



# WL2000-R1305

W2000

**COMPACT PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



## Ordering information

| Type         | Part no. |
|--------------|----------|
| WL2000-R1305 | 7023274  |

Illustration may differ



## Detailed technical data

### Features

|                                        |                                       |
|----------------------------------------|---------------------------------------|
| <b>Sensor/ detection principle</b>     | Photoelectric retro-reflective sensor |
| <b>Dimensions (W x H x D)</b>          | 45 mm x 73.7 mm x 48.6 mm             |
| <b>Housing design (light emission)</b> | Rectangular                           |
| <b>Sensing range max.</b>              | 0 m ... 15 m <sup>1)</sup>            |
| <b>Sensing range</b>                   | 0 m ... 15 m <sup>1)</sup>            |
| <b>Type of light</b>                   | Visible red light                     |
| <b>Light source</b>                    | LED <sup>2)</sup>                     |
| <b>Light spot size (distance)</b>      | Ø 320 mm (14 m)                       |
| <b>Angle of dispersion</b>             | Approx. 1.3°                          |
| <b>Wave length</b>                     | 660 nm                                |
| <b>Adjustment</b>                      | Potentiometer                         |

<sup>1)</sup> Reflector PL80A.

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

### Mechanics/electronics

|                                              |                                          |
|----------------------------------------------|------------------------------------------|
| <b>Supply voltage</b>                        | 24 V AC/DC ... 240 V AC/DC <sup>1)</sup> |
| <b>Power consumption</b>                     | ≤ 6 W <sup>2)</sup>                      |
| <b>Switching output</b>                      | Relay, electrically isolated             |
| <b>Output function</b>                       | Change-over contacts                     |
| <b>Switching mode</b>                        | Light/dark switching                     |
| <b>Switching mode selector</b>               | Selectable via light/dark selector       |
| <b>Switching current (switching voltage)</b> | 3 A (265 V)                              |
| <b>Response time</b>                         | ≤ 10 ms <sup>3)</sup>                    |
| <b>Switching frequency</b>                   | 10 Hz <sup>4)</sup>                      |

<sup>1)</sup> Limit values.

<sup>2)</sup> Without load.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Do not bend below 0 °C.

<sup>6)</sup> Reference voltage: 50 V DC.

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|                                      |                                        |
|--------------------------------------|----------------------------------------|
| <b>Connection type</b>               | Cable, 5-wire, 5 m <sup>5)</sup>       |
| <b>Cable material</b>                | PVC                                    |
| <b>Protection class</b>              | II <sup>6)</sup>                       |
| <b>Weight</b>                        | 150 g                                  |
| <b>Polarisation filter</b>           | ✓                                      |
| <b>Housing material</b>              | Plastic, Glassfibre reinforced plastic |
| <b>Enclosure rating</b>              | IP67                                   |
| <b>Ambient operating temperature</b> | -25 °C ... +40 °C                      |
| <b>Ambient storage temperature</b>   | -40 °C ... +70 °C                      |
| <b>UL File No.</b>                   | 242366 & cUL No. NRKH7.E147756         |

1) Limit values.

2) Without load.

3) Signal transit time with resistive load.

4) With light/dark ratio 1:1.

5) Do not bend below 0 °C.

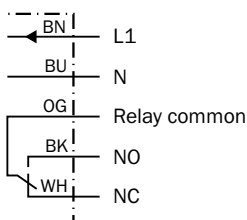
6) Reference voltage: 50 V DC.

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECI@ss 5.0</b>     | 27270902 |
| <b>ECI@ss 5.1.4</b>   | 27270902 |
| <b>ECI@ss 6.0</b>     | 27270902 |
| <b>ECI@ss 6.2</b>     | 27270902 |
| <b>ECI@ss 7.0</b>     | 27270902 |
| <b>ECI@ss 8.0</b>     | 27270902 |
| <b>ECI@ss 8.1</b>     | 27270902 |
| <b>ECI@ss 9.0</b>     | 27270902 |
| <b>ECI@ss 10.0</b>    | 27270902 |
| <b>ECI@ss 11.0</b>    | 27270902 |
| <b>ETIM 5.0</b>       | EC002717 |
| <b>ETIM 6.0</b>       | EC002717 |
| <b>ETIM 7.0</b>       | EC002717 |
| <b>UNSPSC 16.0901</b> | 39121528 |

## Connection diagram

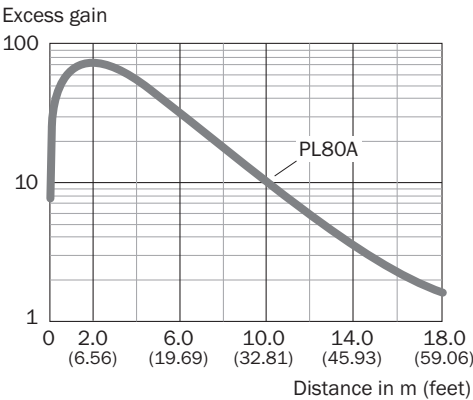
Cd-165



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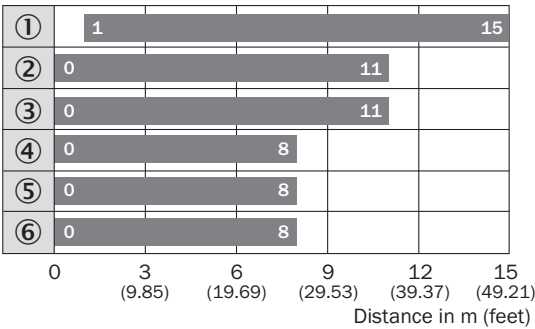
Characteristic curve

WL2000



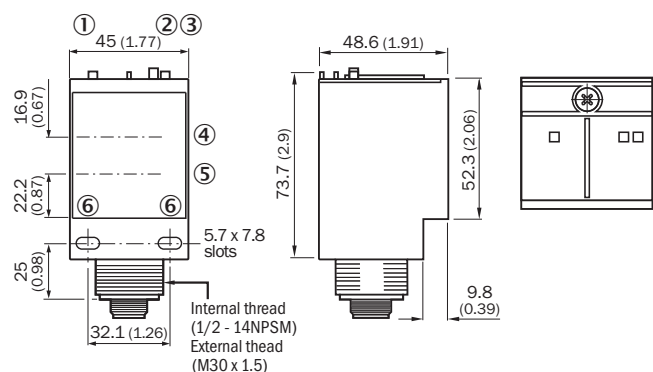
Sensing range diagram

WL2000



- Sensing range
- ① Reflector PL80A
  - ② Reflector PL50A
  - ③ Reflector PL40A
  - ④ Reflector PL30A
  - ⑤ Reflector PL20A
  - ⑥ Reflective tape Diamond Grade

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



- ① LED indicator green: Supply voltage active
- ② Status indicator LED red: signal strength
- ③ Status indicator LED, yellow: Output active
- ④ Center of emitter optical axis
- ⑤ Center of receiver optical axis
- ⑥ Mounting hole  $\varnothing$  0.2 mm x 0.8 mm

## Recommended accessories

|                                                                                     | Brief description                                                                             | Type        | Part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------|----------|
| Mounting brackets and plates                                                        |                                                                                               |             |          |
|  | Universal mounting bracket for reflectors, steel, zinc coated                                 | BEF-WN-REFX | 2064574  |
| Plug connectors and cables                                                          |                                                                                               |             |          |
|  | Head A: male connector, M12, 5-pin, straight<br>Cable: unshielded<br>For field bus technology | STE-1205-G  | 6022083  |
| Reflectors                                                                          |                                                                                               |             |          |
|  | Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting             | P250        | 5304812  |

## 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."**

**SICK**  
Sensor Intelligence.