

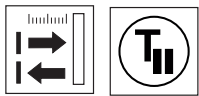
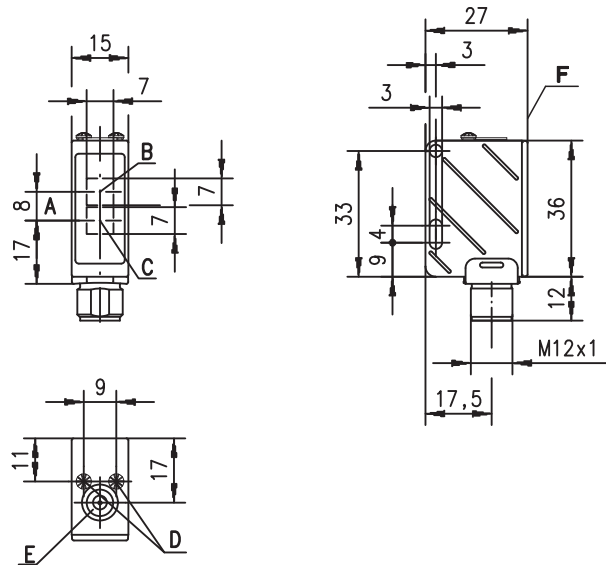
ODS 25

Optical distance sensors

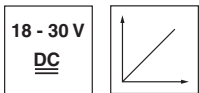
Art. Nr. 501 03921



Dimensioned drawing



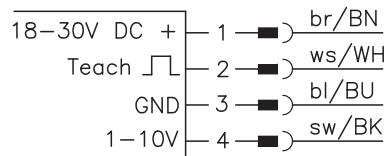
25 ... 200mm



- Analogue voltage output 1 ... 10V, teachable, can be inverted
- M 12 circular connector
- Easy alignment through visible red light

- A** Optical axis
- B** Transmitter
- C** Receiver
- D** LED yellow, green
- E** Teach button
- F** Reference edge for the measurement (cover glass)

Electrical connection



Accessories:

(available separately)

- Cable with M12 connector (K-D ...)
- M12 connectors (KD ..., KS ...)
- Mounting systems

We reserve the right to make changes • ods_30gb.fm

Specifications

Optical data

Measurement range ¹⁾	25 ... 200mm
Resolution	1mm
Light source	LED
Wavelength	660nm (visible red light)
Light spot	8x8mm ² at 200mm
Receiver	CCD line

Error limits (relative to measurement range end value)

Linearity ^{1) 2)}	± 2.5%
Repeatability ²⁾	± 2%
b/w detection thresh. (6 ... 90% rem.)	± 4%

Timing

Measurement time	5 ... 10ms
Response time	≤ 20ms
Delay before start-up	≤ 100ms

Electrical data

Operating voltage U_B	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 25mA
Switching output	—
Analogue output	voltage 1 ... 10V, $R_L \geq 5k\Omega$
Scanning range adjustment	T_{II} teach button or teach line (see remarks)

Indicators

LED green	ready
LED yellow	object is located in the taught detection range; additional display functions of the LEDs during the teach procedure - see remarks

Mechanical data

Housing	plastic
Optics cover	plastic
Weight	15g
Connection type	M12 connector, 4-pin

Environmental data

Ambient temp. (operation/storage)	-20°C ... +40°C/-30°C ... +70°C
Protective circuit ³⁾	2, 3
VDE safety class ⁴⁾	II, all-insulated
Protection class	IP 67, IP 69K ⁵⁾
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

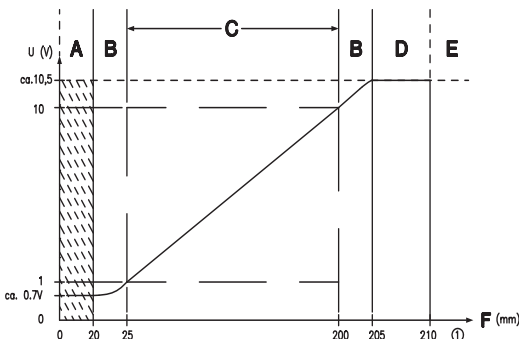
Options

Teach input	
Input resistance	10 k Ω ± 10%
Active/not active	$U_B/0V$ or not connected

- 1) Absolute value measurement, luminosity coefficient 6 ... 90%, 20°C, measurement object ≥ 50x50mm²
- 2) Same object, identical environmental conditions, measurement object ≥ 50x50mm²
- 3) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 4) Rating voltage 250VAC
- 5) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test

Approved purpose:

The ODS 25 distance sensors are optical electronic sensors for the optical, contactless measurement of distance to objects.



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

Remarks

T_{II} teach-in via button

Teach 1V analogue output

- Position the measured object at the desired distance.
- Press the teach button until the green LED illuminates and the yellow LED flashes.
- Release the teach button in the time window of 2 ... 4s.

Teach 10V analogue output

- Position the measured object at the desired distance.
- Press the teach button until the green LED flashes and the yellow LED illuminates.
- Release the teach button in the time window of 4 ... 6s.

T_{II} teach-in via input

Teach 1V analogue output

- Position the measured object at the desired distance.
- Teach input (PIN 2) to U_B until green LED illuminates and yellow LED flashes.
- Disconnect the teach input or set to 0V in the time window 2 ... 4s.

Teach 10V analogue output

- Position the measured object at the desired distance.
- Teach input (PIN 2) to U_B until green LED flashes and yellow LED illuminates.
- Disconnect the teach input or set to 0V in the time window 4 ... 6s.

Further notices

- Following a successful teach process, the yellow LED illuminates within the taught measurement range.
- Permanent, fast flashing of LEDs indicates an unsuccessful teach process (sensor continues to function with the old values, however).
- **Remedy:** Repeat teach process, activate teach button / teach input > 6s or de-energise sensor.
- Operate teach button with a blunt object.

Order guide

	Designation	Part No.
With M12 connector	ODS 25/V-200-S12	501 02824