



## Short range distance sensors (displacement) OD Precision

OD5-85T20



**Model Name** > **OD5-85T20**  
**Part No.** > **6035979**

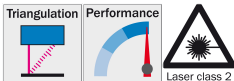


**At a glance**

- 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:	65 mm ... 105 mm, 6 % ... 90 % remission; at default settings
Resolution:	1 μm <sup>1)</sup>
Repeatability:	3 μm <sup>2)</sup>
Linearity:	± 20 μm <sup>3)</sup>
Response time <sup>4), 5)</sup> :	0.1 ms
Measuring frequency:	10 kHz <sup>6)</sup>
Light source:	Laser, red
Typ. light spot size (distance):	70 μm x 290 μm (85 mm)

Additional function:	Anti interference mode, Automatic sensitivity adjustment, Selectable measuring frequency (automatic/0.1 ms ... 3.2 ms), Glass thickness measurement, Manual sensitivity adjustment, Averaging settings 1 ... 4,096x
Output rate:	≤ 0.1 ms
Note:	OD Precision sensor head can be used with AOD5-P/N1 or stand-alone via RS-422
Laser class:	2 (EN 60825-1) <sup>7)</sup>

1) <sup>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 μs (10kHz) this is ≤ 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

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

## Mechanics/electronics

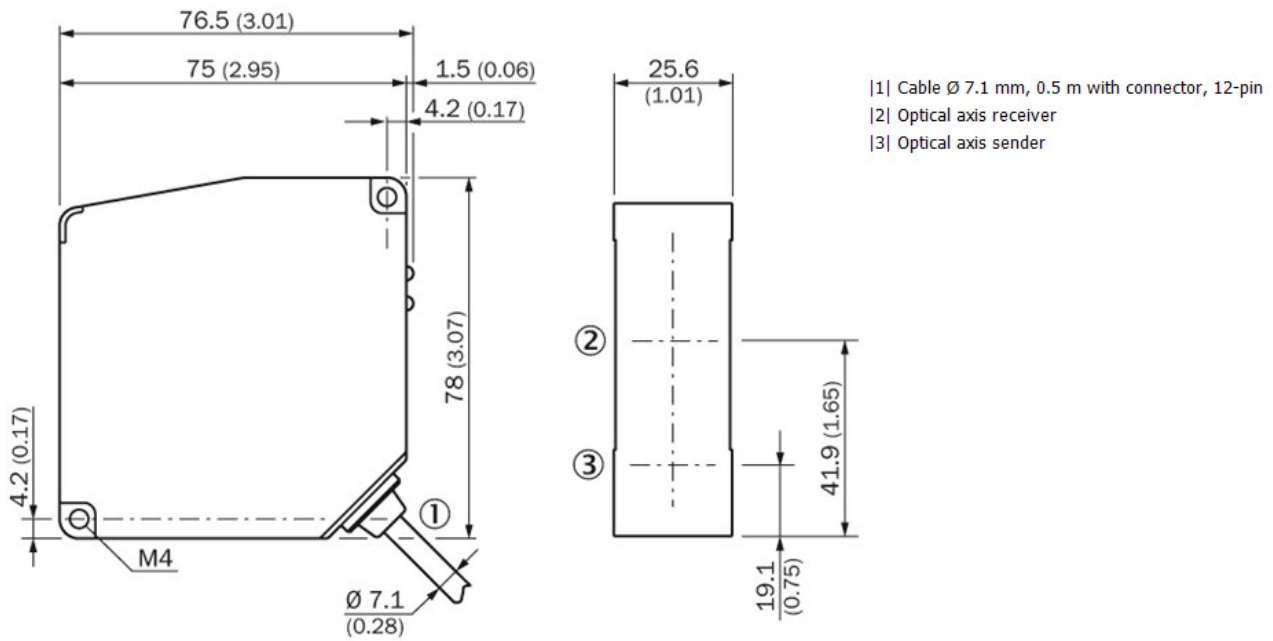
Connection type:	0.5 m cable with connector <sup>1)</sup>
Supply voltage $V_s$ <sup>2)</sup> :	DC 12 V ... 24 V
Warm-up time:	≤ 5 min
Indication:	LEDs, 4" color-display on optional controller unit
Weight:	250 g <sup>3)</sup>
Housing material:	Aluminum housing with glass lens

<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

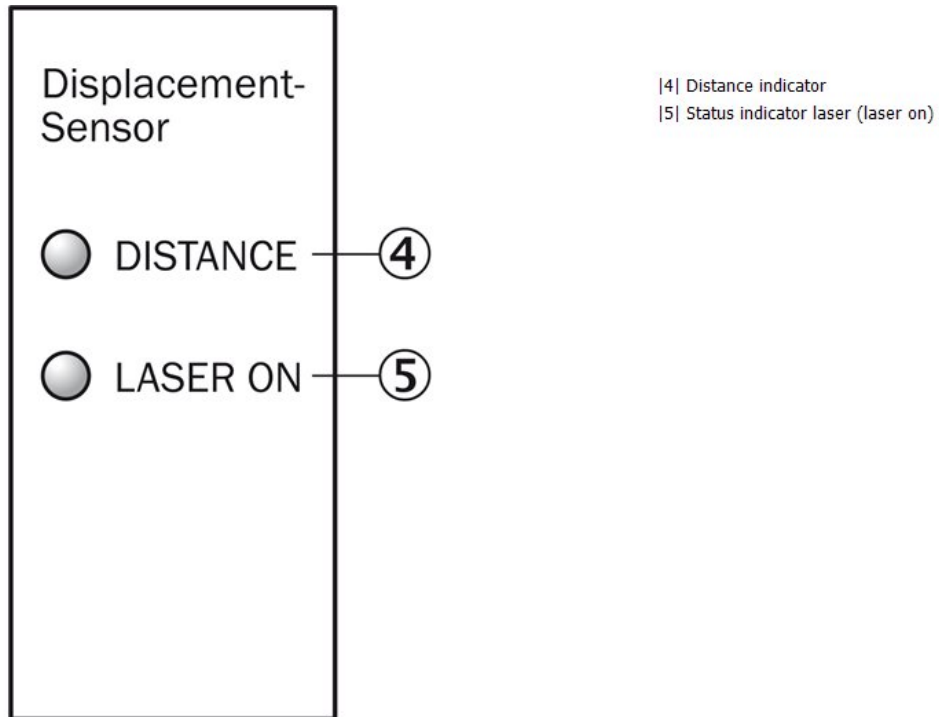
## Ambient data

Enclosure rating:	IP 67
Protection class:	III
Ambient temperature:	Operation: -10 ... +50 °C, Storage: -20 ... +60 °C
Temperature drift:	± 0.01 % FS/K (FS = Full Scale = Measuring range of sensor)
Typ. ambient light safety:	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000 lx
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 %

## Dimensional drawing



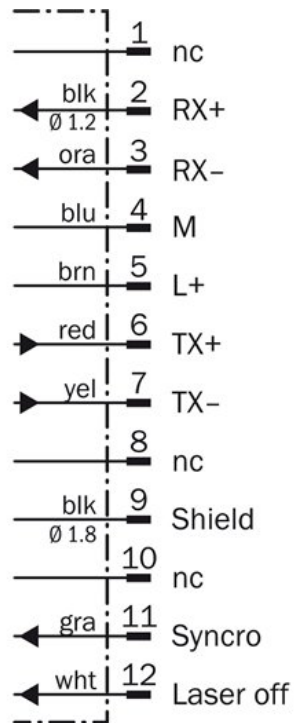
## Adjustment possible



## Connection type

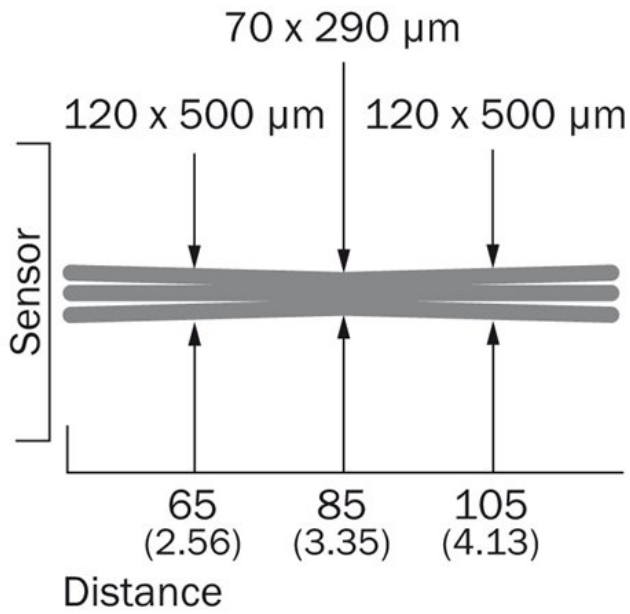


## Connection diagram



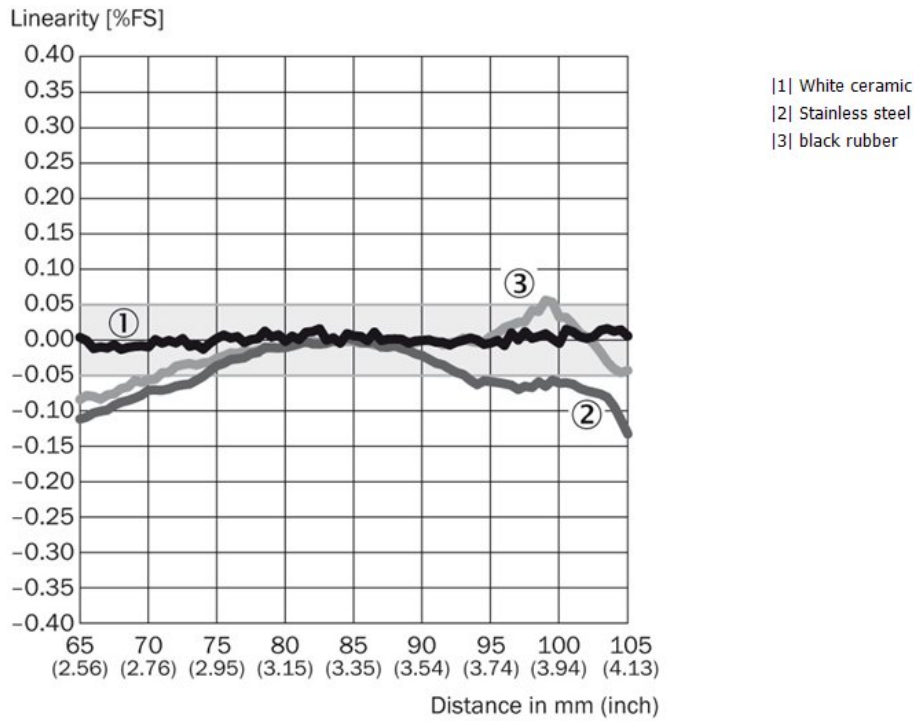
[1] not connected

## Light spot size



All dimensions in mm (inch)

## Linearity



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