EL3-P2415

ELF3

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

EL3-P2415 | ELF3

PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	part no.
EL3-P2415	1043960

Other models and accessories ➔ www.sick.com/ELF3

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Dimensions (W x H x D)	23.8 mm x 45.4 mm x 33.6 mm
Housing design (light emission)	Hybrid
Thread diameter (housing)	M18
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)	125 mm x 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	PNP
Switching mode	Light switching

[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.

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]
Weight	0.036 kg, 0.08 lbs
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

[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.

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
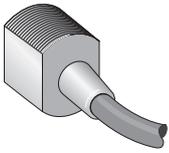
Connection diagram Cd-043

```
BN   + (L+)
BU   - (M)
BK   Q
```
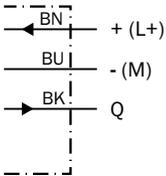
Characteristic curve EL3
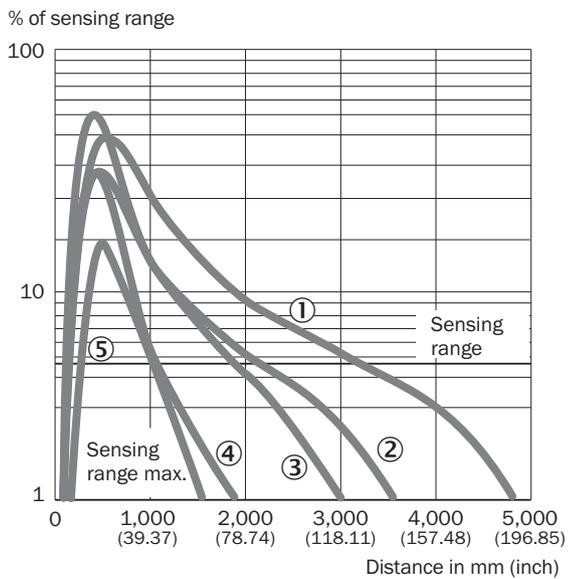
% of sensing range

Distance in mm (inch)
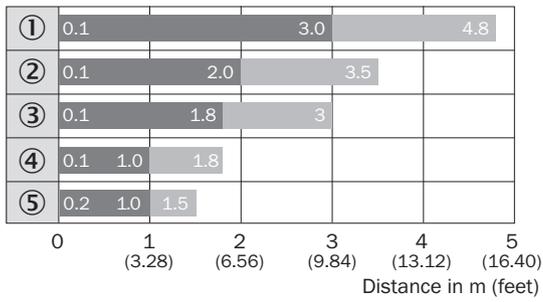
① Reflector PL80A
② Reflector P250
③ Reflector PL40A
④ Reflector PL20A
⑤ Reflective tape REF-Plus

Sensing range diagram EL3, EL4

①	0.1	3.0		4.8	
②	0.1	2.0	3.5		
③	0.1	1.8	3		
④	0.1 1.0	1.8			
⑤	0.2 1.0	1.5			

```
0        1        2        3        4        5
       (3.28)   (6.56)  (9.84)  (13.12)  (16.40)
                              Distance in m (feet)
```
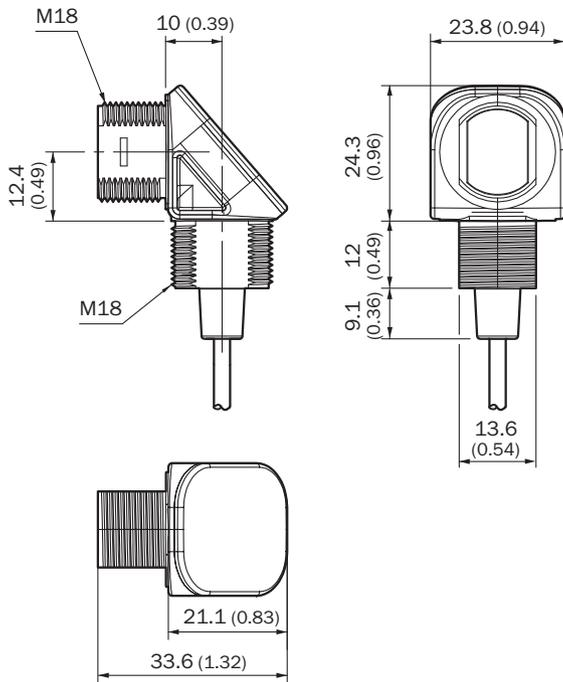
■ Sensing range   ■ Sensing range max.

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

Dimensional drawing ET3, EL3, cable

M18
10 (0.39)
23.8 (0.94)
12.4 (0.49)
24.3 (0.96)
M18
1.2 (0.49)
9.1 (0.36)
13.6 (0.54)
21.1 (0.83)
33.6 (1.32)

Dimensions in mm (inch)

Recommended accessories

Other models and accessories ➔ www.sick.com/ELF3

Brief description	Type	part no.
Mounting systems		
• **Description:** Mounting bracket for M18 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware • **Suitable for:** GR18, V180-2, V18, W15, Z1, Z2	BEF-WN-M18	5308446
• **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
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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