



Short range distance sensors (displacement) OD Precision

OD5-25W01



Model Name > **OD5-25W01**
Part No. > **6035976**

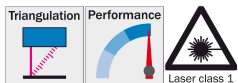


At a glance

- 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 ¹⁾ :	0.02 µm
Repeatability ²⁾ :	0.06 µm
Linearity ³⁾ :	± 1.6 µm
Response time ^{4), 5)} :	0.1 ms ⁶⁾
Measuring frequency:	10 kHz ⁶⁾
Light source:	Laser, red
Typ. light spot size (distance):	100 µm x 700 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) ⁷⁾
Output time:	≤ 0.1 ms

¹⁾ Measurement on 90 % remission (ceramic, white), for OD25-x measurement on mirror; averaging set to: 256, for OD25-x: 4096 ²⁾ Measurement on 90 % remission (ceramic, white), for OD25-x measurement on mirror; averaging set to: 256, for OD25-x: 4096; constant ambient conditions ³⁾ Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096 ⁴⁾ Time needed for automatic sensitivity adjustment is calculated as: sampling period x 20. At default setting 100 μs (10kHz) this is ≤ 2ms. ^{5) 6)} Default setting for OD5-350x100 and OD5-500x200 = 0.8 ms, 1.25 kHz likewise, all other types = 0.1 ms/10 kHz

⁷⁾ Wavelength: 650 nm, max. output: 390 μW

Interfaces

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

Mechanics/electronics

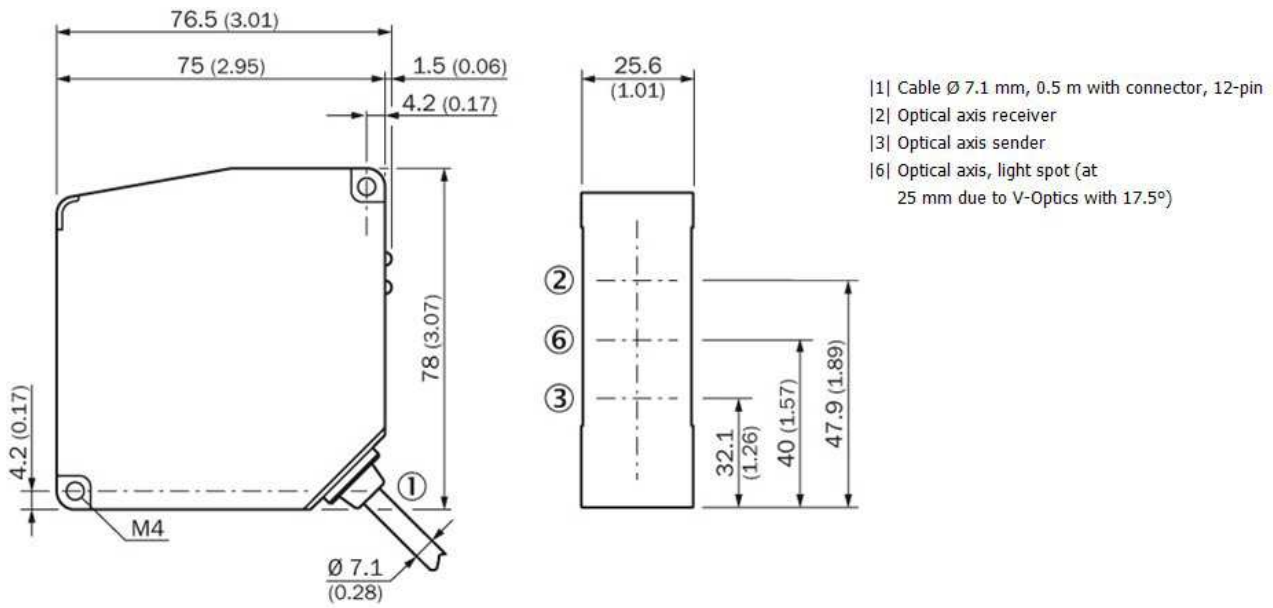
Electrical connection ¹⁾ :	0.5 m cable with connector
Supply voltage V_s ²⁾ :	DC 12 V ... 24 V
Warm-up time:	≤ 5 min
Indication:	LEDs, 4" color-display on optional controller unit
Weight ³⁾ :	250 g
Housing material:	Aluminum housing with glass lens

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

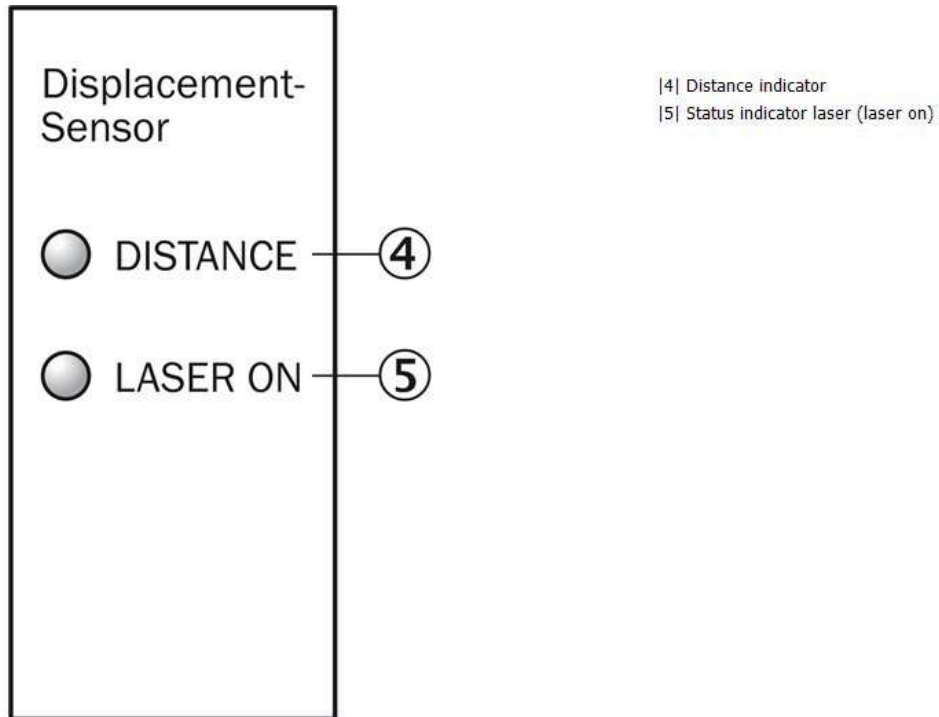
Ambient data

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



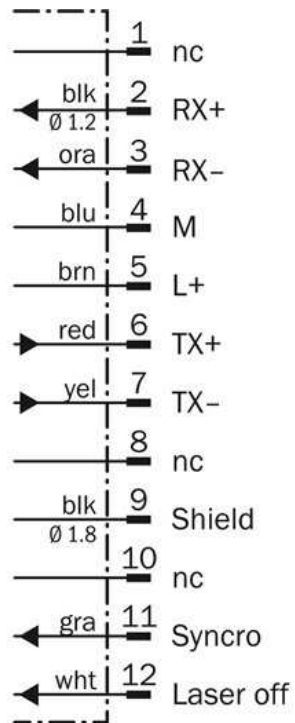
Adjustment possible



Connection type

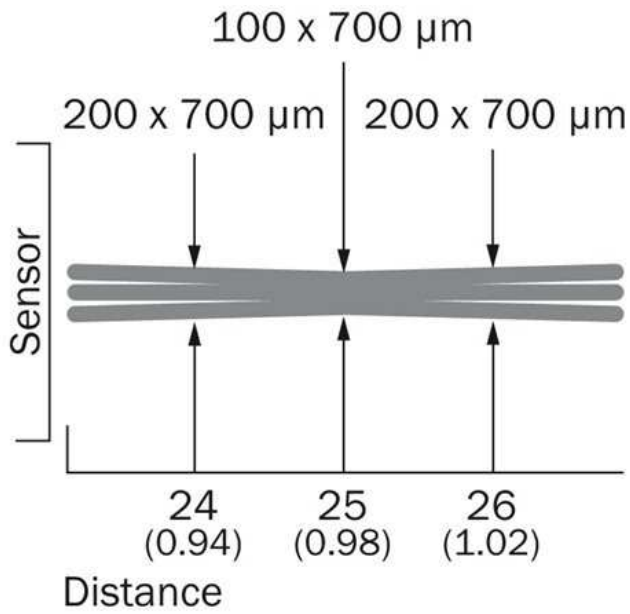


Connection diagram



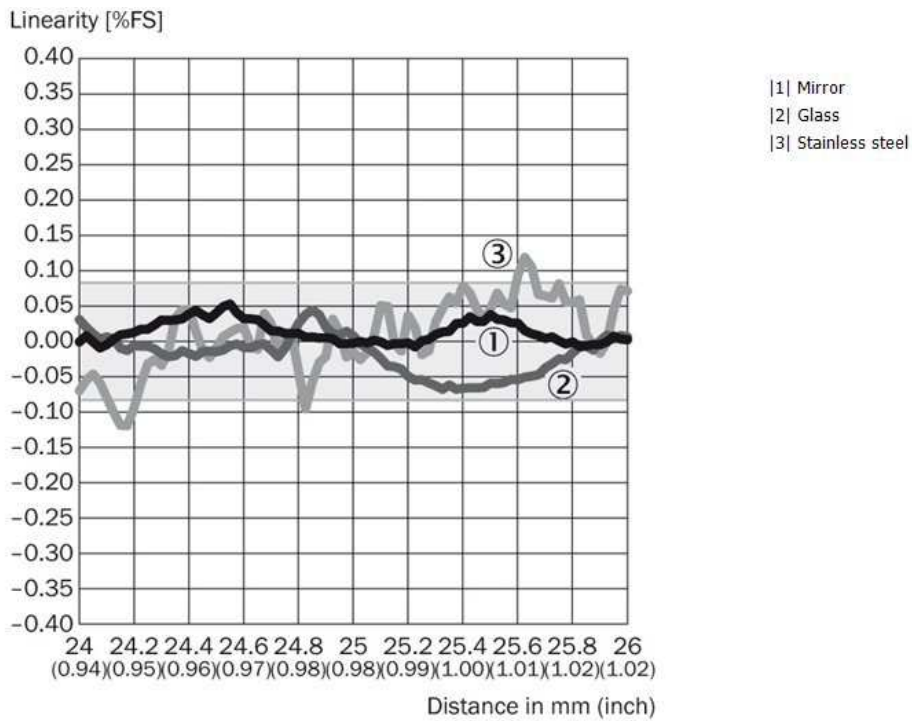
|1| not connected

Light spot size



All dimensions in mm (inch)

Linearity



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