

# C-LAS Series

## ▶ C-LAS-LT-65-ANA

Laser displacement sensor with analog output

- Visible red laser light 670 nm, class 2 laser product
- High dynamic range
- Automatic laser power correction
- Working range typ. 35 mm ... 120 mm
- Analog output (0V ... +10V)
- Analog band width 1 kHz (-3dB)
- Scratch-resistant optics made of glass
- Short circuit protection, reversed polarity protection
- 4-pole M8-connector made of metal
- Green LED for operation indication (integrated in housing)
- Sturdy plastic housing
- Mounting unit available



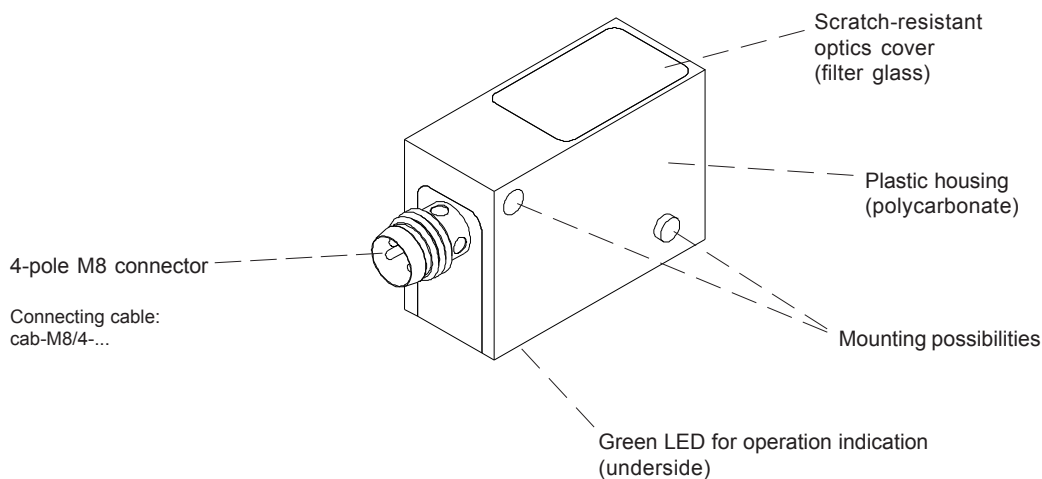
### Design

#### Product name:

C-LAS-LT-65-ANA


**Accessories:** (cf. page 5)

**MOUNT-23/34** Mounting device





**Technical Data**

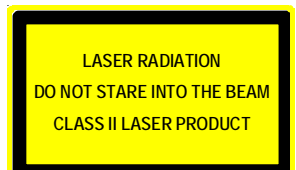
Model	C-LAS-LT-65-ANA
Light source	Semiconductor laser: 670 nm, 1 mW max. opt. output, class 2 laser product acc. to DIN EN 60825-1. The use of these laser transmitters therefore requires no additional protective measures.
Reference distance	typ. 65 mm
Working range (scanning distance)	typ. 35 mm ... 120 mm, with KODAK white or KODAK black: typ. 40 mm ... 100 mm
Laser beam focus	at a distance of typ. 50 mm
Size of laser spot	in the focus (at 50 mm distance): typ. < 0.2 mm at laser light exit at sensor: typ. < 2 mm
Min. detectable object (at a distance of 50 mm)	typ. 50 µm
Optical filter	Red light filter RG645
Voltage supply	+24VDC (± 10%), reversed-polarity protection, overcurrent protection
AC operation	typ. 100 kHz
Ambient light	up to 5000 Lux
Enclosure rating	IP67
Current consumption	approx. 50 mA
EMC test acc. to	DIN EN 60947-5-2 
Connector type	Connection to PLC: 4-pole M8 connector
Connecting cable	cab-M8/4-...
Working temperature range	-20°C ... +55°C
Storage temperature range	-20°C ... +85°C
Housing material	Polycarbonate, black
Housing dimensions	LxWxH approx. 33 mm x 16 mm x 23 mm (without connector)
Analog output	0V ... +10V (typ.) cf. characteristic curves provided with sensor!
Analog band width	1 kHz (-3dB Abfall)
Analog output rest ripple	typ. 50 mV (band width frequency typ. 1 kHz)
LED display	LED green for operating indication (integrated in the housing)
Laser power correction	Due to integrated laser power correction, the sensor is largely independent of brightness of measuring object (for instance KODAK white and KODAK black)



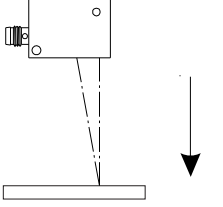
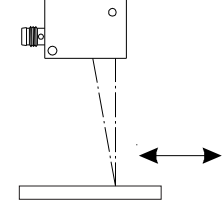
**Laser Warning**

The transmitters of the laser sensors of C-LAS Series comply with laser class 2 according to EN 60825-1. The use of these transmitter requires no additional protective measures.

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



Technical Data

Model	C-LAS-LT-65-ANA
<p>Repeatability for targets moved directly to the sensor (target coming from the top)</p> 	<p>typ. <math>\pm 0,01</math> V (target white mat) *                      typ. <math>\pm 0,02</math> V (target black mat) *                      at target distance 50 mm ... 70 mm</p> <p>* measured with Multimeter Fluke 77</p>
<p>Repeatability for targets being shifted below the sensor at constant target distance</p> 	<p>typ. <math>\pm 0,02</math> V (target white mat) *                      typ. <math>\pm 0,04</math> V (target black mat) *                      at target distance 50 mm ... 70 mm</p> <p>* measured with Multimeter Fluke 77</p>

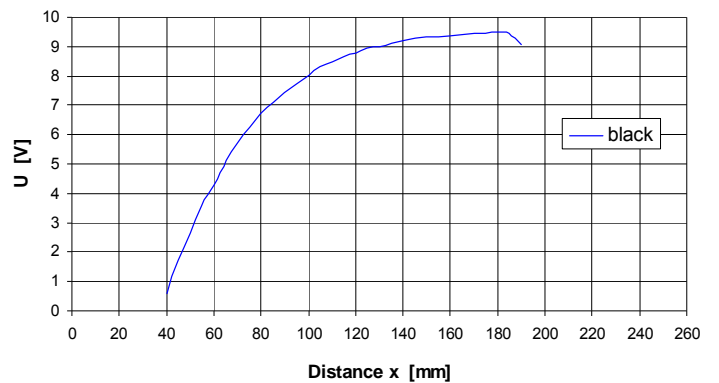
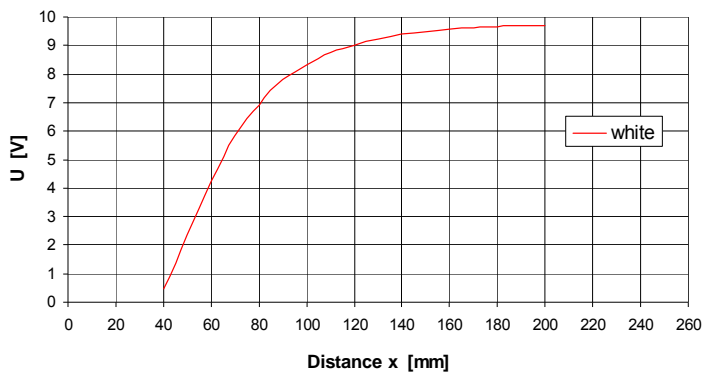
Graphs

Object white mat:

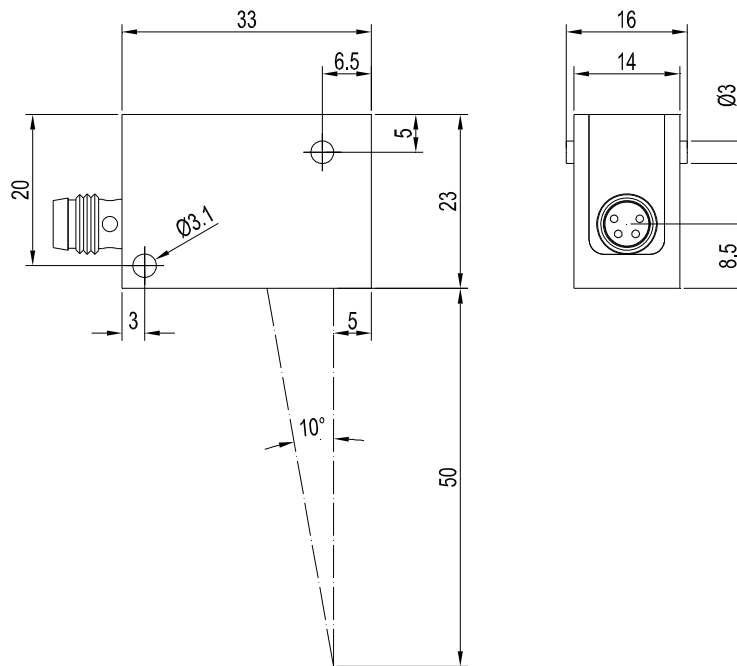
Object black mat:

C-LAS-LT-65-ANA (Ser. No. 00021)

C-LAS-LT-65-ANA (Ser. No. 00021)



Dimensions



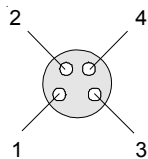
(All dimensions in mm)

Connector Assignment

Connection to PLC:

4-pole M8 connector

Pin No.:	Color:	Assignment:
1	brown	+24VDC (± 10%)
2	white	ANALOG (0V .... +9V)
3	blue	GND (0V)
4	black	not connected

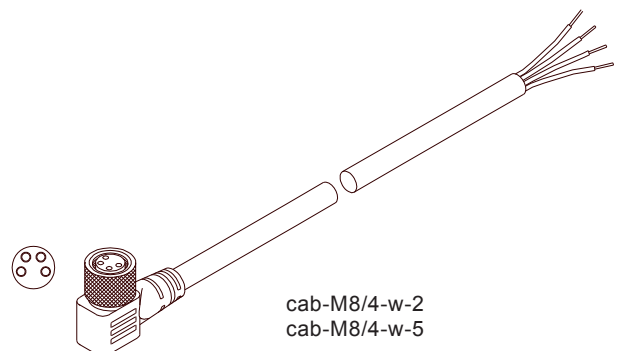
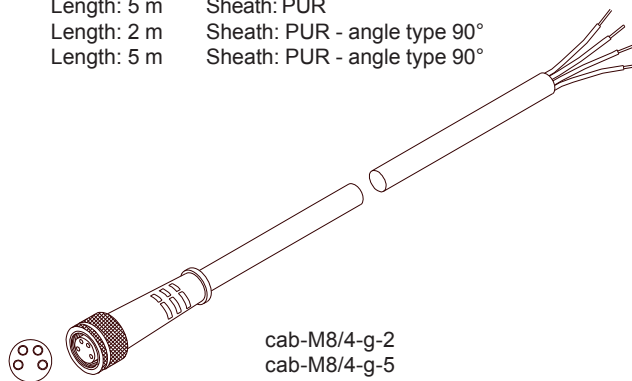


Connecting cable:  
 cab-M8/4-g-(length) or  
 cab-M8/4-w-(length) (angle type 90°)  
 (standard length 2m)

Connecting Cables

Available connecting cables:

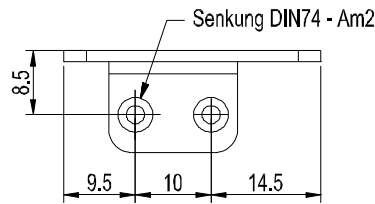
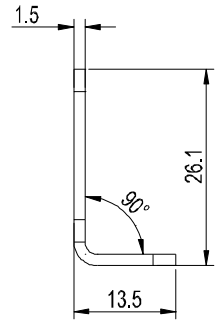
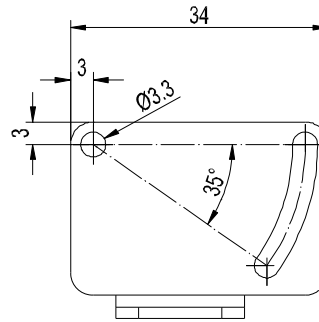
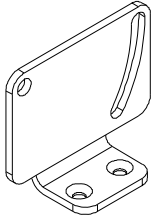
cab-M8/4-g-2	Length: 2 m	Sheath: PUR
cab-M8/4-g-5	Length: 5 m	Sheath: PUR
cab-M8/4-w-2	Length: 2 m	Sheath: PUR - angle type 90°
cab-M8/4-w-5	Length: 5 m	Sheath: PUR - angle type 90°





**Mounting**

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



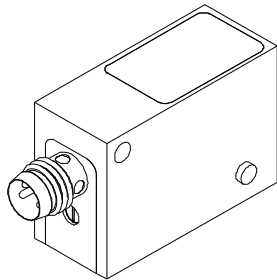
(All dimensions in mm)



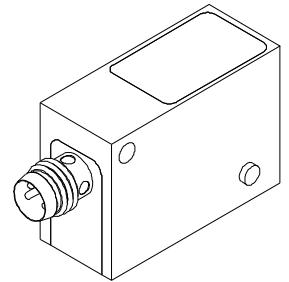
**Product Line**

**Overview of Compact Laser Sensors:**

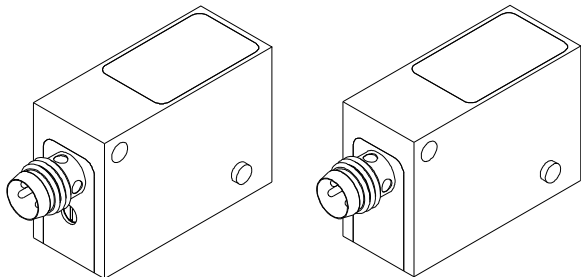
**C-LAS-LT-35-...**  
**C-LAS-LT-65-...**  
Laser displacement sensor  
with background suppression



**C-LAS-LT-35-ANA**  
**C-LAS-LT-65-ANA**  
Laser displacement sensor  
with analog output



**C-LAS-14-T/-R (split version: transmitter and receiver)**  
Laser oneway light barrier



**C-LAS-LR-OP2-...**  
Laser reflection light barrier  
with polarisation filter  
(object serves as a reflector)

**C-LAS-LR-RP2-...**  
Laser reflection light barrier  
with polarisation filter  
(reflector or reflector foil)

