



## Photoelectric sensors W18-3, Photoelectric retro-reflective sensor, autocollimation

WL18-3N630



**Model Name** > [WL18-3N630](#)  
**Part No.** > [1025916](#)



*Illustration may differ*

#### At a glance

- Sender LED with visible red light
- Autocollimation optics with polarizing filter
- Sensitivity control via potentiometer
- Immune to ambient light
- Optional test input for system diagnostics
- Rugged plastic housing

#### Your benefits

- Fast installation due to highly visible red light saves time
- Reliable detection of shiny objects without a blind zone due to autocollimation optics and a polarizing filter
- Quick and easy sensing range adjustment due to 270° potentiometer
- Crosstalk and ambient light immunity reduce false readings and downtime
- Reliable availability in the field



#### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric retro-reflective sensor, autocollimation |
| Dimensions (W x H x D):          | 17.6 mm x 75.5 mm x 33.5 mm                            |
| Housing design (light emission): | Rectangular, Slim                                      |
| Sensing range max.:              | 0 m ... 7 m <sup>1)</sup>                              |
| Sensing range:                   | 0 m ... 5 m <sup>2)</sup>                              |
| Type of light:                   | Visible red light                                      |
| Light source:                    | LED <sup>3)</sup>                                      |
| Wave length:                     | 645 nm                                                 |
| Angle of dispersion:             | 1.8 °                                                  |
| Adjustment:                      | Potentiometer, 1-turn                                  |
| Light spot size (distance):      | Ø 40 mm (2 m)                                          |
| Continuous threshold adaption:   | -                                                      |

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

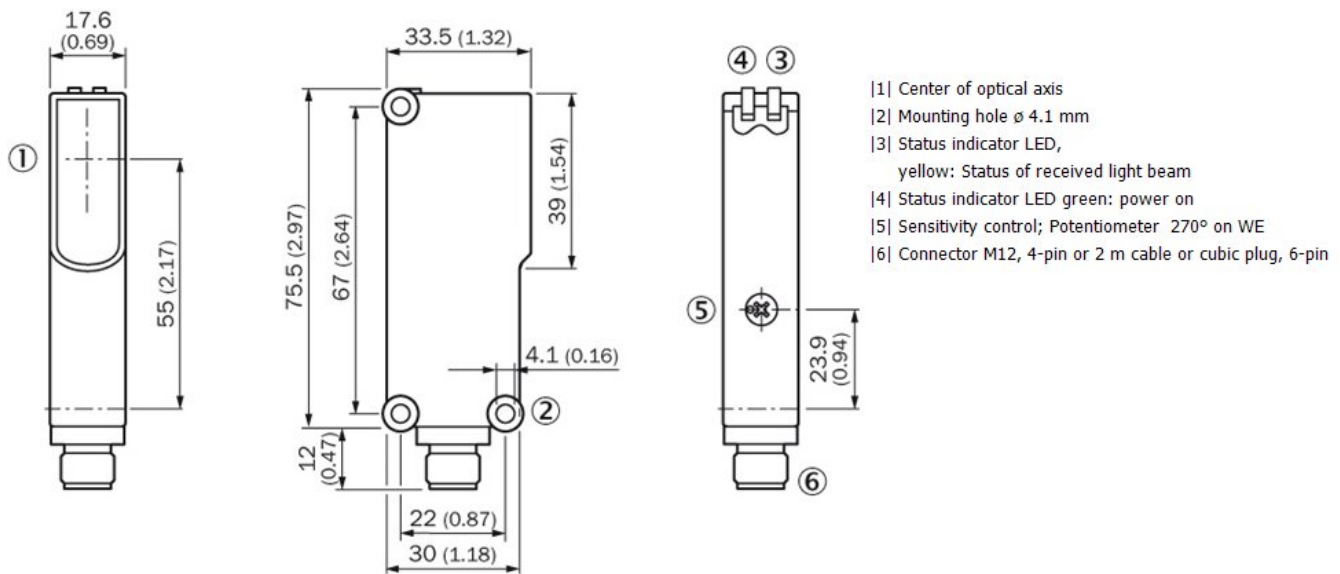
#### Mechanics/electronics

|                    |                                   |
|--------------------|-----------------------------------|
| Supply voltage:    | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:            | < 5 Vpp <sup>2)</sup>             |
| Power consumption: | 40 mA <sup>3)</sup>               |
| Output type:       | NPN                               |

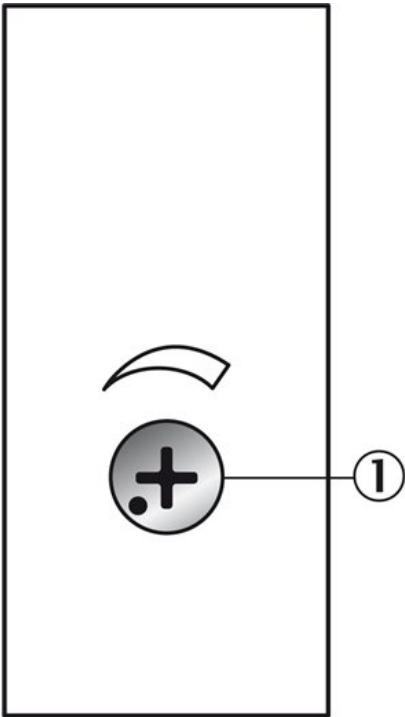
|                                    |                              |
|------------------------------------|------------------------------|
| Switching mode:                    | Light/dark-switching         |
| Output current I <sub>max</sub> :: | 100 mA                       |
| Response time:                     | < 500 µs <sup>4)</sup>       |
| Switching frequency:               | 1,000 Hz <sup>5)</sup>       |
| Connection type:                   | Cubic connector, 6-pin       |
| Circuit protection:::              | A, C, D <sup>6) 7) 8)</sup>  |
| Weight:                            | 70 g                         |
| Polarisation filter:               | ✓                            |
| Housing material:                  | ABS, Plastic                 |
| Optics material:                   | PMMA                         |
| Enclosure rating:                  | IP 65                        |
| Test input sender off:             | TE to VS                     |
| Test input:                        | ✓                            |
| Ambient operating temperature:     | -40 °C ... 60 °C             |
| Ambient storage temperature:       | -40 °C ... 75 °C             |
| UL File No.:                       | NRKH.E181493 & NRKH7.E181493 |

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A    <sup>2)</sup> May not exceed or fall short of V<sub>S</sub> 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<sub>S</sub> connections reverse-polarity protected    <sup>7)</sup> C = interference suppression    <sup>8)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing

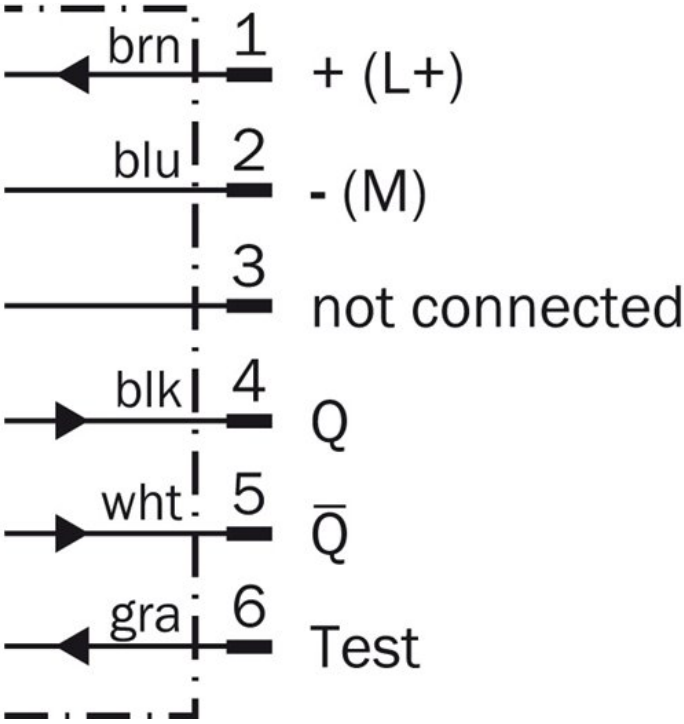


Adjustments possible

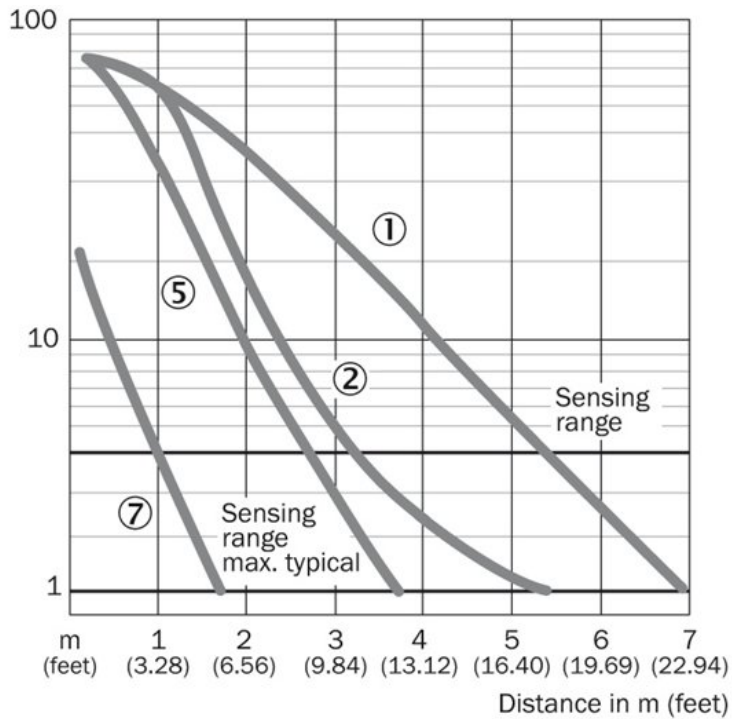


[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram

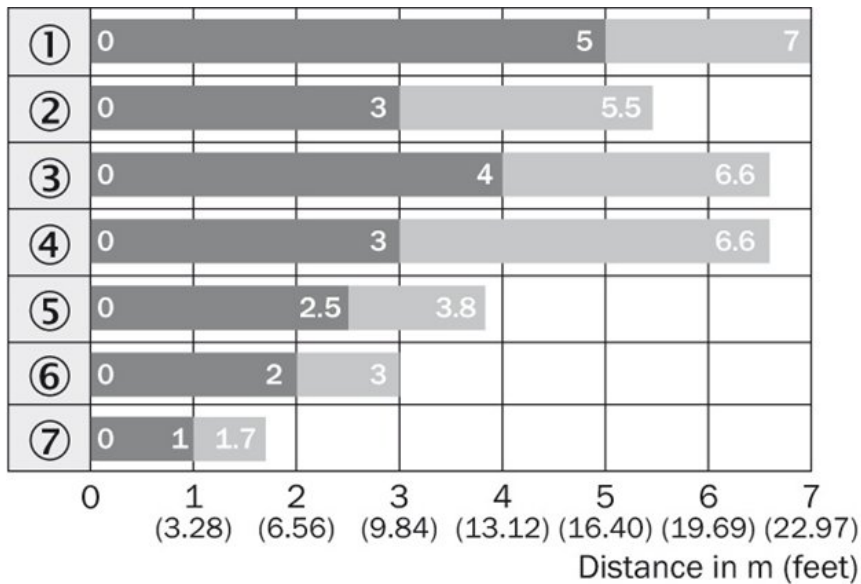


## Characteristic curve



- [1] PL80A
- [2] C110A
- [5] PL30A
- [7] Reflective tape Diamond Grade

## Sensing range diagram

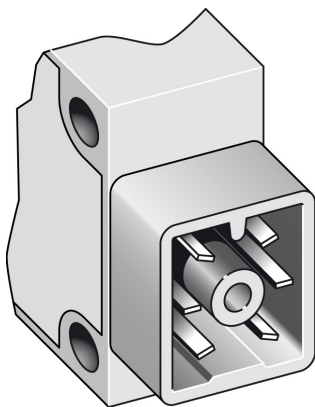


- [1] PL80A
- [2] C110A
- [3] PL50A
- [4] PL40A
- [5] PL30A
- [6] PL20A
- [7] Reflective tape Diamond Grade

■ Sensing range      ■ Sensing range max.

## Connection type

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