



EL3-E2428

ELF3

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | part no. |
|-----------|----------|
| EL3-E2428 | 1044706 |

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 43.4 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 | NPN |
| Switching mode | Dark switching |
| Output current I_{max.} | ≤ 50 mA |

¹⁾ Limit values.

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ D = outputs overcurrent and short-circuit protected.

⁷⁾ Reference voltage: 50 V DC.

| | |
|--------------------------------------|---|
| Switching frequency | 400 Hz ⁴⁾ |
| Connection type | Male connector M12, 4-pin |
| Circuit protection | A ⁵⁾ D ⁶⁾ |
| Protection class | III ⁷⁾ |
| Weight | 0.014 kg, 0.03 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) A = V_S connections reverse-polarity protected.

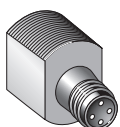
6) D = outputs overcurrent and short-circuit protected.

7) Reference voltage: 50 V DC.

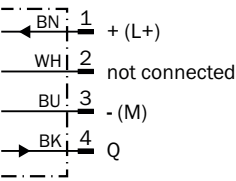
Classifications

| | |
|-----------------------|----------|
| 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 |

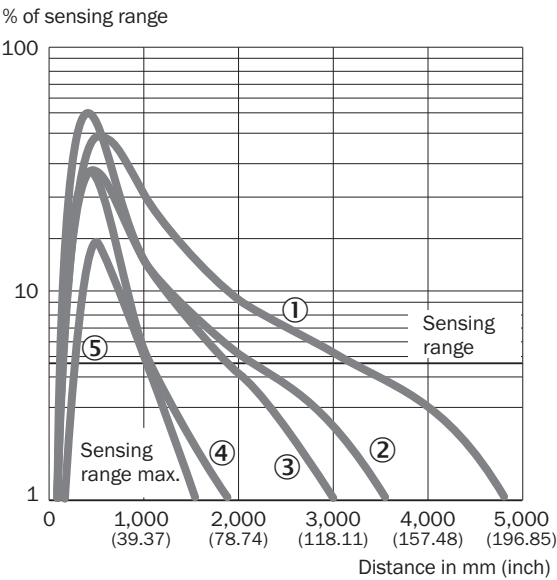
Connection type



Connection diagram Cd-066

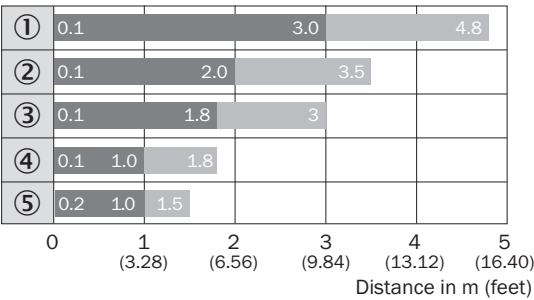


Characteristic curve EL3



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

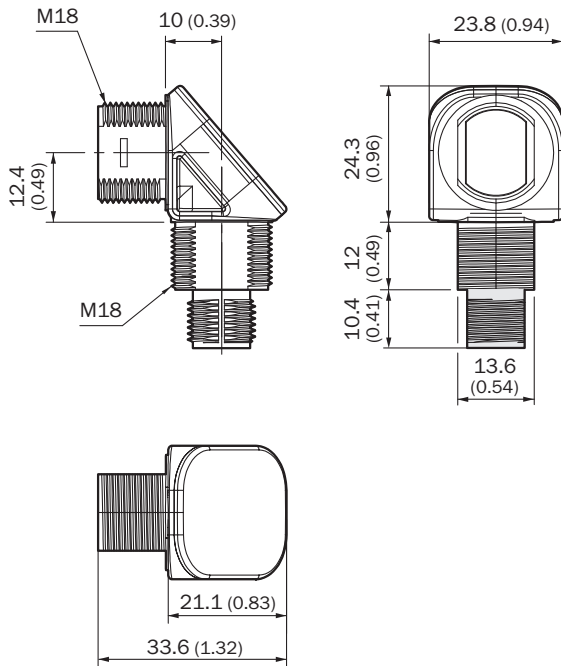
Sensing range diagram EL3, EL4



- ① Reflector PL80A




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





Dimensional drawing ET3, EL3, connector M12



Recommended accessories

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

| | Brief description | Type | part no. |
|---|---|--------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 | | | |
|  | <ul style="list-style-type: none"> • Description: Rectangular, screw connection • Dimensions: 51 mm 61 mm • Ambient operating temperature: -30 °C ... +65 °C | P250 | 5304812 |
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones | YF2A14-050VB3XLEAX | 2096235 |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² | STE-1204-G | 6009932 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-050UB3XLEAX | 2095608 |

SICK AT A GLANCE

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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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