Online data sheet



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
Resolution	1 mm
Repeatability	3 mm / 2 mm / 1 mm [1) 2) 3)]
Accuracy	± 7 mm [4)]
Response time	15 ms / 30 ms / 80 ms [3) 5)]
Output time	≥ 2 ms [6)]
Light source	Laser, red
Laser class	2 (EN 60825-1) [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
Laser service life (MTTF 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 (≤ 300 Ω)

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

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 V) / LOW = 0 V.
[3)] Response time ≤ 15ms.
[4)] PNP: HIGH = V_S / LOW = ≤ 2.5 V.

Mechanics/electronics

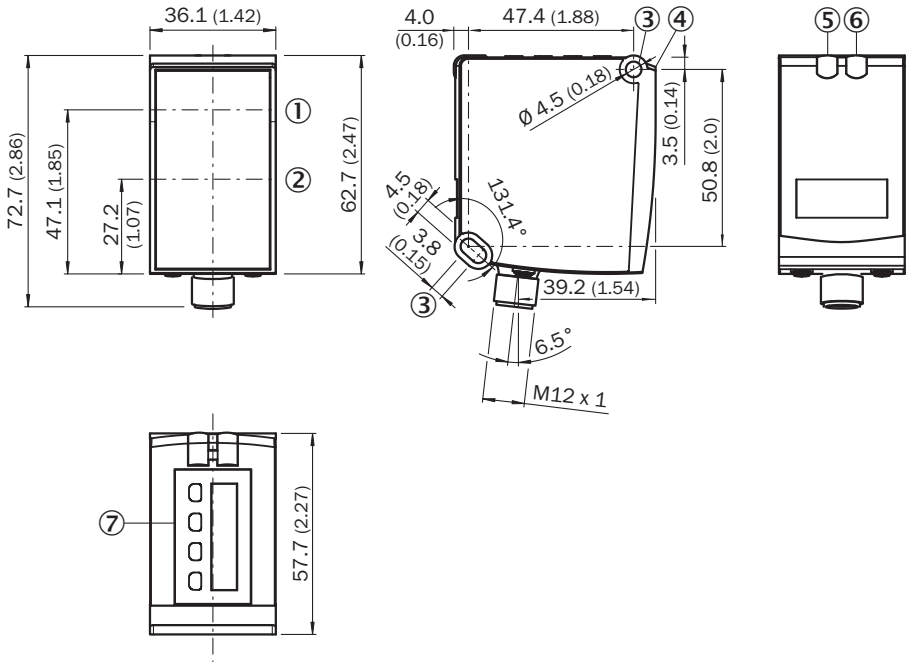
Supply voltage V_S	DC 10 V ... 30 V [1)]
Ripple	≤ 5 V_{pp} [2)]
Power consumption	≤ 2.1 W [3)]
Initialization time	≤ 250 ms
Warm-up time	≤ 15 min
Housing material	Housing zinc die cast (ZNAL4CU1) Acrylic glass (PMMA)
Connection type	Male connector, M12, 5-pin
Indication	LC display, 2 x LED
Weight	200 g

[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 °C ... +65 °C Storage: –40 °C ... +75 °C
Max. rel. humidity (not condensing)	≤ 95 %
Typ. Ambient light immunity	40 klx
Vibration resistance	EN 60068-2-6 / EN 60068-2-64
Shock resistance	EN 60068-2-27

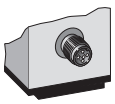
Dimensional drawing (Dimensions in mm (inch))



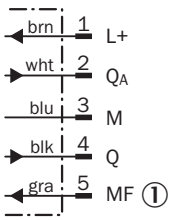
① Optical axis sender
② Optical axis receiver
③ Fixing hole
④ Reference surface = 0 mm
⑤ Status indicator swichting output Q_1 (orange)
⑥ DT50/DT50 Hi/DL50: status indicator power on (green), DS50/DL50 Hi: status indicator switching output Q_2 (orange)
⑦ Operating keys and display

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 mounting 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 Head B: cable Cable: PVC, unshielded, 2 m	DOL-1205-G02M	6008899
	Head A: female connector, M12, 5-pin, angled Head B: cable Cable: PVC, unshielded, 2 m	DOL-1205-W02M	6008900

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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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