



## Mid range distance sensors Dx60, DS60

DS60-N51311



**Model Name** > **DS60-N51311**  
**Part No.** > **1016698**



**At a glance**

- Measuring range up to 6 m on target and 20 m on reflector
- Safe background suppression of any object in the back (up to 100 m)
- Two invertible switching outputs
- Time-of-flight technology for reliable results
- Precise alignment with red laser light
- Teach-in

**Your benefits**

- Durable, lightweight housing withstands harsh environments
- Easy one-button teach-in offers fast commissioning
- High switching accuracy increases process reliability, ensuring higher productivity and better quality
- Different measurement options (on object, on reflector or foreground suppression) ensure flexible use and highest reliability within the application
- Both red and infrared laser models enable users to choose the best light source for their application - visible or invisible
- The two switching outputs of the DS60 reduce investment and commissioning costs



**Performance**

|   |   |
|---|---|
| Measurement range <sup>1)</sup> : <sup>2)</sup> : <sup>3)</sup> : | 80 mm ... 2,600 mm, 6 % remission<br>80 mm ... 5,000 mm, 18 % remission<br>80 mm ... 6,000 mm, 90 % remission |
| Response time:  | 50 ms   |
| Switching frequency:  | 10 Hz   |
| Light source:   | Laser, infrared   |
| Typ. light spot size (distance):                                  | 12 mm x 12 mm (at 6 m)  |
| Additional function:  | Switching output invertibleObSB mode  |
| Laser class:  | 1 (EN 60825-1)  |
| Laser service life (MTTF at 25 °C):                               | 50,000 h  |

<sup>1) 2) 3)</sup> Teach-in from 200 ... 6,000 mm

**Interfaces**

|   |                 |
|---|-----------------|
| Output type <sup>1)</sup> : <sup>2)</sup> : | 2x NPN (100 mA) |
|---|-----------------|

1) Output Q short-circuit protected 2) NPN: HIGH = < 2.5 V / LOW =  $V_S$

### Mechanics/electronics

|                                      |                            |
|--------------------------------------|----------------------------|
| Supply voltage $V_S$ <sup>1)</sup> : | DC 18 V ... 30 V           |
| Ripple <sup>2)</sup> :               | ≤ 5 Vpp                    |
| Power consumption <sup>3)</sup> :    | ≤ 3 W                      |
| Connection type:                     | Male connector, M12, 5-pin |
| Weight:                              | 202 g                      |

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A <sup>2)</sup> May not fall short of or exceed  $V_S$  tolerances <sup>3)</sup> Without load

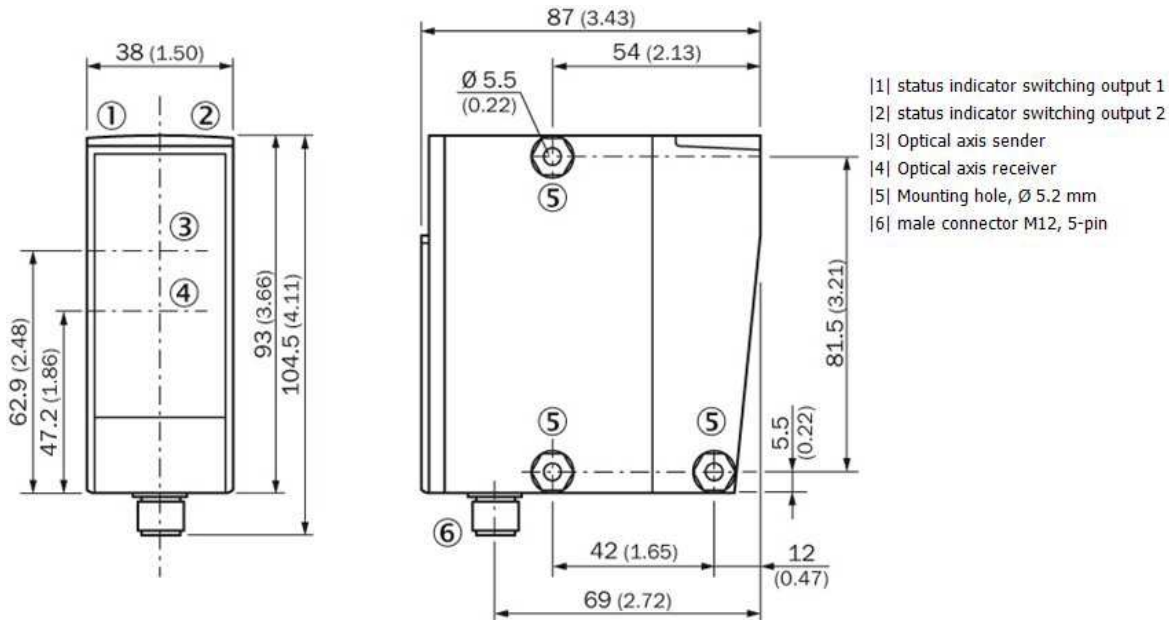
### Ambient data

|                                      |  |
|--------------------------------------|--|
| Enclosure rating:                    | IP 67  |
| Protection class:                    | II   |
| Ambient temperature:                 | Operation: -25 ... +55 °C, Storage: -25 ... +75 °C |
| Electromagnetic compatibility (EMC): | EN 61000-6-2/EN 60947-5-2                          |

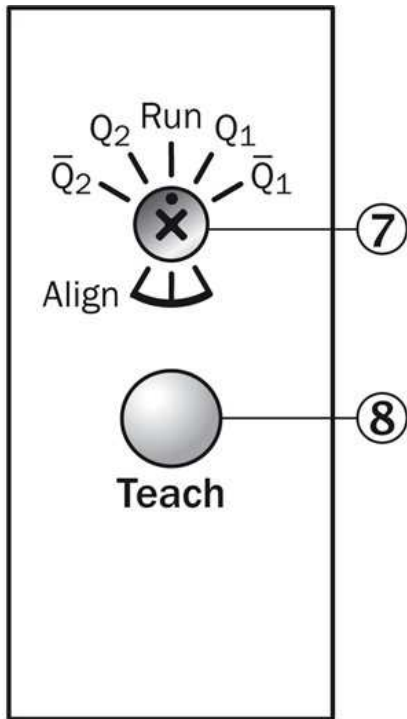
### General notes

|                   |            |
|-------------------|------------|
| Life cycle phase: | Phased out |
|-------------------|------------|

### Dimensional drawing

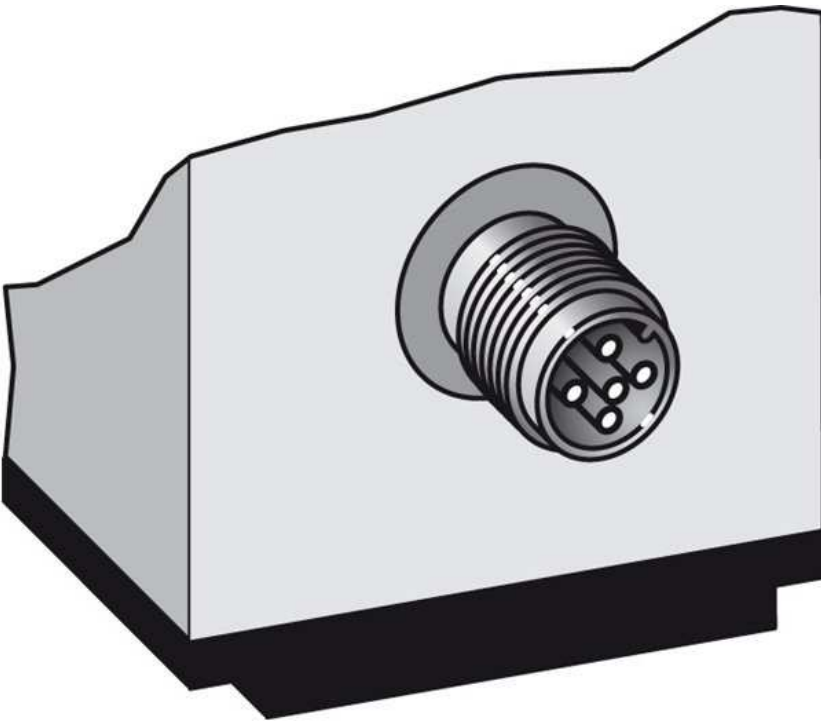


**Adjustment possible**

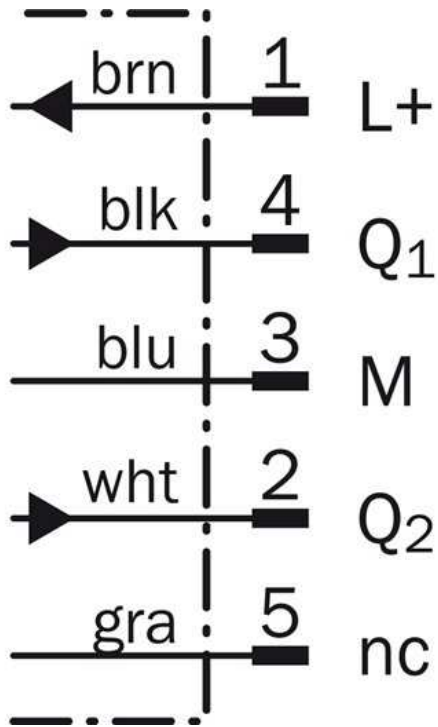


|7| rotary switch  
|8| Control element

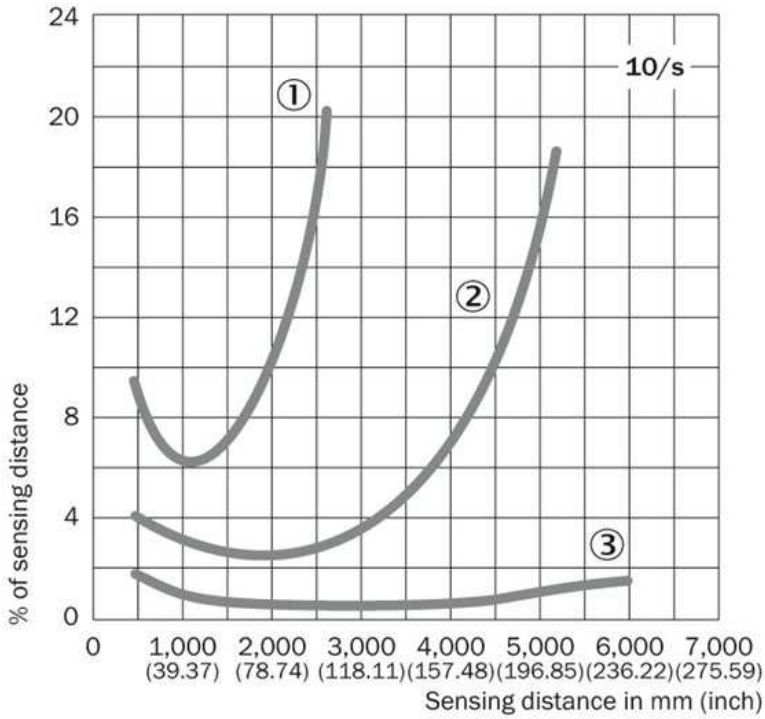
**Connection type**



Connection diagram



Sensing distance



- |1| 6 % / 90 %
- |2| 18 % / 90 %
- |3| 90 % / 90 %

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