Optical fiber signal transmission | Transmitter and receiver | RS422/HTL

eco plus

Cost advantage compared to conventional wiring over 150 m length*

The solution where signal transmission is difficult.

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

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

Innovative

- Signal transmission via just a single glass fiber.
- Safe signal transmission up to 2000 m.
- Input frequency up to 400 kHz.
- Input level 10 ... 30 V or RS422.
- Inverted input signals.
- Resists extremely strong electro-magnetical fields.
- Signal transmission from several sensors possible thanks to 8 independent signal channels.

Compact

- Can be installed even where space is tight.
- Minimal installation depth.
- Connections plug-in HD-Sub-D15 or terminal clamp.

Application areas

- Process control technology and automation technology.
- Applications sensitive to interference.
- High voltage plants.
- Plants with long transmission distances.
- Potential separation.
- Explosive areas.

Order code Optical fiber transmitter / receiver

6.LWL X(a) . X(b) X(c)

a
S = Optical fiber transmitter
E = Optical fiber receiver

b *Input or output circuit / Power supply*
1 = RS422 / 10 ... 30 V DC
2 = HTL, without inverted signals / 10 ... 30 V DC (only for optical fiber transmitter)
4 = RS422 / 5 V DC
5 = HTL / 10 ... 30 V DC, input

c *Type of connection*
0 = Terminal clamp
1 = Plug-in connector HD-Sub-D15

Scope of delivery:
- Optical fiber module
- Multilingual operating manual

Optical fiber transmitter versions can be combined with any version of the optical fiber receivers.

Accessories			Order no.
Simplex Patch cable ST-ST - Multimode 	Connector: Glass fiber:	2 x ST/PC 1 x 50/125 bending radius min.: static 30 mm [1.18"] dynamic 60 mm [2.36"]	**05.B09-B09.821-XXXX** XXXX = Length in m Standard lengths: 2 m, 5 m, 8 m, 10 m, 15 m, 20 m, ... (in 5 m steps)
ST Multimode coupling 	Barrel:	ceramic, slotted	**05.LWLK.001**

* Comparison of costs:
Costs per meter standard copper cable compared to costs per meter optical fiber signal cable + costs of transmitter + costs of receiver.

Optical fiber transmission modules

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Technical data

General technical data	
Power supply	10 ... 30 DC V eg. 5 V DC ±5%
Power consumption per module	< 2 W
Operating voltage reverse connection protection	available
Encoder inputs optical fiber transmitter channels	A, $\overline{A}$, B, $\overline{B}$, C, $\overline{C}$, D, $\overline{D}$
Max. input frequency optical fiber transmitter and output frequency optical fiber receiver	400 kHz
Input level optical fiber transmitter	10 ... 30 V or RS 422
Optical wavelength	850 nm
Optical transmission rate	120 Mbit/s
Optical fiber synchronisation display	LED on the receiver
Optical fiber connection	ST connector, ø 9 mm [0.35] on the bottom side of the housing
Glass fiber	multimode fiber, 50/125 µm, 62.5/125 µm

Input signals sampling rate		10 MSamples/s
Optical fiber transmission distance		max. 2000 m [6561']
Dimensions (W x L x H)	Terminal clamp	22.5 x 110.8 x 88.4 mm [0.89 x 4.36 x 3.48"]
	Plug-in connector	19.0 x 110.8 x 88.4 mm [0.75 x 4.36 x 3.48"]
Protection acc. to EN 60529		IP40, terminals IP20
Terminals	max. conductor diameter	protected against contact 2.5 mm² [AWG 23]
Temperature range		-10°C ... +60°C [+14°F ... +140°F]
Weight		approx. 95 g [3.35 oz]

EMC		
Standards	Emitted interference	EN 55011 class B1
	Immunity to interference	EN 61000-6-2

Terminal assignment

Type of connection	Terminal clamp, optical fiber transmitter and receiver											
0	Signal:	$\overline{A}$	$\overline{B}$	$\overline{C}$ ($\overline{0}$)	A	B	C (0)	$\overline{D}$	D	+V	0 V linked internally	Shield
	Terminal:	1	2	3	4	5	6	7	10	8	9, 11, 12	–

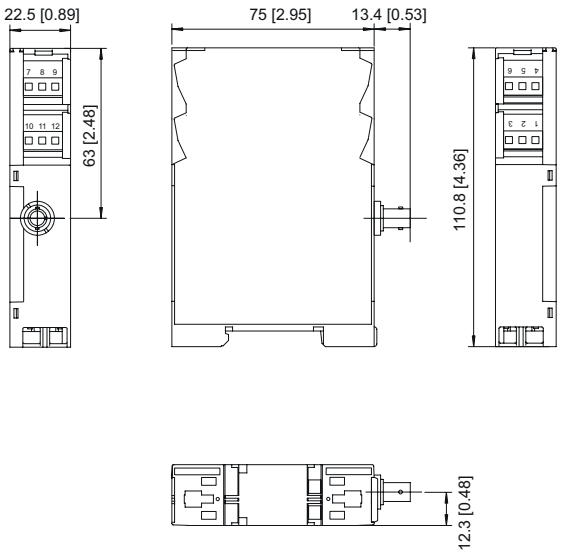
Type of connection	HD-Sub-D15, 3-row, optical fiber transmitter												Terminal	
1	Signal:	$\overline{A}$	$\overline{B}$	$\overline{C}$ ($\overline{0}$)	A	B	C (0)	$\overline{D}$	D	$+V_{out}$ to encoder	0 V linked internally	Shield linked internally	0 V	$+V_{in}$ to encoder, linked internally
	Pin female contact:	8	6	3	9	7	4	1	2	15	13	11, 12	1	2

Type of connection	HD-Sub-D15, 3-row, optical fiber receiver												Terminal	
1	Signal:	$\overline{A}$	$\overline{B}$	$\overline{C}$ ($\overline{0}$)	A	B	C (0)	$\overline{D}$	D	$+V_{out}$ power supply	0 V linked internally	Shield linked internally	0 V	$+V_{in}$ power supply, linked internally
	Pin female contact:	8	6	3	9	7	4	1	2	15	13	11, 12	1	2

Dimensions

Dimensions in mm [inch]

Terminal clamp



Plug-in connector, HD-Sub-D15