



GLD20G-QK112170ZZZ

G20

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|--------------------|----------|
| GLD20G-QK112170ZZZ | 1120842 |

Other models and accessories → www.sick.com/G20

Detailed technical data

Features

| | |
|---|---|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | With minimum distance to reflector (dual lens system) |
| Sensing range | |
| Sensing range min. | 0.03 m |
| Sensing range max. | 20 m |
| Maximum distance range from reflector to sensor (operating reserve 1) | 0.03 m ... 20 m |
| Recommended distance range from reflector to sensor (operating reserve 2) | 0.03 m ... 16 m |
| Reference reflector | Reflector PL80A |
| Polarisation filters | Yes |
| Emitted beam | |
| Light source | LED |
| Type of light | Visible red light |
| Shape of light spot | Rectangular |
| Light spot size (distance) | Ø 200 mm (5,000 mm) |
| Maximum dispersion of the emitted beam around the standardized transmission axis (squint angle) | < +/- 1.5° (at T _a = +23 °C) |
| Key LED figures | |
| Normative reference | EN 62471:2008-09 IEC 62471:2006, modified |
| LED risk group marking | Free group |
| Wave length | 630 nm |
| Average service life | 100,000 h at T _a = +25 °C |
| Adjustment | |
| Potentiometer | For sensitivity adjustment, 270° |

| Indication | |
|------------|--|
| LED green | Operating indicator Static on: power on |
| LED yellow | Status of received light beam Static on: object not present Static off: object present |

Electrical data

| | |
|--|---|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} |
| Usage category | DC-13 (according to EN 60947-1) |
| Current consumption | ≤ 30 mA, without load. At $U_B = 24$ V |
| Protection class | III |
| Digital output | |
| Number | 2 (Complementary) |
| Type | Push-pull: PNP/NPN |
| Signal voltage PNP HIGH/LOW | $V_S - (\leq 3 \text{ V}) / \text{approx. } 0 \text{ V}$ |
| Signal voltage NPN HIGH/LOW | $V_S - (\leq 3 \text{ V}) / \text{approx. } 0 \text{ V}$ |
| Output current I_{max} | ≤ 100 mA ²⁾ |
| Circuit protection outputs | Reverse polarity protected Overcurrent protected Short-circuit protected |
| Response time | ≤ 500 μs |
| Switching frequency | 1,000 Hz ³⁾ |
| Pin/Wire assignment | |
| BN 1 | + (L+) |
| WH 2 | \bar{Q} Digital output, dark switching, object present → output \bar{Q} HIGH |
| BU 3 | - (M) |
| BK 4 | Q Digital output, light switching, object present → output Q LOW |

¹⁾ Limit values U_B connections, reverse polarity protected.

²⁾ At $U_B > 24$ V, $I_{\text{max}} = 100$ mA.

³⁾ With light/dark ratio 1:1.

Mechanical data

| | |
|-------------------------------|----------------------------------|
| Housing | Rectangular |
| Dimensions (W x H x D) | 23.5 mm x 74.5 mm x 52.5 mm |
| Connection | Terminal connection, 4 terminals |
| Material | |
| Housing | Plastic, ABS |
| Front screen | Plastic, PMMA |

Ambient data

| | |
|--------------------------------------|-------------------|
| Enclosure rating | IP67 (EN 60529) |
| Ambient operating temperature | -30 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |

| | |
|--|---|
| Typ. Ambient light immunity | Sunlight: ≤ 20,000 lx |
| Shock resistance | 30 g, 11 ms (3 positive and 3 negative shocks along X, Y, Z axes, 18 total shocks (EN60068-2-27)) |
| Vibration resistance | 10 Hz ... 1,000 Hz (Amplitude 1 mm, 3 x 30 min (EN60068-2-6)) |
| Air humidity | 35 % ... 95 %, Relative humidity (no condensation) |
| Electromagnetic compatibility (EMC) | EN 60947-5-2 |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |

Classifications

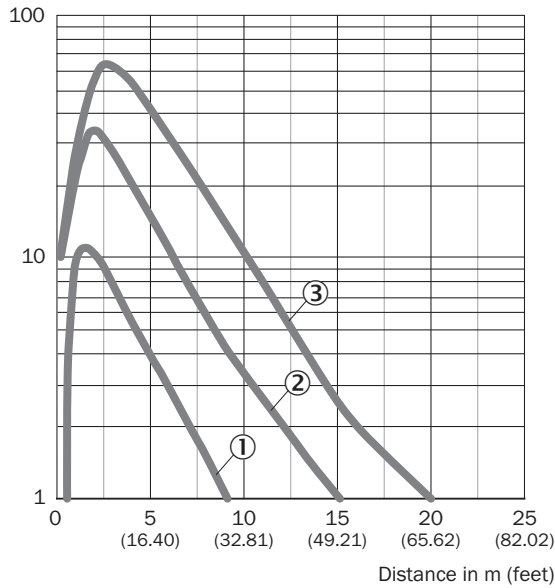
| | |
|-----------------------|----------|
| eCl@ss 5.0 | 27270902 |
| eCl@ss 5.1.4 | 27270902 |
| eCl@ss 6.0 | 27270902 |
| eCl@ss 6.2 | 27270902 |
| eCl@ss 7.0 | 27270902 |
| eCl@ss 8.0 | 27270902 |
| eCl@ss 8.1 | 27270902 |
| eCl@ss 9.0 | 27270902 |
| eCl@ss 10.0 | 27270902 |
| eCl@ss 11.0 | 27270902 |
| eCl@ss 12.0 | 27270904 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| ETIM 8.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

Connection type



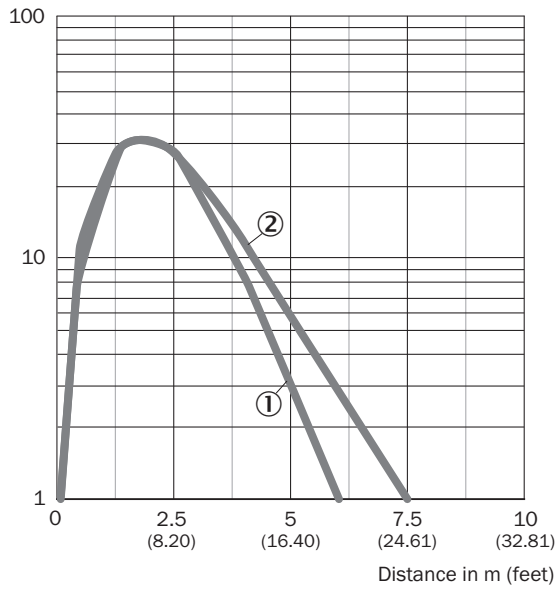
Characteristic curve

Operating reserve



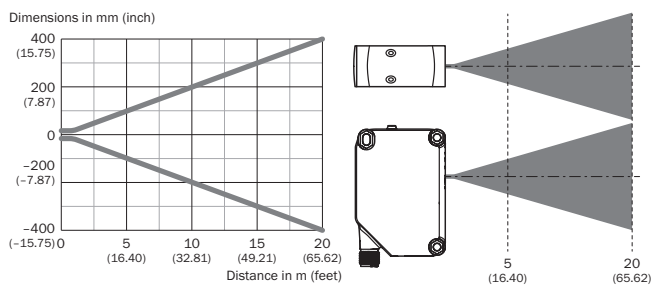
- ① Reflector PL20A
- ② Reflector PL50A, P250, PL30A, PL31A, PL40A
- ③ Reflector PL80A, C110A, PL100

Operating reserve

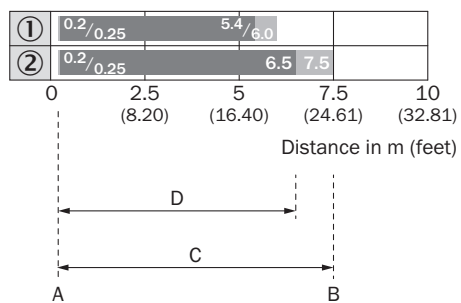
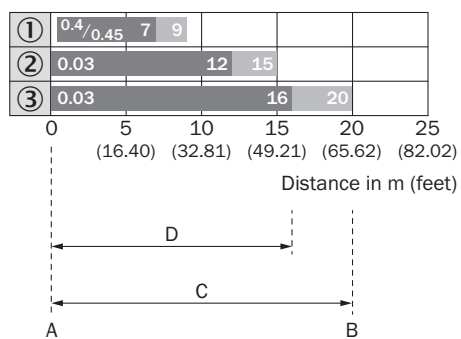


- ① Reflective tape REF-IRF-56
- ② Diamond Grade reflective tape, 100 mm x 100 mm

Light spot size

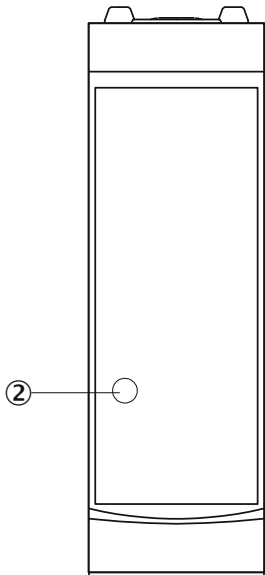


Sensing range diagram



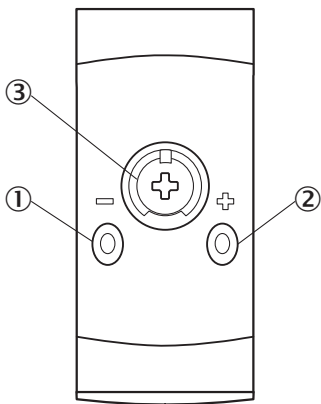
Adjustments

Display and adjustment elements



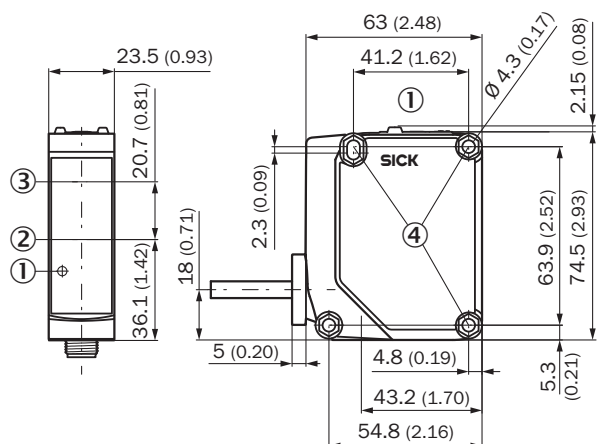
② LED yellow

Display and adjustment elements



- ① LED green
- ② LED yellow
- ③ Potentiometer




Dimensional drawing (Dimensions in mm (inch))



- ① Display and adjustment elements
- ② Center of optical axis, sender
- ③ Center of optical axis, receiver
- ④ Fixing hole \varnothing 4.3 mm, both sides for hexagon nut M4

Recommended accessories

Other models and accessories → www.sick.com/G20

| | Brief description | Type | Part no. |
|---|---|-------------|-----------------|
| Mounting brackets and plates | | | |
|  | Mounting bracket, Stainless steel V2A (1.4301), 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensor | BEF-W280 | 5313885 |
|  | Universal mounting bracket for reflectors, steel, zinc coated | BEF-WN-REFX | 2064574 |
| Reflectors | | | |
|  | Rectangular, screw connection, 84 mm x 84 mm, PMMA/ABS, Screw-on, 2 hole mounting | PL80A | 1003865 |

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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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