



Mid range distance sensors Dx60, DT60

DT60-N111B



Model Name > [DT60-N111B](#)
Part No. > [1025844](#)



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 ... 2,800 mm, 6 % remission 200 mm ... 5,000 mm, 18 % remission 200 mm ... 5,300 mm, 90 % remission
Resolution ¹⁾ :	1.5 mm, Teach resolution
Repeatability ²⁾ :	8 mm
Accuracy ³⁾ :	± 10 mm
Response time ⁴⁾ :	20 ms ... 150 ms
Light source:	Laser, red
Typ. light spot size (distance):	10 mm x 10 mm (at 2 m)
Additional function:	Teach-in version Invertible analog output Switching output invertible
Laser class:	2 (EN 60825-1)
Laser service life (MTTF at 25 °C):	50,000 h

^{1) 2) 3)} 6 % ... 90 % remission ⁴⁾ Adaptiv, dependig on level of remission

Interfaces

Analog output:	4 mA ... 20 mA
Resolution analog output:	12 bit
Switching output ¹⁾ ; ²⁾ :	1 x NPN (100 mA)
Multifunctional input (MF):	1x Laser off

¹⁾ Output Q short-circuit protected ²⁾ NPN: HIGH = $\leq 2\text{ V}$ / LOW = V_S

Mechanics/electronics

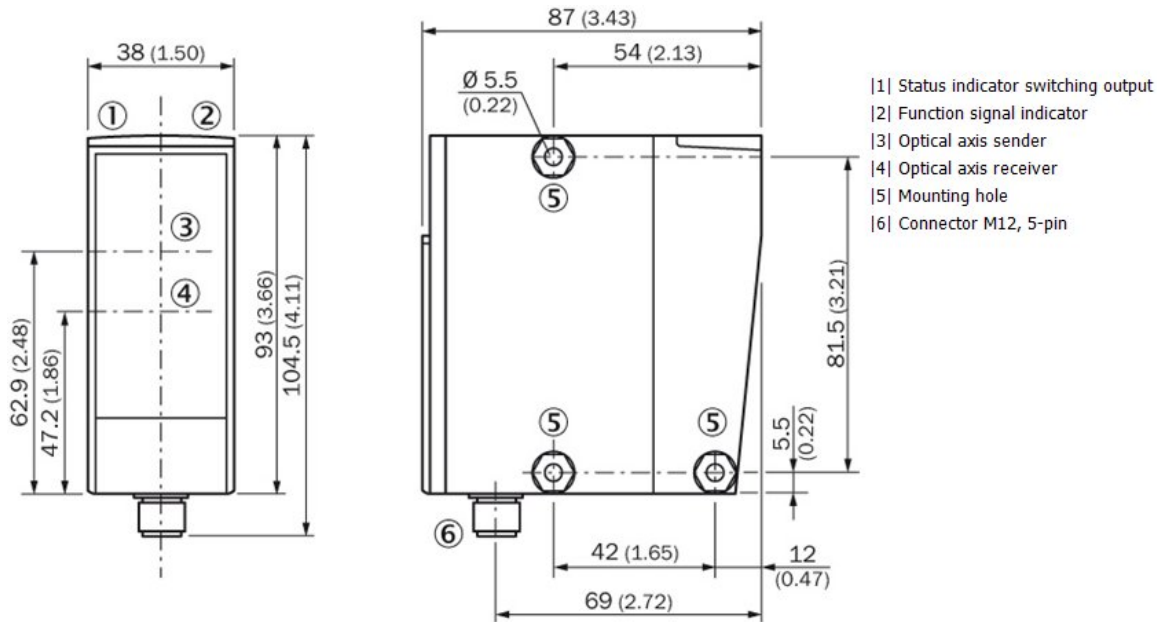
Supply voltage V_S ¹⁾ :	DC 11 V ... 30 V
Ripple ²⁾ :	$\leq 5\text{ Vpp}$
Power consumption ³⁾ :	$\leq 3\text{ W}$
Warm-up time:	$\leq 30\text{ min}$
Connection type:	Male connector, M12, 5-pin
Weight:	202 g

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

Ambient data

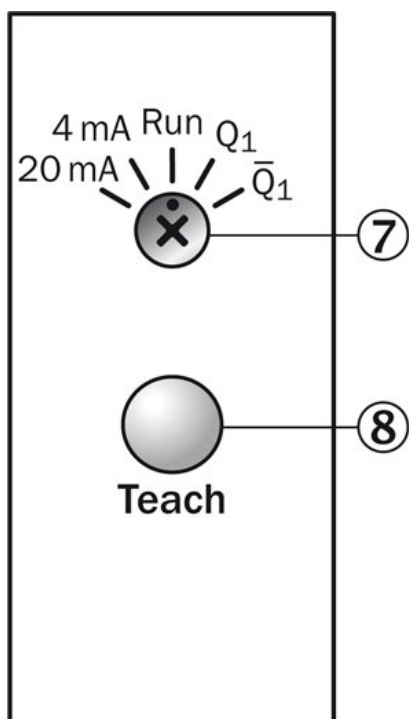
Enclosure rating:	IP 67
Protection class:	II
Ambient temperature:	Operation: $-25 \dots 55\text{ }^\circ\text{C}$, Storage: $-25 \dots 75\text{ }^\circ\text{C}$
Electromagnetic compatibility (EMC):	EN 61000-6-2/EN 60947-5-2

Dimensional drawing



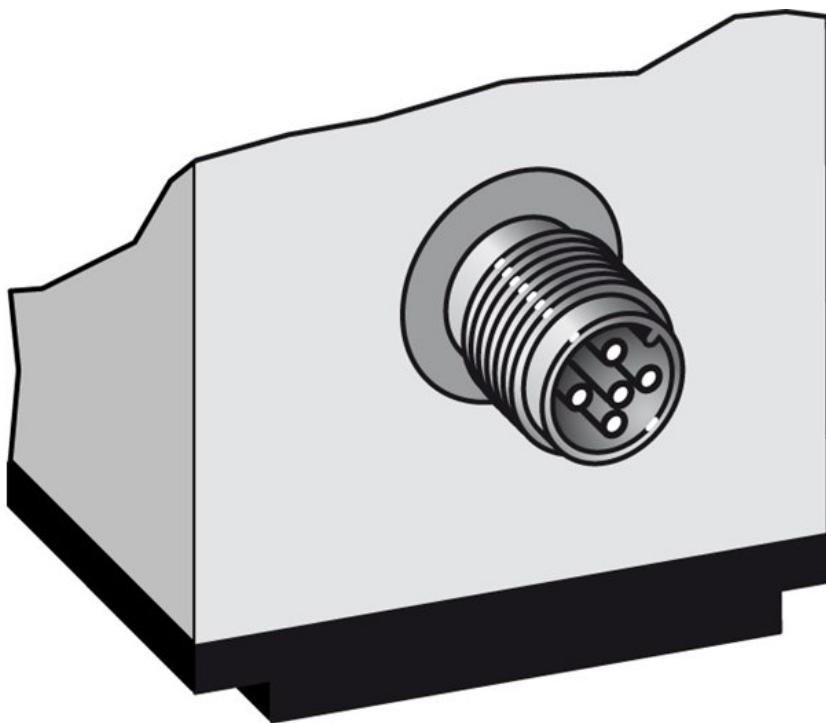
All dimensions in mm (inch)

Adjustment possible

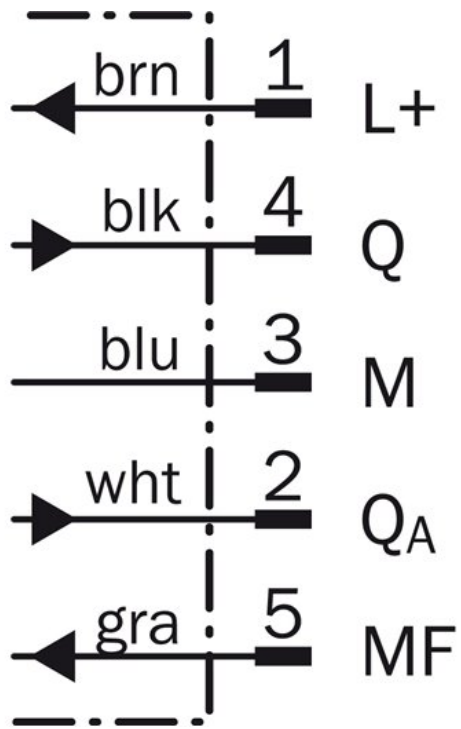


- |7| rotary switch
- |8| Control element

Connection type



Connection diagram



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)

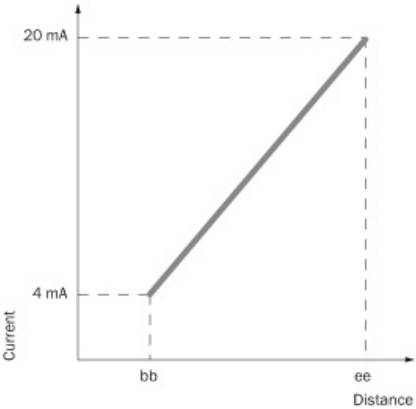
Range of values

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

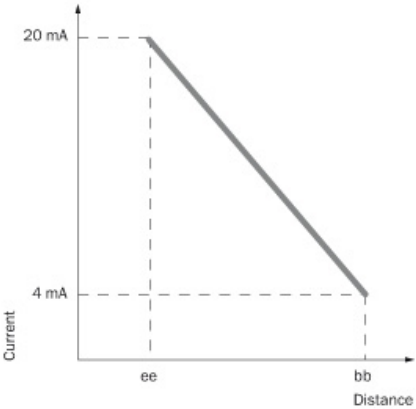
Examples

Model name	Description
DT60-P111B1234	DT60, switching output PNP, measurement range 1,200 mm ... 3,400 mm (4 mA ≙ 12 dm ... 20 mA ≙ 34 dm)
DT60-N111B0945	DT60, switching output NPN, measurement range 900 mm ... 4,500 mm (4 mA ≙ 9 dm ... 20 mA ≙ 45 dm)
DT60-P111B4238	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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