

C-LAS Series

▶ C-LAS-LR-OP2-HS Laser Reflection Light Barrier

- Laser power adjustable via potentiometer
- Target distance typ. 0 ... 200 mm
- Two switching outputs (PNP no/nc or NPN no/nc)
- Scratch-resistant optics made of glass
- Short circuit protection, reversed polarity protection
- 4-pin. M8-plug made of metal, LED indicator
- Very high switching frequency (typ. 20 kHz)
- Collimated laser beam (low beam divergency)
- Contrast detection (bright/dark detection)
- Visible red laser light 670 nm, class 2 laser product
- Laser spot dimension approx. 1.5 mm in diameter



Design

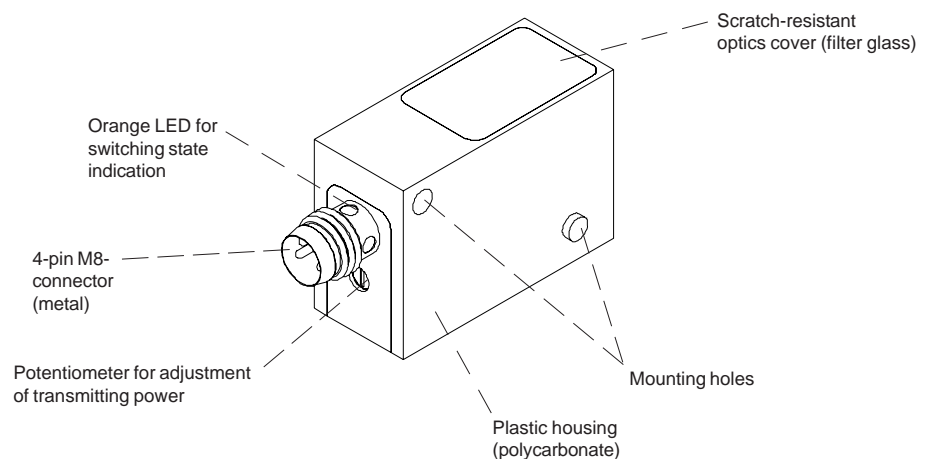
Product name:

C-LAS-LR-OP2-(switching output)-HS

Switching outputs:

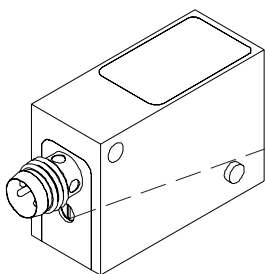
P = 1x PNP dark-switching (PNP n.o.),
1x PNP bright-switching (PNP n.c.)

N = 1x NPN dark-switching (NPN n.o.),
1x NPN bright-switching (NPN n.c.)



Adjustment


Potentiometer for adjustment of transmitting power (0 ... max.):



270° potentiometer:
Rotation clockwise = decrease of transmitting power



Technical Data

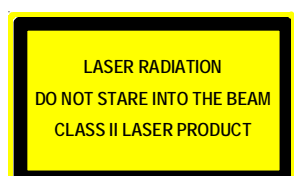
Model	C-LAS-LR-OP2-...-HS
Laser	Semiconductor laser: 670 nm, 1 mW max. opt. output, class 2 laser product acc. to DIN EN 60825. The use of these laser transmitters therefore requires no additional protective measures.
Beam focus	collimated, infinite, 1mrad beam divergency
Min. detectable object	typ. 0,1 mm
Target range	typ. 0 ... 120 mm (Kodak black) typ. 0 ... 200 mm (Kodak white)
Laser spot size	typ. Ø 1.5 mm
Optical filter	Red light filter RG645 and polarization filter
Voltage supply	+10VDC ... +32VDC, reversed-polarity protection, overcurrent protection
Power supply	AC-operation, typ. 100 kHz
Ambient light	up to 5000 Lux
Enclosure rating	IP67
Current consumption	approx. 50 mA
EMC test acc. to	IEC - 801... 
Connector type	Connection to PLC: 4 pin M8-connector
Working temperature range	-20°C to +55°C
Storage temperature range	-20°C to +85°C
Housing	Polycarbonate, black
Rise time / fall time	< 200 µs
Max. switching current	100 mA, short-circuit protection
Modulation frequency	250 kHz
Switching frequency	typ. 20 kHz (depends on the laser power adjusted)
Outputs	with C-LAS-LR-OP2-P-HS: PNP normally open and PNP normally closed with C-LAS-LR-OP2-N-HS: NPN normally open and NPN normally closed
Switching state indication	by means of an orange LED (integrated in the M8 plug)
Laser power adjustment	by means of a 270° potentiometer



Laser Warning

The transmitters of the laser sensors of C-LAS Series comply with laser class 2 according to EN 60825. The use of these transmitter requires no additional protective measures.

The transmitters of C-LAS Series are supplied with a laser warning label.



Connector Assignment

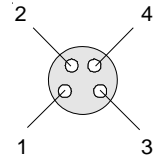
Connection to PLC: 4-pin M8-plug

C-LAS-LR-OP2-P-HS:

Pin No.:	Color:	Assignment:
1	brown	+10VDC ... +32VDC
2	white	OUTPUT PNP dark-switching (PNP n.o.)
3	blue	GND (0V)
4	black	OUTPUT PNP bright-switching (PNP n.c.)

C-LAS-LR-OP2-N-HS:

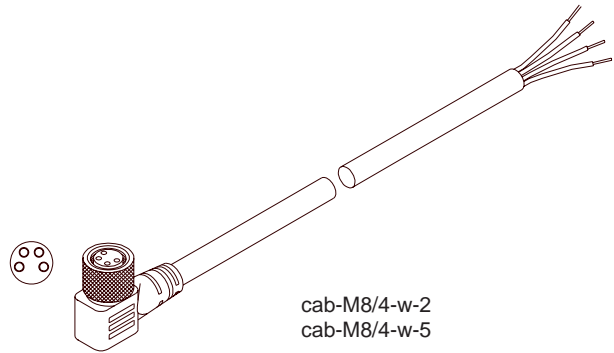
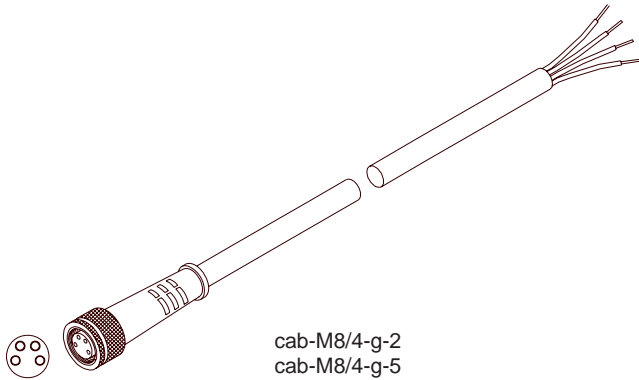
Assignment:
+10VDC ... +32VDC
OUTPUT NPN dark-switching (NPN n.o.)
GND (0V)
OUTPUT NPN bright-switching (NPN n.c.)



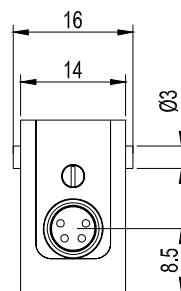
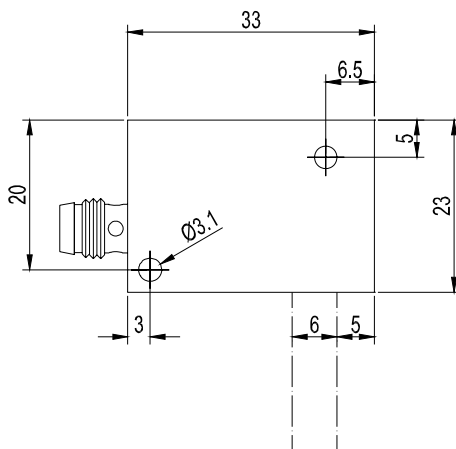
Connecting Cables

Available connecting cables:

cab-M8/4-g-2	Length: 2 m	Sheath: PUR
cab-M8/4-g-5	Length: 5 m	Sheath: PUR
cab-M8/4-w-2	Length: 2 m	Sheath: PUR - angle type
cab-M8/4-w-5	Length: 5 m	Sheath: PUR - angle type



Dimensions



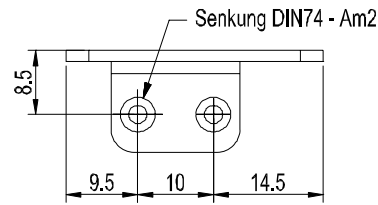
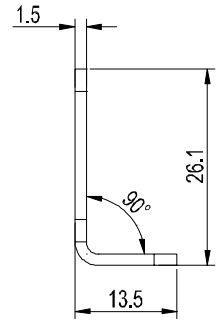
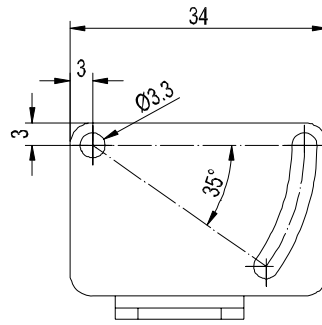
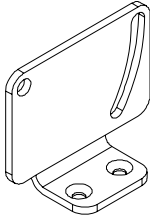
C-LAS-LR-OP2-...-HS

(All dimensions in mm)



Mounting

Mounting device: MOUNT-23/34 (please order separately)



(All dimensions in mm)

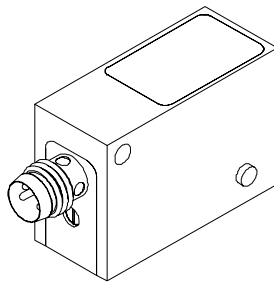


Product Line

Summary Compact Laser Sensors:

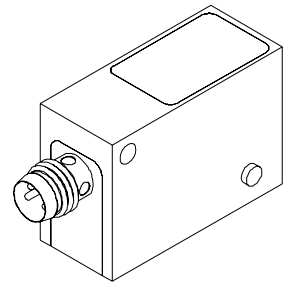
C-LAS-LT-65

Laser displacement sensor with background suppression



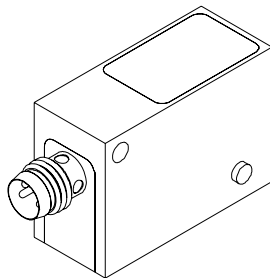
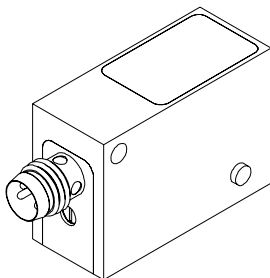
C-LAS-LT-65-ANA

Laser displacement sensor with analog output



C-LAS-14 (transmitter and receiver)

Laser oneway light barrier



**C-LAS-LR-RP2
C-LAS-LR-OP2**

Laser reflection light barriers

