



Mid range distance sensors  
Dx30, DS30

DS30-P2241S03



**Model Name** > [DS30-P2241S03](#)  
**Part No.** > [1048443](#)



**At a glance**

- Measuring range up to 2,000 mm on black and white
- Measuring range up to 3,000 mm on gray and white
- Time-of-flight technology provides best suppression of any object in the background (up to 150 m)
- Minimal black/white shift ensures precise and reliable switching
- Models with 1, 2 and 3 switching outputs available for maximum flexibility
- Operating temperature from -40 °C to +55 °C

**Your benefits**

- Precise, reliable detection of objects - regardless of color - ensures a reliable process
- Small housing enables fast, easy integration into any system
- Reliable background suppression and high ambient light immunity increase productivity by eliminating false trips and machine down times
- Cost-efficient design and high sensor performance offer low initial costs and ensures exceptional economic benefits over the sensor lifetime
- Wide temperature range makes sensor suitable for several applications – even cold storage warehouses
- State-of-the-art VCESL laser offers an extended lifetime of 100,000 h, increasing the overall sensor service life
- Multiple switching points enable up to three tasks for the price of one sensor



**Performance**

Measurement range:	200 mm ... 2,000 mm, 6 % remission 200 mm ... 3,000 mm, 18 % remission 200 mm ... 3,000 mm, 90 % remission
Resolution <sup>1)</sup> :	10 mm, Teach resolution
Response time:	10 ms
Switching frequency:	50 Hz
Light source <sup>2)</sup> :	Laser, infrared
Typ. light spot size (distance):	20 mm x 20 mm (at 2 m)
Additional function:	Window teach
Laser class:	1 (EN 60825-1)
Laser service life (MTTF at 25 °C):	100,000 h

<sup>1)</sup> 6 % ... 90 % remission <sup>2)</sup> Wave length: 850 nm

## Interfaces

Output type <sup>1)</sup>; <sup>2)</sup>; <sup>3)</sup>: 2 x PNP (100 mA)

<sup>1)</sup> Output Q short-circuit protected <sup>2)</sup> PNP: HIGH =  $V_S - (< 2 V)$ /LOW = 0 V <sup>3)</sup> Complementary switching outputs (Q, /Q)

## Mechanics/electronics

Supply voltage  $V_S$  <sup>1)</sup>: DC 10 V ... 30 V

Ripple <sup>2)</sup>:  $\leq 5$  Vpp

Warm-up time:  $\leq 5$  min

Connection type: Male connector, M12, 4-pin

Indication: 2 x LED

Weight: 120 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

## Ambient data

Enclosure rating: IP 65

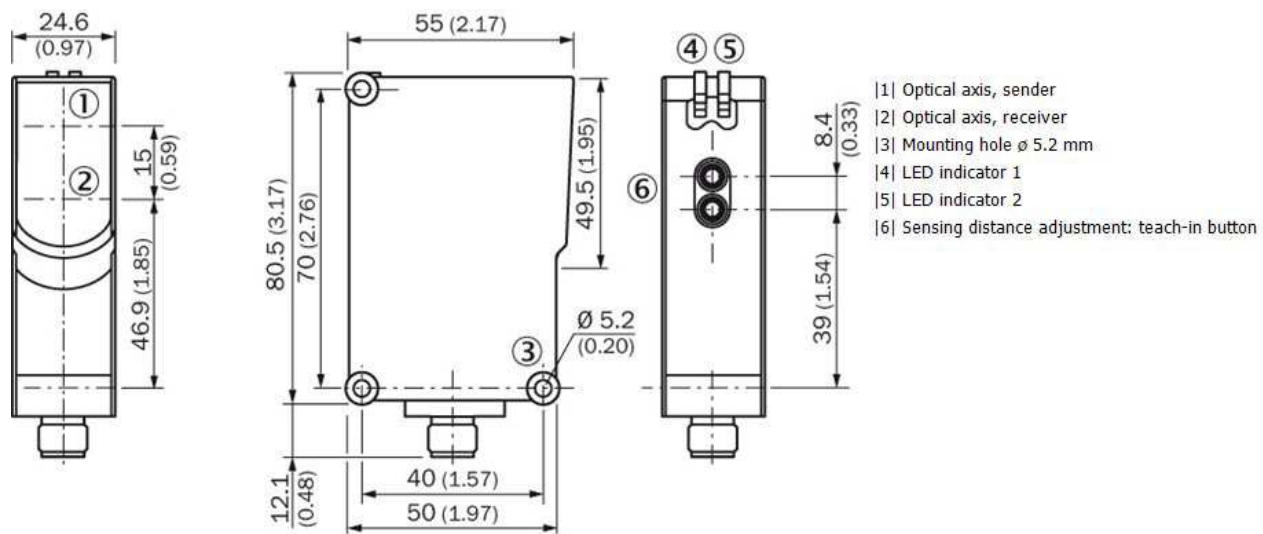
Protection class <sup>1)</sup>: II

Ambient temperature: Operation: -40 ... 55 °C, Storage: -40 ... 75 °C

Electromagnetic compatibility (EMC): EN 61000-6-2:2005-08, EN 61000-6-3:2001-10 + A11:2004-07 / EN 60947-5-2:1998-10 + A1:1999-08 + A2:2004-02

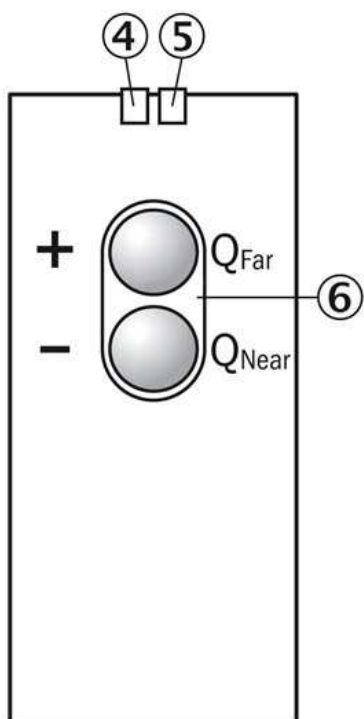
<sup>1)</sup> Reference voltage DC 50 V

## Dimensional drawing



All dimensions in mm (inch)

## Adjustment possible



|4| LED indicator 1

|5| LED indicator 2

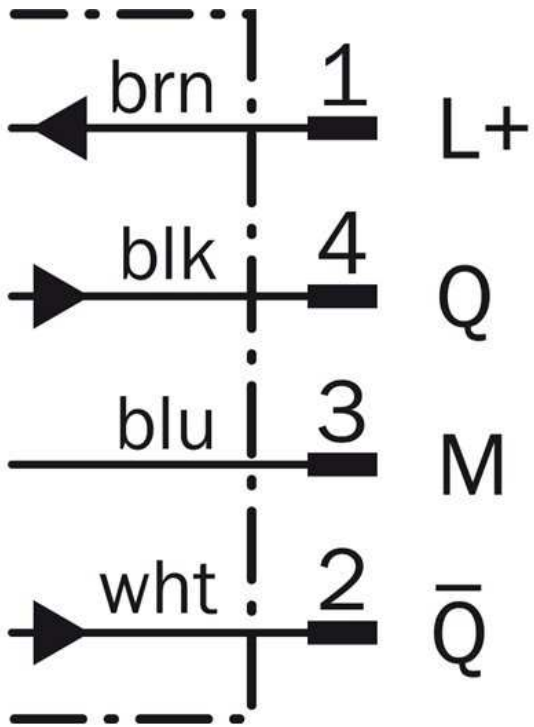
|6| Sensing distance adjustment: teach-in button

## Connection type



Connection diagram

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**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)