

Network and Interface Units

DATASHEET

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Optical Transceiver BNT 100^{ex}

Features

- Fibre optic cable (FOC) buffer stage for ATEX Zone 1, 21 and ATEX M2
- Redundant DC 10 to 30 V power supply
- Connects easily to additional devices
- Connector types SC and ST available
- Range 2000 m

Description

The optical transceivers in the BNT series are characterised by their intrinsically safe fibre optic cable connections. The common connector types SC and ST are available, as is the possibility of a redundant power supply.

The optical transfer in the BNT series guarantees safe communication in potentially explosive atmospheres.

➤ Explosion protection

Ex protection type

Mining

⊕ I (M1) [Ex op is Ma] I

Gas

⊕ II (1)G [Ex op is Ga] IIC T4

Dust

⊕ II (1)D [Ex op is Da] IIIC T135°C

Certification

IBExU 13 ATEX 1132

➤ Technical data

Network specifications

- Optical transceiver
- Output of opis compliant signals
- SC and ST connectors available
- Up to 100 Mbit/s data throughput
- LED display: Power

Operating temperature

-40 °C to +80 °C

Spannungsversorgung

DC 10 to 30 V, redundant

Recommended fusing

1 AT (time-lag)

Connections

- 1 x 100 Mbit FOC input
- 1 x 100 Mbit FOC intrinsically safe output
- 1 x power supply

Recommended optical fibre

Multimode 50/125 µm

Dimensions (height x width x depth)

114 mm x 29 mm x 104 mm

Weight

325 g



Optical transceiver BNT 1000^{ex} for the output of intrinsically safe optical signals

BARTEC

Optical Transceiver BNT 1000^{ex}

Features

- Fibre optic cable (FOC) buffer stage for ATEX Zone 1, 21 and ATEX M2
- Redundant DC 10 to 30 V power supply
- Connects easily to additional devices
- Connector type LC
- Range up to 550 m

Description

The optical transceivers in the BNT series are characterised by their opis compliant fibre optic cables. The common connector type LC is available, as is the possibility of a redundant power supply.

The optical transfer in the BNT series guarantees safe communication in potentially explosive atmospheres.

Explosion protection

Ex protection type

Mining

⊕ I (M1) [Ex op is Ma] I

Gas

⊕ II (1)G [Ex op is Ga] IIC T4

Dust

⊕ II (1)D [Ex op is Da] IIIC T135°C

Certification

IBExU 13 ATEX 1132

Technical data

Network specifications

- Optical transceiver
- Output of intrinsically safe signals
- LC connector
- Up to 1000 Mbit/s data throughput
- LED display: Power

Operating temperature

-40 °C to +80 °C

Power supply

DC 10 to 30 V, redundant

Recommended fusing

1 AT (time-lag)

Connections

- 1 x 1000 Mbit FOC input
- 1 x 1000 Mbit FOC intrinsically safe output
- 1 x power supply

Recommended optical fibre

Multimode 50/125 µm

Dimensions (height x width x depth)

111 mm x 24.5 mm x 106.5 mm

Weight

300 g

Connection possibility

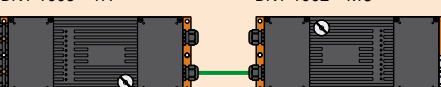
POLARIS



BNT 1005^{ex}-TX

BNT 1002^{ex}-MC

BNT 1000^{ex}



- 1000BaseLX SM intrinsically safe
- 10/100/1000BaseT

Ex area Safe area





Ethernet Switch BNT 1002^{ex}-MC

Features

- Direct installation in ATEX Zone 1 and 21 as well as ATEX M2
- No additional explosion protective housing required
- No additional mains adapter required
- Connects easily to additional devices
- Full functionality of the main product
- Max. range 550 m

Description

The Ethernet switches and media converters in the BNT series are used as stationary devices in potentially explosive atmospheres of device groups I and II.

They are used to transfer optical or electronic data signals up to a maximum bandwidth of 2 Gbit/s.

They are available in two different models, with aluminium housing for use in ATEX Zone 1 and 21 and the stainless steel housing for use in the ATEX M2 area.

➤ Explosion protection

Ex protection type

Mining M2

⊕ I M2 (M1) Ex eb qb [op is] I

Gas Zone 1

⊕ II 2(1)G Ex eb qb [op is] IIC T4

Dust Zone 21

⊕ II 2(1)D Ex tb [op is] IIIC T135 °C

Certification

IBExU 13 ATEX 1131

➤ Technical data

Main device

N-TRON 1002MC

Network specifications

- Unmanaged switch, media converter
- Fully IEEE 802.3, 3u, 3z and 3ab compliant
- 1 x 10/100/1000BaseT connection and 1 x 1000BaseSX multimode FOC
- ST connector
- Full/half duplex operation
- Up to 2 Gbit/s data throughput
- Auto-sensing
- Supports up to 1,024 MAC addresses
- Store-and-Forward technology
- LED display: Link/Activity

Operating temperature

-40 °C to +80 °C

Reliability

> 2 million MTBF hours

Power supply

DC 10 to 30 V, redundant

AC 90 to 253 V, external

Connections

1 x Gigabit TX

1 x Gigabit FOC, ST connector

1 x power supply

Recommended optical fibre

Multimode 50/125 µm

Dimensions (height x width x depth)

140 mm x 380 mm x 56 mm

Weight

4.5 kg for Zone 1, 21

7.2 kg for M2

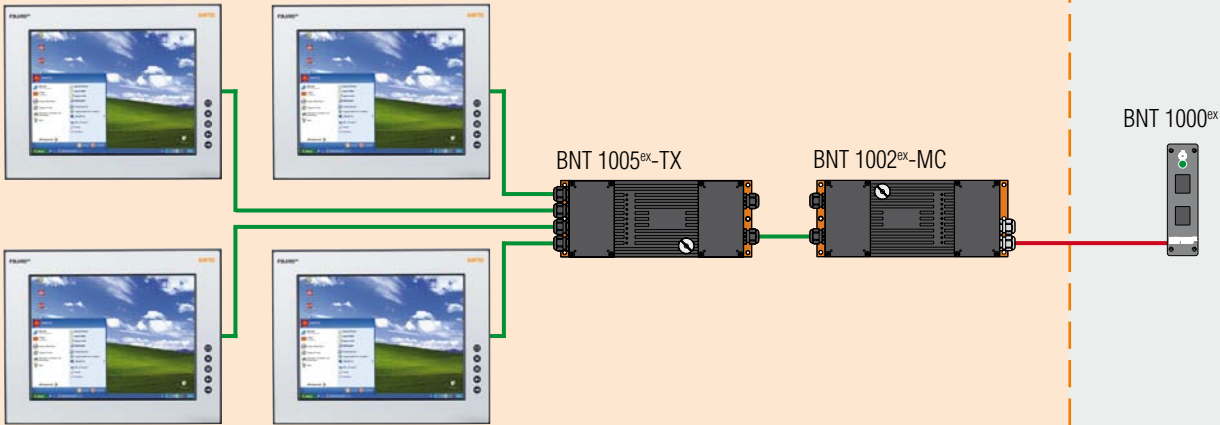
Protection class (EN 60529)

IP 64



Connection possibility

POLARIS



— 1000BaseLX SM intrinsically safe
— 10/100/1000BaseT

Ex area Safe area



Ethernet Switch BNT 1003^{ex}-GX2

Features

- Direct installation in ATEX Zone 1 and 21 as well as ATEX M2
- No additional explosion protective housing required
- No additional mains adapter required
- Connects easily to additional devices
- Full functionality of the main product
- Max. range 550 m

Description

The Ethernet switches and media converters in the BNT series are used as stationary devices in potentially explosive atmospheres of device groups I and II.

They are used to transfer optical or electronic data signals up to a maximum bandwidth of 6 Gbit/s.

They are available in two different models, with aluminium housing for use in ATEX Zone 1 and Zone 21 and the stainless steel housing for use in the ATEX M2 area.

➤ Explosion protection

Ex protection type

Mining M2

⊕ I M2 (M1) Ex eb qb [op is] I

Gas Zone 1

⊕ II 2(1)G Ex eb qb [op is] IIC T4

Dust Zone 21

⊕ II 2(1)D Ex tb [op is] IIIC T135 °C

Certification

IBExU 13 ATEX 1131

➤ Technical data

Main device

N-TRON 1003GX2

Network specifications

- Unmanaged switch
- Fully IEEE 802.3, 3u, 3z and 3ab compliant
- 1 x 10/100/1000BaseT connection and 2 x 1000BaseSX multimode FOC
- ST connector
- Full/half duplex operation
- Up to 6 Gbit/s data throughput
- Auto-sensing
- Supports up to 1,024 MAC addresses
- Store-and-Forward technology
- LED display: Link/Activity

Operating temperature

-40 °C to +80 °C

Reliability

> 2 million MTBF hours

Power supply

DC 10 to 30 V, redundant

AC 90 to 253 V, external

Connections

1 x Gigabit TX

2 x Gigabit FOC, ST connector

1 x power supply

Recommended optical fibre

Multimode 50/125 µm

Dimensions (height x width x depth)

140 mm x 380 mm x 56 mm

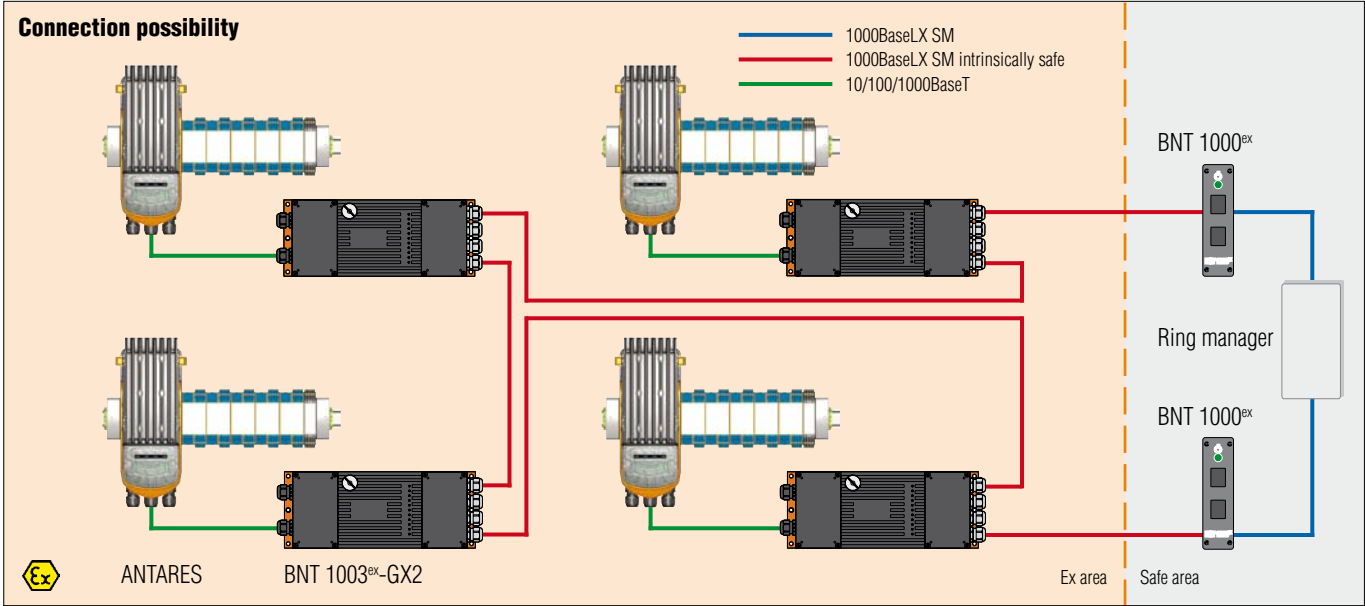
Weight

4.5 kg for Zone 1, 21

7.2 kg for M2

Protection class (EN 60529)

IP 64





Gigabit Ethernet Switch BNT 1005^{ex}-TX

Features

- Direct installation in ATEX Zone 1 and 21 as well as ATEX M2
- No additional explosion protective housing required
- No additional mains adapter required
- Connects easily to additional devices
- Full functionality of the main product
- Max. range 100 m

Description

The Ethernet switches and media converters in the BNT series are used as stationary devices in potentially explosive atmospheres of device groups I and II.

They are used to transfer optical or electronic data signals up to a maximum bandwidth of 10 Gbit/s.

They are available in two different models, with aluminium housing for use in ATEX Zone 1 and 21 and the stainless steel housing for use in the ATEX M2 area.

➔ Explosion protection

Ex protection type

Mining M2

⊕ I M2 Ex eb qb I

Gas Zone 1

⊕ II 2G Ex eb qb IIC T4

Dust Zone 21

⊕ II 2D Ex tb IIC T135°C

Certification

IBExU 13 ATEX 1131

➔ Technical data

Main device

N-TRON 1005TX

Network specifications

- Unmanaged switch
- Fully IEEE 802.3, 3u and 3ab compliant
- 5 x 10/100/1000BaseT connections
- Full/half duplex operation
- Up to 10 Gbit/s data throughput
- Auto-sensing
- Supports up to 4,000 MAC addresses
- Store-and-Forward technology
- LED display: Link/Activity

Operating temperature

-40 °C to +80 °C

Reliability

> 2 million MTBF hours

Power supply

DC 10 to 30 V, redundant
AC 90 to 253 V, external

Connections

5 x Gigabit TX
1 x power supply

Dimensions (height x width x depth)

140 mm x 380 mm x 56 mm

Weight

4.5 kg for Zone 1, 21
7.2 kg for M2

Protection class (EN 60529)

IP 64

Connection possibility

POLARIS



BNT 1005^{ex}-TX



10/100/1000BaseT

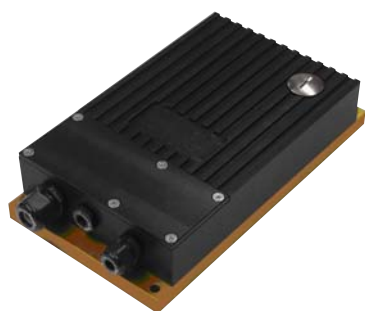
Ex area

Safe area





Power Supply 100 W for Zone 1 + 2 and Zone 21 + 22

BARTEC

Power Supply 100 w

Features

- Wide-range input AC 90 V to 253 V
- High efficiency factor
- Automatic disconnection
- Use in Zone 1 + 2 and Zone 21 + 22

Description

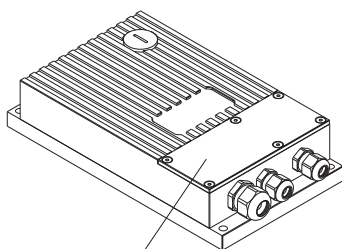
This power supply unit is universally usable and offers a wide-range input.

The DC output voltage is stabilised and switches off in the event of overcurrent or short circuit.

The power supply unit switches on again automatically once the rated current is reached.

The wired connections are established by means of an integrated terminal compartment in the „e“ increased safety type of protection.

Structure



Terminal connection chamber
in increased safety

Explosion protection

Ex protection type

- Ex II 2G Ex eq IIC T4
- Ex II 2D Ex tD 21 IP 64 T135 °C

Certification

IBExU 09 ATEX 1092

Guidelines/norms/certifications

- Directive 94/9/EC
- Directive 2004/108/EC

Technical data

Structure

Aluminium enclosure

Protection class

IP 64

Connecting terminals

2.5 mm², fine-stranded

Terminal marking

printed

Storage temperature

-20 °C up to +60 °C

Ambient temperature

-20 °C up to +60 °C

Dimensions (width x depth x height)

140 mm x 250 mm x 86 mm

Weight

3 kg

Electrical data

Rated voltage

AC 110 up to 230 V, 47 up to 63 Hz

Input voltage range

AC 90 up to 253 V

Input rated current

max. 0.5 A at $U_N = 230$ V
1 A at $U_N = 110$ V

Power consumption

P = max. 120 W

Power dissipation

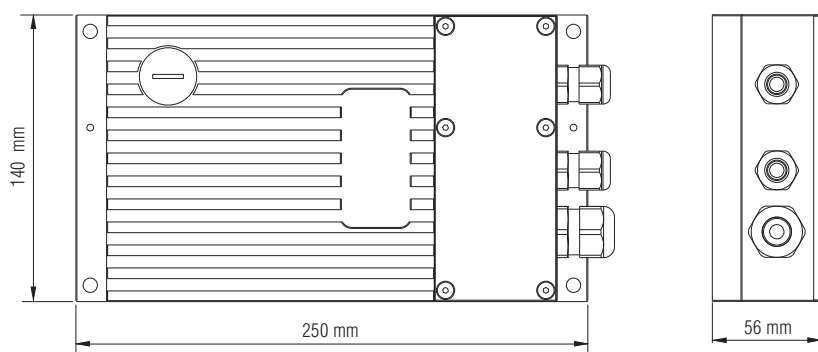
$P_{V\text{ tot.}} = 18$ W

Outputs

Output voltage (regulated)

- DC 24 V ± 2 % at 4.2 A
- DC 12 V ± 2 % at 8.5 A
- DC 5 V ± 2 % at 20 A

Dimensions





Process Monitor PM 420^{ex}

Features

- Version in Ex i
- Five-digit transreflective graphics display
- No additional voltage supply needed
- Bar graph capability

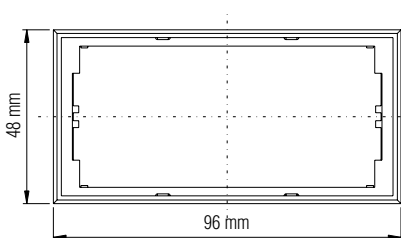
Description

The process monitor is a 5-digit intrinsically safe display unit.

It can be used to show electricity flowing out of a 4 mA up to 20 mA field circuit into technical units.

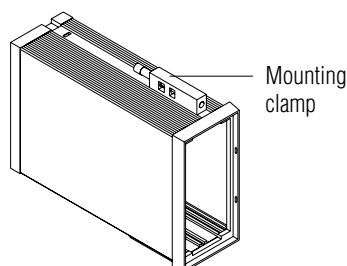
No additional voltage supply or battery is needed for operation.

Dimensions/mounting positions



Depth: 82 mm

Mounting



Input mode unit

Parameter	Unit	Parameter	Unit
0	°C	13	t
1	A	14	pH
2	mA	15	ppm
3	V	16	rpm
4	mV	17	mbar
5	n	18	bar
6	mm	19	kPa
7	cm	20	1/min
8	m	21	μS/cm
9	km	22	mS/cm
10	m³	23	m³/h
11	%	24	Nm³/h
12	kg		

Explosion protection

Ex protection type

Ex II 2(1)G Ex [ia Ga] IIC T5 Gb

Certification

IBExU 09 ATEX 1095 X

Ambient temperature

-20 °C ≤ T_a ≤ +60 °C

Safety related data

U_i ≤ 30 V DC

I_i ≤ 100 mA

L_i ≤ insignificant

C_i ≤ 12 nF

Technical data

Structure

front-panel fitting

Enclosure material

high-quality thermoplastics

Protection class

front installation IP 40
terminals IP 20

Display

Type height 13 mm

Connecting terminals

2,5 mm², fine-stranded

Storage temperature

-40 °C up to +80 °C

Dimensions (width x height x depth)

96 mm x 48 mm x 82 mm

Wall cut-out

91 mm x 44 mm + 0,5 mm

Weight

120 g

Electrical data

Measuring range

4 up to 20 mA

Measured variable

Current

Error of indication

< 0.1 % of the display range

Temperature drift

< 0.01 %/K

Technical data subject to change without notice.



PROFIBUS-Interface

Features

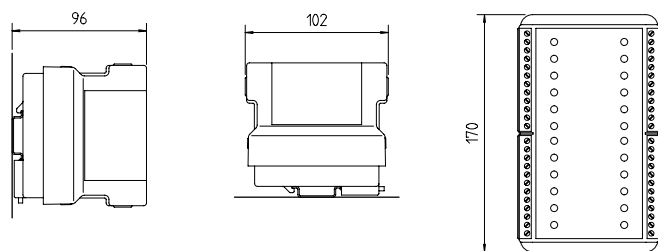
- 16 channels
- 24 V/500 mA outputs
- Direct control of solenoid valves
- Galvanic isolation
- LED display
- EMC according to DIN EN 61000-4-2: 2001, DIN EN 61000-4-3: 2008, DIN EN 61000-4-4: 2003, DIN EN 61000-4-6: 2007
- Programmable address on front panel

Description

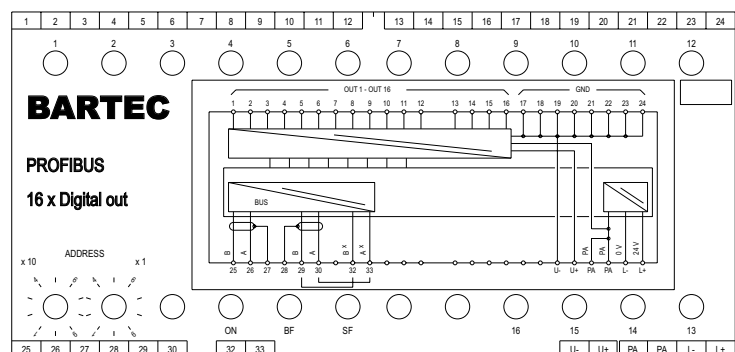
This module allows the activation of 16 actuators in the hazardous area via PROFIBUS-DP.

For example, encapsulated solenoid valves or indicator lamps can be directly activated with 24 V/500 mA. LEDs on the front of the module output bus status as well as output states.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➤ Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage (L+, L-)

DC 20 V to DC 30 V

Power consumption

P = 1.5 W

Galvanic isolation

power supply//bus//electronic//outputs

Bus interface

RS485 with screw-clamping terminals

Display

Status	ON, BF, SF
Outputs	16 x LED yellow, active

Notes

- Last bus module in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2901.gsd

■ Output data

Supply voltage (U+, U-)

DC 24 V (18 to 30 V)

Power consumption

P = 240 W (max.)

Power dissipation

P_{V tot.} = 7.3 W

Reverse voltage protection

Yes

Short-circuit protection

conditionally short-circuit-proof

Output voltage

Supply voltage - 0.18 V

Output current

500 mA at T_u = +40 °C
400 mA at T_u = +60 °C

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

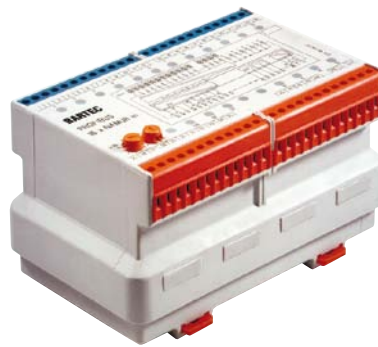
Ex protection type

Ⓔ II 2 G / I M 2
Ex d e IIC Gb
Ex d e I Mb
Class I Zone 1 IIC
A/Ex d e IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
CSA 2011-2484303U

Technical data subject to change without notice.



PROFIBUS-Interface

Features

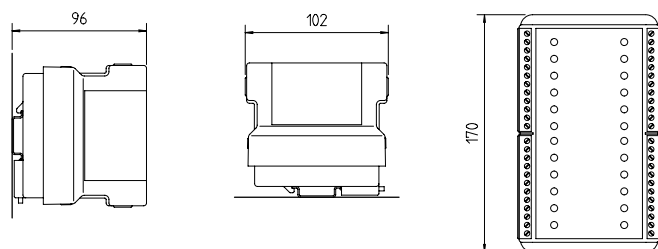
- 16 channels
- Direct control of solenoid valves
- Galvanic isolation
- LED display
- EMC according to DIN EN 61000-4-2: 2001, DIN EN 61000-4-3: 2008, DIN EN 61000-4-4: 2003, DIN EN 61000-4-6: 2007
- Programmable address on front panel

Description

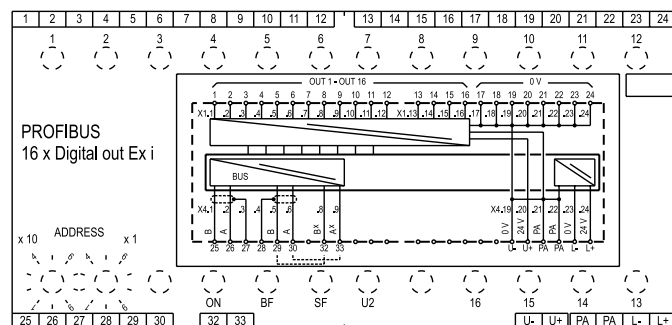
This module is used for the control of intrinsically safe actuators in the Ex area via PROFIBUS-DP.

It is, for example, possible to directly connect intrinsically safe solenoid valves or indicator lights. LEDs on the front of the module output bus status as well as output states.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➤ Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage (L+, L-, U+, U-)

DC 20 V to DC 30 V

Power consumption

P = 2.5 W	(L+, L-)
P = 15 W (max.)	(U+, U-)

Power dissipation

P_{V tot.} = 8 W

Reverse voltage protection

Yes

Galvanic isolation

L+, L-/Bus//U+, U-, outputs

Bus interface

RS485 with screw-clamping terminals

Display

Status	ON, BF, SF, U2
Outputs	LED yellow, active LED red, short-circuit

Notes

- Last bus modul in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2301.gsd

■ Output data

Short-circuit protection

conditionally short-circuit-proof

Output voltage

DC 18.1 V (bei U+ ≥ 22 V)

Output datas

I _N = 30 mA	R _i = 220 Ω
I _N = 35 mA	R _i = 180 Ω

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

Ex protection type

⊕ II 2 (1) G / I M 2
Ex d e [ib] IIC/IIB Gb
Ex d e [ib] I Mb
Class I Zone 1 IIC
A/Ex d e [ib] IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
TÜV 00 ATEX 1649
IECEx TUN 11.0035X
CSA 2011-2484303U

Fitting

Type 17-6583-.10./....
Type 17-6583-.11./....
⊕ II (2) G / II (2) D
[Ex ia Ga] IIC/IIB
[Ex ia Da] IIIC/IIIB
For further data see verification certificates.

Safety data

Type 17-6583-.10./....
U₀ = 21 V
I₀ = 111.6 mA
P₀ = 586 mW
U_m = 253 V
L₀ = 3.2 mH (IIC)/12 mH (IIB)
C₀ = 188 nF (IIC)/1.27 µF (IIB)

Safety data

Type 17-6583-.11./....
U₀ = 21 V
I₀ = 139.2 mA
P₀ = 731 mW
U_m = 253 V
L₀ = 1.8 mH (IIC)/8 mH (IIB)
C₀ = 188 nF (IIC)/1.27 µF (IIB)

Technical data subject to change without notice.



PROFIBUS-Interface

Features

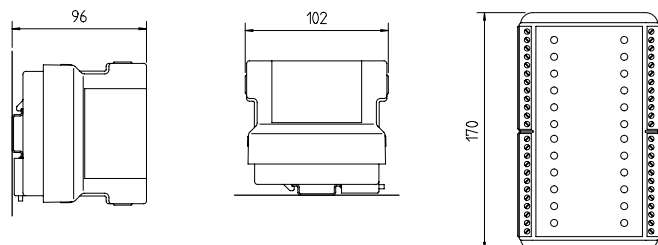
- 16 channels
- 24 V inputs
- Direct control via Ex-limit switches
- Galvanic isolation
- LED display
- EMC according to DIN EN 61000-4-2: 2001, DIN EN 61000-4-3: 2008, DIN EN 61000-4-4: 2003, DIN EN 61000-4-6: 2007
- Programmable address on front panel

Description

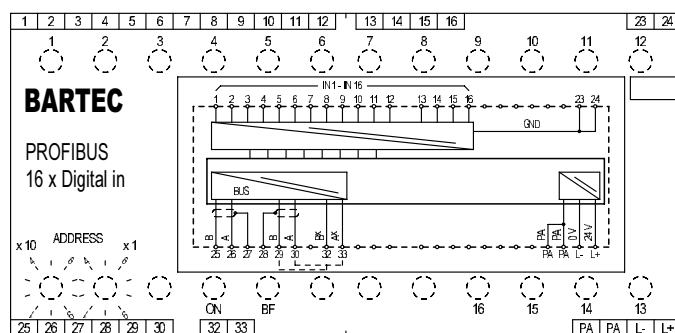
This module allows the connection of 16 digital signals to the PROFIBUS-DP within the hazardous area. Signals from flameproof encapsulated limit switches and control devices can be injected directly.

In case of NAMUR sensors or other signalling contacts that are controlled in an intrinsically safe way, barriers or isolator amplifiers are connected on line side. LEDs on the front of the module output the input states as well as important status messages.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➤ Technical data

Construction

Flameproof, clip-on enclosure
for TH 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage

DC 20 V to DC 30 V
(verpolungssicher)

Power consumption

P = 4.6 W

Power dissipation

P_v = 4.6 W

Galvanic isolation

power supply//bus//inputs

Bus interface

RS485 with screw-clamping terminals

Display

Status	ON, BF
Inputs	16 x double LED, active sensor

Notes

- Last bus modul in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2900.gsd

■ Input data

Switching threshold

0 - Signal	0 V to +5 V
1 - Signal	+10 V to +30 V

Power input

typ. 5 mA at 24 V
min. 4 mA at 20 V

Reverse voltage protection

conditionally protected against
polarity reversal

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

Ex protection type

Ex II 2 G / I M 2
Ex d e IIC Gb
Ex d e I Mb
Class I Zone 1 IIC
A/Ex d e IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
CSA 2011-2484303U

Technical data subject to change without notice.

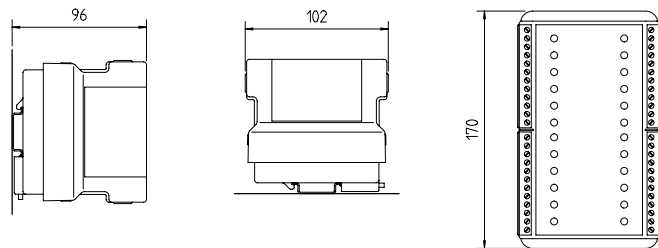


PROFIBUS-Interface

Features

- 16 channels
- LED display
- for NAMUR sensors DIN EN 60947-5-6
- for mechanical contact
- galvanic isolation
- group error messages
- Ex ia/ib
- Cable monitoring (can be disabled)
- Programmable address on front panel

Dimensions/mounting positions

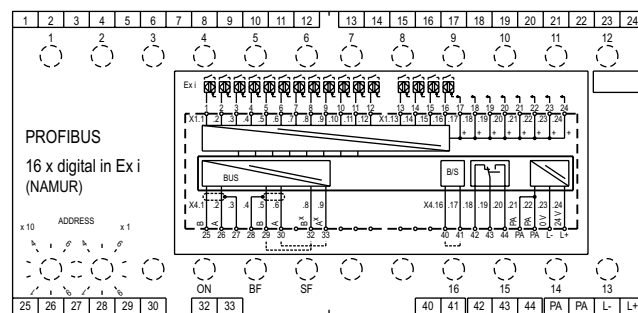


Description

This module allows 16 digital signals to be coupled to PROFIBUS-DP in the hazardous area. NAMUR sensors, optocouplers, mechanical contacts or other actuating elements can be connected by means of intrinsically safe equipment.

The bus power supply and the inputs are galvanically isolated. The states of the individual inputs, the usual bus status messages and open circuit / short circuit are indicated by LEDs. When the module is wired to contacts, cable monitoring can be switched off.

Wiring diagram/terminal assignment



Status chart

Input		Datenbit		Bus message "Error I/O"	
		0000	1000	Jumper B/S removed	Jumper B/S connected
damped		1	0	0	0
un-damped		0	1	0	0
open circuit		1	0	1	0
short circuit		0	1	1	0



➤ Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Enclosure IP 66/IEC 60529
Terminals IP 20/IEC 60529
Terminals with cover IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage (L+, L-)

DC 20 V to DC 30 V

Power consumption

P = 5.1 W

Power dissipation

P_v = 5.1 W

Galvanic isolation

power supply//inputs//bus//electronic

Bus interface

RS485 with screw-clamping terminals

Display

Status ON, BF, SF
Inputs 16 x double LED
LED yellow, damped
LED red, open/short circuit

Sensor power supply

U_a = 8.2 V

Switching threshold

open circuit < 0.23 mA
damped < 1.2 mA
undamped > 2.1 mA
short circuit > 7.4 mA

Transmittable frequency

100 Hz

Cable monitoring

Group error message via bus and
contact assembly AC 230 V/3 A/100 VA

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

Ex protection type

Ex II 2 (1) G / I M 2
Ex d e [ia Ga] IIC Gb
Ex d e [ia Ma] I Mb
Class I Zone 1 IIC
A/Ex d e [ia] IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
TÜV 98 ATEX 1355 X
IECEx TUN 11.0024X
CSA 2011-2484303U

Fitting

Type 17-6583-33../....
Ex II (1) G / II (1) D
[Ex ia Ga] IIC
[Ex ia Da] IIIC
For further data see verification certificates.

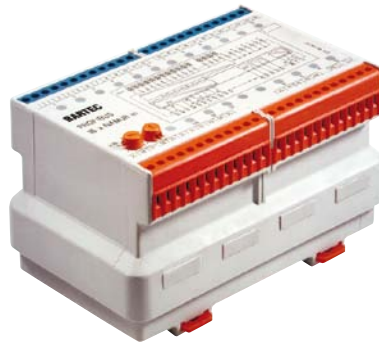
Safety data

U₀ = 12.3 V
I₀ = 31.8 mA
P_{max} = 97.8 mW
U_m = 253 V
L₀ = 31 mH (IIC)/115 mH (IIB)
C₀ = 1.28 µF (IIC)/8.1 µF (IIB)

Notes

- To disable open/short circuit monitoring, bridge terminals 40 and 41
- Use a 1 kΩ/10 kΩ resistive coupling element type 17-9Z62-0002 for open/short circuit monitoring during contact scan
- With 9-16 sensors also use external terminals
- Last bus module in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2903.gsd

Technical data subject to change without notice.



PROFIBUS-Interface

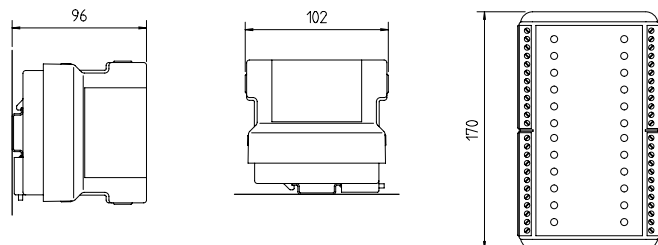
Features

- 8 channels
- Ex ia/ib
- 12 bit resolution
- Galvanic isolation
- LED display
- Programmable address on front panel

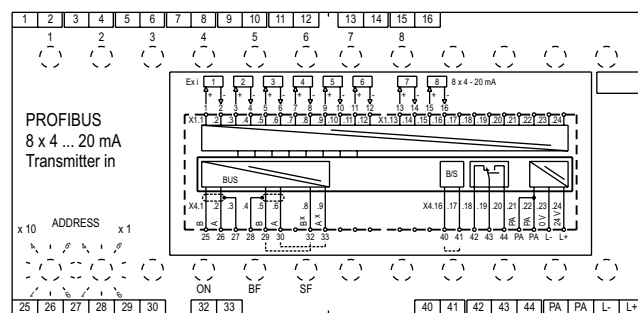
Description

This module allows the connection of 8 intrinsically safe transmitters to PROFIBUS-DP in the hazardous area. The input signal is transmitted with 12 bit resolution and high-noise immunity.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➤ Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Module IP 66/IEC 60529

Terminals IP 20/IEC 60529

Terminals with covers IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage

DC 20 V to DC 30 V

Power consumption

P = 7.6 W

Power dissipation

P_v = 5.1 W

Galvanic isolation

power supply//inputs//bus//electronic

Bus interface

RS485 with screw-clamping terminals

Display

Bus status ON, BF, SF

Inputs 8 x double LED

LED yellow, sensor active

LED red, open circuit/

short circuit

Transmitter power supply

U_a = 15 V at 20 mA single channels
conditionally short-circuits-proof

Signal range

4 to 20 mA

4 mA = 655 dec.

20 mA = 3276 dec.

Transmission range

0 to 25 mA

Input resistance

R_i = 100 Ω

Conversion time

< 1 ms

Resolution

12 bit

Accuracy (with shielded cable)

± 0.2 %

Cable monitoring

Group error message via bus and
contact assembly AC 250 V/3 A/100 V

Guidelines

Directive 2004/108/EC

Directive 94/9/EC

➤ Explosion protection

Ex protection type

⊕ II 2 (1) G / I M 2

Ex d e [ia Ga] IIC Gb

Ex d e [ia Ma] I Mb

Class I Zone 1 IIC

A/Ex d e [ia] IIC Gb

Certification

PTB 97 ATEX 1066 U

IECEx PTB 11.0082U

TÜV 98 ATEX 1367 X

IECEx TUN 11.0032X

CSA 2011-2484303U

Fitting

Type 17-6583-34../....

⊕ II (1) G / II (1) D

[Ex ia Ga] IIC

[Ex ia Da] IIIC

For further data see verification certificates.

Safety data

U₀ = 26 V

U_m = 253 V

P₀ = 549 mW

I₀ = 84.3 mA

L₀ = 5.3 mH (IIC)/20 mH (IIB)

C₀ = 99 nF (IIC)/770 nF (IIB)

P = 549 mW

Notes

- To disable open/short circuit monitoring, bridge terminals 40 and 41
- Last bus module in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2902.gsd

Technical data subject to change without notice.



PROFIBUS-Interface

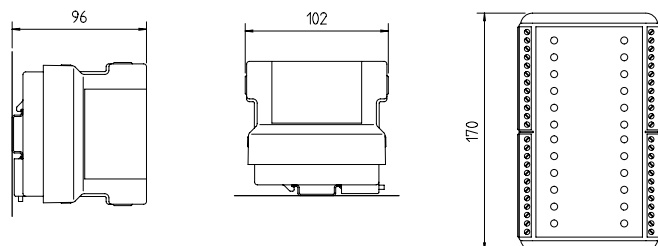
Features

- 8 Channels
- 12 bit resolution
- Galvanic isolation
- LED display
- Programmable address on front panel

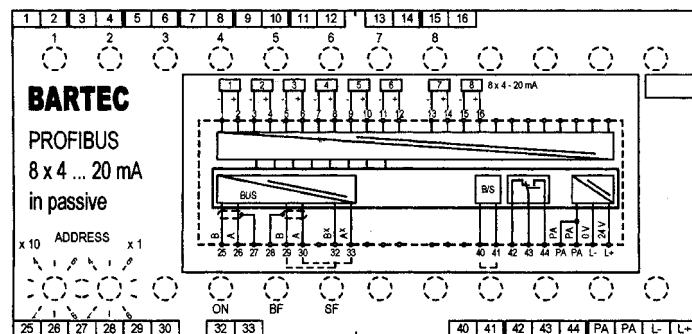
Description

This module allows the connection of 8 transmitters to PROFIBUS-DP in the hazardous area. The input signal is transmitted with 12 bit resolution and high-noise immunity.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➤ Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastic

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with covers	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage

DC 20 V to DC 30 V

Power consumption

P = 7.6 W

Power dissipation

P_v = 4.1 W

Galvanic isolation

power supply//inputs//bus//electronic

Bus interface

RS485 with screw-clamping terminals

Display

Bus status	ON, BF, SF
Inputs	8 x double LED
	LED yellow, sensor active
	LED red, open/short circuit

Notes

- To disable open/short circuit monitoring, bridge terminals 40 and 41
- Last bus module in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2902.gsd

Signal range

4 to 20 mA
4 mA = 655 dec.
20 mA = 3276 dec.

Transmission range

0 to 25 mA

Input resistance

R_i = 100 Ω

Conversion time

< 1 ms

Resolution

12 bit

Accuracy (with shielded cable)

± 0,2 %

Cable monitoring

Group error message via bus and
contact assembly AC 250 V/3 A/100 VA

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

Ex protection type

Ⓔ II 2 G / I M 2
Ex d e IIC Gb
Ex d e I Mb
Class I Zone 1 IIC
A/Ex d e IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
CSA 2011-2484303U

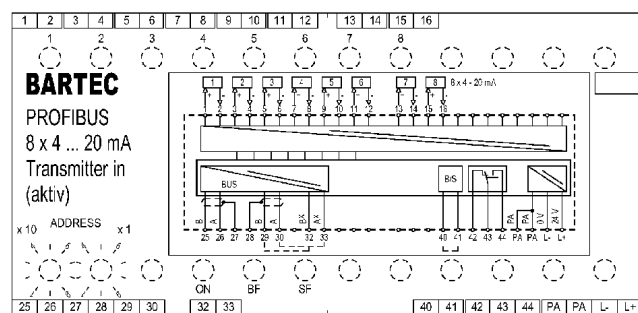
Technical data subject to change without notice.



Features

- ### Description

Dimensions/mounting positions





➤ Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Module IP 66/IEC 60529
Terminals IP 20/IEC 60529
Terminals with cover IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage

DC 20 V to DC 30 V

Power consumption

P = 7.6 W

Power dissipation

P_v = 5.1 W

Galvanic isolation

power supply//inputs//bus//electronic

Bus interface

RS485 with screw-clamping terminals

Display

Status Bus	ON, BF, SF
Inputs	8 x double LED
	LED yellow, active
	LED red, open circuit/ short circuit

Notes

- Bridge B/S-terminals 40 and 41 to disable open/short circuit monitoring
- Last bus module in system:
Brücke A-A^x (terminals 30, 33)
Brücke B-B^x (terminals 29, 32)
- GSD-file: BARX2902.gsd

Transmitter power supply

U_a = 15 V at 20 mA
single channels conditionally
short-circuits-proof

Signal range

4 to 20 mA
4 mA = 655 dec.
20 mA = 3276 dec.

Transmission range

0 to 25 mA

Input resistance

R_i = 100 Ω

Conversion time

< 1 ms

Resolution

12 bit

Accuracy (with shielded cable)

± 0.2 %

Cable monitoring

Group error message via bus and
contact assembly AC 250 V/3 A/100 V

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

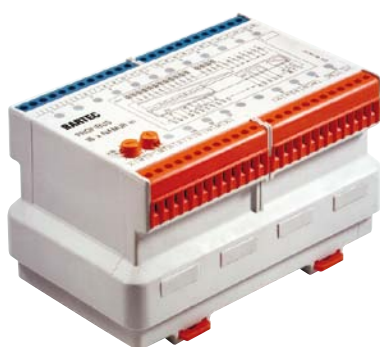
Ex protection type

⊕ II 2 G / I M 2
Ex d e IIC Gb
Ex d e I Mb
Class I Zone 1 IIC
A/Ex d e IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
CSA 2011-2484303U

Technical data subject to change without notice.



PROFIBUS-Interface

Features

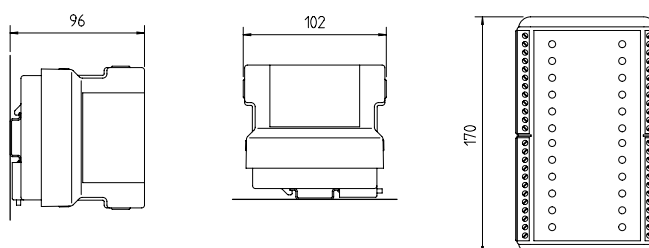
- 4 outputs
- 8 Ex i inputs DIN EN 60947-5-6
- EMC according to DIN EN 61000-4-2: 2001, DIN EN 61000-4-3: 2008, DIN EN 61000-4-4: 2003, DIN EN 61000-4-6: 2007
- Galvanic isolation
- Ex ia/ib
- LED display
- Programmable address on front panel

Description

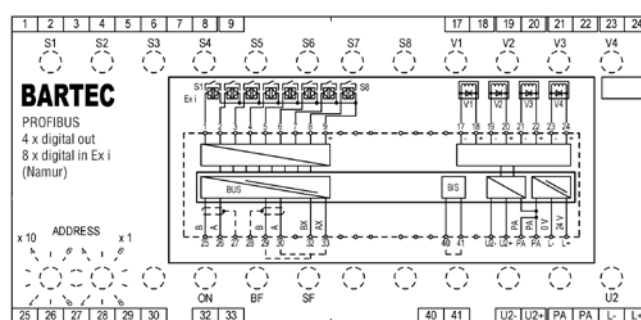
This module can be used for the activation of encapsulated solenoid valves within the hazardous area by means of the PROFIBUS with the ability to monitor the end of stroke positions. Four valves can be activated, 8 final positions can be monitored via the inputs for the NAMUR sensors.

The current status and final position are indicated by means of LEDs. As additional feature, open or short circuits are monitored for the 8 input channels.

Dimensions/mounting positions



Wiring diagram/terminal assignment



Status chart

Input		Databit	Bus message "Error I/O"	
			Jumper B/S removed	Jumper B/S connected
damped		1	0	0
un-damped		0	0	0
open circuit		1	1	0
short circuit		0	1	0



Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastics

Terminals

2.5 mm², fine stranded

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

Electrical data

Supply voltage (L+, L-, U2+, U2-)

DC 20 V to DC 30 V

Power consumption

P = 60 W (at max. current output)

Power dissipation

$P_{V_{tot.}} = 3.5 \text{ W}$

Galvanic isolation

L+, L-//Bus//U2+, U2- output//input
NAMUR

Bus interface

RS485 with screw-clamping terminals

Display

Status	ON, BF, SF, U2
Inputs	8 x double LED LED yellow, damped LED red, open circuit/short circuit
Outputs	4 x double LED LED yellow, active

Sensors

8 NAMUR sensors, mechanical
contacts or others (DIN EN 60947-5-6)

Function

damped/undamped
open/short circuit detection

Characteristics

$U_N = 8.2 \text{ V}$

Valve/output control

4 x U2 - 0.2 V/500 mA

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

Explosion protection

Ex protection type

Ex II 2 (1) G / I M 2
Ex d e [ia Ga] IIC Gb
Ex d e [ia Ma] I Mb
Class I Zone 1 IIC
A/Ex d e [ia] IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
TÜV 98 ATEX 1355 X
IECEx TUN 11.0024X
CSA 2011-2484303U

Fitting

Type 17-6583-.50./....
Ex II (1) G / II (1) D
[Ex ia Ga] IIC
[Ex ia Da] IIIC
For further data see verification certificates.

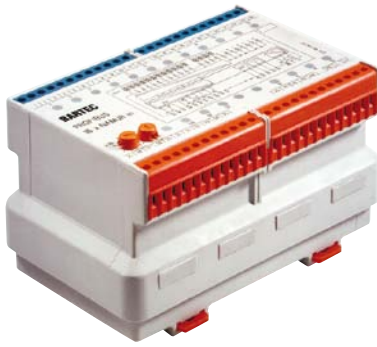
Safety data (in)

$U_0 = 11.8 \text{ V}$
 $I_0 = 31 \text{ mA}$
 $P_0 = 90 \text{ mW}$
 $L_0 = 34 \text{ mH (IIC)}/130 \text{ mH (IIB)}$
 $C_0 = 1.5 \mu\text{F (IIC)}/9.9 \mu\text{F (IIB)}$

Notes

- Bridge B/S-terminals 40 and 41 to disable open/short circuit monitoring
- Use a 1k Ω /10K Ω resistive coupling element type 17-9Z62-0002 for open/short circuit monitoring during contact scan
- Last bus module in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2305.gsd

Technical data subject to change without notice.

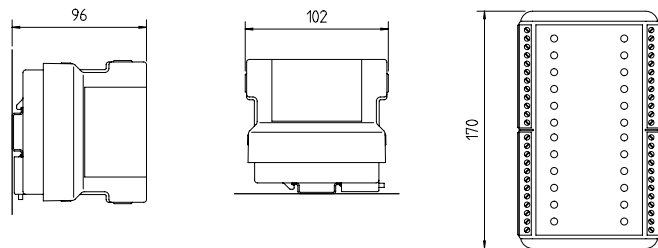


PROFIBUS-Interface

Features

- 4 Ex i valves
- 8 Ex i inputs DIN EN 60947-5-6
- EMC according to DIN EN 61000-4-2: 2001, DIN EN 61000-4-3: 2008, DIN EN 61000-4-4: 2003, DIN EN 61000-4-6: 2007
- Galvanic isolation
- LED display
- Ex ia/ib
- Programmable address on front panel

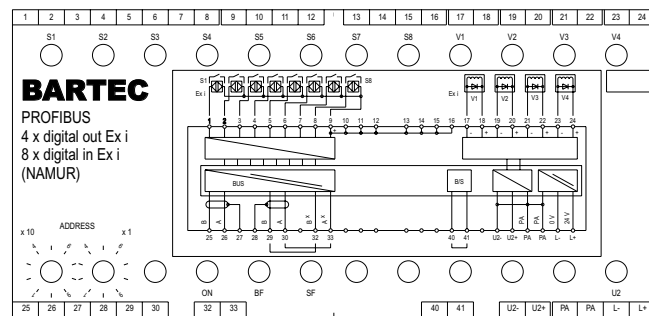
Dimensions/mounting positions



Description

This module can be used for the activation of intrinsically safe valves within the hazardous area by means of the PROFIBUS with the ability to monitor the end of stroke positions. Four intrinsically safe valves can be activated, 8 final positions can be monitored via the inputs for the NAMUR sensors. The current status and final position are indicated by means of LEDs. As additional feature, open or short circuits are monitored for the 8 input channels.

Wiring diagram/terminal assignment



Status chart

Input		Databit	Bus message „Error I/O“	
			Jumper B/S removed	Jumper B/S connected
damped		1	0	0
un-damped		0	0	0
open circuit		1	1	0
short circuit		0	1	0



Technical data

Construction

Flameproof, clip-on enclosure for TS 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

Electrical data

Supply voltage (L+, L-)

DC 20 V to DC 30 V

Power consumption

P = 6.5 W

Power dissipation

P_{V tot.} = 4.5 W

Galvanic isolation

L+, L-//Bus//U2+, U2- output//
input NAMUR

Bus interface

RS485 with screw-clamping terminals

Display

Status	ON, BF, SF, U2
Inputs	8 x double LED LED yellow, damped LED red, open circuit/short circuit
Outputs	4 x double LED LED yellow, active LED red, short circuit

Sensors

8 NAMUR sensors, mechanical
contacts or others (DIN EN 60947-5-6)

Function

damped/undamped
open/short circuit detection

Characteristics

U_N = 8.2 V

Valve/output control

4 x DC 22 V (at U2 ≥ 24 V); R_i = 301 Ω

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

Explosion protection

Ex protection type

Ex II 2 (1) G / I M 2
Ex d e [ia Ga] IIC Gb
Ex d e [ia Ma] I Mb
Class I Zone 1 IIC
A/Ex d e [ia] IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
TÜV 98 ATEX 1355 X
IECEx TUN 11.0024X
CSA 2011-2484303U

Fitting

Type 17-6583-.51./....
Ex II (1) G / II (1) D
[Ex ia Ga] IIC
[Ex ia Da] IIIC
For further data see verification certificates.

Safety data (in)

U₀ = 11.8 V
I₀ = 31 mA
P₀ = 90 mW
U_m = 253 V
L₀ = 34 mH (IIC)/130 mH (IIB)
C₀ = 1.5 µF (IIC)/9.9 µF (IIB)

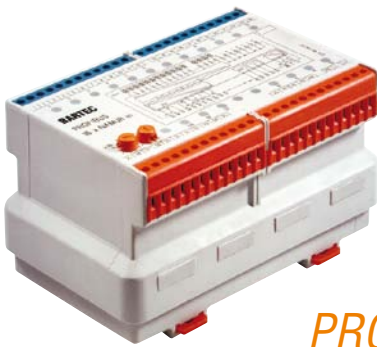
Safety data (out)

U₀ = 26.8 V
I₀ = 97 mA
U_m = 253 V
R_i = 301 Ω
P₀ = 650 mW
L₀ = 3.9 mH (IIC)/15 mH (IIB)
C₀ = 92 nF (IIC)/720 nF (IIB)

Notes

- Bridge B/S-terminals 40 and 41 to disable open/short circuit monitoring
- Use a 1kΩ/10kΩ resistive coupling element type 17-9Z62-0002 for open/short circuit monitoring during contact scan
- GSD-file: BARX2305.gsd

Technical data subject to change without notice.



PROFIBUS-Interface

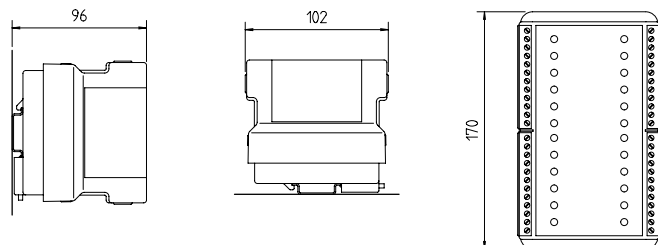
Features

- 8 channels
- Outgoing isolator for 4 to 20 mA
- Short-circuit-proof outputs
- Ex ia/ib or non-intrinsically safe
- 12 bit resolution
- Galvanic isolation
- LED display
- Programmable address on front panel

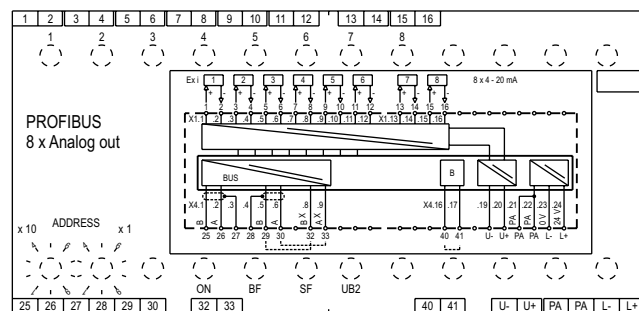
Description

This module is used for the direct output of 8 intrinsically safe or non-intrinsically safe 4 to 20 mA signals via the PROFIBUS-DP.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➤ Technical data

Construction

Flameproof, clip-on enclosure
for TH 35 rail

Enclosure material

High-quality thermoplastics

Terminals

2.5 mm², fine stranded

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with covers	IP 30/IEC 60529

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage (L+, L-)

DC 20 V to max. DC 30 V

Power consumption

P = 1.8 W

Galvanic isolation

power supply//U+, U- outputs//
bus/electronic

Bus interface

RS485 with screw-clamping terminals

Cable monitoring

Group error message via bus

Display

Status	ON, BF, SF, UB2
Outputs	8 x double LED LED yellow, output ok LED red, open circuit/ SF, LED red
Status error	SF, LED red

■ Output data

Supply voltage (U+, U-)

DC 20 V to max. DC 30 V

Power consumption

P = 5.7 W

Power dissipation

P_{tot} = 7.5 W

Signal range

4 to 20 mA

Resolution

12 bit

Quantising

3.91 µA/LSB

Load

0 to 500 Ω

■ Response characteristics

Basic error

at T_u = 25 °C ± 0.2 %

Linearity

± 0.2 %

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

Ex protection type Ex i = Version

Ex II 2 (1) G / I M 2
Ex d e [ia Ga] IIC Gb
Ex d e [ia Ma] I Mb
Class I Zone 1 IIC
A/Ex d e [ia] IIC Gb

Ex protection type Ex e = Version

Ex II 2 G / I M 2
Ex d e IIC Gb
Ex d e I Mb
Class I Zone 1 IIC
A/Ex d e IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
TÜV 99 ATEX 1426
IECEx TUN 11.0033X
CSA 2011-2484303U

Fitting

Type 17-6583-3600
Ex II (1) G / II (1) D
[Ex ia Ga] IIC
[Ex ia Da] IIIC
For further data see verification certificates.

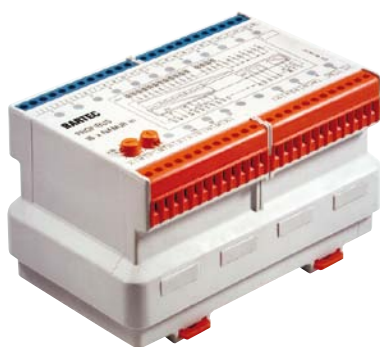
Safety data

U₀ = 21.4 V
I₀ = 93.9 mA
P₀ = 503 mW
C₀ = 176 nF (IIC)/1.2 µF (IIB)
L₀ = 3.4 mH (IIC)/13.9 mH (IIB)
U_m = 253 V

Notes

- To disable open/short circuit monitoring, bridge terminals 40 and 41
- Last bus module in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2306.gsd

Technical data subject to change without notice.



PROFIBUS-Interface

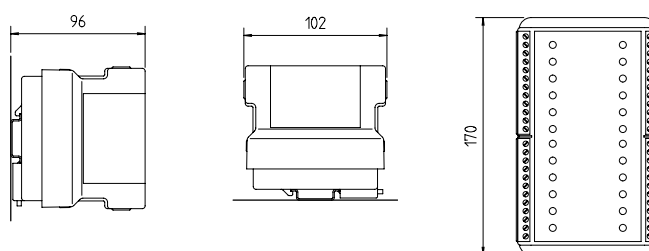
Features

- 4 Channels
- Pt100, Pt1000, Potentiometer, Resistors
- Ex ia/ib
- Galvanic isolation
- LED display
- Programmable address on front panel

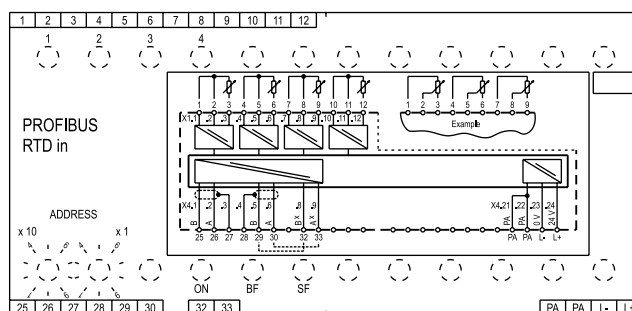
Description

This module allows the intrinsically safe connection of 4 Pt100, Pt1000, resistors or potentiometers at PROFIBUS-DP. The inputs themselves, power supply and the bus are galvanically isolated.

Dimensions/mounting positions



Wiring diagram/terminal assignment



Operating mode		Response time	
4 x Pt 100		380 ms ^(*)	320 ms ^(*)
4 x Pt 1000		380 ms ^(*)	320 ms ^(*)
4 x Potentiometer		80 ms ^(*)	
4 x Resistor		80 ms ^(*)	
2 x Pt 100	(channel 1 and 2); 2 x Potentiometer (channel 3 and 4)	380 ms ^(*)	320 ms ^(*)
2 x Pt 100	(channel 1 and 2); 2 x Resistor (channel 3 and 4)	380 ms ^(*)	320 ms ^(*)
2 x Pt 1000	(channel 1 and 2); 2 x Potentiometer (channel 3 and 4)	380 ms ^(*)	320 ms ^(*)
2 x Pt 1000	(channel 1 and 2); 2 x Resistor (channel 3 and 4)	380 ms ^(*)	320 ms ^(*)
all values 0 (dez.)			
all values 32767 (dez.)			

(*) Filter on 50 Hz adjusted

(*) Filter on 60 Hz adjusted

(*) Filter on 250 Hz



➤ Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastic

Protection class

Enclosure IP 66/IEC 60529

Terminals IP 20/IEC 60529

Terminals with cover IP 30/IEC 60529

Terminals

2,5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage

DC 20 V to DC 30 V

Power consumption

P = 4 W

Power dissipation

P_v = 4 W

Galvanic isolation

power supply//inputs (one below the other)
//bus//electronic

Bus interface

RS485 with screw-clamping terminals

Sensor power

200 µA

Display

Bus status ON, BF, SF

Inputs 4 x double LED

LED yellow, sensor active

LED red, open/short circuit

Measuring range

Temperature (Pt100, Pt1000)

-150 °C to 850 °C

Potentiometer 500 Ω to 5 kΩ

Resistor 0 Ω to 5 kΩ

Account

Temperature -1500 to 8500 (dec.)

Potentiometer 0000 to 1000 (dec. 0-100 %)

Resistor 0000 to 5000 (dec.)

Cable resistor

R ≤ 50 Ω

Accuracy

0.2 %

Temperature drift

0.05 %/10 K

Guidelines

Directive 2004/108/EC

Directive 94/9/EC

➤ Explosion protection

Ex protection type

Ex II 2 (1) G / I M 2

Ex d e [ia Ga] IIC/IIB Gb

Ex d e [ia Ma] I Mb

Class I Zone 1 IIC

A/Ex d e [ia] IIC Gb

Certification

PTB 97 ATEX 1066 U

IECEX PTB 11.0082U

TÜV 01 ATEX 1668

IECEX TUN 11.0028X

CSA 2011-2484303U

Fitting

Type 17-6583-.7../....

Ex II (1) G / II (1) D

[Ex ia Ga] IIC/IIB

[Ex ia Da] IIIC/IIIB

For further data see verification certificates.

Safety data

U₀ = 7.2 V

U_m = 253 V

I₀ = 6 mA

P₀ = 11 mW

L₀ ≤ 25 mH (IIC)/50 mH (IIB)

C₀ ≤ 1.1 µF (IIC)/5.7 µF (IIB)

Notes

- last bus modul in system:
Bridge A-A* (terminals 30, 33)
Bridge B-B* (terminals 29, 32)
- GSD-file: BARX2307.gsd

Technical data subject to change without notice.



PROFIBUS-Interface

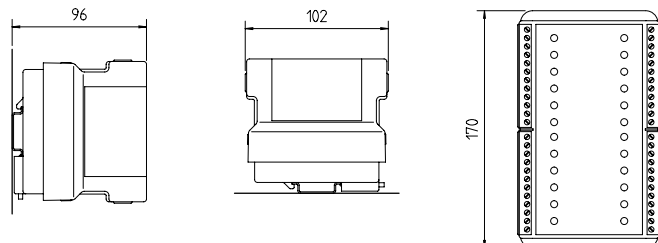
Features

- 8 channels
- Relay outputs AC 250 V/DC 100 V
- Galvanic isolation
- LED display
- EMV according to DIN EN 61000-4-2: 2001, DIN EN 61000-4-3: 2008, DIN EN 61000-4-4: 2003, DIN EN 61000-4-6: 2007
- Programmable address on front panel

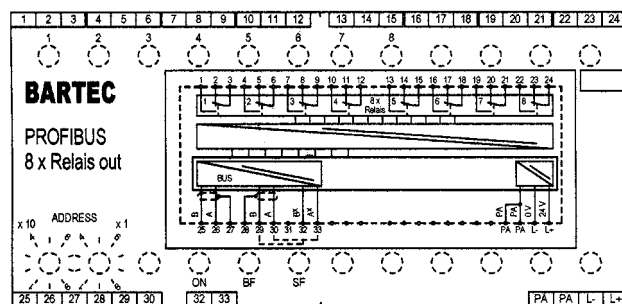
Description

The MODEX PROFIBUS interface with its 8 relay outputs offers volt free switching in zone 1 Ex areas. For example, encapsulated solenoid valves, indicator lamps or other certificated devices up to 6 A can be directly activated. Output states and the bus status messages are indicated by LEDs.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➤ Technical data

Construction

Flameproof, clip-on enclosure for
TH 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage (L+, L-)

DC 20 V to DC 30 V

Power consumption

P = 3.2 W

Power dissipation

P_{V tot.} = 6 W

Galvanic isolation

power supply//bus//electronic//outputs

Bus interface

RS485 with screw clamping terminals

Display

Bus status	ON, BF, SF
Outputs	8 x LED yellow, active

Notes

- Last bus module in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2308.gsd

■ Output data

Output relay

1 changeover contact

U _A	I _{max.}	
AC 250 V (max.)	6.0 A	cos φ = 1
DC 100 V	0.5 A	ohmic load
DC 60 V	1.0 A	
DC 30 V	6.0 A	
DC 5 V	6.0 A	

Mechanical service life

10 million operations

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

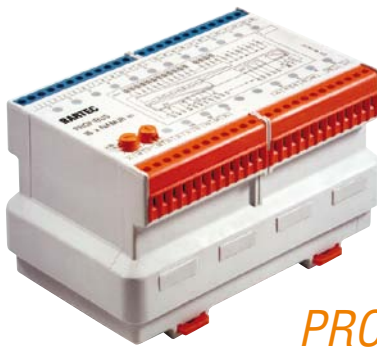
Ex protection type

Ⓔ II 2 G / I M 2
Ex d e IIC Gb
Ex d e I Mb
Class I Zone 1 IIC
A/Ex d e IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
CSA 2011-2484303U

Technical data subject to change without notice.



PROFIBUS-Interface

Features

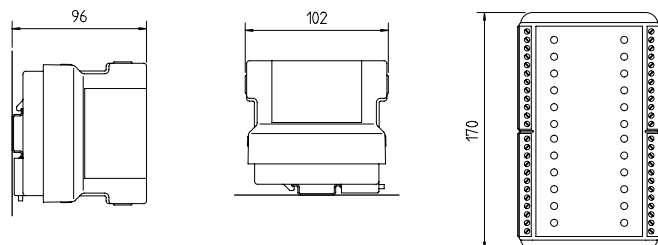
- 8 channels
- Relay outputs, 1 changeover contact
- Galvanic isolation
- LED display
- EMV according to DIN EN 61000-4-2: 2001, DIN EN 61000-4-3: 2008, DIN EN 61000-4-4: 2003, DIN EN 61000-4-6: 2007
- Programmable address on front panel

Description

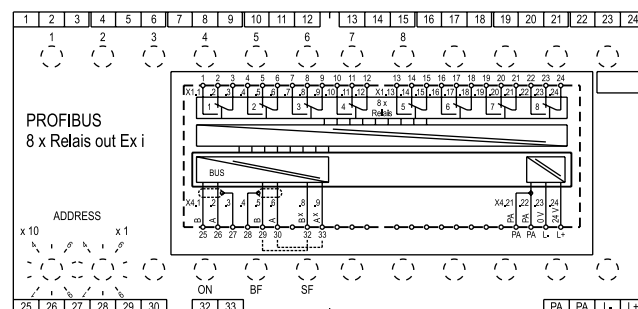
This module is used for the control of intrinsically safe actuators in the Ex area Zone 1 via PROFIBUS-DP.

It is, for example, possible to directly connect intrinsically safe solenoid valves or indicator lights. LEDs on the front of the module output bus status as well as output states.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➤ Technical data

Construction

Flameproof, clip-on enclosure for TH 35 rail

Enclosure material

High-quality thermoplastics

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

■ Electrical data

Supply voltage (L+, L-)

DC 20 V to DC 30 V

Power consumption

P = 3.2 W

Power dissipation

P_{V tot.} = 6 W

Galvanic isolation

power supply//bus//electronic//outputs

Bus interface

RS485 with screw clamping terminals

Display

Bus status	ON, BF, SF
Outputs	8 x LED yellow, active

Notes

- Last bus module in system:
Bridge A-A^x (terminals 30, 33)
Bridge B-B^x (terminals 29, 32)
- GSD-file: BARX2308.gsd

■ Output data

Output relay

1 changeover contact
max. 40 W
max. 4 A

Mechanical service life

10 million operations

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

➤ Explosion protection

Ex protection type

⊕ II 2 (1) G / I M 2
Ex d e [ia Ga] IIC Gb
Ex d e [ia Ma] I Mb
Class I Zone 1 IIC
A/Ex d e [ia] IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEX PTB 11.0082U
TÜV 99 ATEX 1457
IECEX TUN 11.0034X
CSA 2011-2484303U

Fitting

Type 17-6583-.8./....
⊕ II (1) G / II (1) D
[Ex ia Ga] IIC
[Ex ia Da] IIIC

For further data see verification certificates.

Electrical data

U_m = 253 V

Maximum value per circuit: U_i = 60 V
The values for total voltage of two relay contact circuits, place side by side, must not exceed 60 V. Inductors and capacitors contained in the sources must not taken into account!

Technical data subject to change without notice.



PROFIBUS-Interface

Features

- 8 input channels/4 input channels and 4 output channels
- Ex ia/ib
- 16 bit resolution
- Galvanic isolation
- LED indicators
- Programmable address on front panel

Description

8 x 4 to 20 mA in

This module is used for direct connection of 8 x 4 to 20 mA signals to PROFIBUS-DP.

2-wire transmitters or active 4 to 20 mA signals can be connected. The input signal is resolved with 16 bits and is transmitted with high resistance to interference.

4 x 4 to 20 mA in/out

This module is equipped with 4 x 4 to 20 mA inputs with the same properties as above and additional 4 x 4 to 20 mA outputs for normal actuators.

Explosion protection

Ex protection type

Ex II 2 (1) G / I M 2
Ex d e [ia Ga] IIC/IIB Gb
Ex d e [ia Ma] I Mb
Class I Zone 1 IIC
A/Ex d e [ia] IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
TÜV 01 ATEX 1724
IECEx TUN 11.0026X
CSA 2011-2484303U

Fitting

Type 17-6583-.H../....
Ex II (1) G / II (1) D
[Ex ia Ga] IIC/IIB
[Ex ia Da] IIC/IIB
For further data see verification certificates.

Safety data

$U_0 = 26.7 \text{ V}$
 $I_0 = 89.9 \text{ mA}$
 $P_0 = 600 \text{ mW}$
 $L_0 = 5 \text{ mH (IIC)}/18 \text{ mH (IIB)}$
 $C_0 = 93 \text{ nF (IIC)}/720 \text{ nF (IIB)}$

External 4 to 20 mA-signals

$U_i = 50 \text{ V}$
 $I_i = 87.7 \text{ mA}$

Technical data

Construction

Flameproof, clip-on enclosure to TH 35

Enclosure material

High-quality thermoplastic

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

Electrical data

Supply voltage (L+, L-)

DC 20 V to DC 30 V

Power consumption

$P = 7.8 \text{ W}$

Power consumption dissipation

$P_v = 4.9 \text{ W}$

Galvanic isolation

Power supply//Inputs and circuit//Bus

Bus interface

RS485 with terminal screws

Display

Status	ON, BF, SF
In-/Outputs	8 x double LED
	LED yellow, sensor active
	LED red,
	open loop short circuit

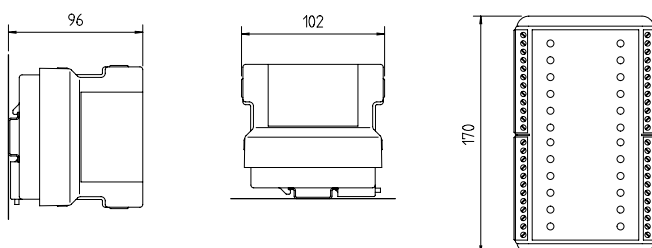
Cable monitoring

Error message for each channel via bus

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

Dimensions/mounting positions





■ **Data input/output channels**

Signal range

4 to 20 mA

Transmission range

0 to 24 mA

4 mA = 10922 dez.

20 mA = 54612 dez.

24 mA = 65535 dez.

Resolution

16 bit

Precision

± 0.1 % (with screened cable)

■ **Input channel data**

Supply for 2-wire transmitter

$U_s = 16 \text{ V}$ to 20 mA

all channels are short-circuit proof at the same time

Input resistance

External 4 to 20 mA-signals:

$R_i = 234 \Omega + \text{approx. } 2 \text{ V (3 diodes)}$

Transformation time

< 70 ms

■ **Output channels**

Output resistance

$R_i = 367 \Omega$

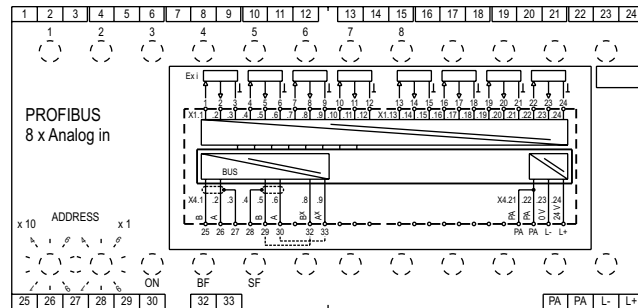
Quantification

366.2 nA/LSB

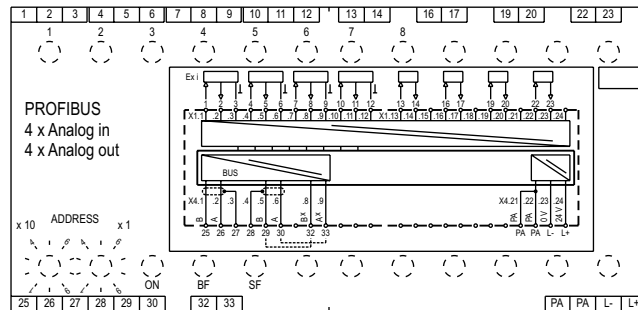
Load

< 500 Ω

Wiring diagram/terminal assignment 8 x 4 to 20 mA in



Wiring diagram/terminal assignment 4 x 4 to 20 mA in/out



Notes

■ Last bus modul:

Bridge A-A^x (terminals 30, 33)

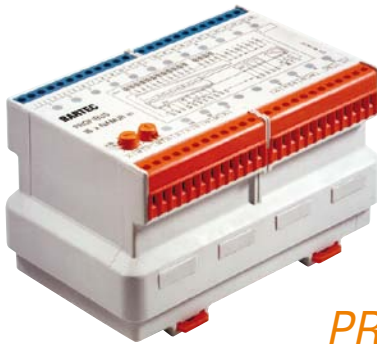
Bridge B-B^x (terminals 29, 32)

■ GSD-file:

BARX2302.gsd (8 x 4 to 20 mA in)

BARX2303.gsd (4 x 4 to 20 mA in/out)

Technical data subject to change without notice.



PROFIBUS-Interface

Features

- Data in standard format
- 8 input channels/4 input channels and 4 output channels
- Ex ia/ib
- 15 bit plus sign
- Galvanic isolation
- LED indicators
- Programmable address on front panel

Description

8 x 4 to 20 mA in

This module is used for direct connection of 8 x 4 to 20 mA signals to PROFIBUS-DP.

2-wire transmitters or active 4 to 20 mA signals can be connected. The input signal is resolved with 15 bits plus sign and is transmitted with a high resistance to interference.

4 x 4 to 20 mA in/out

This module is equipped with 4 x 4 to 20 mA inputs with the same properties as above and additional 4 x 4 to 20 mA outputs for normal actuators.

Explosion protection

Ex protection type

Ex II 2 (1) G / I M2
Ex d e [ia Ga] IIC/IIB Gb
Ex d e [ia Ma] I Mb
Class I Zone 1 IIC
A/Ex d e [ia] IIC Gb

Certification

PTB 97 ATEX 1066 U
IECEx PTB 11.0082U
TÜV 01 ATEX 1724
IECEx TUN 11.0026X
CSA 2011-2484303U

Fitting

Type 17-6583-.H./....
Ex II (1) G / II (1) D
[Ex ia Ga] IIC/IIB
[Ex ia Da] IIC/IIB
For further data see verification certificates.

Safety data

$U_0 = 26.7 \text{ V}$
 $I_0 = 89.9 \text{ mA}$
 $P_0 = 600 \text{ mW}$
 $L_0 = 5 \text{ mH (IIC)}/18 \text{ mH (IIB)}$
 $C_0 = 93 \text{ nF (IIC)}/720 \text{ nF (IIB)}$

External 4 to 20 mA-signals

$U_i = 50 \text{ V}$
 $I_i = 87.7 \text{ mA}$

Technical data

Construction

Flameproof, clip-on enclosure to TH 35

Enclosure material

High-quality thermoplastic

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +60 °C

Ambient temperature

-20 °C to +60 °C

Weight

2.1 kg

Electrical data

Supply voltage (L+, L-)

DC 20 V to DC 30 V

Power consumption

$P = 7.8 \text{ W}$

Power consumption dissipation

$P_v = 4.9 \text{ W}$

Galvanic isolation

Power supply//Inputs and circuit//Bus

Bus interface

RS485 with terminal screws

Display

Status	ON, BF, SF
In-/Outputs	8 x double LED
	LED yellow, sensor active
	LED red,
	open loop short circuit

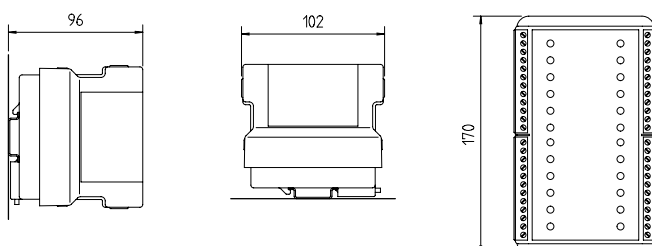
Cable monitoring

Error message for each channel via bus

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

Dimensions/mounting positions





■ Data input/output channels

Signal range

4 to 20 mA

Transmission range

Current	Range 4 to 20 mA		
21.5 mA	7380 _{hex}	29568 dec.	Value at short circuit 7FFF _{hex}
20 mA	6C00 _{hex}	27648 dec.	
4 mA	0000 _{hex}	0 dec.	Value at open circuit 8000 _{hex}
3.5 mA	8000 _{hex}	-32768 dec.	

Resolution

15-bit plus sign

Precision

± 0.1 % (with screened cable)

■ Input channel data

Supply for 2-wire transmitter

$U_c = 16 \text{ V to } 20 \text{ mA}$

all channels are short-circuit proof at the same time

Input resistance

External 4 to 20 mA-signals:

$$R_i = 234 \, \Omega + \text{approx. } 2 \, \text{V (3 diodes)}$$

Transformation time

< 70 ms

■ Output channels

Output resistance

$$R_i = 367 \, \Omega$$

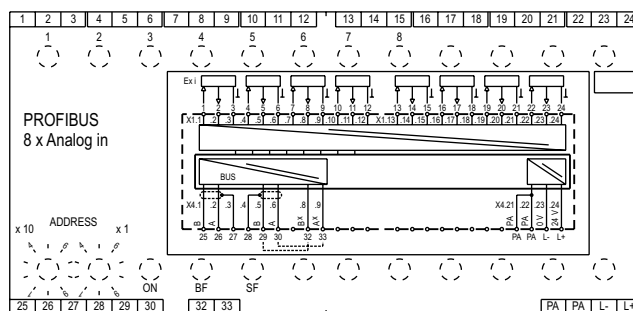
Quantification

366.2 nA/LSB

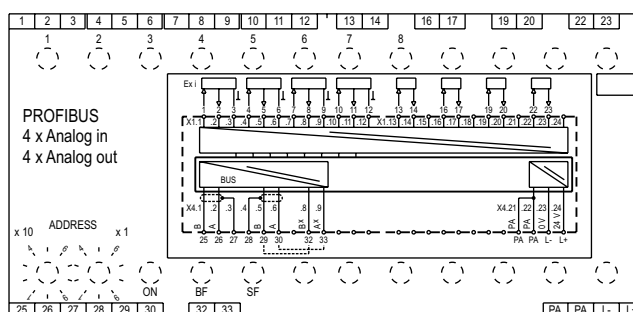
Load

 $< 500 \, \Omega$

Wiring diagram/terminal assignment 8 x 4 to 20 mA in



Wiring diagram/terminal assignment 4 x 4 to 20 mA in/out



Notes

- Last bus modul:

Bridge A-A^x (terminals 30, 33)

Bridge B-B^x (terminals 29, 32)

- GSD-file:

BARX2302.qsd (8 x 4 to 20 mA in)

BARX2303.gsd (4 x 4 to 20 mA in/out)

Technical data subject to change without notice.



PROFIBUS Koppler



PROFIBUS Repeater

Features

- Time flow refresh signal
- PROFIBUS coupler/PROFIBUS repeater also for hazardous areas of Zone 1.
- Galvanically isolated bus segments for PROFIBUS-DP and PROFIBUS-IS.
- Availability of couplers for PROFIBUS-DP as well as for PROFIBUS-IS (intrinsically safe).

Description

The PROFIBUS couplers and PROFIBUS repeaters have been particularly dimensioned for the industrial requirements of hazardous areas of zone 1.

PROFIBUS couplers and PROFIBUS repeaters are used for the separation or generation of new segments, converting the RS485 typical line structure into an open and flexible tree structure. Downstream stations can be coupled to and de-coupled from the superior bus system in a non-reactive and break/short-circuit tolerant manner, even during running bus operation.

The devices facilitate a duplication of the signal to realize a redundant connection to a master.

The devices are available as PROFIBUS-DP and as PROFIBUS-IS (intrinsically safe).

Module tasks:

- Separation of bus segments or generation of new segments
- Creation of complex networks in line, star and tree structures
- PROFIBUS-conforming regeneration of the bus signals in amplitude and time
- Increase of station number
- Segment cascading for range increase
- Provision of intrinsically safe bus segments for Ex i version according with RS485 IS.

➔ Explosion protection

Ex protection type Ex i

Ex II 2 G / I M2
Ex d e [ib] IIC Gb
Ex d e [ib] I Mb
Class I Zone 1 IIC
A/Ex d e [ib] IIC Gb

Certification

PTB 97 ATEX 1068 U
IECEx PTB 11.0083U
IBExU05ATEX1074
IECEx IBE 12.0021
Type 17-6583-3...
CSA 2011-2484303U
INMETRO IEE 12.0200U

Ex protection type Ex e

Ex II 2 G / I M2
Ex d e IIC Gb
Ex d e I Mb
Class I Zone 1 IIC
A/Ex d e IIC Gb

For further data see verification certificates.

➔ Technical data

Construction

Flameproof, clip-on enclosure for TH 35

Enclosure material

High-quality thermoplastics

Protection class

Module	IP 66/IEC 60529
Terminals	IP 20/IEC 60529
Terminals with cover	IP 30/IEC 60529

Terminals

2.5 mm², fine stranded

Labelling

written marking labels

Displays

LED green	Operational readiness
LED green/yellow	Bus activity

Ambient temperature

-20 °C to +60 °C

Storage temperature

-20 °C to +70 °C

■ Electrical data

Supply voltage

DC 20 V to 30 V

Nominal current input

max. 70 mA

Operational readiness indication

LED green

RS485 interface

PROFIBUS-DP, PROFIBUS-IS,
EN 61158-2; EN 61784-1



Connection resistance

Ex e	PROFIBUS-DP	Standard
Ex i	PROFIBUS-IS	Standard

Input	manual connectable
Output	Set

Data direction switching

automatic

Bus activity

dynamic

Transmission rate Ex e

Kbit/s- 4, 8/9, 6/19, 2/45, 45/93,
75/187, 5/250/375/500/750
Mbit/s- 1.0/1.5/2.0/3.0/6.0/12.0

Transmission rate Ex i

Kbit/s- 4, 8/9, 6/19, 2/45, 45/93,
75/187, 5/250/375/500/750
Mbit/s- 1.0/1.5

Transmission rate switchover

manual

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

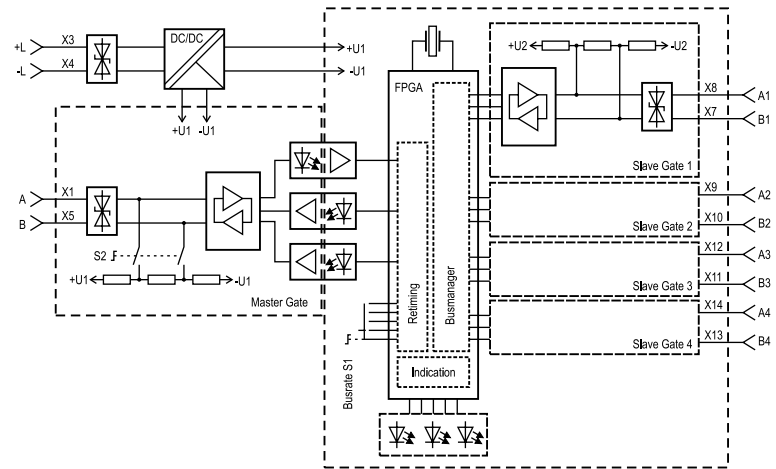
Weight

Module width 30 mm: 180 g
Module width 75 mm: 250 g

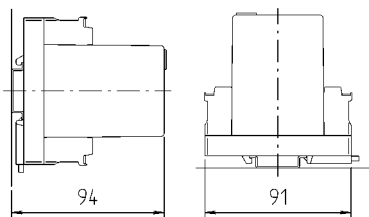
Dimensions (height x width x depth)

94 mm x 30 mm x 91 mm
94 mm x 75 mm x 91 mm

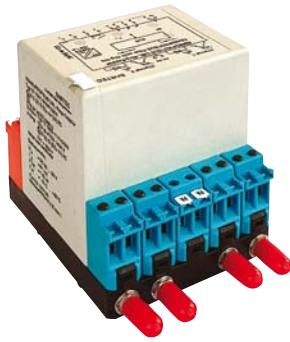
e. g. function plan for 4 channel, intrinsically safe circuits



Dimensions/Mounting positions



Modul width: 30 mm/75 mm



LWL T-coupler

Features

- Bridging of great distances
- Noise-immune signal transmission
- Galvanic isolation

Explosion protection

Ex protection type

Ex II 2 G / I M2
Ex d e [ib] IIC Gb
Ex d e [ib] I Mb
Class I Zone 1 IIC
A/Ex d e [ib] IIC Gb

Certification

PTB 97 ATEX 1068 U
IECEx PTB 11.0083U
TÜV 99 ATEX 1404 X
IECEx TUN 12.0024X
CSA 2011-2484303U

Fitting

Type 17-1923-1133/0000
Ex II (2) G / II (2) D
[Ex ib Gb] IIC
[Ex ib Db] IIIC

Description

The RS485/PROFIBUS LWL T-coupler reroutes the PROFIBUS from copper conductors to optical waveguides. The LWL T-coupler is a passive bus participant. In plants, the LWL T-coupler allows the bridging of great distance with PROFIBUS without noise interference.

The electronics for the signal conversion are accommodated in the flameproof MODEX enclosure. Transmitter and receiver for the LWL-coupler are intrinsically safe headed.

The intrinsically safe control transmitter and receiver of the electronic system guarantee that the transmitter rate does not go beyond maximum value limits.

Optical waveguide

Transmitter

Type 17-2114-0002

Ex II 2 G / II 2 D
Ex ib op is IIC T4 Gb
Ex ib IIIC TX* °C Db

Receiver

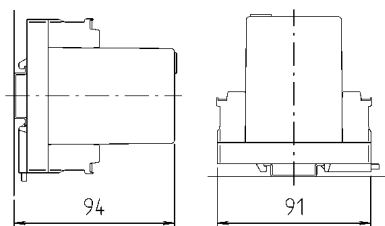
Type 17-2114-0003

Ex II 2 G / II 2 D
Ex ib IIC T4 Gb
Ex ib IIIC TX* °C Db

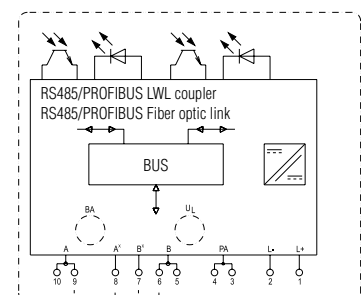
Further safety data see EC type examination certificate.

* Details see instruction manual.

Dimensions/mounting positions



Wiring diagram/terminal assignment





Technical data

Construction

Clip-on enclosure to TH 35

Enclosure material

High-quality thermoplastic

Protection class

minimum IP 20

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +70 °C

Ambient temperature

-25 °C to +60 °C

Weight

600 g

Electrical data

Supply voltage

DC 20 V to DC 30 V

Power consumption dissipation

$P_V = 0.90 \text{ W}$

Galvanic isolation

Bus//power supply//optical waveguide

Bus input/output

2-wire remote bus with screw terminals

LWL input/output

FSMA LWL plug-in connectors or

ST LWL plug-in connectors

Wavelength

850 nm/glass

Displays

operation LED green

active bus LED yellow

Distance

1400 m; 50.0 µm fibre/glass

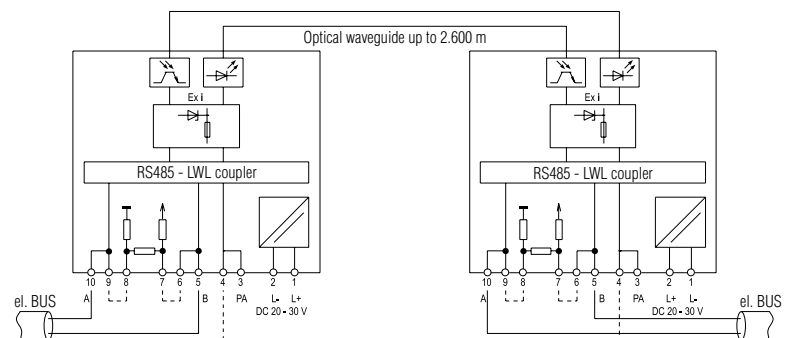
2600 m; 62.5 µm fibre/glass

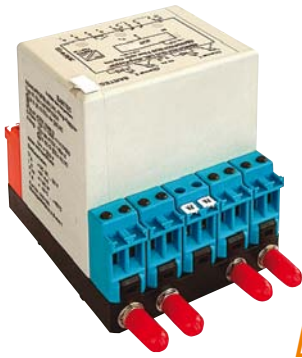
Guidelines

Directive 2004/108/CE

Directive 94/9/CE

Examples of LWL T-coupler





LWL Ring-coupler

Features

- Bridging of great distances
- Noise-immune signal transmission
- Galvanic isolation

Explosion protection

Ex protection type

Ex II 2 G / I M2
Ex d e [ib] IIC Gb
Ex d e [ib] I Mb
Class I Zone 1 IIC
A/Ex d e [ib] IIC Gb

Certification

PTB 97 ATEX 1068 U
IECEx PTB 11.0083U
TÜV 99 ATEX 1404 X
IECEx TUN 12.0024X
CSA 2011-2484303U

Fitting

Type 17-1923-1122/0000
Ex II (2) G / II (2) D
[Ex ib Gb] IIC
[Ex ib Db] IIIC

Description

The RS485/PROFIBUS LWL Ring-coupler reroutes the PROFIBUS from copper conductors to optical waveguides. The LWL Ring-coupler is a passive bus participant.

In plants, the LWL Ring-coupler allows the bridging of great distance with PROFIBUS without noise interference.

The electronics for the signal conversion are accommodated in the flameproof MODEX enclosure. Transmitter and receiver for the LWL-coupler are intrinsically safe headed. The intrinsically safe control transmitter and receiver of the electronic system guarantee that the transmitter rate does not go beyond maximum value limits.

Configuration

According to topology, it is possible to connect several items of equipment in a ring. A master (item of equipment) needs to be included in the ring. All the other items of equipment should be configured as slaves. The master needs to be connected to the higher level (e. g. control unit).

Optical waveguide

Transmitter

Type 17-2114-0002

Ex II 2 G / II 2 D
Ex ib op is IIC T4 Gb
Ex ib IIIC TX* °C Db

Receiver

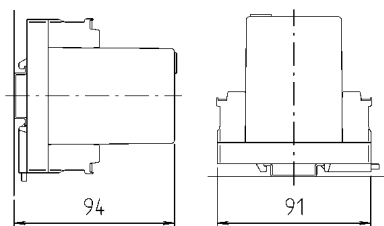
Type 17-2114-0003

Ex II 2 G / II 2 D
Ex ib IIC T4 Gb
Ex ib IIIC TX* °C Db

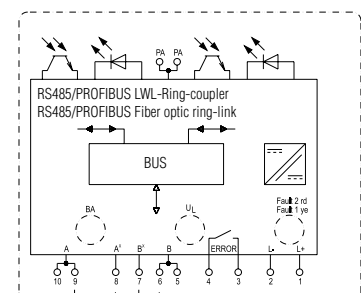
Further safety data see EC type examination certificate.

* Details see instruction manual.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➔ Technical data

Construction

Clip-on enclosure to TH 35

Enclosure material

High-quality thermoplastic

Protection class

minimum IP 20

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +70 °C

Ambient temperature

-25 °C to +60 °C

+70 °C: Result warming up measurement
otherwise +60 °C

Weight

600 g

■ Electrical data

Supply voltage

DC 20 V to DC 30 V

Power consumption dissipation

$P_V = 1.50 \text{ W}$

Galvanic isolation

Bus//power supply//optical waveguide

Bus input/output

2-wire remote bus with screw terminals

LWL input/output

FSMA LWL plug-in connectors or

ST LWL plug-in connectors

Wavelength

850 nm/glass

Displays

operation LED green

active bus LED yellow

Distance

1400 m; 50.0 µm fibre/glass

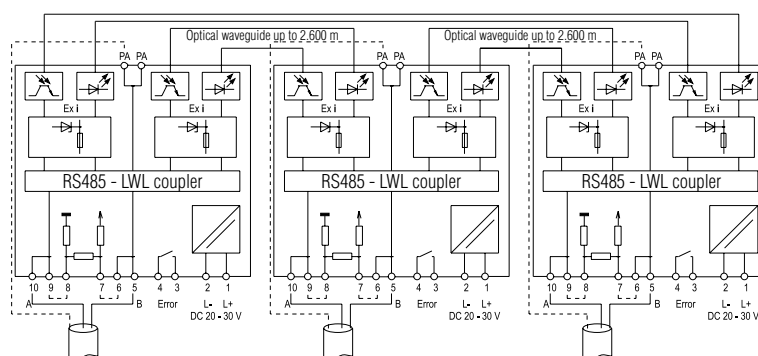
2600 m; 62.5 µm fibre/glass

Guidelines

Directive 2004/108/EC

Directive 94/9/EC

Examples of LWL Ring-coupler



Technical data subject to change without notice.



LWL PP-coupler

Features

- Bridging of great distances
- Noise-immune signal transmission
- Galvanic isolation

Explosion protection

Ex protection type

Ex II 2 G / I M2
Ex d e [ib] IIC Gb
Ex d e [ib] I Mb
Class I Zone 1 IIC
A/Ex d e [ib] IIC Gb

Certification

PTB 97 ATEX 1068 U
IECEx PTB 11.0083U
TÜV 99 ATEX 1404 X
IECEx TUN 12.0024X
CSA 2011-2484303U

Fitting

Type 17-1923-1133/0000
Ex II (2) G / II (2) D
[Ex ib Gb] IIC
[Ex ib Db] IIIC

Description

The RS485/PROFIBUS LWL PP-coupler reroutes the PROFIBUS from copper conductors to optical waveguides. The LWL PP-coupler is a passive bus participant.

In plants, the LWL PP-coupler allows the bridging of great distance with PROFIBUS without noise interference.

The electronics for the signal conversion are accommodated in the flameproof MODEX enclosure. Transmitter and receiver for the LWL-coupler are intrinsically safe headed during the execution. The intrinsically safe control transmitter and receiver of the electronic system guarantee that the transmitter rate does not go beyond maximum value limits.

Optical waveguide

Transmitter

Type 17-2114-0002

Ex II 2 G / II 2 D
Ex ib op is IIC T4 Gb
Ex ib IIIC TX* °C Db

Receiver

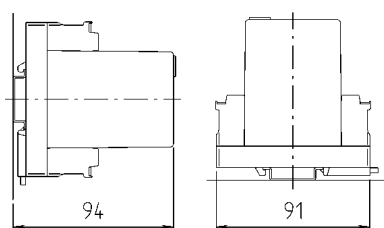
Type 17-2114-0003

Ex II 2 G / II 2 D
Ex ib IIC T4 Gb
Ex ib IIIC TX* °C Db

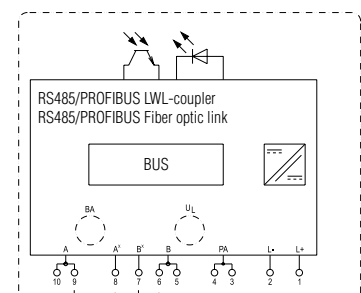
Further safety data see EC type examination certificate.

* Details see instruction manual.

Dimensions/mounting positions



Wiring diagram/terminal assignment





➔ Technical data

Construction

Clip-on enclosure to TH 35

Enclosure material

High-quality thermoplastic

Protection class

minimum IP 20

Terminals

2.5 mm², fine stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

-40 °C to +70 °C

Ambient temperature

-25 °C to +60 °C

Weight

600 g

■ Electrical data

Supply voltage

DC 20 V to DC 30 V

Power consumption dissipation

$P_V = 0.85 \text{ W}$

Galvanic isolation

Bus//power supply//optical waveguide

Bus input/output

2-wire remote bus with screw terminals

LWL input/output

F-SMA LWL plug-in connectors or
ST LWL plug-in connectors

Wavelength

850 nm/glass

Displays

operation LED green
active bus LED yellow

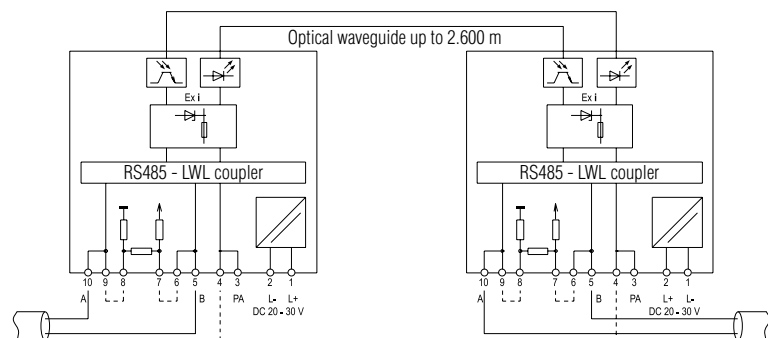
Distance

1400 m; 50.0 µm fibre/glass
2600 m; 62.5 µm fibre/glass

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

Example of LWL PP-coupler



Technical data subject to change without notice.



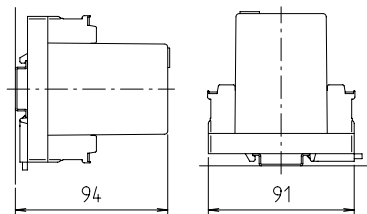
Terminator

Description

The PROFIBUS Interface Terminator is an active bus terminator. Its essential benefit is the fact that bus devices can be switched off, removed or replaced without impairing data transfer.

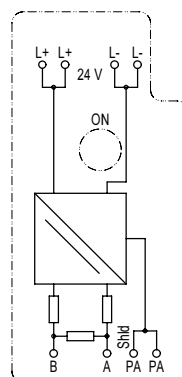
This especially applies to bus devices on both ends of the bus line through which terminal resistances previously had to be switched and supplied.

Dimensions/mounting position



Module width: 30 mm

Wiring diagram/terminal assignment



Explosion protection

Ex protection type

Ex II 2 G / I M2
Ex d e IIC Gb
Ex d e I Mb
Class I Zone 1 IIC
A/Ex d e IIC Gb

Certification

PTB 97 ATEX 1068 U
IECEx PTB 11.0083U
CSA 2011-2484303U
INMETRO IEE 12.0200U

Technical data

Enclosure material

High-quality thermoplastics

Protection class

Module IP 66/IEC 60529
Terminals IP 20/IEC 60529

Terminals

2.5 mm², fine stranded

Mounting rail

TH 35 x 7.5 (15) EN 60715

Labelling

front panel label for markings

Ambient temperature

-20 °C to +60 °C

Storage temperature

-40 °C to +70 °C

Weight

0.250 kg

Electrical data

Supply voltage

DC 20 V to 30 V

Power consumption

$P_{tot.} = 0.3 \text{ W}$

Guidelines

Directive 2004/108/EC
Directive 94/9/EC

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