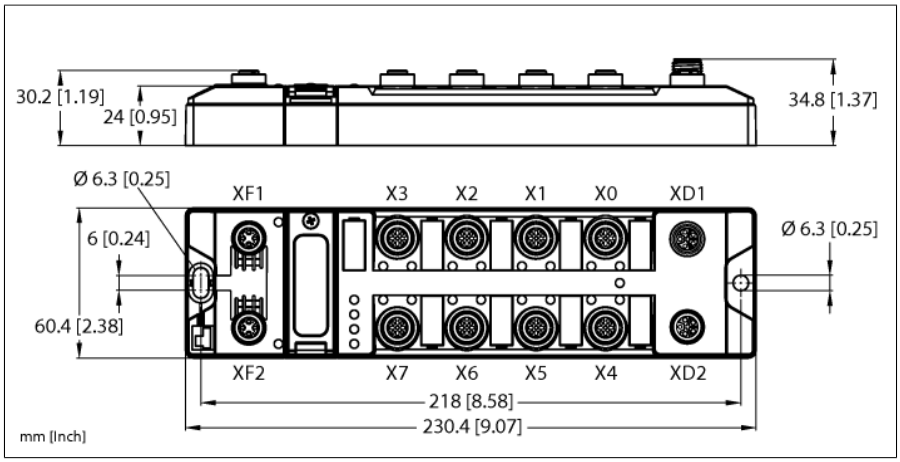
Compact Multiprotocol RFID Module for Ethernet 4 RFID Channels (HF/UHF) and 8 Universal Digital Channels, Configurable as PNP Inputs or 2-A Outputs TBEN-LL-4RFID-8DXP



Type	TBEN-LL-4RFID-8DXP
ID	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
Operating current	V1: max. 150 mA V2: max. 100 mA
RFID supply $V_{AUX\,1}$	Slots X0…X3 from V1 Short-circuit proof, 2 A per channel at 70 °C [UL: 55 °C]
Sensor/actuator supply	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
System data	
Fieldbus transmission rate	10/100 Mbps
Transmission rate Ethernet	10/100 Mbps
Fieldbus connection technology	2 × M12, 4-pin, D-coded
Connection technology Ethernet	2 x M12, 4-pin, D-coded
Protocol detection	automatic
Web server	Default: 192.168.1.254
Service interface	Ethernet via XF1 or XF2
ARGEE functionality	Supported
ARGEE Firmware Version	3.3.2.0
ARGEE Engineering Version	2.0.25.0

- PROFINET device, EtherNet/IP device or Modbus TCP server
- 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
- ATEX zone 2/22
- CCC-Ex
- 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 connection for RFID
- 8 universal digital channels, configurable as PNP inputs or 2 A outputs
- Programmable ARGEE

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Modbus TCP	
Addressing	Static IP, BOOTP, DHCP
Supported function codes	FC1, FC2, FC3, FC4, FC6, FC15, FC16, FC23
Number of TCP connections	8
Input register start address	0 (0x0000 hex)
Output register start address	2048 (0x0800 hex)

Ethernet/IP	
Addressing	acc. to EtherNet/IP specification
Quick Connect (QC)	< 150 ms
min. RPI	2 ms
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

PROFINET	
Version	2.35
Addressing	DCP
Conformance class	B (RT)
MinCycleTime	1 ms
Fast Start-Up (FSU)	< 150 ms
Diagnostics	acc. to PROFINET alarm handling
Topology detection	supported
Automatic addressing	supported
Media Redundancy Protocol (MRP)	supported
System redundancy	S2
Netload class	3

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

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Digital outputs	
Number of channels	8
Connectivity outputs	M12, 5-pin
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	Acc. to EN 60068-2-6 Acceleration up to 20 g
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 UKCA ATEX zone 2/22 CCC-Ex FCC statement, UV resistant acc. to DIN EN ISO 4892-2A (2013)
UL Certificate	cULus LISTED 21 W2, Encl.Type 1 IND.CONT.EQ.
Note on ATEX/IECEx	The Quick Start Guide with information on use in Ex areas must be observed.

General Information	
Dimensions (W x L x H)	60.4 x 230.4 x 34.8 mm
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
Connector material	Nickel-plated brass
Window material	Lexan
Material screw	303 stainless steel
Material label	Polycarbonate
Halogen-free	yes
Mounting	2 mounting holes Ø 6.3 mm

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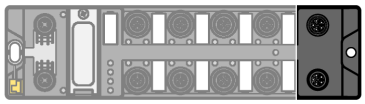
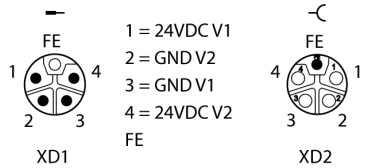
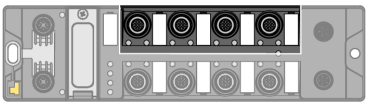


Note
Power supply cable (example):
Connection cable 10 m: RKP46PL-10-RSP46PL
Ident-No. UX18150
Connection cable 2 m: RKP46PL-10
Ident-No. UX11280

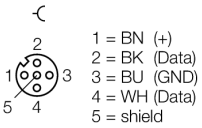
M12 power supply, L-coded





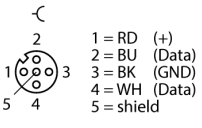
Note
RFID cable (example):
RFID cable, 2 M: RK4.5T-2-RS4.5T/S2501
Ident. no. U3-01243
Connection of TB and TN read/write heads (example):
TN-CK40-H1147
Ident. no. 7030006

…/S2500plug connectors

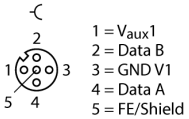


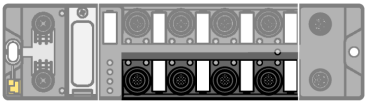
…/S2501 Connectors

…/S2503 Connectors



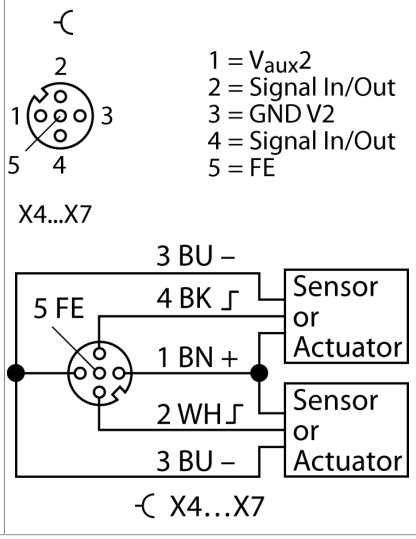
Wiring diagram





Note
Actuator and sensor cable/PUR connection cable (example):
RK4.4T-2-RS4.4T
Ident. no. U2445
Connection Y piece for single assignment
YB2-FSM4.5-2FKM4.5
Ident-No. U0875-78

I/O port M12 × 1



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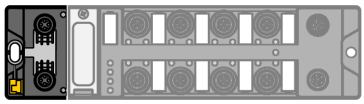
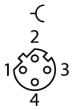


Note

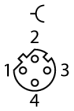
Ethernet cable (example):
RSSD-RSSD-441-2M
Ident. no. U-02482

M12 × 1 Ethernet



1 = TX +
2 = RX +
3 = TX –
4 = RX –
flange = FE

XF1



1 = RX +
2 = TX +
3 = RX –
4 = TX –
flange = FE

XF2

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