



WT24-2X400

W24

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WT24-2X400	1040722

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.	40 mm ... 2,000 mm ¹⁾
Sensing range	100 mm ... 2,000 mm ¹⁾
Type of light	Infrared light
Light source	LED ²⁾
Light spot size (distance)	Ø 50 mm (2,000 mm)
Adjustment	Potentiometer
Special applications	Explosive areas

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

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

Mechanics/electronics

Supply voltage U_B	5 V DC ... 15.5 V DC
Ripple	< 0.4 V _{pp} ¹⁾
Switching output	NAMUR

¹⁾ May not exceed or fall below U_v tolerances.

²⁾ Signal transit time with resistive load.

³⁾ With light/dark ratio 1:1.

⁴⁾ A = V_S connections reverse-polarity protected.

⁵⁾ C = interference suppression.

⁶⁾ Reference voltage: 50 V DC.

⁷⁾ For connection to a separately certified intrinsically safe circuit only.

Switching mode	Light switching
Response time	$\leq 10 \text{ ms}^{2)}$
Switching frequency	50 Hz ³⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁴⁾ C ⁵⁾
Protection class	II ⁶⁾
Weight	330 g
Housing material	Metal, zinc diecast
Optics material	Glass, glass
Enclosure rating	IP67
Type approval certificate	PTB 03 ATEX 2105
Certificate (IECEX)	IECEX PTB 14.0030
ATEX marking	Ex II 2G Ex ia op is IIC T4 Gb according to directive 2014/34/EU
Ex area category	2G
Input voltage U_i max.	$\leq 15.5 \text{ V}^{7)}$
Input power P_i max.	$\leq 100 \text{ mW}^{7)}$
Input current I_i max.	$\leq 53 \text{ mA}^{7)}$
Internal capacitance C_i max.	80 nF ⁷⁾
Internal inductance L_i max.	0 $\mu\text{H}^{7)}$
Ambient operating temperature	-20 °C ... +60 °C
Ambient temperature, storage	-25 °C ... +70 °C

1) May not exceed or fall below U_y tolerances.

2) Signal transit time with resistive load.

3) With light/dark ratio 1:1.

4) A = V_S connections reverse-polarity protected.

5) C = interference suppression.

6) Reference voltage: 50 V DC.

7) For connection to a separately certified intrinsically safe circuit only.

Safety-related parameters

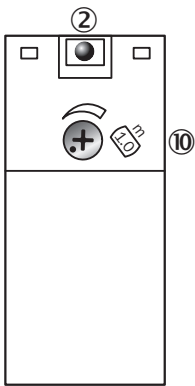
MTTF_D	227 years
DC_{avg}	0 %
T_M (mission time)	20 years

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

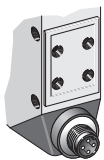
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments



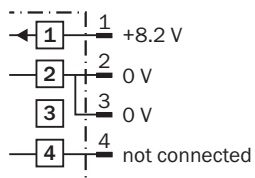
- ② LED signal strength indicator
- ⑩ Adjustment of sensing range

Connection type



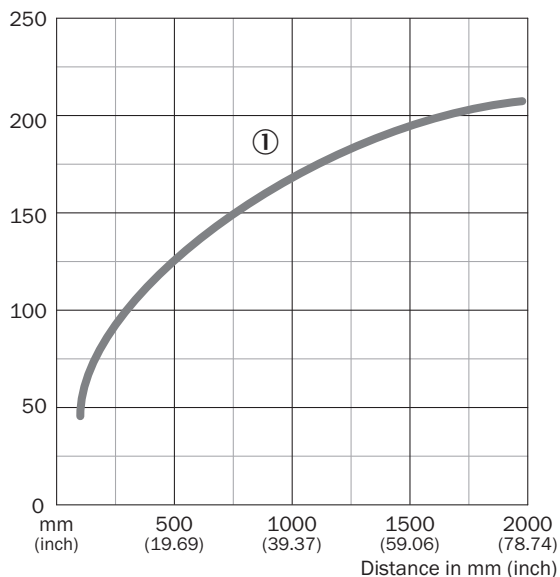
Connection diagram

Cd-122



Characteristic curve

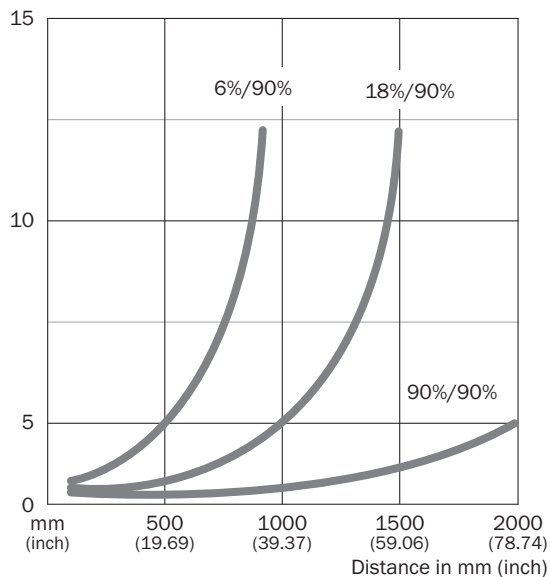
WT24-2 EX



Field of view

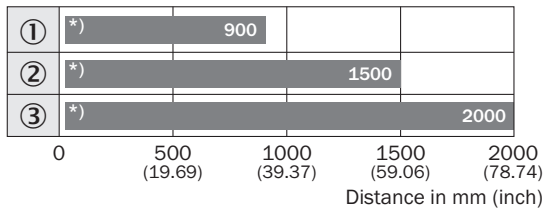
① Sensing range on black, 6% remission factor

WT24-2 EX



Sensing range diagram

WT24-2



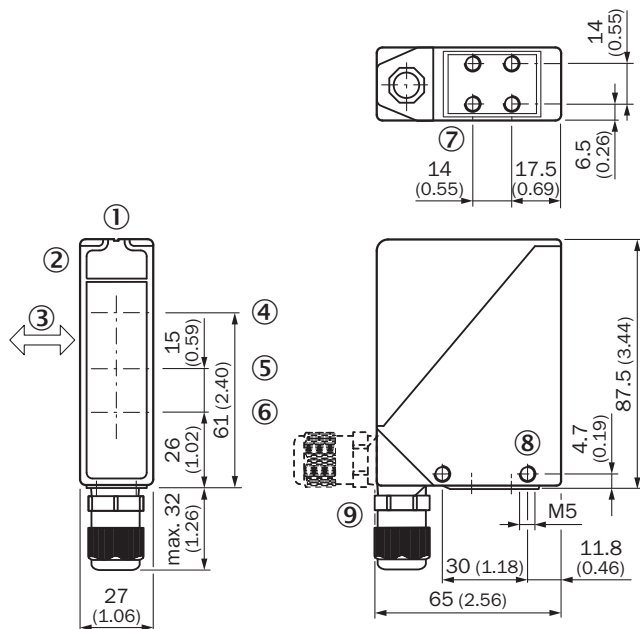
■ Sensing range

*) Lower bound of detection area depending on the adjusted sensing distance (see blind zone curve)

- 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 (Dimensions in mm (inch))


WT24-2 EX



- 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 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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