



Mid range distance sensors Dx30, DS30

DS30-N1241



Model Name > [DS30-N1241](#)
Part No. > [1042181](#)



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

| | |
|----------------------------------|--|
| Measuring range: | 200 mm ... 2,000 mm, 6 % remission 200 mm ... 2,000 mm, 18 % remission 200 mm ... 2,000 mm, 90 % remission |
| Resolution ¹⁾ : | 10 mm , Teach resolution |
| Response time: | 10 ms |
| Switching frequency: | 50 Hz |
| Light source ²⁾ : | Laser, infrared |
| Laser protection class: | 1 (EN 60825-1) |
| Typ. light spot size (distance): | 20 mm x 20 mm (at 2 m) |
| Service life: | 100,000 h |

¹⁾ 6 % ... 90 % remission ²⁾ Wave length: 850 nm

Interfaces

Output type:: 2 x NPN (100 mA) ^{1) 2) 3)}

¹⁾ Output Q short-circuit protected ²⁾ NPN: HIGH = $\leq 2\text{ V}$ /LOW = V_S ³⁾ Complementary switching outputs (Q, /Q)

Mechanics/electronics

Supply voltage V_S ¹⁾: DC 10 V ... 30 V

Ripple ²⁾: $\leq 5\text{ Vpp}$

Warm-up time: $\leq 5\text{ min}$

Connection type: Connector M12, 4-pin

Indication: 2 x LED

Weight: 120 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

Ambient data

Enclosure rating: IP 65

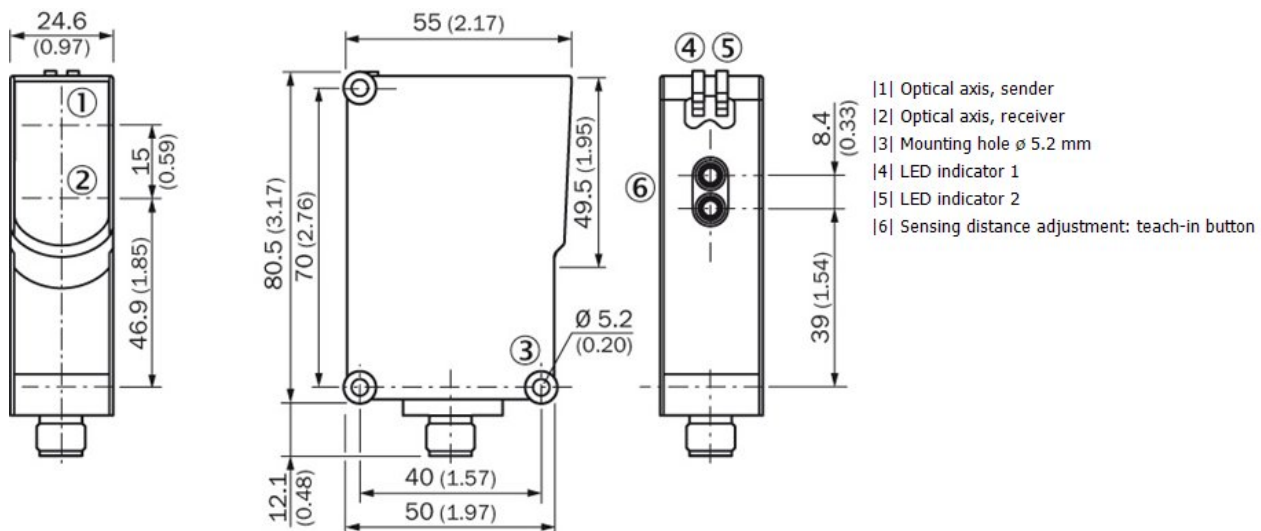
Protection class ¹⁾: II

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

Ambient temperature: Operation: $-40 \dots 55\text{ }^\circ\text{C}$, Storage: $-40 \dots 75\text{ }^\circ\text{C}$

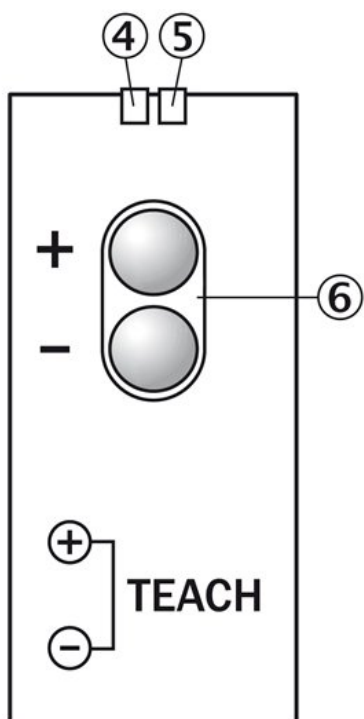
¹⁾ Reference voltage DC 50 V

Dimensional drawing



All dimensions in mm (inch)

Adjustment possible

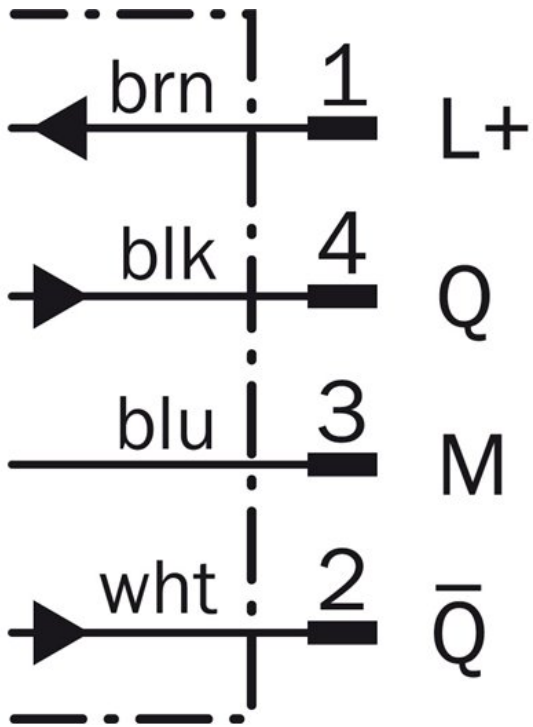


- |4| LED indicator 1
- |5| LED indicator 2
- |6| Sensing distance adjustment: teach-in button

Connection type



Connection diagram



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