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OZD Profi 12M G22 Fiber Optic Repeater

Extend the range and improve the availability of PROFIBUS networks with this fiber optic repeater.

This PROFIBUS fiber optic repeater from Hirschmann combines two copper and two fiber optic ports with fast ring redundancy for very reliable, high-speed fieldbus communications.

• **Communicate over longer distances –** expand PROFIBUS networks by converting signals from two copper segments to magnified long distance fiber optic signals.

• **Guaranteed reliability –** in case of a transmission fault, integrated ring redundancy automatically switches the signal over to another ring segment without interruption.

• **Robust metal housing –** increased EMC-resilience, plus conformal coating, ensure data integrity even in harsh environments.

The OZD Profi 12M G22 device extends a proven family of fiber optic repeaters from Hirschmann to offer an additional copper port. With this option, you can increase the operating distance for PROFIBUS networks, while still maintaining data integrity, high speeds, redundancy and protection from electromagnetic interference.

Applications

This PROFIBUS fiber optic repeater is ideal for use in real-time control networks that extend across long distances. It is used in power applications, such as oil and gas production or pipelines, and in the transportation industry in highway traffic control systems.

Other uses include water and wastewater systems and manufacturing systems that require large PROFIBUS communication networks with high performance, reliability and data integrity requirements.

Your Benefits

The OZD Profi 12M G22 repeater has two electrical and two optical ports, allowing you to extend the range of your PROFIBUS networks. Its optical signal quality is easy to monitor thanks to informative LEDs on the device itself and signal strength outputs that can be integrated into the process control system.

This fiber optic repeater plays an important role in assuring high network availability. With integrated ring redundancy, it automatically switches a signal transmission over to another ring segment in case of faults, such as a fiber break, without any measurable interruption, i.e., within 0 milliseconds.

With data transfer rates of up to 12 Mbps, the OZD Profi 12M G22 repeater is also amongst the fastest in the world.

A new product to serve your needs.
Be certain.

Hirschmann OZD Profi 12M G22 Fiber Optic Repeater

The OZD Profi 12M G22 fiber optic repeater is designed for high availability PROFIBUS networks. It extends two electrical PROFIBUS network segments using fiber optic cables and provides seamless redundancy against fiber breaks.

Benefits at a Glance

- Long distance PROFIBUS communications thanks to two electrical and two optical ports
- Variants for singlemode, multimode and plastic fiber
- Fast performance with PROFIBUS data rates of up to 12 Mbps
- Failsafe communications with built-in ring redundancy
- Reliable operation through redundant 24 Volt power supply inputs
- Easy monitoring with signal strenght outputs, LEDs for link status and data transfer activity
- Seamless integration with process control systems using signal strength outputs
- Fault signalling with built-in relay for an independent alarm line
- High data integrity in harsh environments through robust metal housing with protective coating on internal components

This PROFIBUS fiber optic repeater is ideal for use in real-time control networks that extend across long distances.

Technical Information

Product Description	
Type	OZD Profi 12M G22 *
Description	Interface converter electrical/optical for PROFIBUS-field bus networks repeater function for quartz glass FO, conformal coating *
Port Type and Quantity	2 x optical: sockets BFOC 2.5 (STR); 2 x electrical: Sub-D 9-pin, female, pin assignment according to EN 50170 part 1 *
Order No.	942 148-xxx *
Electrical Interface	
Signal Type	PROFIBUS (DP-V0, DP-V1, DP-V2 und FMS)
Bit Rate	9.6, 19.2, 45.45, 93.75, 187.5, 500 kbit/s; 1.5, 3, 6, 12 Mbit/s (automatic setting)
Signal Delay Time (optional Input/Output)	<= 6.5 bit times
Input/Output Signal	RS 485 level
Input Voltage Range	-7 V up to +12 V
Galvanic Isolation	Yes
Optical Interface	
Wavelength	1310 nm, 860 nm or 660 nm (singlemode, multimode, plastic fiber) *
Cascadibility	Not limited
More Interfaces	
Power Supply	8-pin terminal block, screw mounting
Signaling Contact	8-pin terminal block, screw mounting
Measuring Outputs "Optical Input Power"	8-pin terminal block, screw mounting
Network Size – Length of Cable	
Singlemode Fiber (SM) 9/125 μm	15000 m, 10 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve *
Multimode Fiber (MM) 50/125 μm	1700 m, 11 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve *
Multimode Fiber (MM) 62.5/125 μm	2300 m, 13 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve *
Multimode Fiber HCS (MM) 200/230 μm	1000 m, 16 dB link budget at 860 nm; A = 8 dB/km, 3 dB reserve *
Multimode Fiber POF (MM) 980/1000 μm	80 m, 20 dB link budget at 660 nm and transmitting power default A = 0.2 dB/m, 2 dB reserve *
Power Requirements	
Operating Voltage	18 up to 32 V DC, typ. 24 V DC
Galvanic Isolation	Yes
Current Consumption	max. 190 mA
Power Consumption	4.5 W
Output Voltage/Output Current (Pin 6)	5 V DC +5%, -10%, 10 mA short circuit proof
Redundancy	
Redundancy Functions	HiPER-Ring (ring structure), redundant 24 V infeed
Ambient Conditions	
Operation Temperature	0 ºC up to +60 ºC
Storage/Transport Temperature	-40 ºC up to +70 ºC
Relative Humidity	<95% (non-condensing)
Mechanical Construction	
Dimensions (W x H x D)	40 x 140 x 77.5 mm
Mounting	DIN Rail or mounting plate
Weight	500 g
Protection Class	IP 40
Housing Material	Die-cast zink
Approvals	
Hazardous Locations	ATEX 100a, Zone 2, (pending); ISA 12.12 Class 1, Div. 2 (pending)
Issued or Requested Approvals	CE, C-Tick (pending)
Scope of Delivery and Accessories	
Scope of Delivery	Device, start-up instructions

* Dependant on selected variant

NOTE: These are the prominent technical specifications. For complete technical specifications visit: www.hirschmann.com

Belden Competence Center

As the complexity of communication and connectivity solutions has increased, so have the requirements for design, implementation and maintenance of these solutions. For users, acquiring and verifying the latest expert knowledge play a decisive role in this. As a reliable partner for end-to-end solutions, Belden offers expert consulting, design, technical support, as well as technology and product training courses, from a single source: Belden Competence Center. In addition, we offer you the right qualification for every area of expertise through the world's first certification program for industrial networks. Up-to-date manufacturer's expertise, an international service network and access to external specialists guarantee you the best possible support for products from Belden, GarrettCom, Hirschmann, Lumberg Automation and Tofino Security.

Irrespective of the technology you use, you can rely on our full support – from implementation to optimization of every aspect of daily operations.

Always Stay Ahead with Belden

In a highly competitive environment, it is crucial to have reliable partners who add value to your business. When it comes to signal transmissions, Belden is the No. 1 solutions provider. We know your business and want to understand your specific challenges and goals to show how effective signal transmission solutions can push you ahead of the competition. By combining the strengths of our five leading brands, Belden, GarrettCom, Hirschmann, Lumberg Automation and Tofino Security, we are able to offer the integrated solution you need. Today, it may be a single cable, switch or connector, to solve a specific issue; tomorrow, it can be a complex range of integrated applications, systems and solutions. With the rise in smart, connected devices brought on by the Industrial Internet of Things (IIoT), together, we can make sure your infrastructure is ready to handle and make sense of the influx of data. Transform your business now with instant access to information, and make your vision a reality. Visit **info.belden.com/iiot** to learn more.

About Belden

Belden Inc., a global leader in high quality, end-to-end signal transmission solutions, delivers a comprehensive product portfolio designed to meet the mission-critical network infrastructure needs of industrial, enterprise and broadcast markets. With innovative solutions targeted at reliable and secure transmission of rapidly growing amounts of data, audio and video needed for today's applications, Belden is at the center of the global transformation to a connected world. Founded in 1902, the company is headquartered in St. Louis, USA, and has manufacturing capabilities in North and South America, Europe and Asia.

For more information, visit us at **www.belden.com** and follow us on Twitter **@BeldenIND**.

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