



**Part no.: 50140152**  
**LE412B/PX-M12**  
**Throughbeam photoelectric sensor receiver**



Figure can vary

## Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Suitable transmitters
- Part number code
- Notes
- Accessories

## Technical data

| <b>Basic data</b>                   |   |
|-------------------------------------|---|
| Series                              | 412B  |
| Operating principle                 | Throughbeam principle                                   |
| Device type                         | Receiver  |
| <b>Optical data</b>                 |   |
| Operating range                     | Guaranteed operating range                              |
| Operating range                     | 0 ... 10 m  |
| <b>Electrical data</b>              |   |
| Protective circuit                  | Polarity reversal protection<br>Short circuit protected |
| <b>Performance data</b>             |   |
| Supply voltage $U_B$                | 10 ... 36 V , DC , Incl. residual ripple                |
| Residual ripple                     | 0 ... 20 % , From $U_B$                                 |
| Open-circuit current                | 0 ... 15 mA   |
| <b>Outputs</b>                      |   |
| Number of digital switching outputs | 1 Piece(s)  |
| <b>Switching outputs</b>            |   |
| Voltage type                        | DC  |
| Switching current, max.             | 200 mA  |
| <b>Switching output 1</b>           |   |
| Assignment                          | Connection 1, pin 4                                     |
| Switching element                   | Transistor , PNP  |
| Switching principle                 | Dark switching  |
| <b>Timing</b>                       |   |
| Switching frequency                 | 1,000 Hz  |
| Response time                       | 0.5 ms  |
| Readiness delay                     | 20 ms   |
| <b>Connection</b>                   |   |
| <b>Connection 1</b>                 |   |
| Type of connection                  | Connector   |
| Function                            | Signal OUT<br>Voltage supply                            |
| Thread size                         | M12   |
| Type                                | Male  |
| Material                            | Metal   |
| No. of pins                         | 4 -pin  |
| Encoding                            | A-coded   |
| <b>Mechanical data</b>              |   |
| Thread size                         | M12 x 1 mm  |
| Dimension (Ø x L)                   | 12 mm x 60 mm   |
| Housing material                    | Metal , Chromed brass                                   |
| Lens cover material                 | Glass   |
| Net weight                          | 32 g  |

Part no.: 50140152 – LE412B/PX-M12 – Throughbeam photoelectric sensor

|               |        |
|---------------|--------|
| Housing color | Silver |
|---------------|--------|

**Operation and display**

|                 |            |
|-----------------|------------|
| Type of display | LED        |
| Number of LEDs  | 2 Piece(s) |

**Environmental data**

|                                |               |
|--------------------------------|---------------|
| Ambient temperature, operation | -25 ... 55 °C |
|--------------------------------|---------------|

**Certifications**

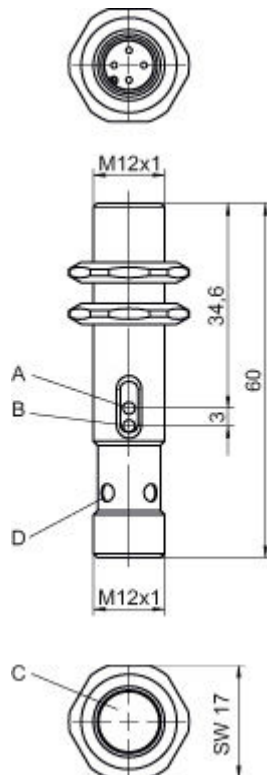
|                      |               |
|----------------------|---------------|
| Degree of protection | IP 67         |
| Protection class     | III           |
| Certifications       | c UL US       |
| Standards applied    | IEC 60947-5-2 |

**Classification**

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 8.0            | 27270901 |
| eCl@ss 9.0            | 27270901 |
| ETIM 5.0              | EC002716 |

## Dimensioned drawings

All dimensions in millimeters



A Green LED

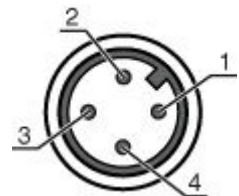
Part no.: 50140152 – LE412B/PX-M12 – Throughbeam photoelectric sensor

B Yellow LED  
 C Optical axis  
 D Yellow LED

### Electrical connection

| Connection 1       |                              |
|--------------------|------------------------------|
| Type of connection | Connector                    |
| Function           | Signal OUT<br>Voltage supply |
| Thread size        | M12                          |
| Type               | Male                         |
| Material           | Metal                        |
| No. of pins        | 4 -pin                       |
| Encoding           | A-coded                      |

| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | n.c.           |
| 3   | GND            |
| 4   | OUT 1          |




### Operation and display

#### LEDs

| LED | Display                  | Meaning                                 |
|-----|--------------------------|---|
| 1   | Green, continuous light  | Function reserve                        |
| 2   | Yellow, continuous light | Switching output/switching state active |

### Suitable transmitters

|   | Part no. | Designation   | Article                                      | Description  |
|---|----------|---------------|--|--|
|  | 50140150 | LS412B/DX-M12 | Throughbeam photoelectric sensor transmitter | Special design: Deactivation input<br>Light source: LED, Red<br>Supply voltage: DC<br>Deactivation inputs: 1 Piece(s)<br>Connection: Connector, M12, Metal, 4 -pin |

### Part number code

Part designation: AAA412BGG.H/ii-K

|         |   |
|---------|---|
| AAA412B | <b>Operating principle / construction:</b><br>LS412B: throughbeam photoelectric sensor transmitter<br>LE412B: throughbeam photoelectric sensor receiver<br>ET412B: energetic diffuse reflection sensor<br>PRK412B: retro-reflective photoelectric sensor with polarization filter |
|---------|---|

**Part no.: 50140152 – LE412B/PX-M12 – Throughbeam photoelectric sensor**

|    |  |
|----|--|
| GG | <b>Light source:</b><br>n/a: LED<br>L2: laser class 2  |
| H  | <b>Operating range adjustment:</b><br>1: 270° potentiometer  |
| ii | <b>Switching output / function / OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2):</b><br>2: NPN transistor output, light switching<br>N: NPN transistor output, dark switching<br>4: PNP transistor output, light switching<br>P: PNP transistor output, dark switching<br>D: deactivation input (deactivation with low signal)<br>X: pin not used |
| K  | <b>Electrical connection:</b><br>n/a: cable, standard length 2000 mm, 3-wire<br>M12: M12 connector, 4-pin (plug)   |



**Note**

A list with all available device types can be found on the Leuze electronic website at [www.leuze.com](http://www.leuze.com).


**Notes**
**Observe intended use!**

- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

**Accessories**
**Connection technology - Connection cables**

|   | Part no. | Designation        | Article          | Description  |
|---|----------|--------------------|------------------|--|
|  | 50130652 | KD U-M12-4A-V1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: PVC  |
|  | 50130690 | KD U-M12-4W-V1-050 | Connection cable | Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: PVC |

**Mounting technology - Mounting brackets**

|   | Part no. | Designation | Article          | Description  |
|---|----------|-------------|------------------|--|
|  | 50113549 | BT D12M.5   | Mounting bracket | Diameter, inner: 12 mm<br>Design of mounting device: Angle, L-shape<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Rigid<br>Material: Stainless steel |