



Mid range distance sensors
Dx50, DS50

DS50-P1112



Model Name > **DS50-P1112**
Part No. > **1047402**

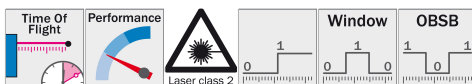


At a glance

- HDDM™ technology provides the best reliability, safety to ambient light and price/performance ratio
- Reliable detection up to 10 m
- High switching repeatability (2.5 mm)
- Two discrete outputs with up to 50 Hz switching frequency
- Three switching modes: “Distance to Object,” “Window” or “Object Between Sensor and Background” - detect any object
- Immune to cross talk for use with multiple sensors
- Superior background suppression

Your benefits

- Precise detection at a safe distance reduces scrap and increases throughput
- Immune to any type of ambient light - allows for use in optically challenging environments
- Widest temperature range allows for outdoor use without additional cooling or heating
- Intuitive setup via display or remote teach reduces installation time and costs
- Red light and an optional alignment bracket reduces installation time
- Metal housing withstands harsh environments, saving replacement costs
- Dx50 product family is based on a common platform, which offers multiple performance levels, making it easy to accommodate future changes
- Low investment costs and high performance guarantee short return on investment



Performance

Measurement range:	200 mm ... 10,000 mm, 90 % remission 200 mm ... 4,000 mm, 6 % remission 200 mm ... 6,000 mm, 18 % remission
Resolution ¹⁾ :	1 mm
Repeatability ²⁾ , ³⁾ , ⁴⁾ :	5 mm/2.5 mm
Accuracy ⁵⁾ , ⁶⁾ :	± 10 mm
Response time ⁷⁾ :	10 ms/50 ms
Switching frequency ⁸⁾ :	50 Hz/10 Hz
Light source:	Laser, red
Typ. light spot size (distance):	15 mm x 15 mm (10 m)

Additional function:	Switch-off display Unique measurement value Set switching mode: Distance to object (DtO)/switching window (Wnd)/ Object Between Sensor and Background (ObSB) Set moving average: fast/slow Set hysteresis Crosstalk safety Lock user interface Reset to factory default Teach-in, scaling and inversion of switching output Multifunctional input: laser off/external teach/deactivated
Laser class:	2 (EN 60825-1) ⁹⁾
Laser service life (MTTF at 25 °C):	100,000 h
1) 5) Related to distance value on the display 2) Equivalent to 1 σ 3) 6 % ... 90 % remission 4) 7) 8) Dependent on the set average: fast/slow 6) 90 % remission 9)	
Wavelength: 658 nm; max. output: 180 mW; pulse duration: 5 ns; pulse repetition rate: 1/200	

Interfaces

Output type ^{1), 2)} :	2 x PNP (100 mA)
Hysteresis:	1 mm ... 9,999 mm
Multifunctional input (MF) ^{3), 4)} :	1 x
1) Output Q short-circuit protected 2) PNP: HIGH = V_S - (< 2.5 V)/LOW = 0 V 3) Response time \leq 60 ms 4) PNP: HIGH = V_S / LOW = \leq 2.5 V	

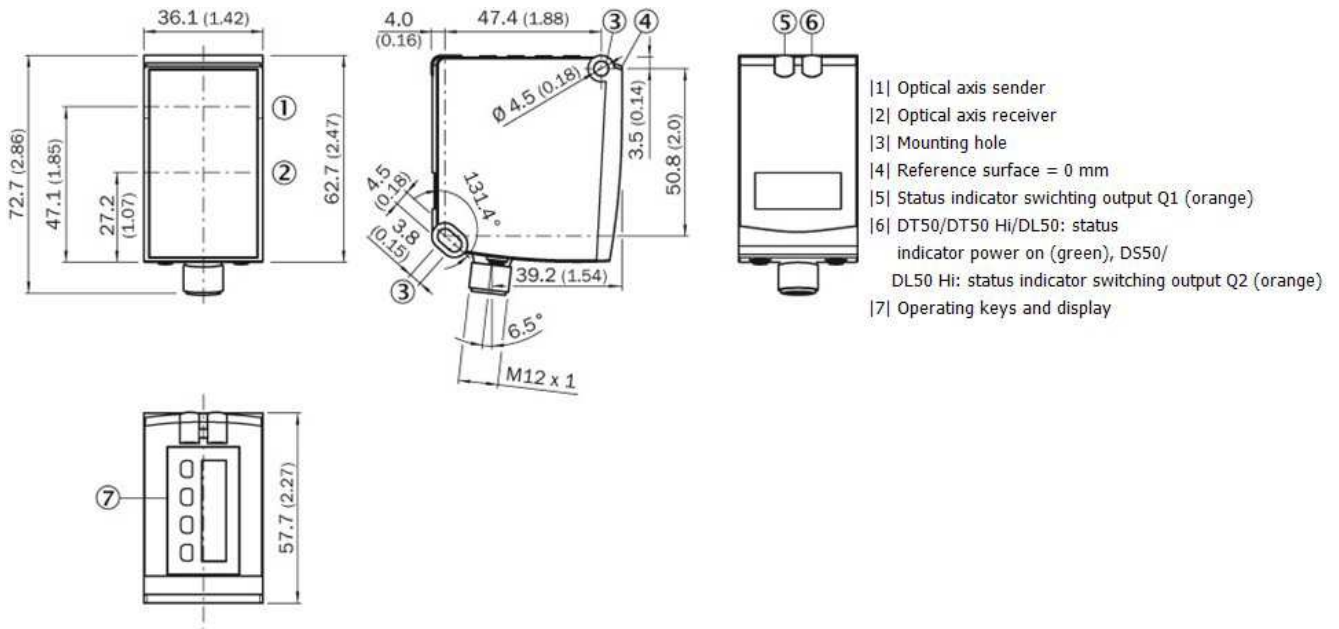
Mechanics/electronics

Supply voltage V_S ¹⁾ :	DC 10 V ... 30 V
Ripple ²⁾ :	\leq 5 Vpp
Power consumption ³⁾ :	\leq 1.85 W
Initialization time:	\leq 350 ms
Warm-up time:	\leq 15 min
Housing material:	Die-cast zinc housing (ZNAL4CU1) acrylic glass (PMMA)
Connection type:	Male connector, M12, 5-pin
Indication:	2 x LED, LC display
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	

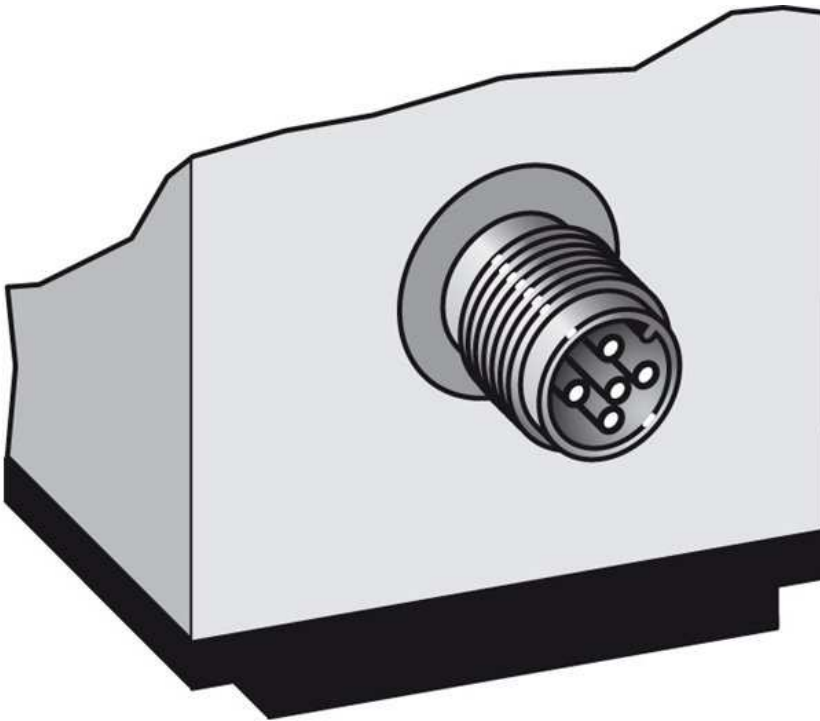
Ambient data

Enclosure rating:	IP 65
Protection class:	III
Ambient temperature:	Operation: -30 ... +65 °C, Storage: -40 ... +75 °C
Max. rel. humidity (not condensing):	\leq 95 %
Vibration resistance:	EN 60068-2-6/EN 60068-2-64
Shock resistance:	EN 60068-2-27
Typ. ambient light safety:	40 klx

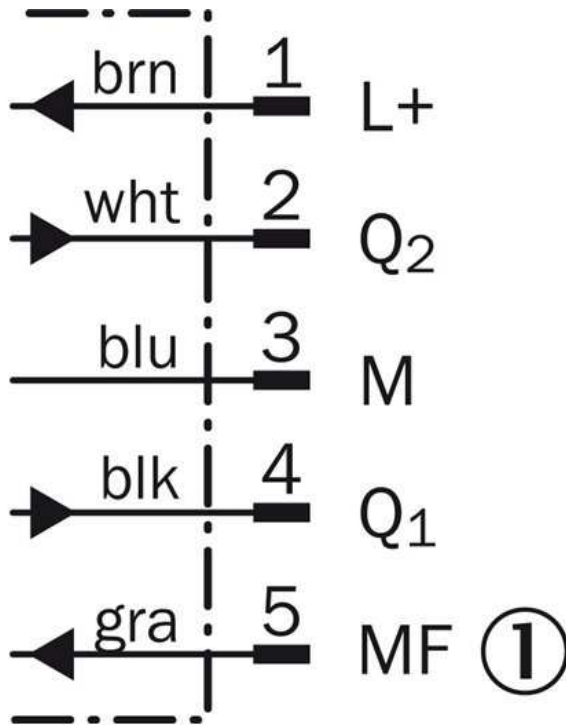
Dimensional drawing



Connection type



Connection diagram



[1] Multifunctional input (MF)

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