



Part no.: 50129536
ODS10L1-25M.8/LAK,200-M12
Optical distance sensor



 IO-Link

Figure can vary

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Technical data

Basic data	
Series	10
Application	Collision protection for transport vehicles Collision protection of cranes / gantry cranes Fill-level monitoring
Type of scanning system	Against reflector
Special design	
Special design	Activation input Deactivation input Teach input
Characteristic parameters	
MTTF	29 years
Optical data	
Beam profile	Collimated
Light source	Laser , Red
Laser light wavelength	658 nm
Laser class	1 , IEC/EN 60825-1:2007
Transmitted-signal shape	Pulsed
Light spot size [at sensor distance]	25 mm x 25 mm [25,000 mm]
Type of light spot geometry	Rectangular
Measurement data	
Measurement range	100 ... 25,000 mm
Resolution	1.0 mm
Accuracy	25 mm
Measurement time, measure mode	"Fast": response time = 15 ms/output time = 3.4 ms "Fast": response time = 50 ms/output time = 3.4 ms "High precision": response time = 1000 ms/output time = 3.4 ms "Individual": response time = 3.4 ... 1020 ms/output time = 3.4 ms "Outlier suppression": response time = 17 ... 1020 ms/output time = 17 ... 1020 ms "Precision": response time = 200 ms/output time = 3.4 ms Individual measure modes, see diagram
Reproducibility (1 sigma)	16 mm
Temperature drift	2 mm/K
Referencing	No
Standard measurement object	50 x 50 mm ²
Optical distance measurement principle	Time of flight
Electrical data	
Protective circuit	Polarity reversal protection Short circuit protected Transient protection
Performance data	
Supply voltage U _B	18 ... 30 V , DC
Residual ripple	0 ... 15 % , From U _B
Open-circuit current	0 ... 150 mA

Inputs

Number of digital switching inputs 1 Piece(s)

Switching inputs

Voltage type DC

 Switching voltage U_B
Digital switching input 1

Assignment Connection 1, pin 5

 Function Activation input
Deactivation input
Teach input

Outputs

Number of analog outputs 1 Piece(s)

Number of digital switching outputs 1 Piece(s)

Analog outputs
Analog output 1

Type Configurable, factory setting: current

Assignment Connection 1, pin 2

Switching outputs

Voltage type DC

 Switching voltage High: $\geq(U_B-2V)$
Low: $\leq 2V$
Switching output 1

Assignment Connection 1, pin 4

Switching element Transistor , Push-pull

Switching principle IO-Link / light switching (PNP)/dark switching (NPN)

Timing

Readiness delay 300 ms

Interface

Type IO-Link

IO-Link

COM mode COM2

Frame type 2.V

Port type A

Specification V1.1

SIO-mode support Yes

Process data IN 3 byte

Process data OUT 0 byte

Dual-core operating mode Yes

Min. cycle time COM2 = 2.3 ms

Connection

Number of connections 1 Piece(s)

Connection 1

Type of connection	Cable with connector , Turning, 90°
Function	Signal IN Signal OUT Voltage supply
Cable length	200 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.14 mm ²
Thread size	M12
Type	Male
Material	Plastic
No. of pins	5 -pin
Encoding	A-coded

Mechanical data

Design	Cubic
Dimension (W x H x L)	25 mm x 65 mm x 55 mm
Lens cover material	Glass
Net weight	90 g
Housing color	Red
Type of fastening	Through-hole mounting Via optional mounting device

Operation and display

Type of display	LED OLED display
Number of LEDs	5 Piece(s)
Operational controls	Control buttons PC software

Environmental data

Ambient temperature, operation	-40 ... 50 °C
Ambient temperature, storage	-40 ... 70 °C

Certifications

Degree of protection	IP 67
Protection class	III
Certifications	c UL US

Classification

Customs tariff number	90318020
eCl@ss 8.0	27270801
eCl@ss 9.0	27270801
ETIM 5.0	EC001825
ETIM 6.0	EC001825

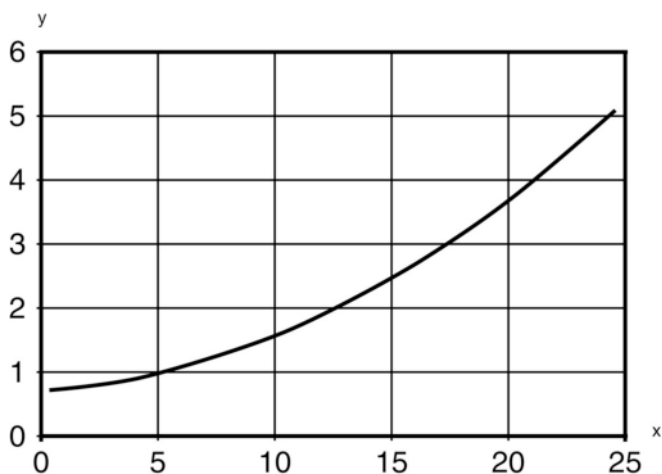
Electrical connection

Connection 1	
Type of connection	Cable with connector
Function	Signal IN Signal OUT Voltage supply
Cable length	200 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.14 mm ²
Thread size	M12
Type	Male
Material	Plastic
No. of pins	5 -pin
Encoding	A-coded

Pin	Pin assignment
1	18 ... 30 V DC +
2	OUT mA / V
3	GND
4	IO-Link / OUT 1
5	IN 1

Diagrams

Typ. reproducibility



x Measurement distance [m]
y Reproducibility [mm]
Typical reproducibility on HighGain tape ("Standard" measure mode, 50 ms)

Operation and display

LEDs

LED	Display	Meaning	
1	PWR	Green, continuous light	Operational readiness
		Red, continuous light	Sensor error
		Orange, continuous light	No function reserve
		Off	No supply voltage
2	Q1	Yellow, continuous light	Object detected
3	Q2	Yellow, continuous light	Object detected

Part number code

Part designation: **ODS10XX-YYY.Z/ABC,DDD-EEE**


ODS10	Operating principle: ODS10: Optical distance sensor
XX	Light source: L1: laser class 1
YYY	Measurement range: 25M: Extended measurement range 50 ... 25000 mm, measurement on HighGain tape REF 7-A-100x100
Z	Equipment: 8: OLED display and membrane keyboard for configuration
A	Assignment pin 4: L: IO-Link (with dual channel, also push/pull switching output)
B	Assignment pin 2: A: Analog output current (factory setting) and voltage 6: push-pull switching output, PNP light switching, NPN dark switching
C	Assignment pin 5: K: Multifunction input (factory setting: deactivation input) 6: push-pull switching output, PNP light switching, NPN dark switching X: pin not used
DDD-EEE	Electrical connection: M12: M12 connector, 5-pin 200-M12: Cable, length 200 mm with M12 connector, 5-pin YYYY: Cable, length YYYY mm with wire-end sleeves, 5-wire (no information = standard length 2000 mm)

Note

A list with all available device types can be found on the Leuze electronic website at www.leuze.com.


Accessories

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50118543	BT 300M.5	Mounting bracket	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type, Suited for M4 screws Type of mounting device: Adjustable Material: Stainless steel

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Reflective tapes for distance sensors

	Part no.	Designation	Article	Description
	50111527	REF 7-A-100x100	Reflective tape	Design: Rectangular Reflective surface: 100 mm x 100 mm Material: Plastic Fastening: Self-adhesive

Note

A list with all available accessories can be found on the Leuze electronic website in the Download tab of the article detailed page.