

Single mode fibre optic converter - BSL-322

AutoSafe interactive fire detection system
Product datasheet

Features

- Converts data signals on an AutoSafe local operating network (AUTROLON) or an AutoSafe AutoFieldBus ring to fibre optic signals
- Ensures reliable communication where larger distances on AUTROLON or AutoFieldBus are necessary
- Easily plugged onto other I/O modules on a standard mounting rail inside the Fire alarm control panel/controller
- Powered from the I/O module stack or from an external power supply connected via screw terminals
- Designed and tested to meet EN 54 and other requirements. Conforms to CE standards
- Uses 1310nm technology
- Uses single mode 9/125µm fibre optic cable
- Network traffic monitor

Applications

The Single mode fibre optic converter BSL-322 is used to boost the electrical data signals on the AutoSafe local operating network; AUTROLON, or on AutoFieldBus, and convert the signals to and from optical fibre communication.

The converter ensures reliable communication in cases where larger distances between panels are necessary. By using optical converters the total installation length can be greatly increased (see requirements and limitations below).

The BSL-322 can be placed anywhere in the electrical AUTROLON network or in an AutoFieldBus ring and is not required to be mounted inside a panel.

If the converter is mounted on the standard mounting rail inside the Fire alarm control panel/controller it will be powered with 24 VDC from the I/O module stack. If the module is not mounted on the standard mounting rail, external 24 VDC power must be supplied to the screw terminals.

Requirements

If a combination of BSL-321 and/or BSL-322 (fibre optic converters) are used with BSL-325 (AUTROLON boosters), then the required number of fibre "jumps" is reduced according to the table below. For BSL-325 limitations, refer to the BSL-325 datasheet.

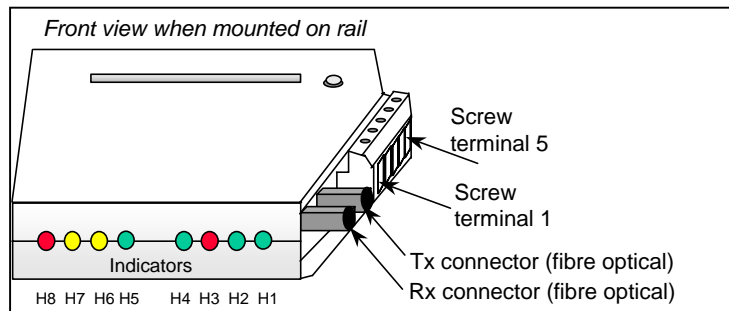
| Number of BSL-325s in the AUTROLON ring or an AutoFieldBus | Maximum number of fibre jumps |
|--|-------------------------------|
| 0 | 8 |
| 2 | 7 |
| 3-4 | 6 |
| 5-6 | 5 |

Limitations

- Requires duplex fibres (2 actual fibres) between BSL-322 units
- A maximum of 1000 meters of copper wire or 8 panels is permitted between any two BSL-325 AUTROLON Boosters
- A maximum of 6dB optical attenuation between two BSL-322 units (corresponding to 15 km of typical single mode fibre)
- A maximum of 32 panels per AUTROLON ring



Connections/indicators



- H1 green LED, LON (fibre) transmitter active
- H2 green LED, LON (copper) transmitter active
- H3 red LED, not used
- H4 green LED, module OK when blinking
- H5 green LED, > 0,01 % network load
- H6 yellow LED, > 1% network load
- H7 yellow LED, > 10 % network load
- H8 red LED, > 50 % network load

The BSL-322 module has the following connections:

| Screw terminal no. | Signal |
|--------------------|----------------------------|
| 1 | LON (polarity independent) |
| 2 | LON (polarity independent) |
| 3 | Shield LON |
| 4 | +24 VDC Supply |
| 5 | 0 VDC Supply |

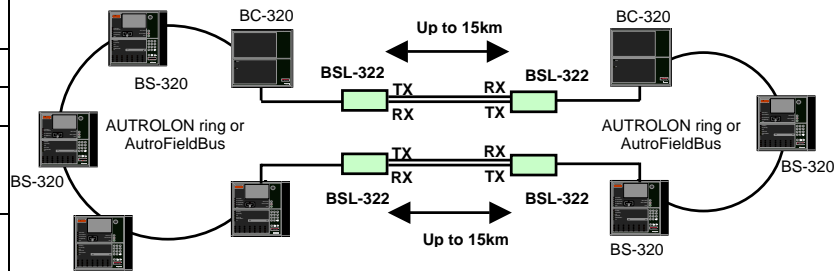
| Optical connectors | Signal |
|--------------------|-------------------------|
| Rx | Receive optical signal |
| Tx | Transmit optical signal |



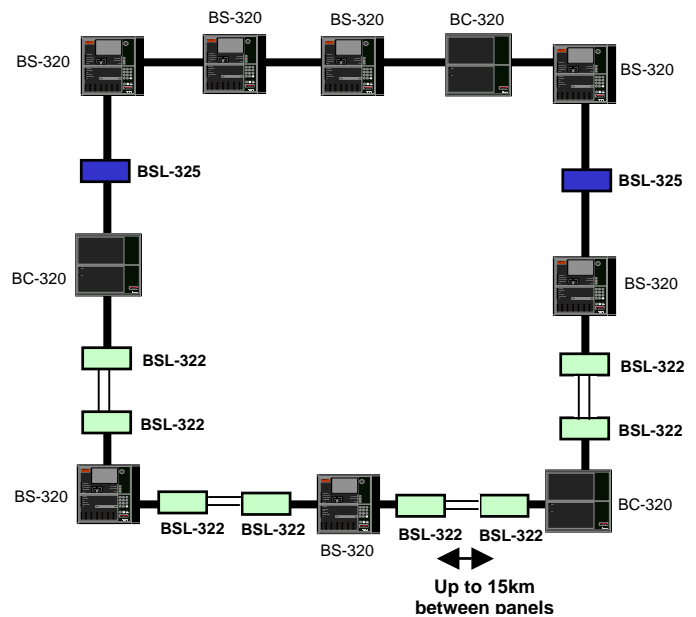
| Technical specifications | |
|----------------------------------|--|
| Dimensions (mm) HxDxW | 95x89x32 |
| Weight (g) | 81 |
| Materials housing | PC/ABS |
| Mounting | Onto a standard 35mm mounting rail inside the Fire alarm control panel, controller or separate box. |
| Electrical connection | Internal system: plug in connection Screw terminals (maximum cable dimension 2,5mm ²) |
| Supply voltage | 21 - 29 VDC |
| Internal current consumption | Maximum 135mA, typically 40mA |
| Degree of protection | IP20 |
| Humidity | 93% relative humidity at 40°C (non condensing) |
| Temperature (working) | -20 to +60°C |
| Cable specification | According to AUTROLON or AutroFieldBus specifications |
| Optical fibre specification | 9/125µm Maximum attenuation between BSL-322s 6dB |
| Fibre connector type | ST-connector |
| Optical wavelength | 1310nm |
| Recommended maximum cable length | 15km |

| Part number | Description |
|-------------|-----------------------------------|
| 116-BSL-322 | Single mode fibre optic converter |

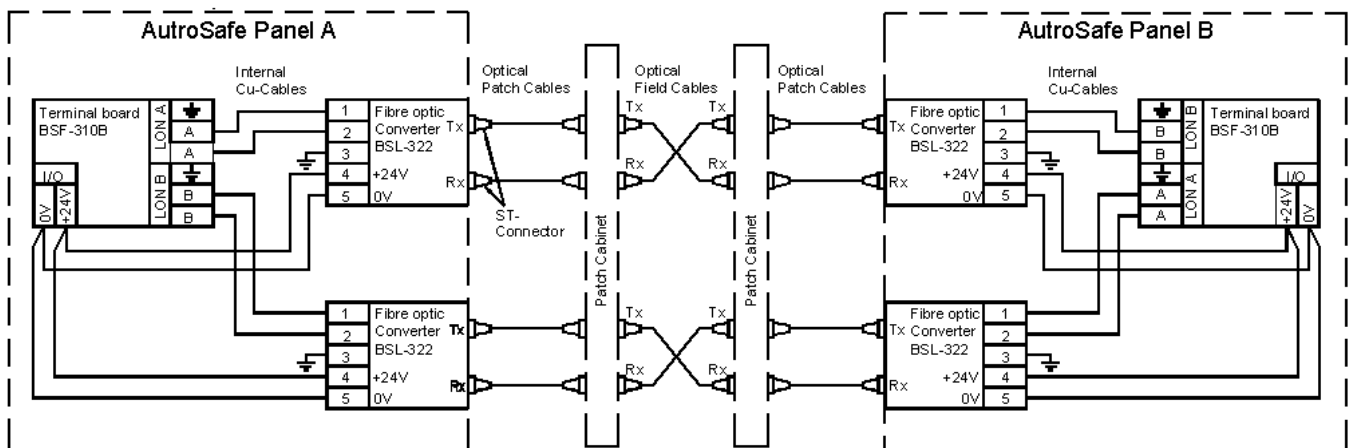
Block diagram – typical examples



Example of a combined copper (indicated with a thick line) and fibre optic network (indicated with double thin lines).



Schematics – overview connections



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