



## Photoelectric sensors W27-3, Through-beam photoelectric sensor

WSE27-3P2430



**Model Name** > WSE27-3P2430  
**Part No.** > 1027790



*Illustration may differ*

#### At a glance

- Long sensing range with a high operating reserve
- Quick alignment with red emitter
- Resistant to environmental noise such as ambient light
- Optional alarm output, front screen heating, test input, time delays, and universal AC/DC voltage
- Operating temperature: -40 °C - +60 °C
- UL approval

#### Your benefits

- Less contamination due to high operating reserves, reducing downtime
- 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



#### Features

|                                  |                                   |
|----------------------------------|-----------------------------------|
| Sensor/detection principle:      | Through-beam photoelectric sensor |
| 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 m ... 35 m                      |
| Sensing range:                   | 0 m ... 25 m                      |
| Type of light:                   | Visible red light                 |
| Light source:                    | LED <sup>1)</sup>                 |
| Wave length:                     | 645 nm                            |
| Angle of dispersion:             | Ca. 1.5 °                         |
| Light spot size (distance):      | Ø 600 mm (25 m)                   |

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

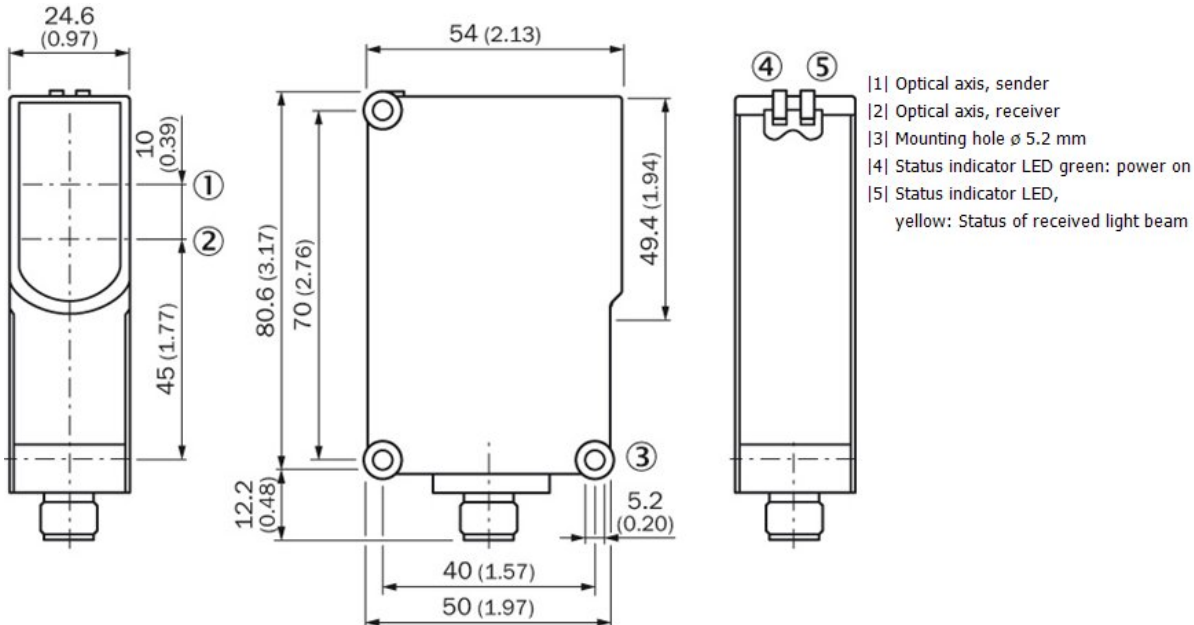
#### Mechanics/electronics

|                              |                                   |
|------------------------------|-----------------------------------|
| Supply voltage:              | 10 V DC ... 30 V DC <sup>1)</sup> |
| Power consumption, sender:   | 35 mA <sup>2)</sup>               |
| Power consumption, receiver: | 20 mA <sup>3)</sup>               |
| Output type:                 | PNP                               |
| Output function:             | Complementary                     |
| Switching mode:              | Light/dark-switching              |

|                                       |                                                              |
|---------------------------------------|--------------------------------------------------------------|
| Signal voltage PNP HIGH/LOW:          | Approx. $V_S - 2.5 \text{ V} / 0 \text{ V}$                  |
| Output current $I_{\text{max}}$ :     | $\leq 100 \text{ mA}$                                        |
| Response time:                        | $\leq 500 \mu\text{s}$ <sup>4)</sup>                         |
| Switching frequency:                  | $1,000 \text{ Hz}$ <sup>5)</sup>                             |
| Angle of reception:                   | Ca. $3^\circ$                                                |
| Connection type:                      | Connector M12, 4-pin                                         |
| Circuit protection:::                 | A, B, C <sup>6)</sup> <sup>7)</sup> <sup>8)</sup>            |
| Protection class:                     | II <sup>9)</sup>                                             |
| Weight:                               | 200 g                                                        |
| Front screen heating:                 | -                                                            |
| Special device:                       | -                                                            |
| Housing material:                     | ABS, Plastic                                                 |
| Optics material:                      | PMMA                                                         |
| Enclosure rating:                     | IP 69K                                                       |
| Test input sender off:                | TE to 0 V                                                    |
| Ambient operating temperature:        | $-40^\circ\text{C} \dots 60^\circ\text{C}$                   |
| Ambient storage temperature:          | $-40^\circ\text{C} \dots 75^\circ\text{C}$                   |
| Part number of individual components: | Receiver, WE27-3P2430, 2033559, Sender, WS27-3D2430, 2033560 |
| UL File No.:                          | NRKH.E181493 & NRKH7.E181493                                 |

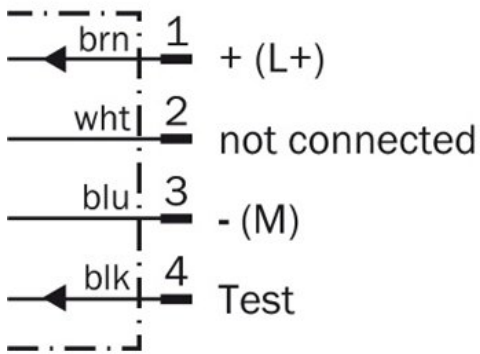
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A   
 <sup>2) 3)</sup> Without load   
 <sup>4)</sup> Signal transit time with resistive load   
 <sup>5)</sup> With light/dark ratio 1:1   
 <sup>6)</sup>  $A = V_S$   
 connections reverse-polarity protected   
<sup>7)</sup> B = inputs and output reverse-polarity protected   
<sup>8)</sup> C = interference suppression   
<sup>9)</sup> Reference voltage 50 V DC

## Dimensional drawing

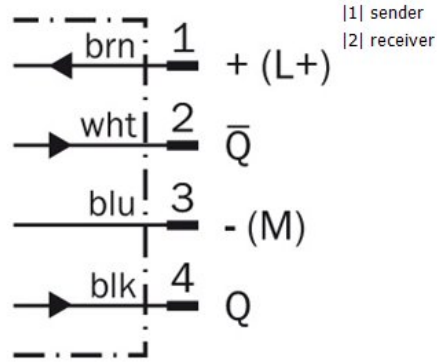


## Connection diagram

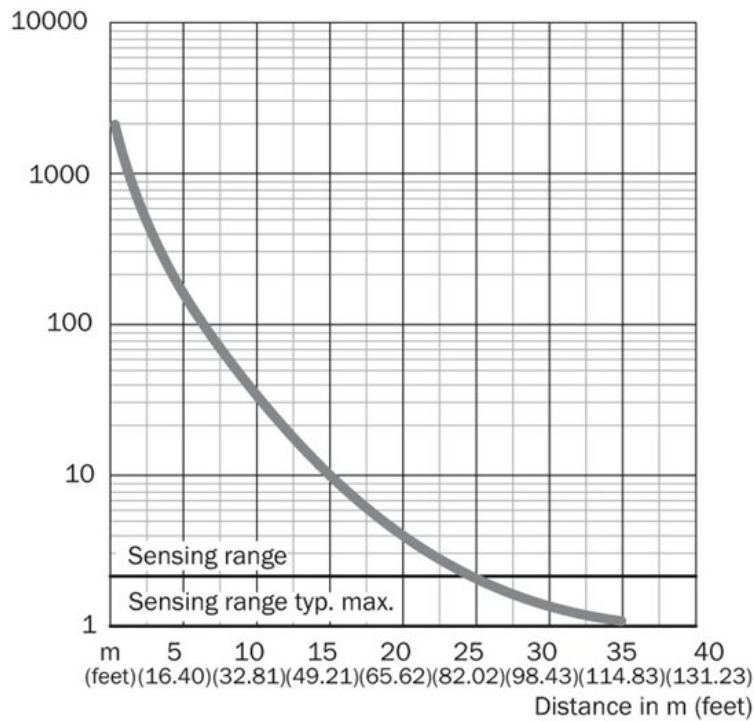
①



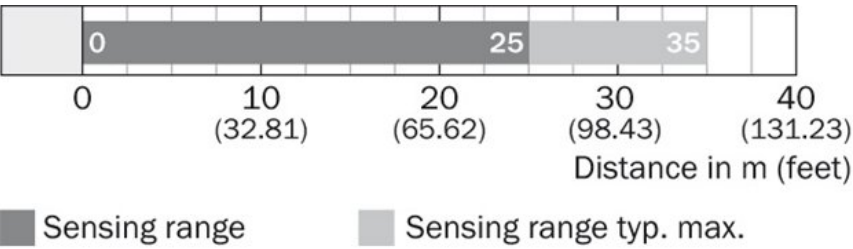
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## Characteristic curve



**Sensing range diagram**



**Connection type**



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