DL50-P1123
Dx50

MID RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.

DL50-P1123 | Dx50
MID RANGE DISTANCE SENSORS

Ordering information

Type	Part no.
DL50-P1123	1047361

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

Detailed technical data

Features

Measuring range	200 mm … 50,000 mm, on "diamond grade" reflective tape [1]
Target	Reflector
Resolution	1 mm
Repeatability	≥ 2 mm [2] [3]
Measurement accuracy	± 7 mm
Response time	15 ms … 30 ms, 15 ms / 30 ms [3] [4]
Output time	≥ 4 ms [5]
Light source	Laser, red visible red light
Type of light	Visible red light
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 digital 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
Safety-related parameters	
MTTF$_D$	101 years

[1] On "diamond grade" reflective tape.

[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.

DC$_{avg}$	0%

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Interfaces

Digital output	
Number	1 [1] [2]
Type	PNP
Maximum output current I$_A$	≤ 100 mA
Analog output	
Number	1
Type	Current output
Current	4 mA … 20 mA, ≤ 300 Ω
Resolution	16 bit
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.

Electronics

Supply voltage U$_B$	DC 10 V … 30 V [1]
Power consumption	≤ 2.1 W [2]
Ripple	≤ 5 V$_{pp}$ [3]
Initialization time	≤ 250 ms
Warm-up time	≤ 15 min
Indication	LC display, 2 x LED
Enclosure rating	IP65
Protection class	III

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

[2] Without load.

[3] May not fall short of or exceed V$_S$ tolerances.

Mechanics

Dimensions (W x H x D)	36.1 mm x 62.7 mm x 57.7 mm
Housing material	Metal (zinc diecast)
Window material	Plastic (PMMA)
Weight	200 g
Connection type	Male connector, M12, 5-pin

Ambient data

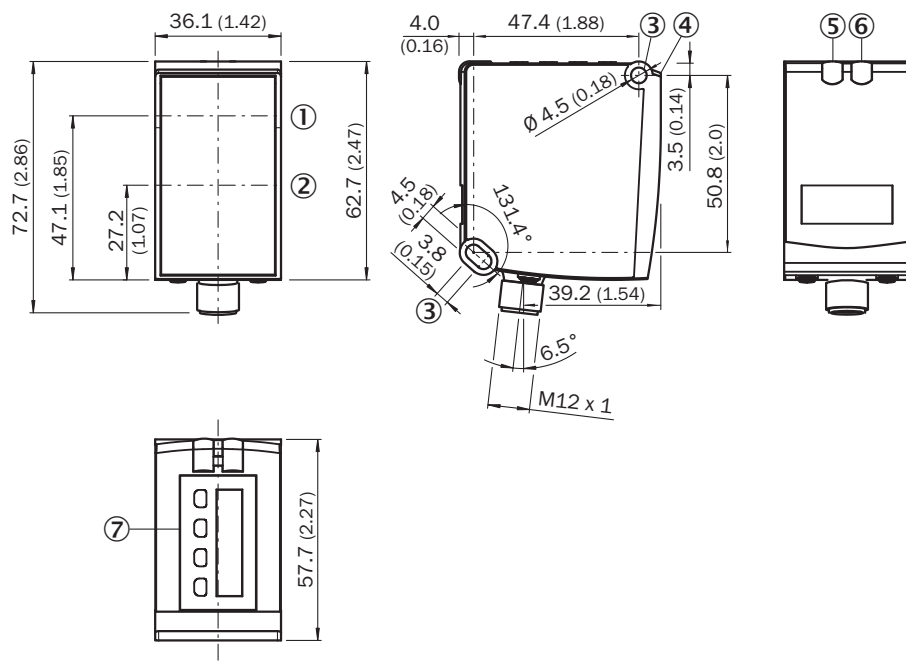|	
Ambient temperature, operation	–30 °C ... +65 °C –30 °C ... +80 °C, operation with 2 cooling plates –30 °C ... +140 °C, operation with 2 cooling plates and protection filter
Ambient temperature, storage	–40 °C ... +75 °C
Max. rel. humidity (not condensing)	≤ 95 %
Typ. Ambient light immunity	40,000 lx
Vibration resistance	EN 60068-2-6, EN 60068-2-64
Shock resistance	EN 60068-2-27

Classifications

ECLASS 5.0	27270801
ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

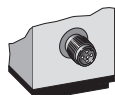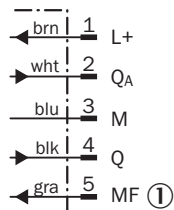## Dimensional drawing (Dimensions in mm (inch))

① Optical axis, sender
② Optical axis, receiver
③ Fixing hole
④ Reference surface = 0 mm
⑤ Status indicator digital output Q_1 (orange)
⑥ DT50/DT50 Hi/DL50: Status display for supply voltage active (green), DS50/DL50 Hi: Status display of digital output Q_2 (orange)
⑦ Control elements and display

Connection type

Male connector M12, 5-pin

Connection diagram

brn	1	L+
wht	2	Q_A
blu	3	M
blk	4	Q
gra	5	MF ①

① Multifunctional input (MF)

Recommended accessories

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

	Brief description	Type	Part no.
Reflectors			
	• **Accessory group:** Reflectors • **Accessory family:** Angular • **Description:** Reflector plate, "diamond grade" reflective tape, 330 mm x 330 mm, base plate material: aluminum, screw connection • **Ambient operating temperature:** –34 °C … +70 °C	PL240DG	1017910
Terminal and alignment brackets			
	• **Description:** Alignment unit • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Mounting hardware for the sensor included	BEF-AH-DX50	2048397
Others			
	• **Connection type head A:** Female connector, M12, 5-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A15-020VB5XLEAX	2096215
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-020VB5XLEAX	2096239

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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.

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