



## Photoelectric sensors MH15, Photoelectric retro-reflective sensor

MHL15-N3338



**Model Name** > [MHL15-N3338](#)  
**Part No.** > [1026133](#)



*Illustration may differ*

#### At a glance

- Long sensing distance up to 5.0 m with PL80A reflector
- Polarizing filter reliably detects shiny object surfaces
- Indicator LED shows active switching output and operating reserve
- Straight or right-angle housing designs available
- Mounting accessories (M18 nuts and snap ring) are included
- IP 69K-tested housing

#### Your benefits

- Shortest M18 body on the market, saving installation space
- Flush mounting via snap ring reduces setup time and prevents obstructions to material flow on conveyor systems
- Polarizing filter prevents false readings on reflective objects, reducing downtime
- Highly visible red light provides simple installation and time-saving alignment to the reflector
- MHL15 is compatible with competitor sensors for easy replacement that saves installation time and costs
- IP 69K-tested housing offers a long service life that withstands harsh environments, reducing maintenance time and costs



#### Features

|                                  |                                       |
|----------------------------------|---------------------------------------|
| Sensor/detection principle:      | Photoelectric retro-reflective sensor |
| Housing design (light emission): | Cylindrical, angled                   |
| Housing length:                  | 50.3 mm                               |
| Thread diameter (housing):       | M18 x 1                               |
| Optical axis:                    | Radial                                |
| Sensing range max.:              | 0.035 m ... 4.5 m <sup>1)</sup>       |
| Sensing range:                   | 0.035 m ... 2.6 m <sup>2)</sup>       |
| Type of light:                   | Visible red light                     |
| Light source:                    | LED <sup>3)</sup>                     |
| Wave length:                     | 650 nm                                |
| Angle of dispersion:             | Ca. 1.5 °                             |
| Light spot size (distance):      | Ø 60 mm (2.6 m)                       |

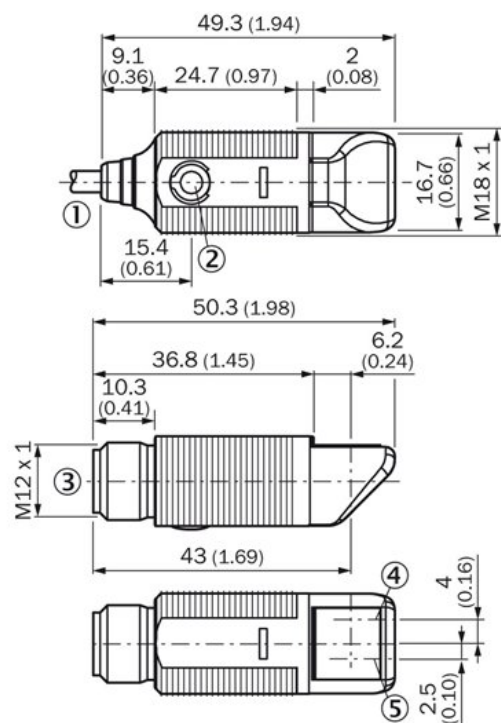
<sup>1) 2)</sup> PL80A <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

#### Mechanics/electronics

|                                    |                                                   |
|------------------------------------|---------------------------------------------------|
| Supply voltage:                    | 10 V DC ... 30 <sup>1)</sup>                      |
| Ripple:                            | $\leq 5 \text{ Vpp}$ <sup>2)</sup>                |
| Power consumption:                 | 30 <sup>3)</sup>                                  |
| Output type:                       | NPN                                               |
| Switching mode:                    | Light switching                                   |
| Signal voltage NPN HIGH/LOW:       | $U_v / < 2,9 \text{ V}$                           |
| Output current I <sub>max.</sub> : | 100                                               |
| Response time:                     | $\leq 1.25 \text{ ms}$ <sup>4)</sup>              |
| Switching frequency:               | 400 <sup>5)</sup>                                 |
| Connection type:                   | Connector M12, 3-pin                              |
| Circuit protection:::              | A, C, D <sup>6)</sup> <sup>7)</sup> <sup>8)</sup> |
| Protection class:                  | III                                               |
| Weight:                            | 8 g                                               |
| Polarisation filter:               | ✓                                                 |
| Front screen heating:              | -                                                 |
| Special device:                    | -                                                 |
| Housing material:                  | ABS, Plastic                                      |
| Optics material:                   | PMMA                                              |
| Enclosure rating:                  | IP 67<br>IP 69K                                   |
| Ambient operating temperature:     | -25 ... 55 °C                                     |
| Ambient storage temperature:       | -25 ... 70 °C                                     |
| UL File No.:                       | NRKH.E189383 & NRKH7.E189383                      |

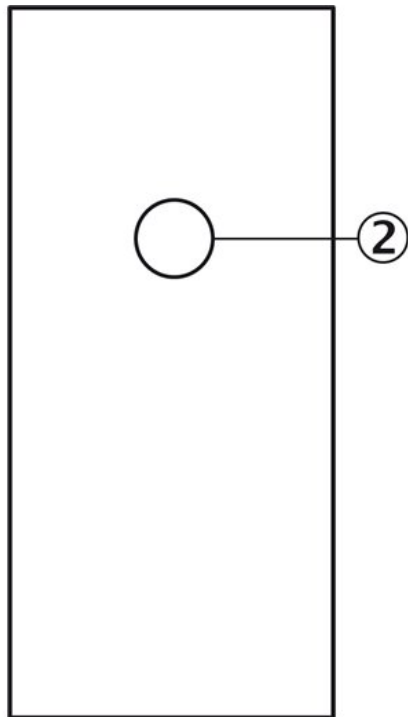
<sup>1)</sup> Limit values    <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances    <sup>3)</sup> Without load    <sup>4)</sup> Signal transit time with resistive load    <sup>5)</sup> With light/dark ratio 1:1    <sup>6)</sup>  $A = V_S$   
connections reverse-polarity protected    <sup>7)</sup> C = interference suppression    <sup>8)</sup> D = outputs overcurrent and short-circuit protected

Dimensional drawing



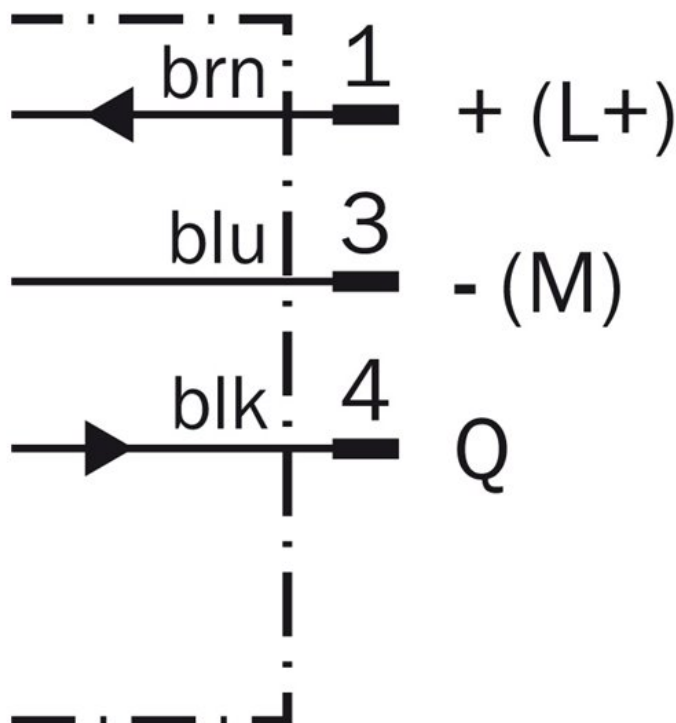
- |1| Connection cable 2 m
- |2| Yellow LED indicator:- lights continuously:light reception> reserve factor 1  
.5- blinks: light reception < reserve factor 1.5 but > swit

Adjustments possible

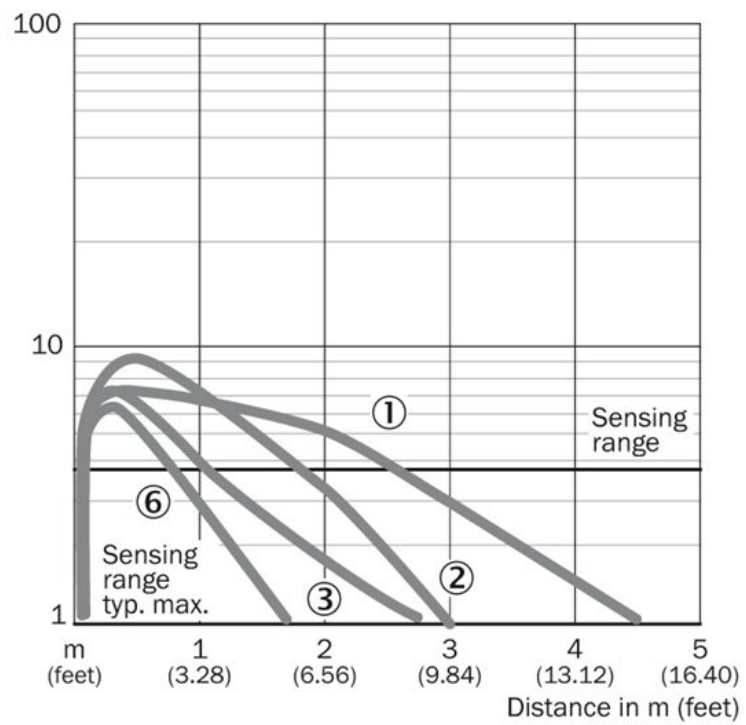


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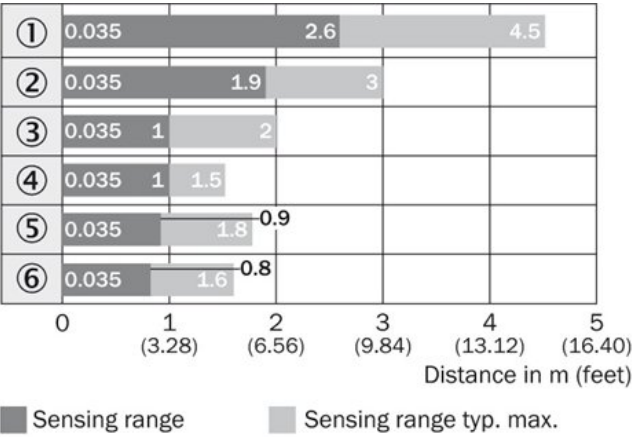
Connection diagram



Characteristic curve



Sensing range diagram



Reflector type

- ① PL80A
- ② P250
- ③ PL50A/PL40A
- ④ C110
- ⑤ PL30A/PL31A
- ⑥ PL20A

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