



Mid range distance sensors Dx50, DS50

DS50-N1122



Model Name > [DS50-N1122](#)
Part No. > [1047406](#)

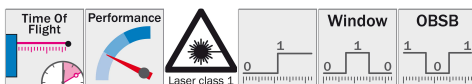


At a glance

- HDDM™ technology provides the best reliability, safety to ambient light and price/performance ratio
- Reliable detection up to 10 m
- High switching repeatability (2.5 mm)
- Two discrete outputs with up to 50 Hz switching frequency
- Three switching modes: “Distance to Object,” “Window” or “Object Between Sensor and Background” - detect any object
- Immune to cross talk for use with multiple sensors
- Superior background suppression

Your benefits

- Precise detection at a safe distance reduces scrap and increases throughput
- 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
- 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
- Dx50 product family is based on a common platform, which offers multiple performance levels, making it easy to accommodate future changes
- Low investment costs and high performance guarantee short return on investment



Performance

Measurement range:	200 mm ... 10,000 mm, 90 % remission 200 mm ... 4,000 mm, 6 % remission 200 mm ... 6,000 mm, 18 % remission
Resolution ¹⁾ :	1 mm
Repeatability ²⁾ , ³⁾ , ⁴⁾ :	5 mm/2.5 mm
Accuracy ⁵⁾ , ⁶⁾ :	± 10 mm
Response time ⁷⁾ :	20 ms/100 ms
Switching frequency ⁸⁾ :	25 Hz/5 Hz
Light source ⁹⁾ :	Laser, red
Typ. light spot size (distance):	15 mm x 15 mm (10 m)

Additional function: Switch-off display
 Unique measurement value
 Set switching mode: Distance to object (DtO)/switching window (Wnd)/
 Object Between Sensor and Background (ObSB)
 Set moving average: fast/slow
 Set hysteresis
 Crosstalk safety
 Lock user interface
 Reset to factory default
 Teach-in, scaling and inversion of switching output
 Multifunctional input: laser off/external teach/deactivated¹⁰⁾

Laser class: 1 (EN 60825-1)¹⁰⁾

Laser service life (MTTF at 25 °C): 100,000 h

1) 5) Related to distance value on the display 2) Equivalent to 1 σ 3) 6 % ... 90 % remission 4) 7) 8) Dependent on the set average: fast/slow 6) 90 % remission 9)

Wavelength: 658 nm; max. output: 120 mW; pulse duration: 5 ns; pulse repetition rate: 1/400¹⁰⁾ Wavelength: 658 nm; max. output: 120 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/400

Interfaces

Output type ^{1), 2)} :	2 x NPN (100 mA)
Hysteresis:	1 mm ... 9,999 mm
Multifunctional input (MF) ^{3), 4)} :	1 x

1) Output Q short-circuit protected 2) NPN: HIGH = < 2.5 V/LOW = V_S 3) Response time \leq 60 ms 4) NPN: HIGH = \leq 2.5 V/LOW = V_S

Mechanics/electronics

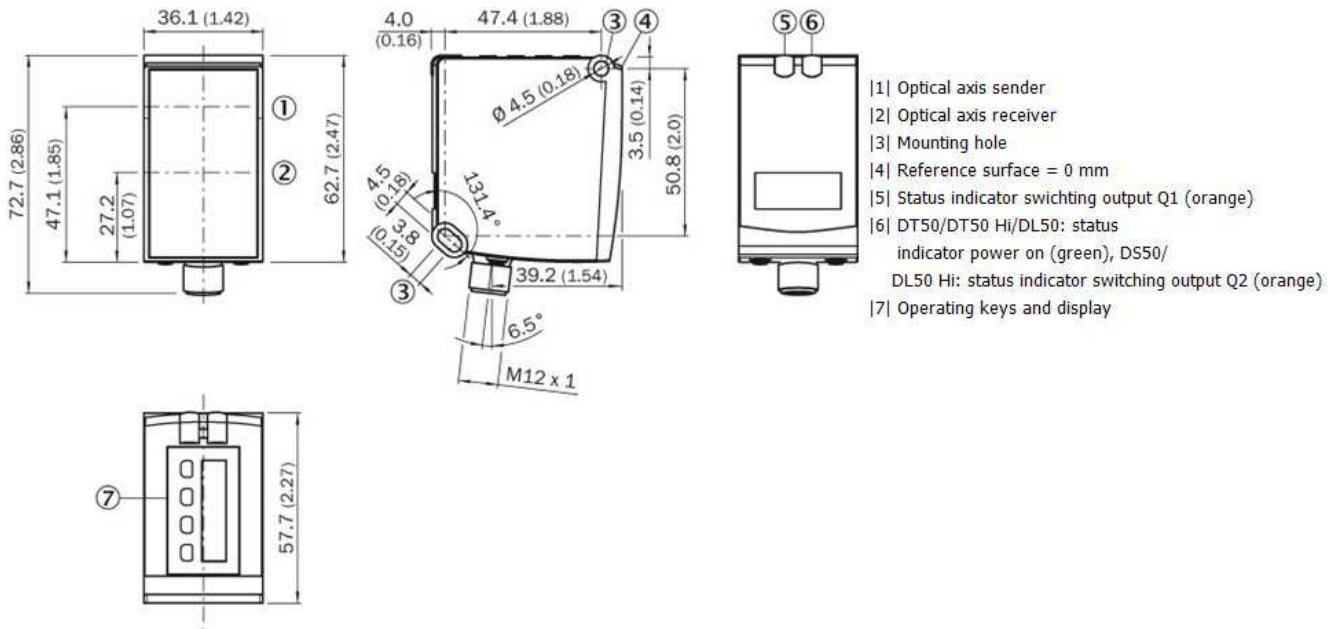
Supply voltage V_S ¹⁾ :	DC 10 V ... 30 V
Ripple ²⁾ :	\leq 5 Vpp
Power consumption ³⁾ :	\leq 1.85 W
Initialization time:	\leq 350 ms
Warm-up time:	\leq 15 min
Housing material:	Die-cast zinc housing (ZNAL4CU1) acrylic glass (PMMA)
Connection type:	Male connector, M12, 5-pin
Indication:	2 x LED, LC display
Weight:	200 g

1) Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A 2) May not fall short of or exceed V_S tolerances 3) Without load

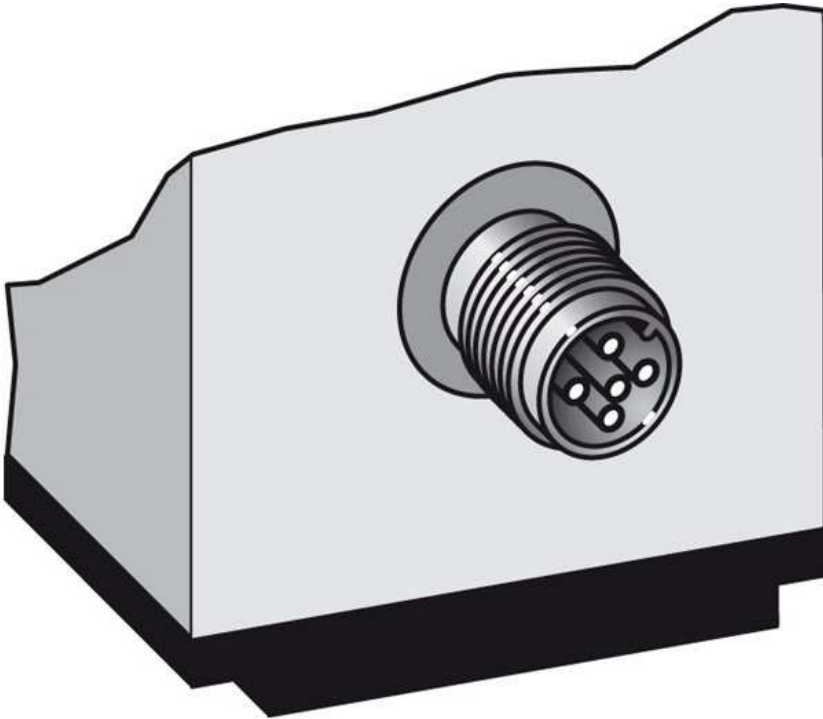
Ambient data

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/EN 60068-2-64
Shock resistance:	EN 60068-2-27
Typ. ambient light safety:	40 klx

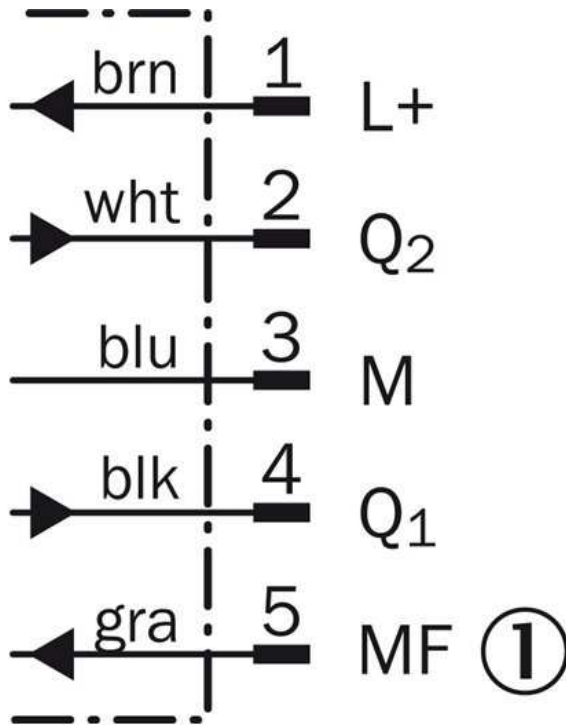
Dimensional drawing



Connection type



Connection diagram



[1] Multifunctional input (MF)

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