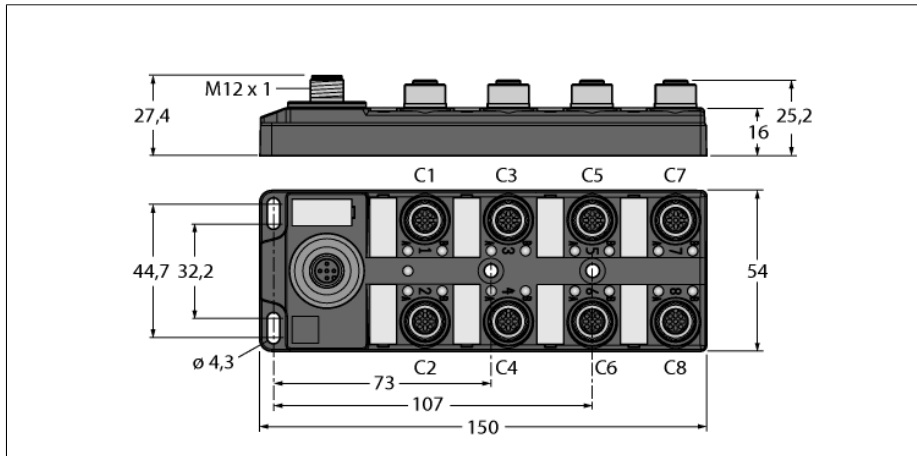


**Compact I/O module for IO-Link**  
**16 digital PNP inputs**  
**TBIL-M1-16DIP**

**TURCK**

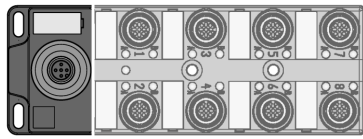
Industrial  
Automation

- Rugged, fully encapsulated sensor distribution box in IP67
- IO-Link diagnostics for short-circuit and supply voltage
- 2 input per port
- Metal connector



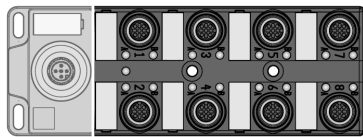
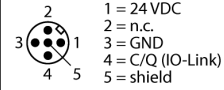
<b>Type code</b>	TBIL-M1-16DIP
Ident no.	6814100
<b>Operating / load voltage</b>	18 ... 30 VDC
Power loss, typical	≤ 3.6 W
<b>Inputs</b>	
Number of channels	16 digital PNP inputs (EN 61131-2)
Input voltage	18 ... 30 VDC, e.g. from supply voltage
Low level signal voltage	-3...5 VDC (EN 61131-2, type 1 and 3)
High level signal voltage	11...30 VDC (EN 61131-2, type 1 and 3)
Input delay	0.25 ms
Max. input current	15 mA
Electrical isolation	Inputs to FE 500VDC
<b>IO-Link</b>	
Communication	specified acc. to version 1.1
Parameterization	FDT/DTM
Transmission physics	Corresponds to 3-wire physics (PHY2)
Transmission rate	COM 2 / 38.4 kbps
Frame type	2.2
<b>Dimensions (W x L x H)</b>	
Housing material	54x150x27.4mm 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
Electro-magnetic compatibility	acc. to EN 61000-6-2 / -6-4
Protection class	IP67
Approvals	CE

**Compact I/O module for IO-Link**  
**16 digital PNP inputs**  
**TBIL-M1-16DIP**



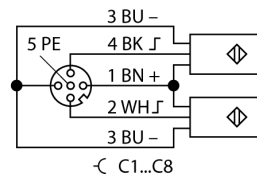
**Note**  
 Suitable IO-Link cables:  
 2 m: RKC4T-2-RSC4T/TXL Ident no. 6625604  
 5 m: RKC4T-5-RSC4T/TXL Ident no. 6625730  
 Other lengths and types available on request or see catalog  
 Suitable IO-Link master modules:  
 SDPX-IOL4-0001 Ident no. 6825480  
 Other lengths and types available on request or see catalog

Fieldbus M12 x 1



**Note**  
 Suitable sensor supply cables:  
 2 m: RSC4.4T-2/TXL Ident no. 6625527  
 5 m: RSC4.4T-5/TXL Ident no. 6625528  
 Other lengths and types available on request or see catalog  
 Additional material:  
 Closure cap VZ3 M12 Ident no. 8000004  
 Labels KS9/20 Ident no. 8015002

Input M12 x 1



**Compact I/O module for IO-Link**  
**16 digital PNP inputs**  
**TBIL-M1-16DIP**

**TURCK**

Industrial  
Automation

**Module LED status**

LED	Color	Status	Description
IO-Link	green	off	No power supply
		flashing	IO-Link communication OK, ready for operation
	red	on	Undervoltage, IO-Link or module error
		flashing	IO-Link communication OK, module error

**Inputs LED Status**

LED	Color	Status	Description
C1.0 ... C8.0	green	off	Input inactive, logic 0
		on	Input active, logic 1

# Compact I/O module for IO-Link

## 16 digital PNP inputs

### TBIL-M1-16DIP

#### Process data

Byte	Bit	Signal	Pin
PD <sub>0</sub>	Bit 0 (LSB)	Digital Input 1	C1 P4 (signal A)
	Bit 1	Digital Input 2	C1 P2 (signal B)
	Bit 2	Digital Input 3	C2 P4 (signal A)
	Bit 3	Digital Input 4	C2 P2 (signal B)
	Bit 4	Digital Input 5	C3 P4 (signal A)
	Bit 5	Digital Input 6	C3 P2 (signal B)
	Bit 6	Digital Input 7	C4 P4 (signal A)
	Bit 7 (MSB)	Digital Input 8	C4 P2 (signal B)
PD <sub>1</sub>	Bit 0 (LSB)	Digital Input 9	C5 P4 (signal A)
	Bit 1	Digital Input 10	C5 P2 (signal B)
	Bit 2	Digital Input 11	C6 P4 (signal A)
	Bit 3	Digital Input 12	C6 P2 (signal B)
	Bit 4	Digital Input 13	C7 P4 (signal A)
	Bit 5	Digital Input 14	C7 P2 (signal B)
	Bit 6	Digital Input 15	C8 P4 (signal A)
	Bit 7 (MSB)	Digital Input 16	C8 P2 (signal B)

C... = port number, P... = pin number

#### Diagnostics / Events

Class/Qualifier				Code	Description
Mode	Type	Instance			
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 in sensor supply or at output
0x80	0x30	0x04	0xB4 disappears	0x7710	
0xC0	0x30	0x04	0xF4 appears	0x5000	Hardware error
0x80	0x30	0x04	0xB4 disappears	0x5000	

#### Device Parameter

ISDU		Parameter Name	Access R: Read W: Write	Data Length	Data Type	Default Values
Index	Sub-index					
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-M1-16DIP
0x13	0x00	Product ID	R	16 Bytes	String	6814100
0x14	0x00	Product Text	R	32 Bytes	String	IO-Link Passive Box
0x15	0x00	Serial Number	R	16 Bytes	String	
0x17	0x00	Software Revision	R	16 Bytes	String	1.0.0.0
0x18	0x00	Application Specific Tag	R/W	32 Bytes	String	***
0x28	0x00	Process Data Input	R	PD Length	Device Specific	
0x29	0x00	Process Data Output	R	PD Length	Device Specific	
0x40	0x00	Parameter ID	R/W	4 Bytes	Unsigned 32	0x00
0x41	0x00	Inverting Input	R/W	2Bytes	Unsigned 16	0x00