

L-LAS Series

▶ L-LAS-LT-60-CL-CAB-V4A-... L-LAS-LT-60-CL-4/20-CAB-V4A-...

- Line laser <math><1\text{ mW}</math>, wave length 670 nm, laser class 2
- Visible red laser line, focused on 60 mm
- Measuring range typ. 48 mm
- Start of measuring range at typ. 32 mm
- Resolution typ. 50 μm
- Interference filter and red light filter integrated
- CCD line detector with 512 pixel, 1024 subpixel
- RS232 interface (USB or Ethernet adaptor available)
- Windows® user interface
- 2 digital inputs, 2 digital outputs
- 1 analog output (0...+10V, optionally additional output 4...20mA)
- Scan frequency max. 1 kHz
- Stainless steel housing (V4A), cable outlet with PG gland
- Optics cover made of scratch-resistant glass



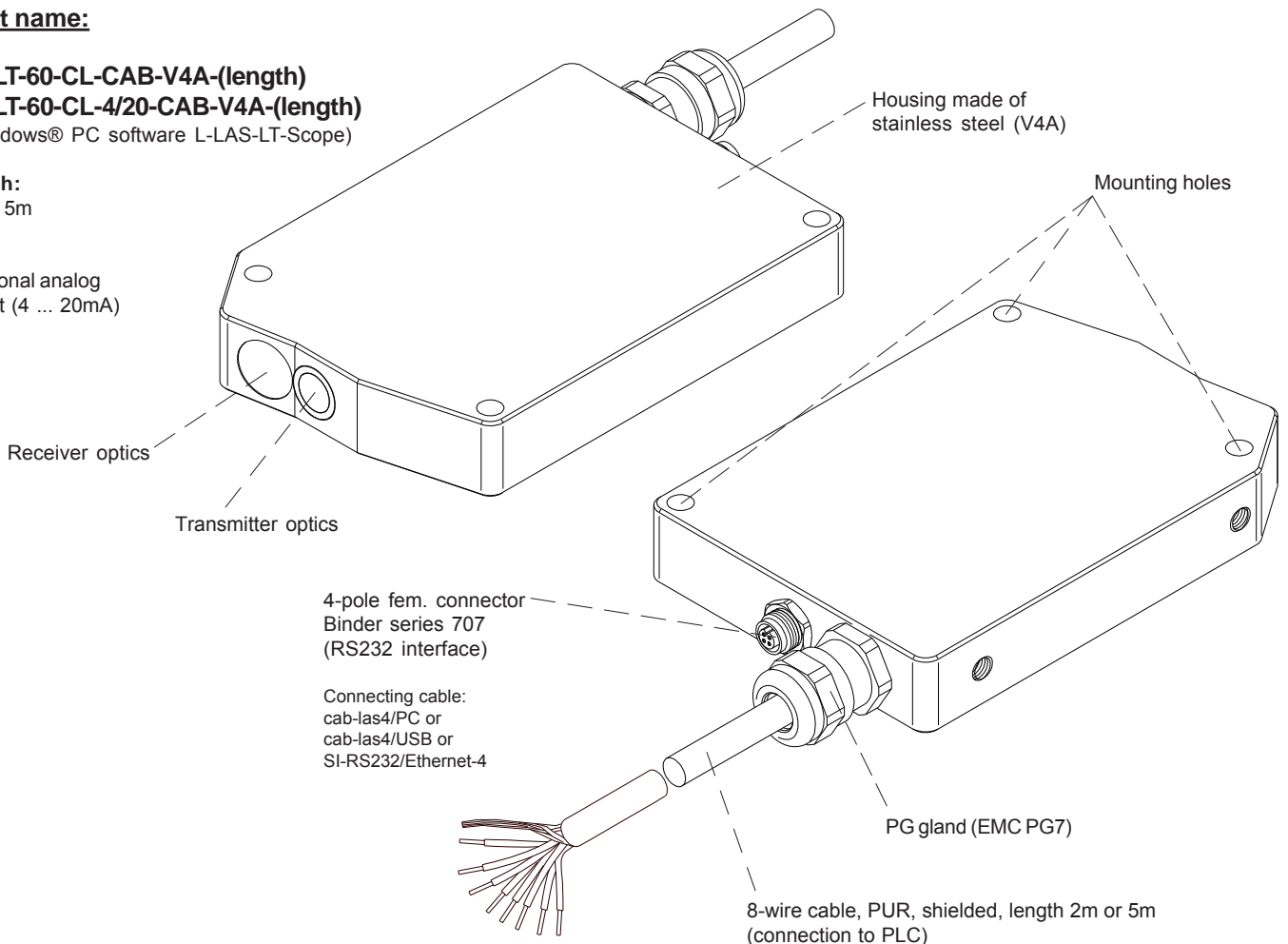
Design

Product name:

L-LAS-LT-60-CL-CAB-V4A-(length)
L-LAS-LT-60-CL-4/20-CAB-V4A-(length)
(incl. Windows® PC software L-LAS-LT-Scope)

length:
2m or 5m

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



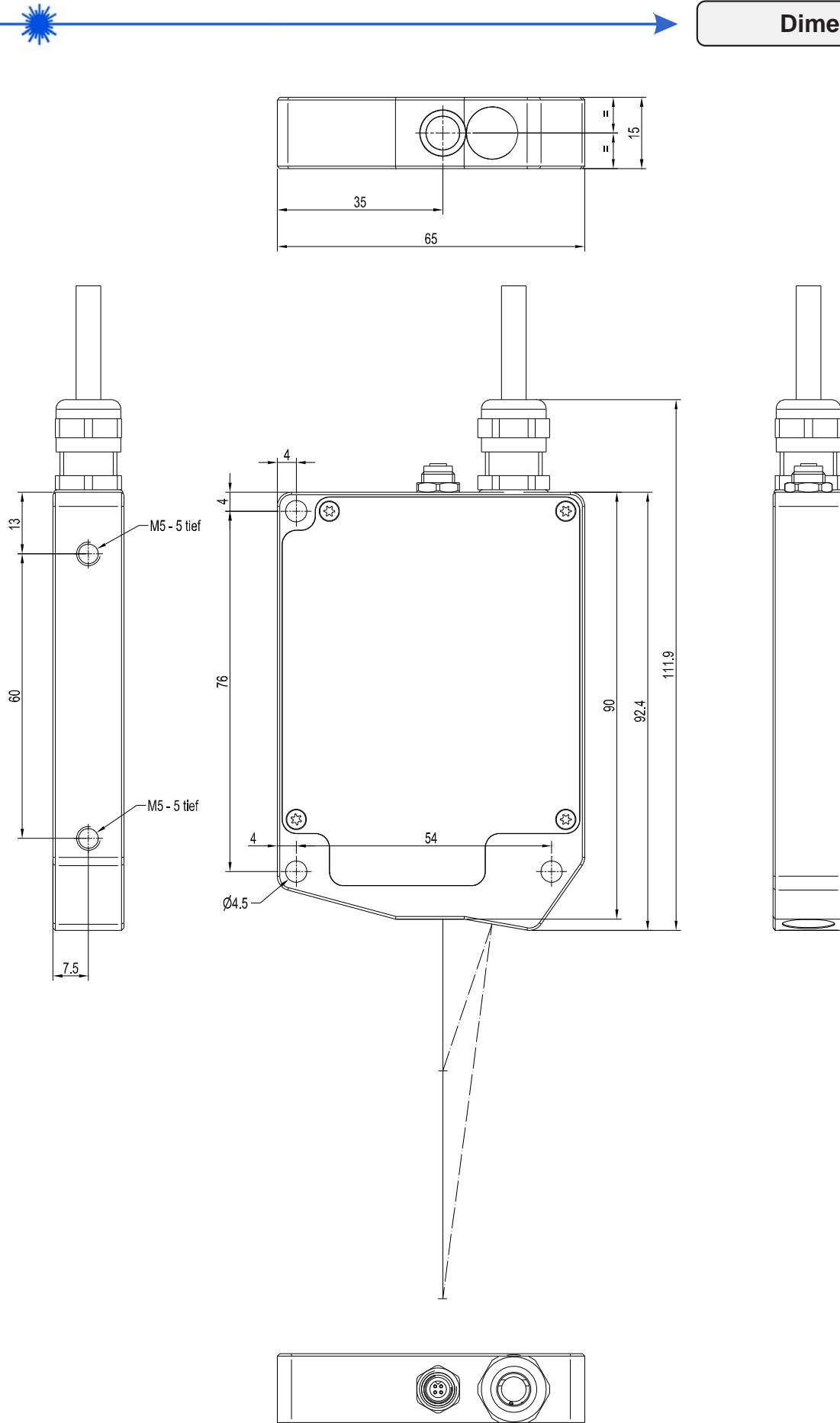
Sensor
Instruments



Technical Data

Type	L-LAS-LT-60-CL-CAB-V4A-2m	L-LAS-LT-60-CL-4/20-CAB-V4A-2m
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. 48 mm	
Start of measuring range	typ. 32 mm (measured from housing edge, cf. picture beam path)	
End of measuring range	typ. 80 mm (measured from housing edge, cf. picture beam path)	
Resolution	typ. 50 µm	
Reproducibility	typ. ± 100 µm	
Linearity	≤ 0,7% of full scale output (FSO)	
Spot size in the focus	typ. 0.2 mm	
Optical filter	Interference filter, red light filter RG630	
Analog output (1x or 2x)	1x voltage output (0 ... +10V)	1x voltage output (0 ... +10V) 1x current output (4 ... 20mA)
Digital outputs (2x) (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 (± 10%)	
Sensitivity setting	adjustable under Windows® via PC	
Laser power correction	adjustable under Windows® via PC	
Current consumption	typ. 200 mA	
Enclosure rating	IP67	
Temperature stability	0.01% of measuring range/°C	
Temperature ranges	operating temperature range: -10°C ... +50°C storage temperature range: -20°C ... +85°C	
Housing material	stainless steel (V4A)	
Housing dimensions	LxWxH approx. 92.4 mm x 65 mm x 15 mm (without flange connector/PG gland)	
Type of connector	connection to PLC via 8-wire cable with PG gland, PUR sheathing, shielded, length 2m or 5m connection to PC via 4-wire circular fem. connector type Binder 707 (PC/RS232)	
Connecting cable to PC	to PC/RS232 interface: cab-las4/PC or cab-las4/PC-w to PC/USB interface: cab-las4/USB or cab-las4/USB-w to PC/Ethernet interface: SI-RS232/Ethernet-4	
EMC test acc. to	DIN EN 60947-5-2	
Scan frequency	max. 1 kHz	
Max. switching current	100 mA, short-circuit proof	
Interface	RS232, parameterisable under Windows®	
Output polarity	Bright-/dark-switching, can be switched under Windows®	

Dimensions

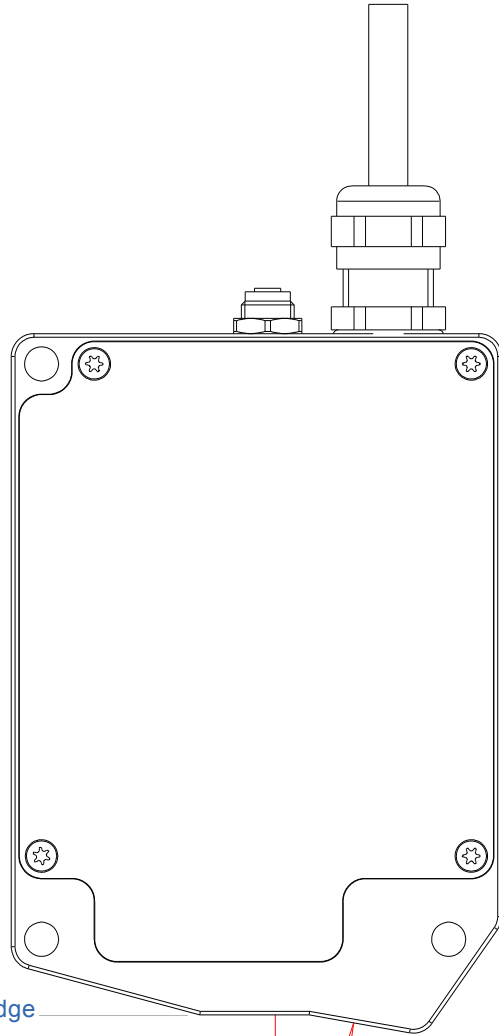


All dimensions in mm



Beam Path

L-LAS-LT-60-CL-PG-V4A-2m
L-LAS-LT-60-CL-4/20-PG-V4A-2m



Housing edge

Start of measuring range typ. 32 mm

Measuring range typ. 48 mm

End of measuring range typ. 80 mm



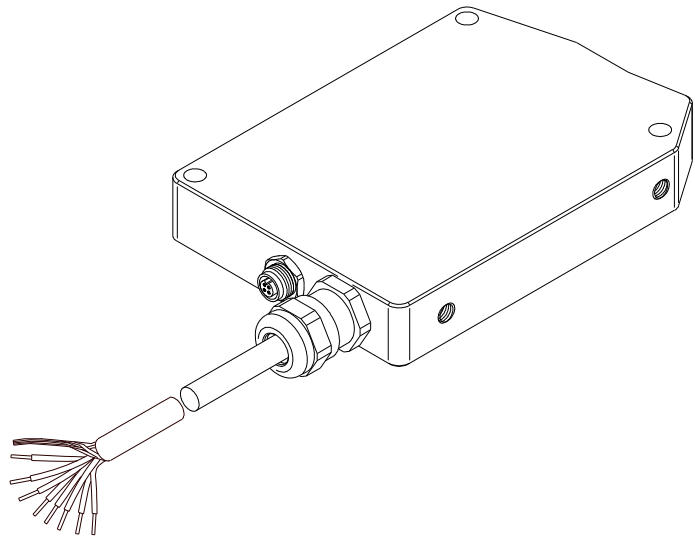
Connector Assignment

**Connection to PLC:
8-wire cable, PUR, shielded**

Color of wire: Assignment:

White	GND (0V)
Brown	+24VDC ($\pm 10\%$)
Green	IN0 (EXT TRIGGER)
Yellow	IN1 (TEACH / RESET)
Grey	OUT0 (-)
Black	OUT1 (+)
Blue	GND (0V)
	optional with type -4/20:
	ANA (current 4 ... 20mA)
Red	ANA (voltage 0 ... +10V)

Available cable lengths: 2m or 5m



**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:

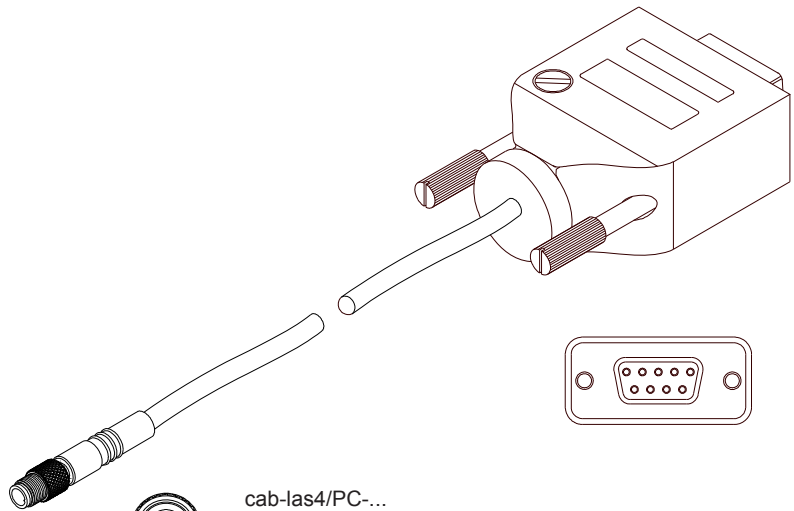
Connection via USB interface at the PC:

Connecting cable (incl. driver software):
cab-las4/USB-(length)
cab-las4/USB-w-(length) (angle type 90°)
(standard length 2m)

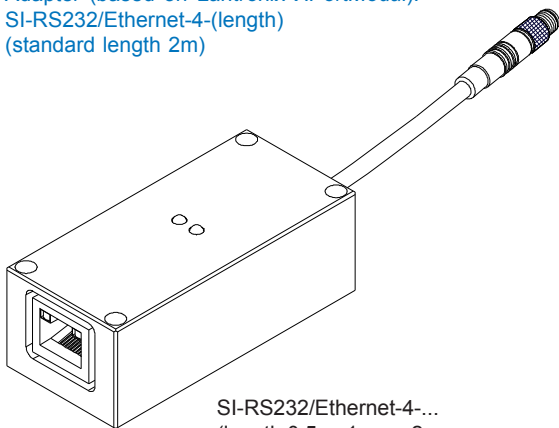
alternative:

Connection to local network via Ethernet bus:

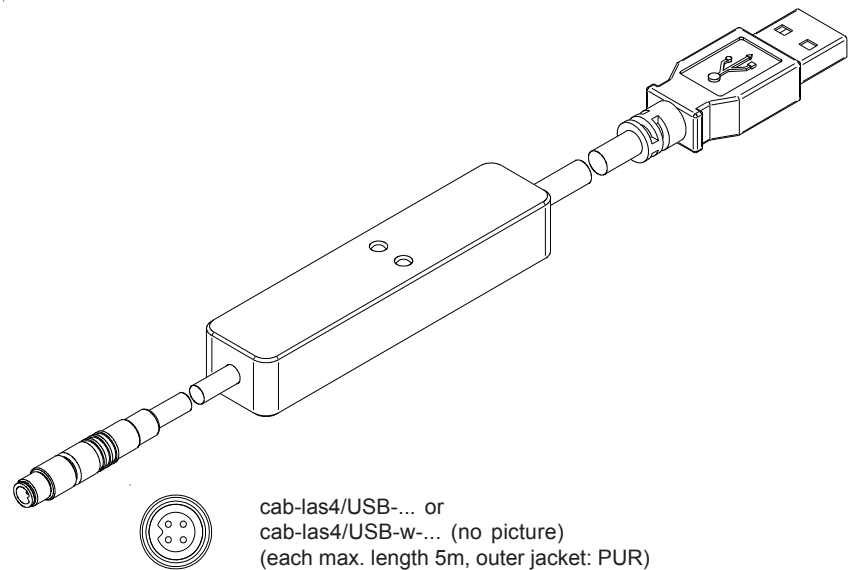
Adapter (based on Lantronix XPortModul):
SI-RS232/Ethernet-4-(length)
(standard length 2m)



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



SI-RS232/Ethernet-4-...
(length 0,5m, 1m, or 2m,
outer jacket: PUR)

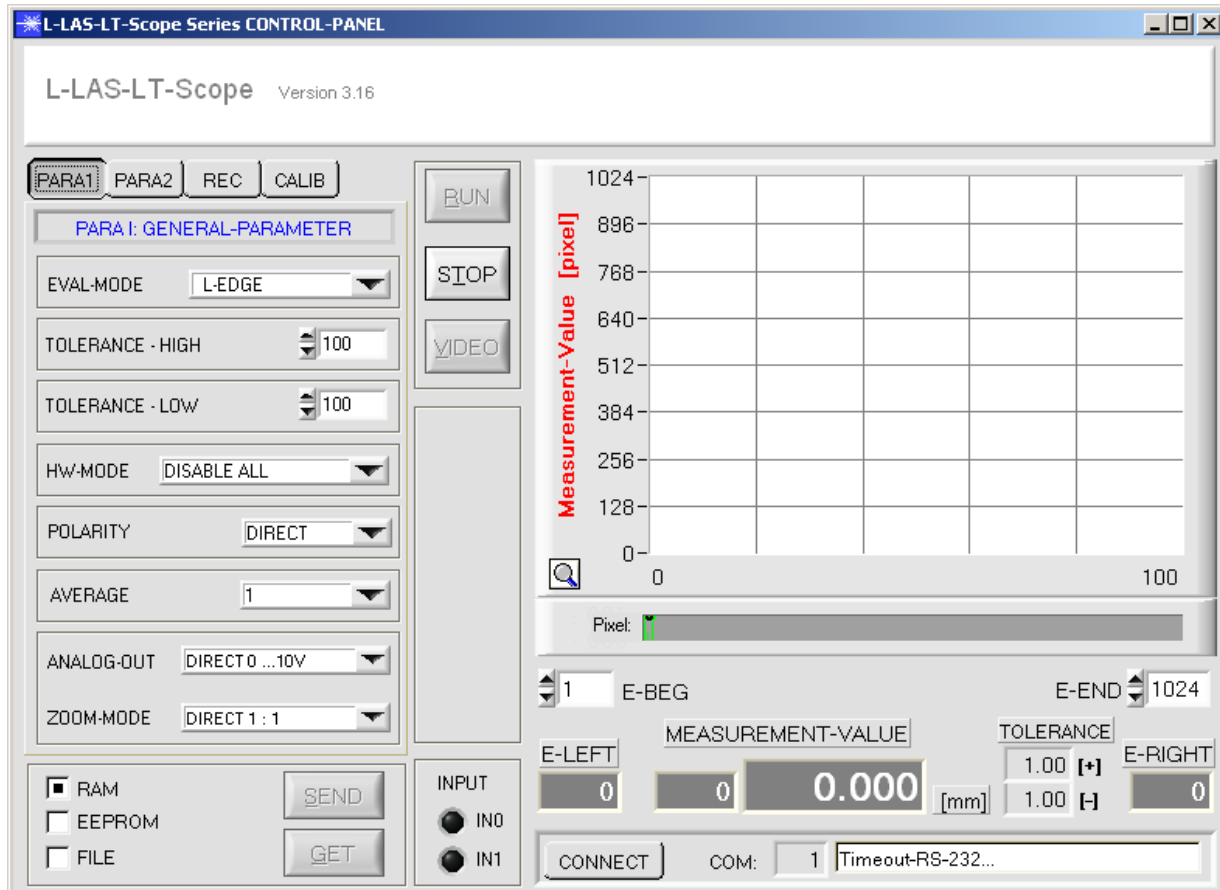


cab-las4/USB-... or
cab-las4/USB-w-... (no picture)
(each max. length 5m, outer jacket: PUR)



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. 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

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.



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.

