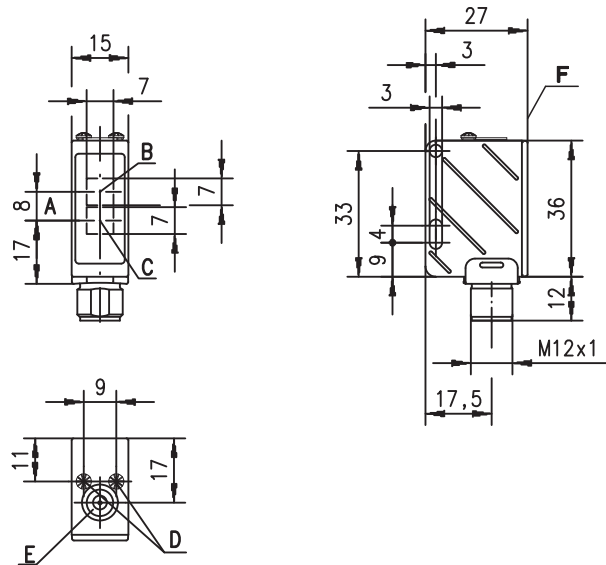


ODS 25

Optical distance sensors

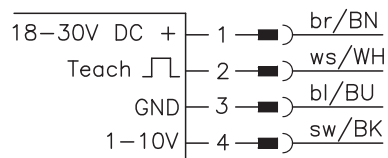


Dimensioned drawing

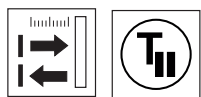


- A Optical axis
- B Transmitter
- C Receiver
- D LED yellow, green
- E Teach button
- F Reference edge for the measurement (cover glass)

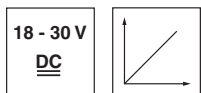
Electrical connection



Art. Nr. 501 03921



25 ... 200mm



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



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, $R_i \geq 5k\Omega$ |
| 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 |

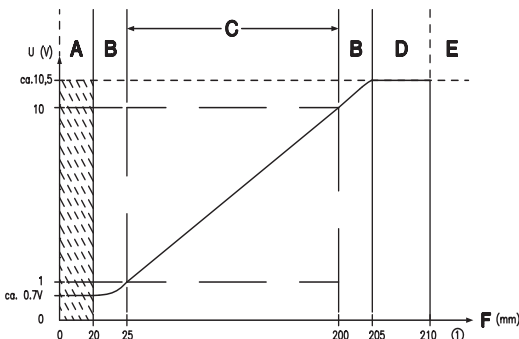
Options

| | |
|--------------------|---------------------------|
| 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 |