

## Technical data sheet Optical distance sensor

Part no.: 50111158

ODSL 9/V6-450-S12

### Contents

- Technical data
- Electrical connection
- Operation and display
- Accessories



Figure can vary



## Technical data

### Basic data

Series	9
Type of scanning system	Against object
Order guide	Attention! Article in the discontinuation phase. If spare parts are required, please note the necessary connection cable.

### Characteristic parameters

MTTF	53 years
------	----------

### Optical data

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

### Measurement data

Measurement range	50 ... 450 mm
Resolution	0.1 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 mm <sup>2</sup>
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

### Inputs

Number of digital switching inputs	1 Piece(s)
------------------------------------	------------

### Switching inputs

Voltage type	DC
--------------	----

### Digital switching input 1

Assignment	Connection 1, conductor 2
Function	Programmable

### Outputs

Number of analog outputs	1 Piece(s)
Number of digital switching outputs	1 Piece(s)

### Analog output 1

Type	Voltage
Assignment	Connection 1, pin 5

### Switching outputs

Voltage type	DC
Switching voltage	high: $\geq(U_B-2V)$

### Switching output 1

Assignment	Connection 1, pin 4
Switching element	Transistor, Push-pull
Switching principle	Light switching (PNP)/dark switching (NPN)

### Timing

Readiness delay	300 ms
-----------------	--------

### Connection

Number of connections	1 Piece(s)
-----------------------	------------

### 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, 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	LC 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

## Technical data

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

Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Plastic
No. of pins	5 -pin
Encoding	A-coded

### Pin Pin assignment



1	V+
2	IN 1
3	GND
4	OUT 1
5	OUT V

## Operation and display




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

## Accessories

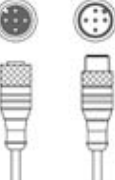
### Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50132077	KD U-M12-5A-V1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PVC
	50132079	KD U-M12-5A-V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC

## Accessories


	Part no.	Designation	Article	Description
	50133842	KD U-M12-5W-V1-020	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 5 -pin 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 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

## 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

## Accessories

### Note



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