

ZLD18-BHZ3E2

Z18 Simple Sense

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

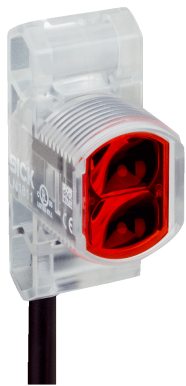


Illustration may differ



Ordering information

| Type | part no. |
|--------------|----------|
| ZLD18-BHZ3E2 | 1142646 |

Included in delivery: BEF-MU-M18*1 (2)

Other models and accessories → www.sick.com/Z18_Simple_Sense

Detailed technical data

Features

| | |
|--|---|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | With minimum distance to reflector (dual lens system) |
| Dimensions (W x H x D) | 13.6 mm x 34.8 mm x 21.9 mm |
| Housing design (light emission) | Hybrid |
| Mounting system type | M18, head/side (24.1 ... 25.4 mm) |
| Housing color | Transparent |
| Sensing range max. | 0 m ... 7.8 m ¹⁾ |
| Sensing range | 0 m ... 6.8 m ¹⁾ |
| Type of light | Visible red light |
| Light source | PinPoint LED |
| Light spot size (distance) | Ø 25 mm (1,000 mm) |
| Wave length | 625 nm |

¹⁾ Reflector PL80A.

Mechanics/electronics

| | |
|-------------------------------------|-----------------------|
| Supply voltage U_B | 10 V DC ... 30 V DC |
| Ripple | < 10 % |
| Current consumption | ≤ 15 mA ¹⁾ |

¹⁾ Without load.

²⁾ Open Collector.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ B = inputs and output reverse-polarity protected.

⁷⁾ D = outputs overcurrent and short-circuit protected.

| | |
|--|---|
| Switching output | PNP |
| Switching mode | Light switching |
| Switching output detail | |
| Switching output Q1 | PNP, Light switching ²⁾ |
| Switching output Q2 | Not connected |
| Output current I_{max.} | 100 mA |
| Response time | ≤ 500 μs ³⁾ |
| Switching frequency | 1,000 kHz ⁴⁾ |
| Connection type | Cable with M8 male connector, 4-pin, 1 m |
| Cable material | Plastic, PVC |
| Conductor cross section | 0.13 mm ² |
| Circuit protection | A ⁵⁾ B ⁶⁾ D ⁷⁾ |
| Protection class | III |
| Weight | 4.54 g |
| Polarizing filter | ✓ |
| Housing material | Plastic, ABS |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP67 |
| Ambient operating temperature | -40 °C ... +55 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |
| UL File No. | E189383 |

1) Without load.

2) Open Collector.

3) Signal transit time with resistive load.

4) With light/dark ratio 1:1.

5) A = V_S connections reverse-polarity protected.

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

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

Connection type/pinouts

| | |
|-------------------------------|--|
| Connection type | |
| | Cable with M8 male connector, 4-pin, 1 m |
| Connection type Detail | |
| Cable material | Plastic |
| Conductor cross section | 0.13 mm ² |
| Pinouts | |
| BN 1 | + (L+) |
| WH 2 | Not connected |
| BU 3 | - (M) |
| BK 4 | Q ₁ |

Certificates

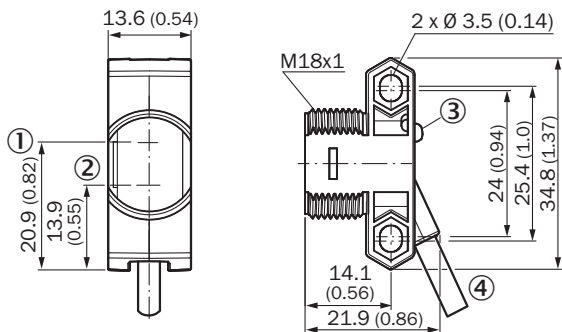
| | |
|-------------------------------------|---|
| EU declaration of conformity | ✓ |
|-------------------------------------|---|

| | |
|---|---|
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |

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 |

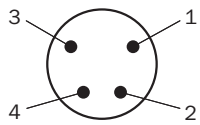
Dimensional drawing



Dimensions in mm (inch)

- ① optical axis, sender
- ② optical axis, receiver
- ③ LED status indicator
- ④ Connection

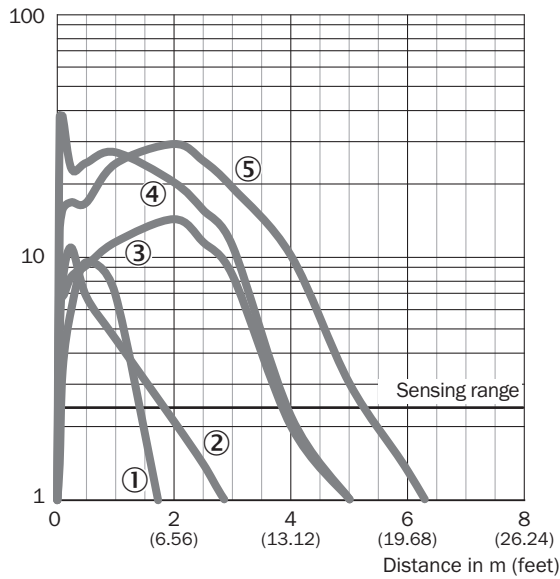
Pinouts, see table Technical data: Connection type/pinouts



Male connector, M8, 4-pin, uncoded

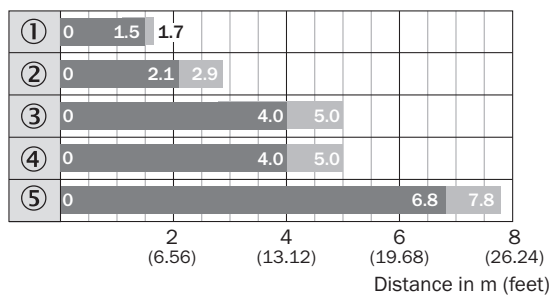
Characteristic curve

Function reserve



- ① Reflector PL23 FT
- ② Reflector PL20A
- ③ Reflector P250
- ④ Reflector PL40A
- ⑤ Reflector PL80A

Sensing range diagram






■ Sensing range ■ Sensing range typ. max.

- ① Reflector PL23 FT
- ② Reflector PL20A
- ③ Reflector P250
- ④ Reflector PL40A
- ⑤ Reflector PL80A

Recommended accessories

Other models and accessories → www.sick.com/Z18_Simple_Sense

| | Brief description | Type | part no. |
|---|--|-------------|----------|
| Mounting systems | | | |
|  | <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: 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 |
| 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 |

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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