
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.

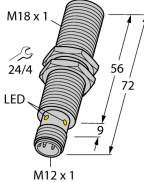
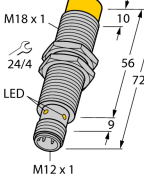
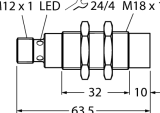
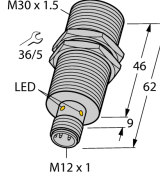
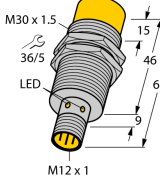
The read/write distances of data carriers suitable for mounting in/on metal were determined in/on metal.

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

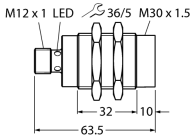
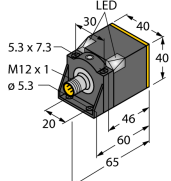
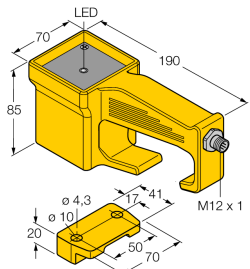
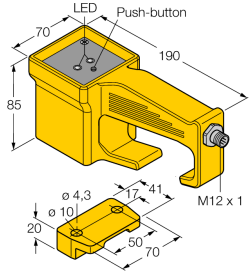
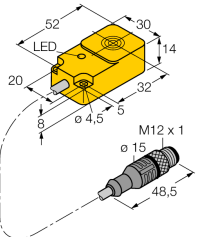
Testing of the application under real operating conditions is therefore essential, especially with read/write on-the-fly!

Type designation	TW-R20-B128
Ident-No.	6900502
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Ident. no.	6900502
Data transfer	Inductive coupling
Operating frequency	13.56 MHz
Memory type	EEPROM
Chip	NXP I-Code SLI/SL2
Memory	128 Byte
Memory	Read/Write
Freely usable memory	112 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	10 mm
Temperature of data carrier during read/write access	-40...+85 °C
Temperature of data carrier outside detection range	-40...+90 °C
	140, 1x100 h
Design	Hard tag, R20
Diameter	20 mm +0.7/-0.5 mm
Housing height	2.8 mm +0.7/-0.5 mm
Housing material	Plastic, PA6
Active area material	Plastic, PA6, black
Protection class	IP69K
Packaging unit	1

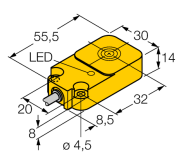
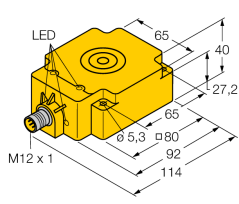
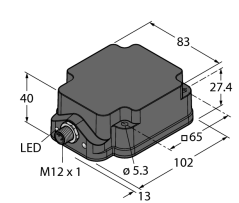
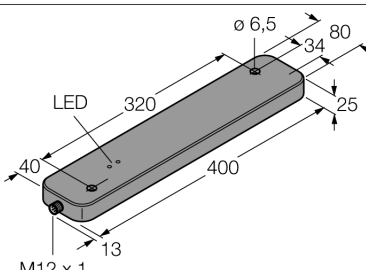
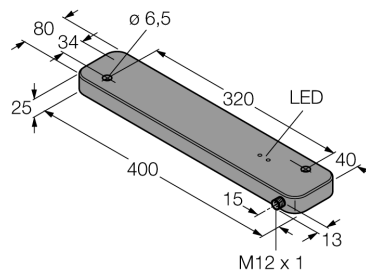
Read/write heads

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	8	15	12	6	54
	TB-EM18WD-H1147 7030224	8	15	12	6	54
	TB-M18-H1147/C53 7030729	8	15	12	6	54
	TN-M18-H1147 7030002	10	22	26	13	54
	TN-EM18WD-H1147 7030223	10	22	26	13	54
	TN-M18-H1147/C53 7030728	10	22	26	13	54
	TN-M18-IOL-H1141 100000974	6	16	20	10	36
	TB-M30-H1147 7030003	15	27	20	10	90
	TB-EM30WD-H1147 7030221	15	27	20	10	90
	TB-M30-H1147/C53 7030731	15	27	20	10	90
	TN-M30-H1147 7030004	22	40	34	17	90
	TN-EM30WD-H1147 7030222	22	40	34	17	90
	TN-M30-H1147/C53 7030730	22	40	34	17	90

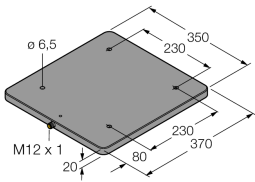
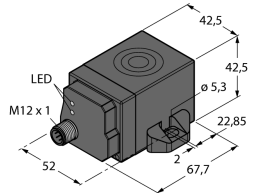
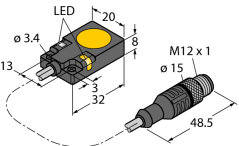
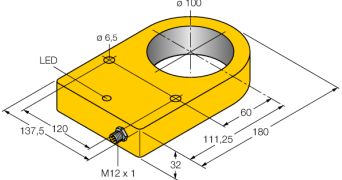
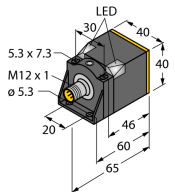
Read/write heads

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]
	TN-M30-IOL-H1141	17	36	38	19	60
	100000975					
	TN-CK40-H1147	30	50	50	25	120
	7030006					
	TN-CK40-H1147/C53	30	50	50	25	120
	7030732					
	TN-CK40-H1147/CS30171	30	50	50	25	120
	100016067					
	HT-IDENT-H1147	30	50	50	25	120
	7030236					
	HT-IDENT-H1187	30	50	50	25	120
	7030238					
	TN-Q14-0.15-RS4.47T	22	40	34	17	90
	7030235					
	TN-Q14-0.15-RS4.47T/C53	22	40	34	17	90
	7030779					

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]
	TN-Q14-0.1/C37 7030445	22	40	34	17	90
	TN-Q14-0.55 100003964	22	40	34	17	90
	TN-Q80-H1147 7030007	35	65	72	36	240
	TN-Q80-H1147/C53 100010648	35	65	72	36	240
	TNLR-Q80-H1147 7030230	50	88	92	47	240
	TNLR-Q80-H1147/C53 100010649	50	88	92	47	240
	TNSLR-Q80WD-H1147 7030418	74	140	140	70	450
	TNSLR-Q80WD-H1147/C50 7030721	74	140	140	70	450
	TNSLR-Q80WD-H1147/ C53 100001312	74	140	140	70	450
	TNLR-Q80L400-H1147 7030204	60	102	86	202	240
	TNLR-Q80L400-H1147L 7030234	60	102	86	202	240
	TNLR-Q80L400-H1147L 7030234Lengthwise	40	102	404	43	240

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]
	TNLR-Q350-H1147 7030220	100	215	350	175	1110
	TNSLR-Q42TWD-H1147 7030424	50	88	92	47	240
	TNSLR-Q42TWD-H1147/C51 7030722	50	88	92	47	240
	TNSLR-Q42TWD-H1147/C53 7030733	50	88	92	47	240
	TNSLR-Q42TWD-H1147/C44 100009610	50	88	92	47	240
	TNSLR-Q42TWD-H1147/CS30171 100016068	50	88	92	47	240
	TB-Q08-0.15-RS4.47T 7030553	8	15	12	6	54
	TB-Q08-0.15-RS4.47T/C53 7030778	8	15	12	6	54
	TB-Q08-0.22-RS4.47T 100004092	8	15	12	6	54
	TB-Q08-0.15-RS4.47T/C43 7030675	8	15	12	6	54
	TN-S32XL-H1147 7030008	36	72	103	51	420
	TN-CK40-H1147/CS30171 100016067	30	50	50	25	120

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.