



Short range distance sensors (displacement)  
OD Precision

OD5-25T01



**Model Name** > **OD5-25T01**  
**Part No.** > **6035975**

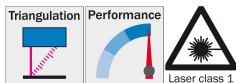


**At a glance**

- 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:	24 mm ... 26 mm, 6 % ... 90 % remission; at default settings
Resolution <sup>1)</sup> :	0.02 µm
Repeatability <sup>2)</sup> :	0.06 µm
Linearity <sup>3)</sup> :	± 1.6 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):	25 µm x 35 µm (25 mm)

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

- <sup>1)</sup> Measurement on 90 % remission (ceramic, white), for OD25-x measurement on mirror; averaging set to: 256, for OD25-x: 4096 <sup>2)</sup> Measurement on 90 % remission (ceramic, white), for OD25-x measurement on mirror; averaging set to: 256, for OD25-x: 4096; constant ambient conditions <sup>3)</sup> Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096 <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: 650 nm, max. output: 390 μW

## Interfaces

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

## Mechanics/electronics

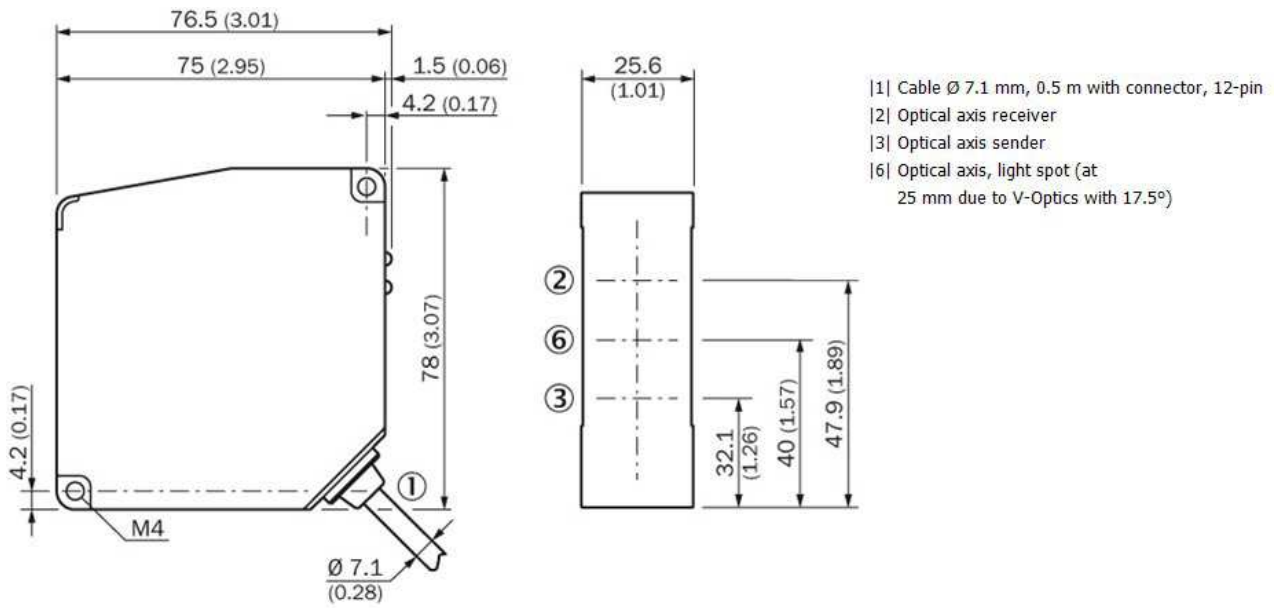
Electrical connection <sup>1)</sup> :	0.5 m cable with connector
Supply voltage Vs <sup>2)</sup> :	DC 12 V ... 24 V
Warm-up time:	≤ 5 min
Indication:	LEDs, 4" color-display on optional controller unit
Weight <sup>3)</sup> :	250 g
Housing material:	Aluminum housing with glass lens

- <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

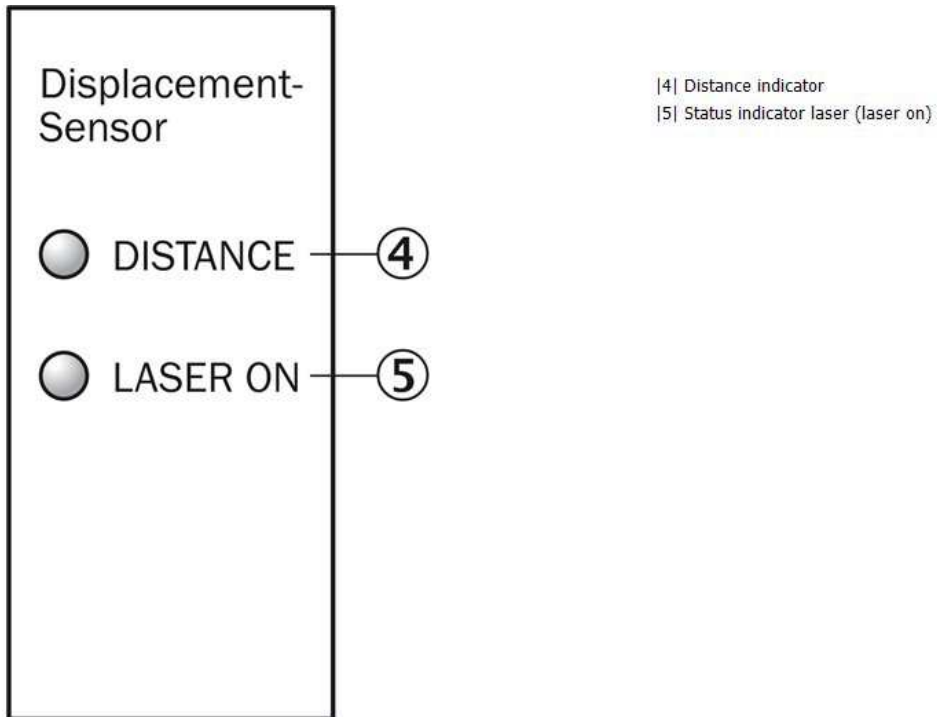
## Ambient data

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)
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: ≤ 3,000 lx, Sunlight: ≤ 10,000 lx

**Dimensional drawing**



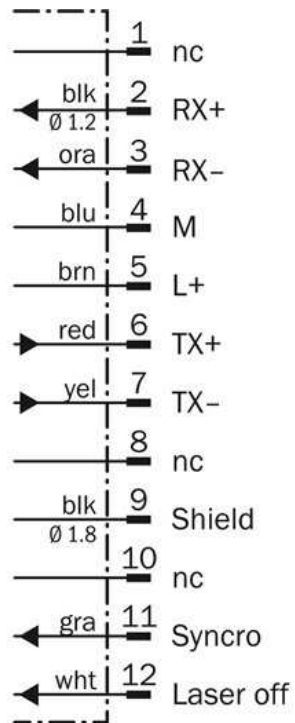
**Adjustment possible**



## Connection type

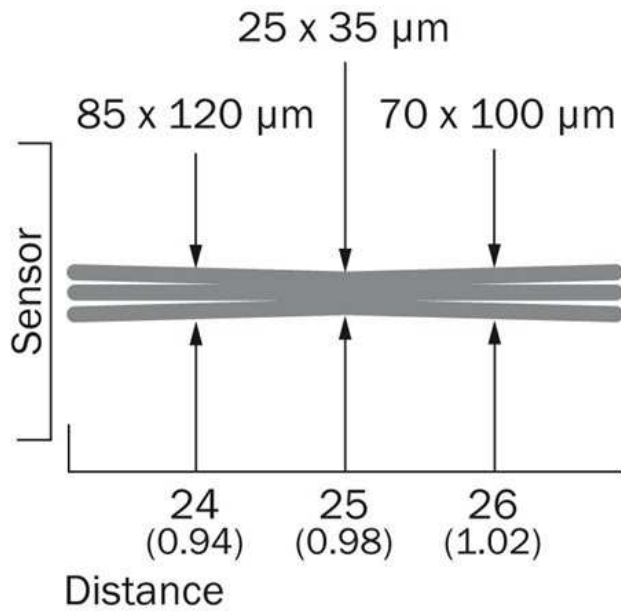


## Connection diagram



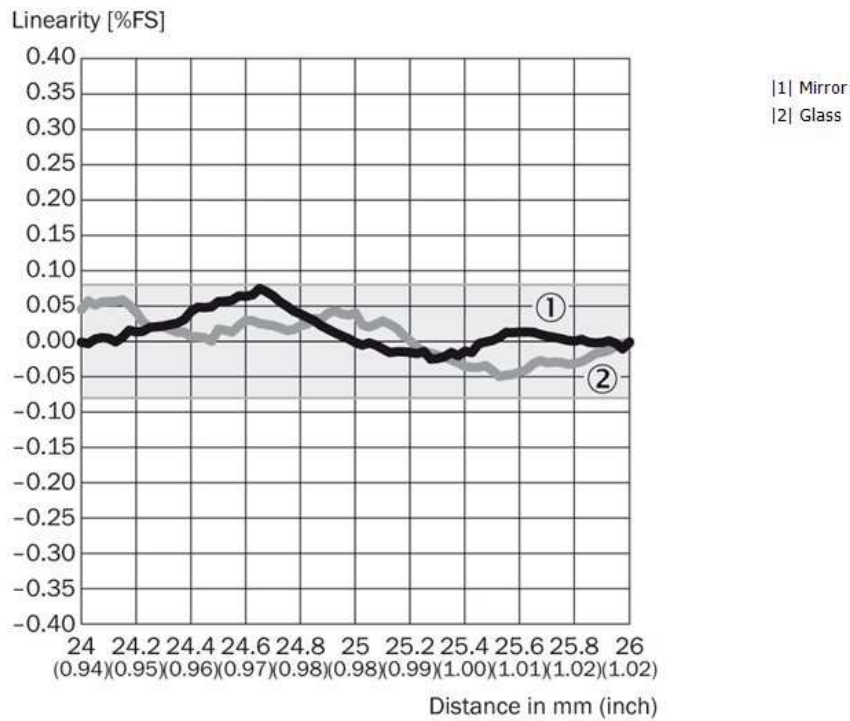
|1| not connected

## Light spot size



All dimensions in mm (inch)

## Linearity



**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)