



BI921S/BI923S LWL coupler



RS 485/PROFIBUS

Features

- Bridging of great distances
- Noise-immune signal transmission
- for hazardous areas
- EMC according to EN50081/-82
- Galvanic isolation

Description

The RS485/PROFIBUS LWL optical waveguide coupler reroutes the PROFIBUS from copper conductors to optical waveguides. The LWL coupler is a passive bus participant. Each electrical bus brunch opens a new 485 segment for 32 PROFIBUS participants. Additional repeater are not needed. In explosive plant areas, the LWL coupler allows the bridging of great distance with PROFIBUS without noise interference. The LWL coupler is installed in the hazardous area. The electronics for the signal conversion is accom-modated in the flameproof MODEX enclosure. Transmitter and receiver for the optical waveguide are housed in the mounting foot. The electronic systems intrinsically safe control of transmitter and receiver guarantees that none of them over-heats and the transmission rates do not go beyond maximum value limits.

Two versions are available:

- 1 channel for point-to-point connections
- 2 channels for an optically redundant ring

These possibilities allow you to realize all your tasks in the Ex-zone 1 using glass material, from the simple optical waveguide to the redundant optical ring.

Technical data

Construction

Flameproof, clip-on enclosure to TS 35

Enclosure material

High-quality thermoplastic

Protection class

Module	IP66
Terminals	IP20
Terminals with cover	IP30

Terminals

2.5 mm², stranded

Labelling

front panel label for markings

Display

LEDs on front panel

Storage temperature

- 40 °C to + 60 °C

Ambient temperature

- 25 °C to + 60 °C

Weight

0.600 kg

Electrical data

Supply voltage

DC 20 V to DC 30 V

Power consumption dissipation

$P_V = 0.85 \text{ W}$ / Optical waveguide coupler

$P_V = 1.95 \text{ W}$ / Ring-coupler

Galvanic isolation

Bus // power supply // optical waveguide

Bus input / output

RS 485 with screw clamping terminals

LWL input / output

F-SMA LWL-plug-in connectors

Wavelength

820 nm/glass

Display

Operation	LED green
Active bus	LED yellow

Distance

1400 m; 50.0 µm fibre/glass

2600 m; 62.5 µm fibre/glass

Guidelines/norms/certifications

EC-EMC guideline 89/336/EEC

NAMUR recommendation AK 21 EMC

EC low voltage directive 73/23/EEC

Ex directive 94/9/EC

Explosion protection

Ex protection type

Ex II 2 G EEx de [ib] IIC
I M 2 EEx de [ib] I

Certification

Module PTB 97 ATEX 1068 U

Enclosure TÜV 99 ATEX 1404 X

Safety data

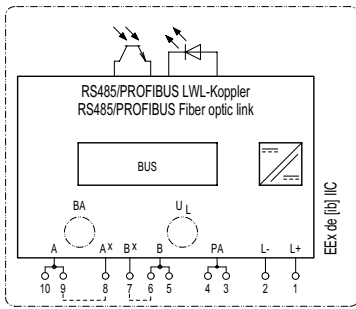
$U_m = 253 \text{ V}$

(for further data see certificate of conformity)

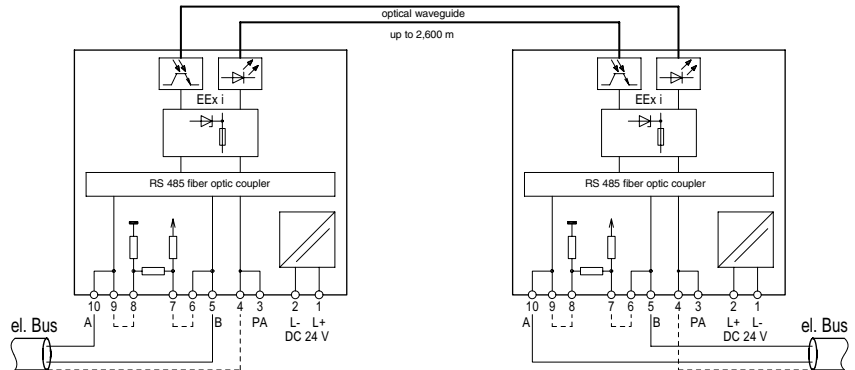


Terminal assignment BI921S

(BARTEC 07-7311-97WP/6000)

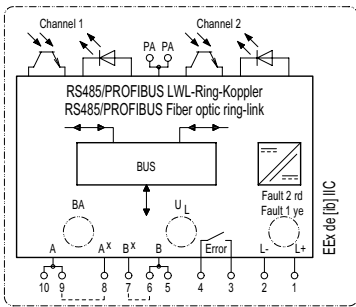


Example for point-to-point connection

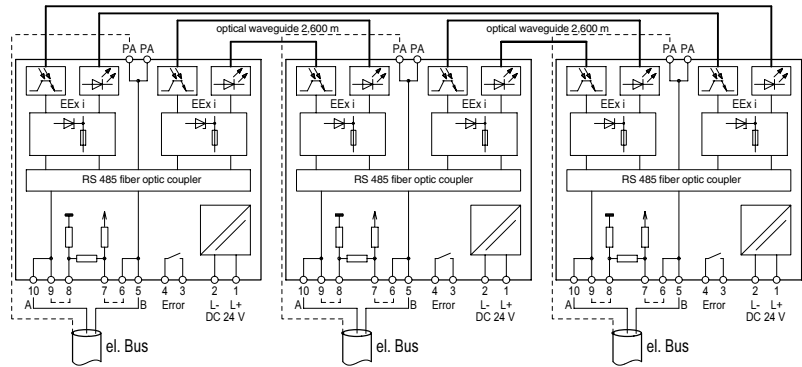


Terminal assignment BI923S

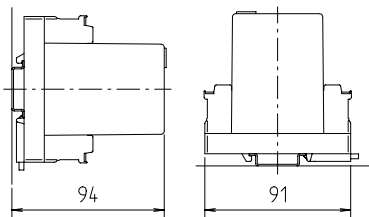
(BARTEC 07-7311-97WP/5000)



Example optical ring



Dimensions/mounting positions



Modul width: 75 mm

➔ **Order no.**
BI921S
BI923S

1 channel glass / F-SMA LWL-plug-in connectors
 2 channels glass / ring-coupler / F-SMA LWL-plug-in connectors