



# HIRSCHMANN

A **BELDEN** BRAND

## Startup Information

de

en

fr

## OZD Profi 12M ...

Please read and notice the detailed

**"Manual PROFIBUS Repeater OZD Profi 12M ..." .**

Use the fax form on page 5 of this leaflet to order a free copy of this manual (Order No. 039 629-001).

### General Safety Instructions

- ▶ This device is electrically operated. Adhere strictly to the safety requirements relating to voltages applied to the device as described in the operating instructions!
- ▶ Make sure that the electrical installation meets local or nationally applicable safety regulations.



#### **Warning!**

Failure to observe the information given in the warnings could result in serious injury and/or major damage. Only personnel that have received appropriate training should operate this device or work in its immediate vicinity. The personnel must be fully familiar with all of the warnings and maintenance measures in these operating instructions.

Correct transport, storage, and assembly as well as careful operation and maintenance are essential in ensuring safe and reliable operation of this device.

Never start operation with damaged components!



#### **Warning!**

Any work that may have to be performed on the electrical installation should be performed by fully qualified technicians only.



#### **Warning!**

**LASER RADIATION**

**DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS**

**CLASS 1M LASERPRODUCT in accordance with IEC 60825-1 (2007)**

### Certified usage

Please observe the following:



#### **Warning!**

The device may only be employed for the purposes described in the catalog and technical description, and only in conjunction with external devices and components recommended or approved by Hirschmann. The product can only be operated correctly and safely if it is transported, stored, installed and assembled properly and correctly. Furthermore, it must be operated and serviced carefully.

### Safety Guidelines Power Supply

- ▶ Switch the basic devices on only when the housing is closed.



#### **Warning!**

The devices may only be connected to the supply voltage shown on the type plate. The devices are designed for operation with a safety extra-low voltage. Thus, they may only be connected to the supply voltage connections and to the signal contact with PELV circuits or alternatively SELV circuits with the voltage restrictions in accordance with IEC 950 / EN 60950 / VDE 0805.

Relevant for North America:

- ▶ The subject unit is to be supplied by a Class 2 power source complying with the requirements of the National Electrical Code, table 11(b). If power is redundant supplied (two individual power sources) the power sources together should comply with the requirements of the National Electrical Code, table 11(b).
- ▶ Use 60/75 °C or 75 °C copper(Cu) wire/conductor only.

**Hirschmann. Simply a good Connection.**

## Safety Guidelines Environment



### Warning!

The device may only be operated in the listed ambient temperature range at the listed relative air humidity (non-condensing).

- ▶ The installation location is to be selected so as to ensure compliance with the climatic limits listed in the Technical Data (see page 4).
- ▶ To be used in a Pollution Degree 2 environment only (IEC 60664-1).
- ▶ OZD Profi 12M ... repeaters are approved for use in Zone 2 explosive hazardous areas as defined by Ex nC [L] IIC T5 if labelled accordingly. When used in those areas, the repeaters must be installed in a housing (switch cabinet) constructed in accordance with EN 60076-15, providing a protection class of at least IP54 as per EN 60529.

## Relevant information for use in Ex zone 2 according to ATEX 94/9/EC

This product may be operated in EX zone 2 only if the product label is marked accordingly.  
The following information applies when operating this equipment in EX zone 2 (ATEX 94/9/EC):



II 3G  
Ex nA IIC T5 Gc  
KEMA 00ATEX1141 X

Temperature Code T5	Standard types:	Ta:	0 ... +60 °C
	EEC types:	Ta:	−20 ... +60 °C

List of Standards	EN 60079-0 : 2012 + A11:2013
	EN 60079-15 : 2010

### Special conditions for safe use

- ▶ The modules shall be installed in a suitable enclosure providing a degree of protection of at least IP54 in accordance with EN 60529, taking into account the environmental conditions under which the equipment will be used.
- ▶ Installation, addition, removal or replacement of modules, connectors or fuses shall only take place when the system supply and the field supply are switched off, or when the area is known to be non-hazardous.

Power supply: 24 V DC (18 ... 32 V DC), max. 200 mA

Signalling contacts (Relay): max. 60 V DC / 42 V AC switching voltage, max. 1 A switching current

Output for termination resistor (RS485 bus lines – Sub-D port): 5 V DC (+5 %, −10 %), 90 mA.

## Note on CE identification



The devices comply with the regulations of the following European directive:

89/336/EEC

Council Directive on the harmonization of the legal regulations of member states on electromagnetic compatibility (amended by Directives 91/263/EEC, 92/31/EEC and 93/68/EEC).

The precondition for compliance with EMC limit values is strict adherence to the construction guidelines specified in the manual.

The EU declaration of conformity is kept available for the responsible authorities in accordance with the above-mentioned EU directives at:

Hirschmann Automation and Control GmbH  
Stuttgarter Strasse 45 – 51  
Germany  
72654 Neckartenzlingen  
Telephone +49 (0)1805 14-1538  
E-Mail HAC.Support@Belden.com

## NOTES FOR NORTH AMERICA:

- A. THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C AND D OR NON-HAZARDOUS LOCATIONS ONLY.
- B. WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.
- C. WARNING - EXPLOSION - HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
- D. POWER, INPUT AND OUTPUT (I/O) WIRING MUST BE IN ACCORDANCE WITH CLASS I, DIVISION 2 WIRING METHODS [ARTICLE 501-4(B) OF THE NATIONAL ELECTRICAL CODE, NFPA 70] AND IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.

## FCC RULES

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## C-Tick

**Australia/New Zealand**



This product meets the requirements of the AS/NZS 3548 standard.

N13320

## Compatibility

The **functional compatibility** to OZD Profi modules of the preceding generation OZD Profi P3a, ... P4a, ... G3a, ... G4a, ... G3a-1300 and ... G4a-1300 is **switched on with the DIL switch S7=1**.

This operating mode is required when operating this module together with new devices.

Only turn switch S7 to Position 1 if the OZD Profi 12M ... is being used as a spare or expansion device in existing networks in conjunction with OZD Profi of the preceding generation, and a direct optical connection is to be made.

The following illustrations show the switch assignment of the OZD Profi 12M ... at S7=1 for

### OZD Profi 12M P11, OZD Profi 12M P12:

S7 = 1 Compatibility Mode ON		
S0	Reserved	
S1	Mode	Monitor
0	Line/Ring	On
1	Line	Off
S2	Redundancy	
0	Off	
1	On	
S3,S4	Reserved	
S5	Output Power CH3	
0	Standard	
1	High	
S6	Output Power CH4	
0	Standard	
1	High	

OZD Profi 12M P11:  
S6 reserved

**as a spare device for**  
OZD Profi P3a and  
OZD Profi P4a

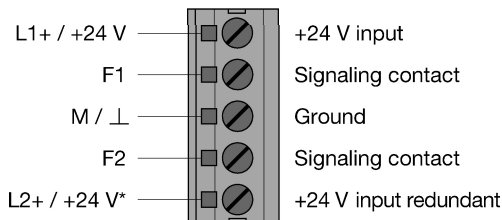
### OZD Profi 12M ... G11, G12, G11-1300, G12-1300:

S7 = 1 Compatibility Mode ON		
S0	Reserved	
S1	Mode	Monitor
0	Line/Ring	On
1	Line	Off
S2	Redundancy	
0	Off	
1	On	
S3	Distance	
0	Standard	
1	Extended	
S4,S5,S6	Reserved	

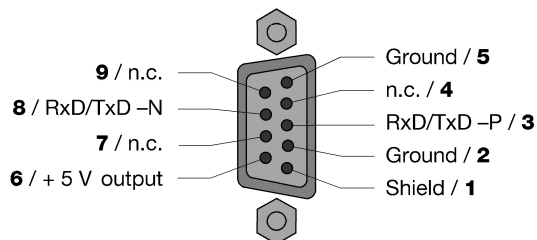
OZD Profi 12M G11,  
OZD Profi 12M G11-1300:  
S2 reserved

**as a spare device for**  
OZD Profi G3a,  
OZD Profi G4a,  
OZD Profi G3a-1300 and  
OZD Profi G4a-1300

## Assignments



Pin assignment of the 5-pole screw clamp block



Port 1 – Pin assignment Sub-D connector

## Technical Data

Operating voltage	18 V DC to 32 V DC, typ. 24 V DC, (redundant inputs uncoupled), safety extra-low voltage, indirect-coupled
Current consumption	max. 200 mA
Signalling contact	
Maximum switching voltage	60 V DC; 42 V AC (safety extra-low voltage)
Maximum switching current	1.0 A
Ambient temperature	0 °C to +60 °C (IEC 60068-2-1, -2-2) -20 °C to +60 °C at OZD ... EEC <sup>1)</sup> (IEC 60068-2-1, -2-2)
Relative humidity	<95 %, non-condensing (IEC 60068-2-30) 100 %, condensing at OZD ... EEC <sup>1)</sup> (IEC 60068-2-30)
Vibration (during operation)	10 Hz to 58 Hz, 0.075 mm displacement; 58 Hz to 150 Hz, 10 m/s <sup>2</sup> (1 g) acceleration (IEC 60068-2-6)
Protection class	IP40

1) The OZD Profi 12M G12(-1300) can also be supplied in a special design for more severe environmental conditions.

This variant is designated the OZD Profi 12M G12(-1300) EEC.

The DIL switches on the OZD Profi 12M G12(-1300) EEC may also only be operated at ambient temperatures between 0 °C and +60 °C.

Mail/FAX Reply (Call Number +49 (0)7127 14-1551)

To

Hirschmann Automation and Control GmbH  
Abteilung 01RD-NT  
Stuttgarter Strasse 45 – 51  
**72654 Neckartenzlingen**  
Germany

From

Company

Name

Dept.

Street

ZIP

City

Country

Phone

**Dear customer,**

You can order your free manual for the PROFIBUS-Repeater OZD Profi 12M ... by letter or fax using this coupon.

Yours

Hirschmann Automation and Control GmbH

☐ Please send me a free copy of the "Manual PROFIBUS-Repeater OZD Profi 12M ...".

We apply the following Multimode/Singlemode modules:

☐ OZD Profi 12M P11

☐ OZD Profi 12M G11

☐ OZD Profi 12M G11-1300

☐ OZD Profi 12M P12

☐ OZD Profi 12M G12

☐ OZD Profi 12M G12-1300

☐ OZD Profi 12M G12 EEC

☐ OZD Profi 12M G12-1300 EEC

We apply the following network topology:

☐ Line topology with optical cable monitoring

☐ Star

☐ Line topology without optical cable monitoring

☐ Redundant optical ring

We use the following transmission rate:

☐ 12 Mbit/s

☐ 1.5Mbit/s

☐ 500 kbit/s

☐ 187.5 kbit/s

☐ others: .....

Our PROFIBUS Network consists of \_\_\_\_\_ participants at this time; \_\_\_\_\_ Fibre Optic Lines are integrated; it's in use for

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We submit the following suggestions and desires to new modules for Field Bus Systems witch will be developed:

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Hirschmann Automation and Control GmbH  
Stuttgarter Strasse 45 – 51  
72654 Neckartenzlingen  
Germany  
Tel.: +49 (0)1805 14-1538  
E-Mail: [HAC.Support@Belden.com](mailto:HAC.Support@Belden.com)  
Internet: <http://www.hirschmann.com>

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