DL50-P2228

Dx50

MID RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.

DL50-P2228 | Dx50
MID RANGE DISTANCE SENSORS

Ordering information

Type	Part no.
DL50-P2228	1058986

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]
Resolution	0.1 mm
Reproducibility	0.5 mm, 0.3 mm, 0.25 mm [2] [3] [4]
Accuracy	± 3 mm [5]
Response time	10 ms ... 160 ms, 10 ms / 40 ms / 160 ms [3] [6]
Output time	2.5 ms [7]
Light source	Laser, red
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014) [8]
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, Multifunctional input and output: Laser off, external teach, switching output 2, deactivated, Serial data output: continuous, on request, Set data transmission rate: 19,200, 38,400, 57,600, 115,200 bps, Adjustable resolution of the SSI distance output: 0.0625 mm / 0.1 mm / 0.125 mm / 1 mm, Unique measurement value, crosstalk safety, 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/medium/slow.

[4] Typical value.

[5] 200 mm ... 4,000 mm: ≤ ± 5 mm.

[6] Lateral entry of the object into the measuring range.

[7] Continuous change of distance in measuring range.

[8] Wavelength: 658 nm; max. output: 80 mW; pulse duration: 2.5 ns; duty cycle: 1/240.

Interfaces

SSI	✓
Switching output	2 x / 1 x PNP (100 mA) [1] [2] [3]
Multifunctional input (MF)	– / 1 x [3] [4] [5]
Hysteresis	1 mm ... 1,000 mm

[1] Output Q short-circuit protected.

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

[3] Dependent on the set function MF: switching output 2 / laser off, external teach.

[4] Response time ≤ 60 ms.

[5] 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, 8-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

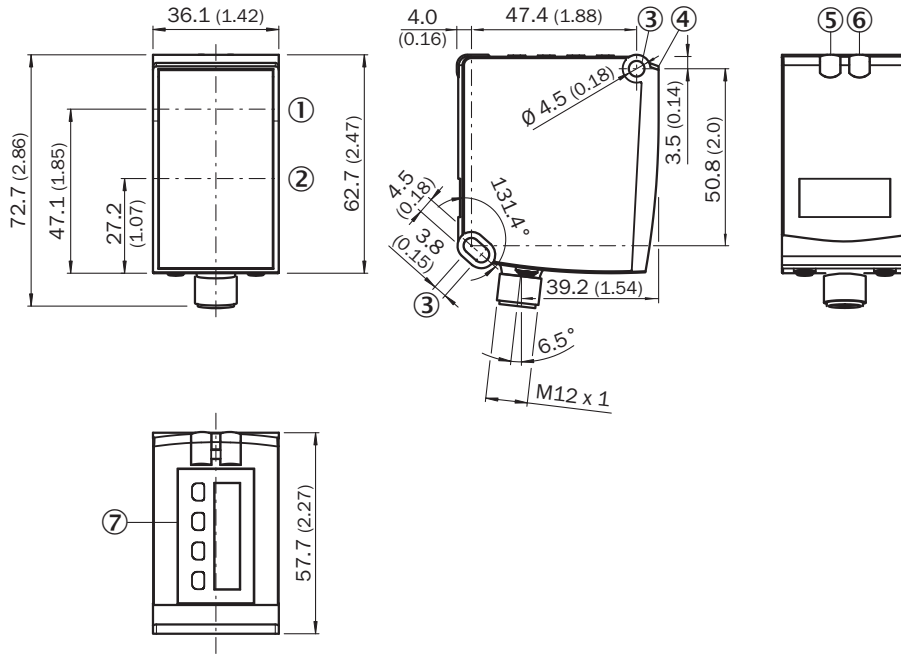| Ambient temperature	Operation: –30 °C ... +65 °C Storage: –40 °C ... +75 °C
Max. rel. humidity (not condensing)	≤ 95 %
Typ. Ambient light immunity	40 klx
Vibration resistance	EN 60068-2-6 / EN 60068-2-64
Shock resistance	EN 60068-2-27

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

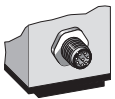| ETIM 5.0	EC001825
ETIM 6.0	EC001825
UNSPSC 16.0901	41111613

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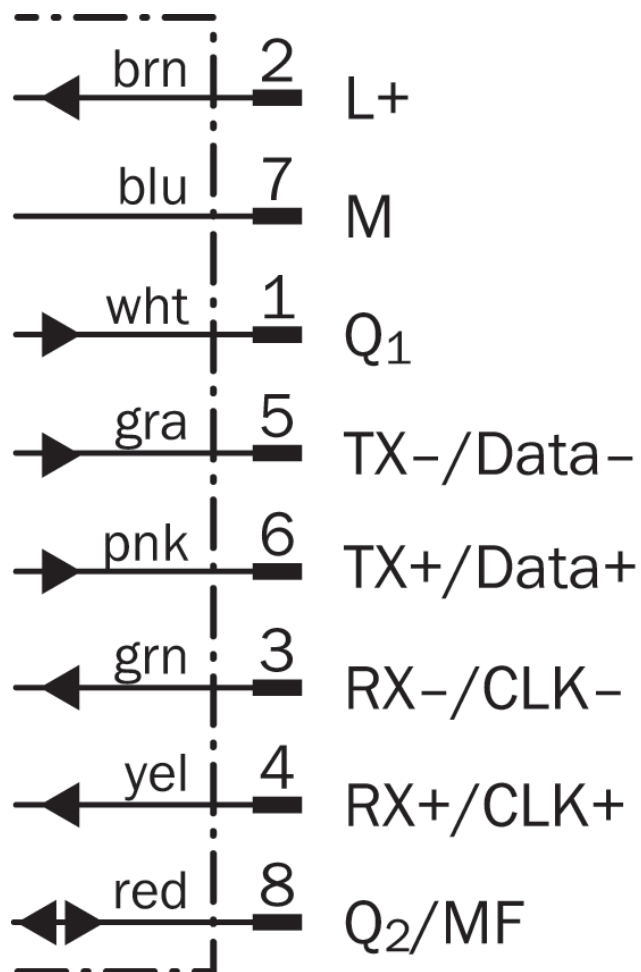
① Optical axis sender
② Optical axis receiver
③ Fixing hole
④ Reference surface = 0 mm
⑤ Status indicator swichting output Q_1 (orange)
⑥ DT50/DT50 Hi/DL50: status indicator power on (green), DS50/DL50 Hi: status indicator switching output Q_2 (orange)
⑦ Operating keys and display

Connection type

Male connector M12, 8-pin

Connection diagram

brn	2	L+
blu	7	M
wht	1	Q1
gra	5	TX–/Data–
pnk	6	TX+/Data+
grn	3	RX–/CLK–
yel	4	RX+/CLK+
red	8	Q2/MF

Recommended accessories

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

	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, 8-pin, straight Head B: cable Cable: PUR, halogen-free, shielded, 2 m	DOL-1208-G02MAH1	6032448
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

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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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