



Mid range distance sensors Dx50, DT50 Hi

DT50-P2123



Model Name > [DT50-P2123](#)
Part No. > [1047399](#)



At a glance

- HDDM™ technology provides the best reliability, safety to ambient light and price/performance ratio
- Most compact sensor offering up to 20 m range directly on the object
- Amazing repeatability up to 1 mm
- Very fast measurement and output rate with 500 Hz
- Analog output with 4 mA ... 20 mA and one switching output
- Red laser light for precise alignment
- Tough metal housing with LC display

Your benefits

- Improved production quality based on high precision and small black/white shift of the measurement
- The fast measurement frequency increases the production throughput
- Thanks to its compact housing size, the DT50 Hi offers precise measurement in applications with limited space
- Red light and an optional alignment bracket reduces installation time
- Intuitive setup via display or remote teach reduces installation time and costs
- 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
- Metal housing withstands harsh environments, saving replacement costs



Performance

Measurement range:	200 mm ... 13,000 mm, 90 % remission 200 mm ... 3,400 mm, 6 % remission 200 mm ... 5,800 mm, 18 % remission
Resolution:	1 mm
Repeatability ¹⁾ : ²⁾ : ³⁾ :	3 mm/2 mm/1 mm
Accuracy ⁴⁾ :	± 7 mm
Response time ⁵⁾ : ⁶⁾ :	15 ms/30 ms/80 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/medium/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:	1 (EN 60825-1) ⁷⁾
Laser service life (MTTF at 25 °C):	100,000 h
Output time ⁸⁾ :	≥ 2 ms
1) Equivalent to 1 σ 2) 6 % ... 90 % remission 3) 5) Dependent on the set average: fast/medium/slow 4) 90 % remission 6) Lateral entry of object into measuring range	
7) Wavelength: 658 nm; max. output: 120 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/400 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), 3)} :	1 x PNP (100 mA)
Hysteresis:	10 mm ... 1,000 mm
Multifunctional input (MF) ^{4), 5)} :	1 x
1) Output Q short-circuit protected 2) 3) PNP: HIGH = $V_S - (< 2.5 V)$ /LOW = 0 V 4) Response time $\leq 15\text{ms}$ 5) PNP: HIGH = $V_S / \text{LOW} = \leq 2.5 V$	

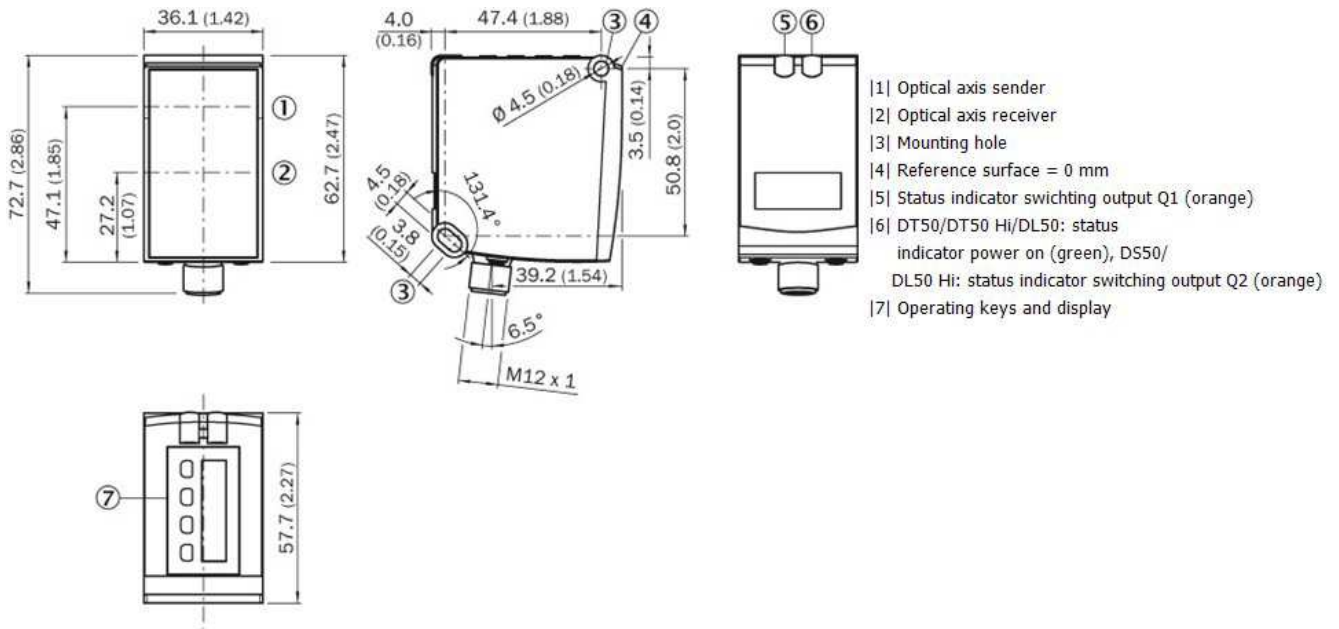
Mechanics/electronics

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:	$\leq 250 \text{ms}$
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) May not fall short of or exceed V_S tolerances 3) Without load	

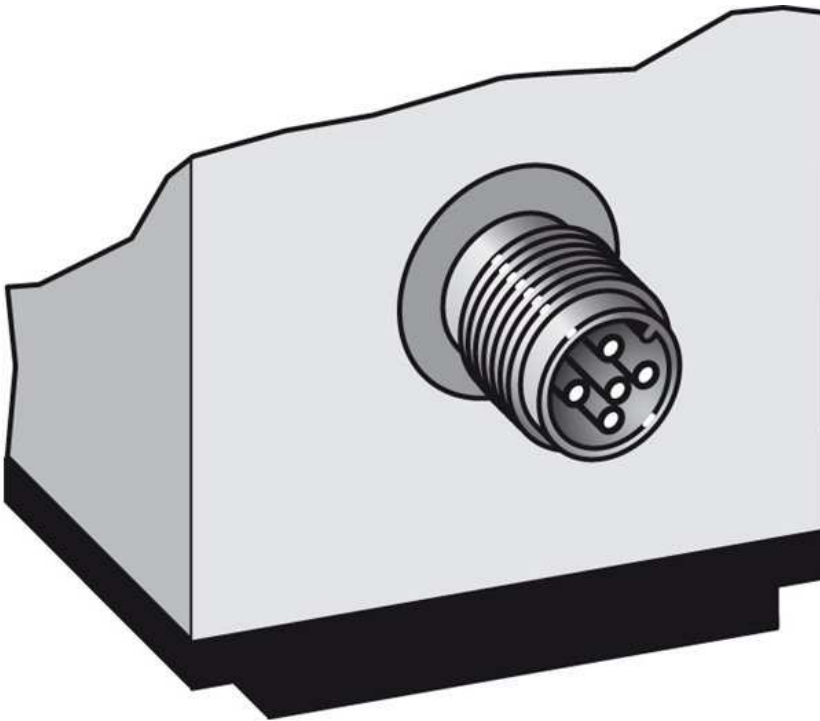
Ambient data

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

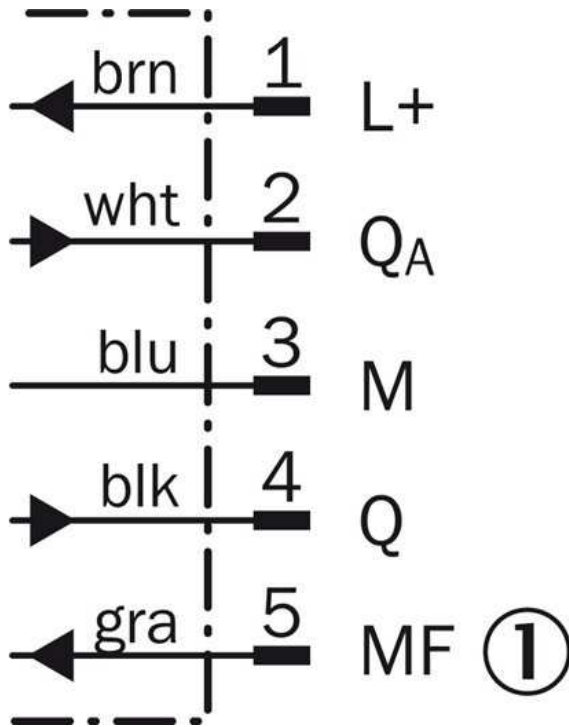
Dimensional drawing



Connection type



Connection diagram



[1] Multifunctional input (MF)

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