

- Data carrier for direct mounting on metal
- The mounting position (arrow) as well as the alignment of the data carrier towards the read/write head must be observed under all circumstances in order to achieve a maximum read/write distance
- When installed recessed in metal by 1 mm, the write/read distance reduces by 30%
- EEPROM, memory 146 byte

Functional principle

The HF read/write heads operating at a frequency of 13.56 MHz, form a transmission zone the size of which (0...500 mm) varies, depending on the combination of read/write head and data carrier.

The read/write distances mentioned here only represent standard values measured under laboratory conditions and free from any influences caused by materials.

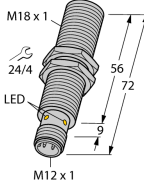
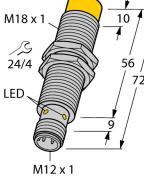
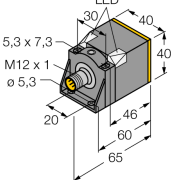
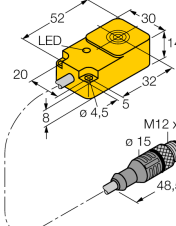
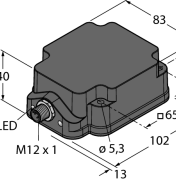
The read/write distances of data carriers suitable for mounting in/on metal were determined in/on metal.

Attainable distances may vary by up to 30 % due to component tolerances, mounting conditions, ambient conditions and material qualities (especially when mounted in metal)

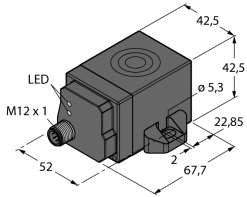
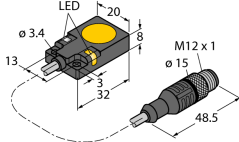
Testing of the application under real operating conditions is therefore essential, especially with read/write on-the-fly!

Type code	TW-R10-M-B146
Ident no.	7030545
Data transfer	inductive coupling
Operating frequency	13.56 MHz
Memory type	EEPROM
Chip	EM4233SLIC
Memory	146 byte
Memory	read/write
Freely usable memory	128 byte
Number of read operations	unlimited
Number of write operations	10 ⁵
Typical read time	2 ms/byte
Typical write time	3 ms/byte
Radio communication and protocol standards	ISO 15693
Minimum distance to metal	0 mm
Ambient temperature	-40...+85 °C
Storage temperature	-40...+85 °C
Diameter	10 mm +/-0.2 mm
Housing height	4.5 mm +/-0.3mm
Housing material	plastic, open housing, potted
Material active area	plastic, Black, PPS
IP Rating	IP68
Packaged quantity	1
Special features	Data carrier for direct mounting on/in metal. A recommendation for adhesives, the requirements of the FDA and the EU for incidental food contact can be requested from TURCK. This recommendation does not relieve the user of an examination with regard to the suitability for his application.

Read/write heads

Dimensions	Type designation	Read-write distance		Transfer zone		Minimum distance between two read-write heads
	Ident - no.	Recommend-ed (mm)	max. [mm]	length max. [mm]	width offset max. [mm]	[mm]
	TB-M18-H1147 7030001	5	7	7	3	54
	TB-EM18WD-H1147 7030224	5	7	7	3	54
	TN-M18-H1147 7030002	5	12	14	7	54
	TN-EM18WD-H1147 7030223	5	12	14	7	54
	TN-CK40-H1147 7030006	7	18	30	15	120
	TN-Q14-0.15-RS4.47T 7030235	5	14	24	8	90
	TNSLR-Q80WD-H1147 7030418	25	52	80	40	450

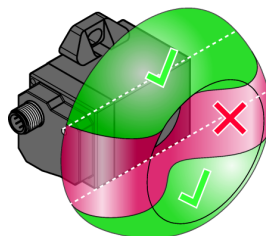
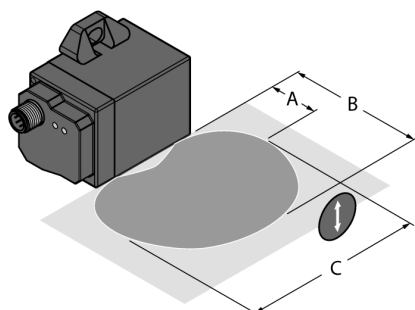
Read/write heads

Dimensions	Type designation	Read-write distance		Transfer zone		Minimum distance between two read-write heads
	Ident - no.	Recommend- ed (mm)	max. [mm]	length max. [mm]	width offset max. [mm]	[mm]
	TNSLR-Q42TWD-H1147 7030424	20	42	75	37	240
	TB-Q08-0.15-RS4.47T 7030553	5	7	7	3	54

Compatible handhelds

	PD-IDENT-HF-RWBTA (7030601) Handheld for mobile reading and writing to data carriers. Equipped with WLAN 802.11a/b/g/n and Bluetooth; incl. docking station with power supply, USB cable, and TURCK RFID Software TA-HF.
	PD-IDENT-HF-S2D-RWBTA (7030602) Handheld for mobile reading and writing to data carriers. Equipped with WLAN 802.11a/b/g/n, Bluetooth and 2 D barcode scanner; incl. pistol grip, docking station with power supply, USB cable, and TURCK RFID software TA-HF.
	PD-IDENT-HF-L1D-RBUP-SMART (7030564) Handheld for mobile reading and writing to data carriers. Keyboard functions (HID) for wireless transmission of data via Bluetooth (also to IOS devices) or USB. Barcode 1 D laser scanner and only three buttons for ease of use.

Mounting instructions



The left figure shows how the read/write head must be aligned towards the data carrier. As an example here the read/write head TNSLR-Q42TWD-H1147 is shown (instructions valid for all suitable read/write heads). The orientation of the data carrier (arrow) is to be observed.

A: Recommended distance

B: Maximum distance

C: Length of the transmission zone at recommended distance

The corresponding values are listed in the table.

To achieve the largest possible distance, the data carrier must be positioned off-center to the read/write head, or rather move along the housing edges during the readwrite process.

The figure on the right shows the typical spread of a data transmission zone

Glueing the data carrier:

Step 1: First, mill a sufficiently large bore hole (see drawing)

Step 2: Fill the hole with sufficient adhesive or potting material

Step 3: Press the data carrier into the hole. Observe

the orientation of the data carrier (see arrow)

A subsequent alignment of the data carrier in the hole is not possible.

Step 4: In order to avoid holes and undercuts, first, let harden the adhesive after inserting the data carrier. This also avoids any unintentional rotation of the data carrier. Then, fill up with adhesive and flush with the surface.

Accessories

Type code	Ident no.	Description	Design
Drawing R10-M	Zeichnung R10-M	Bore is to insert the data carrier into metal	
Example of application	Applika- tionsbeispiel	Application example overhead conveyor system	