



# WT2000-B5140

W2000

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
WT2000-B5140	7023393

Other models and accessories → [www.sick.com/W2000](http://www.sick.com/W2000)

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity 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 ... 3.5 m <sup>1)</sup>
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<b>Focus</b>	Approx. 1.3°
<b>Type of light</b>	Infrared light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 55 mm (2.5 m)
<b>Angle of dispersion</b>	Approx. 1.3°
<b>Wave length</b>	880 nm
<b>Adjustment</b>	Potentiometeradjustable via sensitivity adjustment

<sup>1)</sup> Object with 90% remission (based on standard white, DIN 5033).

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

#### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sup>2)</sup>
<b>Current consumption</b>	80 mA <sup>3)</sup>
<b>Switching output</b>	PNP NPN
<b>Output function</b>	Complementary

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

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> Adjustable via Off delay selector switch.

<sup>7)</sup> Adjustable via On delay selector switch.

<sup>8)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

<sup>11)</sup> Reference voltage: 50 V DC.

<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark selector
<b>Signal voltage PNP HIGH/LOW</b>	Approx. $V_S - 2.0\text{ V} / 0\text{ V}$
<b>Output current <math>I_{\text{max}}</math></b>	$\leq 100\text{ mA}$
<b>Response time</b>	$\leq 1\text{ ms}$ <sup>4)</sup>
<b>Switching frequency</b>	500 Hz <sup>5)</sup>
<b>Time functions</b>	Off delay <sup>6)</sup> On delay <sup>7)</sup>
<b>Delay time</b>	$\leq 0\text{ s}$ $\leq 1\text{ s}$ $\leq 3\text{ s}$ $\leq 10\text{ s}$ $\leq 14\text{ s}$
<b>Connection type</b>	Male connector M12, 5-pin
<b>Circuit protection</b>	A <sup>8)</sup> C <sup>9)</sup> D <sup>10)</sup>
<b>Protection class</b>	II <sup>11)</sup>
<b>Weight</b>	150 g
<b>Alarm output</b>	PNP
<b>Housing material</b>	Plastic, Glassfibre reinforced plastic
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-25 °C ... +40 °C
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C
<b>UL File No.</b>	242366 & cUL No. NRKH7.E147756

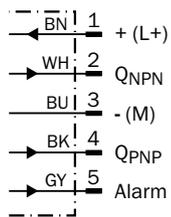
- 1) Limit values.
- 2) May not exceed or fall below  $U_V$  tolerances.
- 3) Without load.
- 4) Signal transit time with resistive load.
- 5) With light/dark ratio 1:1.
- 6) Adjustable via Off delay selector switch.
- 7) Adjustable via On delay selector switch.
- 8) A =  $V_S$  connections reverse-polarity protected.
- 9) C = interference suppression.
- 10) D = outputs overcurrent and short-circuit protected.
- 11) Reference voltage: 50 V DC.

## Classifications

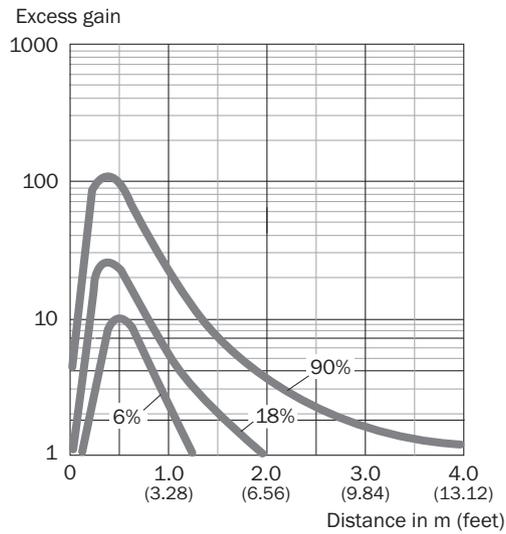
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<b>ECLASS 8.0</b>	27270904
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<b>ECLASS 9.0</b>	27270904

<b>ECLASS 10.0</b>	27270904
<b>ECLASS 11.0</b>	27270904
<b>ECLASS 12.0</b>	27270903
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
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<b>UNSPSC 16.0901</b>	39121528

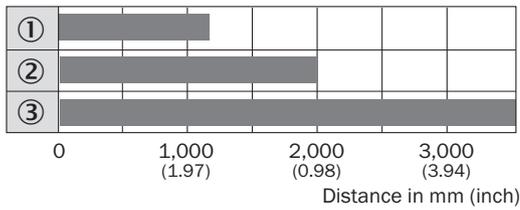
### Connection diagram Cd-154



### Characteristic curve WT2000

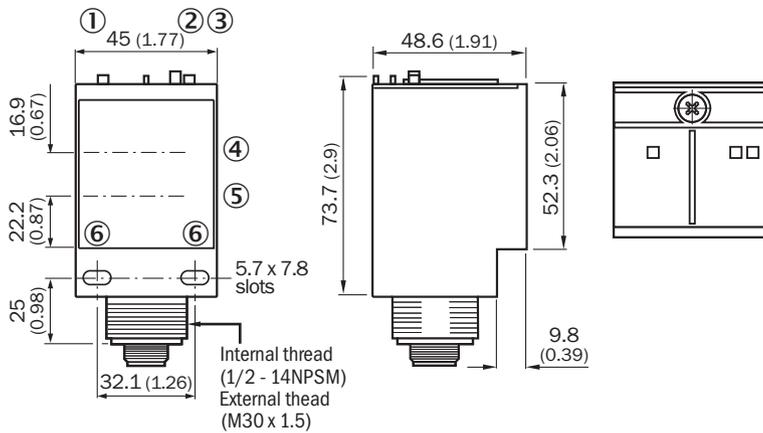


### Sensing range diagram WT2000



- Sensing range
- ① sensing range on black, 6% remission
- ② Sensing range on gray, 18% remission
- ③ sensing range on white, 90% remission

### 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

## 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:

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