



WSE4SL-3P3237

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
WSE4SL-3P3237	1095976

Other models and accessories → www.sick.com/W4



Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Sensing range max.	0 m ... 60 m
Sensing range	0 m ... 50 m
Emitted beam	
Light source	Laser ¹⁾
Type of light	Visible red light
Light spot size (distance)	Ø 1 mm (500 mm)
Key laser figures	
Normative reference	EN 60825-1:2014, IEC 60825-1:2014 / CDRH 21 CFR 1040.10 & 1040.11
Laser class	1
Wave length	650 nm
Adjustment	Single teach-in button
Special applications	Detecting small objects
Mounting hole	M3

¹⁾ Average service life: 50,000 h at T_J = +25 °C.

Safety-related parameters

MTTF_D	444 years (EN ISO 13849-1) ¹⁾
DC_{avg}	0 %

¹⁾ Mode of calculation: Parts-Count-calculation.

Electrical data

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA ³⁾
Protection class	III
Digital output	
Type	PNP ⁴⁾
Switching mode	Light/dark switching ⁴⁾
Output current I_{max}	≤ 100 mA
Response time	≤ 0.5 ms ⁵⁾
Switching frequency	1,000 Hz ⁶⁾
Output function	Complementary
Circuit protection	A ⁷⁾ B ⁸⁾ C ⁹⁾

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

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ Q = light switching.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ A = V_S connections reverse-polarity protected.

⁸⁾ B = inputs and output reverse-polarity protected.

⁹⁾ C = interference suppression.

Mechanical data

Housing	Rectangular
Design detail	Slim
Dimensions (W x H x D)	12.2 mm x 41.8 mm x 17.3 mm
Connection	Cable with M8 male connector, 4-pin ¹⁾
Connection detail	
Conductor size	0.14 mm ²
Length of cable (L)	100 mm ¹⁾
Material	
Housing	Plastic, Novodur
Front screen	Plastic, PMMA
Cable	PVC
Weight	100 g

¹⁾ Do not bend below 0 °C.

Ambient data

Enclosure rating	IP66
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¹⁾ As of $T_a = 50$ °C, a max. supply voltage $V_{max.} = 24$ V and a max. load current $I_{max.} = 50$ mA is permitted.

²⁾ Operation below $T_u -10$ °C is possible if the sensor is already switched on at $T_u > -10$ °C, then cools down, and the supply voltage is subsequently not switched off. Switching on below $T_u -10$ °C is not permissible.

	IP67
Ambient operating temperature	-10 °C ... +50 °C
Ambient operating temperature extended	-30 °C ... +55 °C ^{1) 2)}
Ambient temperature, storage	-30 °C ... +70 °C

¹⁾ As of $T_a = 50\text{ °C}$, a max. supply voltage $V_{max.} = 24\text{ V}$ and a max. load current $I_{max.} = 50\text{ mA}$ is permitted.

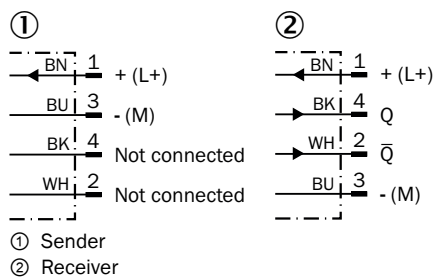
²⁾ Operation below $T_u - 10\text{ °C}$ is possible if the sensor is already switched on at $T_u > -10\text{ °C}$, then cools down, and the supply voltage is subsequently not switched off. Switching on below $T_u - 10\text{ °C}$ is not permissible.

Classifications

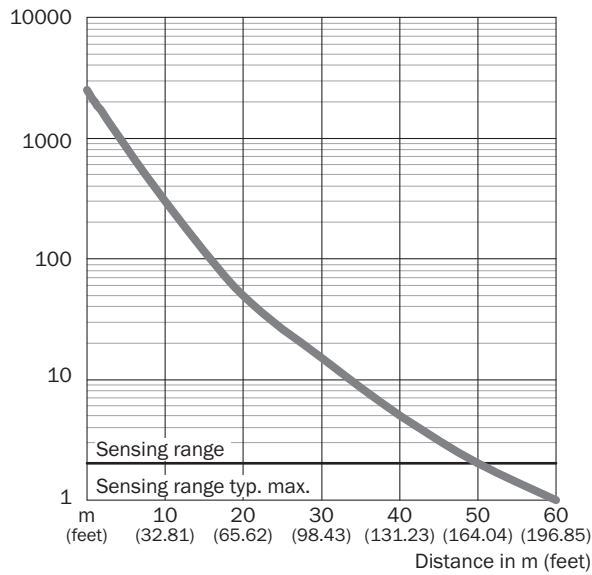
ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection diagram

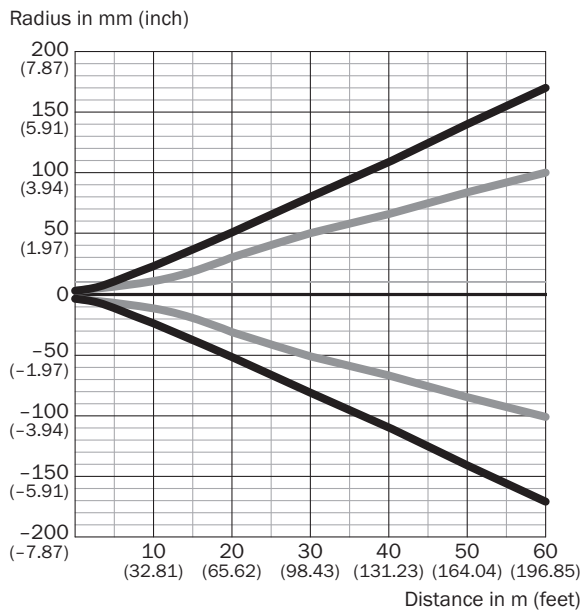
Cd-232



Characteristic curve



Light spot size



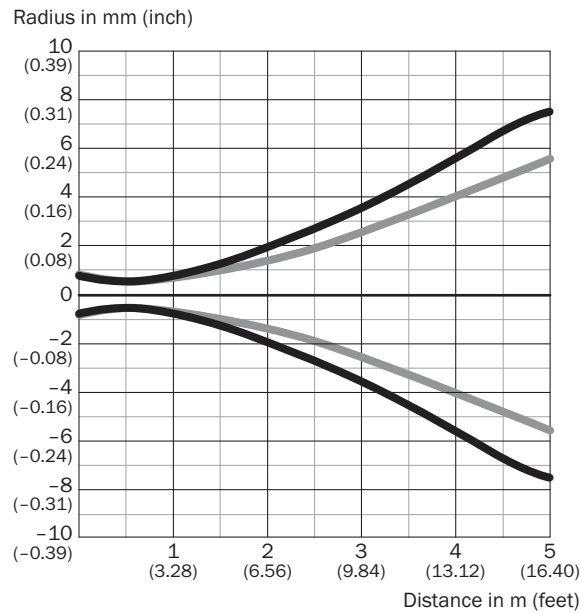
Dimensions in mm (inch)

Sensing range	Vertical	Horizontal
0.5 m (1.64 feet)	< 1.0 (0.04)	< 1.0 (0.04)
1 m (3.28 feet)	1.5 (0.06)	1.2 (0.05)
5 m (16.40 feet)	15 (0.59)	11 (0.43)
10 m (32.81 feet)	45 (1.77)	28 (1.10)
60 m (196.85 feet)	336 (13.23)	200 (7.87)

Vertical
 Horizontal

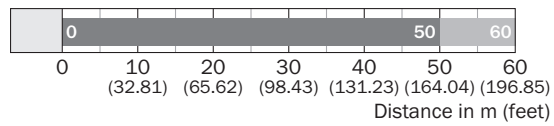
Light spot size (detailed view)

Detailed view close range



- Vertical
- Horizontal

Sensing range diagram



- Sensing range
- Sensing range typ. max.

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:

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