



## Mid range distance sensors Dx60, DT60

DT60-P111B0220



**Model Name** > [DT60-P111B0220](#)  
**Part No.** > [1044203](#)



**At a glance**

- Measuring range: up to 5,300 mm
- Analog output with 4 mA ... 20 mA or 0 V ... 10 V
- Customer-specific, pre-programmed versions available for fast system integration
- Time-of-flight technology for reliable results
- Visible red laser light
- Power-on LED

**Your benefits**

- Measuring range of up to 5,300 mm with analog and switching outputs ensure high application flexibility
- All versions, even infrared variants with supplemental light, utilize red laser for fast and precise alignment
- Tough, lightweight housing withstands harsh environments
- Easy one-button teach-in offers fast commissioning
- High switching and measuring accuracy increase process reliability, ensuring higher productivity and better quality
- Pre-set plug and play versions ensure immediate commissioning, eliminating any sensor teach-in



**Performance**

Measurement range:	200 mm ... 2,000 mm, 18 % remission 200 mm ... 2,000 mm, 6 % remission 200 mm ... 2,000 mm, 90 % remission
Resolution <sup>1)</sup> :	1.5 mm, Teach resolution
Repeatability <sup>2)</sup> :	8 mm
Accuracy <sup>3)</sup> :	± 10 mm
Response time <sup>4)</sup> :	20 ms ... 150 ms
Light source:	Laser, red
Typ. light spot size (distance):	10 mm x 10 mm (at 2 m)
Additional function:	Switching output invertible/invertible analog output Plug & Play version
Laser class:	2 (EN 60825-1)
Laser service life (MTTF at 25 °C):	50,000 h

1) 2) 3) 6 % ... 90 % remission 4) Adaptive, dependig on level of remission

## Interfaces

Analog output:	4 mA ... 20 mA
Resolution analog output:	12 bit
Output type <sup>1)</sup> ; <sup>2)</sup> :	1 x PNP (100 mA)
Multifunctional input (MF):	1x Laser off

<sup>1)</sup> Output Q short-circuit protected <sup>2)</sup> PNP: HIGH =  $V_S - (< 2 V)$ /LOW = 0 V

## Mechanics/electronics

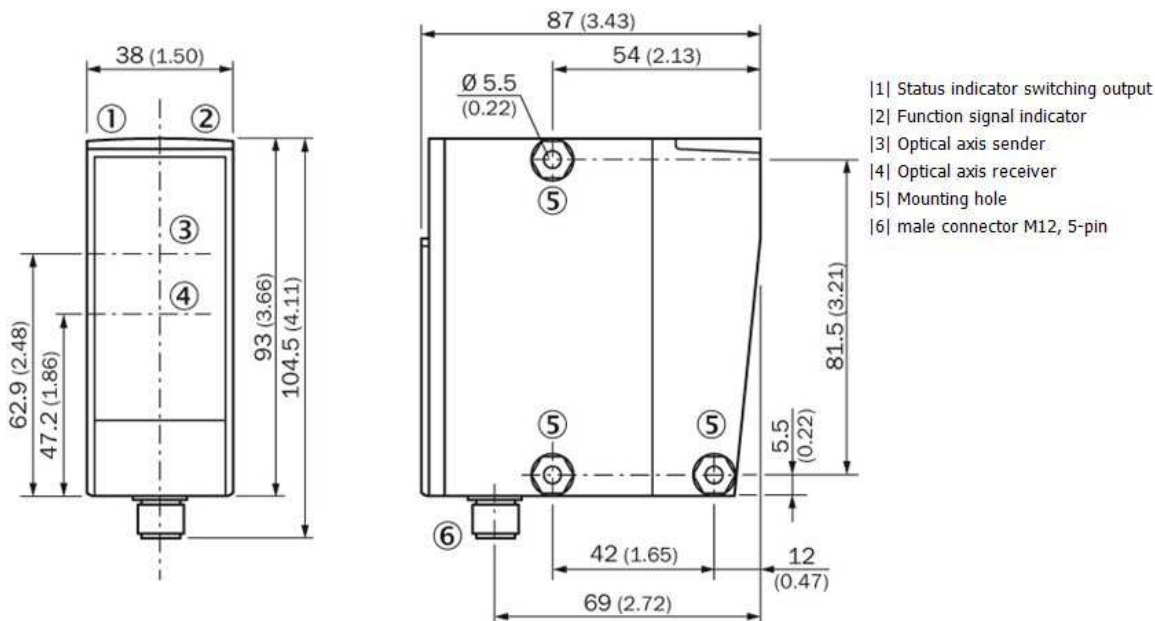
Supply voltage $V_S$ <sup>1)</sup> :	DC 11 V ... 30 V
Ripple <sup>2)</sup> :	$\leq 5 V_{pp}$
Power consumption <sup>3)</sup> :	$\leq 3 W$
Warm-up time:	$\leq 30 \text{ min}$
Connection type:	Male connector, M12, 5-pin
Weight:	202 g

<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

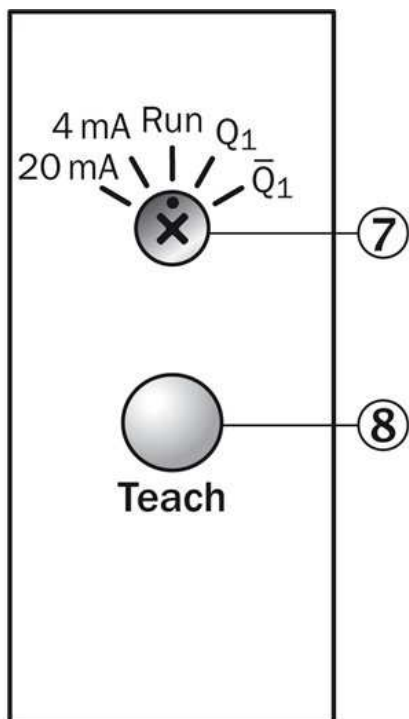
## Ambient data

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

## Dimensional drawing

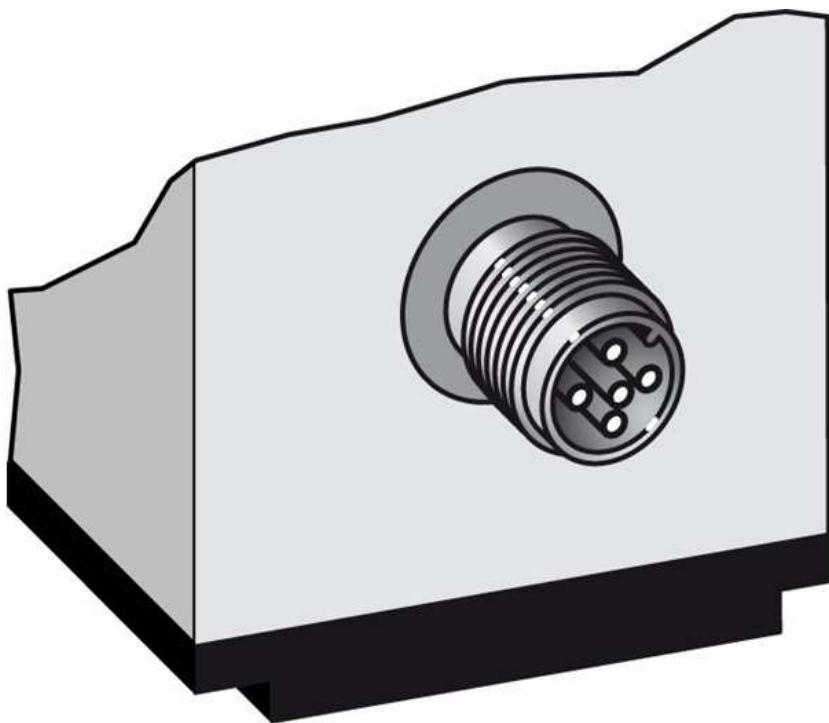


Adjustment possible



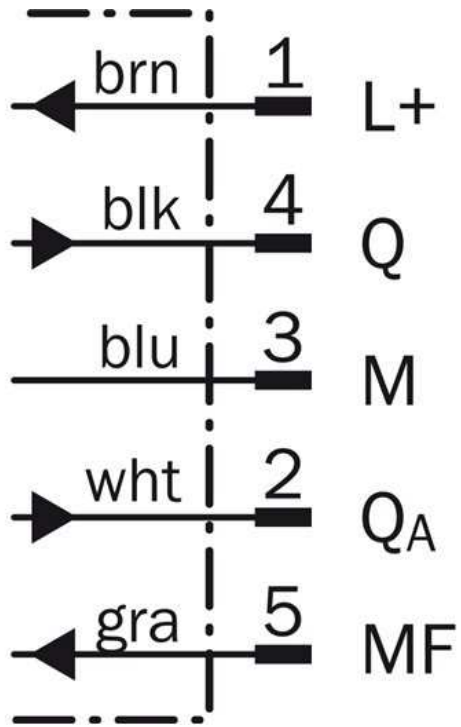
|7| rotary switch  
|8| Control element

Connection type



Connection diagram

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**Plug & Play: How to choose different measurement ranges by the type code (4 mA ... 20 mA)**

The DT60 can be factory scaled for customer specific measurement ranges based on the type code.

The type code is: "DT60-xx11Bbbee". The „bbee“-part defines the measurement range as follows:

**bb** (begin) ≙ distance value chosen by the customer to be output with 4 mA. The "bb"-value is defined in dm.

**ee** (end) ≙ distance value chosen by the customer to be output with 20 mA. The "ee"-value is defined in dm.

**Be aware**

There is a minimum difference between "bb" and "ee" of at least 3 units (300 mm) (e.g. bb ≙ 02 → ee ≙ 05 )

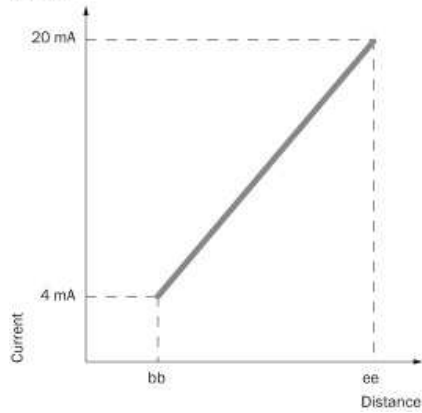
**Range of values**

02 ... 53 ≙ 200 mm ... 5,300 mm, any configuration within this range can be chosen (e.g. 0234, 4053 etc.).

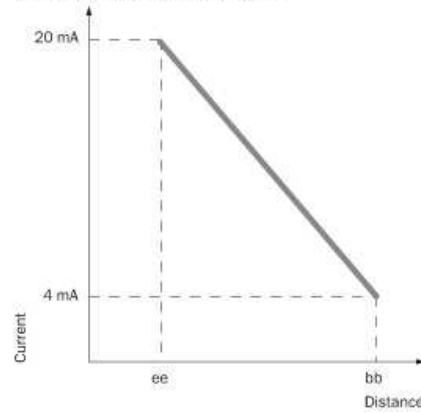
**Examples**

Model name	Description
<b>DT60-P111B1234</b>	DT60, switching output PNP, measurement range 1,200 mm ... 3,400 mm (4 mA ≙ 12 dm ... 20 mA ≙ 34 dm)
<b>DT60-N111B0945</b>	DT60, switching output NPN, measurement range 900 mm ... 4,500 mm (4 mA ≙ 9 dm ... 20 mA ≙ 45 dm)
<b>DT60-P111B4238</b>	DT60, switching output PNP, measurement range 4,200 mm ... 3,800 mm (inverted measuring area) (4 mA ≙ 42 dm ... 20 mA ≙ 38 dm)

**ee > bb**



**bb > ee (inverted measuring area)**



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