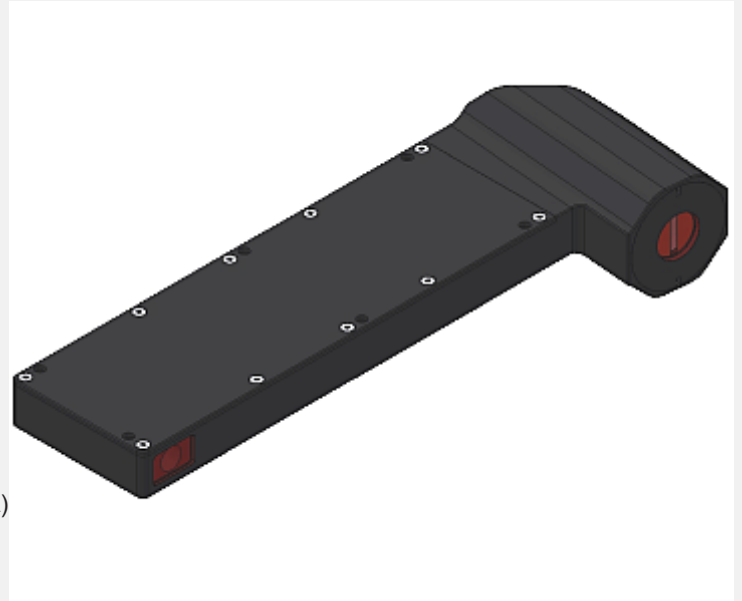


L-LAS Series

▶ L-LAS-LT-2500-XXL

- Line laser <1 mW, wave length 670 nm, laser class 2
- Visible red laser spot, typ. 3 mm x 1 mm
- Measuring range typ. 2600 mm
- Start of measuring range at typ. 1000 mm
- Resolution typ. 0.25 mm
- Interference filter integrated
- CCD line detector with 2048 pixel, 16384 subpixel
- RS232 interface (USB or Ethernet adaptor available)
- Windows® user interface
- 2 digital inputs, 2 digital outputs
- 1 analog output (0...+10V, optional: additional output 4...20mA)
- Scan frequency adjustable via software:
max. 185 Hz (Normal Speed), max. 375 Hz (Double Speed)
or max. 750 Hz (Quad Speed)
- Switching state indication via 4 LEDs (2x red/grn, 2x yel/grn)
- Optics cover made of scratch-resistant glass



Design

Product name:

L-LAS-LT-2500-XXL
L-LAS-LT-2500-XXL-4/20
 (incl. Windows® PC software
 L-LAS-LT-Scope)

4/20 =
 additional analog
 output (4 ... 20mA)

Sturdy aluminium
 housing, anodized
 in black

Mounting holes

Receiver optics

Transmitter
 optics

LED yellow:
 Power LED
 (multifunctional)

LED green (ok):
 Measuring value within
 tolerance window

LED red (+): Measuring value
 > upper tolerance threshold

LED red (-): Measuring value
 < lower tolerance threshold

4-pole fem. conn.
 Binder Series 707
 (RS232 interface)

8-pole fem. connector
 Binder Series 712
 (connection to PLC)

Connecting cable:
 cab-las4/PC or
 cab-4/USB or
 cab-4/ETH

Connecting cable:
 cab-las8/SPS or
 cab-las8/SPS-w



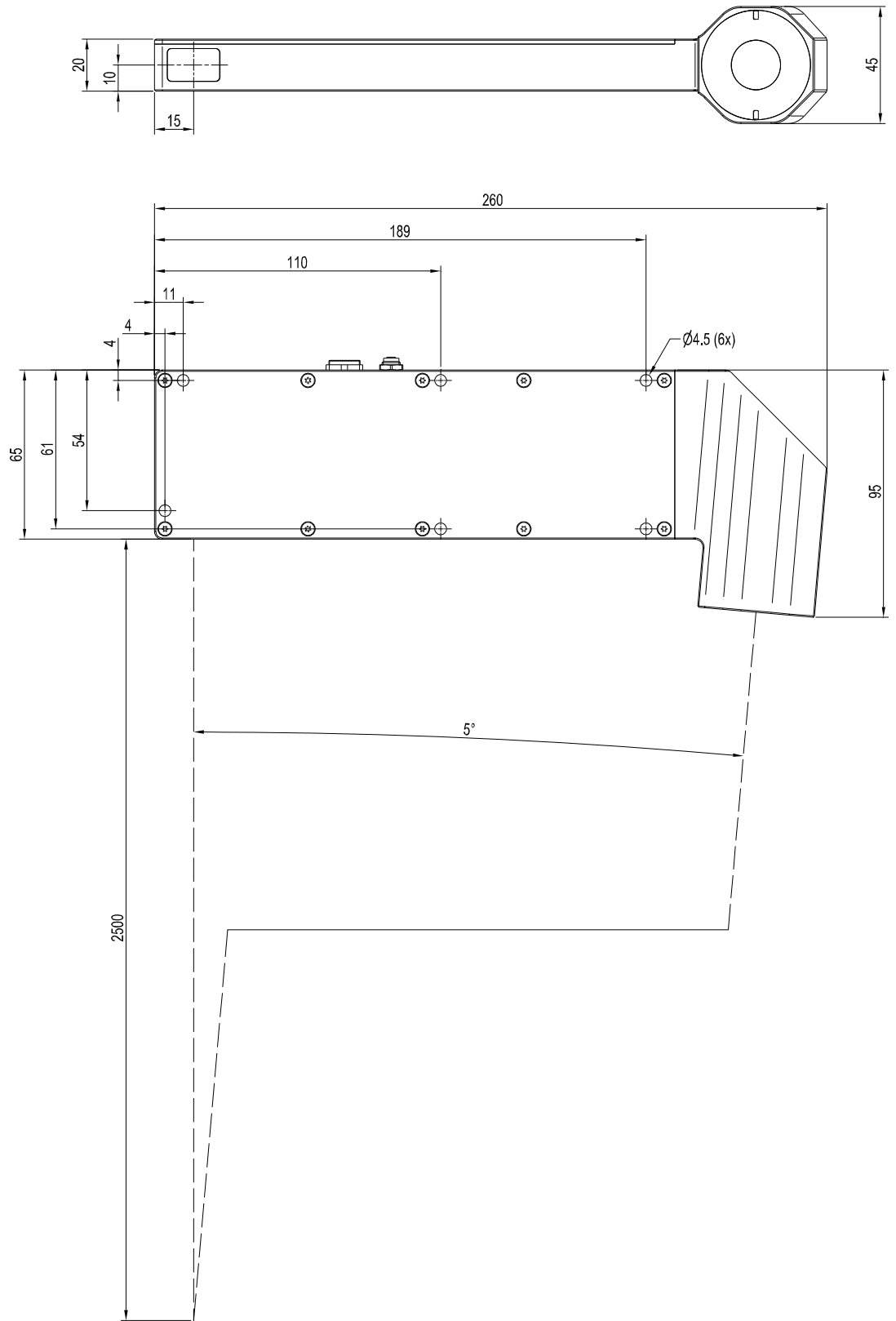


Technical Data

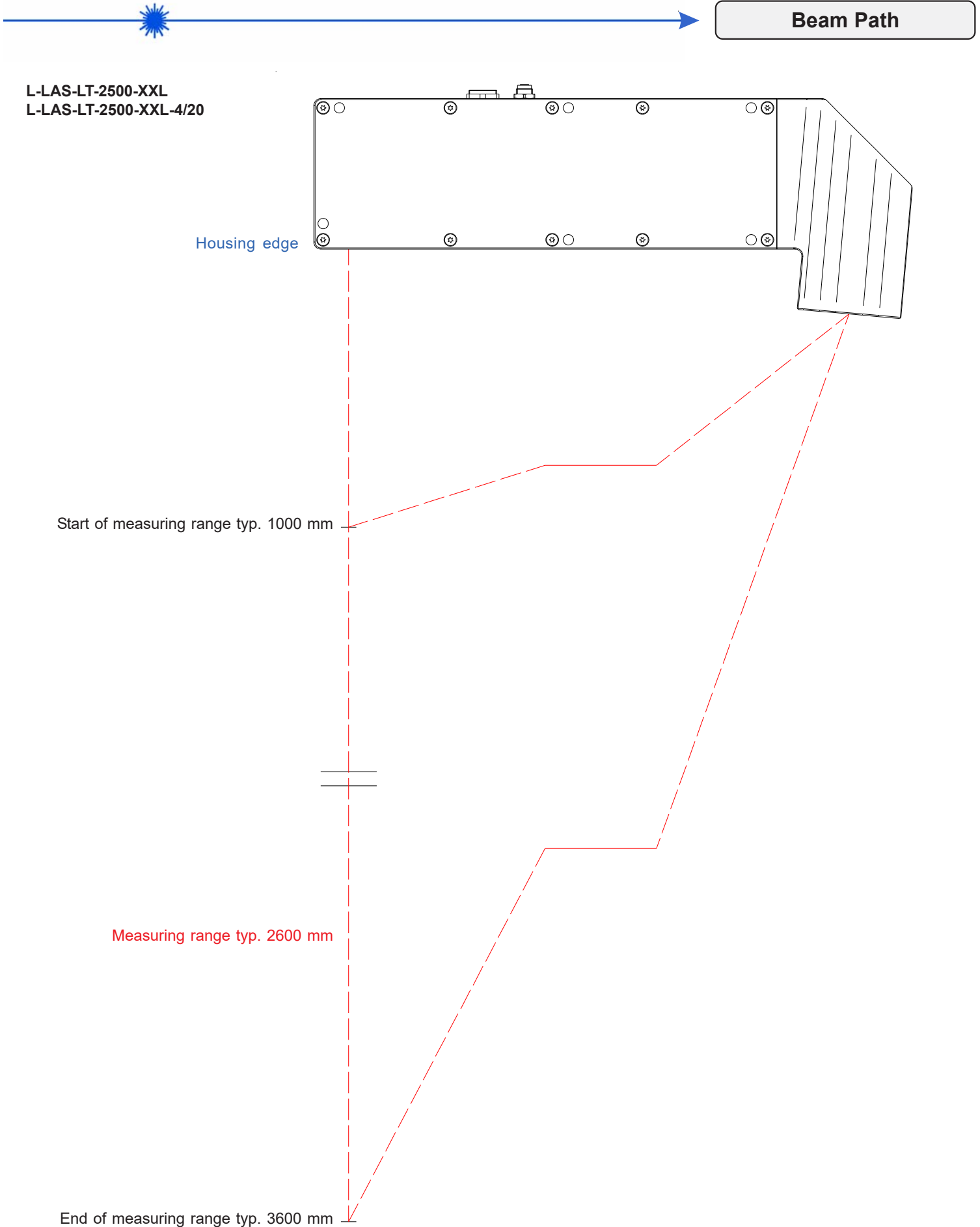
Type	L-LAS-LT-2500-XXL	L-LAS-LT-2500-XXL-4/20
Light source	Semiconductor laser, 670 nm, DC-operation, 1 mW max. opt. power, laser class 2 acc. to DIN EN 60825-1. The use of these laser sensors therefore requires no additional protective measures.	
Measuring range	typ. 2600 mm	
Start of measuring range	typ. 1000 mm (measured from housing edge, cf. picture beam path)	
End of measuring range	typ. 3600 mm (measured from housing edge, cf. picture beam path)	
Resolution	typ. 0.25 mm	
Reproducibility	typ. ± 0.25 mm	
Linearity	$\leq 0.4\%$ of full scale output (FSO)	
Laser line geometry	typ. 3 mm x 1 mm	
Optical filter	Interference filter	
Analog output (ANA)	1x voltage output (0 ... +10V)	1x voltage output (0 ... +10V) 1x current output (4 ... 20mA)
Digital outputs (OUT0, OUT1)	OUT0: (-) Measuring value < lower tolerance threshold OUT1: (+) Measuring value > upper tolerance threshold pnp bright-switching/npn dark-switching or pnp dark-switching/npn bright-switching, adjustable under Windows®, 100 mA, short-circuit proof	
Digital inputs (IN0, IN1)	IN0: External trigger, IN1: Teach/Reset (double function), input voltage +Ub/0V, with protective circuit	
Voltage supply	+24VDC ($\pm 10\%$)	
Sensitivity setting	adjustable under Windows® via PC	
Laser power correction	adjustable under Windows® via PC	
Current consumption	typ. 200 mA	
Enclosure rating	Electronics: IP64, optics: IP67	
Temperature stability	0.01% of measuring range/°C	
Temperature ranges	operating temperature range: -10°C ... +50°, storage temperature range: -20°C ... +85°C	
Housing material	Aluminum, anodized in black	
Housing dimensions	LxWxH approx. 260 mm x 95 mm x 45 mm	
Type of connector	8-pole circular fem. connector type Binder 712 (PLC/Power) 4-pole circular fem. connector type Binder 707 (PC/RS232)	
Connecting cable	to PLC: cab-las8/SPS or cab-las8/SPS-w to PC/RS232 interface: cab-las4/PC or cab-las4/PC-w to PC/USB interface: cab-4/USB or cab-4/USB-w to PC/Ethernet interface: cab-4/ETH	
LED indication (4x two-color LED)	2x two-color-LED red/green and 1x two-color-LED yellow/green for tolerance band monitoring: red (+) = Measuring value > upper tolerance threshold red (-) = Measuring value < lower tolerance threshold green (ok) = Measuring value within tolerance window 1x two-color LED yellow/green (multifunctional): yellow = Power indication	
EMC test acc. to	DIN EN 60947-5-2	
Measuring frequency	Normal Speed Modus (high resolution): max. 185 Hz Double Speed Modus (half resolution): max. 375 Hz Quad Speed Modus (quarter resolution): max. 750 Hz can be switched under Windows®	
Max. switching current	100 mA, short-circuit proof	
Interface	RS232, parameterisable under Windows®	
Output polarity	Bright/dark-switching, can be switched under Windows®	

Dimensions

L-LAS-LT-2500-XXL
L-LAS-LT-2500-XXL-4/20



All dimensions in mm





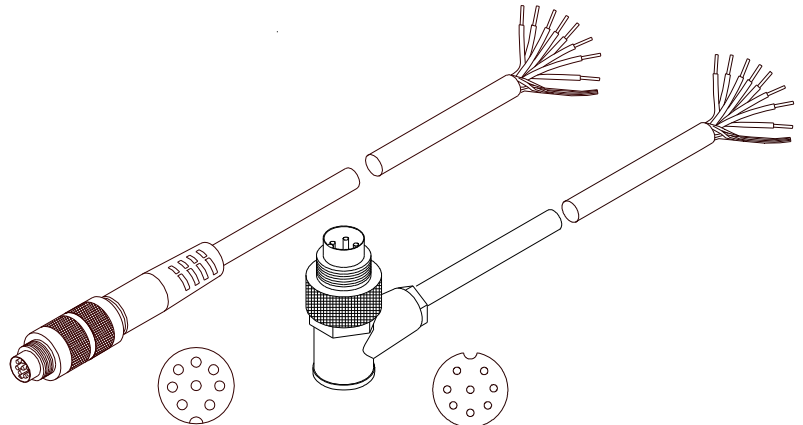
Connector Assignment

Connection to PLC:

8-pole fem. connector Binder Series 712

Pin:	Color:	Assignment:
1	white	GND (0V)
2	brown	+24VDC ($\pm 10\%$)
3	green	IN0 (EXT TRIGGER)
4	yellow	IN1 (TEACH / RESET)
5	grey	OUT0 (-)
6	pink	OUT1 (+)
7	blue	GND (0V) or in case of -4/20: ANA (current 4 ... 20mA)
8	red	ANA (voltage 0 ... +10V)

Connecting cable:
 cab-las8/SPS-(length) or
 cab-las8/SPS-w-(length) (angle type 90°)
 (standard length 2m)



cab-las8/SPS-...
 (max. length 25m,
 outer jacket: PUR)

cab-las8/SPS-w-...
 (max. length 25m,
 outer jacket: PUR)

Connection to PC:

4-pole fem. connector Binder Series 707

Pin:	Assignment:
1	+24VDC (+Ub, OUT)
2	GND (0V)
3	RxD
4	TxD

Connection via RS232 interface at the PC:

Connecting cable:
 cab-las4/PC-(length)
 cab-las4/PC-w-(length) (angle type 90°)
 (standard length 2m)

alternative:

Connection via USB interface at the PC:

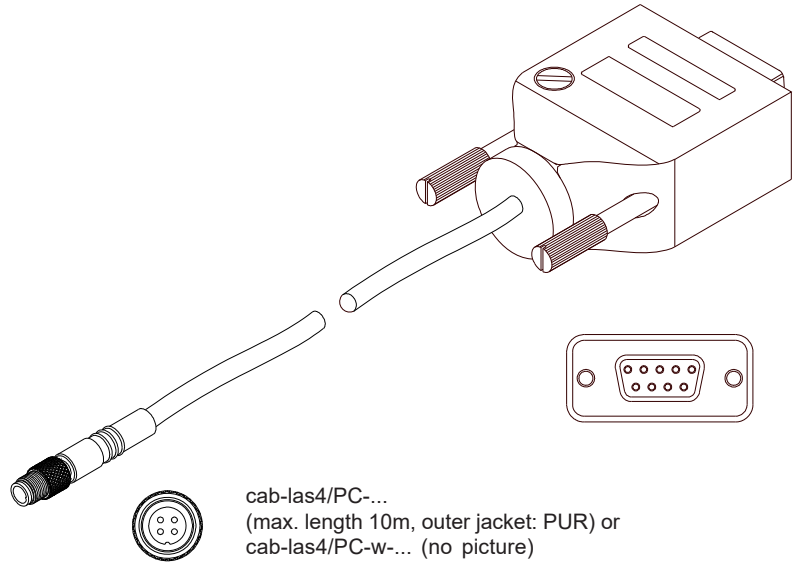
Connecting cable (incl. driver software):
 cab-4/USB-(length)
 cab-4/USB-w-(length) (angle type 90°)
 (standard length 2m)

alternative:

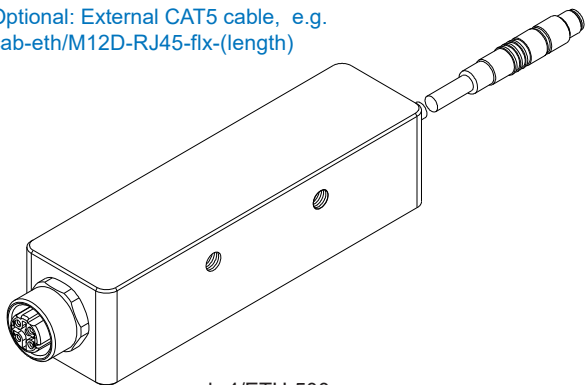
Connection to local network via Ethernet bus:

Adapter (incl. software „SensorFinder“):
 cab-4/ETH-500
 (standard length 0.5m)

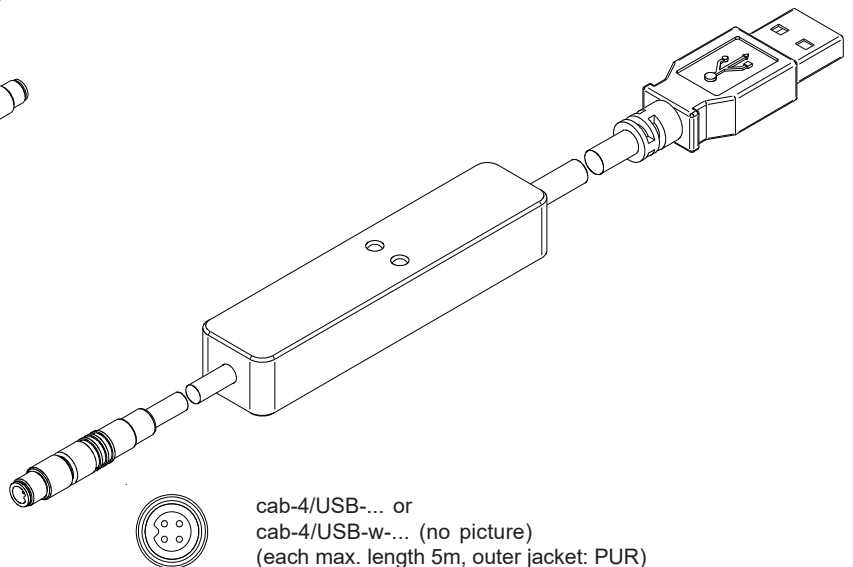
Optional: External CAT5 cable, e.g.
 cab-eth/M12D-RJ45-flx-(length)



cab-las4/PC-...
 (max. length 10m, outer jacket: PUR) or
 cab-las4/PC-w-... (no picture)
 (max. length 5m, outer jacket: PUR)



cab-4/ETH-500
 (length 0.5m, outer jacket: PUR)
 4-pole M12 fem. conn. (D-coded)
 for connection of an external
 CAT5 cable, e.g.
 cab-eth/M12D-RJ45-flx-(length)



cab-4/USB-... or
 cab-4/USB-w-... (no picture)
 (each max. length 5m, outer jacket: PUR)

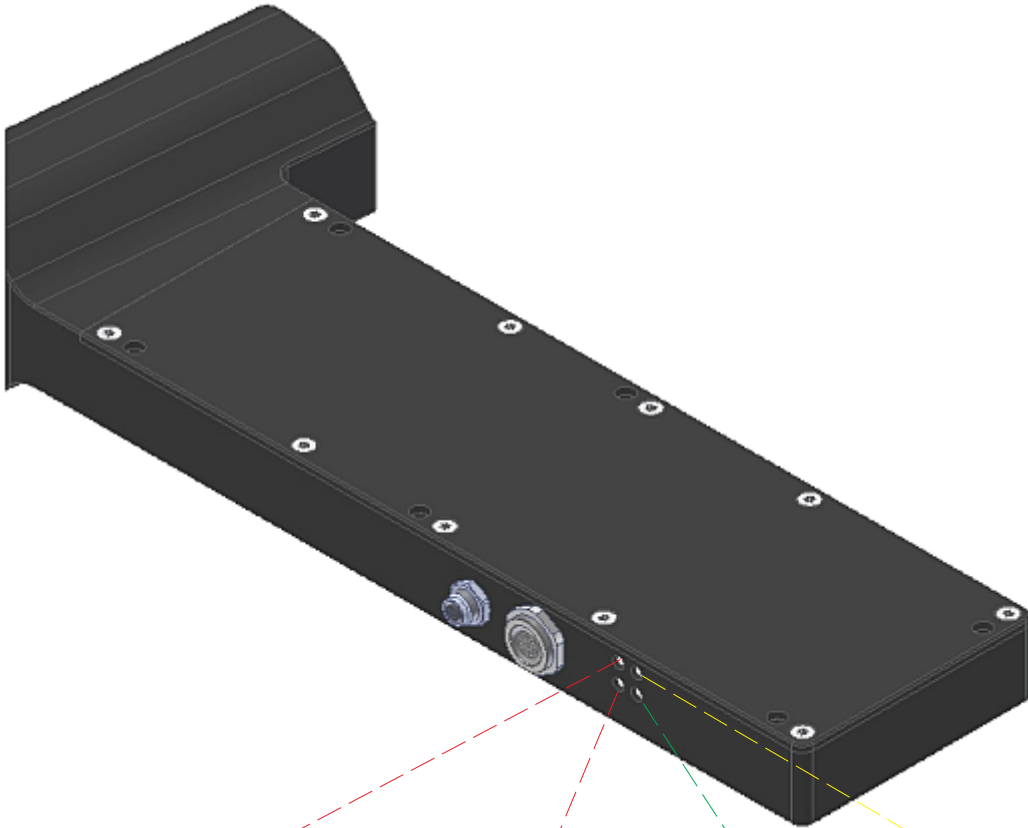


LED Display

LED display:

(+) ● Power

(-) ● (ok)



LED red (+): ●
Measuring value > upper tolerance threshold (OUT1)

LED red (-): ●
Measuring value < lower tolerance threshold (OUT0)

LED yellow: ●
Power LED (multifunctional)

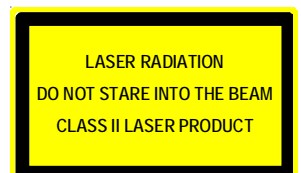
LED green (ok): ●
Measuring value within tolerance window



Laser Warning

The laser line sensors of L-LAS-LT Series comply with laser class 2 according to EN 60825-1. The use of these laser transmitters therefore requires no additional protective measures.

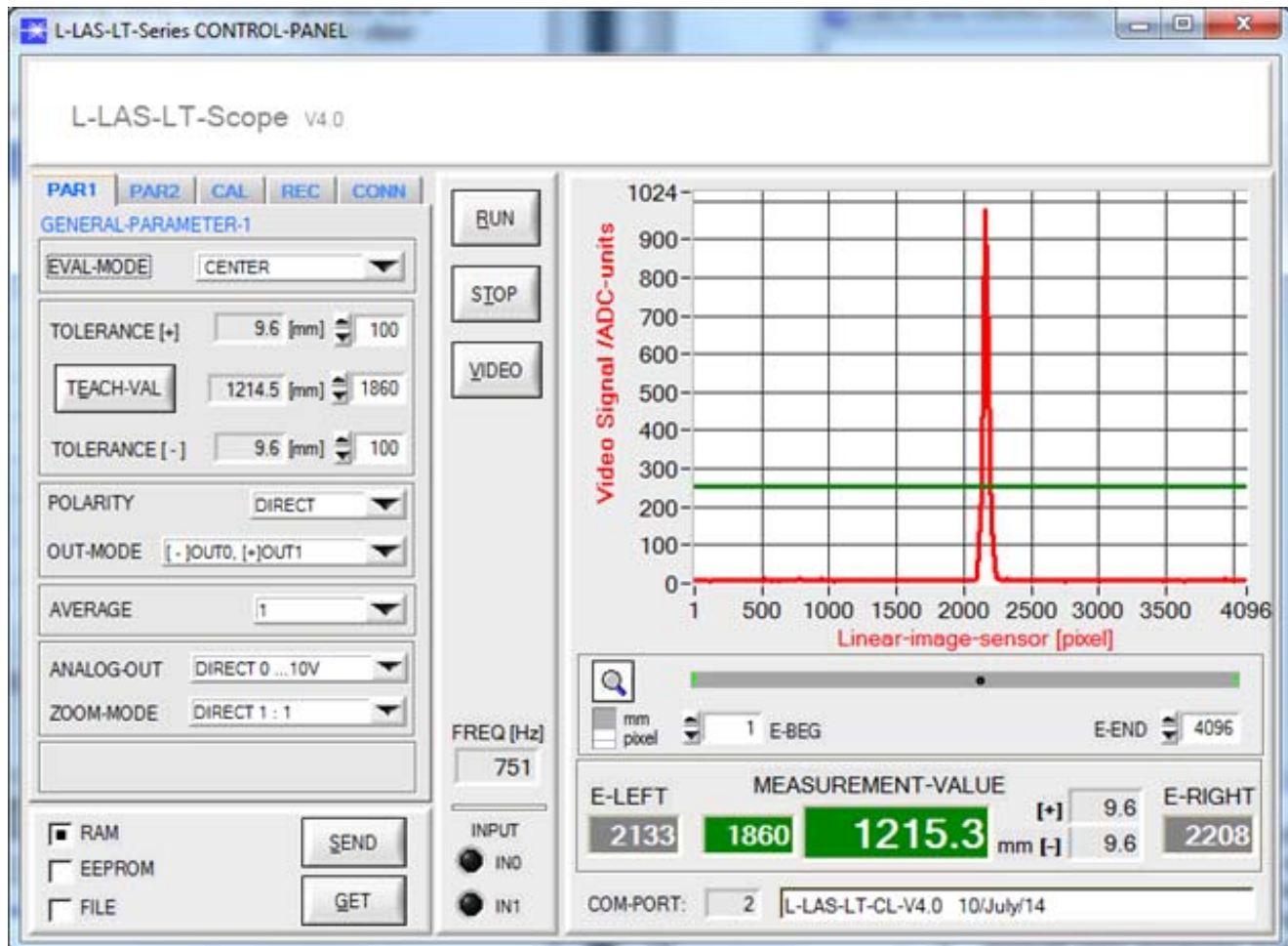
The laser line sensors of L-LAS-LT Series are supplied with a laser warning label.





Parameterization
Windows® Software L-LAS-LT-Scope:

The L-LAS-LT sensor can be easily parameterised with the Windows® user interface. For this purpose the sensor is connected to the PC with the serial interface cable (cab-las4/PC or cab-4/USB). When parameterisation is finished, the PC can be disconnected again.

Windows® user interface:

With the help of the L-LAS-LT-Scope software the following settings can be made at the sensor:

- Setting of laser power and type of automatic power correction
- Polarity of digital outputs
- Different evaluation modes
- Start of the teach process by software button
- Setting of tolerance ranges for monitoring the measured value
- Normal-Speed or Double-Speed
- Dynamic integration time

Furthermore, various numerical and graphical measured quantities can be visualized with the L-LAS-LT-Scope software. For example, the raw data of the CCD line sensor can be displayed graphically and numerically.