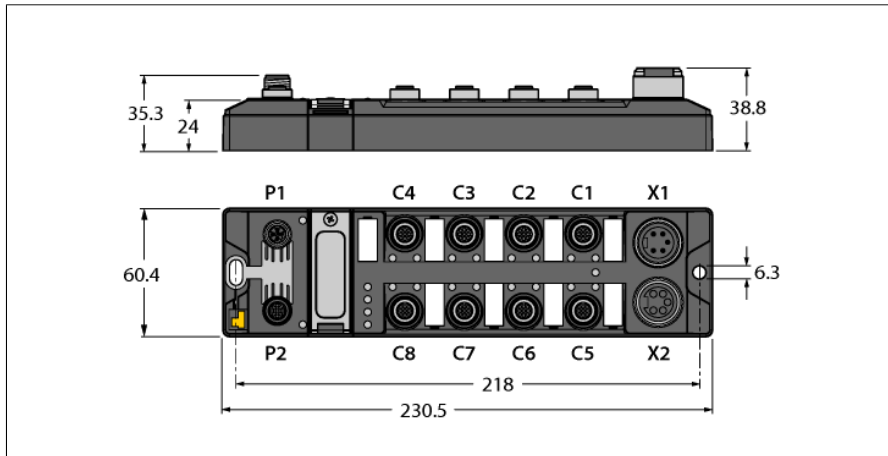


## Fieldbus I/O module PROFIBUS-DP

### 16 configurable digital channels, as PNP Inputs or 2 A outputs

#### TBDP-L2-16DXP



- 2 × M12, 5-pin, B-coded, PROFIBUS-DP-Fieldbus connection
- 7/8" connector for power supply, 5-pin
- Separated power groups for safety shutdown
- Input diagnostics per port
- Max. 2 A per output
- Output diagnostics per channel
- Two freely selectable digital channels per port
- Glass-fiber reinforced housing
- Shock and vibration tested
- Fully potted module electronics
- Protection classes IP65 / IP67 / IP69K

<b>Type designation</b>	TBDP-L2-16DXP
Ident-No.	6814004
<b>Supply</b>	
Supply voltage	24 VDC
Admissible range	18...30 VDC
	Total current max. 9 A per voltage group
	Total current V1 + V2 max. 11 A
Voltage supply connection	5-pin male 7/8" connector X1
Sensor/Actuator supply $V_{AUX1}$	supply of ports C1-C4 from V1
	short-circuit proof, 120mA per port
Sensor/Actuator supply $V_{AUX2}$	supply of ports C5-C8 from V2
	short-circuit proof, 120mA per port
Electrical isolation	galvanic isolation of the voltage groups V1 and V2, voltages up to 500 VAC
<b>System data</b>	
Fieldbus transmission rate	9.6 kbps ... 12 Mbps
Fieldbus connection technology	2 × M12, 5-pin, reverse-keyed
Fieldbus addressing	0...126 (decimal) via three rotary coding switches
<b>Digital inputs</b>	
Number of channels	16
Connectivity inputs	M12, 5-pin
Input type	PNP
Type of input diagnostics	Group 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
Input delay	2.5 ms
Electrical isolation	galvanic isolation to P1/P2, voltages up to 500 VDC
<b>Digital outputs</b>	
Number of channels	16
Connectivity outputs	M12, 5-pol
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. 2.0 A per port
Output delay	1.3 ms
Load type	EN 60947-5-1: DC-13
Short-circuit protection	yes
Electrical isolation	galvanic isolation to P1/P2, voltages up to 500 VDC

## Fieldbus I/O module PROFIBUS-DP

### 16 configurable digital channels, as PNP Inputs or 2 A outputs

### TBDP-L2-16DXP

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**Standard/Directive conformity**

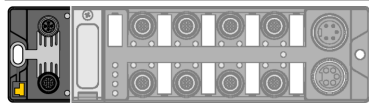
Vibration test	acceleration to 20 g acc. to EN 60068-2-6
Shock test	acc. to EN 60068-2-27
Drop and topple	acc. to EN 60068-2-31/IEC 60068-2-32
Electromagnetic compatibility	acc. to EN 61131-2
Approvals and certificates	CE, FCC
UL Certificate	cULus LISTED 21 W2, Encl.Type 1 IND.CONT.EQ.

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**General Information**

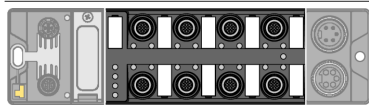
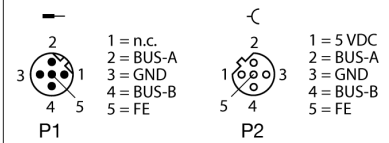
Dimensions (W x L x H)	60.4 x 230.4 x 39mm
Operating temperature	-40...+70 °C
Storage temperature	-40...+85 °C
Altitude	max. 5000 m
Protection class	IP65 IP67 IP69K
MTTF	162 years
Housing material	PA6-GF30
Housing color	Black
Window material	Lexan
Material screw	303 stainless steel
Material label	Polycarbonate
Halogen-free	yes
Mounting	2 mounting holes □ 6.3 mm

**Fieldbus I/O module PROFIBUS-DP**  
**16 configurable digital channels, as PNP Inputs or 2 A outputs**  
**TBDP-L2-16DXP**



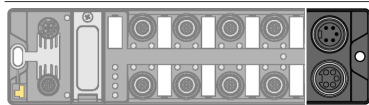
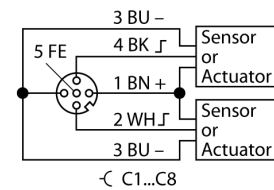
**Accessories**  
PROFIBUS-DP cable (example):  
RSSW RKSX 455-2M  
Ident no. U0350

M12 x 1 Fieldbus



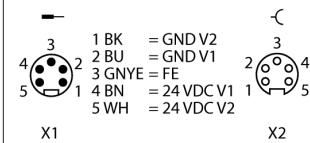
**Accessories**  
Accessories:  
Connection cable , 2-channel (example):  
RK 4.4T-2-RS 4.4T  
Ident no. U2445  
Splitter, 1-channel (example):  
YB2-FSM 4.5-2FKM 4.5  
Ident no. U0875-78

M12 x 1 I/O Port



**Accessories**  
Power supply cable (example):  
RSM RKM 50-2M  
Ident no. U2282-0

7/8" Power Supply



**Fieldbus I/O module PROFIBUS-DP**  
**16 configurable digital channels, as PNP Inputs or 2 A outputs**  
**TBDP-L2-16DXP**

**Module LED Status**

LED	Color	Status	Description
BUS	Green	ON	PROFIBUS online
	Red	ON	PROFIBUS offline
		OFF	Power off
ERR	Green	ON	Diagnostics disabled
	Red	ON	Diagnostics enabled
PWR	Green	ON	V <sub>1</sub> and V <sub>2</sub> power on
	Red	ON	V <sub>2</sub> power off or below defined tolerance of 18 V
		OFF	V <sub>1</sub> power off or below defined tolerance of 18 V

**LED Status I/O**

LED	Color	Status	Description
LED 1 ... 16	Green	ON	Input or output active
	Red	ON	Output active with overload/short circuit
		flashing	Power overload at the corresponding port. Both port LEDs are flashing.
	OFF	Input or output inactive	

## Fieldbus I/O module PROFIBUS-DP

### 16 configurable digital channels, as PNP Inputs or 2 A outputs

### TBDP-L2-16DXP

#### Process Data Mapping of the Single Protocols

For more details on the corresponding protocols see manual.

#### PROFIBUS process data

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Inputs	0	DI8 C4P2	DI7 C4P4	DI6 C3P2	DI5 C3P4	DI4 C2P2	DI3 C2P4	DI2 C1P2	DI1 C1P4
	1	DI16 C8P2	DI15 C8P4	DI14 C7P2	DI13 C7P4	DI12 C6P2	DI11 C6P4	DI10 C5P2	DI9 C5P4
Outputs	0	DO8 C4P2	DO7 C4P4	DO6 C3P2	DO5 C3P4	DO4 C2P2	DO3 C2P4	DO2 C1P2	DO1 C1P4
	1	DO16 C8P2	DO15 C8P4	DO14 C7P2	DO13 C7P4	DO12 C6P2	DO11 C6P4	DO10 C5P2	DO9 C5P4
Diagnostics Input	2	SCS8	SCS7	SCS6	SCS5	SCS4	SCS3	SCS2	SCS1
	3	SCO8	SCO7	SCO6	SCO5	SCO4	SCO3	SCO2	SCO1
	4	SCO16	SCO15	SCO14	SCO13	SCO2	SCO11	SCO10	SCO9