

OD5-85W20

OD Precision

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
OD5-85W20	6035980

Other models and accessories → www.sick.com/OD_Precision



Detailed technical data

Features

System part	Sensor head
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Performance

Measuring range	65 mm ... 105 mm, 6 % ... 90 % remission; at default settings
Resolution	1 µm ¹⁾
Repeatability	3 µm ¹⁾
Linearity	± 20 µm ¹⁾
Response time	0.1 ms ^{2) 3)}
Measuring frequency	10 kHz ³⁾
Light source	Laser, red
Laser class	2 (EN 60825-1) ⁴⁾
Typ. light spot size (distance)	260 µm x 1,200 µm (85 mm)
Additional function	Mean-value setting 1 ... 4,096x, selectable measuring frequency (automatic / 0.1 ms ... 3.2 ms), automatic sensitivity adjustment, manual sensitivity adjustment, Mutual interference, Glass thickness measurement
Note	OD Precision sensor head can be used in combination with AOD5-P/N1 or stand-alone via RS-422

¹⁾ Measurement at 90% remission (ceramic, white), or mirror for OD5-25x; averaging set to: 256 or 4096 for OD5-25x; constant ambient conditions.

²⁾ Time needed for automatic sensitivity adjustment is calculated as: sampling period x 20. At default setting 100 µs (10kHz) this is <= 2ms.

³⁾ Default setting for OD5-350x100 and OD5-500x200 = 0.8 ms, or 1.25 kHz, all others = 0.1 ms/10 kHz.

⁴⁾ Wavelength: 655 nm, max. output: 1 mW.

Interfaces

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

Mechanics/electronics

Supply voltage V_s	DC 12 V ... 24 V ¹⁾
Warm-up time	≤ 5 min
Housing material	Aluminum housing with glass lens
Connection type	0.5 m cable with connector ²⁾
Indication	LEDs, 4" color display on optional evaluation unit

¹⁾ DC 12 V (-5 %) ... DC 24 V (+10 %)

²⁾ Can be extended to up to 50 m with extension cable.

³⁾ Includes 0.5 m cable.

Weight	250 g ³⁾
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1) DC 12 V (-5 %) ... DC 24 V (+10 %)

2) Can be extended to up to 50 m with extension cable.

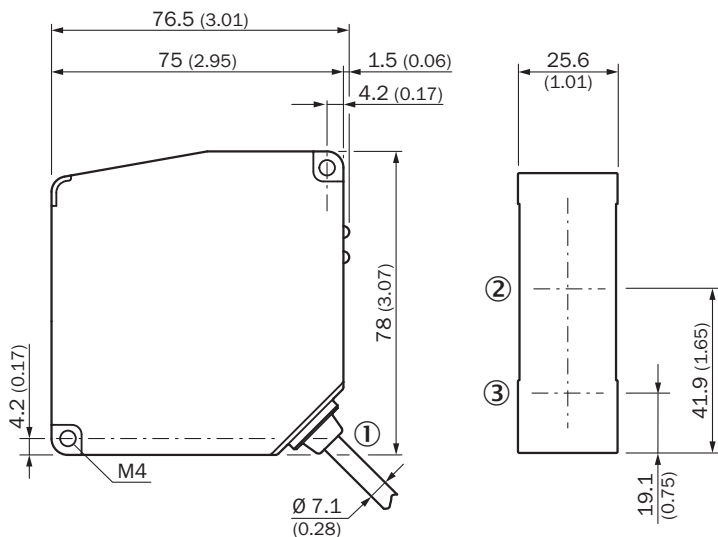
3) Includes 0.5 m cable.

Ambient data

Enclosure rating	IP 67
Protection class	III
Ambient temperature	Operation: -10 °C ... +50 °C Storage: -20 °C ... +60 °C
Relative air humidity (non-condensing)	35 % ... 85 %
Temperature drift	± 0.01 % FS/K (FS = Full Scale = Measuring range of sensor)
Typ. Ambient light immunity	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)

Dimensional drawing (Dimensions in mm (inch))

OD5-85xxx



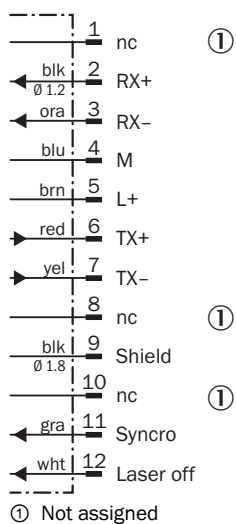
- ① Cable Ø 7.1 mm, 0.5 m with connector, 12-pin
- ② Optical axis receiver
- ③ Optical axis sender

Connection type

Hirose 12-pin male connector for sensor head

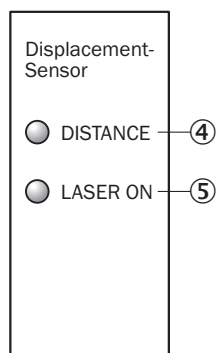


Connection diagram



Adjustment possible

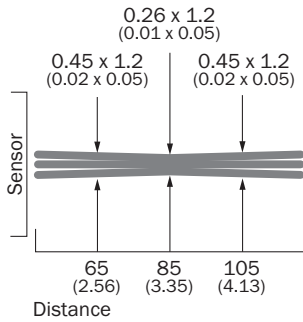
ODxx-xxxx



- ④ Distance indicator
- ⑤ Status indicator laser (laser on)

Light spot size

OD5-85W20

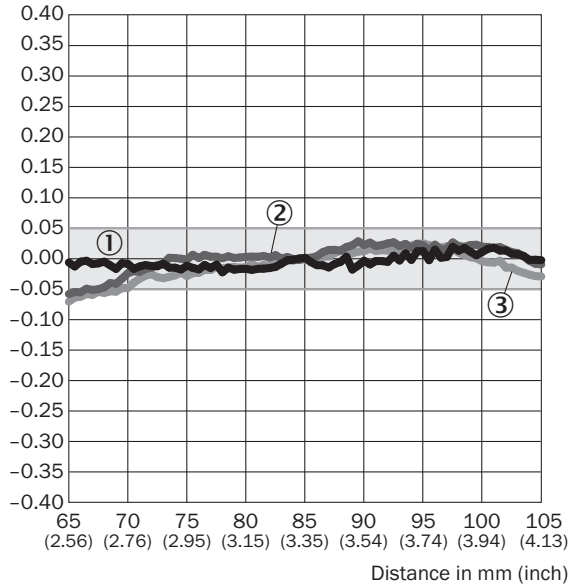


All dimensions in mm (inch)

Linearity

OD5-85W20

Linearity [%FS]



- ① White ceramic
- ② Stainless steel
- ③ Black rubber

Recommended accessories

Other models and accessories → www.sick.com/OD_Precision

	Brief description	Type	Part no.
	Plug connectors and cables		

	Brief description	Type	Part no.
	Head A: female connector, M12, 12-pin, straight Head B: cable Cable: PVC, shielded, 5 m For stand-alone operation	DOL-1212-G05M	6035988
	Head A: male connector, 50-pin, straight Head B: cable Cable: PVC, shielded, 3 m In- and output expansion cable for AOD5-P/N1 (OD Precision)	IO-EXP-AOD5	6035990
	Head A: female connector, M12, 12-pin, straight Head B: male connector, M12, 12-pin, straight Cable: RS-422, PVC, shielded, 2 m OD Precision specific	DSL-1212-G02M	6035986
	Head A: female connector, M12, 12-pin, straight Head B: male connector, M12, 12-pin, straight Cable: RS-422, PVC, shielded, 5 m OD Precision specific	DSL-1212-G05M	6035987
	Head A: male connector, 12-pin Head B: terminal connector, 12-pin Cable: unshielded Terminal strip for AOD5-P/N1 (OD Precision)	TERM.-AOD5	6035989

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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