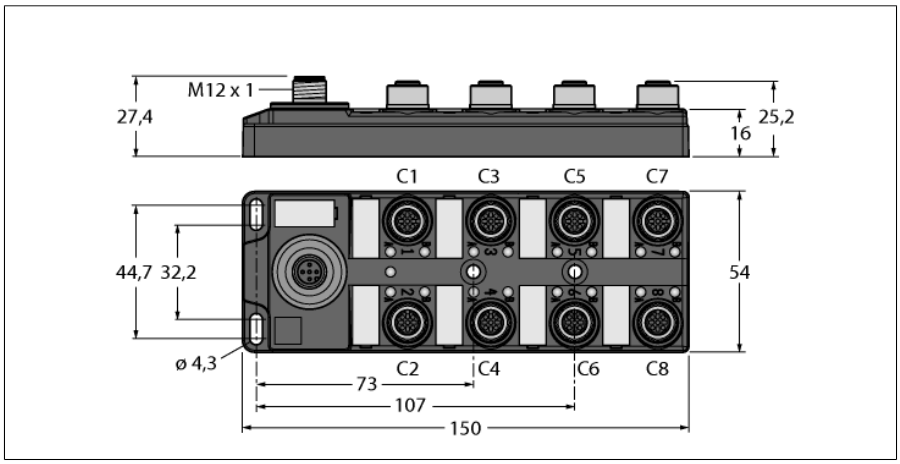
I/O Hub for Connection of Digital Signals to IO-Link Master
8 Digital PNP Outputs 0.5 A
TBIL-M1-8DOP

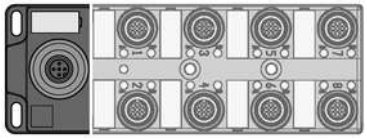
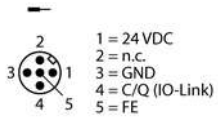
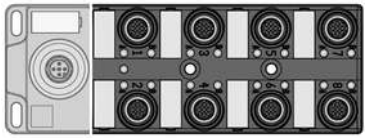
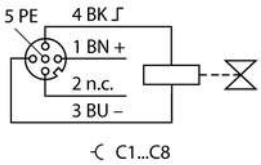


Type designation	TBIL-M1-8DOP
Ident-No.	6814101
Number of channels	8
Operating / load voltage	total current max. 4 A per module 18…30 VDC
Power dissipation, typical	≤ 1.5 W
Outputs	
Number of channels	8 digital PNP outputs
Type of output diagnostics	Group diagnostics
Output voltage	24 VDC
Output current per channel	0.5 A, short-circuit proof
Output delay	0.15 ms
Load type	resistive, inductive, lamp load
Simultaneity factor	0.75
Electrical isolation	outputs to FE 500 VDC
Actuator power supply	Firmware < 1.4.0.0: max. 1.6 A per module Firmware >= 1.4.0.0: max. 120 mA per plug
IO-Link	
IO-Link specification	Specified acc. to version 1.1
Programming	FDT/DTM
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
Dimensions (W x L x H)	54 x 150 x 27.4mm
Housing material	PA6-GF30
Mounting	4 mounting holes Ø 4.3 mm
Operating temperature	-40 … 70 °C
Storage temperature	-40 …85 °C
Vibration test	acc. to EN 60068-2-6
Shock test	acc. to EN 60068-2-27
Electromagnetic compatibility	acc. to EN 61000-6-2 / -6-4
Protection class	IP67 IP69K
MTTF	174 years
Approvals	CE, cULus

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I/O Hub for Connection of Digital Signals to IO-Link Master
8 Digital PNP Outputs 0.5 A
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Pinning and wiring diagram

<table>
<tr>
<td></td>
<td>Accessories
Suitable IO-Link cables (Example):
2 m: RK 4T-2-RS 4T (Ident. no. U2151-3)
5 m: RK 4T-5-RS 4T (Ident. no. U2158-15)
Further lengths and variants in the product catalog or on request
Suitable IO-Link masters (Example):
BL20-E-4IOL (Ident. no. 6827385)
BL67-4IOL (Ident. no. 6827386)
SDPX-IOL4-0001 (Ident. no. 6825480)
Further types in the product catalog or on request</td>
<td>M12 x 1 IO-Link

</td>
</tr>
<tr>
<td></td>
<td>Accessories
Suitable Sensor supply cables (Example):
2 m: RK 4.4T-2-RS 4.4T Ident. no. (U2445)
5 m: RK 4.4T-5-RS 4.4T Ident. no. (U2167-3)
Further lengths and variants in the product catalog or on request
Optional Accessories
Closure cap VZ3 M12 Ident. no. (01202601)
Labels KS9/20 Ident. no. (10267953)</td>
<td>M12 x 1 Output

</td>
</tr>
</table>

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I/O Hub for Connection of Digital Signals to IO-Link Master
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Module LED status

LED	Color	Status	Description
IO-Link	Green	OFF	Power off
		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 … = slot number, A / B = Signal LED (signal A = pin 4, B = signal pin 2)

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I/O Hub for Connection of Digital Signals to IO-Link Master
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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… = slot no., P… = pin no.

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	

Device Parameters

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

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