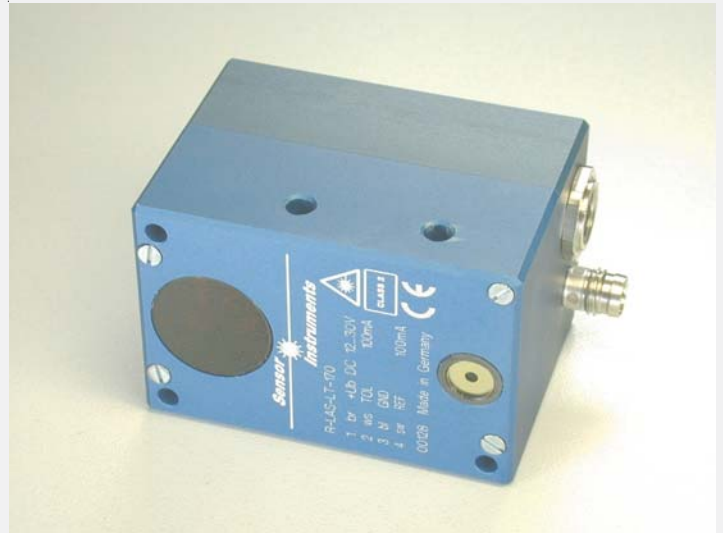


R-LAS Series

► R-LAS-LT-170 R-LAS-LT-170-XL

- 170 mm reference distance
- High positioning accuracy
- Insensitive to outside light
- Parameterizable under Windows®
- RS232-interface (USB adaptor available)
- Switching state indication by means of integrated LED
- Scratch-resistant optics
- Sturdy aluminum housing



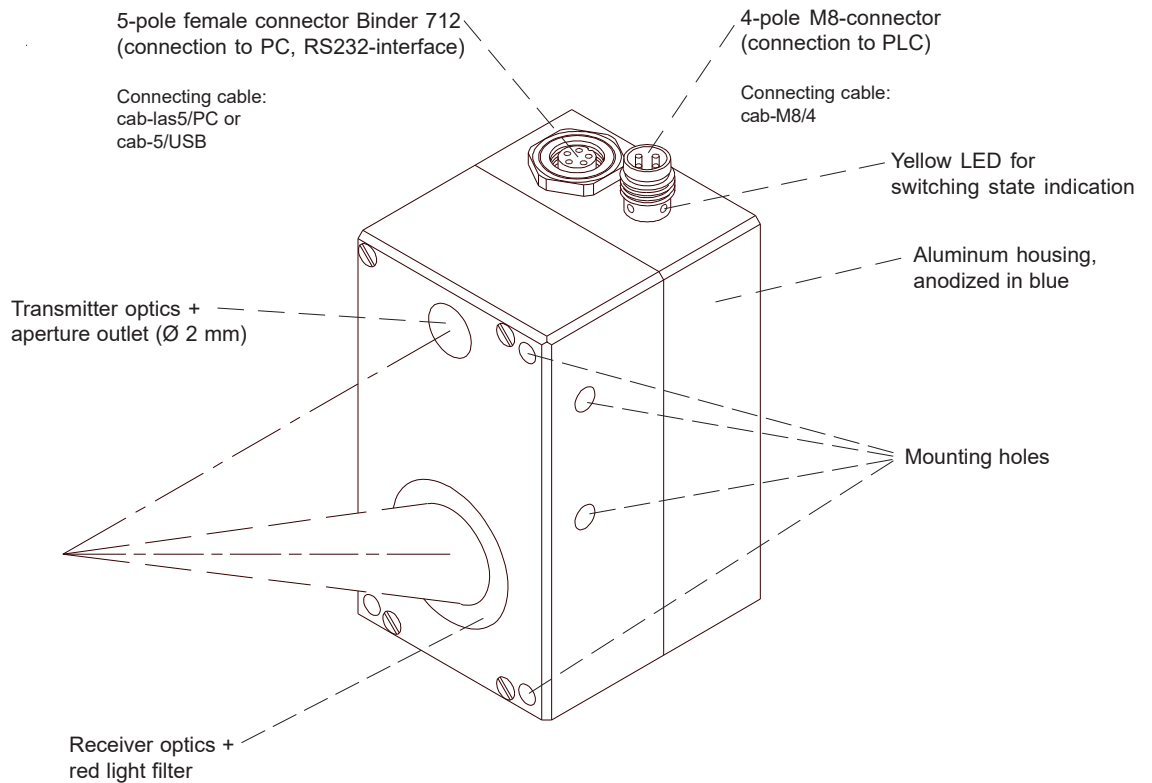
Design

Product name:

R-LAS-LT-170
R-LAS-LT-170-XL

incl. Windows® software R-LAS-LT-Scope

XL = big measuring range

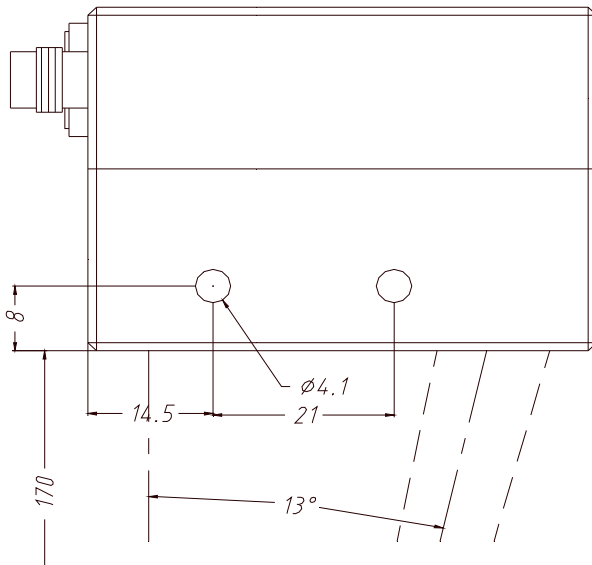
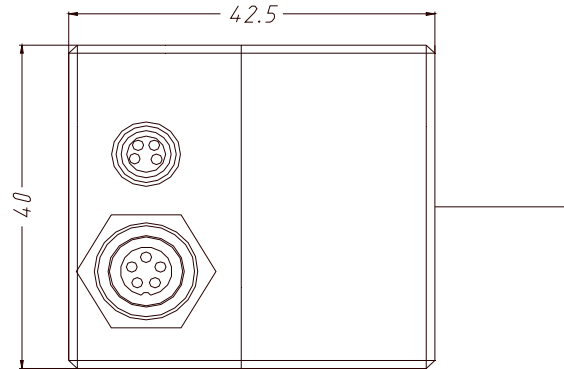
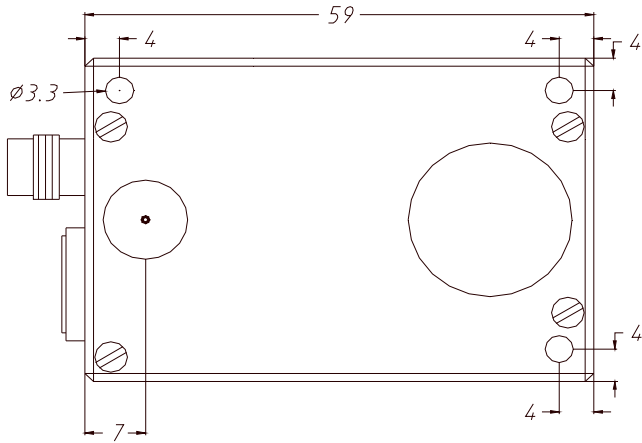




Technical Data

Model	R-LAS-LT-170		R-LAS-LT-170-XL	
Laser	Solid-state laser, 670 nm, AC-operation, <1mW opt. power, laser class acc. to EN 60825-1. The use of these laser transmitters therefore requires no additional protective measures.			
Min. detectable object	typ. 0.03 mm		typ. 0.2 mm	
Reference distance	170 mm			
Working range	typ. ± 2 mm		typ. 130 mm ... 250 mm	
Reproducibility	(depends on the surface of the measured object)			
Optical filter	Red light filter RG630 + interference filter			
Voltage supply	+24VDC ($\pm 10\%$), reverse-polarity protected, overcurrent protected			
Operation	typ. 100 kHz			
Ambient light	up to 5000 Lux			
Enclosure rating	IP67			
Current consumption	approx. 110 mA			
Interface	RS 232, parameterisable under Windows®			
EMC test acc. to	DIN EN 60947-5-2			
Type of connector	Connection to PLC: 4-pole M8-connector, connection to PC: 5-pole female connector Binder Series 712			
Operating temperature range	-20°C ... +55°C			
Storage temperature range	-20°C ... +85°C			
Housing	Aluminum, anodized in blue			
Max. switching current	100 mA, short-circuit protected			
Switching frequency	typ. 3 kHz (depends on parameter setting)			
Bright-/dark-switching	parameterisable under Windows®			
Laser power adjustment	parameterisable under Windows®			
Pulse lengthening	0 ms, 25 ms, 50 ms, 100 ms, 200 ms (parameterisable under Windows®)			
Switching hysteresis	parameterisable under Windows®			
Switching state indication	by means of a yellow LED integrated in the M8 connector			
Averaging	from 1 to 64 values (parameterisable under Windows®)			
Spot size in the focus	typ. $\varnothing 0.3$ mm			
Outputs	1x tolerance output (window) 1x switching threshold (refer.)	1x tolerance output (window) 1x switching threshold (refer.)	1x analog (0V ... +10V) 1x switching threshold (refer.)	1x analog (0V ... +10V) 1x switching threshold (refer.)
Linearized characteristic curve	---	---	with type -LIN	with type -LIN

Dimensions

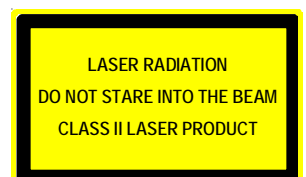


(All dimensions in mm)

Laser Warning

The R-LAS-LT laser reflex sensors comply with laser class II according to EN 60825-1. The use of these laser sensors therefore requires no additional protective measure.

The R-LAS-LT laser reflex sensors are supplied with a laser warning label.



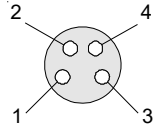


Connector Assignment

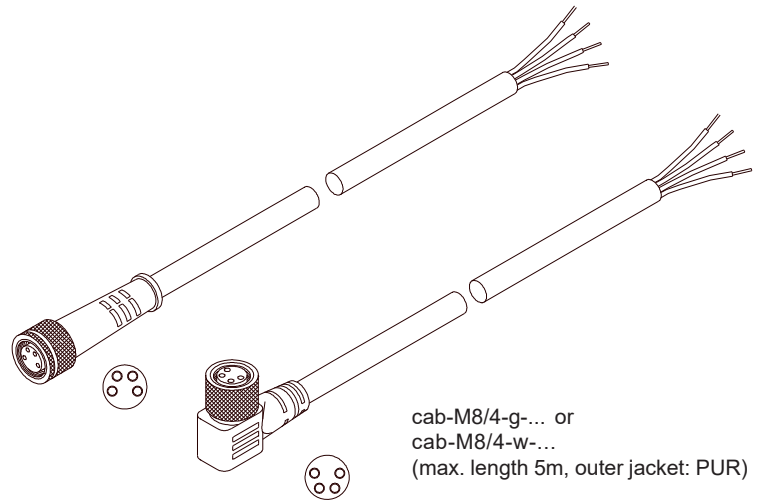
Connection to PLC:

4-pole M8 connector

Pin:	Color:	Assignment:
1	brn	+24VDC (± 10%)
2	wht	TOLOUT
3	blu	GND (0V)
4	blk	REFOUT



Connecting cable:
 cab-M8/4-g-(length)
 cab-M8/4-w-(length) (angle type 90°)
 (standard length 2m, also available in 5m)



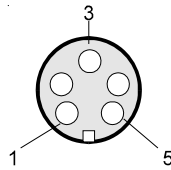
cab-M8/4-g-... or
 cab-M8/4-w-...
 (max. length 5m, outer jacket: PUR)

Connection to PC:

5-pole fem. connector Binder 712

Pin: Assignment:

1	GND (0V)
2	TX0
3	RX0
4	n.c.
5	n.c.



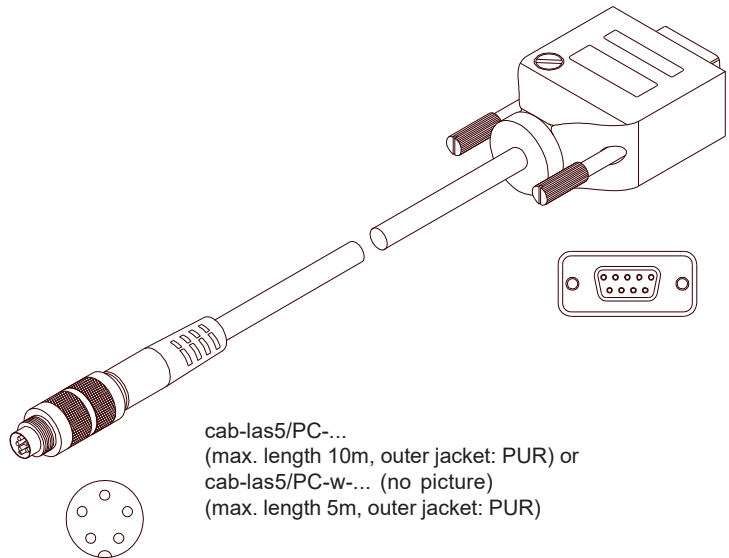
Connection via RS232 interface at the PC:

Connecting cable:
 cab-las5/PC-(length)
 cab-las5/PC-w-(length) (angle type 90°)
 (standard length 2m)

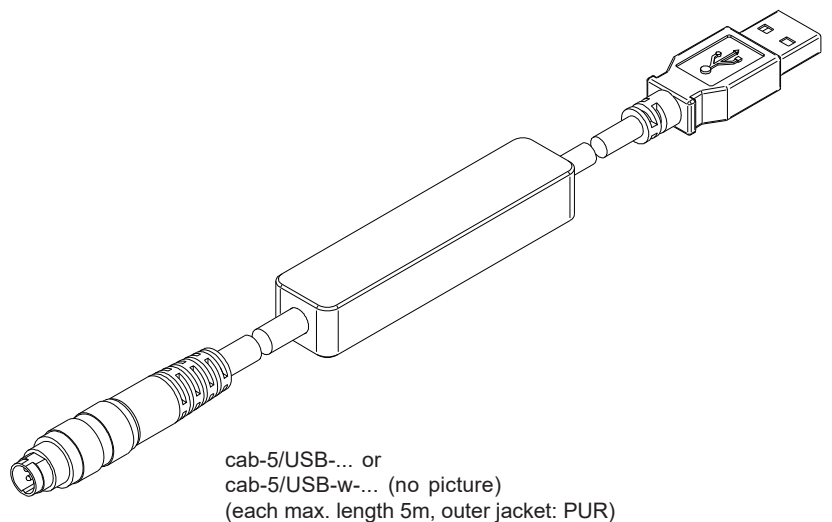
alternative:

Connection via USB interface at the PC:

Connecting cable (incl. driver software):
 cab-5/USB-(length)
 cab-5/USB-w-(length) (angle type 90°)
 (standard length 2m)



cab-las5/PC-...
 (max. length 10m, outer jacket: PUR) or
 cab-las5/PC-w-... (no picture)
 (max. length 5m, outer jacket: PUR)



cab-5/USB-... or
 cab-5/USB-w-... (no picture)
 (each max. length 5m, outer jacket: PUR)



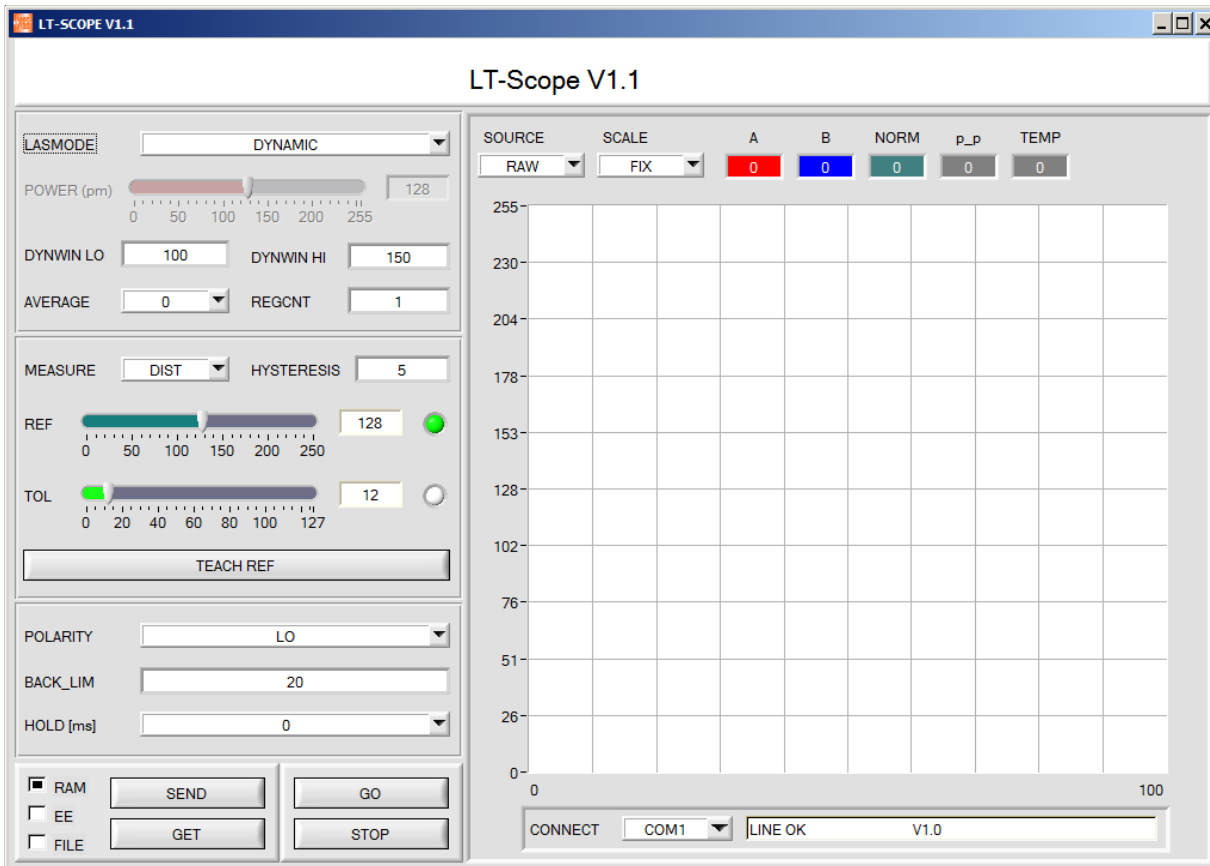
Parameterization

Windows® user interface:

(The current software version is available for download on our website.)

The R-LAS-LT sensor is parameterized under Windows® with the R-LAS-LT-Scope (LT-Scope) software.

The Windows® user interface facilitates the teach-in process at the color sensor and supports the operator in the task of adjustment and commissioning of the R-LAS-LT sensor.



The RS232 interface is used for setting sensor parameters such as e.g.:

- **LASMODO:** In this function group the laser operating mode and the laser power at the R-LAS-LT sensor can be adjusted.
- **POWER:** With this slider the laser power is adjusted to a fixed value between 0 and 255 in STAT mode.
- **DYNWIN LO:** Lower limit of the setpoint range (minimum permissible intensity).
- **DYNWIN HI:** Upper limit of the setpoint range (maximum permissible intensity).
- **AVERAGE:** Determines the number of measuring points over which the sensor signal is averaged (noise suppression)
- **REGCNT:** Time constant with activated automatic laser power control (DYNAMIC-mode)
- **MEASURE:** Selects the operating mode of the R-LAS-LT sensor
- **HYSTERESIS:** The hysteresis setting value applies a switching threshold around the upper and lower tolerance threshold and around the currently set reference value
- **REF:** With this slider, or with the edit box, the reference value (setpoint value, corresponds with the standardized distance value) for the respective application can be set.
- **TOL:** With this slider, or with the edit box, a tolerance band can be applied around the respective reference value (setpoint value, standardised distance value).
- **TEACH REF:** When this button is pressed the currently measured STANDARD signal value is set as a new reference in STANDARD mode
- **POLARITY:** Determines the polarity change of the digital output when the tolerance limits are exceeded.
- **BACK_LIM:** In this edit box a threshold for the minimum background intensity (background limit) can be pre-set.
- **HOLD:** By activating the respective HOLD selection button a pulse lengthening at the digital output of the R-LAS-LT sensor of up to 200 ms can be set