



DL100-12AA2110

Dx100

LONG RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
DL100-12AA2110	1066434

Other models and accessories → www.sick.com/Dx100

Detailed technical data

Features

Measuring range	0.15 m ... 130 m, on "diamond grade" reflective tape				
Scope	Indoor				
Target	Reflector				
Resolution	0.1 mm, 0.125 mm, 1 mm, 10 mm, 100 mm				
Repeatability	2 mm, at dead time 10 ms ¹⁾ 1 mm, at dead time 30 ms ¹⁾				
Measurement accuracy	± 4 mm ²⁾				
Response time	2 ms				
Measurement cycle time	1 ms				
Output time	1 ms				
Light source	Laser, red ³⁾ visible red light				
Type of light	Visible red light				
Laser class	2, complies with 21 CFR 1040.10 and 1040.11 except for the conformance according to "Laser Notice No. 50" from June 24, 2007 (IEC 60825-1:2014, EN 60825-1:2014)				
Typ. light spot size (distance)	5 mm + (2 mm x distance in m)				
Max. movement speed	10 m/s				
Safety-related parameters	<table border="0"> <tr> <td style="padding-right: 20px;">MTTF_D</td> <td>101 years</td> </tr> <tr> <td>DC_{avg}</td> <td>0%</td> </tr> </table>	MTTF _D	101 years	DC _{avg}	0%
MTTF _D	101 years				
DC _{avg}	0%				

¹⁾ Statistical error 1 σ , environmental conditions constant, depending on operating mode.

²⁾ From 150 mm ... 180 mm measuring range the accuracy can reach ± 4 mm.

³⁾ Average service life: 100,000 h at T_U = +25 °C.

Interfaces

EtherNet/IP™	✓
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¹⁾ HIGH = > V_S - 3 V / LOW = < 2 V.

²⁾ Max. 100 nF/20 mH.

³⁾ HIGH > 12 V / LOW < 3 V.

Digital output	Number	2 ¹⁾
	Type	Push-pull: PNP/NPN
	Function	Distance: Distance switching output Speed: Speed output Service: Warning message as the sensor ages, if the damping value is exceeded (for example when contaminated, if the permitted interior device temperature is exceeded or undercut, if the measured value has a plausibility error, if the laser is not ready for operation, if the heating is switched on Laser off Preset
	Maximum output current I_A	$\leq 100 \text{ mA}$ ²⁾
Multifunctional input (MF)		1 x MF1 ³⁾

¹⁾ HIGH = > $V_S - 3 \text{ V}$ / LOW = < 2 V.

²⁾ Max. 100 nF/20 mH.

³⁾ HIGH > 12 V / LOW < 3 V.

Electronics

Supply voltage U_B	DC 18 V ... 30 V, limit values
Current consumption	At 24 V DC < 250 mA
Ripple	5 V _{pp} ¹⁾
Modulation frequency	Fix
Initialization time	Typ. 1.5 s ²⁾
Indication	6 digit 5 x 7 dot matrix display, LEDs
Enclosure rating	IP65
Protection class	III

¹⁾ May not fall short of or exceed V_S tolerances.

²⁾ After loss of reflector < 40 ms.

Mechanics

Dimensions (W x H x D)	69.4 mm x 82.5 mm x 100.2 mm
Housing material	Metal (Aluminum die cast)
Window material	Plastic (PMMA)
Weight	Approx. 800 g (with mounting bracket: approx. 1,600 g)
Connection type	Male connector, M12, SPEEDCON™ compatible

Ambient data

Ambient temperature, operation	-20 °C ... +55 °C ¹⁾ -20 °C ... +75 °C, operation with cooling case
Ambient temperature, storage	-40 °C ... +75 °C
Effect of air pressure	0.3 ppm/hPa
Effect of air temperature	1 ppm/K
Temperature drift	Typ. 0.1 mm/K
Typ. Ambient light immunity	$\leq 100,000 \text{ lx}$
Mechanical load	Shock: (EN 600 68-2-27)

¹⁾ Temperatures < -10 °C require warm-up time of typ. 7 minutes.

²⁾ This is a Class A device. This device can cause radio interference in living quarters.

	Sine: (EN 600 68-2-6) Noise: (EN 600 68-2-64)
Electromagnetic compatibility (EMC)	EN 61000-6-2, EN 61000-6-4 ²⁾

¹⁾ Temperatures < -10 °C require warm-up time of typ. 7 minutes.

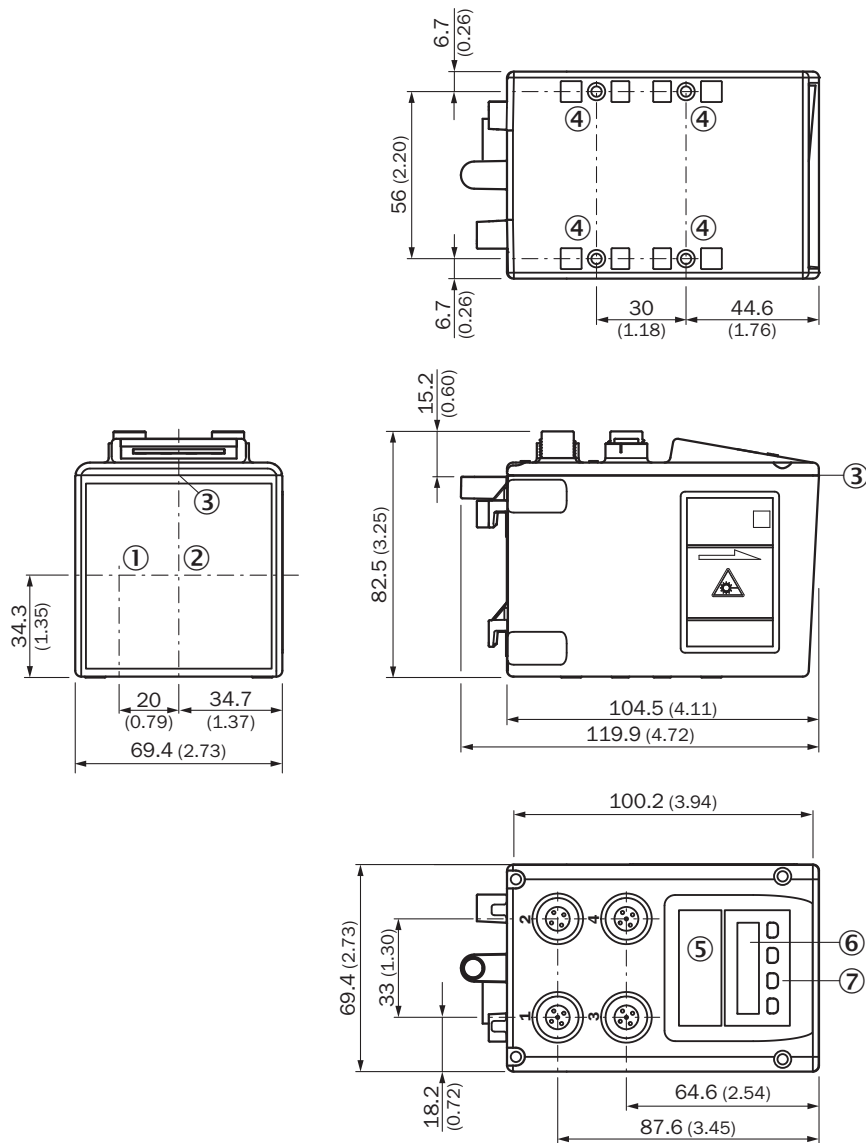
²⁾ This is a Class A device. This device can cause radio interference in living quarters.

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))

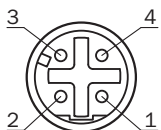
Dimensional drawing



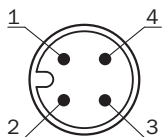
- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Zero level
- ④ Threaded mounting hole M5
- ⑤ Status LED [status]
- ⑥ Display
- ⑦ Control elements

Connection type

Ethernet connection type

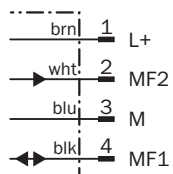


Voltage supply connection type

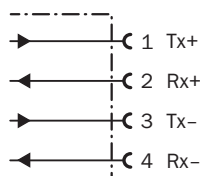


Connection diagram

Voltage supply connection diagram

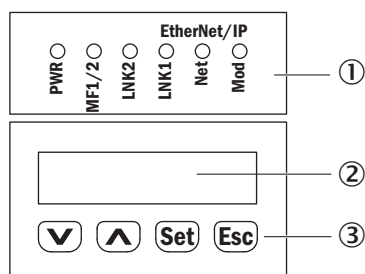


Ethernet connection diagram



Adjustment possible




DL100-xxxxx10



- ① Status LED [status]
- ② Display
- ③ Control element

Recommended accessories

Other models and accessories → www.sick.com/Dx100

	Brief description	Type	Part no.
Reflectors			
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • Accessory group: Reflectors • Accessory family: Angular • Description: Reflector plate, "diamond grade" reflective tape, 665 mm x 665 mm, base plate material: aluminum, screw connection • Ambient operating temperature: -25 °C ... +65 °C 	PL560DG	1016806
Terminal and alignment brackets			
	<ul style="list-style-type: none"> • Description: Alignment unit for Dx100, incl. mounting material • Material: Steel • Details: Steel, zinc coated 	BEF-AH-DX100	2058653

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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.

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