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New Product Bulletin

NP 1029HE

Fast Fiber Optic Repeater for Explosion Protection Zone 1

The new OZD Profi G12 ATEX 1 from Hirschmann™ is the first choice wherever a fast and reliable Profibus FO repeater is required.

OZD Profi G12 ATEX 1 from Hirschmann™: High Data Rates and Fast Ring Redundancy

The Hirschmann™ OZD Profi G12 ATEX 1 Series devices are designed especially for setting up high availability Profibus networks in explosion protection zone 1. These networks are used, for example, in big chemical plants, on drilling platforms or in refineries. This FO repeater is, however, also ideal for food industry scenarios where there is a need to reduce the risk of dust explosions during milling. Hirschmann™ OZD Profi G12 ATEX 1 devices are also fully compatible with all the other FO repeaters in the OZD Profi family. These are suitable for implementing highly available Profibus networks outside of explosion protection zone 1.

The Hirschmann™ OZD Profi G12 ATEX 1 device series is approved for explosion protection zones 1, 2, 21 and 22. The optical ports are also op-is certified. This FO repeater is among the fastest on the market with a transfer rate of up to 12 Mbps. The optical performance can be continuously monitored using signal strength outputs which can be integrated into the process control system.

Thanks to its integrated ring redundancy, the Hirschmann™ OZD Profi G12 ATEX 1

automatically switches over to another ring segment in case of faults such as a fiber break, without any measurable interruption – i.e. within 0 milliseconds. This guarantees continuous high network availability. The failure of the original connection cable is also immediately reported to the process control system via potential-free relay contacts.

The Hirschmann™ OZD Profi G12 ATEX 1 repeaters have two optical ports and one electrical port. This connection is designed as Ex-e terminals, as are the connections for the error relays, measurement signals and redundant 24 volt power supply. Bus termination and monitoring of signal quality can be activated via an integrated switch. Installation and on-site maintenance are aided by LEDs which indicate link status, data transfer activity and error situations.

The Hirschmann™ OZD Profi G12 ATEX 1 devices are offered optionally with stainless steel or plastic housing. The optical function module, which has its own Ex approval, is also available without a housing. This module can therefore be installed in the same housing as other components, so saving valuable space.

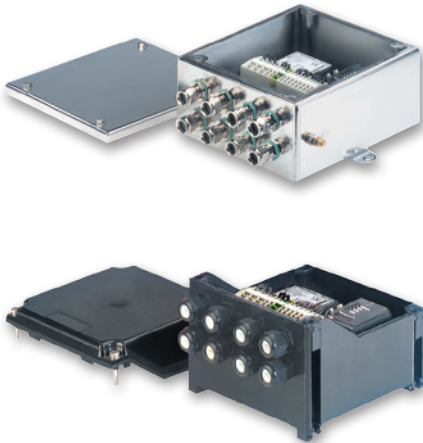




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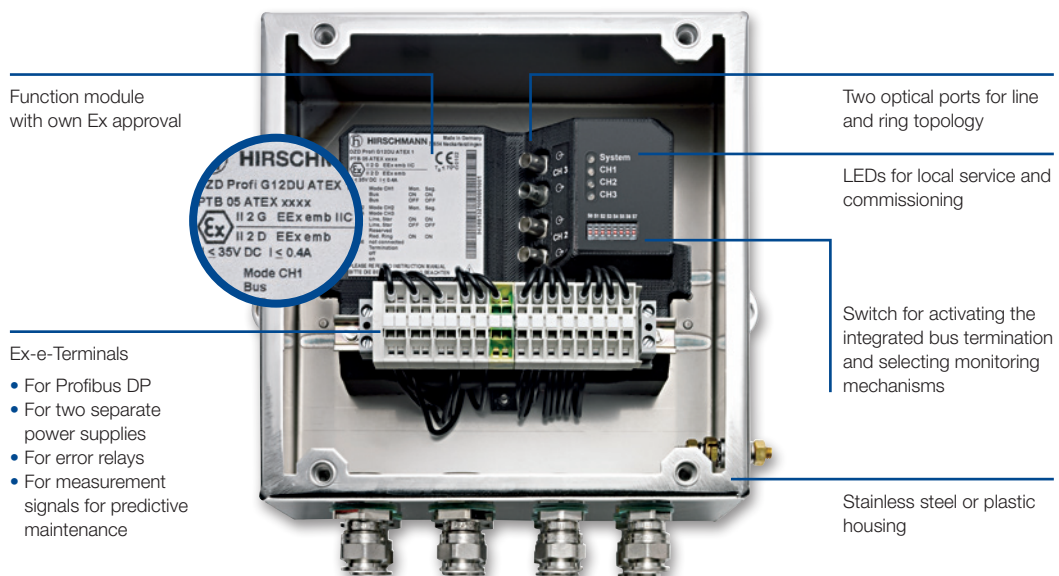
Hirschmann™ OZD Profi G12 ATEX 1



Benefits at a Glance

- Approvals for explosion protection zones 1, 2, 21 and 22
- Optical ports op-is certified
- All Profibus data rates up to 12 Mbps
- Ring redundancy without measurable interruption
- Integration into the process control system via signal strength outputs
- Continuous optical performance monitoring
- Ex-e terminals for all electrical connections
- Redundant 24 Volt power supply
- Switch for activating the integrated bus termination and monitoring signal quality
- LEDs for link status, data transfer activity and error situations
- Models with stainless steel or plastic housing
- Function module available separately

Fast Fiber Optic Technology for Zone 1: OZD Profi G12 ATEX 1





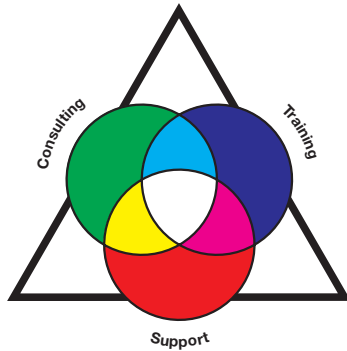
PROFIBUS Fiber Optic Repeater

Product Description			
Type	OZD Profi G12 DU ATEX1	OZD Profi G12 DK ATEX1	OZD Profi G12 DE ATEX1
Description	Electrical/optical interface converter with repeater function for PROFIBUS networks for installation in housing; approval for Ex zones 1, 21, 2 and 22	Electrical/optical interface converter with repeater function for PROFIBUS networks, in plastic housing; approval for Ex zones 1, 21, 2 and 22	Electrical/optical interface converter with repeater function for PROFIBUS networks, in stainless steel housing; approval for Ex zones 1, 21, 2 and 22
Order Number	943 881-321	943 882-321	943 883-321
Electrical Interface			
Signal Type	PROFIBUS (DP-V0, DP-V1, DP-V2 and FMS)	PROFIBUS (DP-V0, DP-V1, DP-V2 and FMS)	PROFIBUS (DP-V0, DP-V1, DP-V2 and FMS)
Bit Rate	9.6; 19.2; 45.45; 93.75; 187.5; 500 kbps; 1.5; 3; 6; 12 Mbps (automatic setting)	9.6; 19.2; 45.45; 93.75; 187.5; 500 kbps; 1.5; 3; 6; 12 Mbps (automatic setting)	9.6; 19.2; 45.45; 93.75; 187.5; 500 kbps; 1.5; 3; 6; 12 Mbps (automatic setting)
Signal Transmission Delay (any input)	< = 6.5 bit times	< = 6.5 bit times	< = 6.5 bit times
Optical Interface			
Wavelengths	860 nm	860 nm	860 nm
Couple-in Optical Performance in:			
• Multimode Fiber (MM) 50/125	-15 dBm	-15 dBm	-15 dBm
• Multimode Fiber (MM) 62,5/125	-13 dBm	-13 dBm	-13 dBm
• Multimode Fiber (MM) HCS 200/230	-10 dBm (default transmission power)	-10 dBm (default transmission power)	-10 dBm (default transmission power)
Optical Input Power	min. -28 dBm, max. -3 dBm	min. -28 dBm, max. -3 dBm	min. -28 dBm, max. -3 dBm
Cascade Depth	Unlimited	Unlimited	Unlimited
Further Interfaces			
Power Supply	Ex-e single terminals	Ex-e single terminals	Ex-e single terminals
Relay Contact	Ex-e single terminals	Ex-e single terminals	Ex-e single terminals
"Optical Input Power" Measurement	Ex-e single terminals	Ex-e single terminals	Ex-e single terminals
Network Distance-cable Lengths			
Multimode Fiber (MM) 50/125 µm	3000 m, 13 dB link budget with 860 nm; A = 3 dB/km, 3 dB reserve	3000 m, 13 dB link budget with 860 nm; A = 3 dB/km, 3 dB reserve	3000 m, 13 dB link budget with 860 nm; A = 3 dB/km, 3 dB reserve
Multimode Fiber (MM) 62,5/125 µm	3000 m, 15 dB link budget with 860 nm; A = 3.5 dB/km, 3 dB reserve	3000 m, 15 dB link budget with 860 nm; A = 3.5 dB/km, 3 dB reserve	3000 m, 15 dB link budget with 860 nm; A = 3.5 dB/km, 3 dB reserve
Multimode Fiber HCS (MM) 200/230 µm	1000 m, 18 dB link budget with 860 nm; A = 8 dB/km, 3 dB reserve	1000 m, 18 dB link budget with 860 nm; A = 8 dB/km, 3 dB reserve	1000 m, 18 dB link budget with 860 nm; A = 8 dB/km, 3 dB reserve
Power Supply			
Operating Voltage	18 ... 32 VDC, typ. 24 VDC	18 ... 32 VDC, typ. 24 VDC	18 ... 32 VDC, typ. 24 VDC
VDC Galvanic Separation	yes	yes	yes
Power Consumption	max. 200 mA	max. 200 mA	max. 200 mA
Redundancy			
Redundancy Functions	HIPER Ring (ring structure), redundant 24 V supply	HIPER Ring (ring structure), redundant 24 V supply	HIPER Ring (ring structure), redundant 24 V supply
Displays			
LED red/green (System)	Operating voltage and bit rate monitoring	Operating voltage and bit rate monitoring	Operating voltage and bit rate monitoring
LED red/yellow (CH 1)	Electric channel monitoring	Electric channel monitoring	Electric channel monitoring
LED red/yellow (CH 2, CH 3)	Optical channel monitoring	Optical channel monitoring	Optical channel monitoring
Ambient Conditions			
Operating Temperature Range	-20°C to +60°C	-20°C to +55°C	-20°C to +55°C
Storage/Transportation Temperature	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
Relative Humidity	10% – 100%	10% – 100%	10% – 100%
Structural Design			
Dimensions (WxHxD)	156x125x75 mm	165x194x138 mm	230x219x108 mm
Mounting	Screw fastening in housing	Screw fastening on mounting plate	Screw fastening on mounting plate
Weight	1.5 kg	2.4 kg	3.7 kg
Degree of Protection	–	IP 66	IP 66
Housing Material	Plastic	Plastic	Stainless steel
Approvals			
Approvals	ATEX Directive 94/9 EU for Group II, Category 2, G and D for zones 1, 21, 2, 22	ATEX Directive 94/9 EU for Group II, Category 2, G and D for zones 1, 21, 2, 22	ATEX Directive 94/9 EU for Group II, Category 2, G and D for zones 1, 21, 2, 22
Included in Delivery or Accessories			
Included in Delivery	Device, instruction sheet for start-up	Device, instruction sheet for start-up	Device, instruction sheet for start-up
Please order accessories separately	Manual, order no.: 039 677-001	Manual, order no.: 039 677-001	Manual, order no.: 039 677-001



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