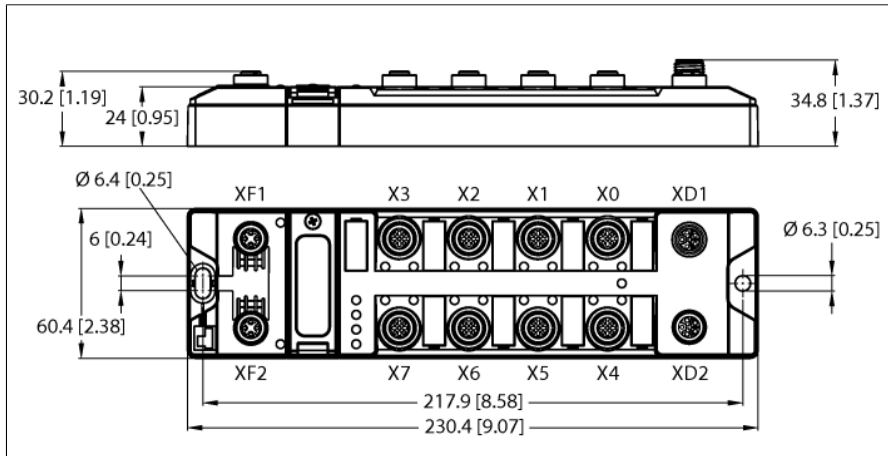


Compact Multiprotocol RFID Module for Ethernet

4 RFID Channels (HF/UHF) and 8 Universal Digital Channels, Configurable as PNP Inputs or 2-A Outputs

TBEN-LL-4RFID-8DXP



- PROFINET device, EtherNet/IP™ device or Modbus TCP slave
- PROFINET S2 system redundancy
- Integrated Ethernet switch
- Supports 10 Mbps/100 Mbps
- Glass fiber reinforced housing
- Shock and vibration tested
- Fully potted module electronics
- Protection classes IP65, IP67, IP69K
- M12, L-coded connector for power supply
- Integration in PLC systems without special function block
- Up to 128 bytes of user data (EtherNet/IP: up to 80 bytes) per read/write cycle per channel and use of fragments with 16 kilobytes of FIFO memory each
- Data interface for convenient use of the RFID functions
- Continuous HF bus mode with up to 32 HF read/write heads per channel
- 4 channels with M12 connector for RFID
- Mixed operation of HF and UHF read/write heads
- 8 universal digital channels, configurable as PNP inputs or 2-A outputs
- Integrated web server with reader parameterization
- Web-based RFID test tool for easy air interface evaluation
- LED displays and diagnostics
- FLC/ARGE programmable

Type designation	TBEN-LL-4RFID-8DXP
Ident-No.	100002463
Supply	
Supply voltage	24 VDC
Admissible range	18...30 VDC
	Total current V1 max. 8 A + V2 max. 9 A at 70 °C [UL: 55 °C] per module
Voltage supply connection	M12 L-coded connector
Operating current	V1: max. 150 mA V2: max. 100 mA
RFID supply V_{AUX1}	Slots X0...X3 from V1 Short-circuit proof, 2 A per channel at 70 °C [UL: 55 °C]
Sensor/Actuator supply V_{AUX2}	Slots X4...X7 from V2 Power supply Pin1 switchable per slot Short-circuit proof, 2 A per slot at 70 °C [UL: 55 °C]
Electrical isolation	galvanic isolation of the voltage groups V1 and V2, voltages up to 500 VAC
Power dissipation, typical	≤ 5 W
Transmission rate Ethernet	
Connection technology Ethernet	10 Mbps/100 Mbps
Web server	2 x M12, 4-pin, D-coded
Service interface	Default: 192.168.1.254 Ethernet via XF1 or XF2
Field Logic Controller (FLC)	
ARGE Firmware Version	3.3.2.0
ARGE Engineering Version	2.0.25.0
Modbus TCP	
Addressing	Static IP, BOOTP, DHCP
Supported function codes	FC1, FC2, FC3, FC4, FC5, FC6, FC15, FC16, FC23
Number of TCP connections	8
Ethernet/IP	
Addressing	acc. to EtherNet/IP specification
Device Level Ring (DLR)	supported
Class 3 connections (TCP)	3
Class 1 connections (CIP)	10
Input Assembly Instance	103
Input Data Size	248 INT
Output Assembly Instance	104
Output Data Size	248 INT
Configuration Assembly Instance	106

Compact Multiprotocol RFID Module for Ethernet

4 RFID Channels (HF/UHF) and 8 Universal Digital Channels, Configurable as PNP Inputs or 2-A Outputs

TBEN-LL-4RFID-8DXP

PROFINET

Addressing	DCP
MinCycleTime	1 ms
Diagnostics	acc. to PROFINET alarm handling
Automatic addressing	supported
Media Redundancy Protocol (MRP)	supported

RFID

Number of channels	4
Connectivity	M12
Power supply	2 A per channel at 70 °C [UL: 55 °C], short-circuit proof
Operation per channel	1x HF or UHF read/write head, up to 32 bus-compatible HF read/write heads with ending /C53 (additional power supply may be needed)
RFID data interface	HF und UHF
Cable length	max. 50 m

Digital inputs

Number of channels	8
Connectivity inputs	M12, 5-pin
Input type	PNP
Type of input diagnostics	Channel diagnostics
Switching threshold	EN 61131-2 Typ 3, PNP
Low level signal voltage	< 5 V
High level signal voltage	> 11 V
Low level signal current	< 1.5 mA
High level signal current	> 2 mA
Electrical isolation	Galvanically isolated to the fieldbus Voltage proof up 500 VDC

Digital outputs

Number of channels	8
Connectivity outputs	M12, 5-polig
Output type	PNP
Type of output diagnostics	Channel diagnostics
Output voltage	24 VDC from potential group
Output current per channel	2.0 A, short-circuit proof, max. 4.0 A per port
Simultaneity factor	0.56
Load type	EN 60947-5-1: DC-13
Short-circuit protection	yes
Electrical isolation	Galvanically isolated to the fieldbus Voltage proof up 500 VDC

Standard/Directive conformity

Vibration test	acceleration to 20 g acc. to EN 60068-2-6
Shock test	acc. to EN 60068-2-27
Drop and topple	acc. to EN 60068-2-31/IEC 60068-2-32
Electromagnetic compatibility	acc. to EN 61131-2
Approvals and certificates	CE, FCC, UV-resistant in accordance with DIN EN ISO 4892-2A (2013)
UL Certificate	cULus LISTED 21 W2, Encl.type 1 IND.CONT.EQ.

Compact Multiprotocol RFID Module for Ethernet

4 RFID Channels (HF/UHF) and 8 Universal Digital Channels, Configurable as PNP Inputs or 2-A Outputs

TBEN-LL-4RFID-8DXP

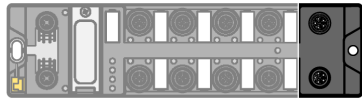
General Information

Dimensions (W x L x H)	60.4 x 230.4 x 39mm
Ambient temperature	-40...+70 °C
	UL: +55 °C
Storage temperature	-40...+85 °C
Altitude	max. 5000 m
Protection class	IP65
	IP67
	IP69K
MTTF	89 years acc. to SN 29500 (Ed. 99) 20 °C
Housing material	PA6-GF30
Housing color	Black
Window material	Lexan
Material screw	303 stainless steel
Material label	Polycarbonate
Halogen-free	yes
Mounting	2 mounting holes Ø 6.3 mm

Compact Multiprotocol RFID Module for Ethernet

4 RFID Channels (HF/UHF) and 8 Universal Digital Channels, Configurable as PNP Inputs or 2-A Outputs

TBEN-LL-4RFID-8DXP



Accessories

Power supply cable (example):

RKP46PL-*RSP46PL

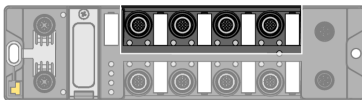
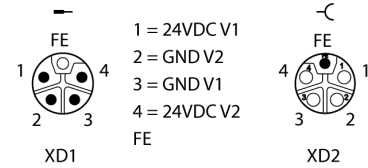
Ident no. 777038984

Field wireable connector (example):

RK56PL-S-0

Ident no. U2-33832

M12 power supply, L-Code



Accessories

RFID cable (example):

RFID cable, 5 M: RK4.5T-5-RS4.5T/S2500

Ident. no. 6699201

RFID cable, 2 M: RSCV-RKCV5500-2M/S2500

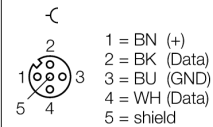
Ident-No. 6633193

Connection of TB and TN read/write heads (example):

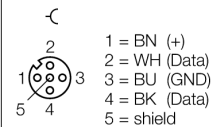
TN-CK40-H1147

Ident. no. 7030006

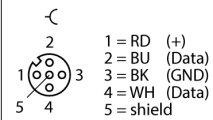
Connector .../S2500



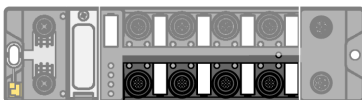
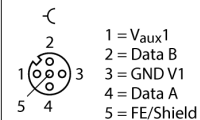
Connector .../S2501



.../S2503 Connectors



Wiring Diagram



Accessories

Accessories:

Connection cable , 2-channel (example):

RK 4.4T-2-RS 4.4T

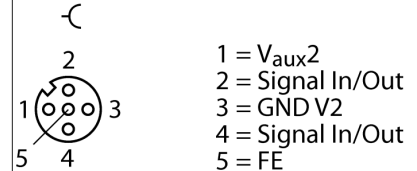
Ident no. U2445

Splitter, 1-channel (example):

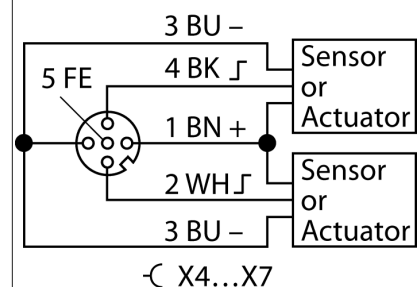
YB2-FSM 4.5-2FKM 4.5

Ident no. U0875-78

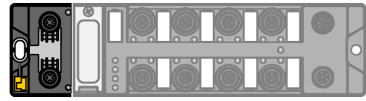
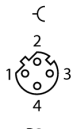
I/O port M12 × 1



X4...X7



Compact Multiprotocol RFID Module for Ethernet
4 RFID Channels (HF/UHF) and 8 Universal Digital Channels, Configurable as
PNP Inputs or 2-A Outputs
TBEN-LL-4RFID-8DXP

	Accessories Ethernet cable (example): RSSD-RJ45S-4416-2M Ident. no. 6441631	M12 × 1 Ethernet  P1 1 = TX + 2 = RX + 3 = TX - 4 = RX - flange = FE  P2 1 = RX + 2 = TX + 3 = RX - 4 = TX - flange = FE
---	--	---