PROFIBUS Fiber Optic Link Coupler and Repeater

Features

- For any PROFIBUS interface, e.g. Remote I/O, valves, drives, inverters, motors, controllers etc.
- Full galvanic isolation between field and control room
- Very high noise immunity since insusceptible to electromagnetic fields
- 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

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		18 ... 32 V , typical: 24 V
Rated current		approx. 200 mA
Power consumption		4.8 W
Fieldbus interface		
Fieldbus type		PROFIBUS DP, DP V1, DP V2, FMS
Terminating resistor		integrated, switchable on
Electrical specifications		
Signal delay		< 6.5 bit times
Signal contact (safety extra-low voltage)		max. DC 60 V, AC 24 V, 1 A (Ex e)
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		
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: 3000 m, 13 dB link budget at 860 nm; A = 3 dB/km; 3 dB buffer Multi-mode fiber (MM) 62,5/125: 3000 m, 15 dB link budget at 860 nm; A = 3,5 dB/km; 3 dB buffer
Connector type		BFOC/2.5
Electrical isolation		
PROFIBUS DP/Supply		functional insulation acc. to DIN EN 50178
Indicators/settings		
LED indicator		LED System (red/green): Operating voltage and bitrate, LED CH1 (red/yellow): electric channel, LED CH2, CH3 (red/yellow): optic channel
Standard conformity		
Electromagnetic compatibility		EN 61000-4-2/3/4/5/6, EN 55022, NE 21
Protection degree		IEC 60529
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F) module , 55 °C (131 °F) housing
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		
Protection degree		IP20 (DIN rail module), IP66 (if plastic or stainless steel housing is used)
Cable		
Length	L	200 m ... 1000 m, depending on baud rate
Mass		1500 g (DIN rail module), 2400 g (plastic housing), 3700 g (stainless steel housing)
Dimensions		156x125x75 mm (module), 165x194x138 mm (plastic housing), 230x219x108 mm (stainless steel housing)
Mounting		DIN rail mounting
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		Coupler in housing: PTB 04 ATEX 1030 Coupler as DIN rail module: PTB 07 ATEX 2021 X
Group, category, type of protection, temperature class		Coupler in housing: ⟨Ex⟩ II 2 G Ex e mb [ib] op is IIC T4, ⟨Ex⟩ II 2 D Ex tD A21 IP66 T130°C Coupler as DIN rail module: ⟨Ex⟩ II 2 G Ex e mb [ib] op is IIC T4
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

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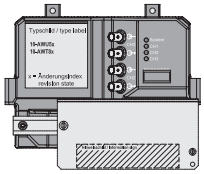
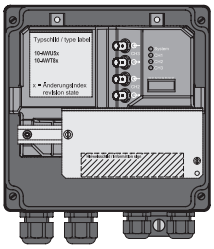
Assembly

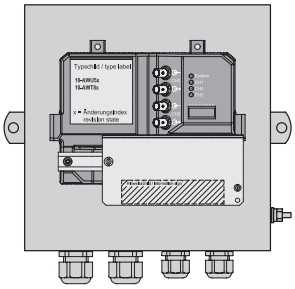
FOL 7250 B 059



FOL 7250 B 159



FOL 7250 B 259



Notes

Installation see operating instructions.

Versions

Options	Type
on DIN rail	FOL 7250 B 059
in plastic housing	FOL 7250 B 159
in stainless steel housing	FOL 7250 B 259

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