W16
The highflier in object detection
Advantages

Easy and quick sensor alignment using BluePilot

Using the innovative BluePilot alignment aid, the sensors in the W16 product family can be commissioned in seconds. The blue LED display provides direct feedback to assist you with optimally aligning the sensors and reflectors as well as senders and receivers. In the case of the photoelectric proximity sensors, a push-and-turn mechanism enables the sensor to be adjusted quickly and precisely, thereby eliminating the customary time-consuming fine adjustment using rotary controls.

BluePilot also reports any change in detection quality, e.g., due to contamination or vibrations, which ensures faults are detected in a timely manner, long before a production downtime occurs.

Faster, convenient start-up

Through-beam and photoelectric retro-reflective sensors
The blue LED alignment aid speeds up the process of optimally aligning the sensors and reflectors as well as senders and receivers. Any changes in the operational safety due to contamination or vibrations can be recognized at a glance.

Photoelectric retro-reflective sensor for detecting transparent objects
The appropriate detection mode for the object characteristics can be set by means of a rotary control. The LED display of the W16 and W26 indicates immediately what mode the sensor is in.

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With the new BluePilot operating concept, you will save valuable time commissioning the sensor, and avoid production downtimes thanks to the timely reporting of faults.
Rugged and reliable

The sensors from the W16 product family are particularly rugged and reliable.

If optical contamination exists on the sensor or reflector and after cleaning, the sensors automatically adjust their switching thresholds thanks to AutoAdapt, meaning they always keep a clear view. With the OptoFilter, the sensors see what they have to see: they are immune to LED lights, reflections from safety vests and the influence of depolarizing objects.

The sensors can also withstand many chemical, thermal and mechanical environmental influences thanks to the ultra-rugged VISTAL housing.

Everything reliably detected

Thanks to the OptoFilter, the sensors feature high ambient light immunity.

If there is contamination, the W16 sensors automatically adjust their switching thresholds.

Thanks to the VISTAL housing, the sensors can also withstand extreme loads.

The rugged design ensures high system availability and reduces downtimes.
Smart sensors for efficient machine communication

Smart Sensors provide essential input for every process chain. They support dynamic, real-time-optimized, and self-organized industry processes. The W16 range of smart sensors capture real-life situations, and generate and receive data and information beyond traditional switching signals or measured process parameters.

Link to www.sick.com/smart-sensors

From raw signals to customized information

Base logic: User-definable logic functions with trigger sensors and switching signal delays

Time measurement and debouncing with the aid of the Time Measurement and Debouncing Smart Task

W16 with the Counter and Debouncing Smart Task counts and evaluates detection signals

Interconnectivity and efficient processing of data ensure leaner structures and cost benefits for your process.
Technical data overview

<table>
<thead>
<tr>
<th>Dimensions (W x H x D)</th>
<th>20 mm x 55.7 mm x 42 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensing range max.</td>
<td>0 mm ... 600 mm (depending on type)</td>
</tr>
<tr>
<td>Light source</td>
<td>PinPoint LED</td>
</tr>
<tr>
<td>Type of light</td>
<td>Visible red light</td>
</tr>
<tr>
<td>Enclosure rating</td>
<td>IP66 (According to EN 60529)</td>
</tr>
<tr>
<td></td>
<td>IP67 (According to EN 60529)</td>
</tr>
<tr>
<td></td>
<td>IP69 (According to EN 60529)</td>
</tr>
<tr>
<td>Housing material</td>
<td>Plastic VISTAL®</td>
</tr>
</tbody>
</table>

1) Object with 90 % reflectance (referred to standard white, DIN 5033).
2) Replaces IP69K with ISO 20653: 2013-03.

Product description

The W16 is equipped with new technologies such as TwinEye, LineSpot, ClearSens and OptoFilter for reliable object detection. It can be quickly and conveniently adjusted via the BluePilot operating and display concept. Since every W16 is designed as a Smart Sensor, it can be configured to fit the application via IO-Link and offers additional diagnostic functions and Smart Tasks. It is therefore a trailblazer on the path to Industry 4.0. The highly-visible PinPoint LED and the infrared LED are available as the light source. The durable laser inscription ensures device identification in the long run. Thanks to the very rugged VISTAL® housing and the predictive maintenance, the W16 offers very high reliability and prevents unplanned machine downtimes.

At a glance

- Technologies: ClearSens, LineSpot, TwinEye with OptoFilter
- BluePilot: Optical alignment aid, adjustment of the sensing range via Teach-Turn adjustment with optical sensing range indicator or via IO-Link
- PinPoint LED: Light-intensive red sender LED
- Smart Sensor: Enhanced Sensing, IO-Link, Diagnostics, Smart Tasks

Your benefits

- Usability and uniform operation thanks to optical quality display on the housing or conveniently via IO-Link
- Simplification when aligning the light beam to the reflector, the receiver or to an object thanks to the highly-visible light spot of the PinPoint LED combined with the optical LED display
- Very high reliability thanks to new detection technologies as well as high optical ruggedness
- The Smart Sensor makes machine processes quicker, more efficient and transparent, enables predictive maintenance and is thereby a trailblazer for Industry 4.0 applications
Fields of application
- Packaging
- Food and beverage
- Handling and assembly
- Machine tools
- Storage and conveyor
- Rubber and plastics
- Wood
- Textile

Ordering information
Other models and accessories ➔ www.sick.com/W16
- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Foreground suppression
- **Switching output:** PUSH/PULL, PNP, NPN

<table>
<thead>
<tr>
<th>Sensing range max.</th>
<th>Switching mode</th>
<th>Light source</th>
<th>Type of light</th>
<th>Connection type</th>
<th>Setting Method</th>
<th>Type</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 mm ... 250 mm</td>
<td>Dark/light switching</td>
<td>PinPoint LED</td>
<td>Visible red light</td>
<td>Male connector M12, 4-pin</td>
<td>BluePilot: for setting the sensing range</td>
<td>WTF16P-24162620A00</td>
<td>1113469</td>
</tr>
<tr>
<td>0 mm ... 400 mm</td>
<td>Light/dark switching</td>
<td>PinPoint LED</td>
<td>Visible red light</td>
<td>Male connector M12, 4-pin</td>
<td>BluePilot: for setting the sensing range</td>
<td>WTF16P-24161220A00</td>
<td>1113467</td>
</tr>
<tr>
<td>0 mm ... 600 mm</td>
<td>Light/dark switching</td>
<td>PinPoint LED</td>
<td>Visible red light</td>
<td>Male connector M12, 4-pin</td>
<td>BluePilot: for setting the sensing range</td>
<td>WTF16P-24161420A00</td>
<td>1113468</td>
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**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)