



WTT12LC-B2563

PowerProx

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

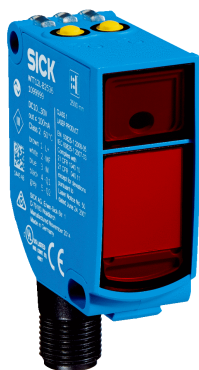


Illustration may differ



Ordering information

Type	Part no.
WTT12LC-B2563	1072532

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

Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D)	20 mm x 49.6 mm x 44.2 mm
Housing design (light emission)	Rectangular
Sensing range max.	50 mm ... 3,800 mm ¹⁾
Sensing range	100 mm ... 3,800 mm ²⁾
Distance value-measuring range	50 mm ... 3,800 mm ¹⁾
Distance value-resolution	1 mm
Distance value-repeatability	1,1 mm ... 3,0 mm ^{3) 4) 5)}
Distance value-accuracy	Typ. ± 15 mm
Type of light	Visible red light
Light source	Laser ⁶⁾
Light spot size (distance)	Ø 18 mm (3,800 mm)
Wave length	658 nm
Laser class	1 (IEC 60825-1 / CDRH 21 CFR 1040.10 & 1040.11)
Adjustment	Single teach-in button (2 x) IO-Link

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

²⁾ Adjustable.

³⁾ Equivalent to 1 σ .

⁴⁾ See characteristic curves repeatability.

⁵⁾ 6 % ... 90 % remission.

⁶⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ^{1) 2)}
Ripple	$\leq 5 V_{pp}$ ³⁾
Power consumption	$\leq 70 \text{ mA}$ ⁴⁾
Switching output	PUSH/PULL, PNP, NPN ⁵⁾
Number of switching outputs	2 (Q1, Q2) ⁵⁾
Switching mode	Light switching ⁵⁾
Output current I_{max}	$\leq 100 \text{ mA}$
Response time	$\leq 5 \text{ ms}$ ⁶⁾
Switching frequency	100 Hz ⁷⁾
Analog output	-
Input	MF _{in} = multifunctional input programmable
Connection type	Male connector M12, 5-pin
Circuit protection	A ⁸⁾ B ⁹⁾ C ¹⁰⁾
Protection class	III
Weight	48 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-35 °C ... +50 °C ¹¹⁾
Ambient storage temperature	-40 °C ... +70 °C
Warm-up time	< 15 min ¹²⁾
Initialization time	< 300 ms
UL File No.	NRKH.E181493

¹⁾ Limit values. Operated in short-circuit protected network: max. 8 A.

²⁾ V_S min at IO-Link operation = 18 V.

³⁾ May not exceed or fall below U_V tolerances.

⁴⁾ Without load. At $V_S = 24 \text{ V}$.

⁵⁾ Q1, Q2 = 2 switching thresholds, light switching.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

⁸⁾ A = V_S connections reverse-polarity protected.

⁹⁾ B = inputs and output reverse-polarity protected.

¹⁰⁾ C = interference suppression.

¹¹⁾ As of $T_a = 45 \text{ °C}$, a max.load current $I_{max} = 50 \text{ mA}$ is permitted.

¹²⁾ Below $T_a = -10 \text{ °C}$ a warm-up time is required.

Classifications

ECl@ss 5.0	27270904
ECl@ss 5.1.4	27270904
ECl@ss 6.0	27270904
ECl@ss 6.2	27270904

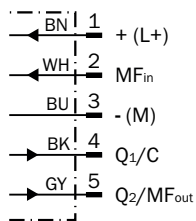
ECl@ss 7.0	27270904
ECl@ss 8.0	27270904
ECl@ss 8.1	27270904
ECl@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
UNSPSC 16.0901	39121528

Communication interface

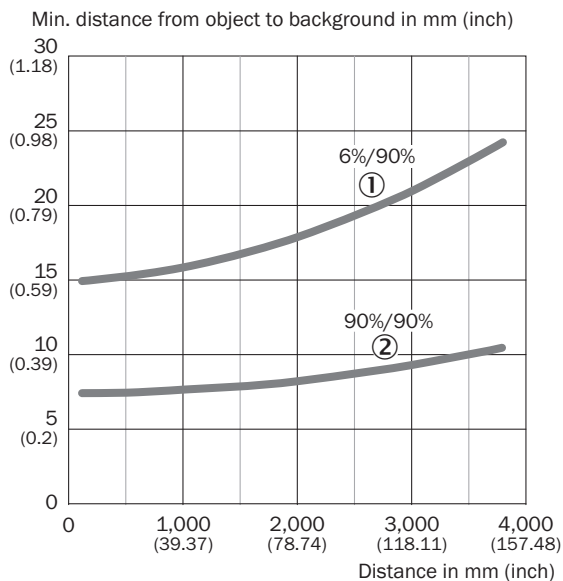
Communication interface	IO-Link V1.1
Communication Interface detail	COM2 (38,4 kBaud)
Cycle time	5 ms
Process data length	32 Bit
Process data structure	Bit 0 = switching signal Q ₀₁ Bit 1 = switching signal Q ₀₂ Bit 2 ... 8 = BDC 2 ... 8 Bit 9 ... 15 = empty Bit 16 ... 31 = distance value
Additional features	8 switching points for distance to object, of which 2 can be inverted, 1 switching point as switching window or configurable with hysteresis., multifunctional input: sender off, external teach, inactive

Connection diagram

cd-290

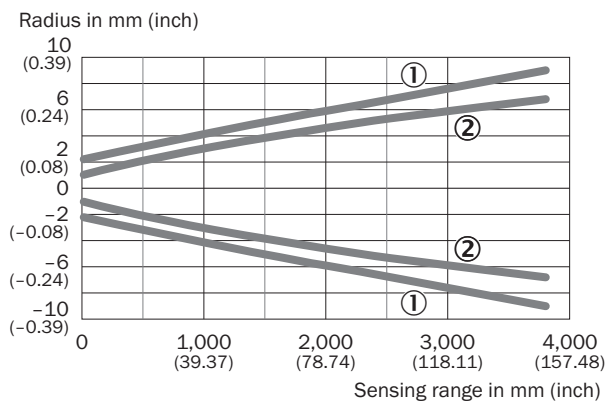


Characteristic curve



- ① Sensing range on black, 6% remission
- ② Sensing range on white, 90% remission

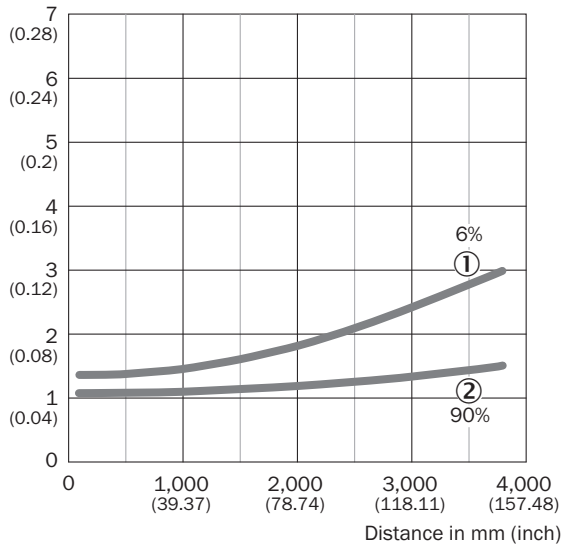
Light spot size



- ① Light spot horizontal
- ② Light spot vertical

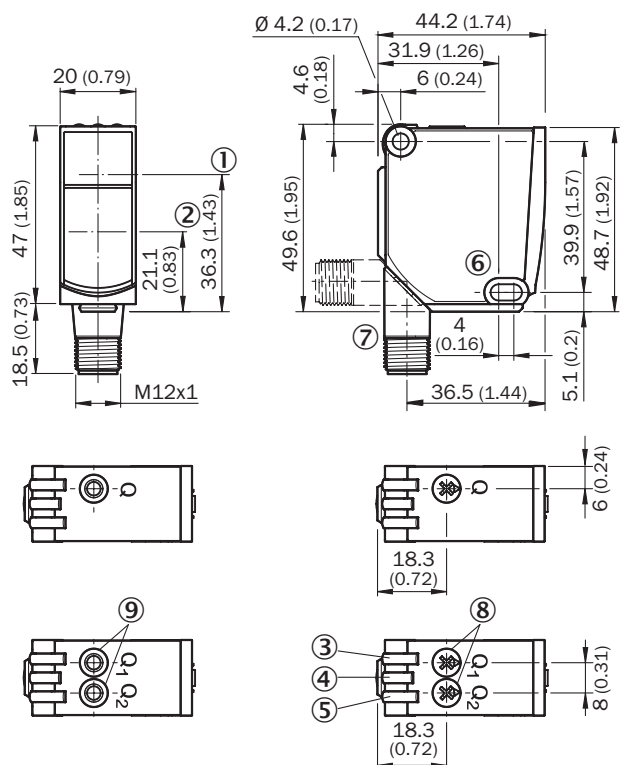
Reproducibility

Repeatability in mm (inch)



- ① 6 % remission, on black
- ② 90 % remission, on white




Dimensional drawing (Dimensions in mm (inch))



- ① Optical axis sender
- ② Optical axis receiver
- ③ LED indicator yellow: Status of received light beam
- ④ LED indicator green: power on
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Mounting hole, \varnothing 4.2 mm
- ⑦ Connection
- ⑧ Potentiometer
- ⑨ Single teach-in button

Recommended accessories

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

	Brief description	Type	Part no.
Modules and gateways			
	EtherCAT IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2EC-03208R01 (IO-Link Master)	6053254
	EtherNet/IP IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12-cable	IOLG2EI-03208R01 (IO-Link Master)	6053255
	PROFINET IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2PN-03208R01 (IO-Link Master)	6053253

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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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