



DS50-P1112

Dx50

MID RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
DS50-P1112	1047402

Other models and accessories → www.sick.de/Dx50



Detailed technical data

Performance

Measuring range	200 mm ... 10,000 mm, 90 % remission 200 mm ... 6,000 mm, 18 % remission 200 mm ... 4,000 mm, 6 % remission
Resolution	1 mm ¹⁾
Repeatability	5 mm / 2.5 mm ^{2) 3) 4)}
Accuracy	± 10 mm ^{1) 5)}
Response time	10 ms / 50 ms ⁴⁾
Switching frequency	50 Hz / 10 Hz ⁴⁾
Light source	Laser, red
Laser class	2 (EN 60825-1) ⁶⁾
Typ. light spot size (distance)	15 mm x 15 mm (10 m)
Additional function	Set moving average: fast/slow, Set switching mode: Distance to object (DtO) / switching window (Wnd) / Object Between Sensor and Background (ObSB), teach-in, scaling and inversion of switching output, set hysteresis, Multifunctional input: laser off / external teach / deactivated, Unique measurement value, crosstalk safety, switch-off display, reset to factory default, lock user interface
Laser service life (MTTF at 25 °C)	100,000 h

¹⁾ Related to distance value on the display.

²⁾ Equivalent to 1 σ .

³⁾ 6 % ... 90 % remission.

⁴⁾ Dependent on the set average: fast/slow.

⁵⁾ 90 % remission.

⁶⁾ Wavelength: 658 nm; max. output: 180 mW; pulse duration: 5 ns; pulse repetition rate: 1/200.

Interfaces

Switching output	2 x PNP (100 mA) ^{1) 2)}
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¹⁾ Output Q short-circuit protected.

²⁾ PNP: HIGH = $V_S - (< 2.5 V)$ / LOW = 0 V.

³⁾ Response time ≤ 60 ms.

⁴⁾ PNP: HIGH = V_S / LOW = $\leq 2.5 V$.

Multifunctional input (MF)	1 x ^{3) 4)}
Hysteresis	1 mm ... 9,999 mm

- 1) Output Q short-circuit protected.
 2) PNP: HIGH = $V_S - (< 2.5 \text{ V})$ / LOW = 0 V.
 3) Response time $\leq 60 \text{ ms}$.
 4) PNP: HIGH = V_S / LOW = $\leq 2.5 \text{ V}$.

Mechanics/electronics

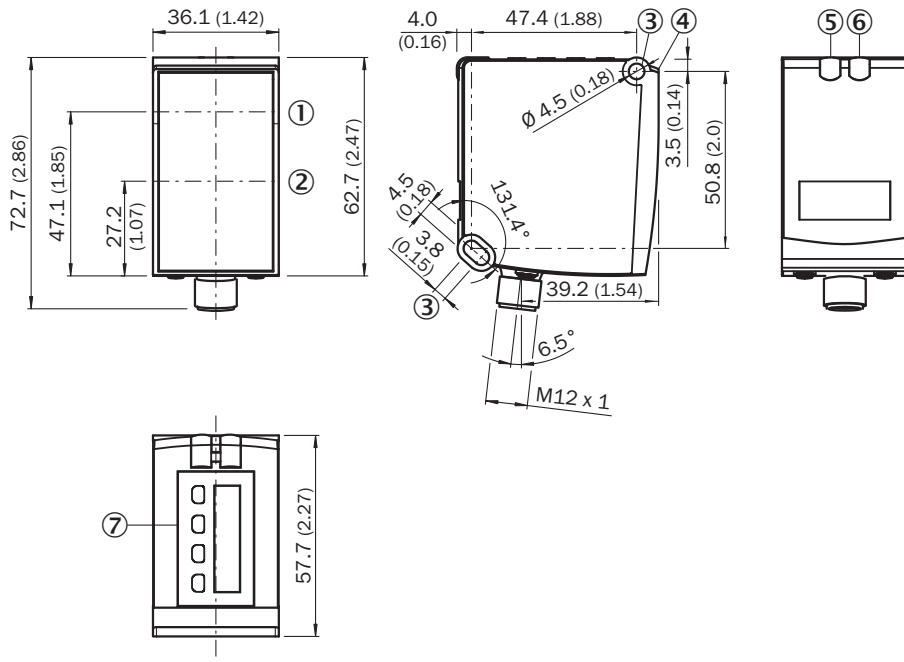
Supply voltage V_S	DC 10 V ... 30 V ¹⁾
Ripple	$\leq 5 V_{pp}$ ²⁾
Power consumption	$\leq 1.85 \text{ W}$ ³⁾
Initialization time	$\leq 350 \text{ ms}$
Warm-up time	$\leq 15 \text{ min}$
Housing material	Die-cast zinc housing (ZNAL4CU1) Acrylic glass (PMMA)
Connection type	Male connector, M12, 5-pin
Indication	LC display, 2 x LED
Weight	200 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 65
Protection class	III
Ambient temperature	Operation: $-30 \text{ }^\circ\text{C} \dots +65 \text{ }^\circ\text{C}$ Storage: $-40 \text{ }^\circ\text{C} \dots +75 \text{ }^\circ\text{C}$
Max. rel. humidity (not condensing)	$\leq 95 \%$
Typ. Ambient light immunity	40 klx
Vibration resistance	EN 60068-2-6 / EN 60068-2-64
Shock resistance	EN 60068-2-27

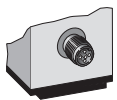
Dimensional drawing (dimensions in mm (inch))



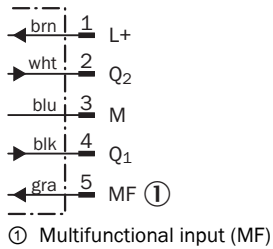
- ① Optical axis sender
- ② Optical axis receiver
- ③ Mounting hole
- ④ Reference surface = 0 mm
- ⑤ Status indicator swiching output Q₁ (orange)
- ⑥ DT50/DT50 Hi/DL50: status indicator power on (green), DS50/DL50 Hi: status indicator switching output Q₂ (orange)
- ⑦ Operating keys and display

Connection type

Connector M12, 5-pin






Connection diagram



Recommended accessories

Other models and accessories → www.sick.de/Dx50

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight Head B: Cable Cable: PVC, unshielded, 2 m	DOL-1205-G02M	6008899
	Head A: female connector, M12, 5-pin, straight Head B: Cable Cable: drag chain use, PUR, halogen-free, unshielded, 2 m	DOL-1205-G02MC	6025906
	Head A: female connector, M12, 5-pin, angled Head B: Cable Cable: PVC, unshielded, 2 m	DOL-1205-W02M	6008900

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 +972-4-6801000
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 8865 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