



Illustration may differ



Ordering information

Type	Part no.
WTT190L-K2233	6062141

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_J = +25 °C.

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	2 (Q ₁ , Q ₂) 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	Male connector M8, 4-pin
Circuit protection	A ¹¹⁾ B ¹²⁾ C ¹³⁾
Protection class	III
Weight	25 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 ¹⁴⁾
Ambient temperature, storage	-40 °C ... +70 °C
Warm-up time	< 5 min ¹⁵⁾
Initialization time	< 300 ms

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 = 2 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⁾ A = V_S connections reverse-polarity protected.

¹²⁾ B = inputs and output reverse-polarity protected.

¹³⁾ C = interference suppression.

¹⁴⁾ $U_V \geq 24$ V. At $T_u < -10$ °C warm-up time < 10 min.

¹⁵⁾ For optimum performance observe max. warm-up time of 5 minutes.

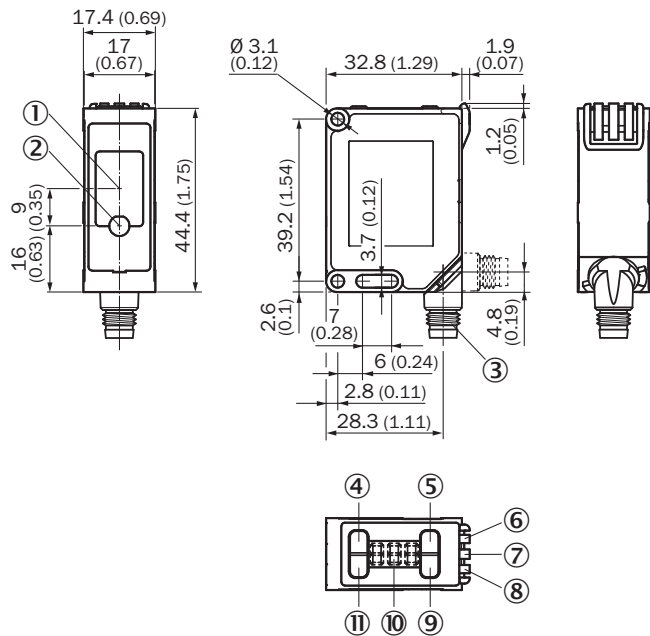
Safety-related parameters

MTTF_D	174.4 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

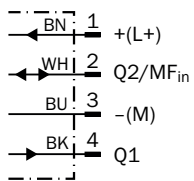
Dimensional drawing (Dimensions in mm (inch))



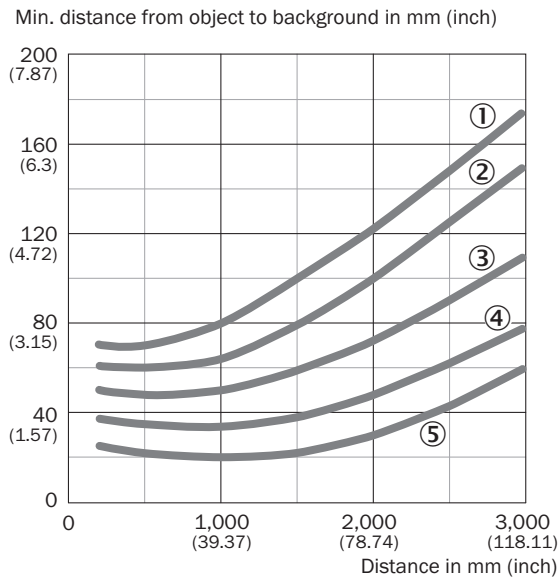
- ① Receiver
- ② Sender
- ③ Connection
- ④ RUN button
- ⑤ (+/Q2) button
- ⑥ Status indicator orange: Q2 output indicator
- ⑦ Status indicator LED, green/red: power on / stability indicator
- ⑧ Status indicator orange: Q1 output indicator
- ⑨ (-/Q1) button
- ⑩ Display
- ⑪ SET button

Connection diagram

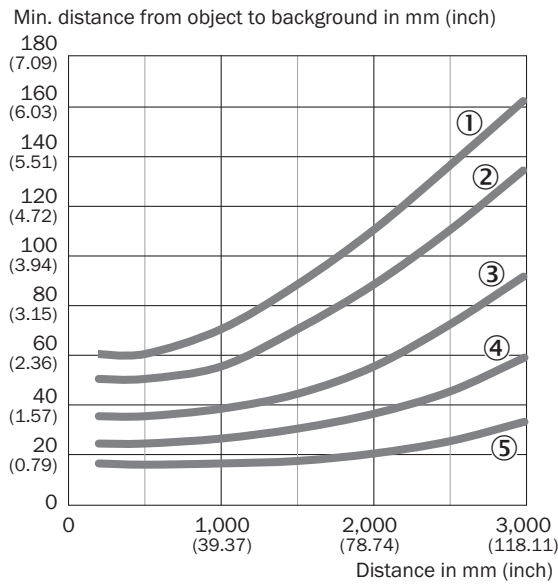
Cd-369



Characteristic curve



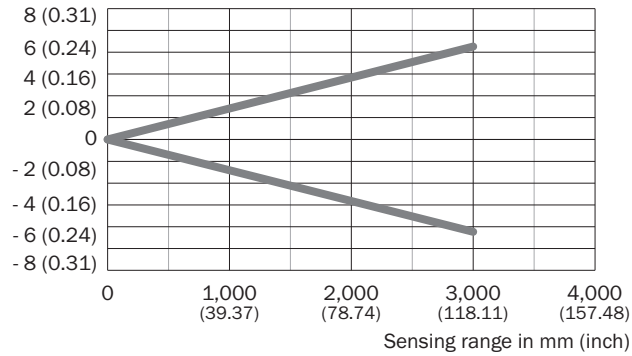
- ① 6 % / 90 % AVG1
- ② 6 % / 90 % AVG4
- ③ 6 % / 90 % AVG16
- ④ 6 % / 90 % AVG64
- ⑤ 6 % / 90 % AVG256



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



Light spot size

Radius mm (inch)



Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: male connector, M8, 4-pin, straight Cable: unshielded	STE-0804-G	6037323

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