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Product data sheet



WT24-2V550S12

W24

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WT24-2V550S12 | W24

COMPACT PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WT24-2V550S12	1019468

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

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
Alarm output	✓
Special features	Dynamic front lense heating

[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	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]

[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] Without load.
[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] A = V_S connections reverse-polarity protected.
[7] C = interference suppression.
[8] D = outputs overcurrent and short-circuit protected.
[9] Reference voltage: 50 V DC.
[10] Dynamic, high heat output, application for quickly changing temperatures between –5° C ... +10° C, Front screen material: Glass.

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Current consumption	80 mA [3]
Switching output	NPN, PNP
Switching mode	Light/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 [4]
Switching frequency	1,000 Hz [5]
Time functions	On delayoff delay
Delay time	Adjustable via time delay selector switch, 0.5 s ... 10 s
Connection type	Male connector M12, 5-pin
Circuit protection	A [6] C [7] D [8]
Protection class	II [9]
Weight	350 g
Front screen heating	✓ [10]
Special device	✓
Housing material	PTFE coating, zinc diecast
Optics material	Glass, glass
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

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Safety-related parameters

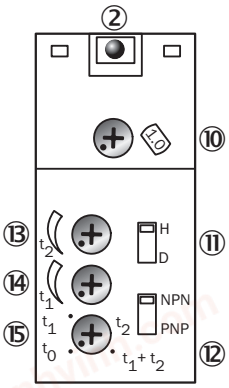
$MTTF_D$	328 years
DC_{avg}	0 %
T_M (mission time)	20 years

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

Adjustments



② LED signal strength indicator
⑩ Adjustment of sensing range
⑪ Light/dark selector
⑫ NPN/PNP changeover switch
⑬ Time control t_2= OFF delay
⑭ Time control t_1= ON delay
⑮ Time delay selector switch

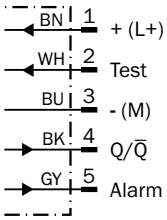
Connection type



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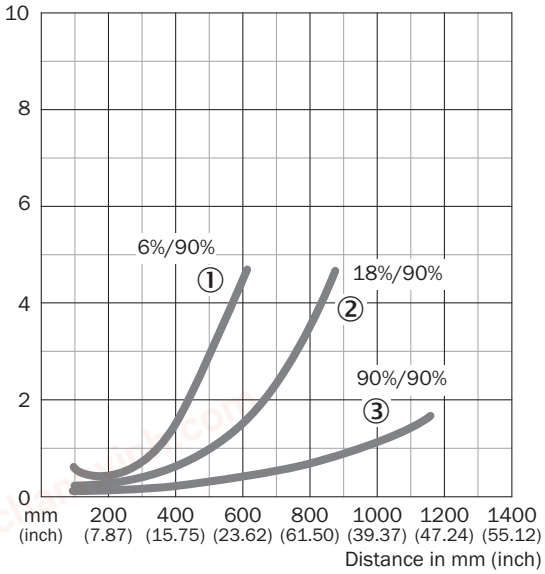
Connection diagram

Cd-150



Characteristic curve

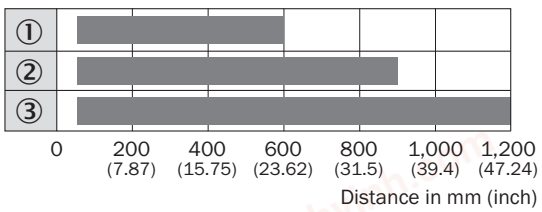
WT24-2, red light



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

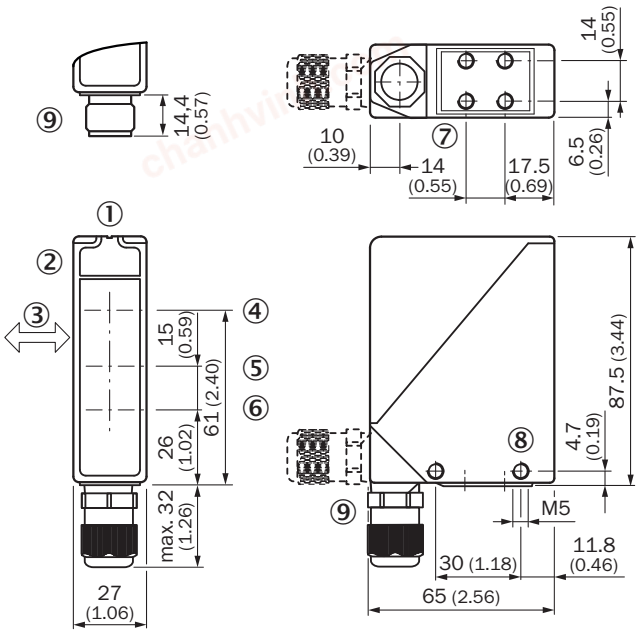
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Dimensional drawing (Dimensions in mm (inch))

WT24-2



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 brackets and plates			
	Mounting bracket, large, stainless steel, without mounting hardware for the sensor	BEF-WG-W24	4026324

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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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