

Optolink



Optolink

- System for transmission of incremental encoder signals in an optical fibre
- Typical areas of use:
 - In environments with high electromagnetic disturbances
 - Transmission of signals over long distances
 - Where galvanic insulation is required



Electrical specification

Transmitter

Supply voltage +EV	9-30 Vdc, polarity protected
Current consumption excl. encoder	Max 0.7 W
Startup delay	10 ms
Encoder connection	HTL
	Power supply: 9..30V, Input frequency range: 0 .. 200 kHz, Input load: 2,4 k Ohm
Fibre (not included)	62,5 µm, multimode Max length: 2700 m, Connectors: ST-type

Receiver

Supply voltage +EV	9-30 Vdc, polarity protected
Current consumption without load	Max 1.0 W
Startup delay	10 ms
Outputs	HTL, short circuit protected
Load max	± 40 mA
Max cable length	200 m @ 50 kHz
U _{high} (at 10 mA load)	> +EV -2,0 Vdc
U _{low} (at 10 mA load)	< 1,15 Vdc
Frequency range	0 .. 200 kHz
Propagation delay from input in Transmitter	3 µs excluded delay in fibre (delay in 1 km fibre: 5 µs)

Mechanical specification

Housing	Aluminium
Weight	Approx. 400 g
Protection class	IP 65 according to IEC 60529
Temperature	-40 °C .. +85 °C
LED indication	Module and Status
Connection fibre	62,5 µm ST-type
Connection encoder	Screw terminal

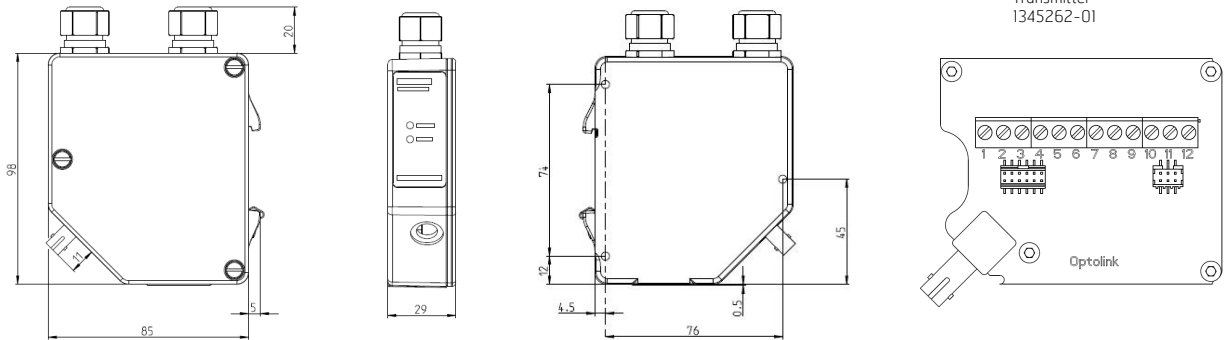
Accessories

Fibre to Optolink system, free length	Contact Leine & Linde
Encoders	See datasheet for encoders

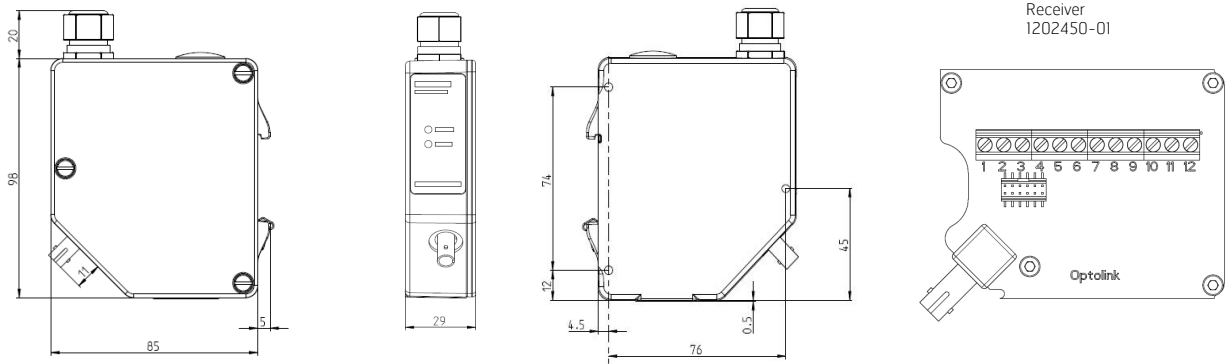
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Dimensions

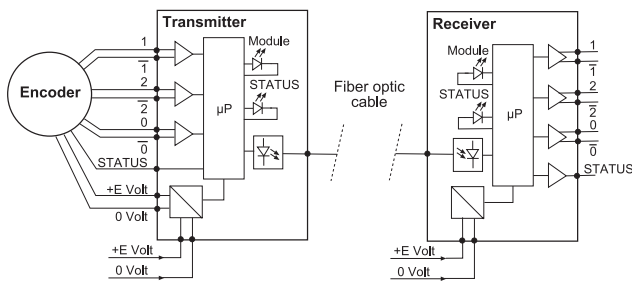
Transmitter



Receiver



System description



Pin configuration

Transmitter		Receiver		
Function	Terminal	Function	Terminal	Cable
+EV (Encoder supply)	1	+EV	1	Red
0 V (Encoder supply)	2	0 V	2	Blue
1 (S90)	3	1 (S90)	3	Green
$\bar{1}$ (S90/)	4	$\bar{1}$ (S90/)	4	White
2 (S00)	5	2 (S00)	5	Yellow
$\bar{2}$ (S00/)	6	$\bar{2}$ (S00/)	6	Black
0 (Sref)	7	0 (Sref)	7	Brown
$\bar{0}$ (Sref/)	8	$\bar{0}$ (Sref/)	8	Violet
STATUS	9	STATUS	9	Grey
+EV (Supply)	11	STATUS/	10	-
0 V (Supply)	12	Housing		Shield

Ordering information

Available models	Part no.
CRG Optolink Transmitter 9-30 Vdc supply, HTL input	1345262-01
CRG Optolink Receiver 9-30 Vdc supply, HTL output	1202450-01
CRG Optolink Receiver 9-30 Vdc supply, HTL output, pre-mounted 1,5 m cable	1310430-01
CRG Optolink Receiver 5 Vdc supply, TTL output	1203448-01
CRG Optolink Receiver 9-30 Vdc supply, RS422 output	1203454-01

LED Description

Transmitter LED

Status LED	Module LED	Description
Green	Red	Transmitter is overrun, Encoder input frequency is over 200kHz. This state is kept until the encoder frequency is below 120kHz
Green	Green	Normal Operation
Red	Green	Encoder status signal is low.

Receiver LED

Status LED	Module LED	Description
Red	Green	Transmitter Status signal input is low or the transmitter has been overrun with an encoder frequency over 200kHz
Red	Red	Fiber communication is lost, receiver output signals go into tri-state.
Green	Green	Normal Operation

Functional description

Over run mode

When the transmitter receives an encoder signal with a frequency over 200 kHz the transmitter goes into "Over run mode". When entering over run mode the transmitter sets the MODULE LED to red. When the transmitter receives an encoder signal of less than 120kHz the MODULE LED is set to green.

When the receiver detects a frequency over 200 kHz the STATUS LED on the receiver is set to red and the receiver STATUS output signal is set to low which indicates that the receiver output is not correct.

Low encoder STATUS signal

When the transmitter receives a low STATUS signal from the encoder, the STATUS LED on the transmitter and receiver are set to red and the receiver STATUS output signal is set to low which indicates that the encoder has a warning/failure.

Lost fiber communication

If the receiver loses fiber communication with the transmitter both the MODULE and STATUS LEDs on the receiver are set to red and the receiver outputs goes into a tri-state.