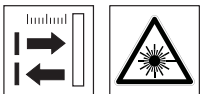


ODS10

Optical distance sensors

en 01-2015/09 50129321

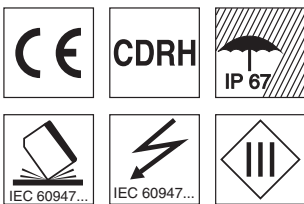


50 ... 25000mm



- Measurement range up to 25000mm on HighGain tape
- Analog current and voltage output (factory setting: current output)
- OLED display and membrane keyboard for configuration
- Configurable measurement range and measure mode
- IO-Link version 1.1
- Measurement value is indicated in mm on OLED display
- Input for activation/deactivation of the laser (factory setting) or for teach-in

We reserve the right to make changes • DS_ODS10L125M8L_en_50129321.fm

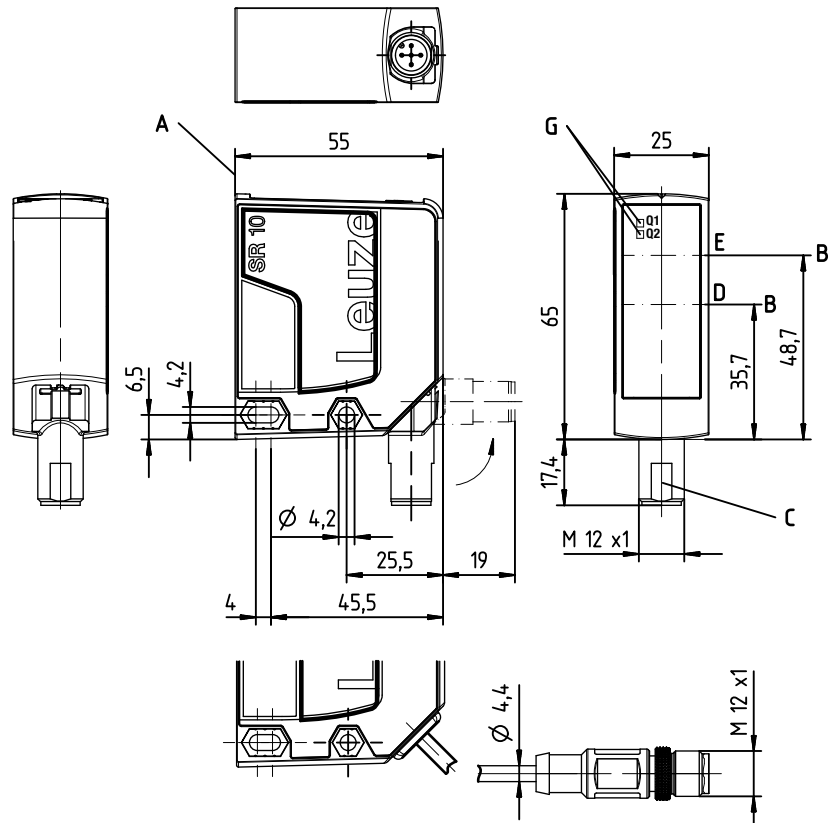


Accessories:

(available separately)

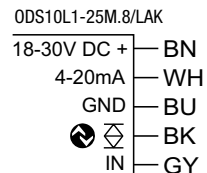
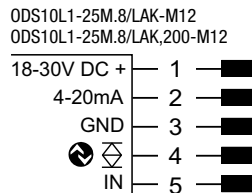
- HighGain reflective tape REF 7-A-100x100 (Part no. 50111527)
- Mounting systems
- Cable with M12 connector (K-D ...)
- IO-Link master set SET MD12-US2-IL1.1 + accessories - diagnostics set (part no. 50121098)

Dimensioned drawing



- A Reference edge for the measurement
- B Optical axis
- C Turning M12 connector, 90°
- D Receiver
- E Transmitter
- F OLED display
- G Indicator diodes green/red (control panel)
2 x yellow (control panel and lens cover)
- H Key pad

Electrical connection



Specifications

Optical data

Measurement range	100 ... 25000mm (on HighGain tape)
Resolution	3mm
Light source	laser
Laser class	1 (acc. to IEC 60825-1:2007)
Wavelength	658nm (visible red light)
Impulse duration	6ns
Max. output power (peak)	391 mW
Light spot	approx. 25x25mm ² at 25m

Error limits

Accuracy ¹⁾	± 50mm
Reproducibility ²⁾	16mm
Temperature drift	± 2mm/K

Timing

Measurement time	"Fast" operating mode: 3.5ms "Standard" operating mode: 20ms "Precision" operating mode: 50ms (factory setting)
Delay before start-up	≤ 300ms

Electrical data

Operating voltage U _B	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U _B
Open-circuit current	≤ 150mA
Switching output	push-pull switching output ³⁾ , PNP light switching, NPN dark switching
Signal voltage high/low	≥ (U _B -2 V) / ≤ 2V
Analog output	ODS10L1-25M.8/LA... voltage 1 ... 10V / 0 ... 10V / 1 ... 5V / 0 ... 5V, R _L ≥ 2kΩ current 4 ... 20mA, R _L ≤ 500Ω (factory setting)
IO-Link	COM2 (38.4kBaud), vers. 1.1, min. cycle time 2.3ms, SIO is supported

Indicators

Green/red LED	green continuous light	ready
	red	no signal
	orange	warning, weak signal
	off	no voltage
Yellow LEDs Q1/Q2 on		object detected

Mechanical data

Housing	plastic
Optics cover	glass
Weight	70g (M 12 connector) 133g (2m cable) 90g (cable with M 12 connector)
Connection type	turning M 12 connector, 90° 2m cable, core cross section 5 x 0.14mm ² (5 x 26 AWG) 0.2m cable with M12 connector

Environmental data

Ambient temp. (operation/storage)	-40°C ... +50°C / -40°C ... +70°C
Protective circuit ⁴⁾	1, 2, 3
VDE safety class	III
Degree of protection	IP 67
Standards applied	IEC 60947-5-2

- 1) Measurement on HighGain tape REF 7-A-100x100 (part no. 50111527), identical environmental conditions, "Precision" operating mode, after 20min warmup time.
- 2) Same object, identical environmental conditions, "Precision" operating mode, measuring value noise 1 sigma, after 20 min. warmup time, measurement object ≥ 50x50mm²
- 3) The push-pull switching outputs must not be connected in parallel
- 4) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs

Tables

Diagrams

Remarks

Operate in accordance with intended use!

- ☞ This product is not a safety sensor and is not intended as personnel protection.
- ☞ The product may only be put into operation by competent persons.
- ☞ Only use the product in accordance with the intended use.

Laser safety notices



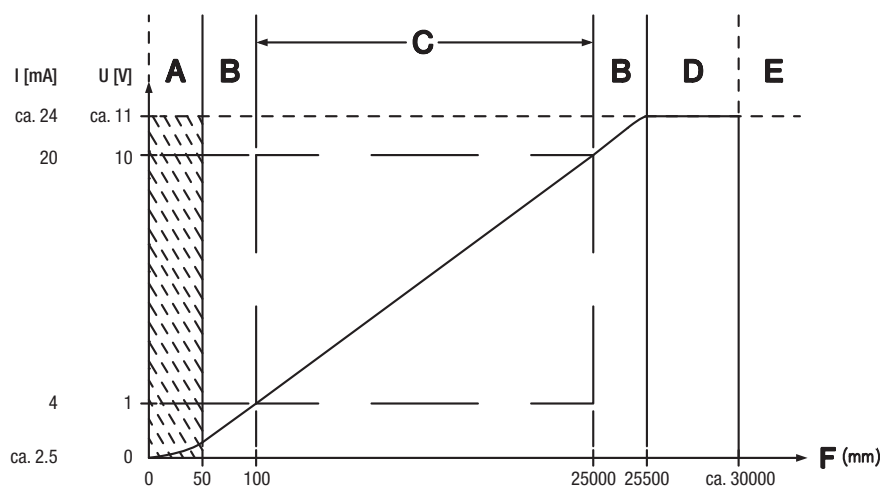
ATTENTION, LASER RADIATION – LASER CLASS 1

The device satisfies the requirements of IEC 60825-1:2007 (EN 60825-1:2007) safety regulations for a product in **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24th, 2007.

- ↳ Adhere to the applicable legal and local regulations regarding protection from laser beams.
- ↳ The device must not be tampered with and must not be changed in any way.

There are no user-serviceable parts inside the device.
Repairs must only be performed by Leuze electronic GmbH + Co. KG.

Analog output: characteristic curve for factory setting



Factory setting

- A** Area not defined
- B** Linearity not defined
- C** Measurement range
- D** Object present
- E** No object detected
- F** Measurement distance

Part number code

O	D	S	1	0	L	1	-	2	5	M	.	8	/	L	A	K	,	2	0	0	-	M	1	2
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Operating principle

ODS Optical distance sensor

Series

10 Series 10

Laser class

L1 Laser class 1 (acc. to IEC 60825-1:2007)

Measurement range

25M Extended measurement range 50 ... 25000mm, measurement on HighGain tape REF 7-A-100x100

Equipment

8 OLED display and membrane keyboard for configuration

Assignment pin 4

L IO-Link (with dual channel, also push/pull switching output)

Assignment pin 2

A Analog output current (factory setting) and voltage

6 Push/pull switching output

Assignment pin 5

K Multifunction input (factory setting: deactivation input)

6 Push/pull switching output

X Do not connect

Electrical connection

-M12 M12 connector, 5-pin

N/A Cable, length 2000mm with wire-end sleeves, 5-wire

,200-M12 Cable, length 200mm with M12 connector, 5-pin

Order guide

	Designation	Part no.
Connection: M12 connector, 5-pin IO-Link 1.1, analog output, multifunction input, 1 push/pull switching output	ODS10L1-25M.8/LAK-M12	50129530
Connection: cable, length 2000mm with wire-end sleeves, 5-wire IO-Link 1.1, analog output, multifunction input, 1 push/pull switching output	ODS10L1-25M.8/LAK	50129533
Connection: cable, length 200mm with M12 connector, 5-pin IO-Link 1.1, analog output, multifunction input, 1 push/pull switching output	ODS10L1-25M.8/LAK,200-M12	50129536
Accessories		
HighGain reflective tape, 100mm x 100mm, self-adhesive	REF 7-A-100x100	50111527
Mounting system for mounting on rods Ø 10mm	BTU 460M-D10	50128379
Mounting system for mounting on rods Ø 12mm	BTU 460M-D12	50128380
Connection cable with M12 connector, angled, 5-pin, length 2m, PVC sheathing (many other connection cables are available)	K-D M12W-5P-2m-PVC	50104556
IO-Link master set	SET MD12-US2-IL1.1 + accessories - diagnostics set	50121098