

ONLINE DATA SHEET
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Long range distance sensors
Dx100, DL100 Pro

DL100-21AA2112



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Long range distance sensors
Dx100, DL100 Pro

Model Name > DL100-21AA2112
Part No. > 1058164



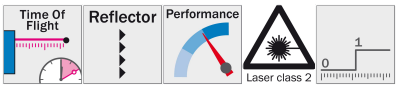
Illustration may differ

At a glance

- Measuring range up to 300 m (dependent on type)
- Numerous fieldbus interfaces
- Pre-failure notification and diagnostic data available
- Display with intuitive menu and easy to see status LEDs
- Small, rugged metal housing
- 3-axis alignment bracket with quick lock system available as accessory
- Elongated holes for zero point adjustment when replacing devices
- SPEEDCON™ and standard M12 electrical connections

Your benefits

- Enhanced closed-loop behavior offers highest performance and productivity
- Operating temperature down to -40 °C ensures the highest reliability in cold storage warehouses and freezers (dependent on type)
- Numerous fieldbus and Ethernet-based interfaces offer the highest flexibility and fast communication for maximum efficiency
- Pre-failure and extensive diagnostic data allow for preventive maintenance, ensuring the highest machine uptime
- Small, rugged metal housing and SpeedCon™ compatible connectors ensure hassle-free installation - even in confined spaces
- 3-axis alignment bracket ensures fast alignment and easy exchange, reducing maintenance and setup costs
- Numerous accessories allow flexible use and guarantee high operation functionality



Performance

Measurement range:	0.15 m ... 100 m, On reflective tape "Diamond Grade"
Resolution:	0.1 mm, 0.125 mm, 1 mm, 10 mm, 100 mm
Repeatability [1]:	0.5 mm
Accuracy [2]:	± 2 mm
Light source [3]:	Laser, red
Typ. light spot size (distance):	5 mm (+ 2 mm x distance in m)
Acceleration (max.):	15 m/s²
Internal measurement cycle:	1 ms
Max. movement speed:	30 m/s
Dead time:	2 ms
Laser class:	2 (EN 60825-1/CDRH)

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Output time:	Synchronous to PLC request (dependent on interfaces)

[1] Statistical error 1 σ, environmental conditions constant, min. warm-up time 10 min [2] From 150 mm ... 180 mm measuring range the accuracy can reach ± 4 mm [3] Average service life of 100,000 h at T_A = +25 °C

Interfaces

Data interface:	PROFINET
Output type [1]:	B (push/pull) MF1, MF2
Multifunctional input (MF) [2]:	1 x MF1

[1] HIGH > V_S - 3 V/LOW < 2 V [2] HIGH > 12 V/LOW < 3 V

Mechanics/electronics

Supply voltage Vs:	DC 18 V ... 30 V, limit values
Ripple [1]:	5 Vpp
Initialization time [2]:	Typ. 1.5 s
Indication:	6 digit 5 x 7 dot matrix display, LEDs
Weight [3]:	Ca. 800 g ... 1,600 g
Output current IA [4]:	≤ 100 mA
Power consumption:	At 24 V DC < 250 mA
Connection type:	Male connector, M12, SPEEDCON™ compatible
Housing material:	Aluminum/zinc die-cast
Modulation frequency:	Fix

[1] May not fall short of or exceed V_S tolerances [2] After loss of reflector < 40 ms [3] Without mounting bracket: approx. 800 g, with mounting bracket: approx. 1,600 g [4] Short circuit/overload protected. Max. 100 nF/20 mH

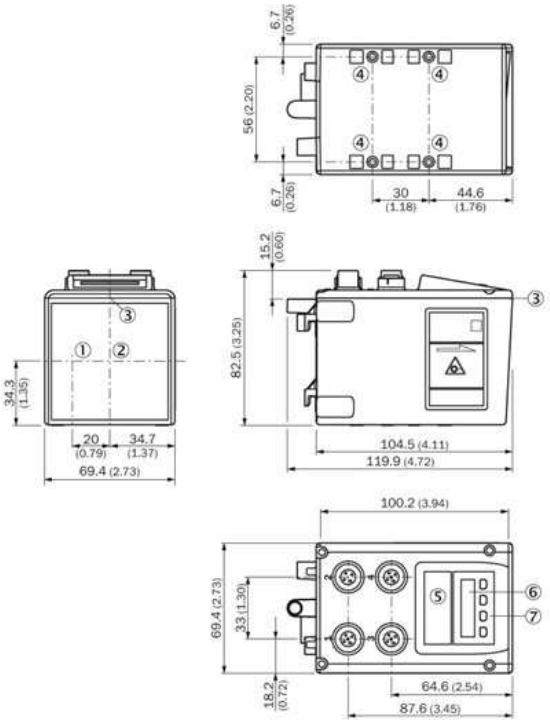
Ambient data

Enclosure rating:	IP 65
Protection class:	III
Effect of air pressure:	0.3 ppm/hPa
Effect of air temperature:	1 ppm/K
Temperature drift:	Typ. 0.1 mm/K
Ambient temperature [1]:	Operation: -20 ... +55 °C Operation with cooling case: -20 ... +75 °C Storage: -40 ... +75 °C
Mechanical load:	Noise: EN 600 68-2-64 Shock: EN 600 68-2-27 Sine: EN 600 68-2-6
Electromagnetic compatibility (EMC) [2]:	EN 61000-6-2/EN 61000-6-4

[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.

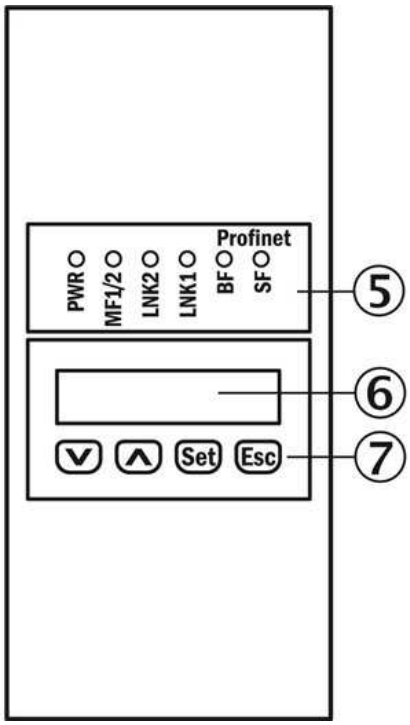
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Dimensional drawing



|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

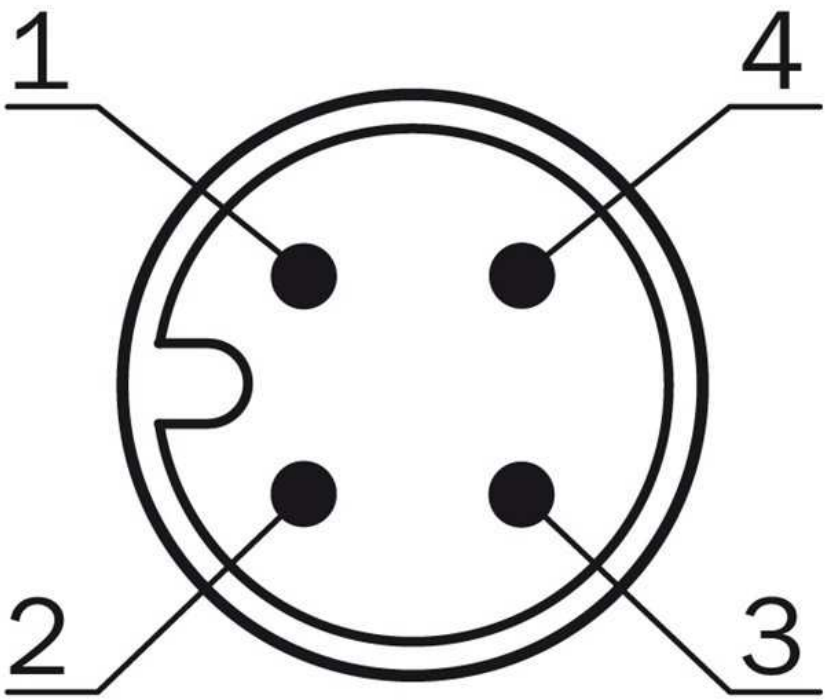
Adjustment possible



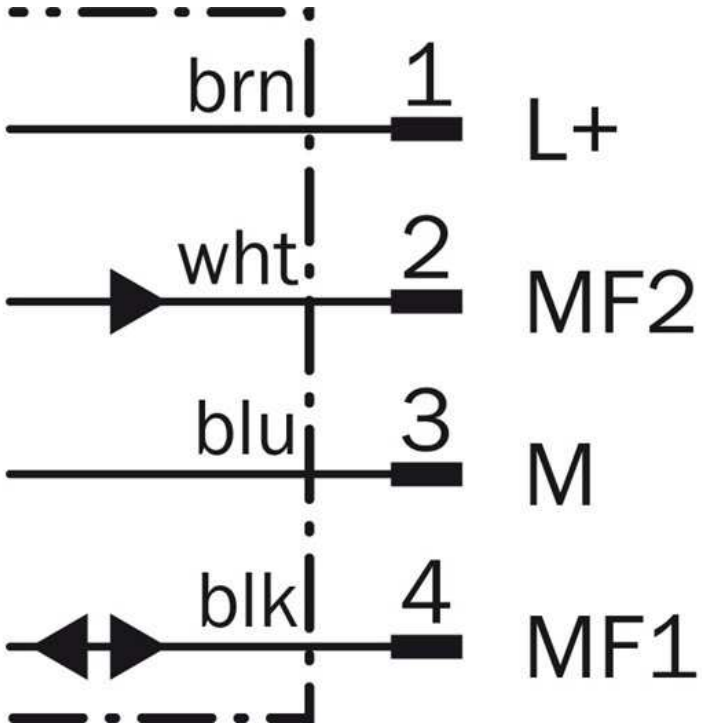
|5| Status LED [status]
|6| Display
|7| Control elements

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Connection type supply voltage

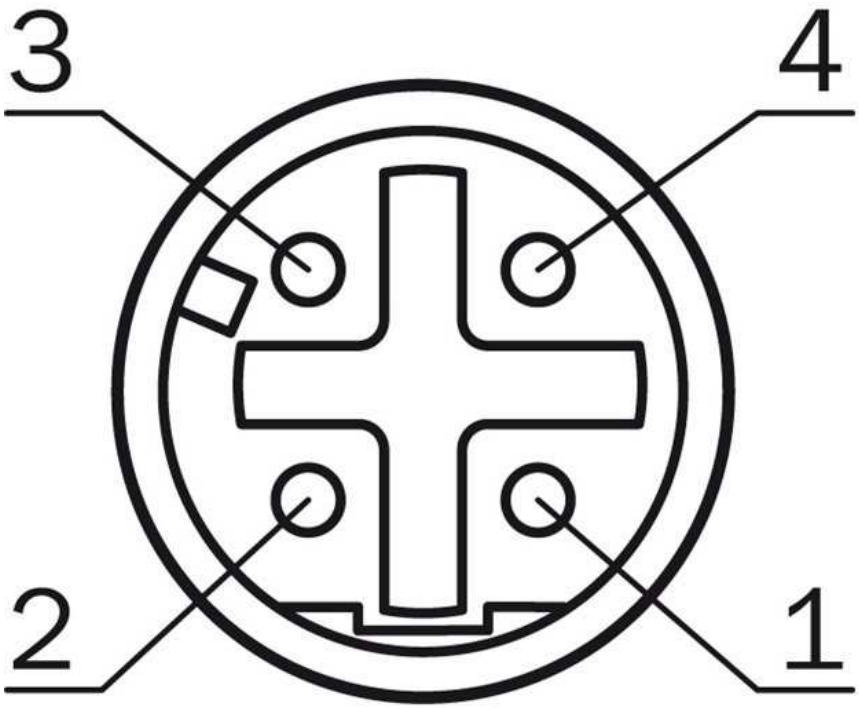


Connection diagram power supply

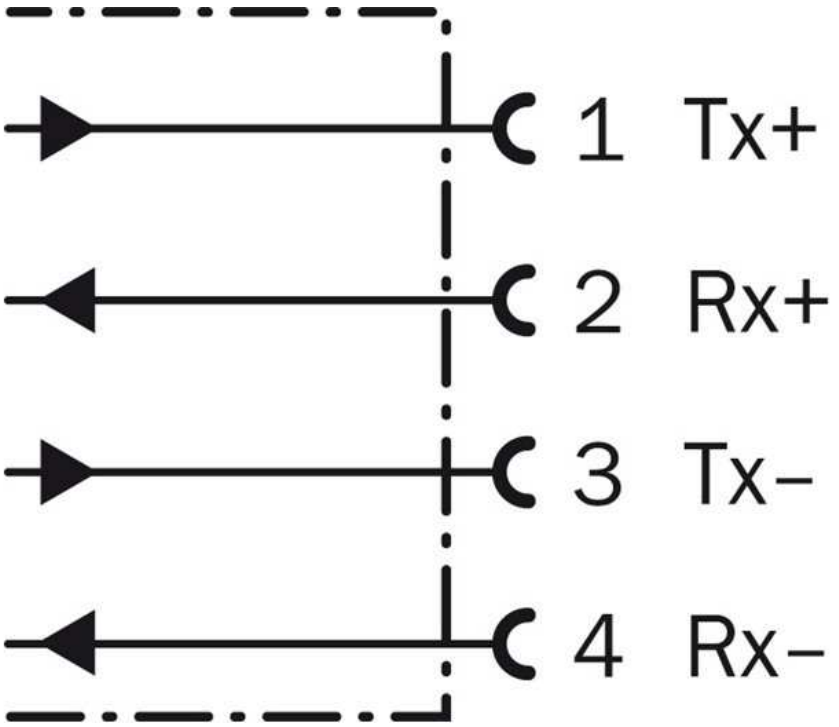


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Connection type Ethernet



Connection diagram Ethernet



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