



WS/WE34-V540

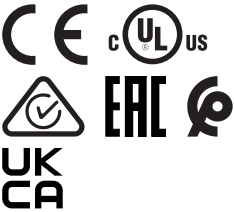
W34

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|--------------|----------|
| WS/WE34-V540 | 1019252 |

Other models and accessories → www.sick.com/W34

Detailed technical data

Features

| | |
|---------------------------------|-----------------------------------|
| Functional principle | Through-beam photoelectric sensor |
| Dimensions (W x H x D) | 27 mm x 92 mm x 70 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 m ... 60 m |
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| Focus | Approx. 1° |
| Type of light | Visible red light |
| Light source | LED ¹⁾ |
| Light spot size (distance) | Ø 700 mm (50 m) |
| Angle of dispersion | Approx. 1° |
| Wave length | 660 nm |
| Adjustment | Potentiometer |
| Alarm output | ✓ |

¹⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

| | |
|---|---|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} ²⁾ |
| Power consumption, sender | 50 mA |
| Power consumption, receiver | 40 mA |
| Switching output | NPN, PNP |
| Switching mode | Light switching, Dark switching |
| Switching mode selector | Selectable via PNP/NPN selector, selectable via light/dark selector |
| Output current I_{max} | ≤ 100 mA |
| Response time | ≤ 500 μs ³⁾ |
| Switching frequency | 1,000 Hz ⁴⁾ |
| Angle of reception | Approx. 2.5 ° |
| Time functions | Off delay Switch-on delay Adjustable |
| Delay time | Adjustable via time delay selector switch, 0.5 s ... 10 s |
| Connection type | Plug, M12, 5-pin |
| Circuit protection | A ⁵⁾ C ⁶⁾ D ⁷⁾ |
| Protection class | II ⁸⁾ |
| Weight | 280 g |
| Housing material | Plastic, ABS |
| Enclosure rating | IP67 |
| Test input sender off | TE to 0 V |
| Ambient operating temperature | -40 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |
| Part number of individual components | 2022814 WE34-V540 2022822 WS34-D540 |

¹⁾ Limit values.

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ D = outputs overcurrent and short-circuit protected.

⁸⁾ Reference voltage: 50 V DC.

Safety-related parameters

| | |
|-------------------------------------|-----------|
| MTTF_D | 311 years |
| DC_{avg} | 0 % |
| T_M (mission time) | 20 years |

Certificates

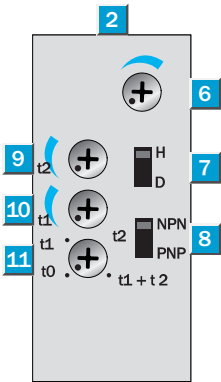
| | |
|-------------------------------------|---|
| EU declaration of conformity | ✓ |
|-------------------------------------|---|

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

Classifications

| | |
|----------------|----------|
| ECLASS 5.0 | 27270901 |
| ECLASS 5.1.4 | 27270901 |
| ECLASS 6.0 | 27270901 |
| ECLASS 6.2 | 27270901 |
| ECLASS 7.0 | 27270901 |
| ECLASS 8.0 | 27270901 |
| ECLASS 8.1 | 27270901 |
| ECLASS 9.0 | 27270901 |
| ECLASS 10.0 | 27270901 |
| ECLASS 11.0 | 27270901 |
| ECLASS 12.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| ETIM 7.0 | EC002716 |
| ETIM 8.0 | EC002716 |
| UNSPSC 16.0901 | 39121528 |

Adjustments



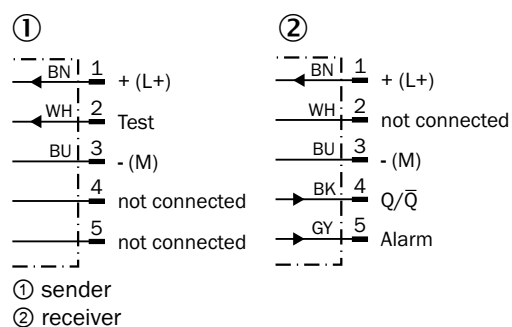
- ② LED signal strength indicator
- ⑥ sensitivity control
- ⑦ Light/dark selector
- ⑧ NPN/PNP changeover switch
- ⑨ time control t_2 = OFF delay

- ⑩ time control t_1 = ON delay
- ⑪ Status indicator

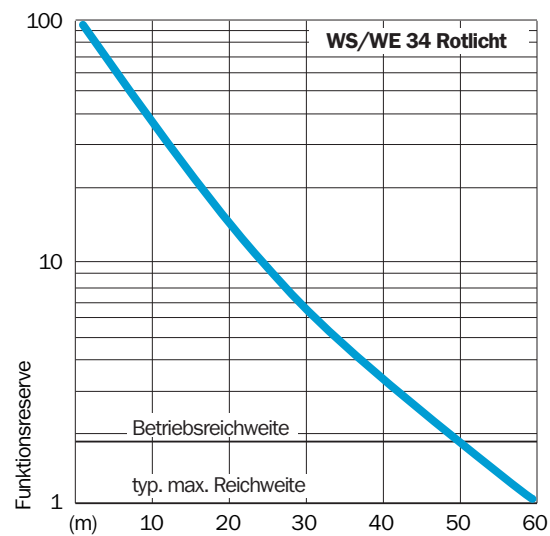
Connection type



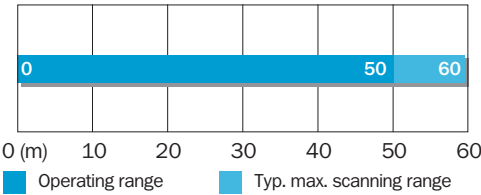
Connection diagram Cd-119



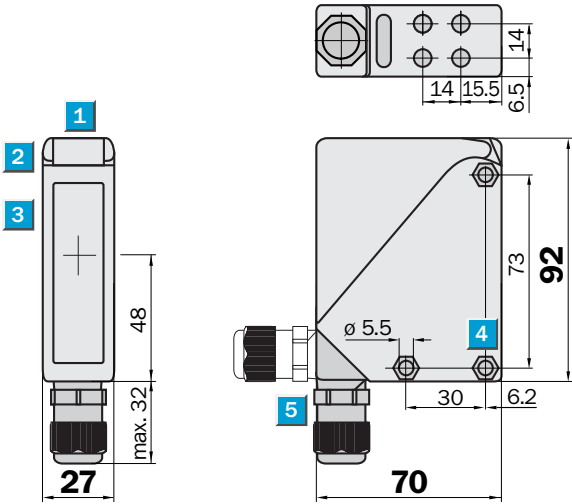
Characteristic curve



Sensing range diagram



Dimensional drawing




Dimensions in mm (inch)

- ① Alignment sight
- ② LED signal strength indicator
- ③ Center of optical axis
- ④ Mounting hole \varnothing 5.5 mm, for M5 hexagon nuts on both sides
- ⑤ M16 screw fixing rotatable by 90°

Recommended accessories

Other models and accessories → www.sick.com/W34

| | Brief description | Type | part no. |
|---|--|------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none">• Description: Mounting bracket• Material: Stainless steel• Details: Stainless steel (1.4301)• Items supplied: Mounting hardware included• Suitable for: W24-2, W34 | BEF-WN-W24 | 2015248 |

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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.”

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