



One generation further:

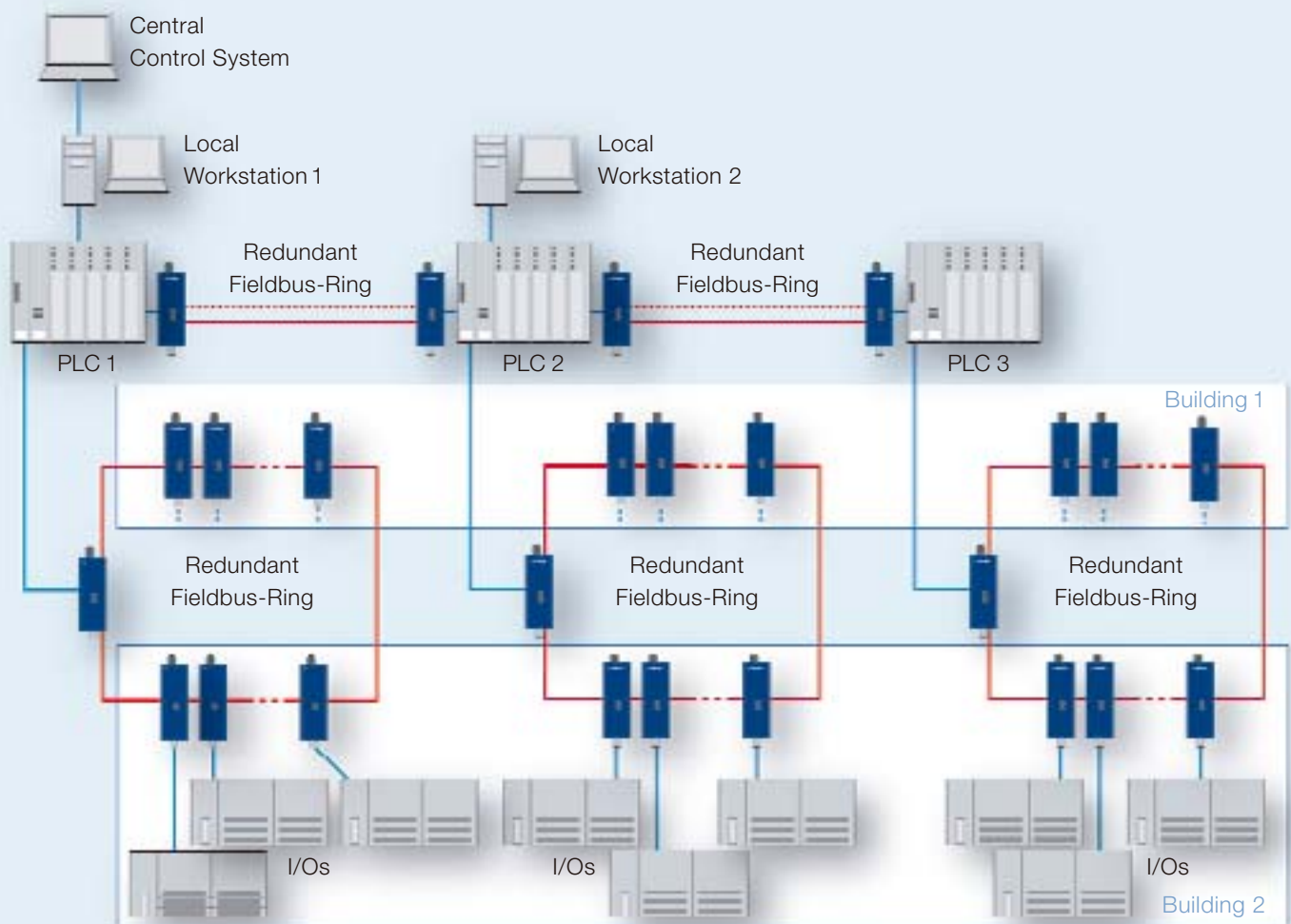
OZD 485 G12 Basic and Professional.

- Successor to the legendary OZD 485 G12
- Modular Smart Engineering Concept
- Basic and Professional versions
- High optical fiber transmission rate
- Optimum price/performance ratio
- Approved for Ex-Zone 2



HIRSCHMANN

Finally a fieldbus repeater that can do everything you need.



Applications

In networks that extend over large areas, in which reliable data transmission is required in the presence of a high RFI/EMI loading, the two universal repeaters, Basic and Professional, ensure smooth signal transmission at the fieldbus level. Application

examples range from automation in tunnels, underground networks, suburban railways and trains to petrochemical and building automation. Regardless of the requirement profile, the Basic or Professional version will provide economical and reliable service.

One successful product is now two: OZD 485 G12 Basic and Professional.



Requirements and Solutions

With the tried and tested OZD 485 G12, Hirschmann has set the standard for the reliable transmission of fieldbus signals in areas where RFI/EMI is an issue. However, here too there is one primary factor that is needed in addition to a high data transmission rate, system security, redundancy and preventive maintenance facilities: an optimum price/performance ratio. Products with exactly the right performance for the customer's specific purpose – but with the high quality and reliability you expect from Hirschmann.

This list of requirements forms the basis of the new modular Smart Engineering Concept generation. The OZD 485 G12 Basic concentrates on the basic functions: It provides reliable service in optical fiber transmission, where neither redundancy nor preventive maintenance are required. In contrast, the new OZD 485 G12 Professional leaves no wishes unanswered with regard to features and performance. It is authorized for use in Ex-Zone 2, has full redundancy and permits preventive maintenance via the SCADA system. In this way Hirschmann can supply the right fieldbus repeater for every application.

Universal RS 485 Fiberoptic Repeater

Product description			
Description	Interface converter electrical/optical for RS 485 fieldbus networks; repeater function; for quartz glass FO; electrical full duplex or semi-duplex mode; long-haul version	Interface converter electrical/optical for RS 485 fieldbus networks; repeater function; for quartz glass FO; electrical full duplex or semi-duplex mode	Interface converter electrical/optical for RS 485 fieldbus networks; repeater function; for quartz glass FO; electrical semi-duplex mode
Port type and quantity	2 x optical: BFOC 2.5 (ST®) socket 1 x electrical: 6-pin terminal block	2 x optical: BFOC 2.5 (ST®) socket 1 x electrical: 6-pin terminal block	2 x optical: BFOC 2.5 (ST®) socket 1 x electrical: 6-pin terminal block
Typ	OZD 485 G12-1300 PRO	OZD 485 G12 PRO	OZD 485 G12 BAS
Order No.	943 895-321	943 894-321	943 893-321
Electrical interface			
Signal type	RS 485	RS 485	RS 485
Input resistance	10 kOhm	10 kOhm	10 kOhm
Input voltage range	-7 V ... +12 V	-7 V ... +12 V	-7 V ... +12 V
Jitter	typ. 10 nspp	typ. 10 nspp	typ. 10 nspp
Distortion of bit duration	typ. 1 nspp	typ. 1 nspp	typ. 1 nspp
Bit rate	0 to 1.5 Mbit/s NRZ	0 to 1.5 Mbit/s NRZ	0 to 1.5 Mbit/s NRZ
Optical interface			
Wavelength	1310 nm	860 nm	860 nm
Launchable optical power in single-mode fiber (SM) 9/125	-18 dBm		
Launchable optical power in multi-mode fiber (MM) 50/125	-13 dBm	-20 dBm	-20 dBm
Launchable optical power in multi-mode fiber (MM) 62.5/125	-13 dBm	-16 dBm	-16 dBm
Optical input power	-31 dBm	-30 dBm	-30 dBm
More Interfaces			
Power supply	7-pin terminal block	7-pin terminal block	5-pin terminal block
Signaling contact	7-pin terminal block	7-pin terminal block	
Voltage output	3-pin terminal block	3-pin terminal block	
Network size-length of cable			
Single mode fiber (SM) 9/125 µm	22000 m 13 dB link budget at 1310 nm; A = 0.5 dB/km, 2 dB reserve		
Multimode fiber (MM) 50/125 µm	16000 m 18 dB link budget at 1310 nm; A = 1.0 dB/km, 2 dB reserve	2300 m 10 dB link budget at 860 nm; A = 3.0 dB/km, 3 dB reserve	2300 m 10 dB link budget at 860 nm; A = 3 dB/km, 3 dB reserve
Multimode fiber (MM) 62,5/125 µm	16000 m 18 dB link budget at 1310 nm; A = 1.0 dB/km, 2 dB reserve	3100 m 14 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve	3100 m 14 dB link budget at 860 nm; A = 3.5 dB/km, 3 dB reserve
System delay time	< 1.56 µs	< 1.56 µs	< 1.56 µs
Power requirements			
Operating voltage	18 ... 32 V DC (typ. 24 V DC)	18 ... 32 V DC (typ. 24 V DC)	18 ... 32 V DC (typ. 24 V DC)
Current consumption	140 mA at 24 V DC, 65 mA at 32 V DC	140 mA at 24 V DC, 65 mA at 32 V DC	80 mA at 24 V DC, 65 mA at 32 V DC
Power consumption	< 3.5 W	< 3.5 W	< 2.1 W
Redundancy			
Redundancy functions	redundant ring, redundant power supply	redundant ring, redundant power supply	
Displays			
LEDs	system (operating status, signaling contact); supply voltage; redundancy mode; input signal/ input power/receiving data	system (operating status, signaling contact); supply voltage; redundancy mode; input signal/ input power/receiving data	system (operating status), receiving Data
Ambient conditions			
Operating temperature	-25 °C to +70 °C	-25 °C to +70 °C	0 °C to +60 °C
Storage/transport temperature	-25 °C to +80 °C	-25 °C to +80 °C	-25 °C to +80 °C
Relative humidity	< 95 % (non-condensing)	< 95 % (non-condensing)	< 95 % (non-condensing)
Mechanical construction			
Dimensions (W x H x D)	35 x 163 x 119	35 x 156 x 119	35 x 156 x 119
Mounting	DIN rail or mounting plate	DIN rail	DIN rail
Weight	215 g	195 g	180 g
Protection class	IP 20	IP 20	IP 20
Housing material	plastics	plastics	plastics
EMC interference immunity			
EN 61000-4-2 electrostatic discharge (ESD)	contact discharge: 4 kV, air discharge: 8 kV	contact discharge: 4 kV, air discharge: 8 kV	contact discharge: 4 kV, air discharge: 8 kV
EN 61000-4-3 electromagnetic field	10 V/m (80 – 1000 MHz and 1400 – 2000 MHz)	10 V/m (80 – 1000 MHz and 1400 – 2000 MHz)	10 V/m (80 – 1000 MHz and 1400 – 2000 MHz)
EN 61000-4-4 fast transients (burst)	power line 2 kV, data line: 1 kV	power line 2 kV, data line: 1 kV	power line 2 kV, data line: 1 kV
EN 61000-4-5 surge voltage	power line 1 kV (line/line, line/earth), data line: 1 kV	power line 1 kV (line/line, line/earth), data line: 1 kV	power line 1 kV (line/line, line/earth), data line: 1 kV
EN 61000-4-6 conducted immunity	10 V (0.15 – 80 MHz)	10 V (0.15 – 80 MHz)	10 V (0.15 – 80 MHz)
EMC emitted immunity			
EN 55022	EN 55022 limit class A	EN 55022 limit class A	EN 55022 limit class A
Approvals			
Planned approvals	cUL508, cUL1604 Class1, Div 2, Groups A,B,C and D. According to ATEX Directive 94/9/EC: II 3G	cUL508, cUL1604 Class1, Div 2, Groups A,B,C and D. According to ATEX Directive 94/9/EC: II 3G	
Scope of delivery and accessories			
Scope of delivery	device, start-up instructions	device, start-up instructions	device, start-up instructions
Accessories to order separately	manual, order no. 039 516-001	manual, order no. 039 516-001	manual, order no. 039 516-001

Product features

Thanks to the Smart Engineering Concept, which is based on the use of ultra-modern technology, Hirschmann has simply made two products from one OZD 485 G12 Repeater: The OZD 485 G12 Basic and the OZD 485 G12 Professional, both of which are packaged in the same innovative plastic housing. The two units only differ in the internal values, where the Professional version can offer significantly more functional characteristics, which, however, is not always required for every application:

- Redundant voltage supply
- Redundant optical rings
- Status signal outputs for preventive maintenance
- Error message contact
- Tristate recognition, also via differential voltage
- Approvals for areas where there is a risk of explosions, ATEX Zone 2 and cUL1604, class 1 Div 2

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In addition to top quality network components, Hirschmann's Competence Center also offers the appropriate consultancy, service, support and training know-how to support you in the realization

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