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Product data sheet



WT34-B420

W34

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WT34-B420 | W34

COMPACT PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WT34-B420	1019230

Other models and accessories → www.sick.com/W34

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	27 mm x 92 mm x 70 mm
Housing design (light emission)	Rectangular
Sensing range max.	100 mm ... 2,500 mm [1]
Sensing range	100 mm ... 2,500 mm
Type of light	Infrared light
Light source	LED [2]
Light spot size (distance)	Ø 80 mm (2,500 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	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	50 mA
Switching output	NPN PNP
Switching mode	Light switching

[1] Limit values.
[2] May not exceed or fall below U_V tolerances.
[3] Signal transit time with resistive load.
[4] With light/dark ratio 1:1.
[5] A = V_S connections reverse-polarity protected.
[6] C = interference suppression.
[7] D = outputs overcurrent and short-circuit protected.
[8] Reference voltage: 50 V DC.

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	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 [3]
Switching frequency	1,000 Hz [4]
Time functions	On delay Off delay Adjustable
Delay time	Adjustable via time delay selector switch, 0.5 s ... 10 s
Connection type	Male connector M12, 4-pin
Circuit protection	A [5] C [6] D [7]
Protection class	II [8]
Weight	140 g
Housing material	Plastic, ABS
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
UL File No.	NRKH.E181493 & NRKH7.E181493

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Safety-related parameters

$MTTF_D$	564 years
DC_{avg}	0 %
T_M (mission time)	20 years

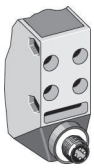
Classifications

eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904
eCl@ss 8.0	27270904
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904

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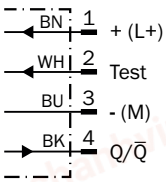
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection type

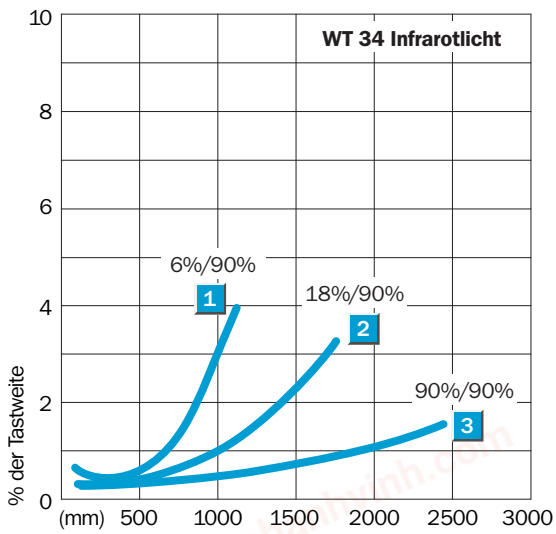


Connection diagram

Cd-117

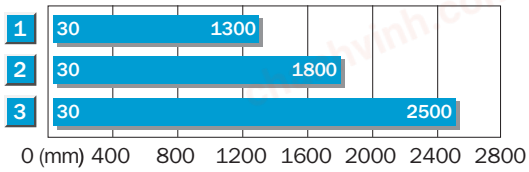


Characteristic curve



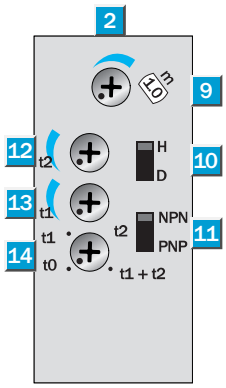
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Sensing range diagram



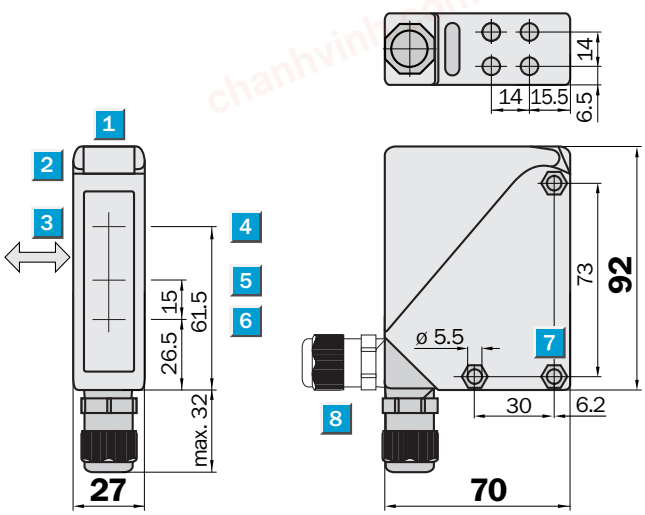
1 Scanning distance on black [9)]
2 Scanning distance on grey [9)]
3 Scanning distance on white [9)]

Adjustments



② LED signal strength indicator
⑨ Adjustment of sensing range
⑩ Light/dark selector
⑪ NPN/PNP changeover switch
⑫ Time control t_2= OFF delay
⑬ Time control t_1= ON delay
⑭ Time delay selector switch

Dimensional drawing (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 Mounting hole ø 5.5 mm, for M5 hexagon nuts on both sides

Recommended accessories

Other models and accessories → www.sick.com/W34

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, Stainless steel (1.4301), mounting hardware included	BEF-WN-W24	2015248
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932

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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."

WORLDWIDE PRESENCE:

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