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Product data sheet



WTT190L-K3534

PowerProx

MULTITASK PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WTT190L-K3534 | PowerProx

MULTITASK PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WTT190L-K3534	6062143

Included in delivery: BEF-W190 (1)

Other models and accessories ➜ www.sick.com/PowerProx

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression, Optical time-of-flight
Dimensions (W x H x D)	17.4 mm x 45.6 mm x 34.7 mm
Housing design (light emission)	Rectangular
Sensing range max.	200 mm ... 3,000 mm [1]
Sensing range	200 mm ... 3,000 mm [1] [2]
Type of light	Visible red light
Light source	Laser [3]
Light spot size (distance)	Ø 12 mm (3,000 mm)
Wave length	658 nm
Laser class	1 (IEC 60825-1 / CDRH 21 CFR 1040.10 & 1040.11)
Adjustment	Single teach-in button (4 x) Display

[1] Object with 6 ... 90% remission (based on standard white, DIN 5033).

[2] Adjustable.

[3] 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	75 mA [3]
Switching output	PNP, NPN [4] [5]
Number of switching outputs	3 (Q_1, Q_2, Q_3) [4]
Switching mode	Light/dark switching [4]
Switching mode selector	Selectable via menu
Output current $I_{max.}$	≤ 100 mA
Response time	0.6 ms, 1 ms, 3.4 ms, 13 ms, 51.4 ms [6] [7] [8]
Switching frequency	833 Hz, 500 Hz, 147 Hz, 38 Hz, 10 Hz [7] [8] [9]
Time functions	Without time delayoff delayon delayone shot
Delay time	Programmable, 0 ms ... 999 ms
Analog output	-
Input	MF_{in} = multifunctional input programmable [10]
Connection type	Cable with plug M12, 5-pin, 0.3 m [11]
Cable material	PVC
Circuit protection	A [12] B [13] C [14]
Protection class	III
Weight	45 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	BEF-W190 mounting bracket
Ambient operating temperature	–30 °C ... +50 °C [15]
Ambient temperature, storage	–40 °C ... +70 °C

[1] Limit values. Operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] Without load. At V_S = 24 V.
[4] Q1, Q2, Q3 = 3 switching thresholds, light/dark switching selectable via light/dark selector.
[5] PNP/NPN switchable.
[6] Signal transit time with resistive load.
[7] Can be set via a mean value filter (AVG1, AVG4, AVG16, AVG64, AVG256).
[8] Depending on distance to object, distance to background and selected switching threshold.
[9] With light/dark ratio 1:1.
[10] External teach-in via cable, laser shutdown.
[11] Do not bend below 0 °C.
[12] A = V_S connections reverse-polarity protected.
[13] B = inputs and output reverse-polarity protected.
[14] C = interference suppression.
[15] Uv ≥ 24 V. At Tu < –10 °C warm-up time < 10 min.
[16] For optimum performance observe max. warm-up time of 5 minutes.

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Warm-up time	< 5 min [16]
Initialization time	< 300 ms

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Safety-related parameters

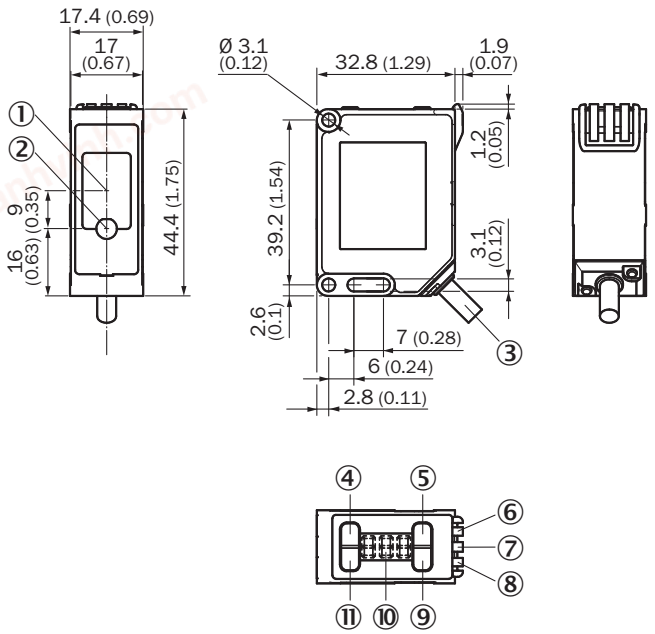
$MTTF_D$	169.1 years
DC_{avg}	0 %

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
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

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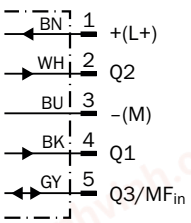
Dimensional drawing (Dimensions in mm (inch))



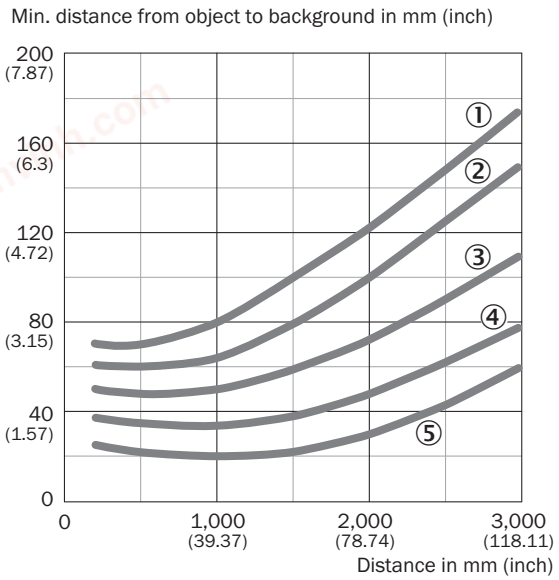
① Receiver
② Sender
③ Connection
④ RUN button
⑤ (+/Q2) button
⑥ Status indicator orange: Q2 output indicator
⑦ Status indicator LED, green/red/orange: power on / stability indicator / Q3 output indicator
⑧ Status indicator orange: Q1 output indicator
⑨ (-/Q1) button
⑩ Display
⑪ SET button

Connection diagram

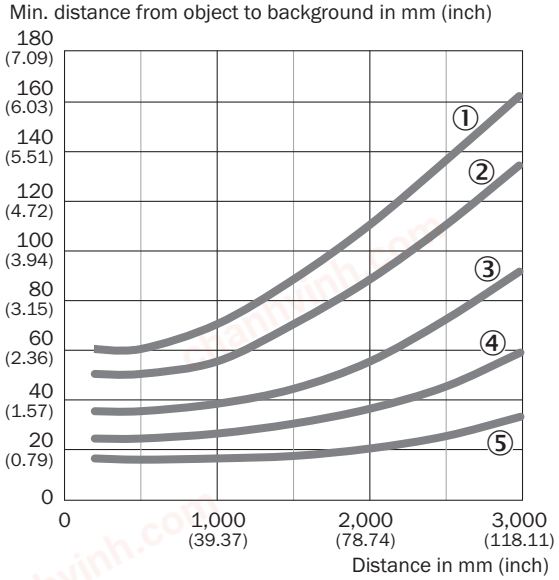
Cd-371



Characteristic curve



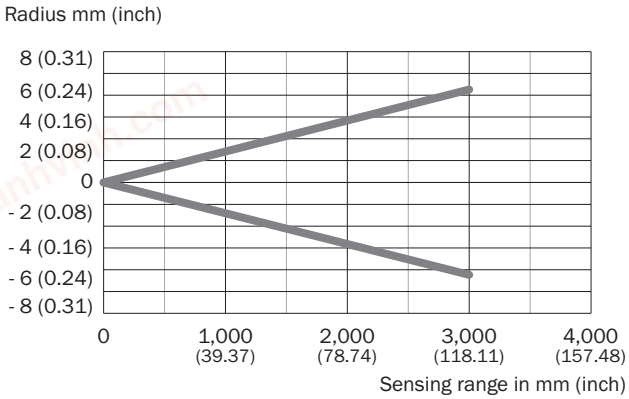
① 6 % / 90 % AVG1
② 6 % / 90 % AVG4
③ 6 % / 90 % AVG16
④ 6 % / 90 % AVG64
⑤ 6 % / 90 % AVG256



① 90 % / 90 % AVG1
② 90 % / 90 % AVG4
③ 90 % / 90 % AVG16
④ 90 % / 90 % AVG64
⑤ 90 % / 90 % AVG256

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Light spot size



Recommended accessories

Other models and accessories ➜ www.sick.com/PowerProx

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A15-050VB5XLEAX	2096240
	Head A: male connector, M12, 5-pin, straight Cable: unshielded For field bus technology	STE-1205-G	6022083

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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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com

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