



DT50-P2113

Dx50

MID RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
DT50-P2113	1047314

Other models and accessories → www.sick.com/Dx50



Detailed technical data

Performance

Measuring range	200 mm ... 20,000 mm, 90 % remission 200 mm ... 8,500 mm, 18 % remission 200 mm ... 5,000 mm, 6 % remission
Target	Natural objects
Resolution	1 mm
Repeatability	≥ 1 mm ^{1) 2) 3)}
Accuracy	± 7 mm ⁴⁾
Response time	15 ms ... 80 ms, 15 ms / 30 ms / 80 ms ^{3) 5)}
Output time	≥ 2 ms ⁶⁾
Light source	Laser, red
Laser class	2 (IEC 60825-1:2014, EN 60825-1:2014) ⁷⁾
Typ. light spot size (distance)	15 mm x 15 mm (10 m)
Additional function	Set moving average fast/medium/slow, switching mode: distance to object (DtO), teach-in, scaling and inversion of switching output, set hysteresis, teach-in, scaling and inversion of analog output, Multifunctional input: laser off / external teach / deactivated, switch-off display, reset to factory default, lock user interface
Average laser service life (at 25 °C)	100,000 h

¹⁾ Equivalent to 1 σ .

²⁾ 6 % ... 90 % remission.

³⁾ Dependent on the averaging setting: fast/medium/slow.

⁴⁾ 90 % remission.

⁵⁾ Lateral entry of the object into the measuring range.

⁶⁾ Continuous change of distance in measuring range.

⁷⁾ Wavelength: 658 nm; max. output: 180 mW; pulse duration: 5 ns; duty cycle: 1/200.

Interfaces

Analog output	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)
Resolution analog output	16 bit
Switching output	1 x PNP (100 mA) ^{1) 2)}
Multifunctional input (MF)	1 x ^{3) 4)}
Hysteresis	10 mm ... 1,000 mm

- 1) Output Q short-circuit protected.
 2) PNP: HIGH = $V_S - (< 2.5 \text{ V})$ / 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	DC 10 V ... 30 V ¹⁾
Ripple	$\leq 5 V_{pp}$ ²⁾
Power consumption	$\leq 2.1 \text{ W}$ ³⁾
Initialization time	$\leq 250 \text{ ms}$
Warm-up time	$\leq 15 \text{ min}$
Housing material	Housing zinc die cast (ZNAL4CU1) Acrylic glass (PMMA)
Connection type	Male connector, M12, 5-pin
Indication	LC display, 2 x LED
Weight	200 g
Enclosure rating	IP65
Protection class	III

- 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

Ambient temperature operation	-30 °C ... +65 °C -30 °C ... +80 °C -30 °C ... +140 °C
Ambient storage temperature	-40 °C ... +75 °C
Max. rel. humidity (not condensing)	$\leq 95 \%$
Typ. Ambient light immunity	40,000 lx
Vibration resistance	EN 60068-2-6, EN 60068-2-64
Shock resistance	EN 60068-2-27

Classifications

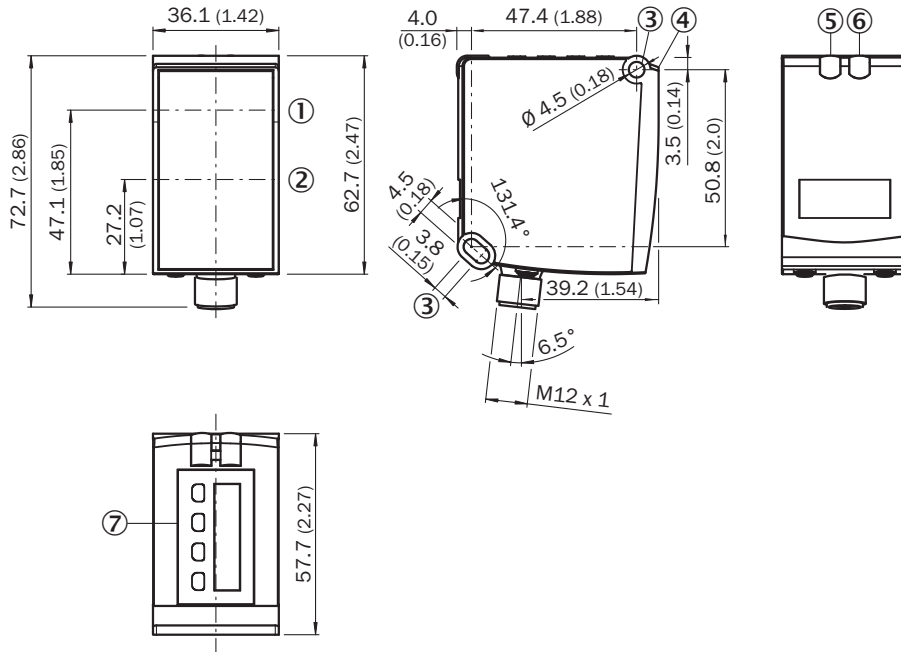
ECl@ss 5.0	27270801
ECl@ss 5.1.4	27270801
ECl@ss 6.0	27270801
ECl@ss 6.2	27270801
ECl@ss 7.0	27270801
ECl@ss 8.0	27270801

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ECl@ss 8.1	27270801
ECl@ss 9.0	27270801
ETIM 5.0	EC001825
ETIM 6.0	EC001825
UNSPSC 16.0901	41111613

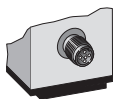
Dimensional drawing (Dimensions in mm (inch))



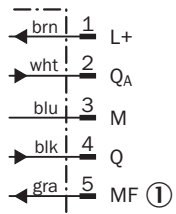
- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Fixing hole
- ④ Reference surface = 0 mm
- ⑤ Status indicator switching output Q₁ (orange)
- ⑥ DT50/DT50 Hi/DL50: status indicator power on (green), DS50/DL50 Hi: status indicator switching output Q₂ (orange)
- ⑦ Operating keys and display

Connection type

Male connector M12, 5-pin






Connection diagram



① Multifunctional input (MF)

Recommended accessories

Other models and accessories → www.sick.com/Dx50

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, steel, zinc coated, steel, zinc coated, mounting hardware for the sensor included	BEF-WN-DX50	2048370
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF2A15-020VB5XLEAX	2096239
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG2A15-020VB5XLEAX	2096215

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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