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Product data sheet



WTV2S-2P3220S52

W2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WTV2S-2P3220S52 | W2

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WTV2S-2P3220S52	1115590

Other models and accessories → www.sick.com/W2

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression, V-optics
Dimensions (W x H x D)	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	1 mm ... 36 mm [1]
Sensing range	4 mm ... 25 mm [1]
Type of light	Visible red light
Light source	PinPoint LED [2]
Light spot size (distance)	Ø 2 mm (15 mm)
Wave length	640 nm
Adjustment	Cable
Special applications	Detecting small objects, Detecting uneven, shiny objects, Detecting objects wrapped in film, Detecting transparent objects
Special features	V-optics Fixed sensing range 25 mm Fixed teach-in Swichting frequency 2.000 Hz

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

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

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Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Switching output	PNP
Switching mode	Light switching
Output current $I_{max.}$	≤ 50 mA
Response time	< 0.25 ms [4]
Switching frequency	2,000 Hz [5]
Connection type	Cable with M8 male connector, 4-pin, 500 mm [6]
Cable material	PVC
Conductor cross section	0.09 mm²
Cable diameter	Ø 3 mm
Circuit protection	A [7] B [8] D [9]
Special device	✓
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	–25 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493

[1] Limit values.
[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] Do not bend below 0 °C.
[7] A = V_S connections reverse-polarity protected.
[8] B = output reverse-polarity protected.
[9] D = outputs overcurrent and short-circuit protected.

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

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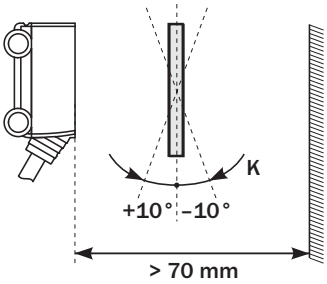
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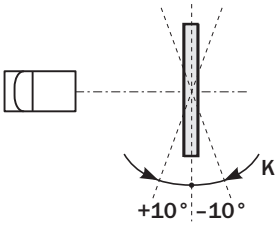
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Installation note

When detecting highly transparent objects, a distance of > 70 mm to the background should be maintained!

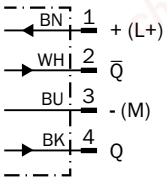


Maximum tilt angle



Connection diagram

Cd-084

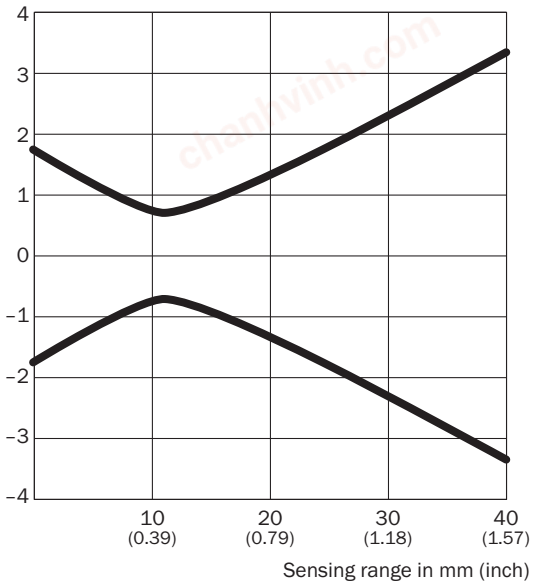


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Light spot size

WTV2S-2

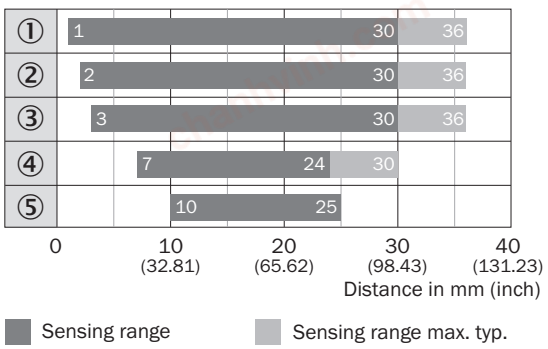
Spot diameter in mm (inch)



Dimensions in mm (inch)

Sensing range	Spot diameter
10 (0.39)	1.5 (0.06)
20 (0.79)	2.6 (0.10)
30 (1.18)	4.6 (0.18)
40 (1.57)	6.6 (0.26)

Sensing range diagram



Sensing range Sensing range max. typ.

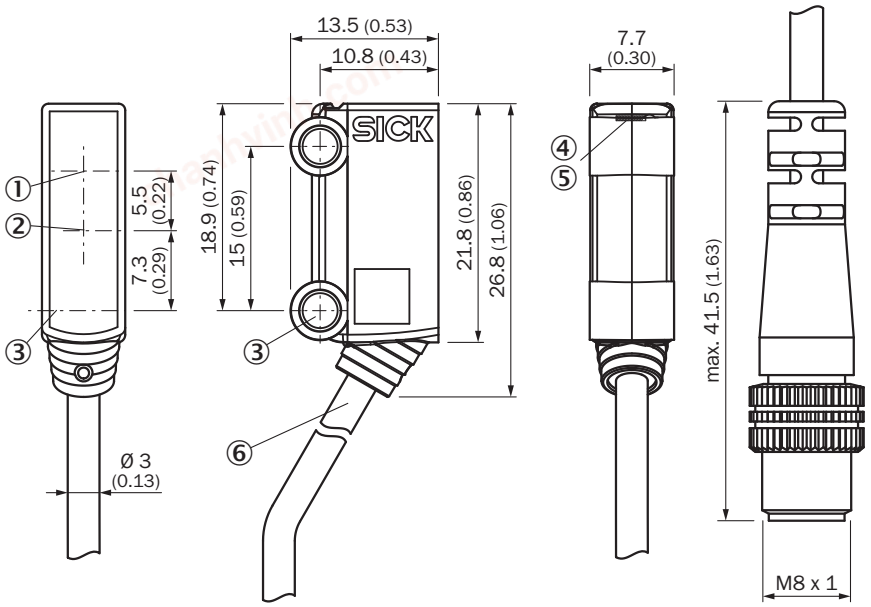
① Sensing range on white, 90 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on black, 6 % remission
④ Sensing range on ultra black, 1 % remission
⑤ Sensing range on reflective and transparent surfaces[1)]

[1)] Best detection of reflective and transparent surfaces within a tilt angle of < +/−10°

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Dimensional drawing (Dimensions in mm (inch))

WTB2S-2, 18 mm, 36 mm, WTV2S-2



① Optical axis, receiver
② Optical axis, sender
③ Mounting hole, Ø 3.2 mm
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam
⑥ Connection

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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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