



WS/WE34-V540

W34

COMPACT 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

Device type	Photoelectric sensors
Sensor/ detection 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
Sensing range	0 m ... 60 m
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_J = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾

¹⁾ Limit values.

²⁾ May not exceed or fall below 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.

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	$\leq 500 \mu\text{s}$ ³⁾
Switching frequency	1,000 Hz ⁴⁾
Angle of reception	Approx. 2.5°
Time functions	Off delay On delay Adjustable
Delay time	Adjustable via time delay selector switch, 0.5 s ... 10 s
Connection type	Male connector 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 exceed or fall below 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

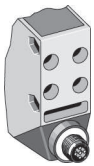
MTTF_D	311 years
DC_{avg}	0 %
T_M (mission time)	20 years

Classifications

ECl@ss 5.0	27270901
ECl@ss 5.1.4	27270901
ECl@ss 6.0	27270901

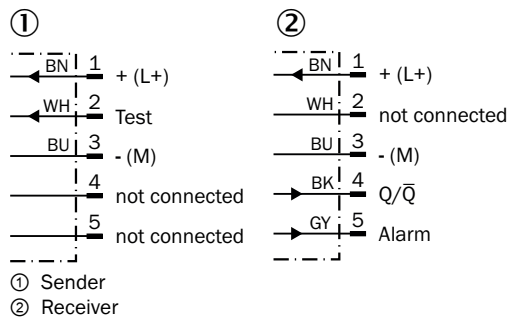
ECl@ss 6.2	27270901
ECl@ss 7.0	27270901
ECl@ss 8.0	27270901
ECl@ss 8.1	27270901
ECl@ss 9.0	27270901
ECl@ss 10.0	27270901
ECl@ss 11.0	27270901
ECl@ss 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection type

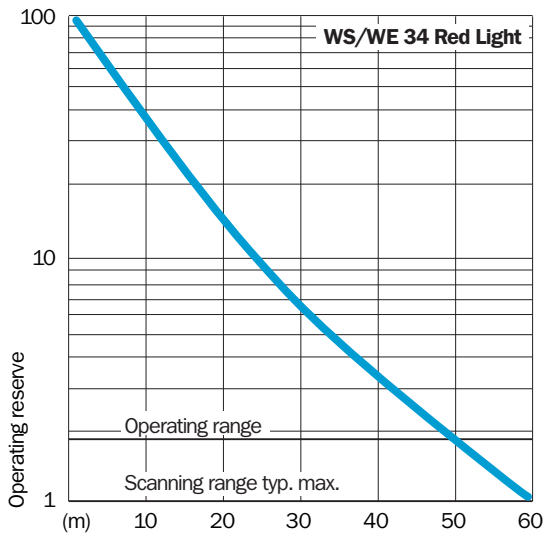


Connection diagram

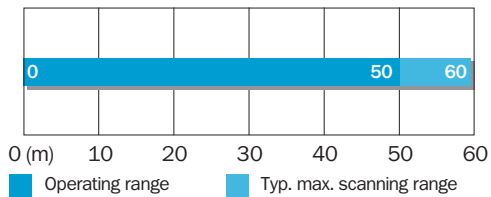
Cd-119



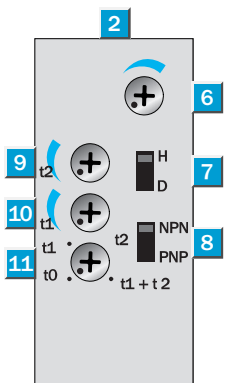
Characteristic curve



Sensing range diagram

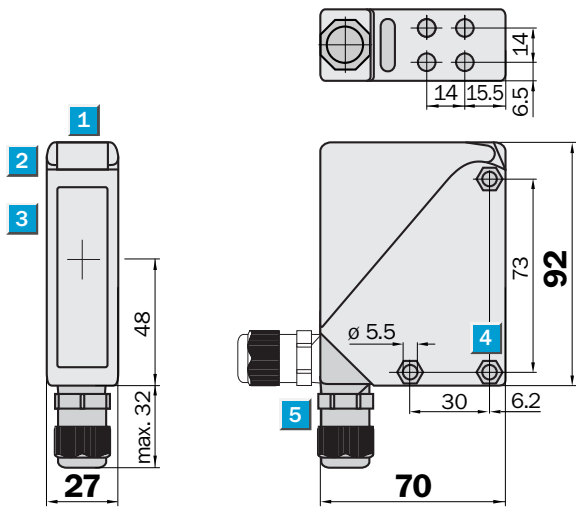


Adjustments



- 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


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 brackets and plates			
	Mounting bracket, Stainless steel (1.4301), mounting hardware included	BEF-WN-W24	2015248

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