



## Mid range distance sensors Dx60, DL60

DL60-P111B0015



**Model Name** > [DL60-P111B0015](#)  
**Part No.** > [1043406](#)



**At a glance**

- Measuring range: 24 m on reflector
- Analog output: 4 mA ... 20 mA
- Teach-in and plug and play versions
- Time-of-flight technology for reliable results
- Visible red laser light
- Power-on LED

**Your benefits**

- Measuring range up to 24 m and both analog as well as switching outputs ensure high application flexibility
- Red laser light ensures 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 kind of sensor teach-in



**Performance**

Measurement range <sup>1)</sup> :	300 mm ... 15,000 mm
Resolution:	7 mm
Accuracy <sup>2)</sup> :	± 15 mm
Response time:	130 ms
Cycle time:	8
Light source:	Laser, red
Typ. light spot size (distance):	20 mm x 20 mm (at 2 m)
Additional function:	Switching output invertible
Laser class:	2 (EN 60825-1)
Laser service life (MTTF at 25 °C):	50,000 h
Output time:	< 8 ms

<sup>1)</sup> On reflector REF-3930-K2 <sup>2)</sup>

**Interfaces**

Analog output:	4 mA ... 20 mA
Resolution analog output:	12 bit
Output type <sup>1), 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 = Vs - (< 2 V), LOW = 0

### Mechanics/electronics

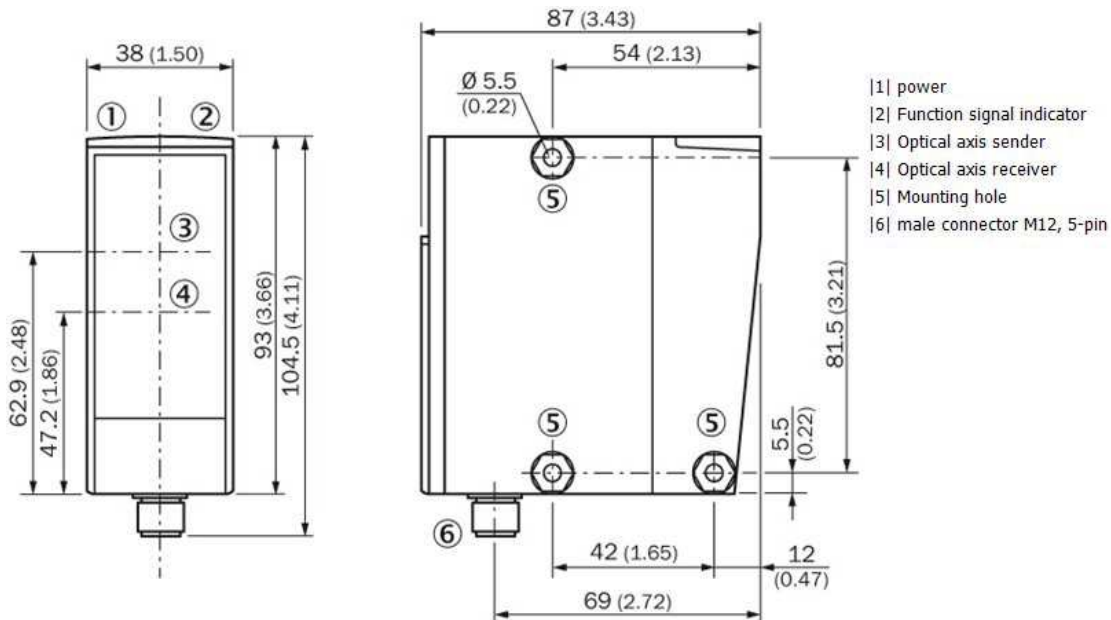
Supply voltage Vs <sup>1)</sup> :	DC 11 V ... 30 V
Ripple <sup>2)</sup> :	≤ 5 Vpp
Power consumption <sup>3)</sup> :	≤ 3 W
Initialization time:	550 ms
Warm-up time:	≤ 30 min
Connection type:	Male connector, M12, 5-pin
Indication:	Status LED
Weight:	202 g

<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<sub>S</sub> tolerances <sup>3)</sup> Without load

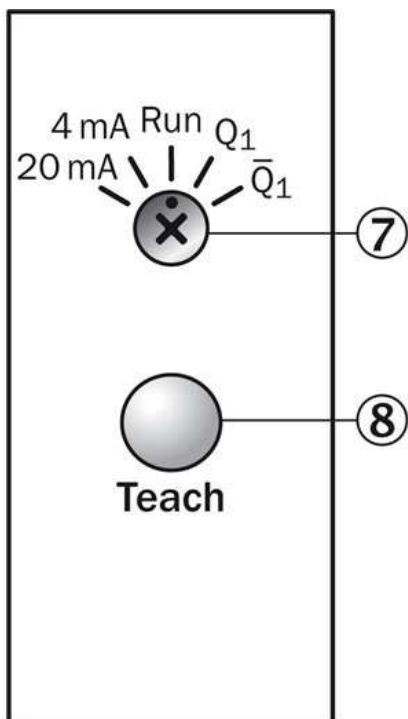
### Ambient data

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

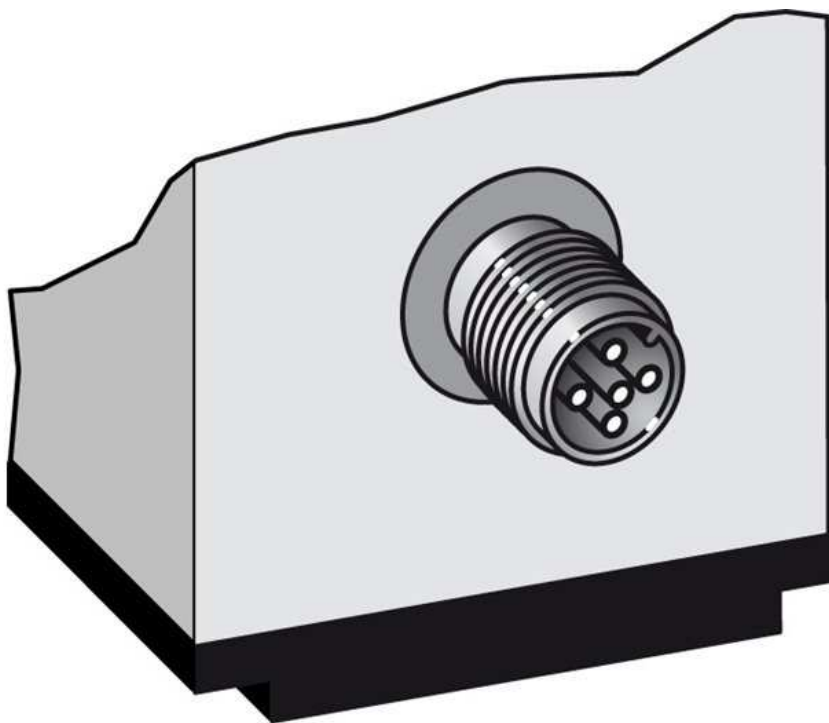


Adjustment possible



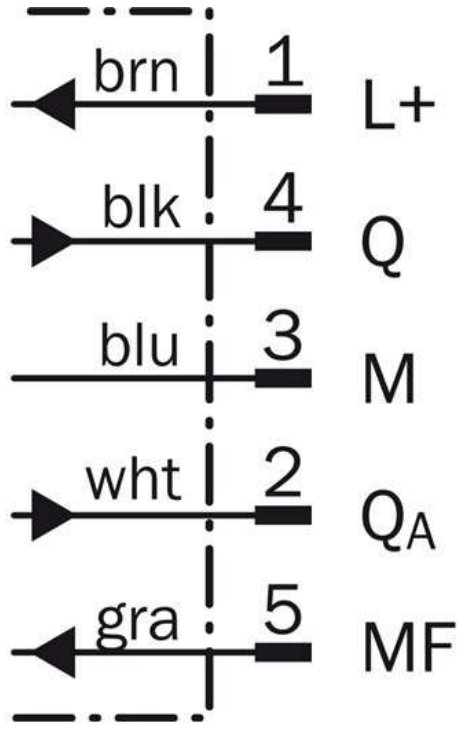
|7| rotary switch  
|8| Control element

Connection type



Connection diagram

---



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

The DL60 can be factory scaled for customer specific measurement ranges based on the type code.

The type code is: "DL60-x11xBbbee". 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 m.

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

**Be aware**

ee/bb = 00 = 300 mm (smallest possible distance value).

There is a minimum difference between "bb" and "ee" of at least 1 unit (1,000 mm) (e.g. bb = 02 → ee ≥ 03)

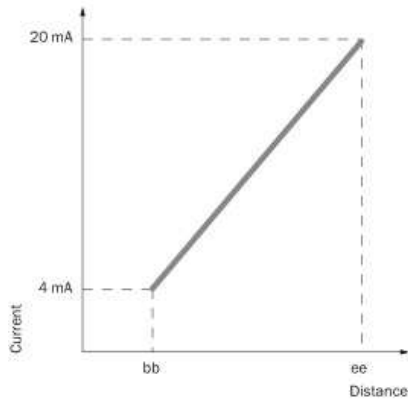
**Range of values**

00 ... 24 = 300 mm ... 24,000 mm, any configuration within this range can be chosen (e.g. 0010, 0224 etc.).

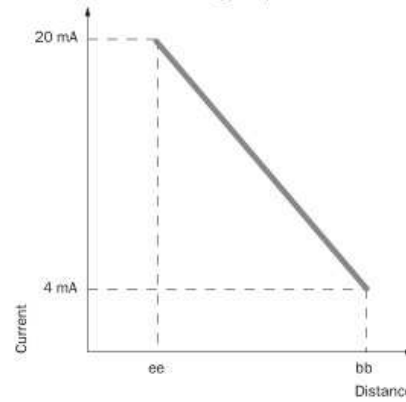
**Examples**

Model name	Description
<b>DL60-P111B0010</b>	DL60, switching output PNP, measurement range 300 mm ... 10,000 mm (4 mA = 0.3 m ... 20 mA = 10 m)
<b>DL60-N111B0915</b>	DL60, switching output NPN, measurement range 9,000 mm ... 15,000 mm (4 mA = 9 m ... 20 mA = 15 m)
<b>DL60-P111B2402</b>	DL60, switching output PNP, measurement range 24,000 mm ... 2,000 mm (inverted measuring area) (4 mA = 24 m ... 20 mA = 2 m)

**ee > bb**



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



**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)