



Photoelectric sensors  
W27-3, Photoelectric retro-reflective sensor,  
Standard optics

WL27-3K2430



**Model Name** > [WL27-3K2430](#)  
**Part No.** > [1028069](#)



*Illustration may differ*

#### At a glance

- Long sensing range with a high operating reserve
- Quick alignment with red emitting LED
- Resistant to ambient noise such as crosstalk from another sensor
- Optional front screen heating and time delays
- Operating temperature: -40 °C - +60 °C
- UL approval

#### Your benefits

- Resistant to contamination due to high operating reserve
- Optional features, such as time delays, enhance functionality when needed
- Resistant to vibrations, reducing downtime
- Reliable operation in harsh environments with temperatures as low as -40 °C
- Durable housing with reinforced mounting holes withstands harsh conditions
- Quick alignment with red emitting LED



#### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric retro-reflective sensor, Standard optics |
| Dimensions (W x H x D):          | 24.6 mm x 80.6 mm x 54 mm                              |
| Housing design (light emission): | Rectangular                                            |
| Sensing range max.:              | 0.1 m ... 15 m <sup>1)</sup>                           |
| Sensing range:                   | 0.1 m ... 11 m <sup>2)</sup>                           |
| Type of light:                   | Visible red light                                      |
| Light source:                    | LED <sup>3)</sup>                                      |
| Wave length:                     | 660 nm                                                 |
| Angle of dispersion:             | Ca. 1.5 °                                              |
| Light spot size (distance):      | Ø 220 mm (10 m)                                        |

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

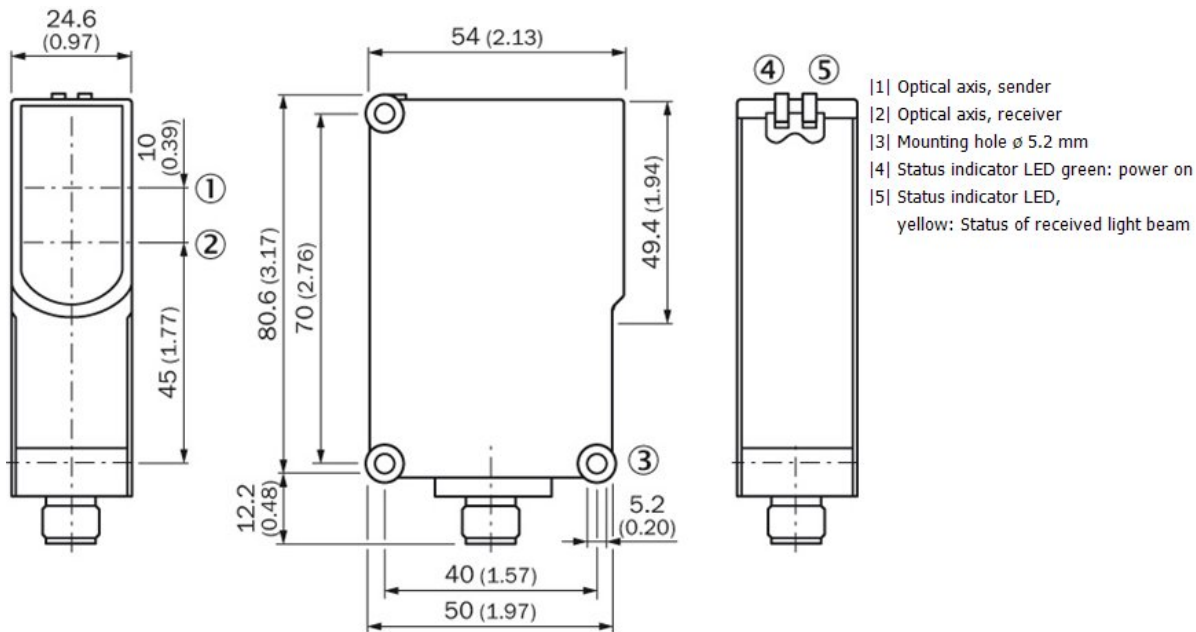
#### Mechanics/electronics

|                              |                                   |
|------------------------------|-----------------------------------|
| Supply voltage:              | 10 V DC ... 30 V DC <sup>1)</sup> |
| Power consumption:           | ≤ 30 mA <sup>2)</sup>             |
| Output type:                 | PNP                               |
| Output function:             | Complementary                     |
| Switching mode:              | Light/dark-switching              |
| Signal voltage PNP HIGH/LOW: | Approx. VS - 2.5 V / 0 V          |

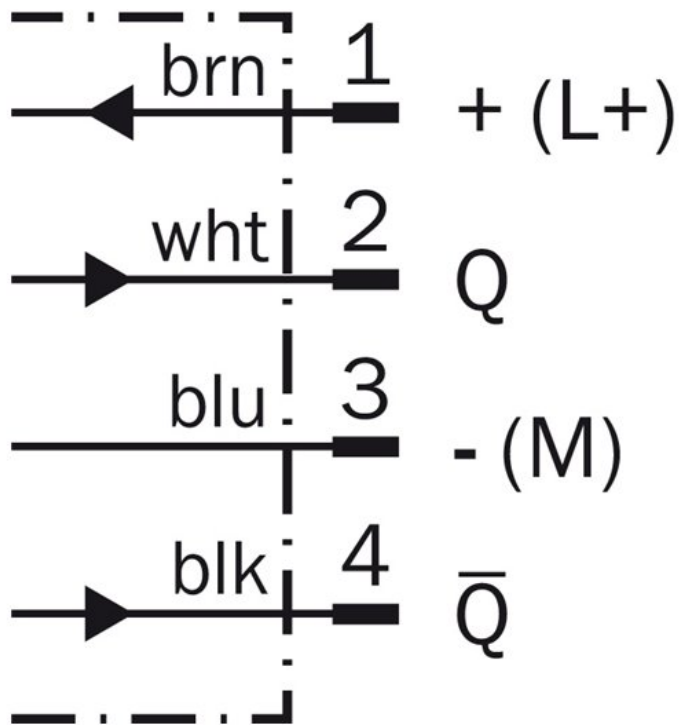
|                                    |                              |
|------------------------------------|------------------------------|
| Output current I <sub>max</sub> :: | ≤ 100 mA                     |
| Response time:                     | ≤ 500 μs <sup>3)</sup>       |
| Switching frequency:               | 1,000 Hz <sup>4)</sup>       |
| Connection type:                   | Connector M12, 4-pin         |
| Circuit protection:::              | A, B, C <sup>5)</sup> 6) 7)  |
| Protection class:                  | II <sup>8)</sup>             |
| Weight:                            | 100 g                        |
| Polarisation filter:               | ✓                            |
| Special device:                    | -                            |
| Housing material:                  | ABS, Plastic                 |
| Optics material:                   | PMMA                         |
| Enclosure rating:                  | IP 69K                       |
| 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> Without load   
 <sup>3)</sup> Signal transit time with resistive load   
 <sup>4)</sup> With light/dark ratio 1:1   
 <sup>5)</sup> A = V<sub>S</sub>  
 connections reverse-polarity protected   
 <sup>6)</sup> B = inputs and output reverse-polarity protected   
 <sup>7)</sup> C = interference suppression   
 <sup>8)</sup> Reference voltage 50 V DC

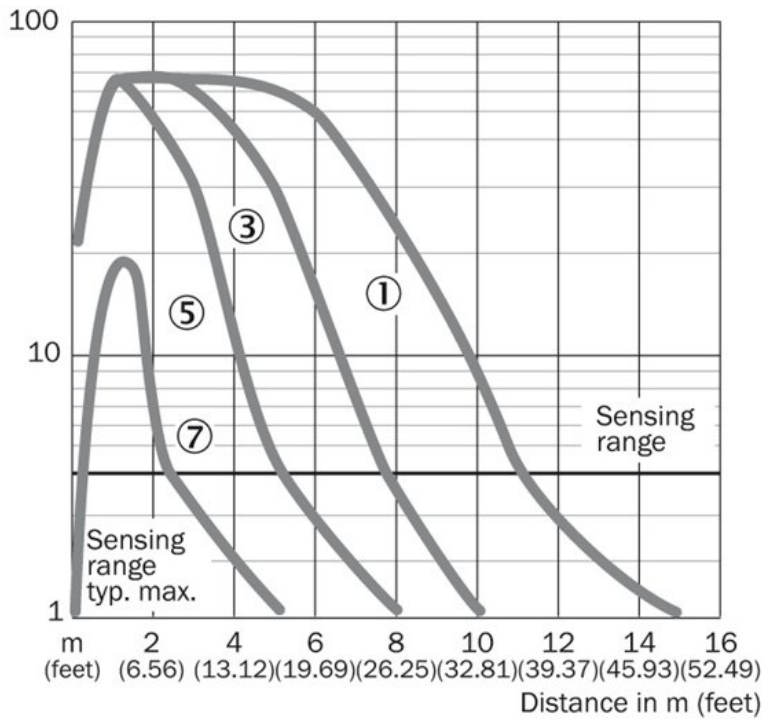
## Dimensional drawing



## Connection diagram

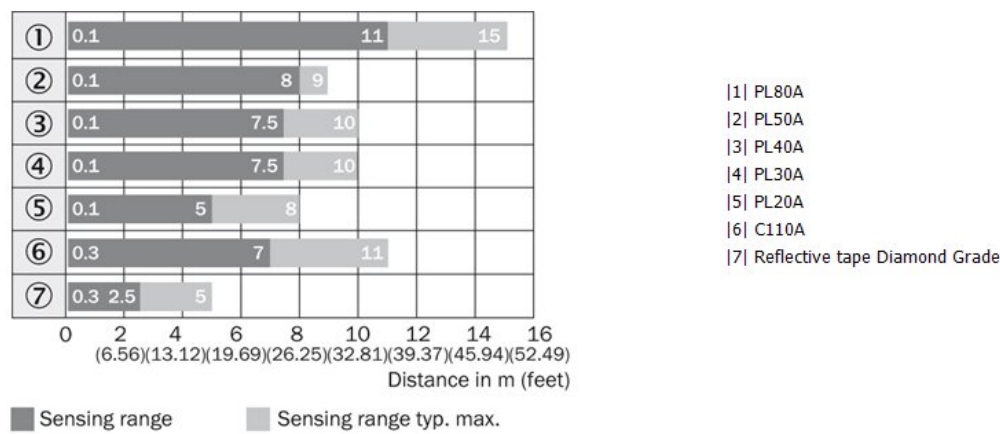


## Characteristic curve



- [1] PL80A
- [3] PL40A
- [5] PL20A
- [7] Reflective tape Diamond Grade

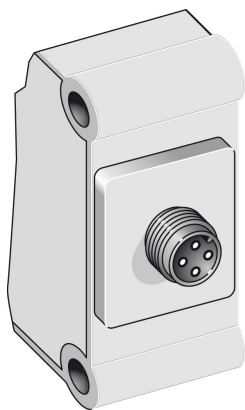
Sensing range diagram



Reflector type

- ① PL80A
- ② PL50A
- ③ PL40A
- ④ PL30A
- ⑤ PL20A
- ⑥ C110
- ⑦ Reflective tape Diamond Grade

Connection type



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