



Mid range distance sensors Dx50, DS50

DS50-N1122



Model Name > [DS50-N1122](#)
Part No. > [1047406](#)

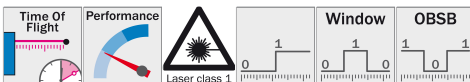


At a glance

- 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

Measuring 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⁾ :	20 ms/100 ms
Switching frequency ⁸⁾ :	25 Hz/5 Hz
Light source ⁹⁾ :	Laser, red
Laser protection class ¹⁰⁾ :	1 (EN 60825-1)
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)/Window (Wnd)/Object between sensor and background (ObSB)
 Teach-in of switching output
 Inverted switching output
 Set moving average: fast/slow
 Set hysteresis
 Crosstalk safety
 Teach-in of switching outputs
 Lock user interface
 Reset to factory default
 Multifunctional input: laser off/external teach/inactive

Service life laser (MTTF at 25 °C): 100,000 h

1) 5) Related to distance value on the display 2) Equivalent to 1σ 3) 6 % ... 90 % remission 4) 7) 8) Dependent on the set average: fast/slow 6) 90 % remission 9)
 Wavelength: 658 nm; max. output: 120 mW; pulse duration: 5 ns; pulse repetition rate: 1/400 10) Wavelength: 658 nm; max. output: 120 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/400

Interfaces

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

Mechanics/electronics

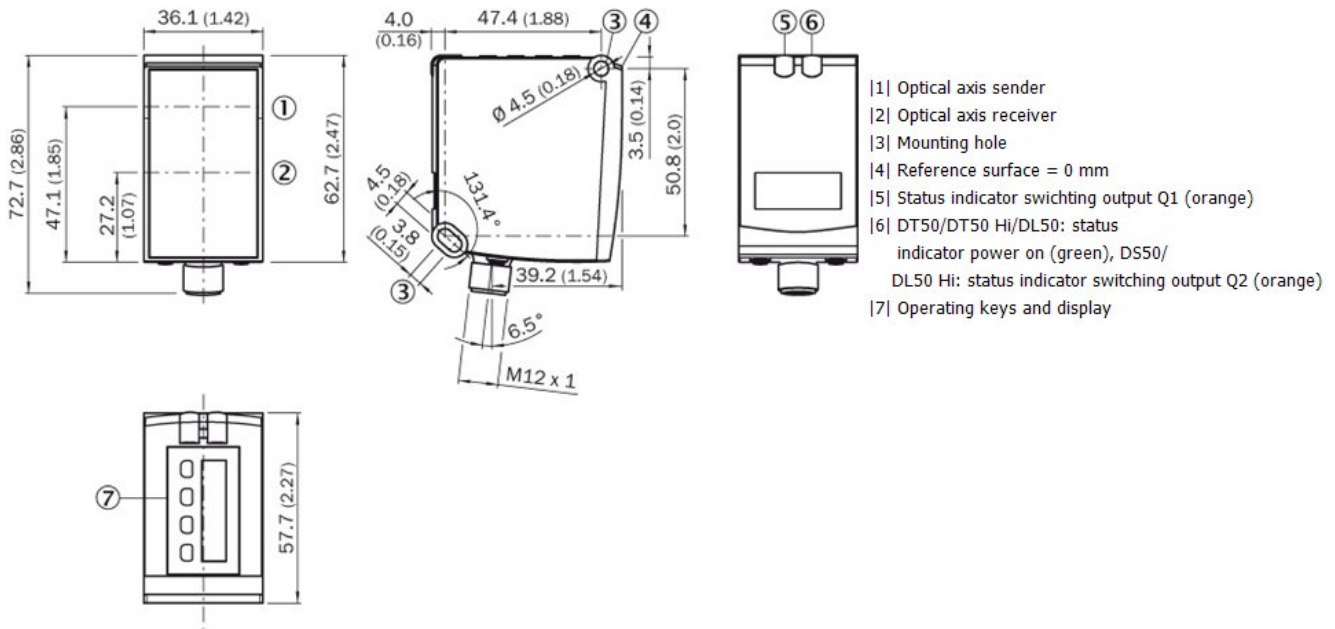
Supply voltage V_S ¹⁾: DC 10 V ... 30 V
 Ripple ²⁾: ≤ 5 Vpp
 Power consumption ³⁾: ≤ 1.85 W
 Initialization time: ≤ 350 ms
 Warm-up time: ≤ 15 min
 Housing material: Die-cast zinc housing (ZNAL4CU1)
 acrylic glass (PMMA)
 Connection type: Connector M12, 5-pin
 Indication: 2 x LED, LC display
 Weight: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

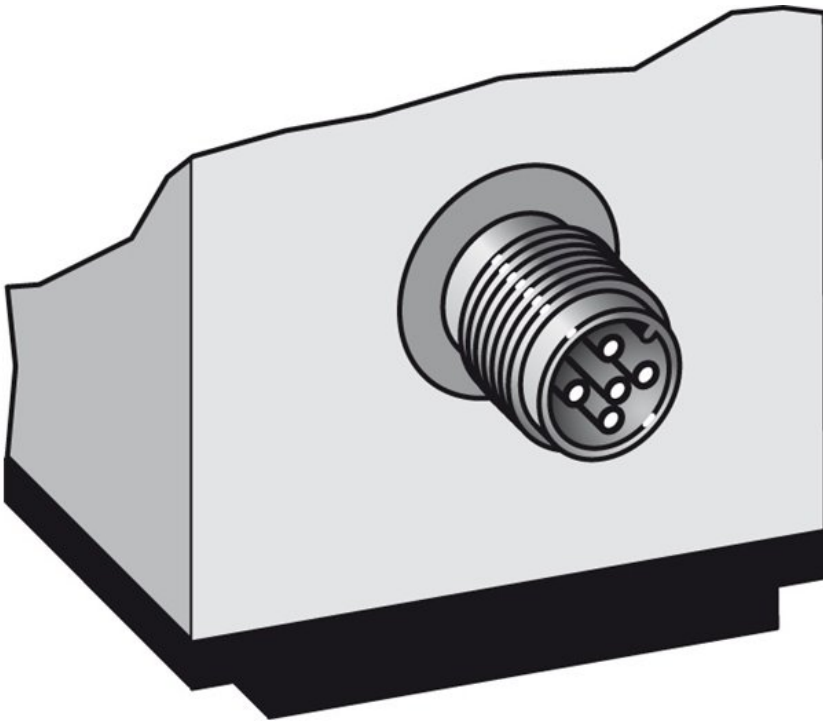
Ambient data

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

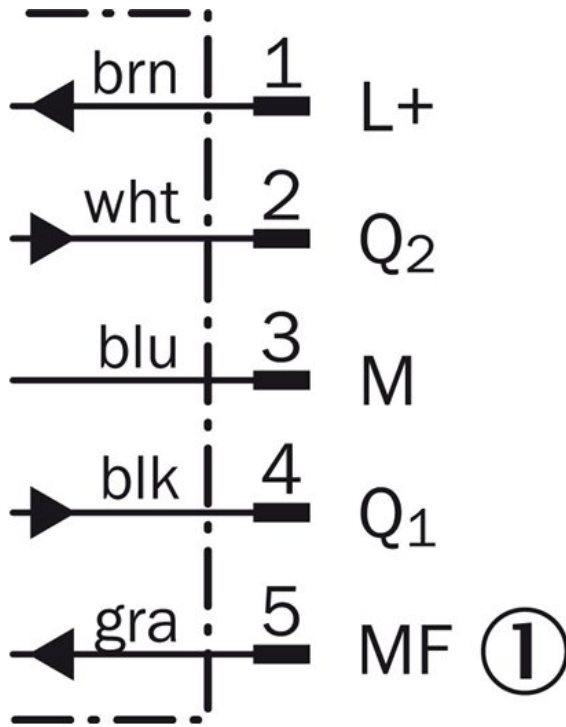
Dimensional drawing



Connection type



Connection diagram



[1] Multifunctional input

Australia

Phone +61 3 9457 0600
1800 334 802 – 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 sac@sick.com.br

Canada

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

Ceská 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 kundenservice@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 3358 1341
E-Mail support@sick.jp

Magyarország

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

Nederlands

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

Norge

Phone +47 67 81 50 00
E-Mail austefjord@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 admin@sicksgp.com.sg

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