



Short range distance sensors (displacement) OD Precision

OD5-150W40



Model Name > OD5-150W40
Part No. > 6049580

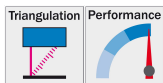


At a glance

- 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 ¹⁾ :	2 µm
Repeatability ²⁾ :	6 µm
Linearity ³⁾ :	± 40 µm
Response time ^{4), 5)} :	0.1 ms ⁶⁾
Measuring frequency:	10 kHz ⁶⁾
Light source:	Laser, red
Typ. light spot size (distance):	0.33 mm x 1.6 mm (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) ⁷⁾

Output time: 0.1 ms

^{1) 3)} Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096 ²⁾ Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096; constant ambient conditions ⁴⁾ Time needed for automatic sensitivity adjustment is calculated as: sampling period x 20. At default setting 100 μ s (10kHz) this is \leq 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: 655 nm, max. output: 1 mW

Interfaces

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

Mechanics/electronics

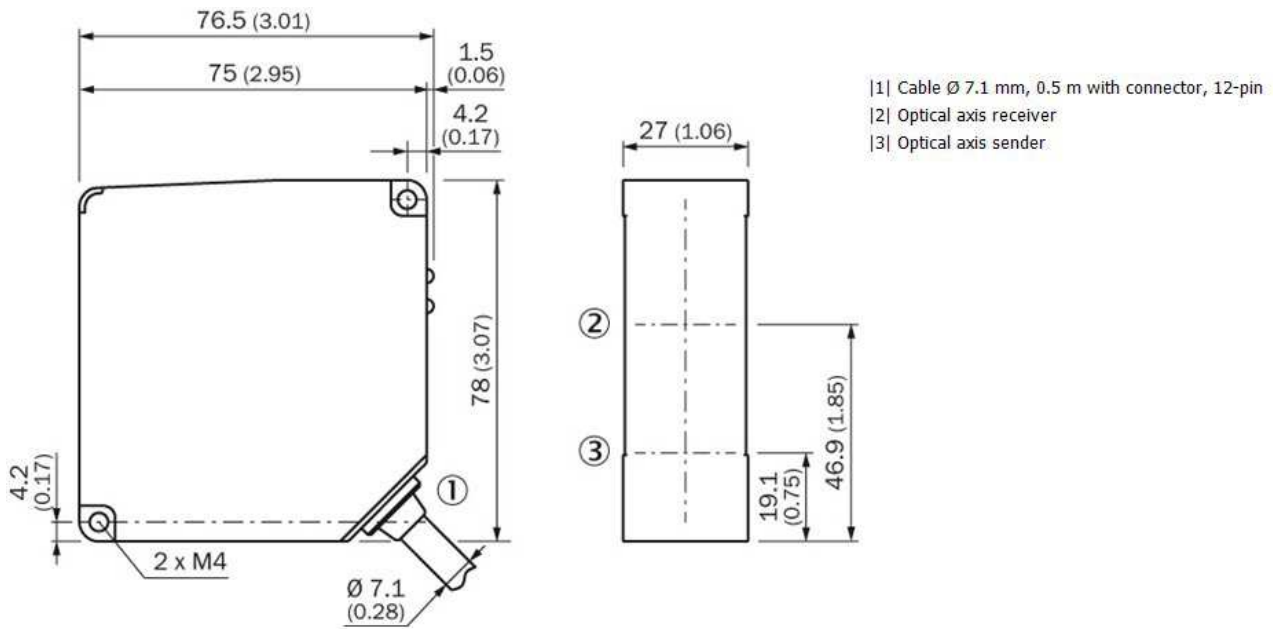
Electrical connection ¹⁾: 0.5 m cable with connector
Supply voltage V_s ²⁾: DC 12 V ... 24 V
Warm-up time: \leq 5 min
Indication: LEDs, 4" color-display on optional controller unit
Weight ³⁾: 250 g
Housing material: Aluminum housing with glass lens

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

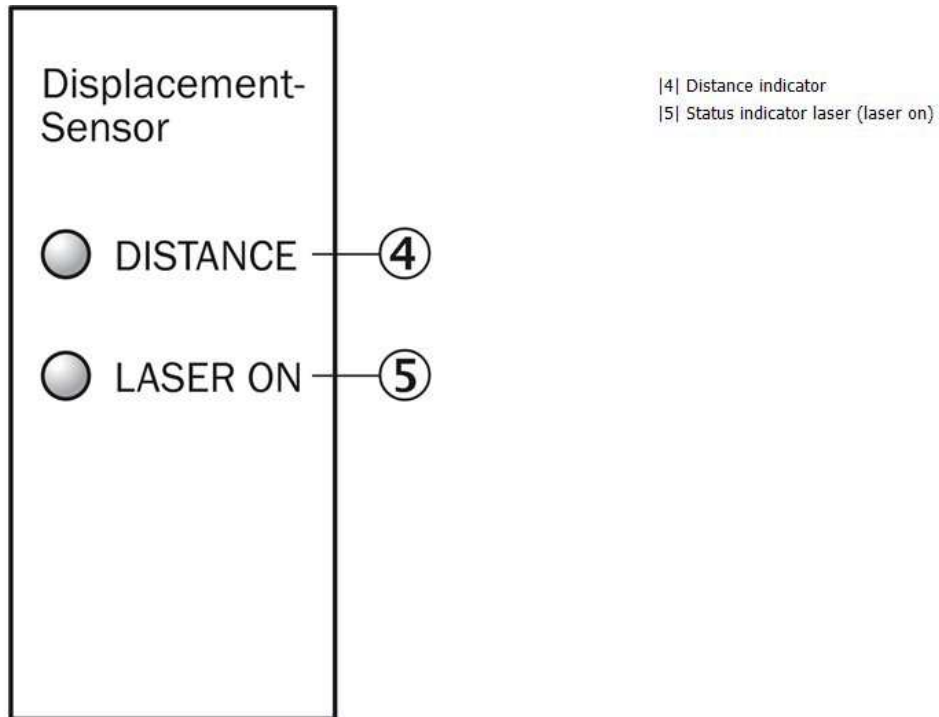
Ambient data

Enclosure rating: IP 67
Protection class: III
Ambient temperature: Operation: -10 ... +50 °C, Storage: -20 ... +60 °C
Temperature drift: \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



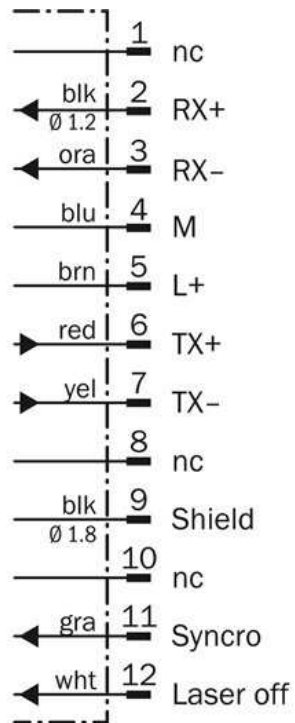
Adjustment possible



Connection type

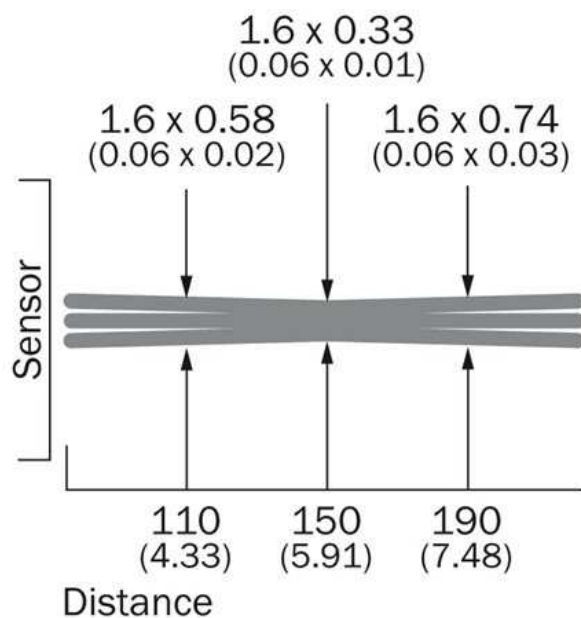


Connection diagram



|1| not connected

Light spot size



All dimensions in mm (inch)

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