

■ **FRAM memory 2 kB**

**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.

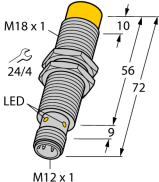
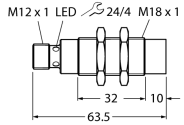
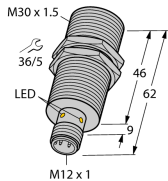
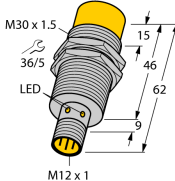
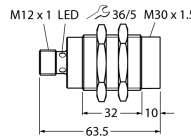
The read/write distances of data carriers suitable for mounting in/on metal were determined in/on metal.

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

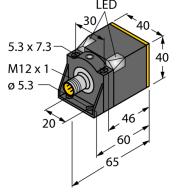
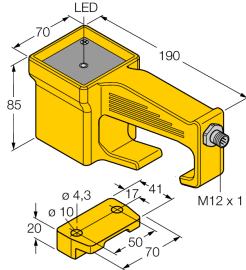
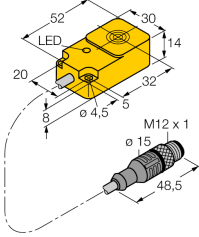
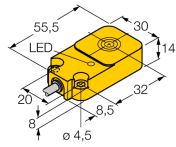
Testing of the application under real operating conditions is therefore essential, especially with read/write on-the-fly!

<b>Type designation</b>	TW-R50-K2
Ident-No.	6900507
<b>Data transfer</b>	Inductive coupling
Operating frequency	13.56 MHz
Memory type	FRAM
Chip	Fujitsu MB89R118
Memory	2048 Byte
Memory	Read/Write
Freely usable memory	2000 Byte
Number of read operations	unlimited
Number of write operations	10 <sup>9</sup>
Typical read time	0.5 ms/byte
Typical write time	0.5 ms/byte
Radio communication and protocol standards	ISO 15693
<b>Minimum distance to metal</b>	10 mm
Ambient temperature	-25...+85 °C
Storage temperature	-45...+85 °C 140 °C, 1x100 h
<b>Design</b>	R50
Diameter	50 mm +/- 0.5 mm
Internal diameter	5.2 mm +/- 0.3 mm
Housing height	3.3 mm +/- 0.5 mm
Housing material	Plastic, PA6
Active area material	Plastic, PA6, black
Protection class	IP69K
<b>Packaging unit</b>	1

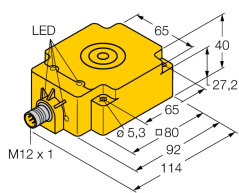
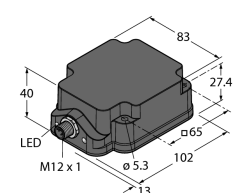
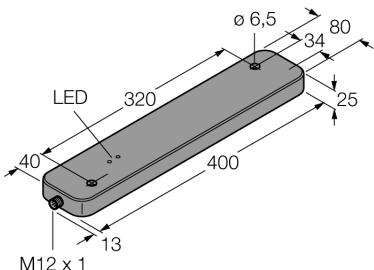
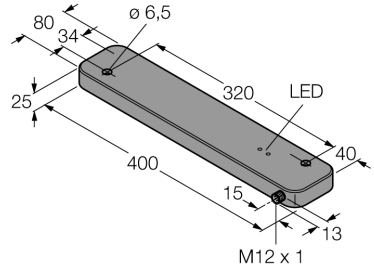
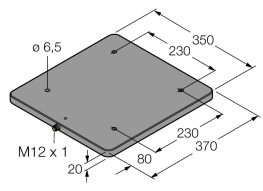
Read/write heads

Dimensions	Type designation	Read-write distance		Transfer zone		Minimum distance between two read-write heads [mm]
		Ident - no.	Recommend- ed (mm)	max. [mm]	length max. [mm]	
	<b>TN-M18-H1147</b> 7030002	12	30	60	30	54
	<b>TN-EM18WD-H1147</b> 7030223	12	30	60	30	54
	<b>TN-M18-H1147/C53</b> 7030728	12	30	60	30	54
	<b>TN-M18-IOL-H1141</b> 100000974	16	36	48	24	36
	<b>TB-M30-H1147</b> 7030003	15	33	36	18	90
	<b>TB-EM30WD-H1147</b> 7030221	15	33	36	18	90
	<b>TN-M30-H1147</b> 7030004	30	58	76	38	90
	<b>TN-EM30WD-H1147</b> 7030222	30	58	76	38	90
	<b>TN-M30-H1147/C53</b> 7030730	30	58	76	38	90
	<b>TN-M30-IOL-H1141</b> 100000975	28	58	68	34	60

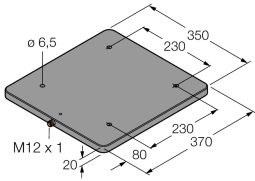
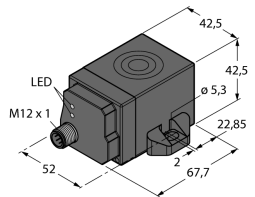
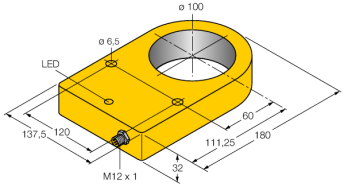
Read/write heads

Dimensions	Type designation	Read-write distance		Transfer zone		Minimum distance between two read-write heads [mm]
		Ident - no.	Recommend- ed (mm)	max. [mm]	length max. [mm]	
	<b>TN-CK40-H1147</b> 7030006	38	81	82	41	120
	<b>TN-CK40-H1147/C53</b> 7030732	38	81	82	41	120
	<b>HT-IDENT-H1147</b> 7030236	38	81	82	41	120
	<b>HT-IDENT-H1187</b> 7030238	38	81	82	41	120
	<b>TN-Q14-0.15-RS4.47T</b> 7030235	30	58	76	38	90
	<b>TN-Q14-0.15-RS4.47T/C53</b> 7030779	30	58	76	38	90
	<b>TN-Q14-0.1/C37</b> 7030445	30	58	76	38	90
	<b>TN-Q14-0.55</b> 100003964	30	58	76	38	90

Read/write heads

Dimensions	Type designation	Read-write distance		Transfer zone		Minimum distance between two read-write heads [mm]
		Ident - no.	Recommend- ed (mm)	max. [mm]	length max. [mm]	
	<b>TN-Q80-H1147</b> 7030007	50	100	110	55	240
	<b>TNLR-Q80-H1147</b> 7030230	90	144	150	75	240
	<b>TNSLR-Q80WD-H1147</b> 7030418	120	218	208	104	450
	<b>TNSLR-Q80WD-H1147/C50</b> 7030721	120	218	208	104	450
	<b>TNSLR-Q80WD-H1147/ C53</b> 100001312	120	218	208	104	450
	<b>TNLR-Q80L400-H1147</b> 7030204	120	216	190	233	240
	<b>TNLR-Q80L400-H1147L</b> 7030234	120	216	190	233	240
	<b>TNLR-Q80L400-H1147L</b> 7030234 Lengthwise	90	216	466	95	240
	<b>TNLR-Q350-H1147</b> 7030220	200	405	480	240	1110

Read/write heads

Dimensions	Type designation  Ident - no.	Read-write distance		Transfer zone		Minimum distance between two read-write heads							
		Recommended (mm)	max. [mm]	length max. [mm]	width offset max. [mm]	[mm]							
	<b>TNSLR-Q350-H1147</b> 7030454	210	400	480	240	1110							
	<b>TNSLR-Q42TWD-H1147</b> 7030424 <b>TNSLR-Q42TWD-H1147/C51</b> 7030722 <b>TNSLR-Q42TWD-H1147/C53</b> 7030733	90	144	150	75	240							
								<b>TN-S32XL-H1147</b> 7030008	60	128	160	80	420

**Compatible handhelds**

	<p>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.</p>
	<p>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.</p>
	<p>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.</p>

## Operating manual

### Intended use

This tag corresponds to the requirements for simple apparatus according to EN 60079-14, 5.12.2 and may, under certain conditions, be used in the Ex area. The requirements of EN 60079-14 must be observed in this case.