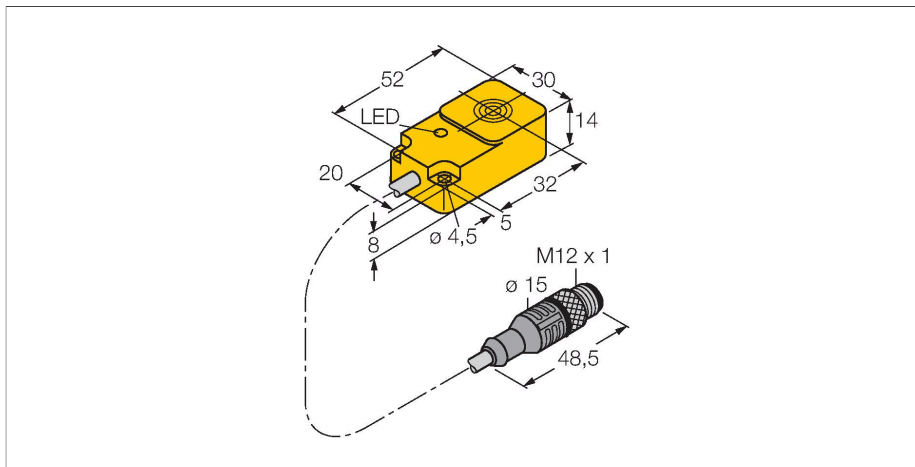


TN-Q14-0.15-RS4.47T/C53

HF Read/Write Head – For Bus Line Topology with TBEN-*



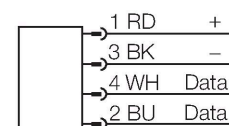
Technical data

Type	TN-Q14-0.15-RS4.47T/C53
ID	7030779
Remark to product	Flat design
Approvals	CE UKCA UL
Radio approvals	EU/RED: Europe UK SI 2017/1206: United Kingdom FCC: USA MIC: Japan RCM: Australia/New Zealand
Electrical data	
Operating voltage	10...30 VDC
DC rated operational current	≤ 35 mA
inrush current	700 mA For: 1 ms
Data transfer	Inductive coupling
Technology	HF RFID
Operating frequency	13.56 MHz
Radio communication and protocol standards	ISO 15693 NFC Typ 5
Read/Write distance max.	72 mm
Output function	4-wire, Read/Write
Suitable for bus mode to TBEN-*	Yes
Mechanical data	
Mounting conditions	Non-flush, partially embeddable
Ambient temperature	-25...+70 °C
Design	Rectangular, Q14
Dimensions	56 x 30 x 14 mm
Housing material	Plastic, PBT-GF30-V0, Yellow
Active area material	Plastic, PBT-GF30-V0, yellow

Features

- Rectangular, height 14 mm
- Active face on top
- Plastic, PBT-GF30-VO
- Device without end termination
- Device may only be operated in line topology TBEN-S*-2RFID-* or TBEN-L*-4RFID-*
- Max. 32 nodes per line or connection permitted
- Use a corresponding terminating resistor (see accessories)
- Observe the performance of the power supply, especially when turned on, and the maximum current carrying capacity of the cables
- Observe the voltage drop on the line
- The maximum possible length of the spur line is 2 m
- The maximum possible length of the bus is 50 m
- By default, a command can only be processed by one read/write head, making HF bus mode suitable for static applications and slow dynamic applications
- In continuous HF bus mode, a command is executed simultaneously on all read/write heads in a bus topology. The recorded data is stored in the ring buffer of the module
- The read/write head is automatically assigned an address
- For different application requirements, the address and can be parameterized
- Powered and operated only via connection to BL ident interface module
- M12 × 1 connector, connection only via BL ident extension cable

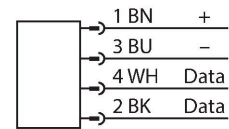
.../S2503 Connectors



Technical data

Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
Electrical connection	Cable with connector, M12 × 1
Cable quality	Gray
MTTF	391 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Cable jacket	Gray
Packaging unit	1

.../S2500 Connectors



.../S2501 Connectors



Functional principle

The HF read/write devices 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 device and tag used.

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

The read/write distances of the tags for mounting in metal TW-R**-M(MF) were determined in 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 on-the-fly reading and writing!

Mounting instructions/Description

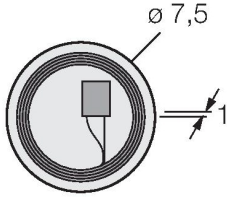
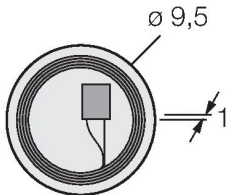
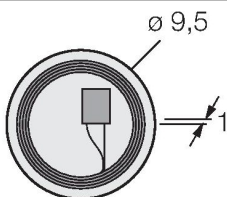
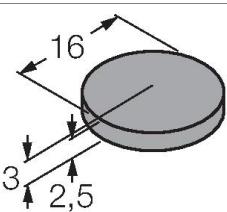
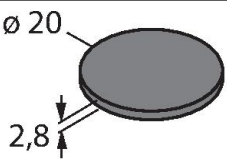
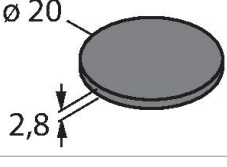
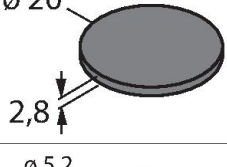
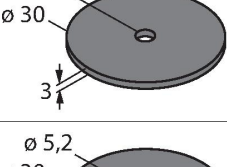
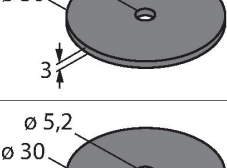
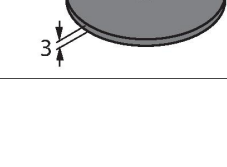


Width active area 30 mm
B

This figure illustrates an example of operating a read/write head in a compact multiprotocol I/O module TBEN-S*-2RFID-* or TBEN-L*-4RFID-* in a line topology

LED	Color	Status	Meaning
1	AUS	AUS	Betriebsspannung ausgeschaltet
	GRÜN	AN	Betriebsspannung eingeschaltet
	GRÜN	BLINKEND (1 Hz)	HF-Feld ausgeschaltet
		BLINKEND (2 Hz)	Datenträger im Erfassungsbereich

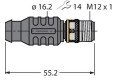

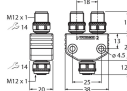
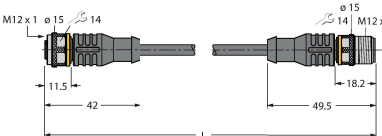
Dimensions	Type designation	Read-write distance	Transfer zone	Minimum distance between two read-write heads

	Ident - no.	Recommended (mm)	max. [mm]	length max. [mm]	width offset max. [mm]	[mm]
	TW-R7.5-B128 7030231	10	30	28	14	90
	TW-R9.5-B128 7030252	11	33	31	15	90
	TW-R9.5-K2 7030558	11	26	30	15	90
	TW-R16-B128 6900501	20	38	44	22	90
	TW-R20-B128 6900502	22	40	34	17	90
	TW-R20-B320 100005244	22	40	34	17	90
	TW-R20-K2 6900505	17	31	32	16	90
	TW-R30-B128 6900503	22	43	56	28	90
	TW-R30-B320 100005245	22	43	56	28	90
	TW-R30-K2 6900506	23	42	50	25	90

	TW-R50-B128 6900504	40	72	76	38	90
	TW-R50-B320 100005246	40	72	76	38	90
	TW-R50-K2 6900507	30	58	76	38	90
	TW-BS10X1.5-19-K2 6901380	7	18	24	12	90
	TW-BD10X1.5-19-B128 6901381	14	29	30	15	90
	TW-SPP18X1-B128 6901062	10	24	34	17	90
	TW-R50-M-B128 7030209	20	36	34	17	90
	TW-R50-M-K2 7030229	15	30	32	16	90
	TW-R4-22-B128 7030237	10	28	38	18	90
	TW-L86-54-C-B128 6900479	30	77	92	46	90
	TW-L18-18-F-B128 7030634	19	38	40	20	90

	TW-B58x1.25-19-K2 7030638	7	18	24	12	90
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Accessories

Dimension drawing	Type	ID	
	RSE57-TR2/RFID	6934908	Terminating resistor to build an RFID line topology
	VT2-FKM5-FKM5-FSM5	6930573	T-splitter to build an RFID line topology
	VB2-FKM5-FSM5.205-FSM5.305/S2550	6936821	Y-splitter for re-powering a supply voltage for the RFID bus topology
	RK4.5T-2-RS4.5T/S2503	7030331	BL ident cable, M12 female connector, straight to M12 male connector, straight, cable length: 2 m, jacket material: PUR, black; other cable lengths and qualities available, see www.turck.com