

### Optical fibre module

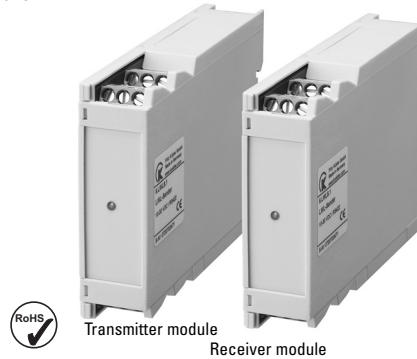
#### The solution for tough signal transmission.

The system is made up of an optical fibre transmitter and an optical fibre receiver. The optical fibre transmitter converts the electrical signals of an usual incremental encoder into a light signal for transmission by means of an optical fibre.

The receiving module converts the optical signal back into electrical signals. Up to 4 channels may be transmitted safely.

#### Innovative:

- Signal transmission thanks to a simple glass fibre
- Safe signal transmission up to 1000 m
- Input frequency up to 400 kHz
- Input level 10 – 30 V or RS 422
- Inverted input signals
- Resists extremely strong electro-magnetical fields



#### Compact:

- Only 22 mm wide
- DIN rail mounting, small size

#### Versatile:

- Process control technology and automation technology
- Interference-sensitive applications
- High voltage plants
- Plants with long transmission distances
- Potential separation
- Explosive areas

#### Technical data:

|   |  |
|---|--|
| Supply voltage:   | 10 ... 30 V or 5 V $\pm$ 5%  |
| Power consumption per module:   | < 2 W  |
| Operating voltage reverse connection protection:  | available  |
| Encoder inputs - optical fibre transmitter:   | Channels A, A\, B, B\, 0, 0\   |
| Max. input frequency - optical fibre transmitter:<br>and output frequency - optical fibre receiver: | 400 kHz  |
| Input level - optical fibre transmitter:  | 10 ... 30 V or RS 422  |
| Optical wavelength:   | 820 nm   |
| Optical transmission rate:  | 120 Mbit/s   |
| Optical fibre connection:   | ST connector, 13 mm, $\varnothing$ 9 mm, on the bottom side of the housing |
| Glass fibre:  | Multimode fibre, 50/125 $\mu$ m, 62,5/125 $\mu$ m                          |
| Optical fibre synchronisation display:  | LED on the receiver  |
| Input signals sampling rate:  | 10 MSamples/s  |
| Max. optical fibre transmission distance:   | 1000 m   |
| Dimensions:   | 22,5 x 110,8 x 88,4 mm (B x L x H)   |
| Protection:   | IP 40, terminals IP 20   |
| Terminals:  | Protected against contact, max. conductor diameter: 2,5 mm <sup>2</sup>    |
| Temperature range   | -10 °C ... +60 °C  |
| Standards:  | EN 55 011 Class B1<br>EN 61 000 - 6 - 2: 2006                              |

#### LED function:

Green LED ON when the supply voltage and the optical fibre cable are connected correctly.

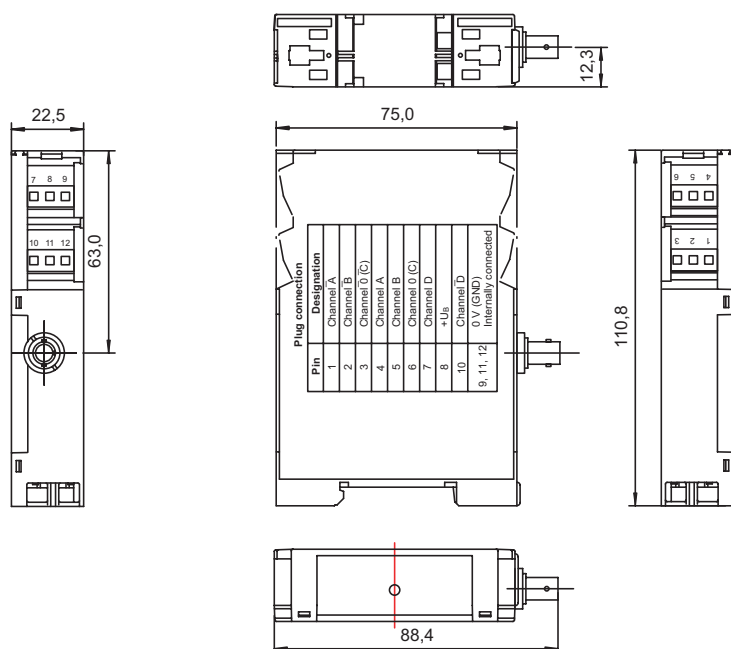
The LED in the receiver module (LWLE) blinks when the optical fibre cable is not connected correctly or is broken.

# Connection technology

## Optical fibre signal transmission

### Optical fibre module

Dimensions:



Connecting diagram of the optical fibre transmitter and receiver:

| Pin       | Description                 |
|-----------|-----------------------------|
| 1         | Channel A                   |
| 2         | Channel B                   |
| 3         | Channel 0 (C)               |
| 4         | Channel A                   |
| 5         | Channel B                   |
| 6         | Channel 0 (C)               |
| 7         | Channel D                   |
| 8         | + U <sub>B</sub>            |
| 10        | Channel D                   |
| 9, 11, 12 | 0 V, GND, linked internally |

Order code:

#### Optical fibre transmitter

|   |           |
|---|-----------|
| UB = 10 ... 30 V DC, input RS 422:                  | 6. LWLS.1 |
| UB = 10 ... 30 V DC, input HTL, without inversions: | 6. LWLS.2 |
| UB = 5 V DC, input RS 422:                          | 6. LWLS.4 |
| UB = 10 ... 30 V DC, input HTL:                     | 6. LWLS.5 |

#### Optical fibre receiver

|                                     |           |
|-------------------------------------|-----------|
| UB = 10 ... 30 V DC, output RS 422: | 6. LWLE.1 |
| UB = 5 V DC, output RS 422:         | 6. LWLE.4 |
| UB = 10 ... 30 VDC, output HTL:     | 6. LWLE.5 |

Scope of delivery:

- Optical fibre module
- Multilingual operating manual

Accessories:

#### Simplex Patch cable ST-ST - Multimode

Connector: 2xST/PC, fibre: 1x50/125  
Standard lengths: 2 m, 5m, 8m, 10m, 15m, 20m, ... (in 5m steps)

Order code:

05.B09-B09-821-LXXX  
Length in m

#### ST Multimode coupling

Barrel: ceramic, slotted  
Order code: 05.LWLK.001

