



WL24-2R538

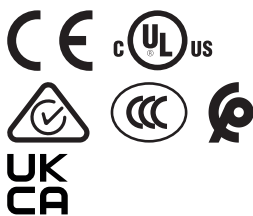
W24

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WL24-2R538	1018313

Other models and accessories → www.sick.com/W24

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 87.5 mm x 65 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 22 m ¹⁾
Sensing range	0 m ... 15 m ¹⁾
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 250 mm (15 m)
Adjustment	Potentiometer

¹⁾ Reflector PL80A.

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

Mechanics/electronics

Supply voltage U_B	20 V AC/DC ... 250 V AC/DC
Power consumption	< 2 VA
Switching output	Relay
Output function	Change-over contacts
Switching mode	Light/dark switching

¹⁾ With light/dark ratio 1:1.

²⁾ A = V_S connections reverse-polarity protected.

³⁾ C = interference suppression.

⁴⁾ Rated voltage: 250 V AC/DC.

Switching mode selector	Selectable via light/dark selector
Switching current (switching voltage)	2,5 A @ 250 V AC, 2,5 A @ 24 V DC, 0,125 A @ 250 V DC
Response time	≤ 10 ms
Switching frequency	10 Hz ¹⁾
Connection type	Mini connector 7/8", 5-pin
Circuit protection	A ²⁾ C ³⁾
Protection class	II ⁴⁾
Weight	330 g
Polarisation filter	✓
Housing material	Metal, zinc diecast
Optics material	Plastic, PMMA
Enclosure rating	IP67
Usage category	AC-15, DC-13 According to EN 60947-1
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

¹⁾ With light/dark ratio 1:1.

²⁾ A = V_S connections reverse-polarity protected.

³⁾ C = interference suppression.

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Safety-related parameters

MTTF_D	478 years
DC_{avg}	0 %
T_M (mission time)	20 years

Certificates

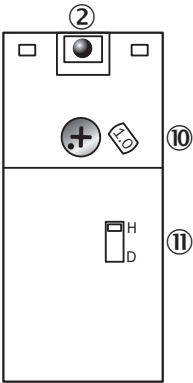
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
CCC certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902

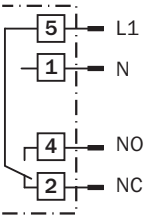
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Adjustments WT24-2, WL24-2, WS/WE24-2, AC/DC

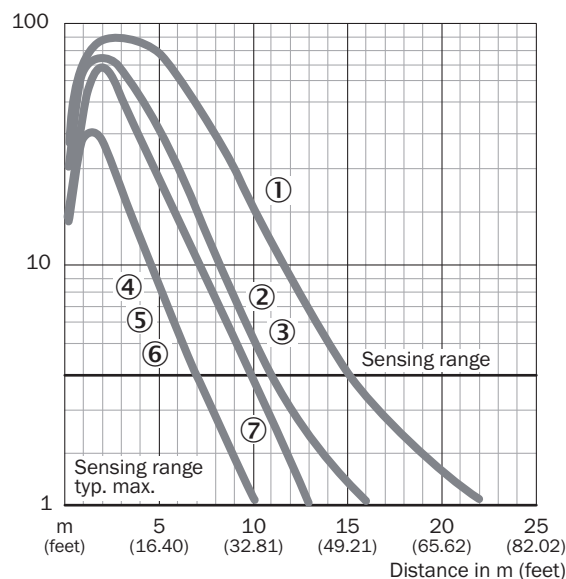


- ② LED signal strength indicator
- ⑩ Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
- ⑪ Light/dark selector

Connection diagram Cd-350

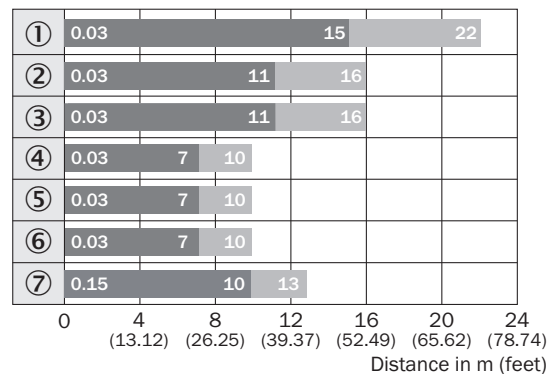


Characteristic curve



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

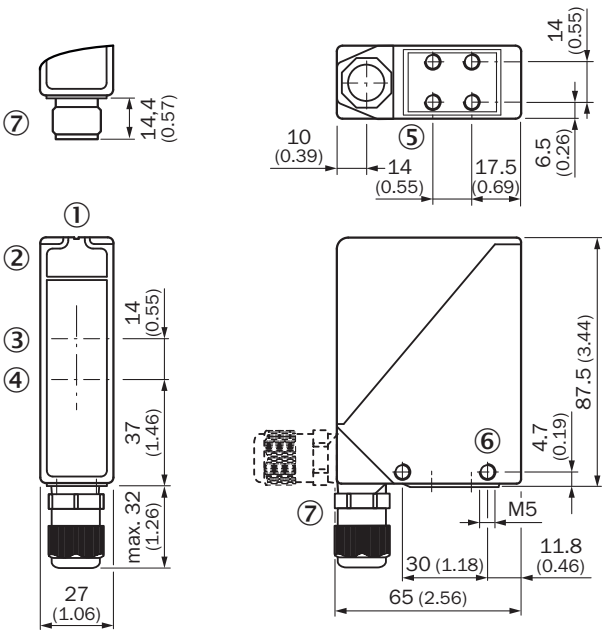
Sensing range diagram



■ Sensing range ■ Sensing range max.

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



Dimensional drawing WL24-2




- 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 M5 threaded mounting hole, 6 mm deep
 - ⑥ M5 threaded mounting hole, through-hole
 - ⑦ M16 screw fixing and plug rotatable by 90°

Recommended accessories

Other models and accessories → www.sick.com/W24

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none">• Description: Mounting bracket, large• Material: Stainless steel• Details: Stainless steel• Items supplied: Without mounting hardware for the sensor• Suitable for: W24-2	BEF-WG-W24	4026324
	<ul style="list-style-type: none">• 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

	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:

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