

# OD5-350W100

OD Precision

DISPLACEMENT MEASUREMENT SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type        | Part no. |
|-------------|----------|
| OD5-350W100 | 6035981  |

Other models and accessories → [www.sick.com/OD\\_Precision](http://www.sick.com/OD_Precision)



### Detailed technical data

#### Features

|                    |             |
|--------------------|-------------|
| <b>System part</b> | Sensor head |
|--------------------|-------------|

#### Performance

|                                        |                                                                                                                                                                                                                    |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Measuring range</b>                 | 250 mm ... 450 mm, 6 % ... 90 % remission; at default settings                                                                                                                                                     |
| <b>Resolution</b>                      | 5 µm <sup>1)</sup>                                                                                                                                                                                                 |
| <b>Repeatability</b>                   | 15 µm <sup>1)</sup>                                                                                                                                                                                                |
| <b>Linearity</b>                       | ± 160 µm <sup>1)</sup>                                                                                                                                                                                             |
| <b>Response time</b>                   | 0.1 ms <sup>2) 3)</sup>                                                                                                                                                                                            |
| <b>Measuring frequency</b>             | 10 kHz <sup>3)</sup>                                                                                                                                                                                               |
| <b>Light source</b>                    | Laser, red                                                                                                                                                                                                         |
| <b>Laser class</b>                     | 2 (EN 60825-1) <sup>4)</sup>                                                                                                                                                                                       |
| <b>Typ. light spot size (distance)</b> | 700 µm x 2,400 µm (350 mm)                                                                                                                                                                                         |
| <b>Additional function</b>             | 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 |
| <b>Note</b>                            | OD Precision sensor head can be used in combination with AOD5-P/N1 or stand-alone via RS-422                                                                                                                       |

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

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

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

<sup>4)</sup> Wavelength: 655 nm, max. output: 1 mW.

#### Interfaces

|                        |               |
|------------------------|---------------|
| <b>Laser-off input</b> | 1 x laser-off |
| <b>Data interface</b>  | RS-422        |

#### Mechanics/electronics

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

<sup>1)</sup> DC 12 V (-5 %) ... DC 24 V (+10 %)

<sup>2)</sup> Can be extended to up to 50 m with extension cable.

<sup>3)</sup> Includes 0.5 m cable.

|               |                     |
|---------------|---------------------|
| <b>Weight</b> | 250 g <sup>3)</sup> |
|---------------|---------------------|

1) DC 12 V (-5 %) ... DC 24 V (+10 %)

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

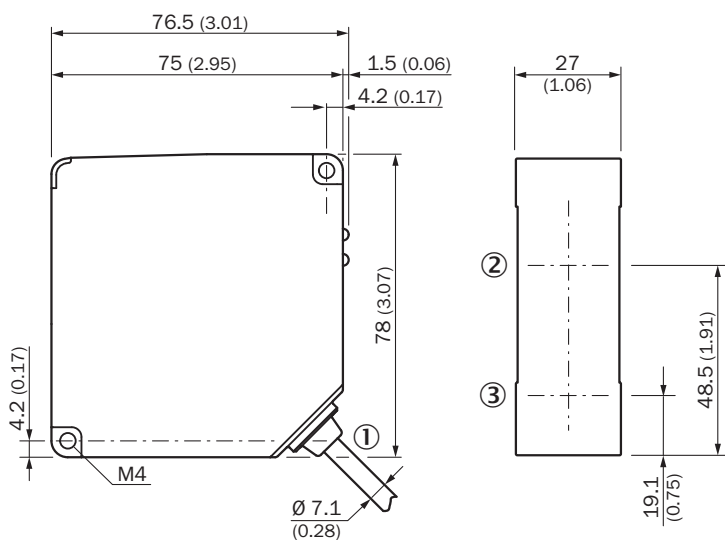
3) Includes 0.5 m cable.

### Ambient data

|                                               |                                                                 |
|-----------------------------------------------|-----------------------------------------------------------------|
| <b>Enclosure rating</b>                       | IP 67                                                           |
| <b>Protection class</b>                       | III                                                             |
| <b>Ambient temperature</b>                    | Operation: -10 °C ... +50 °C<br>Storage: -20 °C ... +60 °C      |
| <b>Relative air humidity (non-condensing)</b> | 35 % ... 85 %                                                   |
| <b>Temperature drift</b>                      | ± 0.01 % FS/K (FS = Full Scale = Measuring range of sensor)     |
| <b>Typ. Ambient light immunity</b>            | Artificial light: ≤ 3,000 lx<br>Sunlight: ≤ 10,000 lx           |
| <b>Vibration resistance</b>                   | 10 Hz ... 55 Hz (amplitude 1.5 mm, x-, y-, z-axis 2 hours each) |
| <b>Shock resistance</b>                       | 50 G (x, y, z axis 3 times each)                                |

### Dimensional drawing (Dimensions in mm (inch))

OD5-350xxxx



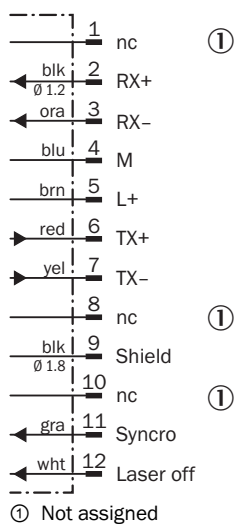
- ① Cable Ø 7.1 mm, 0.5 m with connector, 12-pin
- ② Optical axis receiver
- ③ Optical axis sender

### Connection type

Hirose 12-pin male connector for sensor head

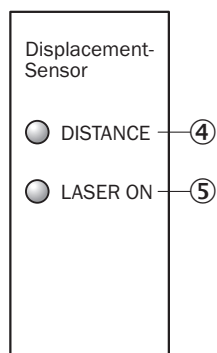


### Connection diagram



### Adjustment possible

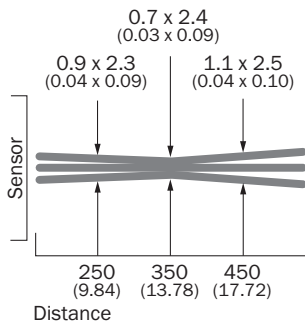
ODxx-xxxx



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

### Light spot size

OD5-350W100

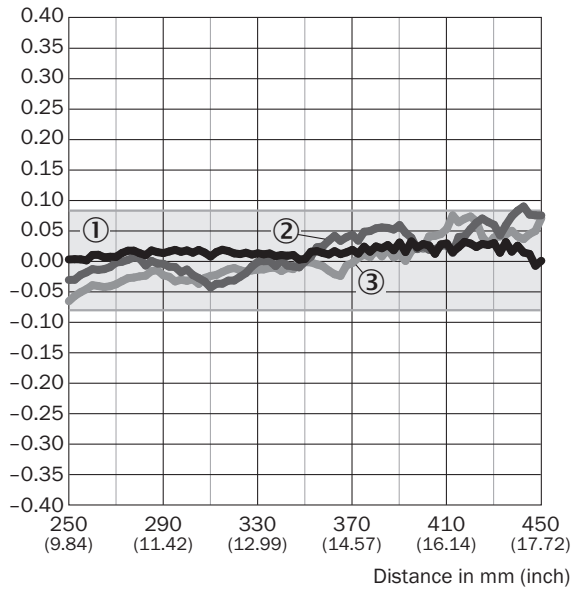


All dimensions in mm (inch)

### Linearity

OD5-350W100

Linearity [%FS]



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

### Recommended accessories

Other models and accessories → [www.sick.com/OD\\_Precision](http://www.sick.com/OD_Precision)

|  | Brief description          | Type | Part no. |
|--|----------------------------|------|----------|
|  | Plug connectors and cables |      |          |

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

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)