



## Mid range distance sensors Dx50, DT50

DT50-P1114



**Model Name** > [DT50-P1114](#)  
**Part No.** > [1047581](#)



**At a glance**

- HDDM™ technology provides the best reliability, safety to ambient light and price/performance ratio
- Reliable measurement and detection up to 10 m
- Wide choice of models: 4 mA ... 20 mA or 0 V .. 10 V; PNP or NPN and laser class 1 or 2
- High switching repeatability (2.5 mm)
- Display with intuitive operating concept
- Tough die-cast zinc metal housing
- Wide operating temperature range from -30 °C to +65 °C

**Your benefits**

- Wide measurement range allows easy and fast integration in any production environment
- Intuitive setup via display or remote teach reduces installation time and costs
- Widest temperature range allows for outdoor use without additional cooling or heating accessories
- Immune to any type of ambient light - allows for use in optically challenging environments
- Increased process stability is achieved thanks to the small black/white shift
- Metal housing withstands harsh environments, saving replacement costs
- Low investment costs and high performance guarantee quick return on investment
- Dx50 family is based on a common platform, which offers multiple performance levels, making it easy to accommodate future changes



**Performance**

Measuring range:	200 mm ... 10,000 mm, 90 % remission 200 mm ... 4,000 mm, 6 % remission 200 mm ... 6,500 mm, 18 % remission
Resolution:	1 mm
Repeatability <sup>1), 2), 3)</sup> :	5 mm/2.5 mm
Accuracy <sup>4)</sup> :	± 10 mm
Response time <sup>5), 6)</sup> :	20 ms/30 ms
Output rate <sup>7)</sup> :	4 ms
Light source:	Laser, red
Laser protection class <sup>8)</sup> :	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/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

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

## Interfaces

---

Analog output: 1 x 0 V ... 10 V ( $\geq 5\text{ k}\Omega$ )  
Resolution analog output: 16 bit  
Output type: 1 x PNP (100 mA) <sup>1) 2)</sup>  
Multifunctional input <sup>3) 4)</sup>: 1 x PNP  
Hysteresis: 10 mm ... 1,000 mm

<sup>1)</sup> Output Q short-circuit protected <sup>2)</sup> PNP: HIGH =  $V_S$  - (< 2.5 V)/LOW = 0 V <sup>3)</sup> Response time  $\leq 15\text{ms}$  <sup>4)</sup> PNP: HIGH =  $V_S$  / LOW =  $\leq 2.5\text{ V}$

## Mechanics/electronics

---

Supply voltage  $V_S$  <sup>1) 2)</sup>: DC 15 V ... 30 V  
Ripple <sup>3)</sup>:  $\leq 5\text{ Vpp}$   
Power consumption <sup>4)</sup>:  $\leq 2.1\text{ W}$   
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

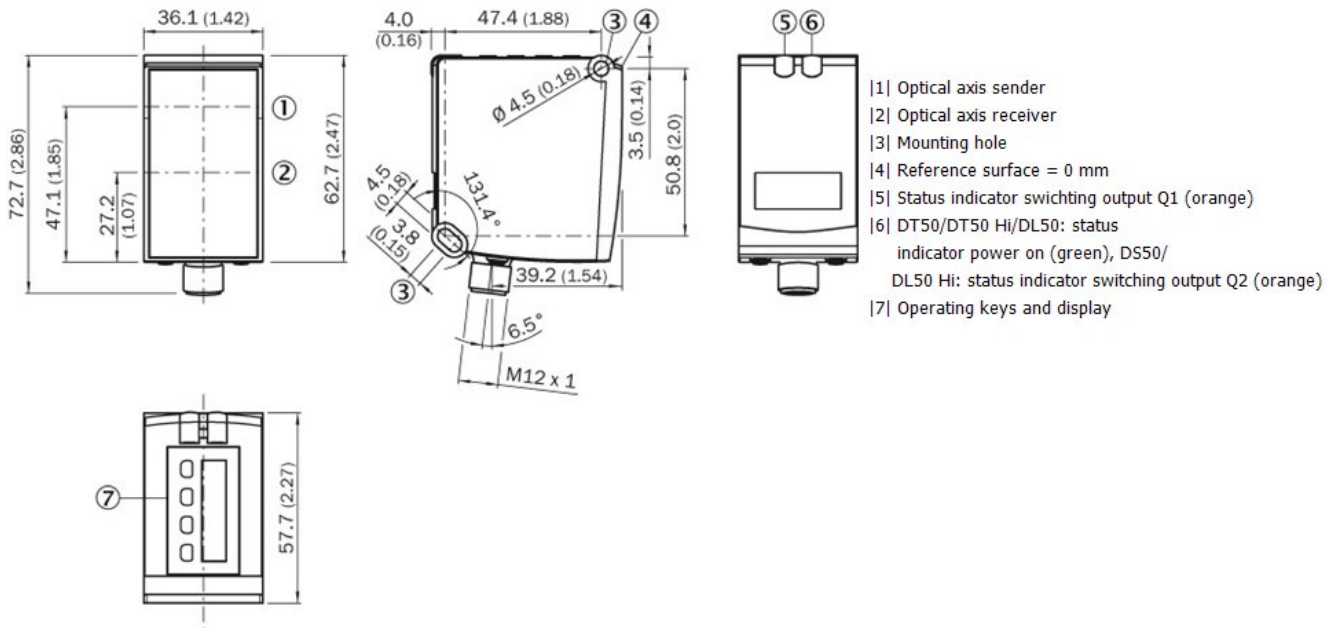
<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A <sup>2)</sup> For DT50-xxxx4:  $V_S > 15\text{ V}$  <sup>3)</sup> May not fall short of or exceed  $V_S$  tolerances <sup>4)</sup> Without load

## Ambient data

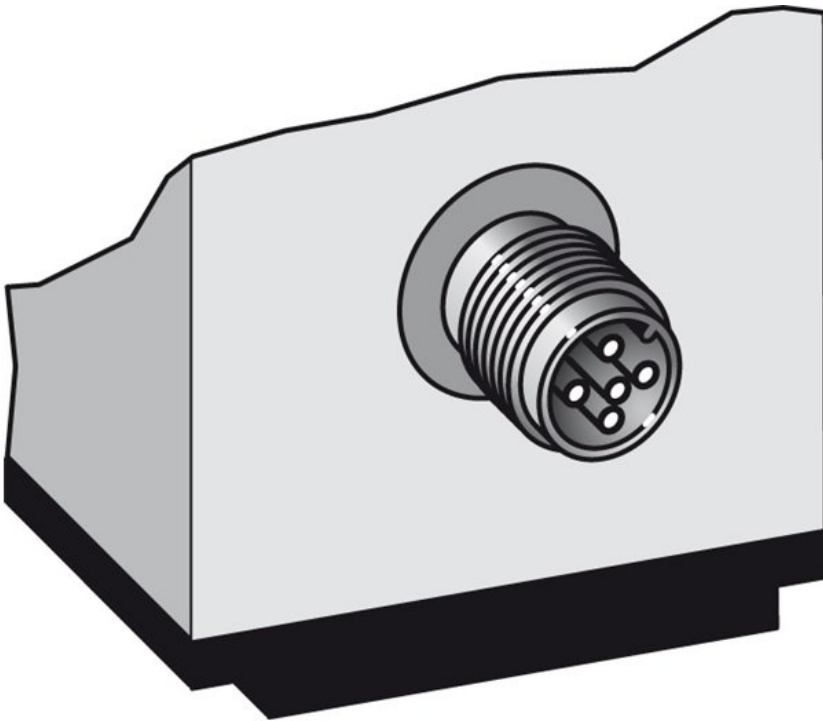
---

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

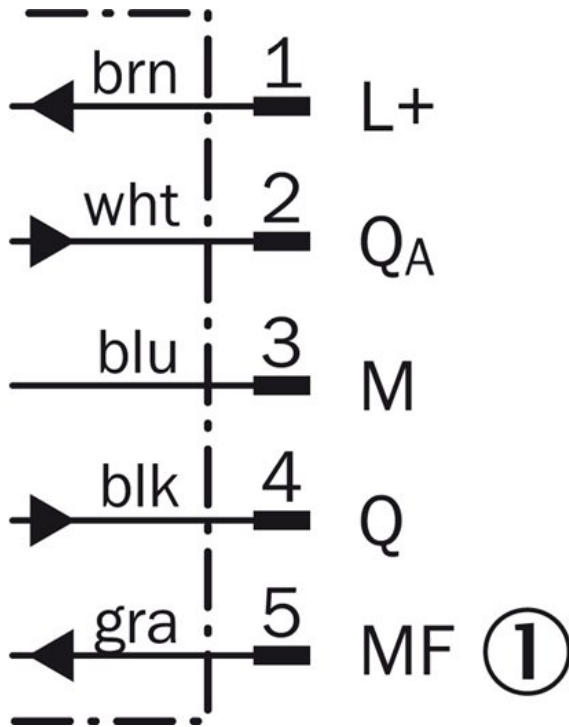
## Dimensional drawing



## Connection type



Connection diagram



[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](http://www.sick.com)