

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

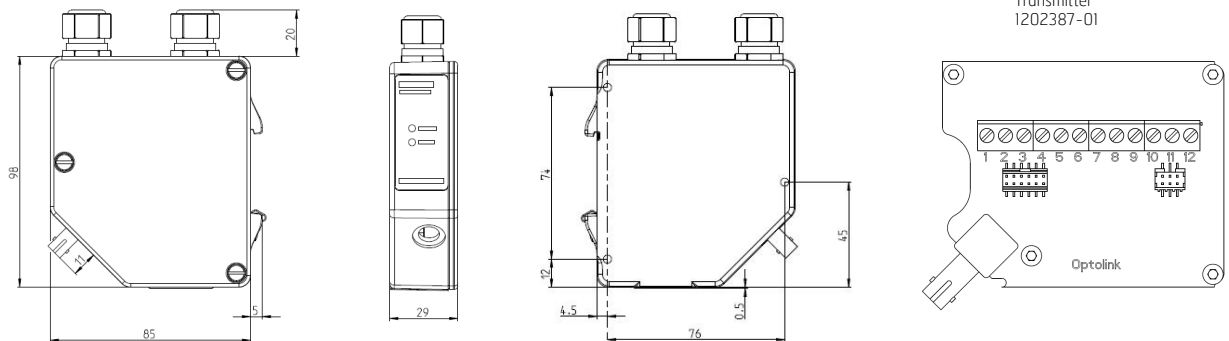
Housing	Aluminium
Weight	Approx. 400 g
Protection class	IP 65 according to IEC 60529
Temperature	-20 °C .. +85 °C
LED indication	Module and Status
Connection fibre	62,5 µm ST-type
Connection encoder	Screw terminal

Accessories

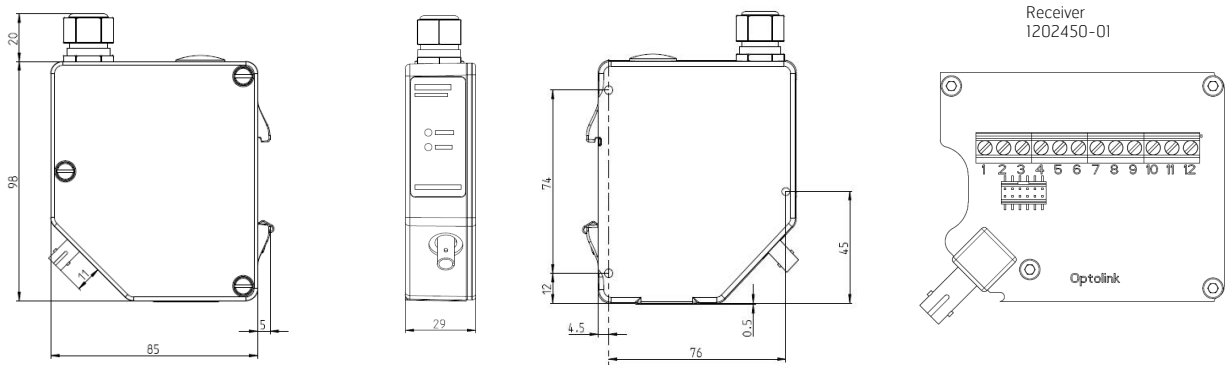
Fibre to Optolink system, free length	Contact Leine & Linde
Encoders	See datasheet for encoders

Dimensions

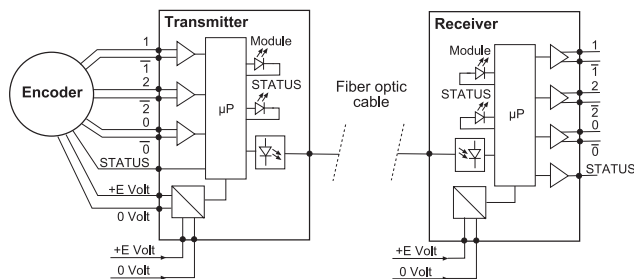
Transmitter



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	Yellow
$\bar{1}$ (S90/)	4	$\bar{1}$ (S90/)	4	Black
2 (S00)	5	2 (S00)	5	Green
$\bar{2}$ (S00/)	6	$\bar{2}$ (S00/)	6	White
0 (Sref)	7	0 (Sref)	7	Brown
$\bar{0}$ (Sref/)	8	$\bar{0}$ (Sref/)	8	Violett
STATUS	9	STATUS	9	
+EV (Supply)	11			
0 V (Supply)	12			

Ordering information

Available models	Part no.	
CRG Optolink Transmitter 9-30 Vdc supply, HTL input	1202387-01	(Replaces 01300320)
CRG Optolink Receiver 9-30 Vdc supply, HTL output	1202450-01	(Replaces 01300330)
CRG Optolink Receiver 9-30 Vdc supply, HTL output, pre-mounted 1,5 m cable	1213417-01	(Replaces 01300331)

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

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

The new optolink versions are fully compatible with the old Leine & Linde optolinks as described in the section ordering information. 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 STATUS output signal to low and sets the STATUS LED to red. The receiver mirrors the red STATUS LED and low STATUS signal indicating that the receiver output is not correct. the transmitter returns the STATUS LED and signal to green and high after it receives an encoder signal of less than 120kHz (previously 20kHz on the old optolink).

If the receiver loses fiber communication both the MODULE and STATUS LEDs go red. The receiver output goes into a tri-state.