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Product data sheet



WL24-2R240

W24

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WL24-2R240 | W24

COMPACT PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WL24-2R240	1017858

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

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Dual lens
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	< 3 VA
Switching output	Relay, electrically isolated [1]
Output function	Change-over contacts
Switching mode	Light/dark switching [1]

[1] Provide suitable spark suppression for inductive or capacitive loads.

[2] With light/dark ratio 1:1.

[3] A = V_S connections reverse-polarity protected.

[4] C = interference suppression.

[5] Rated voltage: 250 V AC/DC.

[6] Static, low heat output, use in +5° C ... +15° C.

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Switching mode selector	Selectable via light/dark selector
Switching current (switching voltage)	4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 250 V DC UL: 4 A @ 250 V AC, general use / 4 A @ 250 V AC, resistive (NO) / 3 A @ 250 V AC, resistive (NC) / 4 A @ 24 V DC, NO, general use / 3 A @ 24 V DC, NC, general use / R300 / B300 (NO contacts only)
Response time	≤ 10 ms
Switching frequency	10 Hz [2]
Time functions	On delayoff delay
Delay time	Adjustable via time delay selector switch, 0.5 s ... 10 s
Connection type	Terminal connection with M16 gland
Circuit protection	A [3] C [4]
Protection class	II [5]
Weight	330 g
Polarisation filter	✓
Front screen heating	✓ [6]
Housing material	Metal, zinc diecast
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

[1] Provide suitable spark suppression for inductive or capacitive loads.
[2] With light/dark ratio 1:1.
[3] A = V_S connections reverse-polarity protected.
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[5] Rated voltage: 250 V AC/DC.
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Safety-related parameters

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

Classifications

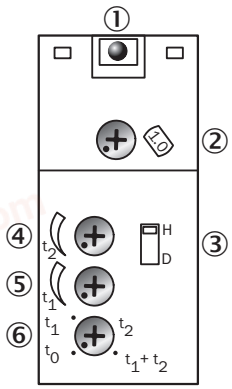
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ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902

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ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

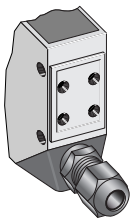
Adjustments

WT24-2, WL24-2, WS/WE24-2, AC/DC, with time functions



① Receive indicator
② Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
③ Light/dark selector
④ Time control t_2= OFF delay
⑤ Time control t_1= ON delay
⑥ Time delay selector switch

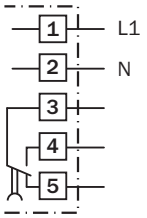
Connection type



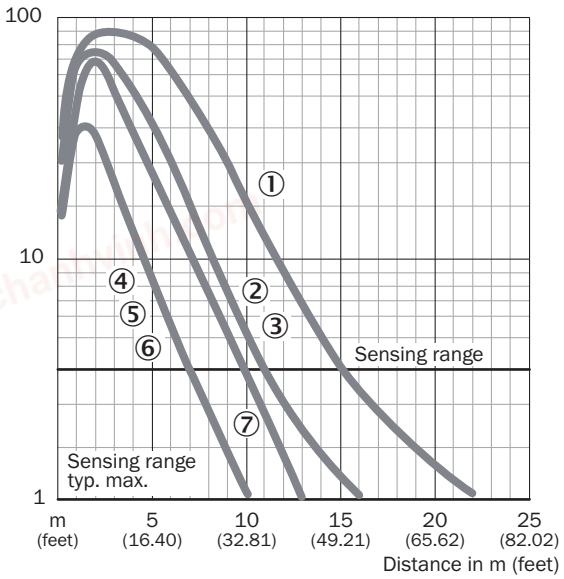
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Connection diagram

Cd-167

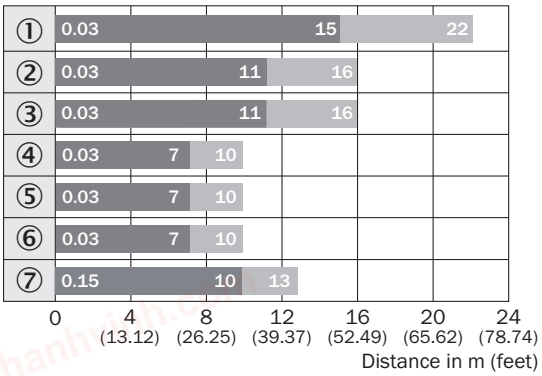


Characteristic curve



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

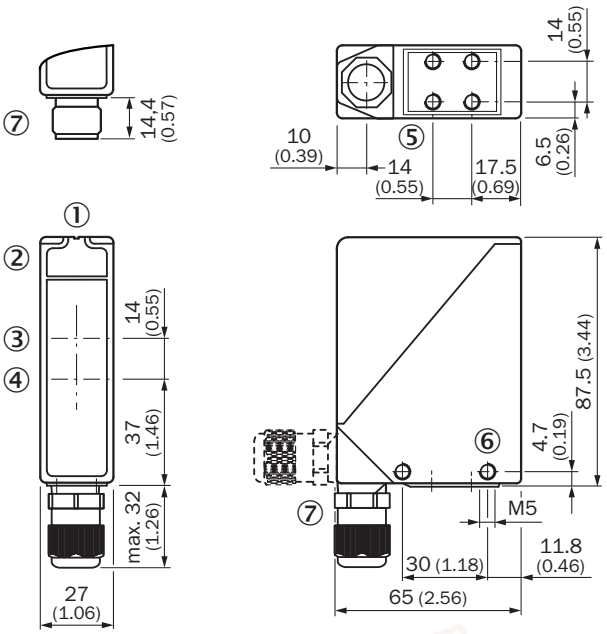
Sensing range diagram



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

Dimensional drawing (Dimensions in mm (inch))

WL24-2



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°

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Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, large, stainless steel, without mounting hardware for the sensor	BEF-WG-W24	4026324
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
Reflectors			
	Rectangular, screw connection, 84 mm x 84 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865

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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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