



## Short range distance sensors (displacement) OD Precision

OD5-150T40



**Model Name** > **OD5-150T40**  
**Part No.** > **6049579**



**At a glance**

- Many measurement ranges from 24 mm ... 26 mm up to 300 mm ... 700 mm
- CMOS receiving element for measurement independent of surface
- High measuring accuracy and frequency
- Glass thickness measurement with just one sensor head
- Different light spot sizes
- Integrated calculations for up to three sensors
- Stand alone use via RS-422

**Your benefits**

- Non-contact measurement improves quality inspection during production
- Surface-independent measurement algorithms ensure minimum machine downtime, regardless of surface gloss or color
- Reduced processing times as a result of the high measuring frequency of up to 10 kHz
- Simple, cost-effective solution for challenging measuring tasks due to a variety of sensor models
- Optional stand-alone operation via RS-422 means the OD Precision offers maximum performance at lower investment costs
- High visibility LC display enables simple, cost-effective setup
- Many interfaces for simple integration into an existing production environment



**Features**

System part: Sensor head

**Performance**

Measuring range:	110 mm ... 190 mm, 6 % ... 90 % remission; at default settings
Resolution <sup>1)</sup> :	2 µm
Repeatability <sup>2)</sup> :	6 µm
Linearity <sup>3)</sup> :	± 40 µm
Response time <sup>4), 5)</sup> :	0.1 ms <sup>6)</sup>
Measuring frequency:	10 kHz <sup>6)</sup>
Light source:	Laser, red
Typ. light spot size (distance):	X Ø 180 µm (150 mm)
Note:	OD Precision sensor head is compatible with AOD5 hardware version 1.7. and software version 4.3 (correspond with production date from Lot 1338)
Laser class:	2 (EN 60825-1) <sup>7)</sup>

Output time: 0.1 ms

<sup>1) 3)</sup> Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096 <sup>2)</sup> Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096; constant ambient conditions <sup>4)</sup> Time needed for automatic sensitivity adjustment is calculated as: sampling period x 20. At default setting 100  $\mu$ s (10kHz) this is  $\leq$  2ms. <sup>5) 6)</sup> Default setting for OD5-350x100 and OD5-500x200 = 0.8 ms, 1.25 kHz likewise, all other types = 0.1 ms/10 kHz <sup>7)</sup> Wavelength: 655 nm, max. output: 1 mW

## Interfaces

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Data interface: RS-422  
Laser off input: 1 x laser-off

## Mechanics/electronics

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Electrical connection <sup>1)</sup>: 0.5 m cable with connector  
Supply voltage  $V_s$  <sup>2)</sup>: DC 12 V ... 24 V  
Warm-up time:  $\leq$  5 min  
Indication: LEDs, 4" color-display on optional controller unit  
Weight <sup>3)</sup>: 250 g  
Housing material: Aluminum housing with glass lens

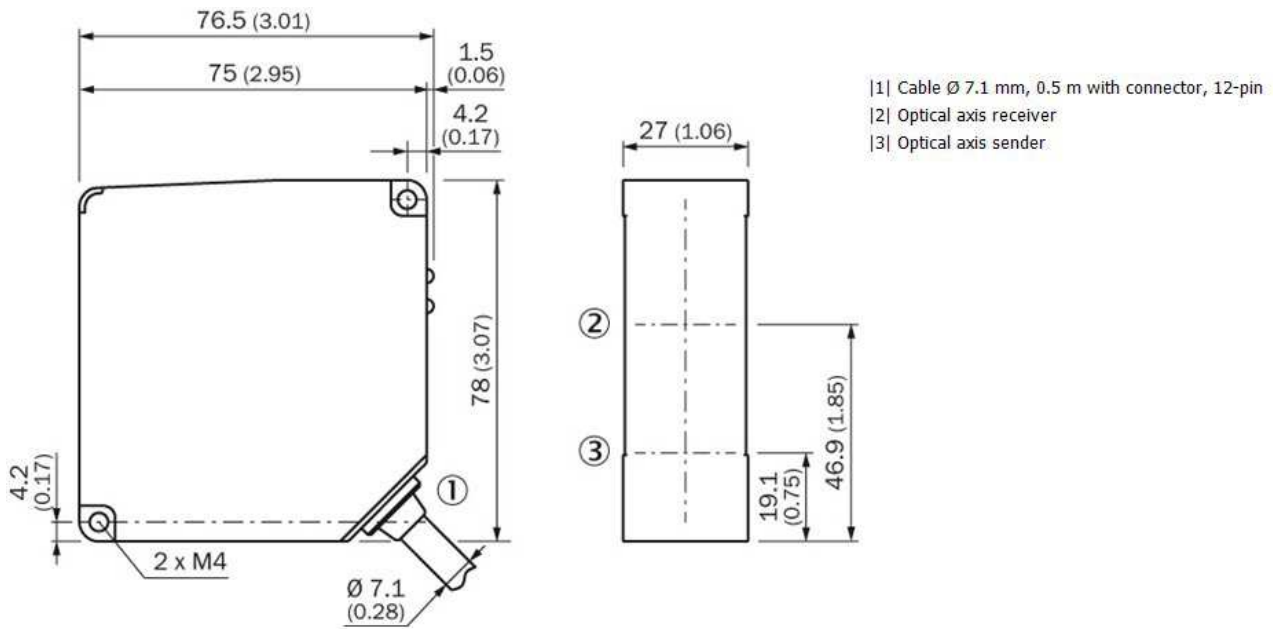
<sup>1)</sup> Extensible by cable to max. 50 m <sup>2)</sup> DC 12 V (-5 %) ... DC 24 V (+10 %) <sup>3)</sup> Inclusive 0.5 m cable

## Ambient data

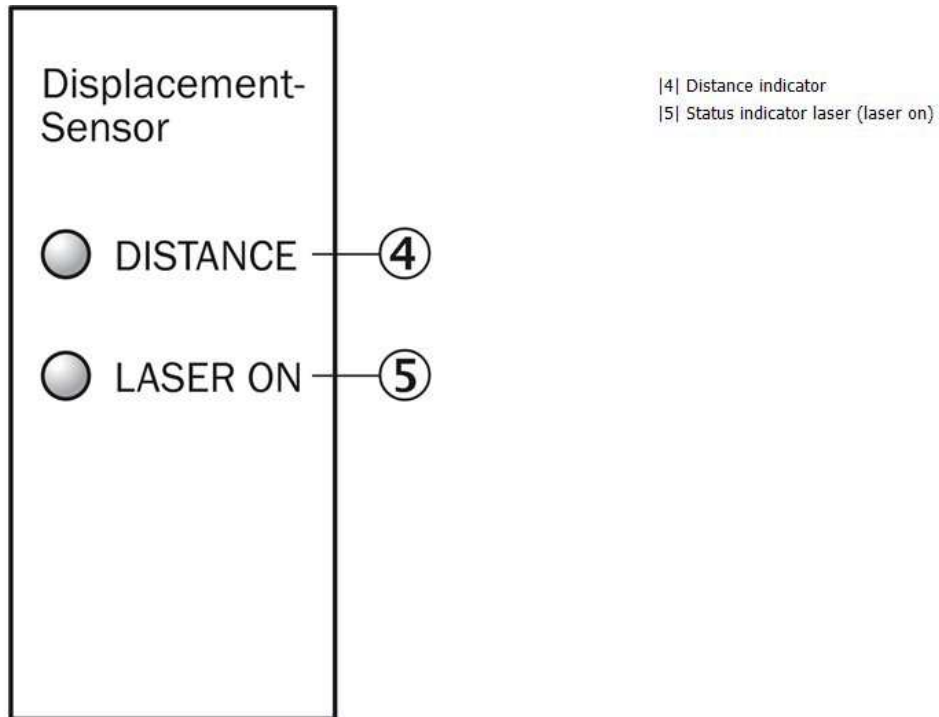
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Enclosure rating: IP 67  
Protection class: III  
Ambient temperature: Operation: -10 ... +50 °C, Storage: -20 ... +60 °C  
Temperature drift:  $\pm$  0.01 % FS/K (FS = Full Scale = Measuring range of sensor)  
Vibration resistance: 10 Hz ... 55 Hz (amplitude 1.5 mm, x-, y-, z-axis 2 hours each)  
Shock resistance: 50 G (x-, y-, z-axis 3 times each)  
Relative humidity (not condensing): 35 % ... 85 %  
Typ. ambient light safety: Artificial light:  $\leq$  3,000 lx, Sunlight:  $\leq$  10,000 lx

## Dimensional drawing



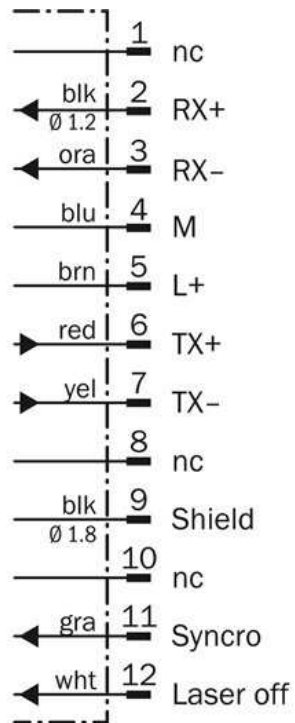
## Adjustment possible



## Connection type



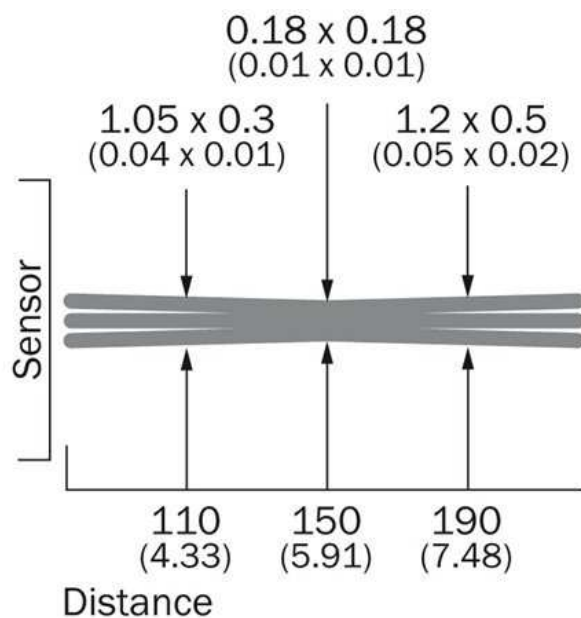
## Connection diagram



|1| not connected

Light spot size

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All dimensions in mm (inch)

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