



WT24-2R250

W24

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
WT24-2R250	1016820

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

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	27 mm x 87.5 mm x 65 mm
Housing design (light emission)	Rectangular
Sensing range max.	100 mm ... 1,200 mm ¹⁾
Sensing range	100 mm ... 1,200 mm ¹⁾
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 40 mm (1,200 mm)
Adjustment	Potentiometer

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

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⁾

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.

Output function	Change-over contacts
Switching mode	Light/dark switching ¹⁾
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	Switch-on delay Off 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
Front screen heating	✓ ⁶⁾
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

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Safety-related parameters

MTTF_D	423 years
DC_{avg}	0 %
T_M (mission time)	20 years

Classifications

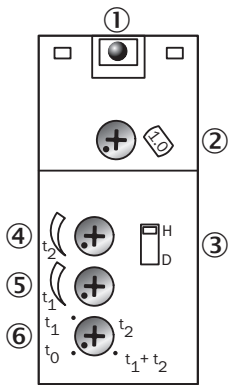
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904

ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Certificates

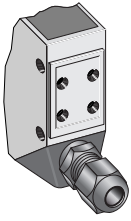
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
CCC certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

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

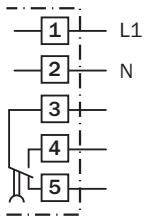


- ① Receive indicator
- ② Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
- ③ Light/dark selector
- ④ time control t_2 = OFF delay
- ⑤ time control t_1 = ON delay
- ⑥ time delay selector switch

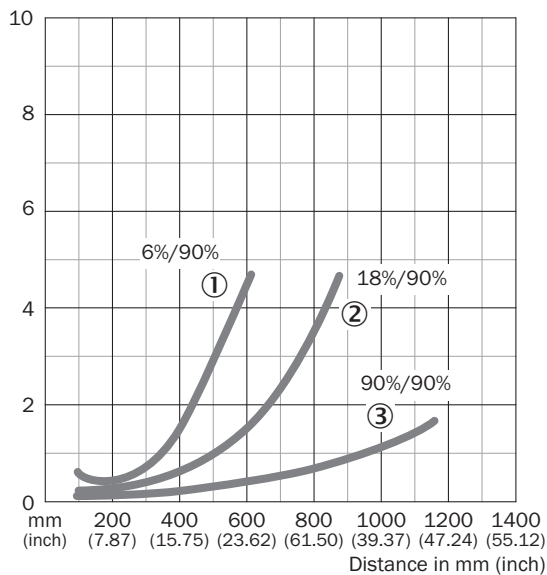
Connection type



Connection diagram Cd-167

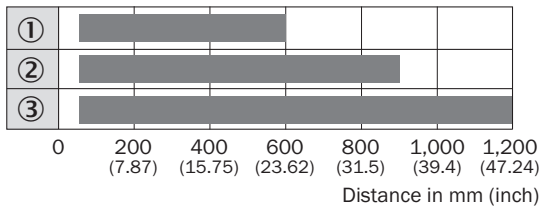


Characteristic curve WT24-2, red light



- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

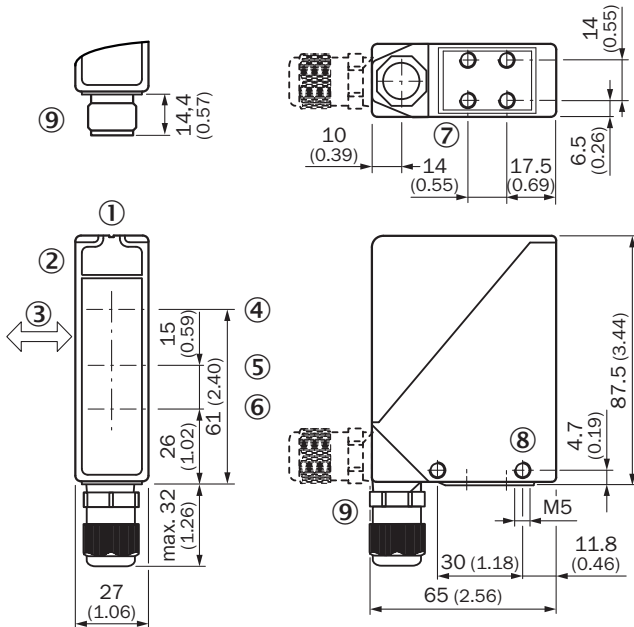
Sensing range diagram WT24-2, red light



■ Sensing range

- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

Dimensional drawing WT24-2




Dimensions in mm (inch)

- ① Alignment sight
- ② LED signal strength indicator
- ③ Standard direction of the material being detected
- ④ Center of optical axis, sender
- ⑤ Center of optical axis, receiver (close range)
- ⑥ Center of optical axis, receiver (far range)
- ⑦ M5 threaded mounting hole, 6 mm deep
- ⑧ M5 threaded mounting hole, through-hole
- ⑨ 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

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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