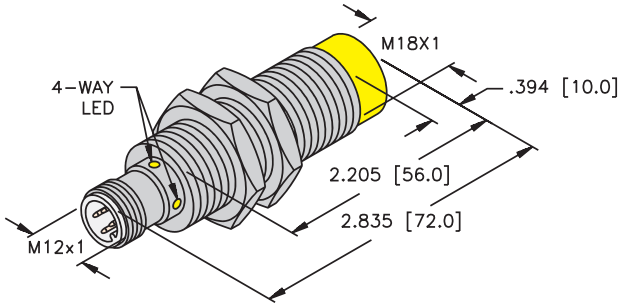
Dimensions

TB-M18-H1147



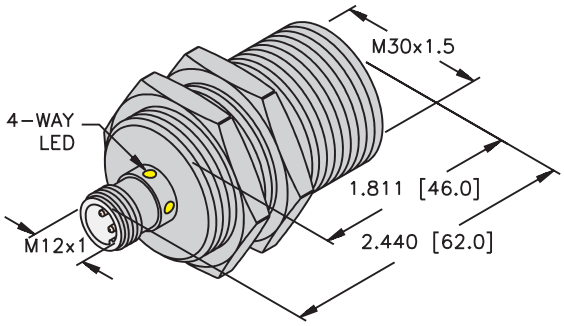
18 mm - Embeddable

TN-M18-H1147



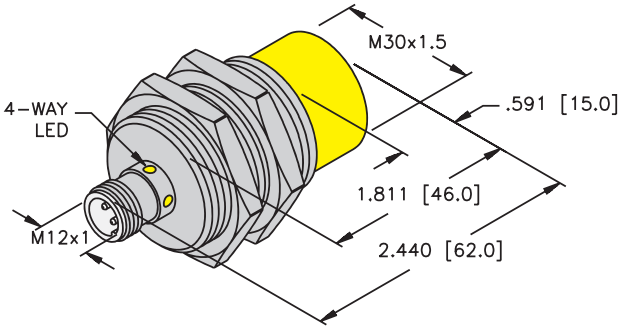
18 mm - Nonembeddable

TB-M30-H1147



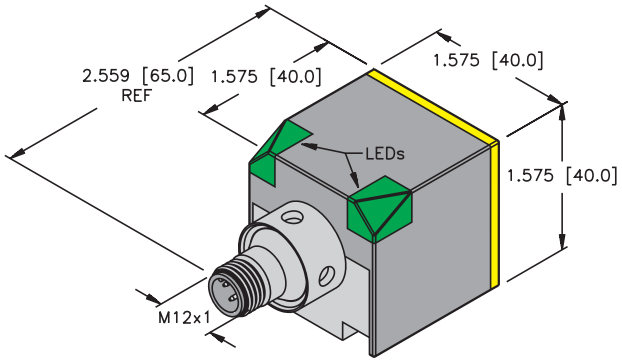
30 mm - Embeddable

TN-M30-H1147



30 mm - Nonembeddable

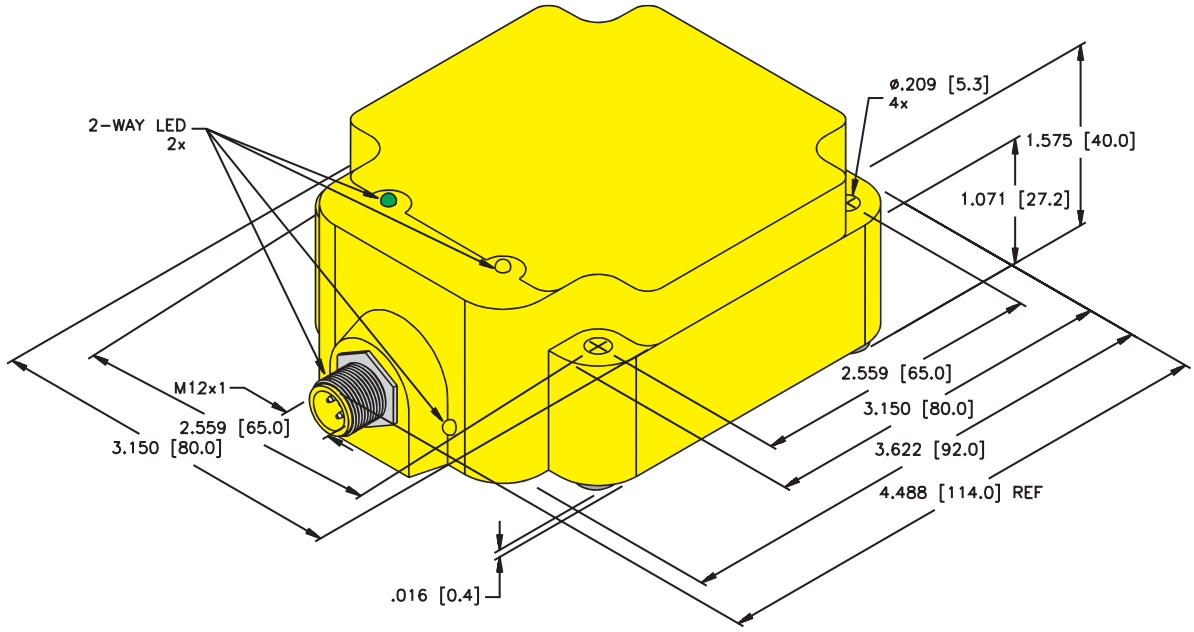
TN-CK40-H1147



40 mm - Nonembeddable

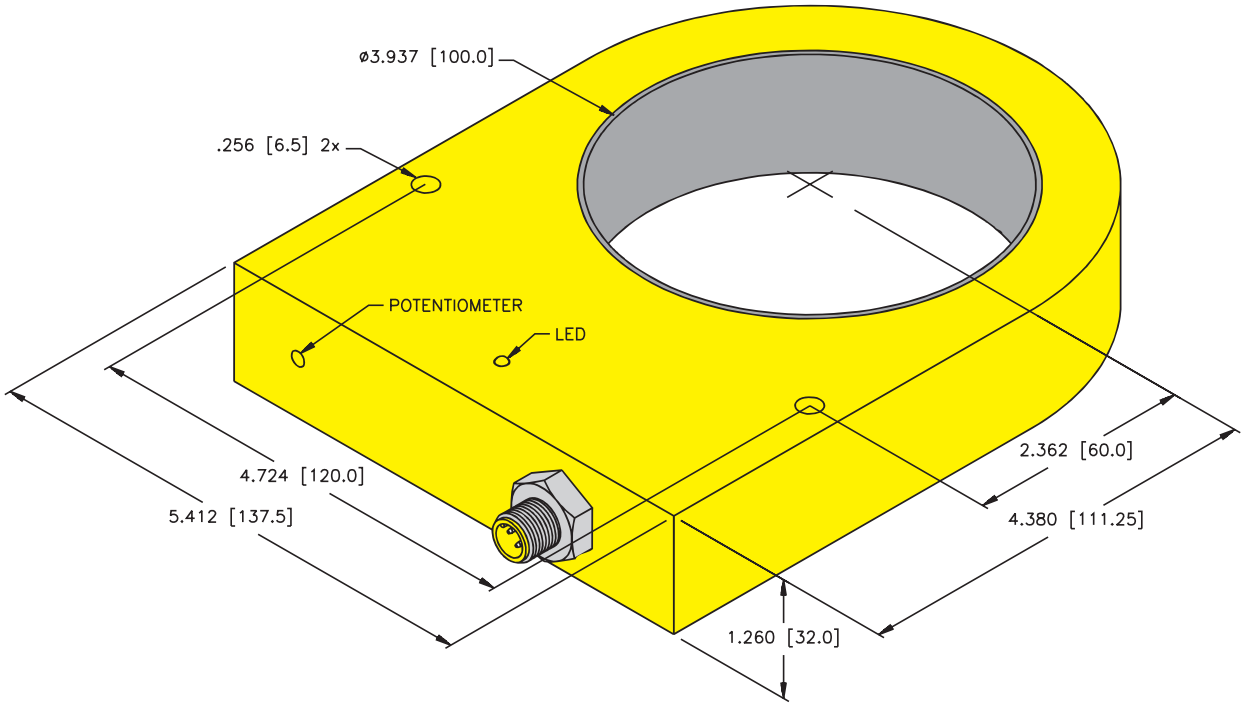
Dimensions

TN-Q80-H1147



80 mm - Nonembeddable

TN-S32XL-H1147



32 mm - Nonembeddable

TURCK
RFID Product Index

TURCK Inc. sells its products through Authorized Distributors. These distributors provide our customers with technical support, service and local stock. TURCK distributors are located nationwide - including all major metropolitan marketing areas.

For Application Assistance or for the location of your nearest **TURCK** distributor, call:

1-800-544-7769

Specifications in this manual are subject to change without notice. **TURCK** also reserves the right to make modifications and makes no guarantee of the accuracy of the information contained herein.

Literature and Media questions or concerns?
Contact Marketing Communications TURCK USA - media@turck.com

RISK OF LOSS

Delivery of the equipment to a common carrier shall constitute delivery to the Purchaser and the risk of loss shall transfer at that time to Purchaser. Should delivery be delayed due to an act or omission on the part of the Purchaser, risk of loss shall transfer to the Purchaser upon notification by TURCK Inc. that the order is complete and ready for shipment.

WARRANTIES

TURCK INC. (hereinafter "**TURCK**") offers five (5) WARRANTIES to cover all products sold. They are as follows:

1) The **12-MONTH WARRANTY** is available for the products listed - generally those not covered by **LIFETIME, 5-YEAR, 24-MONTH** or **18-MONTH** warranty. No registration required.
2) The **18-MONTH WARRANTY** is available for the products listed - generally those not covered by **LIFETIME** or **5-YEAR WARRANTY**. No registration is required.
3) The **24-MONTH WARRANTY** is available for the products listed - generally those not covered by **LIFETIME**, **5-YEAR** or **18-MONTH**. No registration is required.
4) The **5-YEAR WARRANTY** is available generally for the products listed. No registration is required.
5) A **LIFETIME WARRANTY** is available for the products listed. It becomes effective when the accompanying **TURCK LIFETIME WARRANTY REGISTRATION** is completed and returned to **TURCK**.

GENERAL TERMS AND CONDITIONS FOR ALL WARRANTIES

- **12-MONTH STANDARD WARRANTY**
- **18-MONTH STANDARD WARRANTY**
- **24-MONTH STANDARD WARRANTY**
- **5-YEAR WARRANTY**
- **LIFETIME WARRANTY**

TURCK warrants the Products covered by the respective WARRANTY AGREEMENTS to be free from defects in material and workmanship under normal and proper usage for the respective time periods listed above from the date of shipment from **TURCK**. In addition, certain specific terms apply to the various WARRANTIES.

THESE EXPRESS WARRANTIES ARE IN LIEU OF AND EXCLUDE ALL OTHER REPRESENTATIONS MADE - BOTH EXPRESSED AND IMPLIED. THERE ARE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE FOR PRODUCTS COVERED BY THESE TERMS AND CONDITIONS.

TURCK warrants that the goods sold are as described, but no promise, description, affirmation of fact, sample model or representation, oral or written shall be part of an order, unless set forth in these terms and conditions, or are in writing and signed by an authorized representative of **TURCK**. These WARRANTIES do not apply to any Product which has been subject to misuse, negligence, or accident - or to any Product which has been modified or repaired, improperly installed, altered, or disassembled -except according to **TURCK's** written instructions.

These WARRANTIES are subject to the following conditions:

1) These WARRANTIES are limited to the electronic and mechanical performance only, as expressly detailed in the Product specifications and NOT to cosmetic performance.
2) These WARRANTIES shall not apply to any cables attached to, or integrated with the Product. However, the **18-MONTH WARRANTY** shall apply to cables sold separately by **TURCK**.
3) These WARRANTIES shall not apply to any Products which are stored, or utilized, in harsh environmental or electrical conditions outside **TURCK's** written specifications.
4) The WARRANTIES are applicable only to Products shipped from **TURCK** subsequent to January 1, 1988.

ADDITIONAL SPECIFIC TERMS FOR -

(12-MONTH STANDARD WARRANTY) for Linear Displacement Transducers and RFID products.

(18-MONTH STANDARD WARRANTY) FOR ULTRASONIC SENSORS, CABLES AND ALL NON-SENSING PRODUCTS SOLD BY TURCK INC. INCLUDING MULTI-SAFE, MULTI-MODUL, MULTI-CART AND RELATED AMPLIFIER PRODUCTS, RELAYS AND TIMERS.

(24-MONTH STANDARD WARRANTY) FOR ENCODERS.

5-YEAR WARRANTY FOR INDUCTIVE AND CAPACITIVE PROXIMITY SENSORS: The periods covered for the above WARRANTIES and Products shall be 12 MONTHS, 18-MONTHS, 24-MONTHS and 5-YEARS, respectively, from the date of shipment from TURCK.

ADDITIONAL SPECIFIC TERMS FOR - (continued)

LIFETIME WARRANTY (OPTIONAL - REGISTRATION REQUIRED) FOR INDUCTIVE, INDUCTIVE MAGNET OPERATED AND CAPACITIVE PROXIMITY SENSORS SOLD TO THE ORIGINAL PURCHASER FOR THE LIFETIME OF THE ORIGINAL APPLICATION.

The following terms apply to the LIFETIME WARRANTY in addition to the General Terms:

1) This WARRANTY shall be effective only when the LIFETIME WARRANTY REGISTRATION has been completed, signed by the End User and an authorized **TURCK** Representative or Distributor and has been received by **TURCK** no later than six (6) months after installation in the End User's Plant, or two (2) years from the date product was shipped from **TURCK**, whichever is sooner.
2) This warranty is available only to **TURCK's** authorized Representatives, Distributors and to the Original User. (The term "Original User" means that person, firm, or corporation which first uses the Product on a continuous basis in connection with the operation of a production line, piece of machinery, equipment, or similar device.) In the event the ownership of the product is transferred to a person, firm or corporation other than the Original User, this WARRANTY shall terminate.
3) This WARRANTY is applicable only to the Original Application. In the event the machinery, equipment, or production line to which the Product is connected, or on which it is installed, is substituted, changed, moved or replaced, the WARRANTY shall terminate.
4) This WARRANTY shall be valid only if the Product was purchased by the Original User from **TURCK**, or from an authorized **TURCK** Distributor, or was an integral part of a piece of machinery and equipment obtained by the Original user from an Original Equipment Manufacturer, which itself, was purchased directly from **TURCK** or from an authorized Distributor.

PURCHASER'S REMEDIES

This Remedy shall apply to all WARRANTIES. If a **TURCK** Distributor desires to make a WARRANTY Claim, the Distributor shall, if requested by **TURCK**, ship the Product to **TURCK's** factory in Minneapolis, Minnesota, postage or freight prepaid. If the User desires to make a WARRANTY Claim, they shall notify the authorized **TURCK** Distributor from whom it was purchased or, if such Distributor is unknown, shall notify TURCK. TURCK shall, at its option, take any of the following two courses of action for any products which **TURCK** determines are defective in materials or workmanship.

1) Repair or replace the Product and ship the Product to the Original Purchaser or to the authorized **TURCK** Distributor, postage or freight prepaid; or
2) Repay to the Original Purchaser that price paid by the Original Purchaser; provided that if the claim is made under the LIFETIME WARRANTY, and such Product is not then being manufactured by **TURCK**, then the amount to be repaid by **TURCK** to the Original Purchaser shall be reduced according to the following schedule:

Number of Years Since Date of Purchase by Original Purchaser	Percent of Original Purchase Price To Be Paid by TURCK
10	50%
15	25%
20	10%
More than 20	5%

PURCHASER'S REMEDIES SHALL BE LIMITED EXCLUSIVELY TO THE RIGHT OF REPLACEMENT, REPAIR OR REPAYMENT AS PROVIDED AND DOES NOT INCLUDE ANY LABOR COST OR REPLACEMENT AT ORIGINAL PURCHASER'S SITE. TURCK SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF ANY WARRANTY, EXPRESSED OR IMPLIED, APPLICABLE TO THE PRODUCT, INCLUDING WITHOUT LIMITATION, ANY DAMAGES RESULTING FROM PROPERTY DAMAGE, PERSONAL INJURY OR BUSINESS INTERRUPTION.

CONSIDER SAFETY AND PROTECTION PRECAUTIONS

TURCK takes great care to design and build reliable and dependable products, however, some products can fail eventually. You must take precautions to design your equipment to prevent property damage and personal injury in the unlikely event of failure. As a matter of policy, **TURCK** does NOT recommend the installation of electronic controls as the sole device FOR THE PROTECTION OF PERSONNEL in connection with power driven presses, brakes, shears and similar equipment and, therefore, the customer should build in redundancy or dual control using approved safety devices for these applications.

GOVERNING LAW

The sale and purchase of Products covered hereby and all terms and conditions hereof shall be governed by the law of the State of Minnesota.

BL ident®

BLident Project Checklist

Customer: . . . . . .
Project: . . . . . .
Author: . . . . . .

Data Carrier (TAG):

Size/format: R16 ☐ R20 ☐ R30 ☐ R50 ☐ Other ☐
Memory capacity/Byte: 64 ☐ 128 ☐ 2k ☐ Other ☐
Type of memory: EEPROM ☐ FRAM ☐
Mounting: Distance TAG-TAG . . . . . .
Temperature range: . . . . . .
Degree of protection: . . . . . .

Read-Write Head (RWH):

Size/format: M18 ☐ M30 ☐ CK40 ☐ Q80 ☐ S32XL ☐ Other ☐
Mounting: Distance RWH-RWH . . . . . .
Temperature range: . . . . . .
Degree of protection: . . . . . .

TAG and RWH:

Writing "on the fly" ☐ Reading "on the fly" ☐
Read-Write distance: . . . . . Application speed: . . . . . Amount of data: . . . . . Byte

System Configuration:

Gateway type: BL20 ☐ BL67 ☐ Standard ☐ Programmable ☐ Qty _____
Bus type: DeviceNet ☐ Ethernet IP ☐ Modbus/TCP ☐ Profibus DPV0 ☐ Profibus DPV1 ☐ Profinet ☐
Dual channel interface module: BL20 ☐ BL67 ☐ Qty _____
Control system: Siemens S7-300 ☐ AB Controllogix ☐ AB SLC500 ☐ AB PLC5 ☐ Other ☐

Which support is requested by the customer?
Presales:

Product presentation etc. by Product Marketing	Yes ☐	No ☐	
Technical training etc. by Product Marketing	Yes ☐	No ☐	
Customer is willing to pay?*	Yes ☐	No ☐	
System integrator	Yes ☐	No ☐	

Further Activities:

Visit with system integrator	Yes ☐	No ☐	Or
Hardware installation	Yes ☐	No ☐	

Software Programming:

PLC	Yes ☐	No ☐	
PC	Yes ☐	No ☐	Or
Integration in to ERP	Yes ☐	No ☐	Which?

Comments: _____

_____

_____

* See valid business terms covering our service price list for 2007.
See www.turck.com for printable version.

THE FIRST REMOTE I/O SYSTEM THAT THINKS OUTSIDE THE BOX

TURCK works

Industrial Automation

TURCK BL67 Remote I/O. No enclosure required.

Beyond the walls of conventional thinking.

TURCK BL67 remote I/O systems combine all the flexibility of an in-cabinet PLC—plus compact modularity, IP67 rated rugged construction and efficient connectorization. Configure your BL67 just the way you need it with up to 32 electronic modules and up to 64 analog or 256 digital I/O points. The fully connectorized BL67 mounts right on machinery without an enclosure to reduce installation expense and eliminate the hassles of hand wiring. The included TURCK I/O assistant software provides parameter set-up, documentation, commissioning, and diagnostic function for online or offline usage. Best of all, the software is free.

Electronic Modules

- Digital & Analog
- Temperature
- RS232/485
- Counter
- SSI

Network Protocols

- DeviceNet™
- PROFIBUS®-DP
- Ethernet
- CANopen™

Connectivity Options

- M12 *eurofast*®
- 7/8-16 *minifast*®
- M8 *picofast*®

.....Sense It!.....Connect It!.....Bus It!

Call us with your next application:

1-800-544-7769

email: turckusa@turck.com

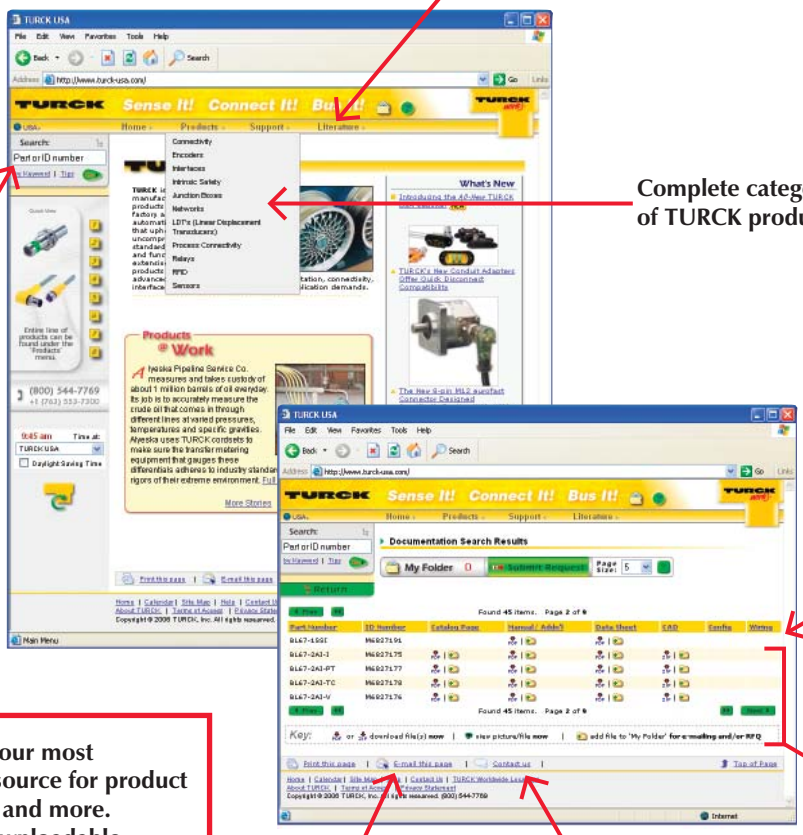
www.turck.com

....Sense It!....Connect It!....Bus It!

Access to all TURCK catalogs, press releases, white papers and tutorials

Search for products by part number, ID number or key word

Complete category listing of TURCK products



Access to CAD, wiring and pinout diagrams

Download or e-mail files, request for quote

Option to e-mail pages

Contact a TURCK representative

TURCK's USA website is your most complete and up-to-date source for product documentation, CAD files and more. Search results produce downloadable documentation or request for quote (RFQ). Additional product information or CAD files are easily requested and promptly filled.

Visit our site for new product releases, approvals, white papers, application support and more.

www.turck.com

TURCK USA
TURCK Inc.
3000 Campus Drive
Minneapolis, MN 55441
Phone: (763) 553-7300
Fax: (763) 553-0708
Application Support:
1-800-544-7769

TURCK Mexico
TURCK MEXICO S. DE R.L. DE C.V.
Carr Saltillo-Zacatecas km 4.5 s/n
Parque Industrial "La Angostura"
Saltillo, COAH. C.P. 25070
MEXICO
Phone: +52 (844) 411-6647/46
Fax: +52 (844) 482-6926
Toll Free: 01-800-01-88725 (Mexico only)
E-mail: ventasmexico@turck.com

TURCK Canada
CHARTWELL
ELECTRONICS, INC.
140 Duffield Drive
Markham, Ontario
Canada, L6G 1B5
Phone: (905) 513-7100
Fax: (905) 513-7101
Toll Free: 1-877-513-7769

TURCK World Headquarters
Hans TURCK GmbH & Co. KG
Witzlebenstrasse 7
D-45472 Muelheim der Ruhr
Federal Republic Of Germany
Phone: (+49) 208-49 52-0
Fax: (+49) 208-49 52 264

Printed in USA **B3005 6/07**