

Technical data sheet

Optical distance sensor

Part no.: 50120825

ODSL 9/L-650-S12

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- Technical data
- Electrical connection
- Operation and display
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For illustration purposes only



CDRH



Technical data

Basic data

Series	9
Type of scanning system	Against object

Optical data

Beam path	Divergent
Light source	Laser, Red
Wavelength	655 nm
Laser class	2, IEC/EN 60825-1:2007
Transmitted-signal shape	Pulsed
Pulse duration	22 µs
Light spot size [at sensor distance]	1 mm
Type of light spot geometry	Round

Measurement data

Measurement range	50 ... 650 mm
Resolution	0.1 ... 0.5 mm
Accuracy	1 %
Reference value, accuracy	Measurement distance
Repeatability	0.5 %
Reference value repeatability	Measurement distance
Measurement time	2 ms
Temperature drift, relative	0.02 %/K
Referencing	No
Black/white behavior	0.5 %
Standard measurement object	50 x 50 mm²
Optical distance measurement principle	Triangulation

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 ... 180 mA

Time behavior

Response time	6 ms
Readiness delay	300 ms

Interface

Type	IO-Link
IO-Link	
COM mode	COM2
Specification	V1.0.1

Connection

Number of connections	1 Piece(s)
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Connection 1

Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector, Turning, 90°
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)	21 mm x 50 mm x 50 mm
Housing material	Plastic
Plastic housing	PC
Lens cover material	Glass
Net weight	50 g
Housing color	Red
Type of fastening	Through-hole mounting
	Via optional mounting device

Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)
Type of configuration	Software
Operational controls	Control buttons
	LC Display
	PC software

Environmental data

Ambient temperature, operation	-20 ... 50 °C
Ambient temperature, storage	-30 ... 70 °C

Certifications

Degree of protection	IP 67
Protection class	II
Certifications	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	90318020
ECLASS 8.0	27270801
ECLASS 9.0	27270801
ETIM 5.0	EC001825
ETIM 6.0	EC001825

Electrical connection

Connection 1

Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
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Material	Plastic
No. of pins	5 -pin
Encoding	A-coded

Pin	Pin assignment
1	V+
2	n.c.
3	GND
4	IO-Link
5	n.c.

Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Off	No supply voltage
2	Yellow, continuous light	Object in the measurement range
	Off	No object in the measurement range

Accessories

Connection technology - Connection unit

	Part no.	Designation	Article	Description
	50144900	MD 798i-11-82/L5-2222	Distribution box	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K

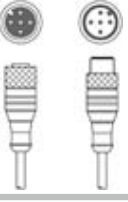
Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50132077	KD U-M12-5A-V1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 2.000 mm Sheathing material: PVC

Accessories

	Part no.	Designation	Article	Description
	50132079	KD U-M12-5A-V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
	50133842	KD U-M12-5W-V1-020	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 2.000 mm Sheathing material: PVC
	50133802	KD U-M12-5W-V1-050	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
	50140174	KDS U-M12-5A-M12-5A-P1-003-25X	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: No Cable, crossed: Connection 1, pin 2 <-> connection 2, pin 5 Cable length: 300 mm Sheathing material: PUR

Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50140174 *	KDS U-M12-5A-M12-5A-P1-003-25X	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: No Cable, crossed: Connection 1, pin 2 <-> connection 2, pin 5 Cable length: 300 mm Sheathing material: PUR

* Necessary accessories, please order separately

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50036195	BT 8	Mounting device	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal

Accessories

Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50117252	BTU 300M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type, Suited for M4 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal

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