



Photoelectric sensors
Z1, Photoelectric retro-reflective sensor

ZL1-F2415



Model Name > ZL1-F2415
Part No. > 1045498



Illustration may differ

At a glance

- Photoelectric sensor with 4.8 m sensing distance; non-adjustable
- Compact, transparent housing with 360° status indication
- M18 front mount and 24-25.4 mm slotted side through holes compatible with competitor devices
- Connection system: straight cable output

Your benefits

- Low-cost retro-reflective sensor for standard applications
- Clear housing provides 360° status indication, which simplifies troubleshooting
- Simple and unique mounting options lower installation costs
- Small size fits applications with limited space
- Compatibility with competitor products for easy integration into existing systems



Features

| | |
|----------------------------------|---------------------------------------|
| Sensor/detection principle: | Photoelectric retro-reflective sensor |
| 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 ²⁾ |
| Type of light: | Visible red light |
| Light source: | LED ³⁾ |
| Wave length: | 660 nm |
| Light spot diameter (distance): | 125 mm (1 m) |

^{1) 2)} PL80A ³⁾ Average service life 100,000 h at Ta = +25 °C

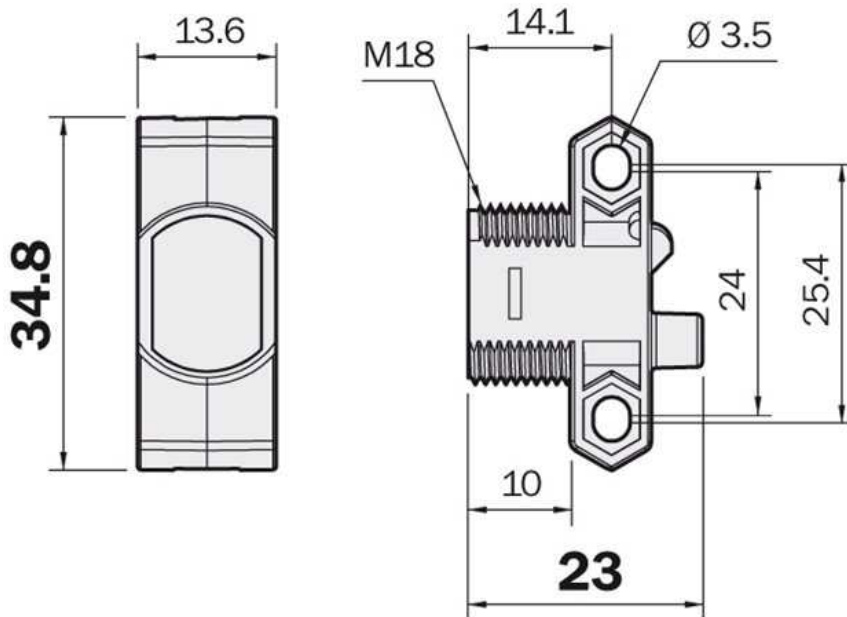
Mechanics/electronics

| | |
|------------------------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Ripple: | < 5 Vpp ²⁾ |
| Power consumption: | < 20 mA ³⁾ |
| Output type: | PNP, 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 mm ² |
| Circuit protection: | A, D ^{6) 7)} |
| Protection class: | III ⁸⁾ |
| Polarisation filter: | ✓ |
| Housing material: | Glass fiber reinforced ABS plastic |
| Enclosure rating: | IP 67 |
| Items supplied: | Mounting nut M18 |
| Ambient operating temperature: | -25 °C ... 50 °C |
| Ambient storage temperature: | -40 °C ... 70 °C |

1) Limit values 2) May not exceed or fall short of V_S 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

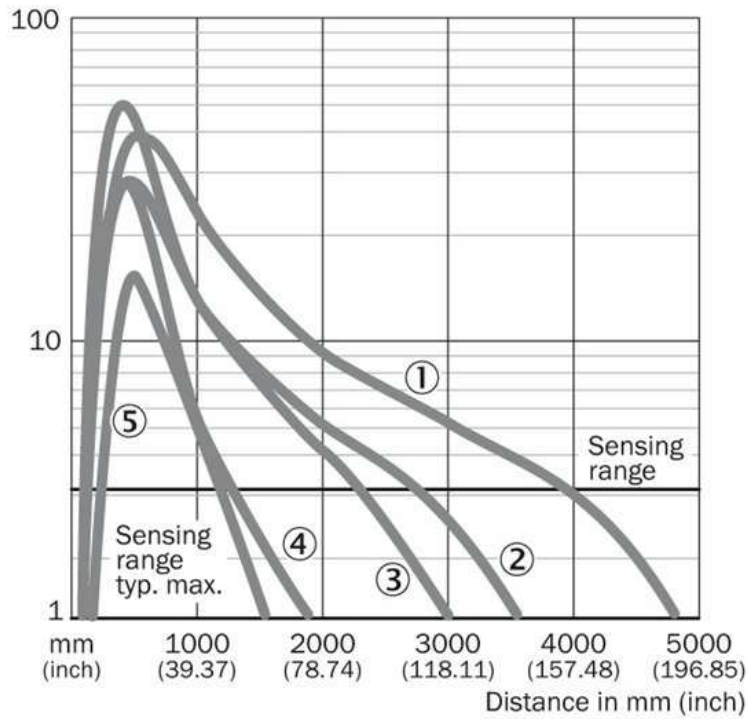
Dimensional drawing



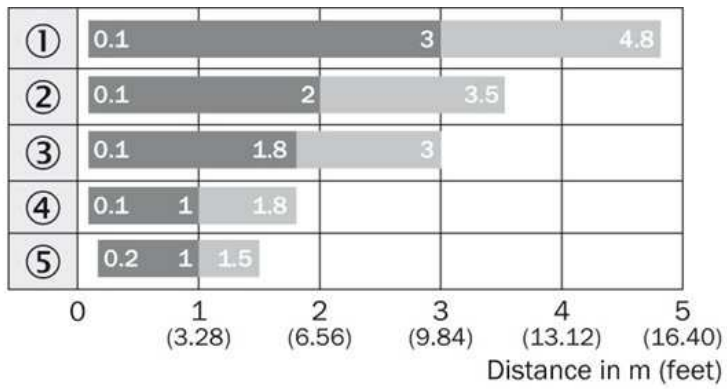
Connection diagram



Characteristic curve



Sensing range diagram

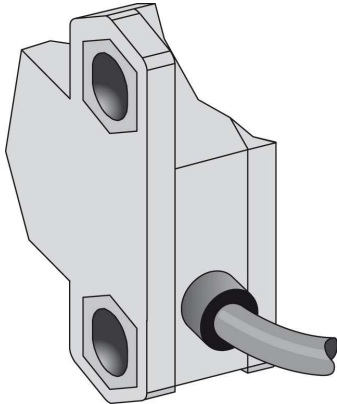


■ Sensing range ■ Sensing range typ. max.

Reflector type

- ① PL80A
- ② P250
- ③ PL40A
- ④ PL20A
- ⑤ REF-PLUS

Connection type



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