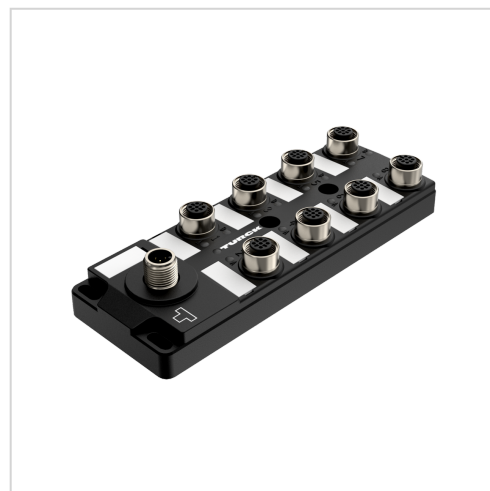
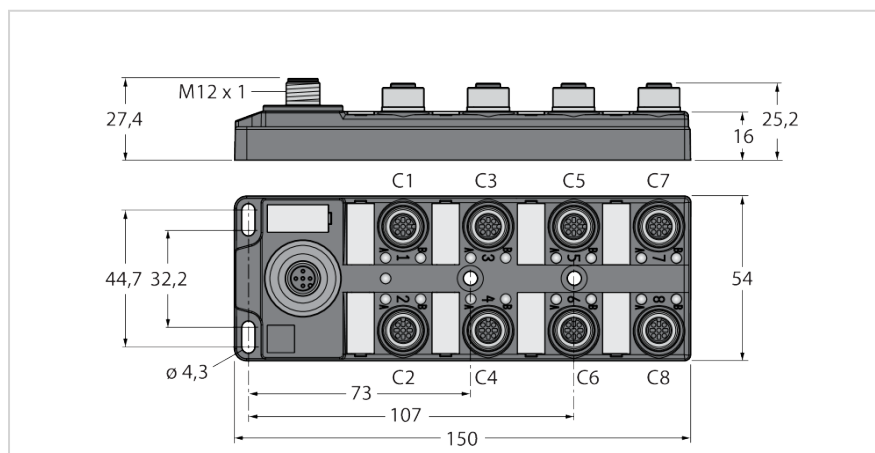


TBIL-M1-8DOP

I/O Hub for Connecting Digital Signals to IO-Link Master 8 Digital PNP Outputs 0.5 A



Type designation	TBIL-M1-8DOP
Ident-No.	6814101

Technical data

Power supply	
Actuator power supply	Firmware < 1.4.0.0: max. 1.6 A per module Firmware >= 1.4.0.0: max. 120 mA per plug
Supply voltage	24 VDC
Admissible range	18...30 VDC V1 max. 4 A
Voltage supply connection	M12
Operating current	Max. 65 mA
Sensor/actuator supply	Class-A supply from V1 Short circuit-proof, 120 mA per slot
Power dissipation, typical	≤ 1,5 W
Operating / load voltage	Total current max. 4 A per module 18...30 VDC
Electrical data	
Short-circuit protection	yes
Inputs/Outputs	
Number of channels	8
Digital outputs	
Number of channels	8 digital PNP outputs

Features

- IO-Link V1.1 Class A
- Glass fiber reinforced housing
- Shock and vibration tested
- Fully potted module electronics
- Protection classes IP65, IP67, IP69K
- 1 digital output per port
- I&M data sets support installation and maintenance
- IO-Link diagnostics for short circuit and supply voltage

Technical data

Connectivity outputs	M12
Output type	PNP
Type of output diagnostics	Group diagnostics
Output voltage	24 VDC from supply voltage
Output current per channel	4 A total (3 A UL rating), 0.5 A per channel
Simultaneity factor	0.75
Load type	Resistive, inductive, lamp load
Electrical isolation	outputs to FE 500 VDC
IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Transmission physics	corresponds to 3-wire physics (PHY2)
Transmission rate	COM 2 / 38.4 kbps
Frame type	2.3
Minimum cycle time	2,3 ms
Connectivity IO-Link	1 × M12
Programming	IO-Link master
Mechanical data	
Dimensions	150 mm x 54 mm x 27,4 mm
Housing material	PA6-GF30
Mounting	4 mounting holes Ø 4.3 mm
Ambient conditions	
Ambient temperature	-40...+70 °C
Storage temperature	-40...+85 °C
Altitude	max. 5000 m
Electromagnetic compatibility	Acc. to EN 61000-6-2/-6-4
Shock test	Acc. to EN 60068-2-27
Vibration test	Acc. to EN 60068-2-6, acceleration up to 20 g
Protection class	IP67 IP69K
Standards/directives	
Drop and topple	Acc. to IEC 60068-2-31/IEC 60068-2-32
Tests/approvals	
Approvals and certificates	CE UKCA ATEX zone 2/22 CCC-Ex

Technical data

	UV resistant acc. to DIN EN ISO 4892-2A (2013)
Approvals	CE, cULus
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.
MTTF	174 Years acc. to SN 29500 (Ed. 99) 20 °C
Comments	
Packaging unit	1

Module LED status

LED	Color	Status	Description
IO-Link	Green	Off	No power supply
		Flashing	IO-Link communication OK, receiving valid output process data
	Red	On	IO-Link communication or module error
		Flashing	IO-Link communication OK, receiving no or invalid output process data or diagnosis available

Outputs LED status

LED	Color	Status	Description
C1 A/B...C8 A/B	Green	Off	Output inactive, logic 0
		On	Output active, logic 1

C... = port number, A/B = signal LED (signal A = pin 4, signal B = pin 2)

Process Data

	Byte	Bit 7 MSB	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0 LSB
Outputs	0	DI8 C8P4 (A)	DI7 C7P4 (A)	DI6 C6P4 (A)	DI5 C5P4 (A)	DI4 C4P4 (A)	DI3 C3P4 (A)	DI2 C2P4 (A)	DI1 C1P4 (A)

C...= port number, P...= pin number
 Diagnostics / Events

Class/Qualifier					
Mode	Type	Instance		Code	Description
0xC0	0x30	0x04	0xF4 appears	0x5110	Supply voltage too high
0x80	0x30	0x04	0xB4 disappears	0x5110	
0xC0	0x30	0x04	0xF4 appears	0x5111	Supply voltage too low
0x80	0x30	0x04	0xB4 disappears	0x5111	
0xC0	0x30	0x04	0xF4 appears	0x7710	Short circuit to GND or Power Supply
0x80	0x30	0x04	0xB4 disappears	0x7710	
0xC0	0x30	0x04	0xF4 appears	0x5000	Hardware error
0x80	0x30	0x04	0xB4 disappears	0x5000	

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Device Parameters

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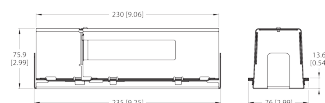
ISDU		Parameter Name	Access R: Read W: Write	Data Length	Data Type	
Index	Sub-Index					
0x0C	0x02	Data Storage Lock	R/W	1Bit	Boolean	Lock Parameter Upload 0: Unlocked; 1: Locked Default: 0
0x10	0x00	Vendor Name	R	16 Bytes	String	TURCK
0x11	0x00	Vendor Text	R	32 Bytes	String	www.turck.com
0x12	0x00	Product Name	R	32 Bytes	String	TBIL-M1-8DOP
0x13	0x00	Product ID	R	16 Bytes	String	6814101
0x14	0x00	Product Text	R	32 Bytes	String	I/O HUB
0x15	0x00	Serial Number	R	16 Bytes	String	
0x17	0x00	FW Revision	R	16 Bytes	String	
0x18	0x00	Application Specific Tag	R/W	32 Bytes	String	Free text e.g for application name Default: ***
0x40	0x00	Parameter ID	R/W	4 Bytes	Unsigned 32	ID no. e.g. for module identification Default: 0x0000

Mounting accessories

TB-SG-L

100014865

Protective housing for TBEN-L
and TBIL-M block I/O modules
for use in ATEX Zone 2/22



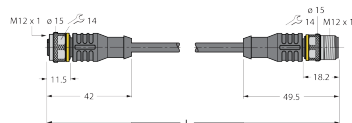
mm (inch)

Connection accessories - I/O

RKC4T-2-RSC4T/TXL

6625604

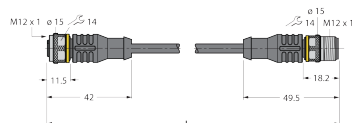
Extension cable, M12 female connector, straight, 3-pin to M12 male connector, straight, 3-pin; cable length: 2 m, jacket material: PUR, black; cULus approval



RKC4.4T-2-RSC4.4T/TXL

6625608

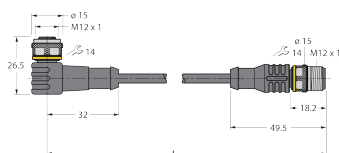
Extension cable, M12 female connector, straight, 4-pin to M12 male connector, straight, 4-pin; cable length: 2 m, jacket material: PUR, black; cULus approval



WKC4.4T-2-RSC4.4T/TXL

6625640

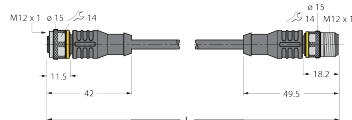
Extension cable, M12 female connector, angled, 4-pin to M12 male connector, straight, 4-pin, cable length: 2 m, jacket material: PUR, black; cULus approval



RKC4.5T-2-RSC4.5T/TXL

6625612

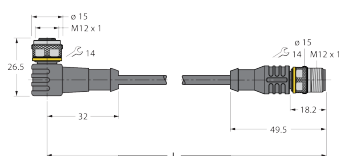
Extension cable, M12 female connector, straight, 5-pin to M12 male connector, straight, 5-pin; cable length: 2 m, jacket material: PUR, black; cULus approval



WKC4.5T-2-RSC4.5T/TXL

6625644

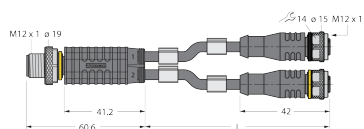
Extension cable, M12 female connector, angled, 5-pin to M12 male connector, straight, 5-pin; cable length: 2 m, jacket material: PUR, black; cULus approval



VBRS4.4-2RKC4T-1/1/TXL

6628112

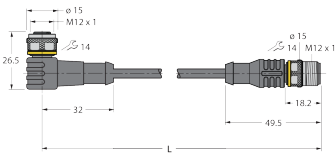
2-port junction systems — Y-splitter with cable, M12 male connector, straight, 4-pin — 2 × M12 female connector, straight, 3-pin, cable length: 1 m, jacket material: PUR, black



WKC4T-2-RSC4T/TXL

6625636

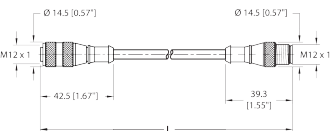
Connection accessories - I/O



Extension cable, M12 female connector, angled, 3-pin to M12 male connector, straight, 3-pin; cable length: 2 m, jacket material: PUR, black; cULus approval

RK 4T-2-RS 4T

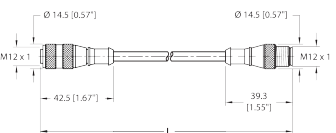
U2151-3



Actuator and sensor cordset, extension cable, M12 female connector, straight, 3-pin, M12 male connector, straight, 3-pin, IP68, IP69K, cable length: 2 m, cable jacket PVC, gray, other cable lengths and versions available, see www.turck.com

RK 4.4T-2-RS 4.4T

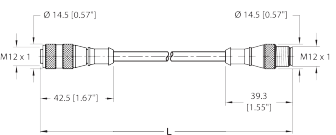
U2445



Actuator and sensor cordset, extension cable, M12 female connector, straight, 4-pin, M12 male connector, straight, 4-pin, IP68, IP69K, cable length: 2 m, cable jacket PVC, gray, other cable lengths and versions available, see www.turck.com

RK 4.5T-2-RS 4.5T

U2187-1

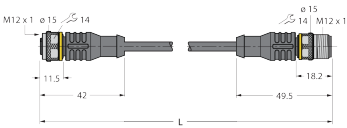


Actuator and sensor cordset, extension cable, M12 female connector, straight, 5-pin, M12 male connector, straight, 5-pin, IP68, IP69K, cable length: 2 m, cable jacket PVC, gray, other cable lengths and versions available, see www.turck.com

Connection accessories - network

RKC4T-2-RSC4T/TXL

6625604



Extension cable, M12 female connector, straight, 3-pin to M12 male connector, straight, 3-pin; cable length: 2 m, jacket material: PUR, black; cULus approval