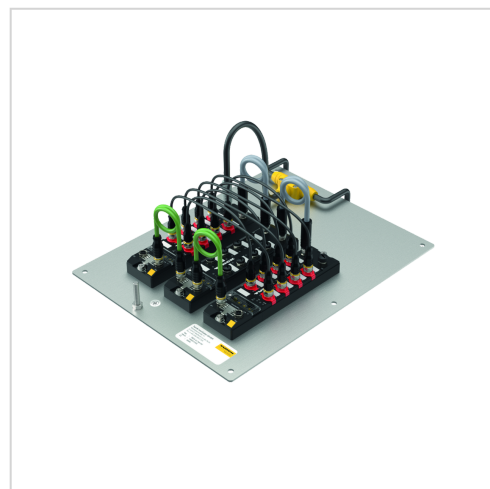
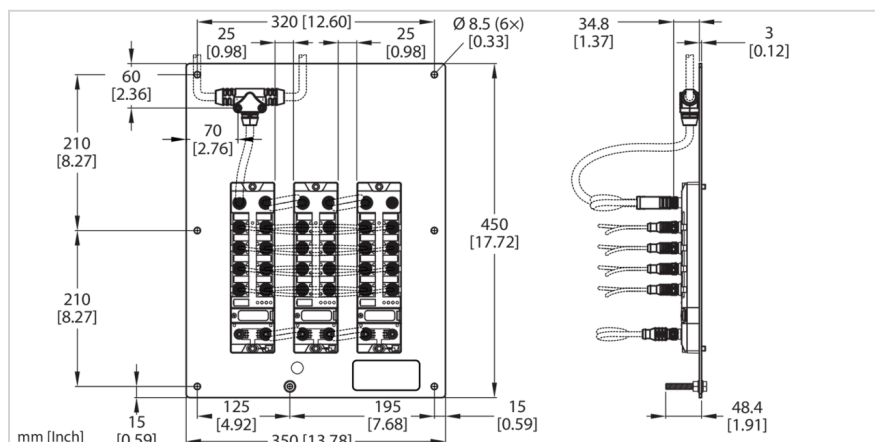


TBCS-LL-SET-02

EtherNet/IP safety spanner

Master-to-master safe and secure data exchange



Typ	TBCS-LL-SET-02
Ident-No.	100051245

Technical data

General data	
	The data sheet serves as advance information. For definitive values see the corresponding product manual. In this respect, no liability for completeness and accuracy can be applied to the content of this data sheet.
Power supply	
Additional information	Please note the derating for output currents (fig. 1) and total current consumption of the module (fig. 2) from the data sheets of the individual products!
Supply voltage	24 VDC
Admissible range	20.4 ... 28.8 VDC
Voltage supply connection	M12, L-coded
Electrical isolation	Galvanic isolation of V1 and V2 voltage group Voltage proof up to 500 VDC
System data	
Fieldbus transmission rate	10/100 Mbps
Fieldbus connection technology	2 × M12, 4-pin, D-coded

Features

- EtherNet/IP CIP-safe safety module with EtherNet/IP spanner
- Internal connections pre-wired in the set. Wiring must not be changed! The set may only be supplied via the specified supply point!
- 4-bit secure data exchange
- 256 bytes of non-secure data exchange
- On the TBCS-LL-SET-02, the internal connections are pre-wired in the set. Wiring must not be changed! The set may only be supplied via the specified supply point!
- Ethernet/IP device
- Integrated Ethernet switch
- 10 Mbps/100 Mbps supported
- 2 × M12, 4-pin, D-coded, Ethernet fieldbus connection
- Installed pre-wired on aluminum plate
- Glass-fiber-reinforced housing
- Shock- and vibration-tested
- Fully encapsulated module electronics
- Protection classes IP65, IP67, IP69K
 - M12, L-coded connector for power supply

Technical data

Web server	integrated
Service interface	Ethernet via P1 or P2
EtherNet/IP	
Addressing	acc. to EtherNet/IP specification
Quick Connect (QC)	(Not supported according to ODVA specifications)
Device Level Ring (DLR)	supported
Class 1 connections (CIP)	3
Safety specifications	
	Safety data applies to a TBIP* device
PL acc. to EN ISO 13849-1	Level e
Category acc. to DIN EN 13849-1:2008	4
MTTF _d gemäß ISO 13849-1:2008	>200 years
DC acc. to ISO 13849-1:2008	99%
SIL acc. to IEC 61508	3
PFH according IEC 61508	< 1* 10E-09 /h
PFD according IEC 61508	< 1* 10E-07
Useful Lifetime	20 years (EN ISO 13849-1)
Mechanical data	
Mounting	Mounting holes Ø 8.5 mm
Environmental conditions	
Ambient temperature	-40...+70 °C
Storage temperature	-40...+85 °C
Altitude	max. 5000 m
Electromagnetic compatibility	Acc. to EN 61131-2
Shock test	Acc. to EN 60068-2-27
Vibration test	Acc. to EN 60068-2-6, acceleration up to 20 g
Protection class	IP65 IP67 IP69K
Standards/directives	
	Please note:
Drop and topple	Acc. to IEC 60068-2-31/IEC 60068-2-32
Product Standard	IEC 61131-6
Tests/approvals	
Safety standard	EN/IEC 61508
Approvals and certificates	CE UKCA

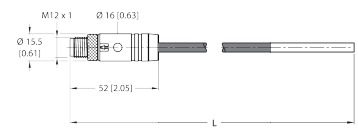
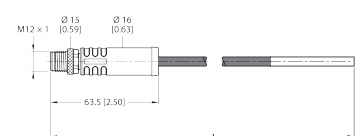
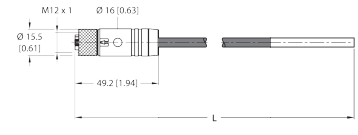
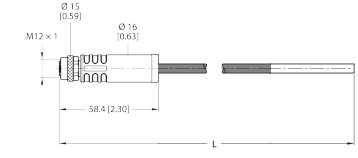
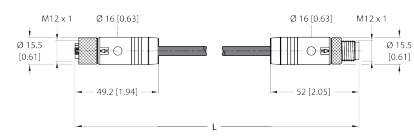
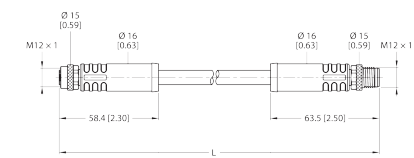
Technical data

	ATEX zone 2/22 CCC-Ex FCC statement, UV resistant acc. to DIN EN ISO 4892-2A (2013)
UL Certificate	cULus LISTED 21 W2, Encl.Type 1 IND.CONT.EQ.
Other properties	
Halogen-free	yes
Comments	
Packaging unit	1

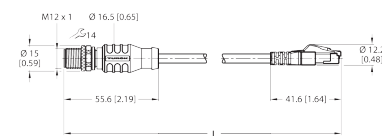
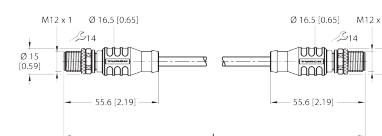
Process Data Mapping of the Single Protocols

For more details on the corresponding protocols see manual.

Connectivity accessories — Power supply

RSP56PLB-2/TXG	100018910	Connection cable, M12 male connector, straight, 5-pin, cable length: 2 m, jacket material: PVC, gray
		
RSP56PLA-2/TXG	100038699	
		
RKP56PLB-2/TXG	100006303	Connection cable, M12 female connector, straight, 5-pin, cable length: 2 m, jacket material: PVC, gray
		
RKP56PLA-2/TXG	100038706	
		
RKP56PLB-2-RSP56PLB/TXG	100003327	Extension cable, M12 female connector, straight, 4-pin + FE, L-coded; M12 male connector, straight, 4-pin + FE, L-coded; cable length: 2 m, jacket material: PVC, gray
		
RKP56PLA-2-RSP56PLA/TXG	100038722	Extension cable, M12 female connector, straight, 4-pin + FE, L-coded; M12 male connector, straight, 4-pin + FE, L-coded; cable length: 2 m, jacket material: PUR, gray
		

Connectivity accessories — Network

RSSD-RJ45S-4422-2M	6635170
	Cable for Industrial Ethernet, M12 male connector, D-coded, straight to RJ45 male connector, straight, cable length: 2 m, jacket material: PUR, green
RSSD-RSSD-4422-2M	6635150
	Cable for Industrial Ethernet, M12 male connector, D-coded, straight to M12 male connector, D-coded, straight, cable length: 2 m, jacket material: PUR, green