WL34-B440

W34

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

WL34-B440 | W34

PHOTOELECTRIC SENSORS

Ordering information

Type	part no.
WL34-B440	1019246

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

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)	27 mm x 92 mm x 70 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.03 m ... 22 m [1]
Sensing range	0.03 m ... 15 m [1]
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 250 mm (15 m)
Wave length	660 nm
Adjustment	Potentiometer

[1] Reflector PL80A.
[2] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U$_B$	10 V DC ... 30 V DC [1]

[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.

Ripple	< 5 V_{pp} [2]
Current consumption	50 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]
Time functions	Off delay Switch-on delay Adjustable
Delay time	Adjustable via time delay selector switch, 0.5 s … 10 s
Connection type	Male connector M12, 4-pin
Circuit protection	A [5] C [6] D [7]
Protection class	II [8]
Weight	140 g
Polarisation filter	✓
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

[1] Limit values.

[2] May not fall below or exceed U_V tolerances.

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Safety-related parameters

$MTTF_D$	581 years
DC_{avg}	0 %
T_M (mission time)	20 years

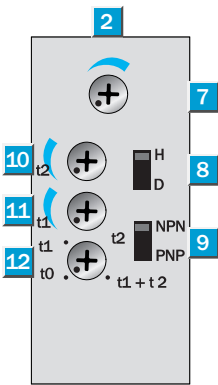## Certificates

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	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
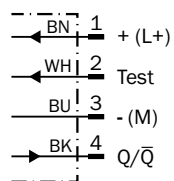

② LED signal strength indicator
⑦ sensitivity control
⑧ Light/dark selector
⑨ NPN/PNP changeover switch
⑩ time control t_2 = OFF delay
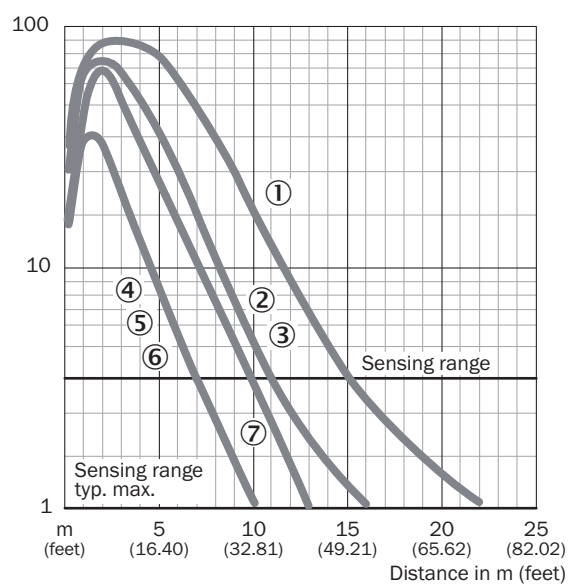⑪ time control t_1 = ON delay
⑫ time delay selector switch

Connection type

Connection diagram Cd-117
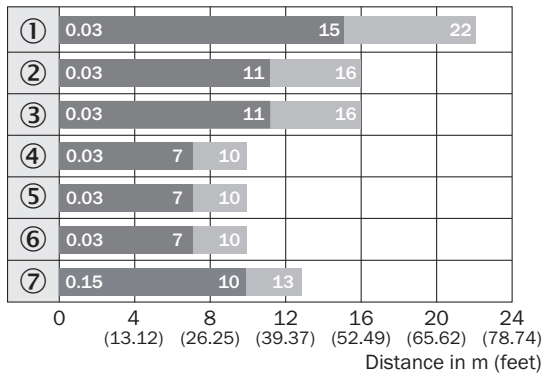
```
BN  1  + (L+)
WH  2  Test
BU  3  - (M)
BK  4  Q/Q̄
```

Characteristic curve

① Reflector PL80A
② Reflector PL50A
③ Reflector PL40A
④ Reflector PL30A
⑤ Reflector PL20A
⑥ Reflective tape Diamond Grade
⑦ Reflector C110A

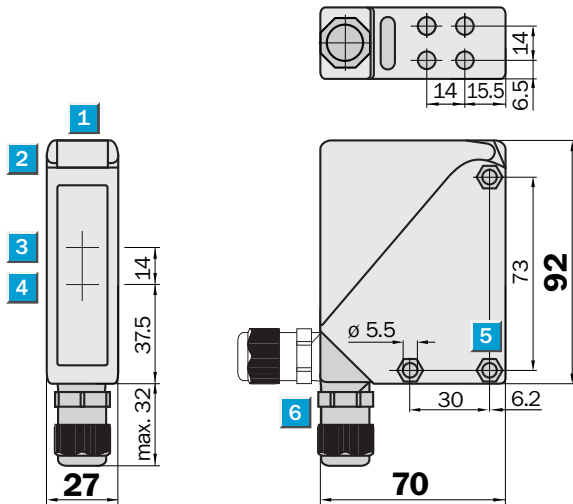## Sensing range diagram

①	0.03			15		22
②	0.03		11	16		
③	0.03		11	16		
④	0.03	7	10			
⑤	0.03	7	10			
⑥	0.03	7	10			
⑦	0.15		10	13		

| 0 | 4 (13.12) | 8 (26.25) | 12 (39.37) | 16 (52.49) | 20 (65.62) | 24 (78.74) |

Distance in m (feet)

■ Sensing range   ■ Sensing range max.

① Reflector PL80A
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Dimensional drawing

Dimensions in mm (inch)
① Alignment sight
② LED signal strength indicator
③ Center of optical axis, sender
④ Center of optical axis, receiver
⑤ Mounting hole ø 5.5 mm, for M5 hexagon nuts on both sides
⑥ M16 screw fixing rotatable by 90°

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	• **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
	• **Description:** Universal mounting bracket for reflectors • **Dimensions (W x H x L):** 85 mm x 90 mm x 35 mm • **Material:** Steel • **Details:** Steel, zinc coated • **Suitable for:** C110A, P250, PL20, PL30A, PL40A, PL80A	BEF-WN-REFX	2064574
reflectors and optics			
	• **Description:** Rectangular, screw connection • **Dimensions:** 84 mm 84 mm • **Ambient operating temperature:** –30 °C ... +65 °C	PL80A	1003865
connectors and cables			
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	• **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	STE-1204-G	6009932

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."

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