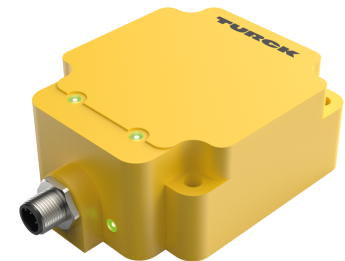
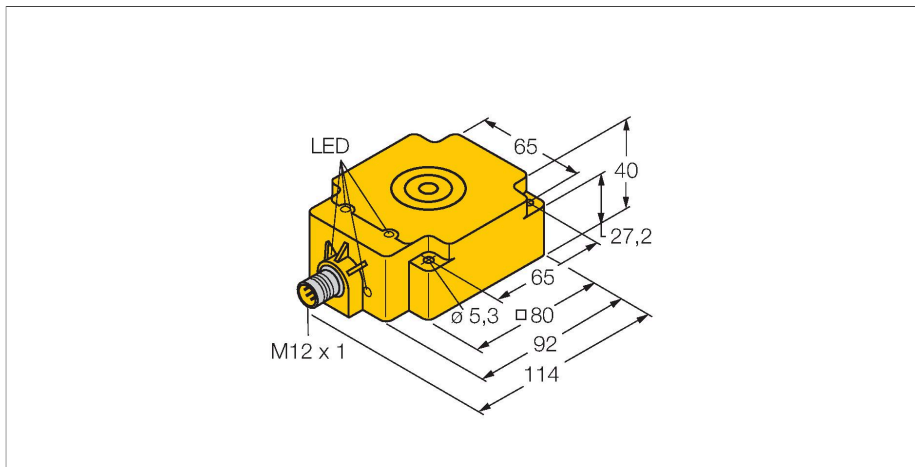


# TN-Q80-H1147/C53

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



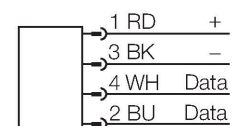
### Technical data

Type	TN-Q80-H1147/C53
ID	100010648
Approvals	CE UKCA FCC UL ACMA RSM
<b>Electrical data</b>	
Operating voltage	10...30 VDC
DC rated operational current	≤ 80 mA
inrush current	1000 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.	146 mm
Output function	4-wire, Read/Write
Suitable for bus mode to TBEN-*	Yes
<b>Mechanical data</b>	
Mounting conditions	Non-flush, partially embeddable
Ambient temperature	-25...+70 °C
Design	Rectangular, Q80
Dimensions	92 x 80 x 40 mm
Housing material	Plastic, PBT-GF30-V0, Yellow
Active area material	Plastic
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67

### Features

- Rectangular, height 40 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

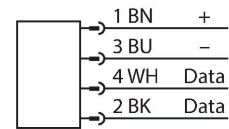
### .../S2503 Connectors



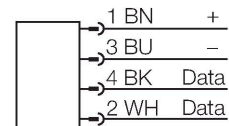
## Technical data

MTTF	248 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
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\*\*-(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

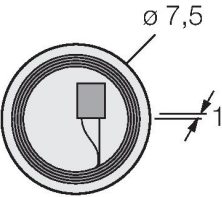
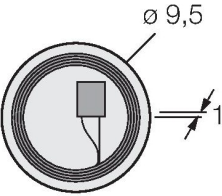
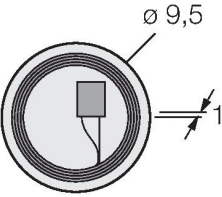
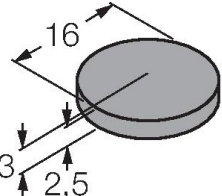
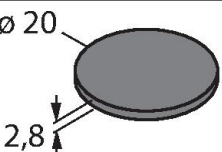
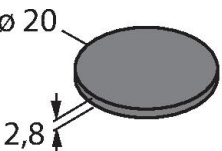
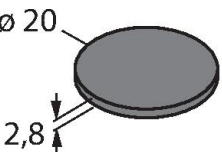
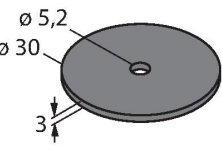
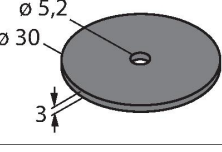
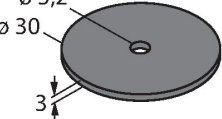


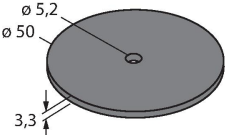
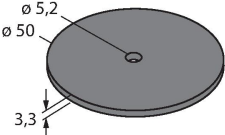
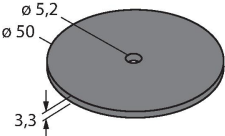
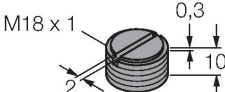
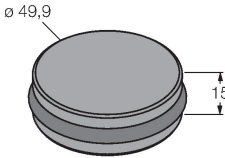
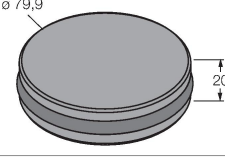
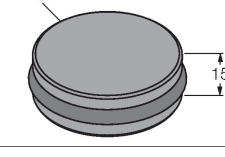
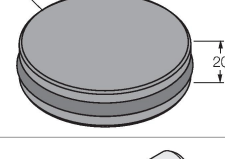
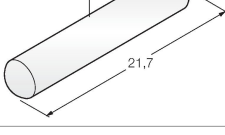

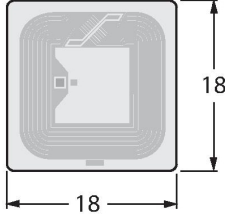
Width active area 80 mm  
B

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

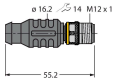
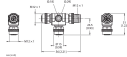
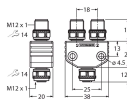
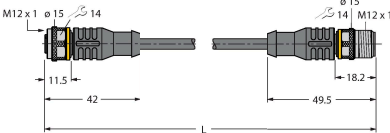
LED	Color	Status	Meaning
\\Graphics\Pic4\00185369_0.EPS			

Dimensions	Type designation	Read-write distance		Transfer zone		Minimum distance between two read-write heads [mm]
		Recommended (mm)	max. [mm]	length max. [mm]	width offset max. [mm]	
	Ident - no.					

	<b>TW-R7.5-B128</b> 7030231	10	34	62	31	240
	<b>TW-R9.5-B128</b> 7030252	11	37	68	34	240
	<b>TW-R9.5-K2</b> 7030558	17	46	62	31	240
	<b>TW-R16-B128</b> 6900501	20	52	60	30	240
	<b>TW-R20-B128</b> 6900502	35	65	72	36	240
	<b>TW-R20-B320</b> 100005244	35	65	72		
	<b>TW-R20-K2</b> 6900505	25	52	70	35	240
	<b>TW-R30-B128</b> 6900503	35	72	80	40	240
	<b>TW-R30-B320</b> 100005245	35	72	80	40	240
	<b>TW-R30-K2</b> 6900506	35	67	80	40	240

	<b>TW-R50-B128</b> 6900504	65	118	120	60	240
	<b>TW-R50-B320</b> 100005246	65	118	120	60	240
	<b>TW-R50-K2</b> 6900507	50	100	110	55	240
	<b>TW-SPP18X1-B128</b> 6901062					240
	<b>TW-R50-M-B128</b> 7030209	25	53	66	33	240
	<b>TW-R80-M-B128</b> 7030207	40	76	76	38	240
	<b>TW-R50-M-K2</b> 7030229	15	41	58	38	240
	<b>TW-R80-M-K2</b> 7030205	20	55	64	32	240
	<b>TW-R4-22-B128</b> 7030237	20	48	68	34	240
	<b>TW-L86-54-C-B128</b> 6900479	70	146	158	78	240
	<b>TW-L18-18-F-B128</b> 7030634	35	71	78	39	240

## 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 <a href="http://www.turck.com">www.turck.com</a>