



Photoelectric sensors  
W34, Photoelectric retro-reflective sensor,  
Standard optics

WL34-V240



**Model Name** > [WL34-V240](#)  
**Part No.** > [1019244](#)



Illustration may differ

#### At a glance

- High operating reserve at a long range
- Switch selectable PNP or NPN output
- and light/dark switching
- Versions with DC voltage (10...30V) or universal AC/DC voltage (12 ... 240 V DC / 24 ... 240 V AC)
- Optional test input, adjustable ON and OFF time delays, alarm output
- M12 or terminal chamber connection: 90° rotatable
- UL approval

#### Your benefits

- High operating reserve at a long range minimizes downtime
- Alarm output provides early warning that maintenance may be needed
- Test input allows users to validate that the sensor is operating as expected
- The sensor cover protects configuration components against environmental hazards
- Adjustable time delay, alarm output, test input, and universal AC/DC voltage provide additional flexibility and reduce the number of part numbers needed



#### Features

|                                  |                                                         |
|----------------------------------|---------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric retro-reflective sensor, Standard optics  |
| Dimensions (W x H x D):          | 27 mm x 92 mm x 70 mm                                   |
| Housing design (light emission): | Rectangular                                             |
| Sensing range max.:              | 0.03 m ... 22 m <sup>1)</sup>                           |
| Sensing range:                   | 0.03 m ... 22 m <sup>2)</sup>                           |
| Type of light:                   | Visible red light                                       |
| Light source:                    | LED <sup>3)</sup>                                       |
| Wave length:                     | 660 nm                                                  |
| Light spot diameter (distance):  | Ø 250 mm (15 m)                                         |
| Sensitivity adjustment:          | Potentiometer                                           |
| Time type:                       | Time delay off, Switch on delay, Adjustable             |
| Delay time:                      | Adjustable via time delay selector switch: 0.5 ... 10 s |

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

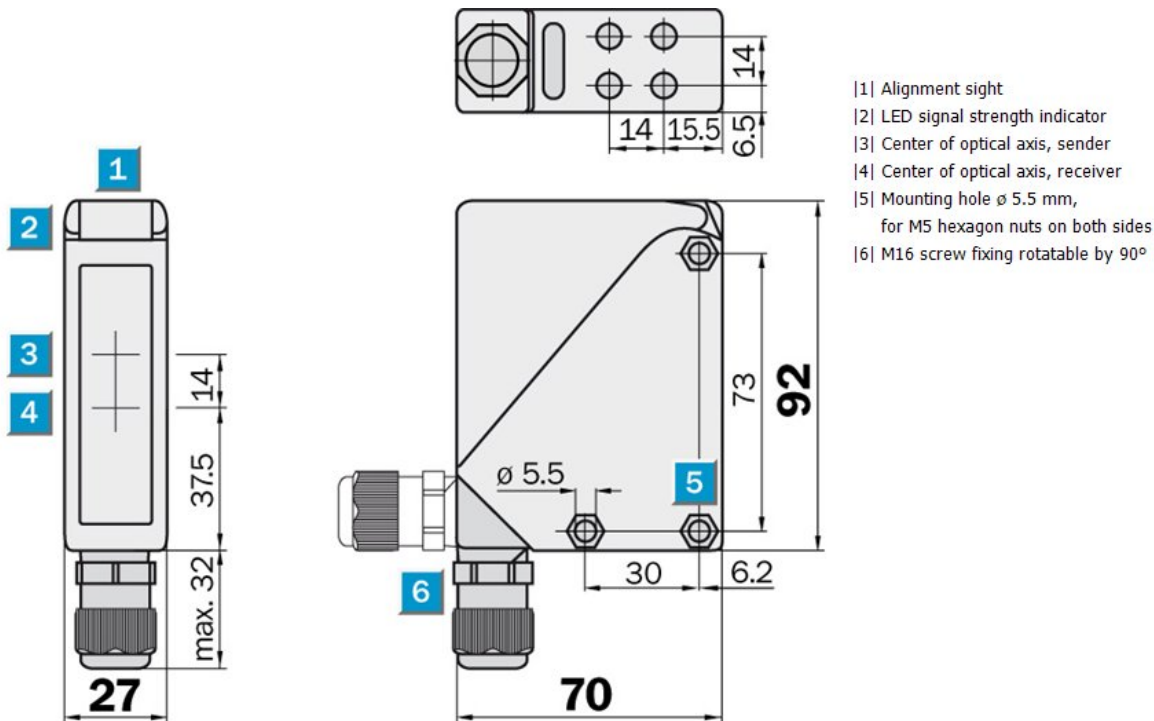
#### Mechanics/electronics

Supply voltage: 10 V DC ... 30 V DC <sup>1)</sup>

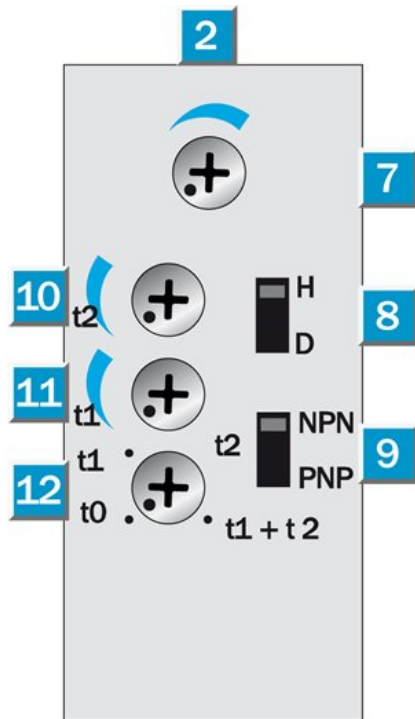
|                                     |                                                                     |
|-------------------------------------|---------------------------------------------------------------------|
| Ripple:                             | < 5 Vpp <sup>2)</sup>                                               |
| Power consumption:                  | ≤ 50 mA                                                             |
| Output type:                        | NPN, PNP                                                            |
| Switching mode:                     | Dark-switching, Light switching                                     |
| Switching mode selector:            | Selectable via light/dark selector, Selectable via PNP/NPN selector |
| Output current I <sub>max</sub> ..: | 100 mA                                                              |
| Response time:                      | ≤ 500 μs <sup>3)</sup>                                              |
| Switching frequency:                | 1,000 Hz <sup>4)</sup>                                              |
| Connection type:                    | Terminal connection with M16 gland <sup>5)</sup>                    |
| Circuit protection:::               | A, C, D <sup>6)</sup> <sup>7)</sup> <sup>8)</sup>                   |
| Protection class:                   | II <sup>9)</sup>                                                    |
| Weight:                             | 140 g                                                               |
| Polarisation filter:                | ✓                                                                   |
| Special device:                     | -                                                                   |
| Housing material:                   | ABS                                                                 |
| Enclosure rating:                   | IP 67                                                               |
| Test input sender off:              | TE to 0 V                                                           |
| Ambient operating temperature:      | -40 °C ... 60 °C                                                    |
| Ambient storage temperature:        | -40 °C ... 75 °C                                                    |
| UL File-No.:                        | UL No. NRKH.E181493 & cUL No. NRKH7.E181493                         |

1) Limit values 2) May not exceed or fall short of V<sub>S</sub> tolerances 3) Signal transit time with resistive load 4) With light/dark ratio 1:1 5) Connection rotatable by 90° 6) A = V<sub>S</sub> connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit protected 9) Reference voltage 50 V DC

## Dimensional drawing

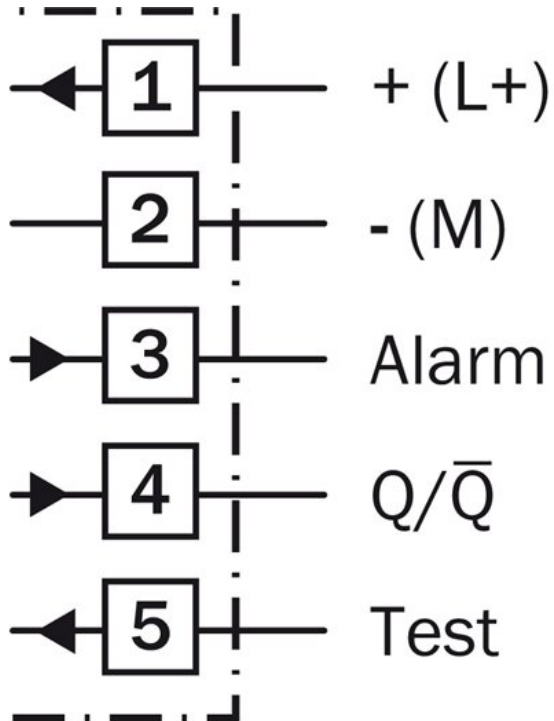


## Adjustments possible

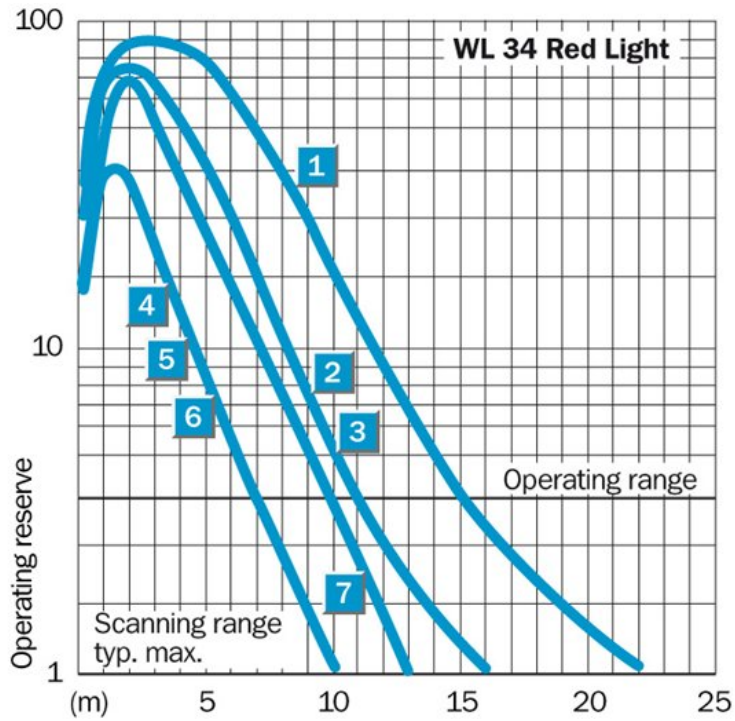


- |2| LED signal strength indicator
- |7| Sensitivity adjustment
- |8| Light/dark selector
- |9| NPN/ PNP selector
- |10| Time control t2=OFF-delay
- |11| Time control t1=ON-delay
- |12| time delay selector switch

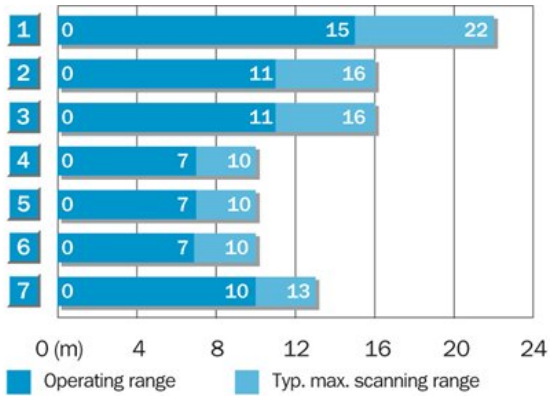
## Connection diagram



### Characteristic curve



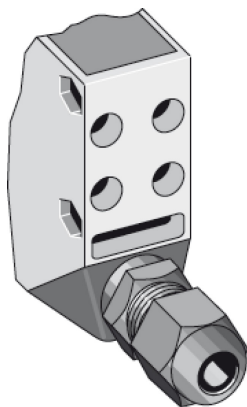
### Sensing range diagram



| Reflector type                  | Operating range |
|---------------------------------|-----------------|
| 1 PL 80 A                       | 0 to 15 m       |
| 2 PL 50 A                       | 0 to 11 m       |
| 3 PL 40 A                       | 0 to 11 m       |
| 4 PL 30 A                       | 0 to 7 m        |
| 5 PL 20 A                       | 0 to 7 m        |
| 6 Diamond Grade (20 cm x 20 cm) | 0 to 7 m        |
| 7 C 110                         | 0 to 10 m       |

## Connection type

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