



DL50-P1123

Dx50

MID RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
DL50-P1123	1047361

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



Detailed technical data

Performance

Measuring range	200 mm ... 50,000 mm, on reflective tape "Diamond Grade" ¹⁾
Target	Reflector
Resolution	1 mm
Repeatability	≥ 2 mm ^{2) 3)}
Accuracy	± 7 mm
Response time	15 ms ... 30 ms, 15 ms / 30 ms ^{3) 4)}
Output time	≥ 4 ms ⁵⁾
Light source	Laser, red
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014) ⁶⁾
Typ. light spot size (distance)	15 mm x 15 mm (10 m)
Additional function	Set moving average: fast/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⁾ On reflective tape "Diamond Grade".

²⁾ Equivalent to 1 σ .

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

⁴⁾ Lateral entry of the object into the measuring range.

⁵⁾ Continuous change of distance in measuring range.

⁶⁾ Wavelength: 658 nm; max. output: 120 mW; pulse duration: 2.5 ns; duty cycle: 1/400.

Interfaces

Analog output	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)
Resolution analog output	16 bit

¹⁾ Output Q short-circuit protected.

²⁾ PNP: HIGH = $V_S - (< 2.5 V)$ / LOW = 0 V.

³⁾ Response time ≤ 15 ms.

⁴⁾ PNP: HIGH = V_S / LOW = $\leq 2.5 V$.

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 $\leq 15\text{ms}$.
 4) PNP: HIGH = V_S / LOW = $\leq 2.5 V$.

Mechanics/electronics

Supply voltage V_S	DC 10 V ... 30 V ¹⁾
Ripple	$\leq 5 V_{pp}$ ²⁾
Power consumption	$\leq 2.1 W$ 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.

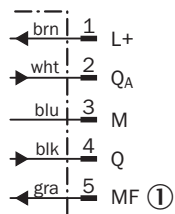
Ambient data

Ambient temperature operation	-30 °C ... +65 °C -30 °C ... +80 °C, operation with 2 cooling plates -30 °C ... +140 °C, operation with 2 cooling plates and protection filter
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
ECl@ss 8.1	27270801
ECl@ss 9.0	27270801
ETIM 5.0	EC001825





Connection diagram



① Multifunctional input (MF)

Recommended accessories

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	Brief description	Type	Part no.
Terminal and alignment brackets			
	Alignment unit, steel, zinc coated, mounting hardware for the sensor included	BEF-AH-DX50	2048397
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
Reflectors			
	Reflector plate, "diamond grade" reflective tape, 330 mm x 330 mm, base plate material: aluminum, screw connection, Screw-on, 4 hole mounting	PL240DG	1017910

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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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