



Mid range distance sensors Dx50, DT50 Hi

DT50-N2113



Model Name > **DT50-N2113**
Part No. > **1047398**



At a glance

- HDDM™ technology provides the best reliability, safety to ambient light and price/performance ratio
- Most compact sensor offering up to 20 m range directly on the object
- Amazing repeatability up to 1 mm
- Very fast measurement and output rate with 500 Hz
- Analog output with 4 mA ... 20 mA and one switching output
- Red laser light for precise alignment
- Tough metal housing with LC display

Your benefits

- Improved production quality based on high precision and small black/white shift of the measurement
- The fast measurement frequency increases the production throughput
- Thanks to its compact housing size, the DT50 Hi offers precise measurement in applications with limited space
- Red light and an optional alignment bracket reduces installation time
- Intuitive setup via display or remote teach reduces installation time and costs
- 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 accessories
- Metal housing withstands harsh environments, saving replacement costs



Performance

Measuring range:	200 mm ... 20,000 mm, 90 % remission 200 mm ... 5,000 mm, 6 % remission 200 mm ... 8,500 mm, 18 % remission
Resolution:	1 mm
Repeatability ¹⁾ ; ²⁾ ; ³⁾ :	3 mm/2 mm/1 mm
Accuracy ⁴⁾ :	± 7 mm
Response time ⁵⁾ ; ⁶⁾ :	15 ms/30 ms/80 ms
Output rate ⁷⁾ :	2 ms
Light source:	Laser, red
Laser protection class ⁸⁾ :	2 (EN 60825-1)
Typ. light spot size (distance):	15 mm x 15 mm (10 m)

Additional function:

Switch-off display
Teach-in of analog output
Invertible analog output
Teach-in of switching output
Inverted switching output
Set moving average fast/medium/slow
Set hysteresis
Scaling of analog outputs
Set levels of switching outputs
Lock user interface
Reset to factory default
Multifunctional input: laser off/external teach/inactive
Switching mode Distance to object (DtO)

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

- ¹⁾ Equivalent to 1 σ ²⁾ 6 % ... 90 % remission ^{3) 5)} Dependent on the set average: fast/medium/slow ⁴⁾ 90 % remission ⁶⁾ Lateral entry of object into measuring range
⁷⁾ Continuous change of distance in measuring range ⁸⁾ Wavelength: 658 nm; max. output: 180 mW; pulse duration: 5 ns; pulse repetition rate: 1/200

Interfaces

Analog output: 1 x 4 mA ... 20 mA ($\leq 300 \Omega$)
Resolution analog output: 16 bit
Output type: 1 x NPN (100 mA) ^{1) 2)}
Multifunctional input ^{3) 4)}: 1 x NPN
Hysteresis: 10 mm ... 1,000 mm

- ¹⁾ Output Q short-circuit protected ²⁾ NPN: HIGH = $< 2.5 \text{ V}$ / LOW = V_S ³⁾ Response time $\leq 15 \text{ ms}$ ⁴⁾ NPN: HIGH = $\leq 2.5 \text{ V}$ / LOW = V_S

Mechanics/electronics

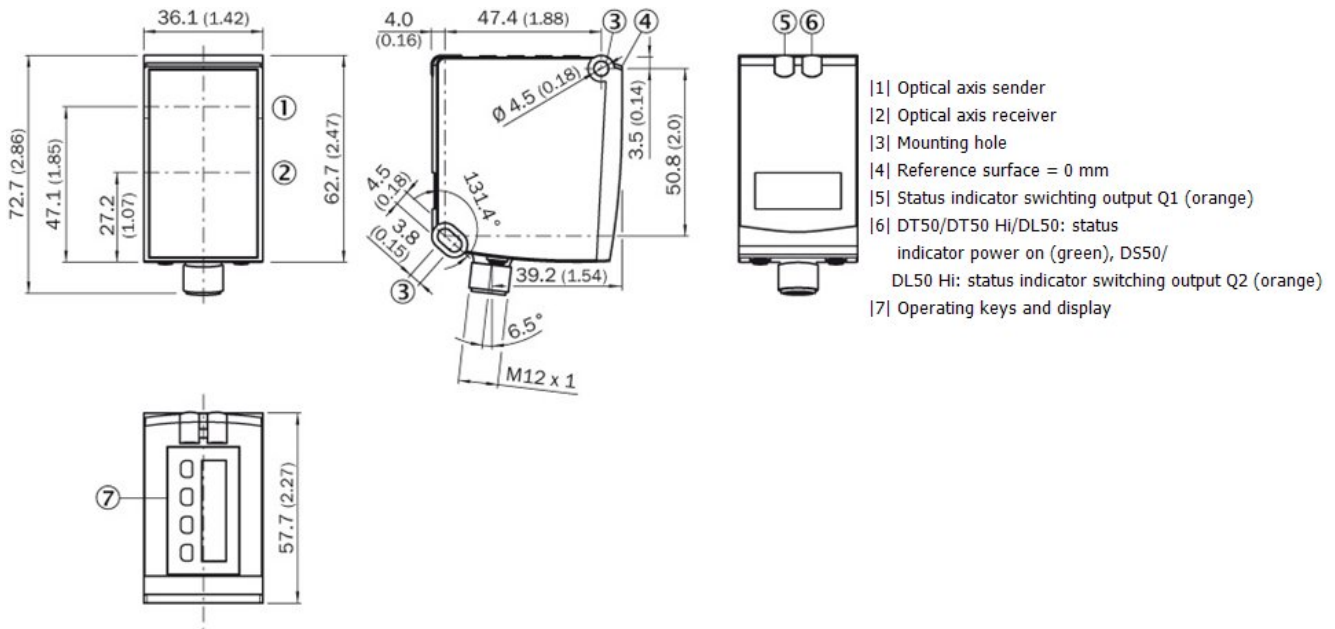
Supply voltage V_S ¹⁾: DC 10 V ... 30 V
Ripple ²⁾: $\leq 5 \text{ Vpp}$
Power consumption ³⁾: $\leq 2.1 \text{ W}$
Initialization time: $\leq 250 \text{ ms}$
Warm-up time: $\leq 15 \text{ min}$
Housing material: Die-cast zinc housing (ZNAL4CU1)
acrylic glass (PMMA)
Connection type: Connector M12, 5-pin
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

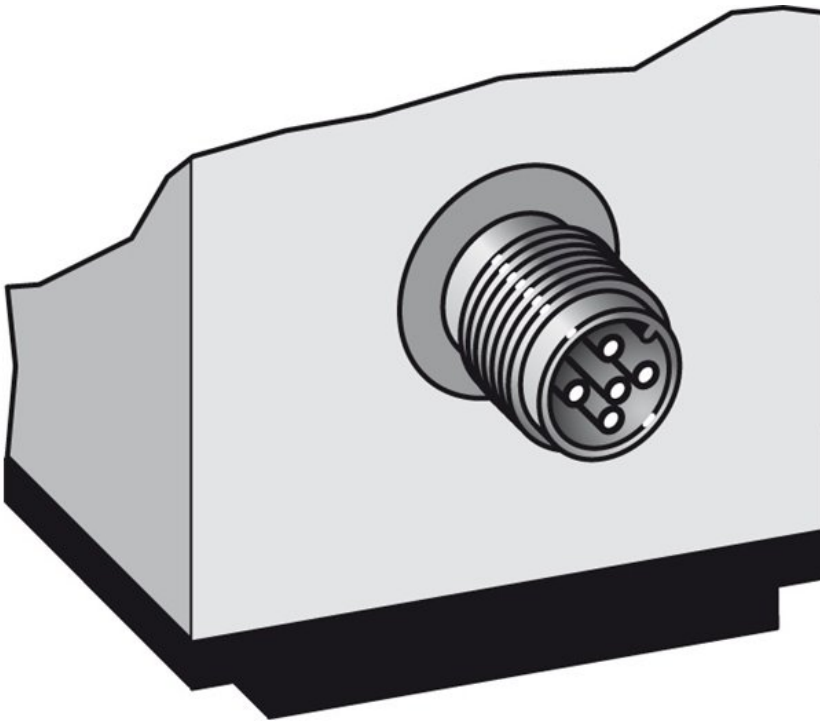
Ambient data

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

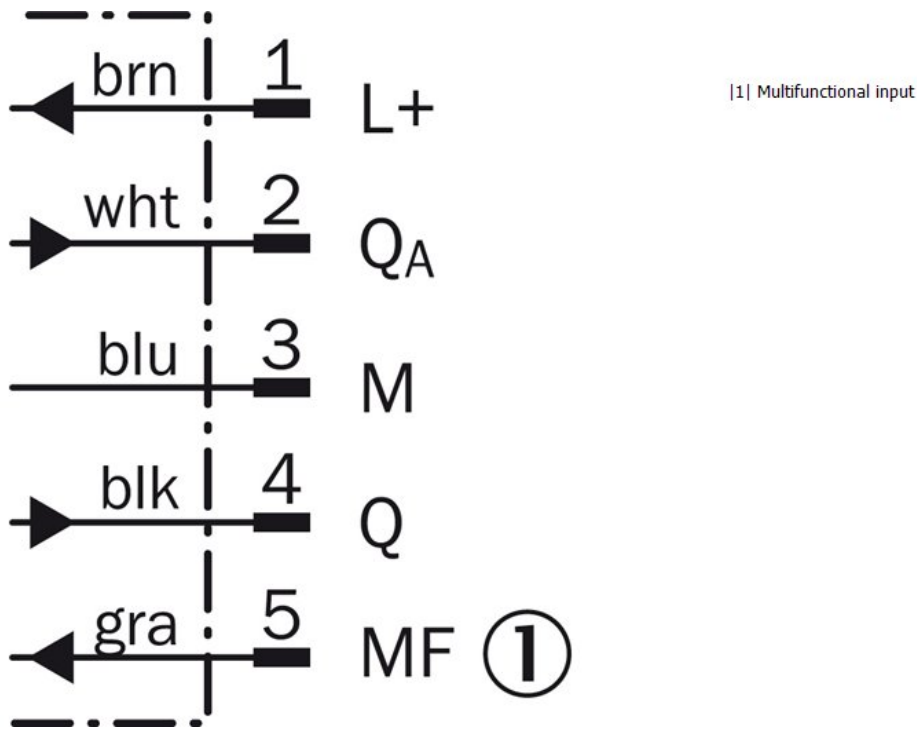
Dimensional drawing



Connection type



Connection diagram



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