

Connection Technology

Optical fibre signal transmission SSI



Cost advantage compared to conventional wiring over 150 m length*

Optical fibre transmission system for SSI absolute encoders
 The system is made up of an optical fibre transmitter and an optical fibre receiver.
 The optical fibre transmitter converts the electrical signals of a normal absolute encoder with Synchronous Serial Interface (SSI) into a light signal for transmission by means of an optical fibre. The receiving module converts the optical signal back into electrical signals. Absolute signals can be transmitted safely through one glass fibre over distances of up to 1500 m.
 The resolution of 13 bit for a singleturn encoder or 25 bit for a multi-turn encoder can be defined by means of a DIP-switch on the front side of the module.

<p>Reliable transmission</p> <ul style="list-style-type: none"> • Safe signal transmission up to 1500 m • Resists extremely strong electro-magnetic fields 	<p>Easy installation</p> <ul style="list-style-type: none"> • Signal transmission via a single glass fibre. • Resolution of 13 bit or 25 bit can be set via DIP-switch • LED for monitoring of power supply, clock and date • DIN-rail mounting – requires min. installation space – only 22 mm wide
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Application areas

- Process control technology and automation technology
- Interference-sensitive applications
- High voltage plant
- Plant with long transmission distances
- Potential separation
- Hazardous areas

Order code

<p>Optical fibre transmitter</p> <p>U_B = 10 ... 30 V DC</p> <p>U_B = 5 V DC</p>	<p>LWLS.A1</p> <p>LWLS.A4</p>	<p>Optical fibre receiver</p> <p>U_B = 10 ... 30 V DC</p> <p>U_B = 5 V DC</p>	<p>LWLE.A1</p> <p>LWLE.A4</p>
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Scope of delivery:

- Optical fibre module
- Multilingual operating manual

Accessories

<p>Simplex Patch cable ST-ST – Multimode</p> <p>Connector: 2xST/PC, Optical fibre: 1x50/125</p> <p>Standard lengths: 2 m, 5m, 8m, 10m, 15m, 20m, ... (in 5 m steps)</p> <p>Order code:</p> <p>05.B09-B09-821-L XXX</p> <p>① Length in m</p>	<p>ST Multimode coupling</p> <p>Barrel: ceramic, slotted</p> <p>Order No.:</p> <p>05.LWLK.001</p>
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Optical fibre signal transmission

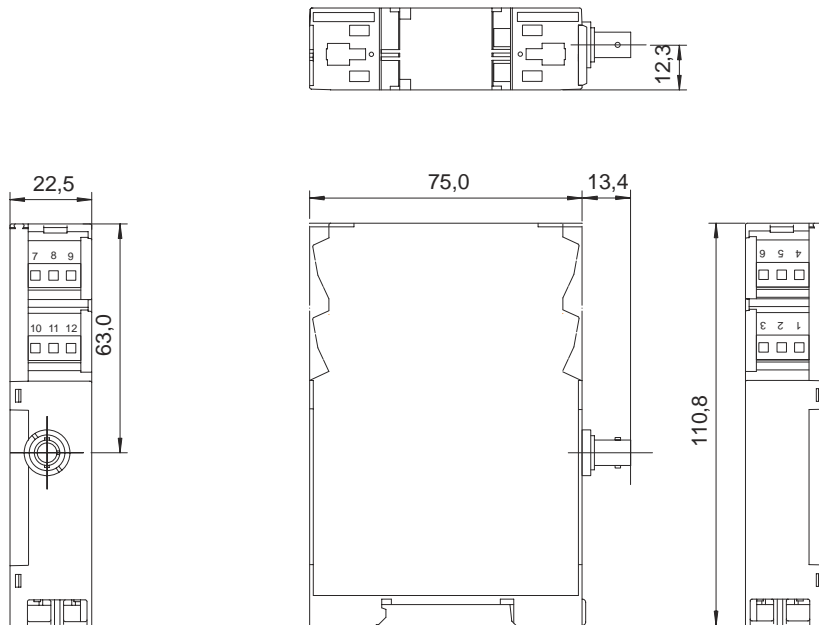
SSI

Technical data

Supply voltage	10 ... 30 V or 5 V \pm 5%				
Power consumption per module	<table border="0"> <tr> <td>U_B 10 ... 30 V DC</td> <td>max 1,6 W</td> </tr> <tr> <td>U_B 5 V DC</td> <td>max 0,8 W</td> </tr> </table>	U_B 10 ... 30 V DC	max 1,6 W	U_B 5 V DC	max 0,8 W
U_B 10 ... 30 V DC	max 1,6 W				
U_B 5 V DC	max 0,8 W				
Operating voltage reverse connection protection	available				
Encoder inputs	optical fibre transmitter -T, +T and -D, +D				
SSI clock rate	500 kHz fixed setting				
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 μ m, 62,5/125 μ m
Max. optical fibre transmission distance	max. 1500 m
Dimensions	(W x L x H) 22,5 x 110,8 x 88,4 mm
Protection	IP 40, terminals IP 20
Terminals	protected against contact, max.conductor diameter 2,5 mm ²
Temperature range	-10 °C ... +60 °C
Weight	approx. 100 g
Standards	EN 55 011 Class B1 EN 61 000-6-2: 2006

Dimensions



Connecting diagram

Optical fibre transmitter:

Pin	signal
1	0 V (GND)
2	+ U_B
3	+ T
4	- T
5	+ D
6	- D
7	0 V (GND)
8	+ U_B

Connecting diagram

Optical fibre receiver:

Pin	signal
1	0 V (GND)
2	+ U_B
3	+ D
4	- D
5	+ T
6	- T
7	emitter (-)
8	collector (+)

