



Mid range distance sensors Dx50, DL50

DL50-P1123



Model Name > [DL50-P1123](#)
Part No. > [1047361](#)

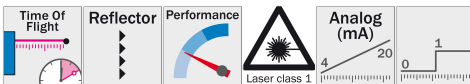


At a glance

- HDDM™ technology provides the best reliability, safety to ambient light and price/performance ratio
- Up to 50 m range on diamond grade reflector
- Very good repeatability for positioning tasks up to 2 mm
- Fast measurement and output rate with 250 Hz
- Analog output with 4 mA ... 20 mA and one switching output
- Red laser light for precise alignment
- Wide operating temperature range from -30 °C to +65 °C

Your benefits

- A wide measurement range, analog and switching output create an easy, fast and flexible solution for any positioning task
- Red light and an optional alignment bracket reduces installation time
- 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
- Metal housing withstands harsh environments, saving replacement costs
- Low investment costs and high performance guarantee quick return on investment
- Dx50 product family is based on a common platform, which offers multiple performance levels, making it easy to accommodate future changes



Performance

Measuring range ¹⁾ :	200 mm ... 50,000 mm, on Diamond Grade
Resolution:	1 mm
Repeatability ²⁾ , ³⁾ :	3 mm/2 mm
Accuracy:	± 7 mm
Response time ⁴⁾ , ⁵⁾ :	15 ms/30 ms
Output rate ⁶⁾ :	4 ms
Light source:	Laser, red
Laser protection class ⁷⁾ :	1 (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

¹⁾ On Diamond Grade ²⁾ Equivalent to 1σ ³⁾ ⁴⁾ Dependent on the set average: fast/slow ⁵⁾ Lateral entry of object into measuring range ⁶⁾ Continuous change of distance in measuring range ⁷⁾ Wavelength: 658 nm; max. output: 120 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/400

Interfaces

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

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

Mechanics/electronics

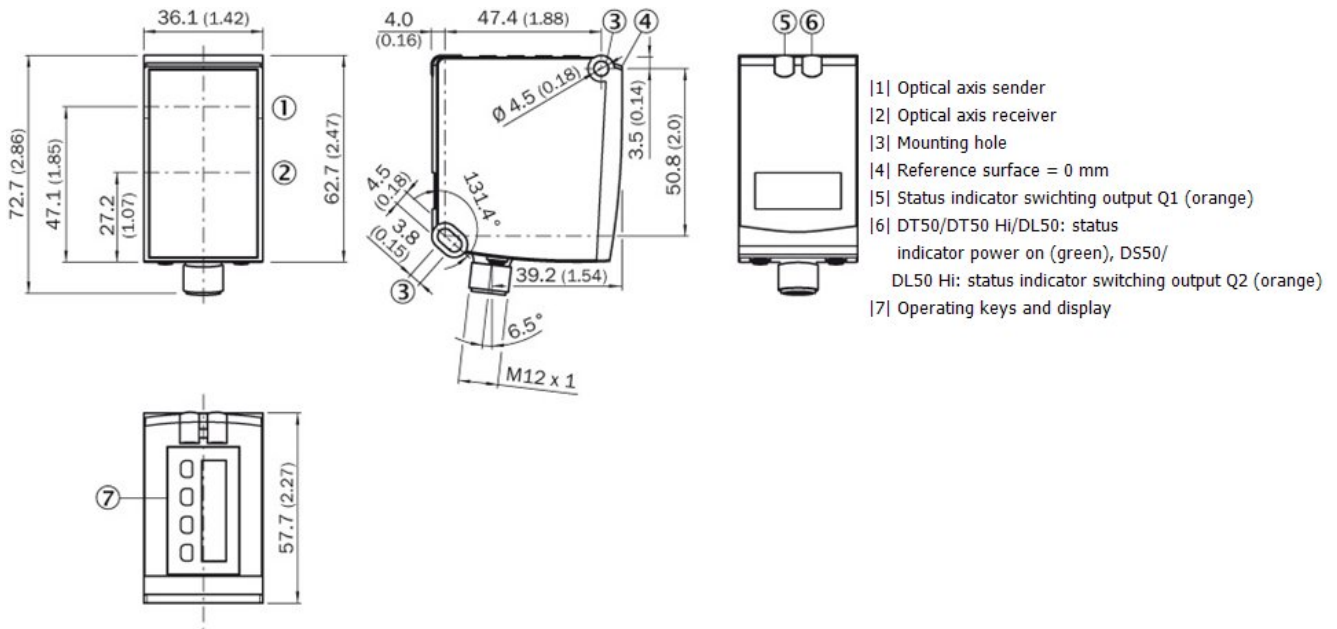
Supply voltage V_S ¹⁾: DC 10 V ... 30 V
Ripple ²⁾: $\leq 5\ V_{pp}$
Power consumption ³⁾: $\leq 2.1\ W$
Initialization time: $\leq 250\ ms$
Warm-up time: $\leq 15\ min$
Housing material: Die-cast zinc housing (ZNAL4CU1)
acrylic glass (PMMA)
Connection type: Connector M12, 5-pin
Indication: 2 x LED, LC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

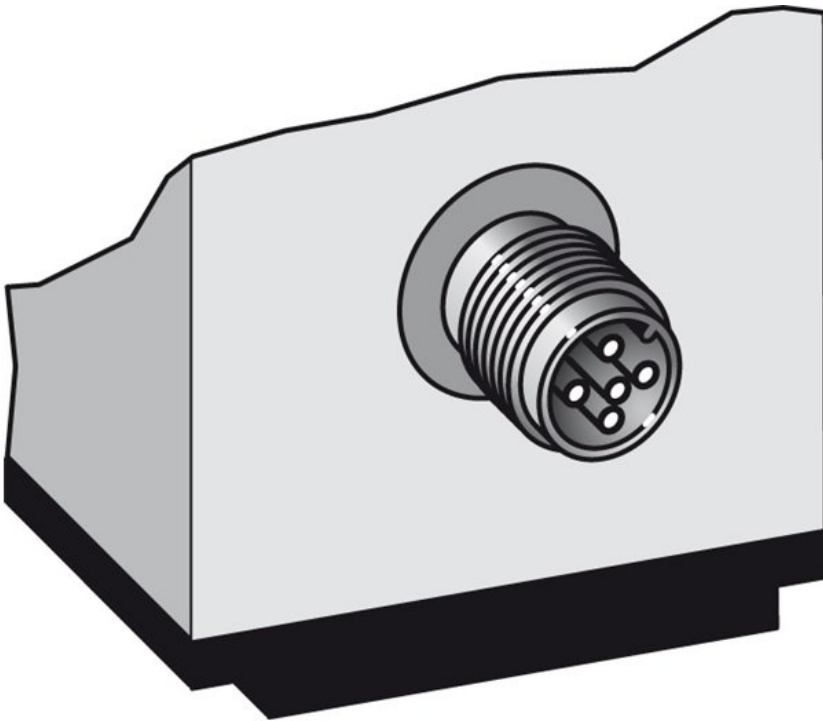
Ambient data

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

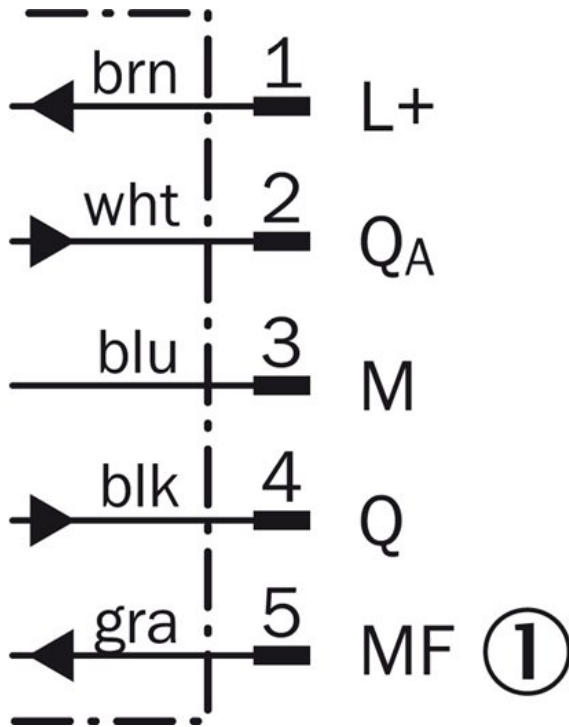
Dimensional drawing



Connection type



Connection diagram



[1] Multifunctional input

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