



Mid range distance sensors Dx50, DT50

DT50-P1113



Type > [DT50-P1113](#)
Part No. > [1044369](#)

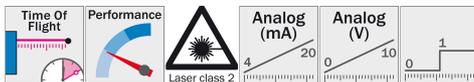


At a glance

- 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 ^{1), 2), 3)} :	5 mm/2.5 mm
Accuracy ⁴⁾ :	± 10 mm
Response time ^{5), 6)} :	20 ms/30 ms
Light source:	Laser, Red
Typ. light spot size (distance):	15 mm x 15 mm (10 m)

Additional function:	Switch-off display Set moving average: fast/slow Set hysteresis Switching mode: distance to object (DtO) Lock user interface Reset to factory default Teach-in, scaling and inversion of analog output Teach-in, scaling and inversion of switching output Multifunctional input: laser off/external teach/deactivated
Laser class:	2 (EN 60825-1) ⁷⁾
Laser service life (MTTF at 25 °C):	100,000 h
Output time ⁸⁾ :	≥ 4 ms

¹⁾ Equivalent to 1 σ ²⁾ 6 % ... 90 % remission ^{3) 5)} Dependent on the set average: fast/slow ⁴⁾ 90 % remission ⁶⁾ Lateral entry of object into measuring range ⁷⁾

Wavelength: 658 nm; max. output: 180 mW; pulse duration: 5 ns; duty cycle: 1/200 ⁸⁾ Continuous change of distance in measuring range

Interfaces

Analog output:	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)
Resolution analog output:	16 bit
Output type ^{1), 2)} :	1 x PNP (100 mA)
Hysteresis:	10 mm ... 1,000 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 $\leq 15\text{ms}$ ⁴⁾ PNP: HIGH = V_S / LOW = $\leq 2.5 \text{ V}$

Mechanics/electronics

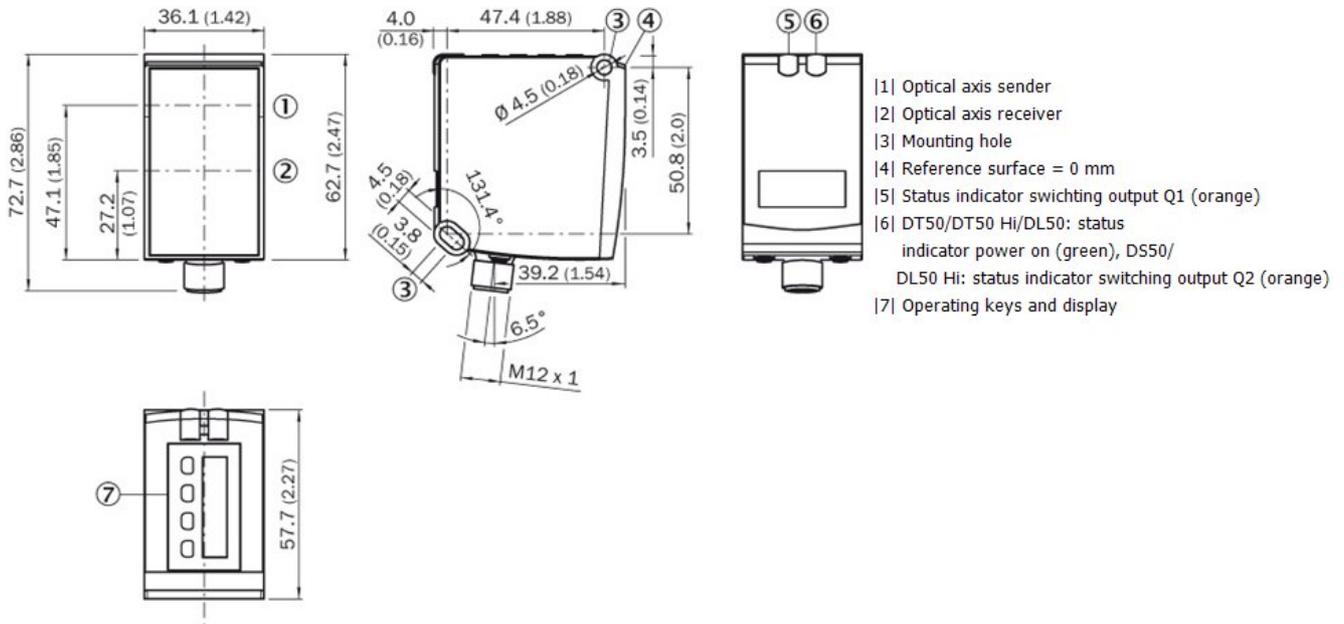
Supply voltage V_S ^{1), 2)} :	DC 10 V ... 30 V
Ripple ³⁾ :	$\leq 5 \text{ Vpp}$
Power consumption ⁴⁾ :	$\leq 2.1 \text{ W}$
Initialization time:	$\leq 250 \text{ ms}$
Warm-up time:	$\leq 15 \text{ min}$
Housing material:	Die-cast zinc housing (ZNAL4CU1) acrylic glass (PMMA)
Connection type:	Male connector, 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⁾ For DT50-xxxx4: $V_S > 15 \text{ V}$ ³⁾ May not fall short of or exceed V_S tolerances ⁴⁾ Without load

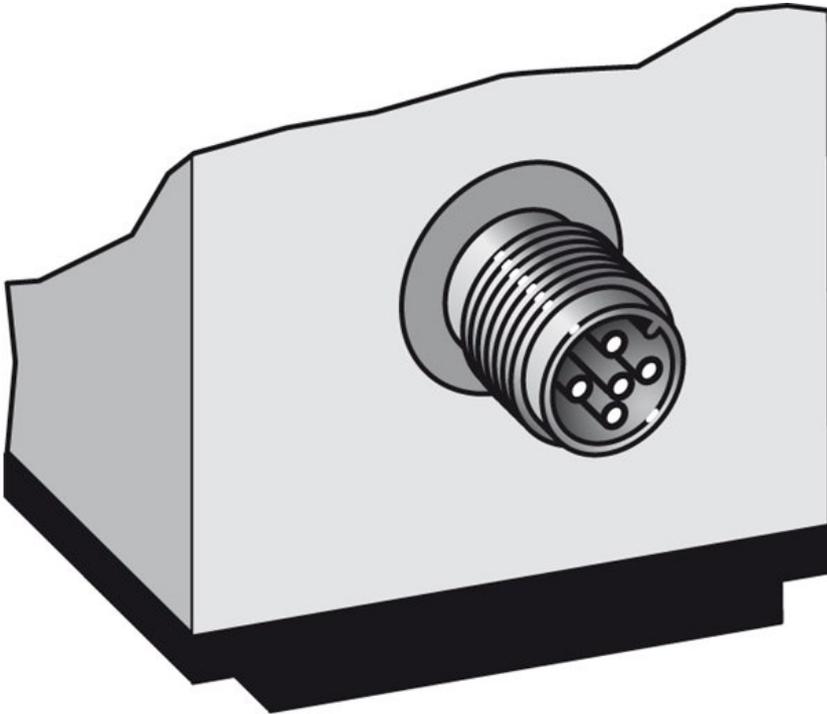
Ambient data

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 immunity:	40 klx

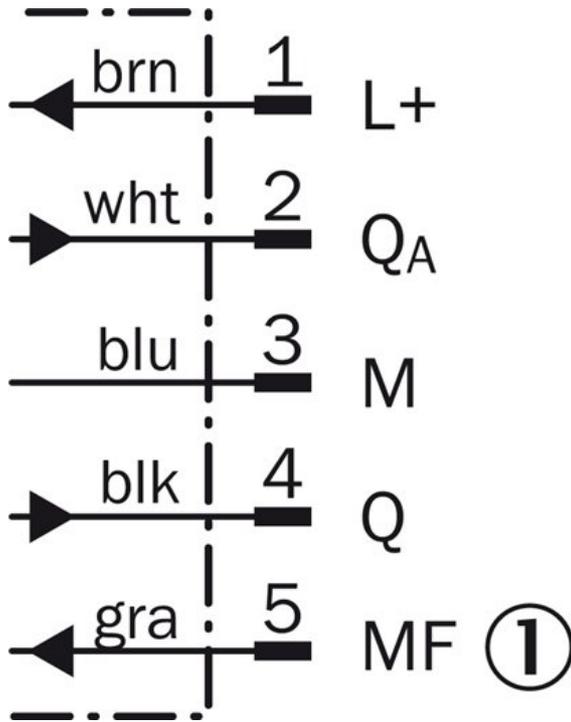
Dimensional drawing



Connection type



Connection diagram



[1] Multifunctional input (MF)

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