



WL45-R660

W45

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|-----------|----------|
| WL45-R660 | 1008832 |

Other models and accessories → www.sick.com/W45

Illustration may differ



Detailed technical data

Features

| | |
|--|--|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | With minimum distance to reflector (dual lens system) |
| Dimensions (W x H x D) | 60 mm x 105 mm x 105 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 1 m ... 55 m ¹⁾ |
| Sensing range | 1 m ... 45 m ¹⁾ |
| Type of light | Visible red light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 230 mm (16 m) |
| Adjustment | Potentiometer |
| Special features | Light switching (pre-setting) Very small light spot and very long sensing range |

¹⁾ OP60-00.

²⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

| | |
|-------------------------------------|--|
| Supply voltage U_B | 20 V AC/DC ... 250 V AC/DC ¹⁾ |
| Power consumption | ≤ 6 VA |

¹⁾ Limit values.

²⁾ Provide suitable spark suppression for inductive or capacitive loads.

³⁾ With light/dark ratio 1:1.

⁴⁾ A = V_S connections reverse-polarity protected.

⁵⁾ C = interference suppression.

⁶⁾ Up to 140 °C with cooling plates (see accessories).

| | |
|--|---|
| Switching output | Relay, electrically isolated ²⁾ |
| Output function | Change-over contacts |
| Switching mode | Light/dark switching ²⁾ |
| Switching mode selector | Selectable via time delay selector switch |
| Switching current (switching voltage) | 4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 120 V DC UL: 4 A @ 250 V AC, general purpose / 2 A @ 250 V AC, pilot duty |
| Response time | ≤ 20 ms |
| Switching frequency | 10 Hz ³⁾ |
| Time functions | Switch-on delay Off delay ON and OFF delay |
| Delay time | Adjustable via time delay selector switch, 0.5 s ... 12 s |
| Connection type | Connector Hirschmann, 6-pin |
| Circuit protection | A ⁴⁾ C ⁵⁾ |
| Protection class | I |
| Weight | 800 g |
| Polarisation filter | ✓ |
| Housing material | Metal |
| Enclosure rating | IP65 |
| Usage category | AC-15, DC-13 According to EN 60947-1 |
| Ambient operating temperature | -25 °C ... +55 °C ⁶⁾ |
| Ambient temperature, storage | -40 °C ... +70 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

¹⁾ Limit values.

²⁾ Provide suitable spark suppression for inductive or capacitive loads.

³⁾ With light/dark ratio 1:1.

⁴⁾ A = V_S connections reverse-polarity protected.

⁵⁾ C = interference suppression.

⁶⁾ Up to 140 °C with cooling plates (see accessories).

Certificates

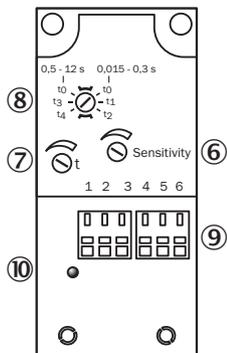
| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| CCC certificate | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |

Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270902 |
| ECLASS 5.1.4 | 27270902 |

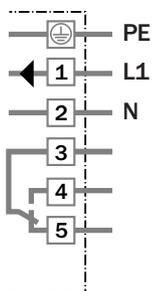
| | |
|-----------------------|----------|
| ECLASS 6.0 | 27270902 |
| ECLASS 6.2 | 27270902 |
| ECLASS 7.0 | 27270902 |
| ECLASS 8.0 | 27270902 |
| ECLASS 8.1 | 27270902 |
| ECLASS 9.0 | 27270902 |
| ECLASS 10.0 | 27270902 |
| ECLASS 11.0 | 27270902 |
| ECLASS 12.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| ETIM 8.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

Adjustments

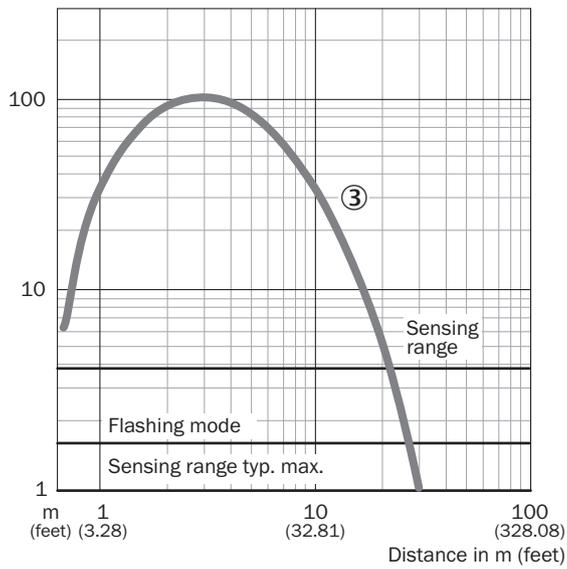


- ⑥ sensitivity control
- ⑦ Time control
- ⑧ time delay selector switch
- ⑨ terminal strip
- ⑩ Status indicator

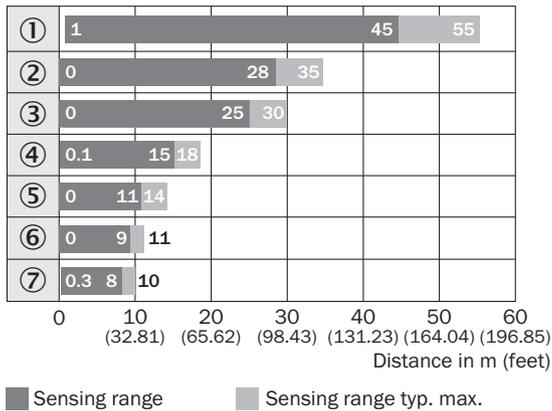
Connection diagram



Characteristic curve



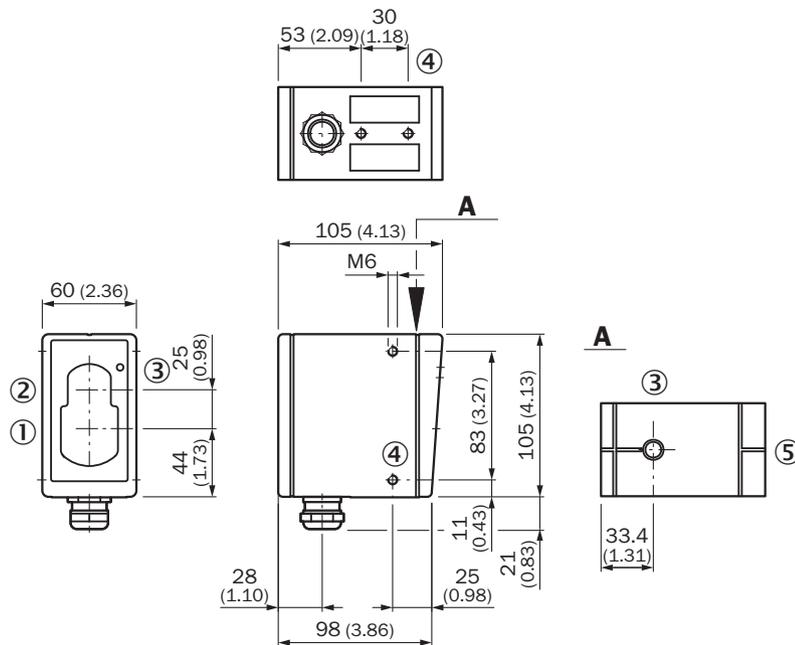
Sensing range diagram



Reflector type

- ① OP60 ... ∞
- ② 4 x PL80
- ③ PL80A
- ④ C110
- ⑤ PL50
- ⑥ PL30
- ⑦ Reflective tape
Diamond Grade

Dimensional drawing



Dimensions in mm (inch)

- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ LED signal strength indicator
- ④ M6 threaded mounting hole, 8 mm deep
- ⑤ Alignment sight

Recommended accessories

Other models and accessories → www.sick.com/W45

| | Brief description | Type | part no. |
|---|---|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M26, 7-pin, straight, A-coded Description: Unshielded Connection systems: Crimp contacts Permitted cross-section: 0.5 mm² ... 1.5 mm² Note: 7 crimping contacts enclosed | DOS-0607G000GA3KMC | 6006612 |
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Mounting bracket Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included | BEF-WN-W45 | 2011480 |

| | Brief description | Type | part no. |
|---|--|-------|----------|
| reflectors and optics | | | |
|  | <ul style="list-style-type: none"> • Description: Rectangular, screw connection • Dimensions: 84 mm 84 mm • Ambient operating temperature: -30 °C ... +65 °C | PL80A | 1003865 |

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