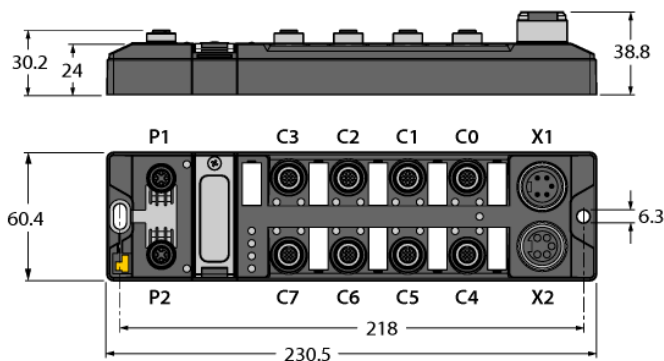


Compact Multiprotocol RFID Module for Ethernet interface for 4 BL ident read-write heads (HF/UHF) TBEN-L5-4RFID-8DXP-CDS



- **CODESYS V3, PLC Runtime**
- **CODESYS OPC-UA Server**
- **PROFINET Device, EtherNet/IP Device or Modbus TCP Master/Slave**
- **Integrated Ethernet switch**
- **10 Mbps/100 Mbps supported**
- **Glass fiber reinforced housing**
- **Shock and vibration tested**
- **Fully potted module electronics**
- **Protection classes IP65, IP67, IP69K**
- **Integration in PLC systems without special function block**
- **Up to 128 bytes of user data 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**
- **HF bus mode for static applications**
- **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**
- **LED displays and diagnostics**

Type designation	TBEN-L5-4RFID-8DXP-CDS
Ident-No.	6814120
Supply	
Supply voltage	24 VDC
Admissible range	18...30 VDC
	Total current V1 max. 8 A [UL: 7 A] + V2 max. 9 A at 70 °C [UL: 55 °C] per module
Voltage supply connection	5-pin male 7/8" connector X1
Operating current	V1: max. 200 mA
	V2: max. 50 mA
RFID supply V _{AUX1}	Slots C0–C3 from V1
	Short-circuit proof, 2 A per channel at 70 °C, [UL: 1.74 A per channel at 55 °C]
Sensor/Actuator supply V _{AUX2}	Slots C4...C7 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	≤ 6.5 W
system description	
Processor	ARM Cortex A8, 32 bit, 800 MHz
Program and data memory	20 MB
Memory	256 MB Flash
RAM memory	128 MB DDR3
Add-on memory	1 x USB host port
Real time clock	yes
Operating system	Linux
PLC data	
Programming	CODESYS V3
Released for CODESYS version	V 3.5.11.20
Programming languages	IEC 61131-3 (AWL, KOP, FUP, AS, ST)
Application tasks	10
Number of POU's	1024
Programming interface	Ethernet, USB
Cycle time	< 1 ms for 1000 AWL commands (without I/O cycle)
Input data	8 kByte
Output data	8 kByte
System data	
Transmission rate Ethernet	10 Mbit/s / 100 Mbit/s
Connection technology Ethernet	2 × M12, 4-pin, D-coded
Web server	Default: 192.168.1.100
Service interface	Ethernet via P1 or P2

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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
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

Addressing	DCP
MinCycleTime	4 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: 1.74 A per channel at 55 °C], short-circuit proof
Operation per channel	1 × HF or UHF read/write head, up to 32 bus-compatible HF read/write heads ending on /C53 (additional power supply may be needed for static applications)
Mixed operation of RFID data interface	HF and UHF read/write heads
Cable length	HF und UHF 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

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TBEN-L5-4RFID-8DXP-CDS

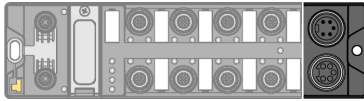
Standard/Directive conformity

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, FM Class I, Zone 2, UV-resistant in accordance with DIN EN ISO 4892-2A (2013)
UL Certificate	cULus LISTED 21 W2, Encl.type 1 IND.CONT.EQ.

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	75 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

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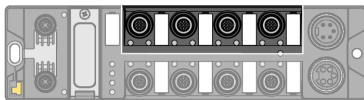
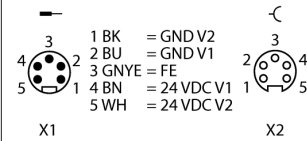
Accessories

Power supply cable (example):

RSM RKM 50-2M

Ident no. U2282-0

7/8" Power Supply



Accessories

RFID cable (example):

RK4.5T-5-RS4.5T/S2500

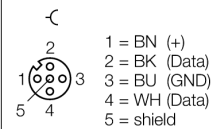
Ident. no. 6699201

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

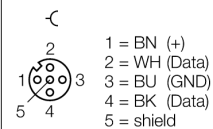
TN-CK40-H1147

Ident. no. 7030006

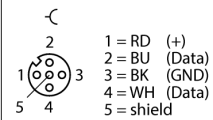
Connector .../S2500



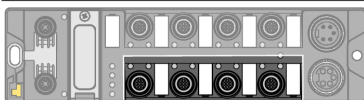
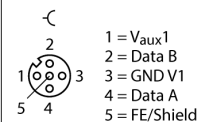
Connector .../S2501



Connectors .../S2503



Wiring Diagram



Accessories

Accessories:

Connection cable , 2-channel (example):

RK 4.4T-2-RS 4.4T

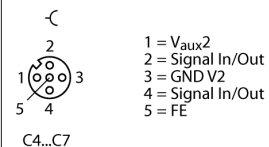
Ident no. U2445

Splitter, 1-channel (example):

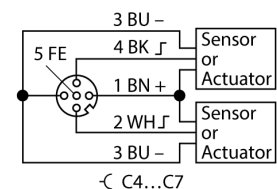
YB2-FSM 4.5-2FKM 4.5

Ident no. U0875-78

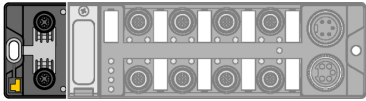
M12 x 1 I/O Port



C4...C7

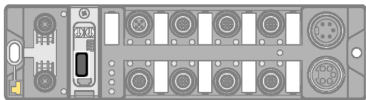
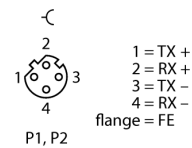


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interface for 4 BL ident read-write heads (HF/UHF)
TBEN-L5-4RFID-8DXP-CDS**



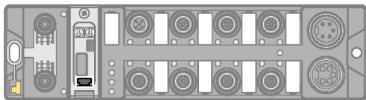
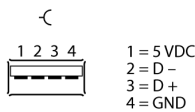
Accessories
Ethernet cable (example):
RSSD RSSD 441-2M
Ident no. U-02482

M12 x 1 Ethernet



USB Host Interface
For use with USB sticks

USB 2.0 A Jack



USB Device Interface
For use as a programming interface (alternative to Ethernet)
USB cable (example):
MINI USB 2.0 CABLE 1.5 M (ident. no. 6827388)
USB 2.0 extension A-male on A-female:
USB 2.0 EXTENSION 5 M (ident. no. 6827389)
USB 2.0 EXTENSION ACTIVE 5 M (ident. no. 6827390)

USB 2.0 mini-B Jack

