



# PLG3-120F431

PLG

SWITCHING AUTOMATION LIGHT GRIDS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type         | Part no. |
|--------------|----------|
| PLG3-120F431 | 1028953  |

Other models and accessories → [www.sick.com/PLG](http://www.sick.com/PLG)

### Detailed technical data

#### Features

|  |                                       |
|--|---------------------------------------|
| <b>Sensor principle</b>                | Photoelectric retro-reflective sensor |
| <b>Minimum detectable object (MDO)</b> | 35 mm <sup>1)</sup>                   |
| <b>Beam separation</b>                 | 30 mm                                 |
| <b>Number of beams</b>                 | 5                                     |
| <b>Detection height</b>                | 120 mm                                |

<sup>1)</sup> See characteristic curve.

#### Mechanics/electronics

|  |  |
|--|--|
| <b>Wave length</b>                     | 650 nm                                       |
| <b>Supply voltage V<sub>s</sub></b>    | DC 15 V ... 30 V <sup>1)</sup>               |
| <b>Power consumption sender</b>        | < 45 mA                                      |
| <b>Ripple</b>                          | < 5 V <sub>pp</sub>                          |
| <b>Output current I<sub>max.</sub></b> | ≤ 100 mA                                     |
| <b>Output load, capacitive</b>         | 100 nF                                       |
| <b>Output load, Inductive</b>          | 1 H  |
| <b>Initialization time</b>             | 0.6 s  |
| <b>Switching output</b>                | PNP <sup>2)</sup>                            |
| <b>Output mode</b>                     | Q dark switching <sup>3)</sup>               |
| <b>Current consumption job LED</b>     | 10 mA <sup>1)</sup>                          |
| <b>Dimensions (W x H x D)</b>          | 19.2 mm x 199.8 mm x 36.6 mm                 |
| <b>Connection type</b>                 | Cable with M12 male connector, 4-pin, 280 mm |
| <b>Housing material</b>                | Aluminum                                     |
| <b>Indication</b>                      | LED  |

<sup>1)</sup> Typical value.

<sup>2)</sup> Q.

<sup>3)</sup> Q = active, if at least one beam is interrupted, /Q = active, if all of the beams are free.

|                           |  |
|---------------------------|--|
| <b>Enclosure rating</b>   | IP54   |
| <b>Circuit protection</b> | U <sub>v</sub> connections, reverse polarity protected<br>Output Q short-circuit protected<br>Interference pulse suppression |
| <b>Protection class</b>   | III  |
| <b>Weight</b>             | 200 g  |
| <b>Front screen</b>       | PMMA   |

1) Typical value.

2) Q.

3) Q = active, if at least one beam is interrupted, /Q = active, if all of the beams are free.

### Performance

|                        |                       |
|------------------------|-----------------------|
| <b>Maximum range</b>   | 2 m                   |
| <b>Minimum range</b>   | ≥ 110 mm              |
| <b>Operating range</b> | 1.3 m                 |
| <b>Response time</b>   | < 80 ms <sup>1)</sup> |

1) With resistive load.

### Ambient data

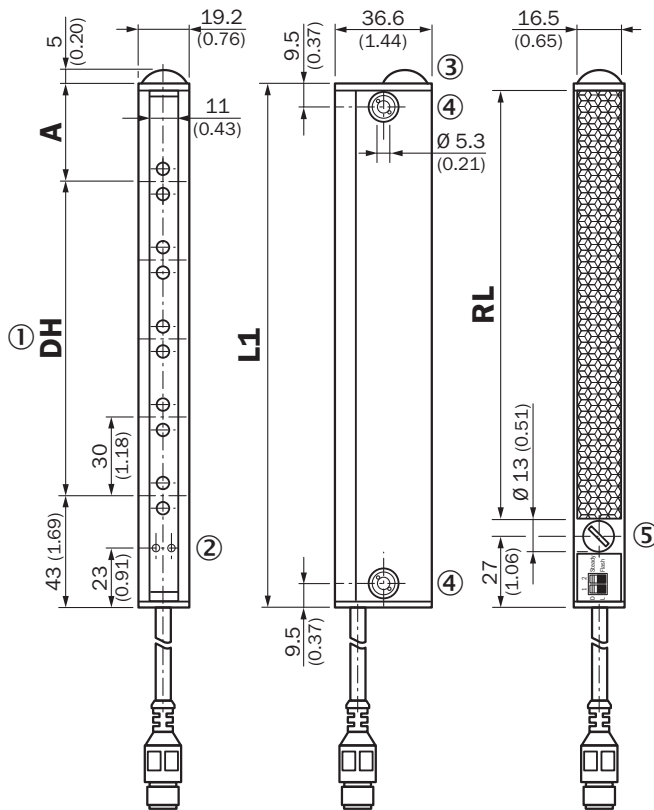
|                                      |                                   |
|--------------------------------------|-----------------------------------|
| <b>Shock resistance</b>              | 10 g / DIN EN 60068-2-29 / 16 ms  |
| <b>Vibration resistance</b>          | 5 g, 10 Hz ... 55 Hz (IEC 68-2-6) |
| <b>EMC</b>                           | EN 60947-5-2                      |
| <b>Ambient operating temperature</b> | -10 °C ... +55 °C                 |
| <b>Ambient temperature, storage</b>  | -40 °C ... +70 °C                 |

### Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270910 |
| <b>ECLASS 5.1.4</b>   | 27270910 |
| <b>ECLASS 6.0</b>     | 27270910 |
| <b>ECLASS 6.2</b>     | 27270910 |
| <b>ECLASS 7.0</b>     | 27270910 |
| <b>ECLASS 8.0</b>     | 27270910 |
| <b>ECLASS 8.1</b>     | 27270910 |
| <b>ECLASS 9.0</b>     | 27270910 |
| <b>ECLASS 10.0</b>    | 27270910 |
| <b>ECLASS 11.0</b>    | 27270910 |
| <b>ECLASS 12.0</b>    | 27270910 |
| <b>ETIM 5.0</b>       | EC002549 |
| <b>ETIM 6.0</b>       | EC002549 |
| <b>ETIM 7.0</b>       | EC002549 |
| <b>ETIM 8.0</b>       | EC002549 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Dimensional drawing (Dimensions in mm (inch))

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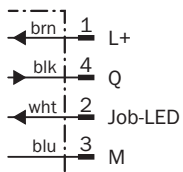
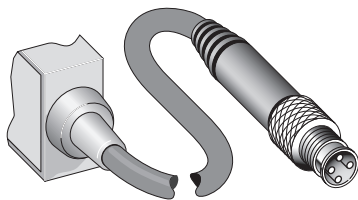


| DH                 | A         | L1            | RL          |
|--------------------|-----------|---------------|-------------|
| <b>120 (4.72)</b>  | 36 (1.42) | 199.8 (7.87)  | 162 (6.38)  |
| <b>210 (8.27)</b>  | 26 (1.02) | 279.8 (11.02) | 242 (9.53)  |
| <b>270 (10.63)</b> | 36 (1.42) | 349.8 (13.77) | 312 (12.28) |
| <b>360 (14.17)</b> | 26 (1.02) | 429.8 (16.92) | 392 (15.43) |
| <b>420 (16.54)</b> | 36 (1.42) | 499.8 (19.68) | 462 (18.19) |

- ① Detection height (DH)
- ② Indicator Power on: green; beam status: yellow
- ③ Job LED, green
- ④ Mounting hole, Ø 5.3 mm
- ⑤ Configuration switches

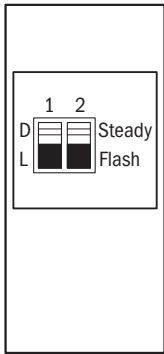
### Connection type and diagram

Connection type and diagram



## Adjustments

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### Configuration over switches

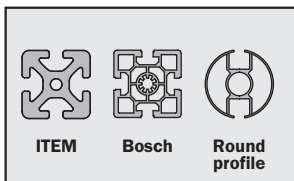
|                 |        |   |
|-----------------|--------|---|
| <b>Switch 1</b> | D      | Output active, in case of blocked beams   |
|                 | L      | Output inactive, in case of blocked beams |
| <b>Switch 2</b> | Steady | Job-LED steady                            |
|                 | Flash  | Job-LED flashes, 3 Hz                     |

## Concept of operation

Specific features

### Easy installation

#### 1. Easy mounting on to different profiles



The light grid can be mounted on different profiles, e.g. ITEM, Bosch, round profile.

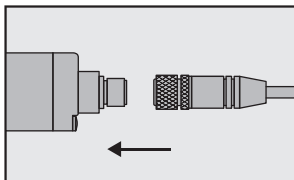
#### 2. Easy installation with slot nuts



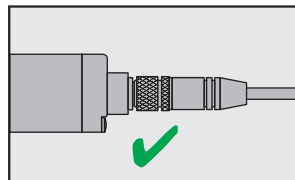
The PLG can easily be mounted on the profile with slot nuts.

### Plug & play

#### 1. Plug in and tighten the ring of the connector

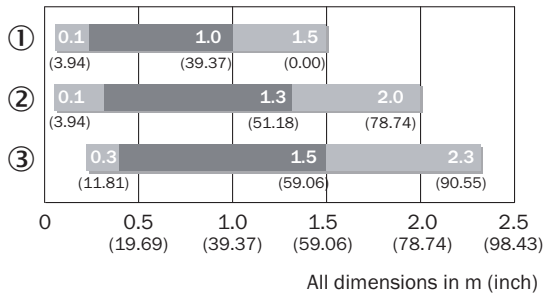


#### 2. Device is ready for use



### Sensing distance

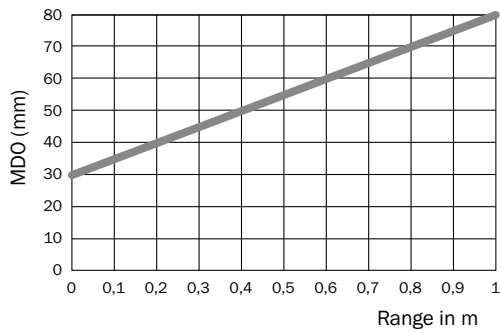
Characteristic curve: range



- ① REF-PLG
- ② Reflector PL150
- ③ Reflector PL180


### Detection capability

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### Recommended accessories

Other models and accessories → [www.sick.com/PLG](http://www.sick.com/PLG)

|   | Brief description  | Type         | Part no. |
|---|--|--------------|----------|
| <b>Other mounting accessories</b>   |  |              |          |
|  | Sliding nuts with spring metal ball for ITEM profile, 2x slot 6 and slot 8, including mounting material, Mounting hardware included with every 2 x slot 6 and slot 8 | BEF-NSIT-PLG | 2041045  |

<sup>1)</sup> Customizable length by roll. Width 2.5 cm, length max. 22.8 m.

|   | Brief description   | Type               | Part no. |
|---|---|--------------------|----------|
| Reflectors  |   |                    |          |
|  | Reflective tape on aluminium profile, 2 hole mounting, Screw-on, 2 hole mounting  | REF-PLG120         | 1029196  |
|  | Self-adhesive, customizable length by roll, 2.5 cm x 22.8 m <sup>1)</sup> , self-adhesive   | REF-PLUS-R25-K     | 4051184  |
| Others  |   |                    |          |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul> | YF2A14-050VB3XLEAX | 2096235  |

<sup>1)</sup> Customizable length by roll. Width 2.5 cm, length max. 22.8 m.

## 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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