



Mid range distance sensors Dx50, DL50 Hi, RS-422

DL50-P2225



Model Name > [DL50-P2225](#)
Part No. > [1048418](#)

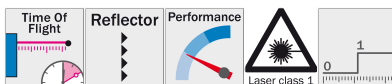


At a glance

- HDDM™ technology provides the best reliability, safety to ambient light and price/performance ratio
- Up to 50 m range on diamond grade reflector
- World's smallest sensor for high precision positioning
- Highest repeatability in its class, with 0.5 mm
- Fast RS-422 output rate - measurement value every 2.5 ms
- Immune to cross talk for use with multiple sensors
- Superior background suppression

Your benefits

- Precise positioning enables greater speed and accuracy, which increases throughput
- Highest performance at reasonable investment costs guarantee a short return on investment
- 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
- 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
- World's smallest sensor for high precision positioning for use in applications with limited space



CE III cUL US LISTED **CDRH RS-422**

Performance

Measuring range ¹⁾ :	200 mm ... 50,000 mm, on Diamond Grade
Resolution:	0.1 mm
Repeatability ²⁾ , ³⁾ , ⁴⁾ :	0.5 mm/0.3 mm/0.25 mm
Accuracy ⁵⁾ :	± 3 mm
Response time ⁶⁾ , ⁷⁾ :	10 ms/40 ms/160 ms
Output rate ⁸⁾ , ⁹⁾ :	2.5 ms
Light source:	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
Teach-in of switching outputs
Set baud rate: 19,200, 38,400, 57,600, 115,200 bps
Inverted switching output
Set moving average fast/medium/slow
Set hysteresis
Set parity check: none; even; odd
Crosstalk safety
Multifunctional in- and output: laser off, external teach, switching output 2, inactive
Teach-in of switching outputs
Serial data output: continuous, on request
Lock user interface
Reset to factory default
Switching mode Distance to object (DtO)

Service life laser (MTTF at 25 °C):

100,000 h

¹⁾ On Diamond Grade ²⁾ Equivalent to 1 σ ^{3) 6)} Dependent on the set average: fast/medium/slow ⁴⁾ Typical value ⁵⁾ May reach up to ± 5 mm at limited measuring range ⁷⁾ Lateral entry of object into measuring range ⁸⁾ For baud rate 115,200 bps ⁹⁾ Continuous change of distance in measuring range ¹⁰⁾ Wavelength: 658 nm;
max. output: 80 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/240

Interfaces

Output type:: 2 x / 1 x PNP (100 mA) ^{1) 2) 3)}
Multifunctional input ^{4) 5) 6)}: - / 1 x PNP
Hysteresis: 1 mm ... 1,000 mm
Data interface: RS-422

¹⁾ Output Q short-circuit protected ²⁾ PNP: HIGH = V_S - (< 2.5 V) / LOW = 0 V ^{3) 4)} Dependent on the set function MF: switching output 2 / laser off, external teach ⁵⁾
Response time ≤ 60 ms ⁶⁾ PNP: HIGH = V_S / LOW = ≤ 2.5 V

Mechanics/electronics

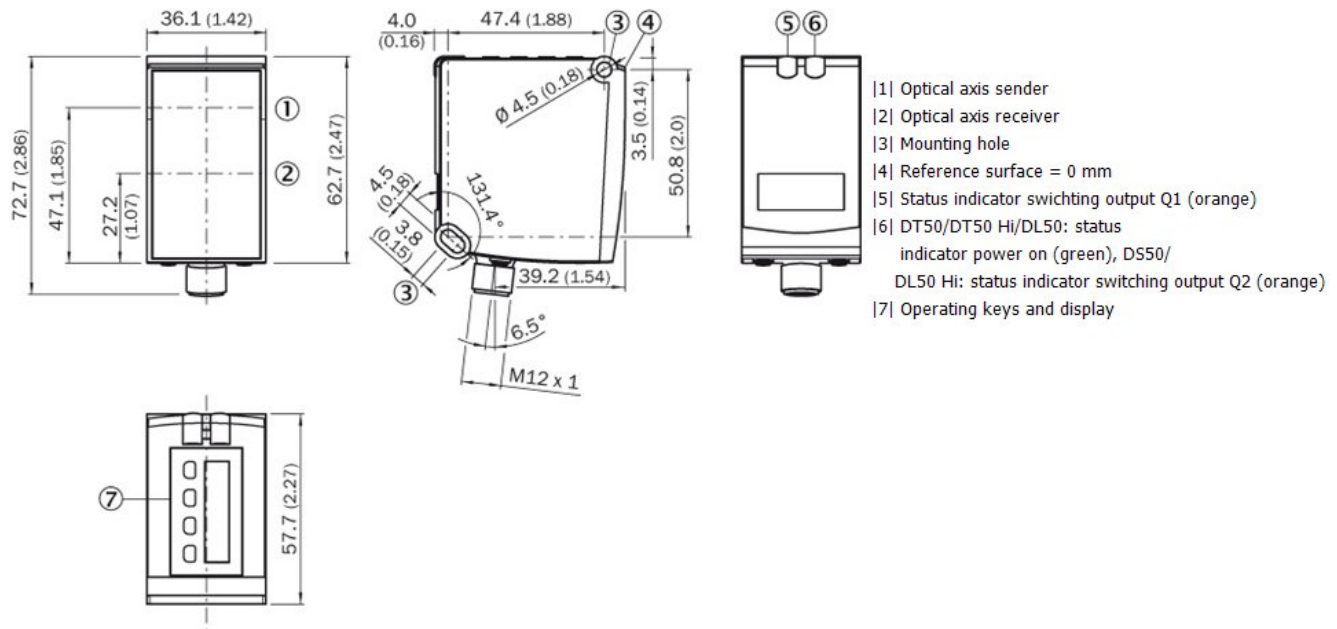
Supply voltage V_S ¹⁾: DC 10 V ... 30 V
Ripple ²⁾: ≤ 5 Vpp
Power consumption ³⁾: ≤ 2.1 W
Initialization time: ≤ 250 ms
Warm-up time: ≤ 15 min
Housing material: Die-cast zinc housing (ZNAL4CU1)
acrylic glass (PMMA)
Connection type: Connector M12, 8-pin
Indication: 2 x LED, LC display
Weight: 200 g

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

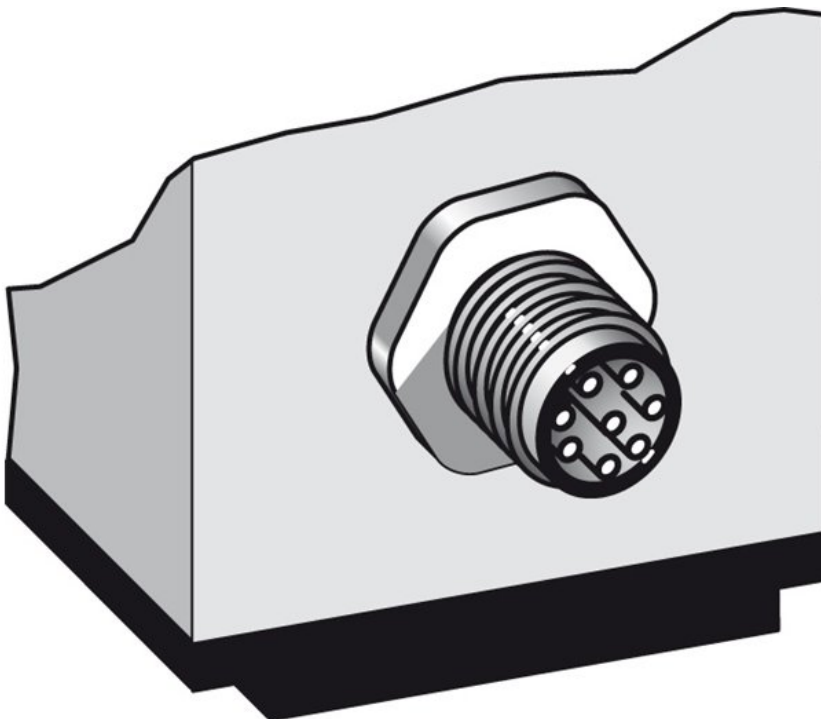
Ambient data

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

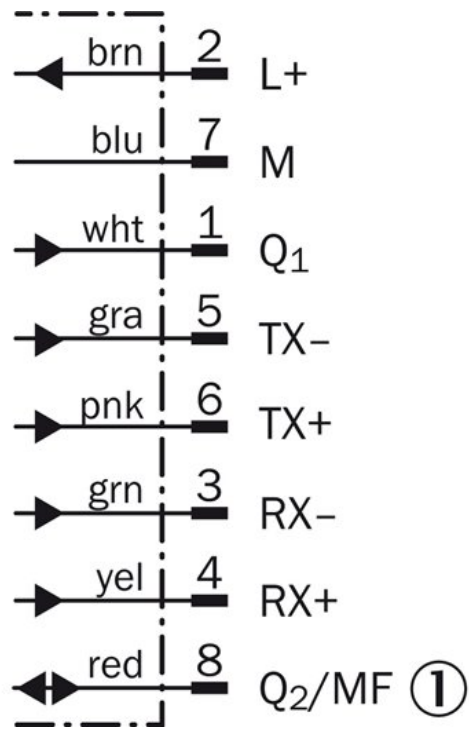
Dimensional drawing



Connection type



Connection diagram



[1] Multifunctional in- and output

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