



Model Number

LS680-DA-EN/F2/146

Optical data coupler

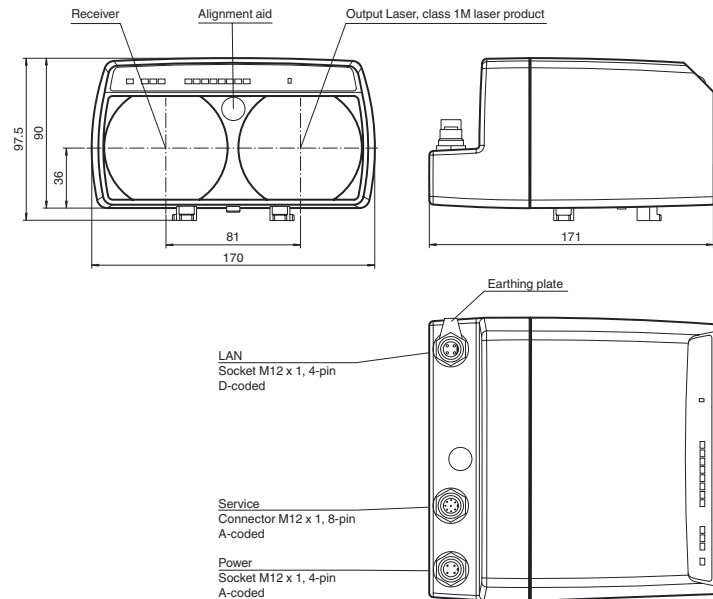
Features

- Fast Ethernet; Powerlink; EtherCAT; Profinet
- Independent of Ethernet protocol
- Version for low temperature applications
- Plug connection for fast mounting
- No parameterization
- Line indicator for signal strength

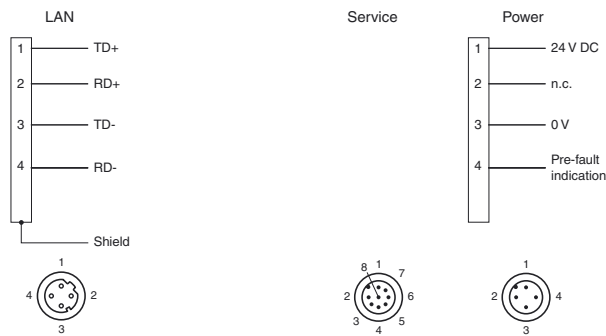
Product information

The optical data coupler serves as a connection of Ethernet modules to remote modules. These can move along an axis toward each other. The devices are optimized for conditions in high bay warehouses bays. The physical transfer takes place protocol-free with 100 MBit/s full duplex. The data rate remains constant irrespective of distance. Telegrams are not saved, which enables immediate transfer.

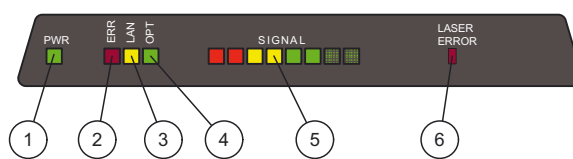
Dimensions



Electrical connection



Indicators/operating means



1	Operating indicator	green
2	Failure	red
3	LAN link	yellow
4	Opto link	green
5	Signal quality	
6	Error Laser	red

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Technical data**General specifications**

Effective detection range	0 ... 150 m
Threshold detection range	180 m
Light source	laser diode
Light type	modulated visible red light
Laser nominal ratings	
Note	INVISIBLE LASER RADIATION , DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS
Laser class	1M
Wave length	660 nm
Pulse length	8 ns
Repetition rate	62.5 MHz
Maximum optical power output	60 mW
Diameter of the light spot	1.5 m at a distance of 100 m
Angle of divergence	0.9 °
Ambient light limit	> 10000 Lux

Functional safety related parameters

MTTF _d	58.6 a
Mission Time (T _M)	10 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Data flow indicator	LED green: OPTO-Link LED yellow: LAN-Link LED red: ERROR
Function indicator	Signal strength (8 LED: Red, yellow, green)

Electrical specifications

Operating voltage	U _B	18 ... 30 V DC
No-load supply current	I ₀	200 mA
Data rate		100 MBit/s (Fast Ethernet)

Interface

Interface type	100 BASE-TX
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Output

Pre-fault indication output	1 PNP, inactive when falling short of the stability control , short-circuit protected, max. 200 mA
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Ambient conditions

Ambient temperature	-30 ... 50 °C (-22 ... 122 °F)
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)

Mechanical specifications

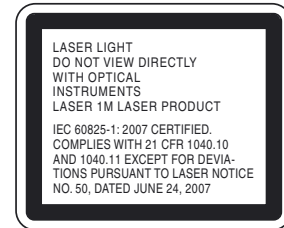
Degree of protection	IP65
Connection	4-pin, M12x1 connector, standard (supply) , 8-pin M12x1 connector, service , M12x1 socket, 4-pin, D-coded (LAN)
Material	
Housing	ABS / PC
Optical face	plastic
Mass	700 g

Compliance with standards and directives

Directive conformity	EMC Directive 2004/108/EC
Standard conformity	
Standards	EN 61000-6-2 , EN 61000-6-4 , EN 60825-1

Approvals and certificates

UL approval	cULus Listed
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Laserlabel**Accessories****OMH-LS610-01**

Mounting bracket for optical data coupler

OMH-LS610-02

Direct mounting set consisting of 4 x M4 threaded inserts

OMH-LS610-03

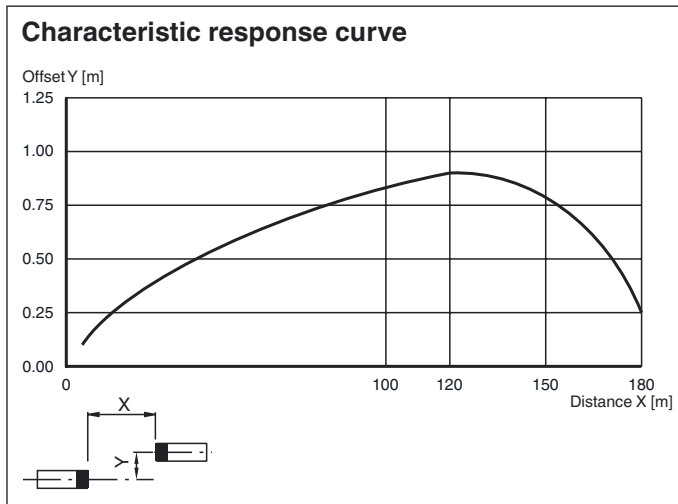
Mounting bracket with deviation mirror for optical data coupler

OMH-LS610-05

Mounting bracket for optical data coupler and distance measurement devices

Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams



Function

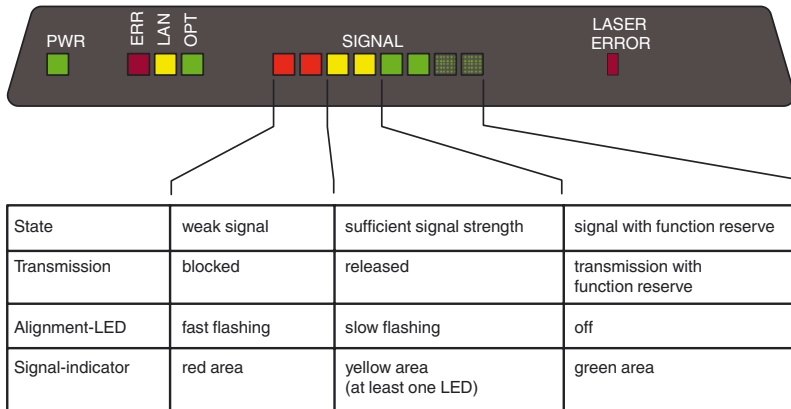
The LS68*-DA-EN is a device for serial data transfer in Ethernet systems. One F1 and one F2 device is needed for each data transfer link.

Data transfer

Data is transferred in both directions by means of modulated light. The information at the input interface is modulated on the carrier signal. The information is then demodulated and issued on the output interface by the receiver.

Function displays/function reserve

A red alignment LED, which can be seen from a long way off, is located on the front panel as an alignment aid. As soon as a receiver detects the transmitter light of the device opposite it, the flashing frequency of the alignment aid decreases. If the light goes out, this indicates that the devices are optimally aligned and sufficient function reserve is available. For fine adjustment, the optical data coupler also features a bar graph display (signal display) that facilitates optimum alignment.



Mounting

The device is mounted using appropriate accessories, e.g., OMH-LS610-01 for wall mounting. The x-y adjuster is pre-assembled on delivery. It is fixed in the required beam direction ($\pm 90^\circ$ rotation possible) on the mounting bracket.

Laser notice laser class 1M

- The irradiation can lead to irritation especially in a dark environment. Do not point at people!
- Caution: visible and invisible laser radiation, do not observe laser light with optical instruments such as magnifying glasses, microscopes, telescopes or binoculars!
- Maintenance and repairs should only be carried out by authorized service personnel!
- Attach the device so that the warning is clearly visible and readable.

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