

PROFIBUS Fiber Optic Link Coupler and Repeater

FOL7250B059

- For any PROFIBUS interface, e.g. Remote I/O, valves, drives, inverters, motors, controllers etc.
- Full galvanic isolation between field and control room
- No sparks capable of ignition or hot surfaces due to low light energies
- Automatic baud rate detection
- Star, ring, or line topology selectable
- Bridging of great distances while maintaining high transmission rates

PROFIBUS Fiber Optic Link Coupler and Repeater

Function

The Profibus-Fibre Optic Coupler and Repeater FOL 7250 converts Profibus into fibre optic signals and vice versa. Thus, great distances can be bridged even at high transmission rates (1,000 m at 1.5 Mbit/s) while complete galvanic isolation between field and control room is guaranteed. The FOL 7250 can be used both as a point-to-point coupler and in a redundant ring. It automatically adapts to the Profibus transmission rate, detects line faults and performs an automatic redundancy switchover.

Technical Data

Supply		
Connection		redundant
Rated voltage	U_r	18 ... 32 V , typical: 24 V
Rated current	I_r	approx. 200 mA
Power consumption		4.8 W
Fieldbus connection		
Fieldbus type		PROFIBUS DP, DP V1, DP V2, FMS
Terminating resistor		integrated, switchable on
Electrical specifications		
Signal delay		< 6.5 bit times
Interface		
Interface type		RS-485
Transfer rate		9.6; 19.2; 93.75; 187.5; 500; 1500 kBit/s 3; 6; 12 Mbit/s self-synchronizing
External bus		
Connection		spring terminals, max. 1.5 mm^2
Redundancy		HIPER ring
Fiber optics functionality		
Wave length		860 nm
Optical input power		min. -28 dBm, max. -3 dBm
Launchable optical power		in multi-mode fiber (50/125): (50/125): -15 dBm (62,5/125): - 13 dBm
Cable length		Multi-mode fiber (MM) 50/125: 3 km with A = 3 dB/km; 3 dB buffer Multi-mode fiber (MM) 62,5/125: with A = 3.5 dB/km; 3 dB buffer
Connector type		BFOC/2.5
Link budget		Multi-mode fiber (MM) 50/125: 13 dB at 860 nm Multi-mode fiber (MM) 62,5/125: 15 dB at 860 nm
Fault indication output		
Output type		volt-free contact

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Technical Data

Switching current		max. 1 A
Switching voltage		max. 32 V
Switch power		max. 30 W
Contact loading		max. 32 V DC, 24 V AC, 1 A (Ex e)
Galvanic isolation		
PROFIBUS DP/Supply		functional insulation acc. to DIN EN 50178
Indicators/settings		
LED indication		LED System (red/green): Operating voltage and bitrate, LED CH1 (red/yellow): electric channel, LED CH2, CH3 (red/yellow): optic channel
Conformity		
Electromagnetic compatibility		EN 61000-4-2/3/4/5/6, EN 55022, NE 21
Degree of protection		IEC 60529
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		max. 100 % , moisture condensation allowable
Vibration resistance		1 g , 58 ... 150 Hz according to IEC 60068-2-6
Mechanical specifications		
Degree of protection		IP20
Cable		
Length	L	200 m ... 1000 m, depending on baud rate
Mass		1500 g
Dimensions		156 x 125 x 75 mm
Mounting		DIN rail mounting
Data for application in connection with hazardous areas		
EU-type examination certificate		PTB 07 ATEX 2021 X
Marking		Ⓔx II 2 G Ex e mb [ib] op is IIC T4
Fault indication output		
Maximum safe voltage	U_m	60 V
Directive conformity		
Directive 94/9/EC		EN 60079-0:2006 EN 60079-7:2007 EN 60079-11:2007 EN 60079-18:2004 EN 60079-28:2007
International approvals		
ATEX approval		PTB 07 ATEX 2021X
GOST-R approval		RU C-IT.MIII06.B.00129
INMETRO approval		Brazil: TÜV 14.1594X
Marine approval		
Lloyd Register		c15-20021
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

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