



Mid range distance sensors  
Dx60, DS60

DS60-N41311



**Model Name** > **DS60-N41311**  
**Part No.** > **1016690**



**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 80 mm ... 5,000 mm, 18 % remission 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 invertible
Laser class:	1 (EN 60825-1)
Laser service life (MTTF at 25 °C):	50,000 h

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

**Interfaces**

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

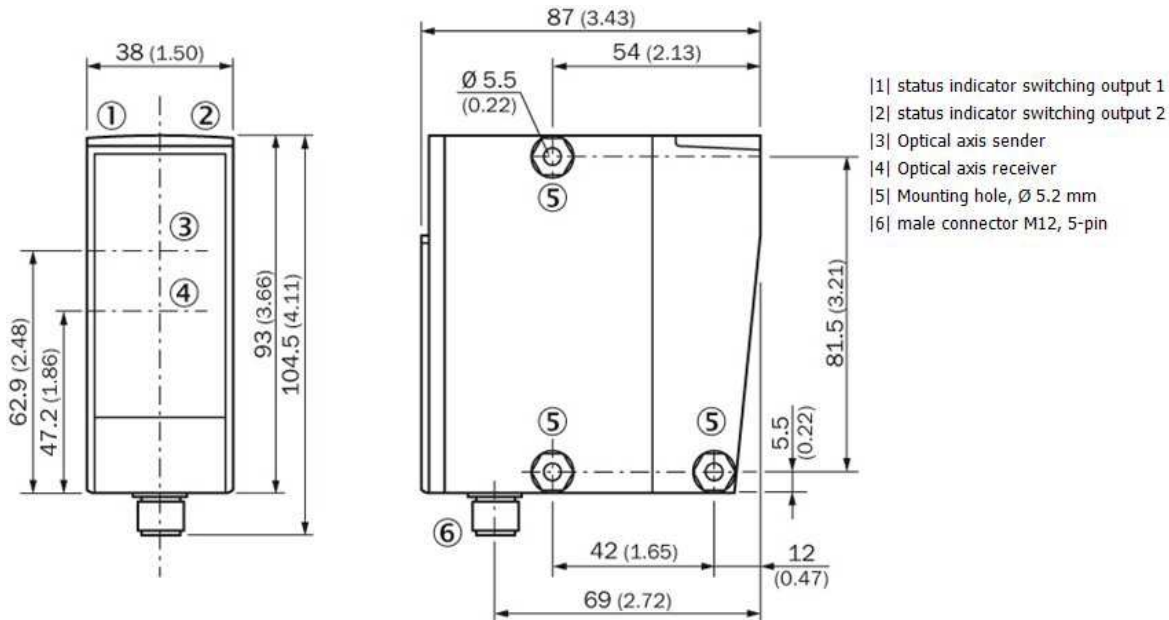
### Ambient data

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

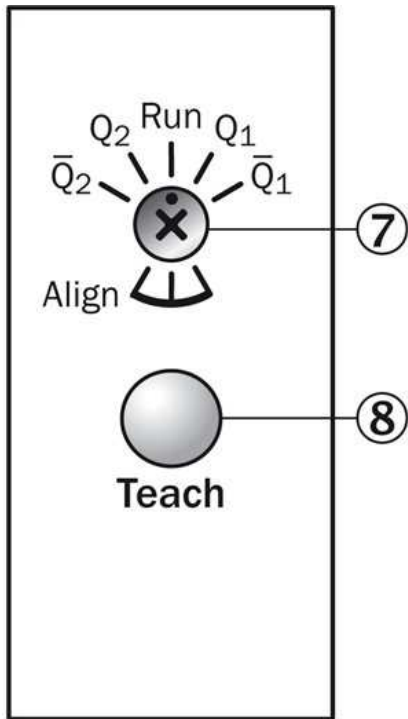
### General notes

Life cycle phase:	Phased out
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### Dimensional drawing

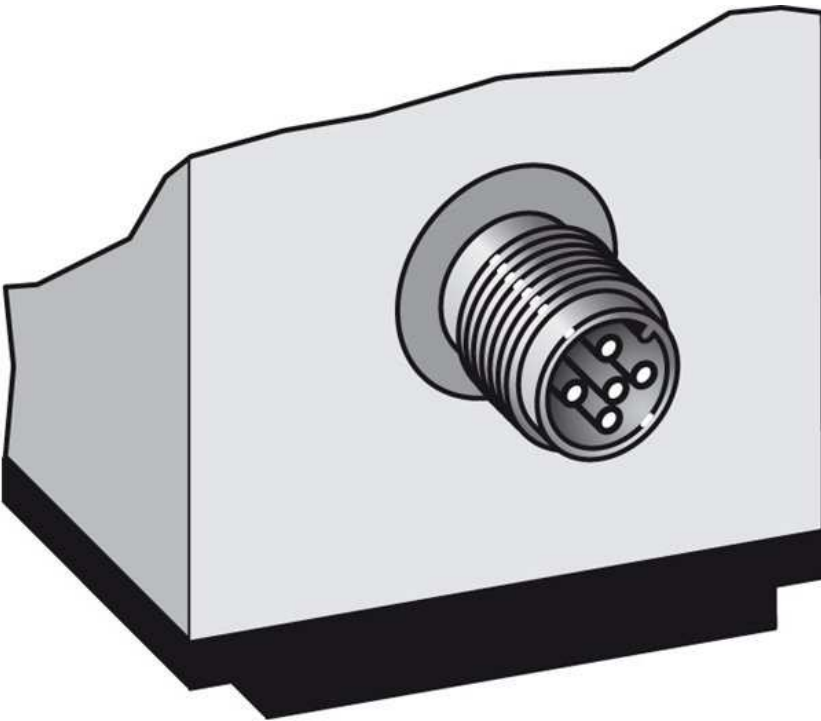


Adjustment possible

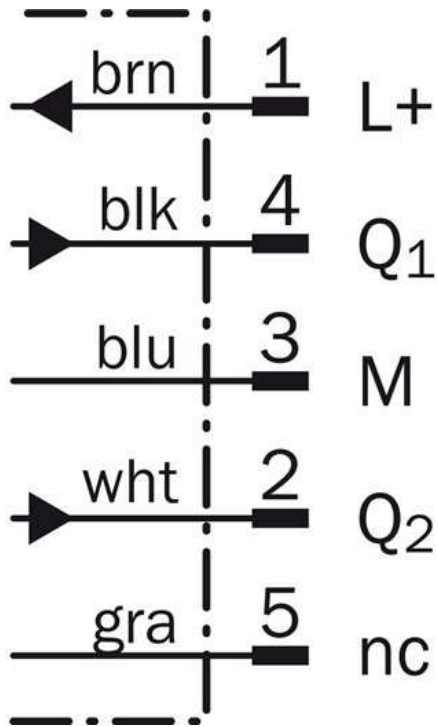


|7| rotary switch  
|8| Control element

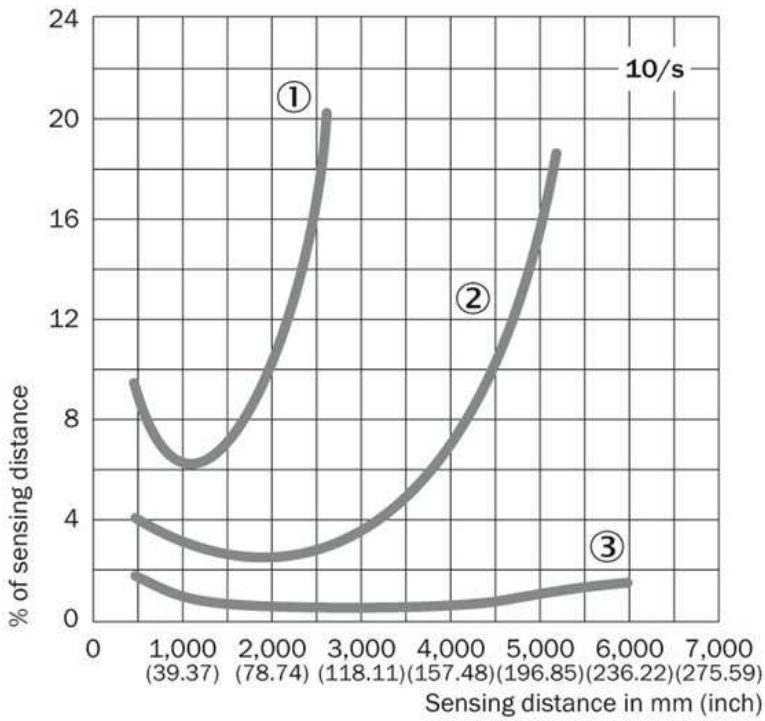
Connection type



Connection diagram



Sensing distance



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

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