Data sheet

ZL1-E2415

Z-Sensor

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
ZL1-E2415	1045499

Other models and accessories ➜ www.sick.com/Z-Sensor

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Dual lens
Dimensions (W x H x D)	13.6 mm x 34.8 mm x 23 mm
Housing design (light emission)	Hybrid
Thread diameter (housing)	M18 x 1
Sensing range max.	0.1 m ... 4.8 m [1]
Sensing range	0.1 m ... 3 m [1]
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 125 mm (1 m)
Wave length	660 nm
Adjustment	None

[1] Reflector PL80A.
[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	20 mA [3]
Switching output	NPN

[1] Limit values.
[2] May not exceed or fall below U_V tolerances.
[3] Without load.
[4] With light/dark ratio 1:1.
[5] Do not bend below 0 °C.
[6] A = V_S connections reverse-polarity protected.
[7] D = outputs overcurrent and short-circuit protected.
[8] Reference voltage: 50 V DC.

Switching mode	Dark switching
Output current $I_{max.}$	≤ 50 mA
Switching frequency	400 Hz [4]
Connection type	Cable, 3-wire, 2 m [5]
Cable material	PVC
Conductor cross section	0.23 mm²
Circuit protection	A [6] D [7]
Protection class	III [8]
Polarisation filter	✓
Housing material	Plastic, Glass fiber reinforced ABS plastic
Enclosure rating	IP67
Items supplied	Mounting nut M18
Ambient operating temperature	–25 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	NRKH.E189383 & NRKH7.E189383

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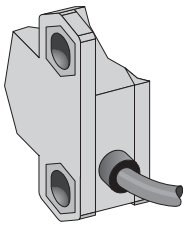
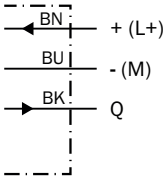
Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

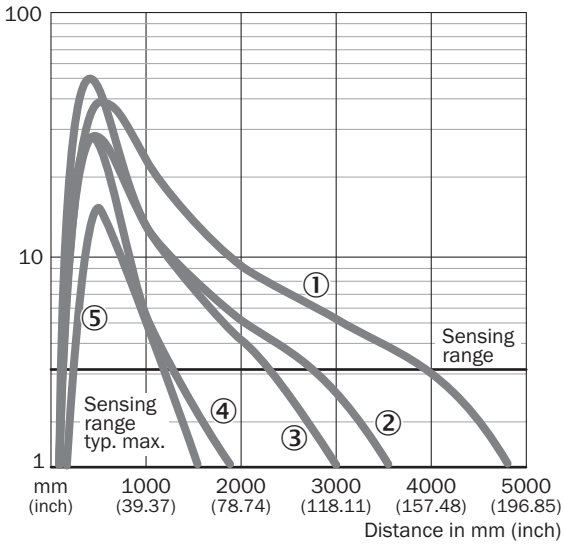
Connection type



Connection diagram Cd-043

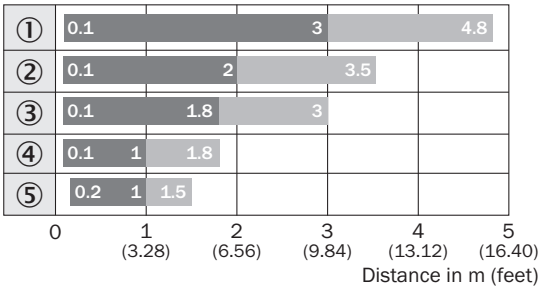


Characteristic curve ZL1, ZL2, ZL3



① Reflector PL80A
② Reflector P250
③ Reflector PL40A
④ Reflector PL20A
⑤ Reflective tape REF-Plus

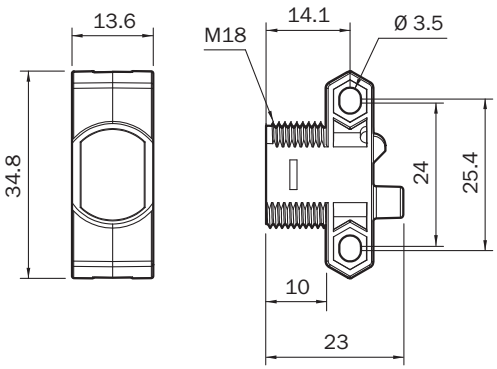
Sensing range diagram ZL1, ZL2, ZL3



Sensing range Sensing range max.

① Reflector PL80A
② Reflector P250
③ Reflector PL40A
④ Reflector PL20A
⑤ Reflective tape REF-Plus

Dimensional drawing ZT1, ZL1



Dimensions in mm (inch)

Recommended accessories

Other models and accessories ➜ www.sick.com/Z-Sensor

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Universal mounting bracket for reflectors • **Dimensions (W x H x L):** 85 mm x 90 mm x 35 mm • **Material:** Steel • **Details:** Steel, zinc coated • **Suitable for:** C110A, P250, PL20, PL30A, PL40A, PL80A	BEF-WN-REFX	2064574
	• **Description:** Plate N11N for universal clamp bracket • **Material:** Stainless steel • **Details:** Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • **Items supplied:** Universal clamp (5322627), mounting hardware • **Usable for:** DeltaPac, Glare, WTD20E	BEF-KHS-N11N	2071081

	Brief description	Type	part no.
reflectors and optics			
	• **Description:** Rectangular, screw connection • **Dimensions:** 51 mm 61 mm • **Ambient operating temperature:** –30 °C ... +65 °C	P250	5304812
connectors and cables			
	• **Connection type head A:** Male connector, M8, 3-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

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.”

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