



Long range distance sensors Dx100, DL100

DL100-12HA2103



Model Name > **DL100-12HA2103**
Part No. > **1059968**



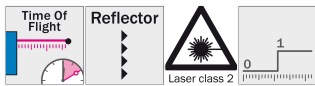
Illustration may differ

At a glance

- Measuring range up to 220 m (dependent on type)
- Numerous fieldbus interfaces
- Pre-failure notification and diagnostic data available
- Display with intuitive menu structure and clearly visible status LEDs
- Small, rugged metal housing
- 3-axis alignment bracket with quick-lock system as accessory available
- Elongated holes for zero point adjustment when replacing devices

Your benefits

- 100,000 hours of laser service life ensures that the sensor will have a long, useful life with maximum reliability
- Versions with integrated heating enable reliable use at ambient temperatures at up to -40°C. The TPCC cooling housing, available as an option, enables use at up to +75°C
- The numerous interfaces offer a high degree of flexibility as well as rapid communication for maximum productivity
- Pre-failure notification and diagnostic data for maximum plant availability
- Small, rugged metal housing with SpeedCon™ compatible connectors ensures smooth handling - even in confined spaces
- Alignment bracket with quick lock system ensures fast alignment and easy device replacement, reducing maintenance and mounting costs



CE III **CDRH** **RS-422**

Performance

| | |
|----------------------------------|--|
| Measurement range: | 0.15 m ... 130 m, On reflective tape "Diamond Grade" |
| Resolution: | 0.1 mm, 0.125 mm, 1 mm, 10 mm, 100 mm |
| Repeatability ¹⁾ : | 2 mm (at dead time 10 ms), 1 mm (at dead time 30 ms) |
| Accuracy ²⁾ : | ± 4 mm |
| Light source ³⁾ : | Laser, red |
| Typ. light spot size (distance): | 5 mm (+ 2 mm x distance in m) |
| Internal measurement cycle: | 1 ms |
| Max. movement speed: | 30 m/s |
| Laser class: | 2 (EN 60825-1/CDRH) |
| Output time: | Synchronous to PLC request (dependent on interfaces) |

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 of 100,000 h at T_A = +25 °C

Interfaces

| | |
|--|---------------------------|
| Data interface: | RS-422 |
| Output type ¹⁾ : | B (push/pull) MF1, MF2 |
| Multifunctional input (MF) ²⁾ : | 1 x MF1 |

¹⁾ HIGH > $V_S - 3\text{ V}$ / LOW < 2 V ²⁾ HIGH > 12 V / LOW < 3 V

Mechanics/electronics

| | |
|--------------------------------------|---|
| Supply voltage V_S : | 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 I_A ⁴⁾ : | ≤ 100 mA |
| Power consumption: | At 24 V DC < 1,000 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

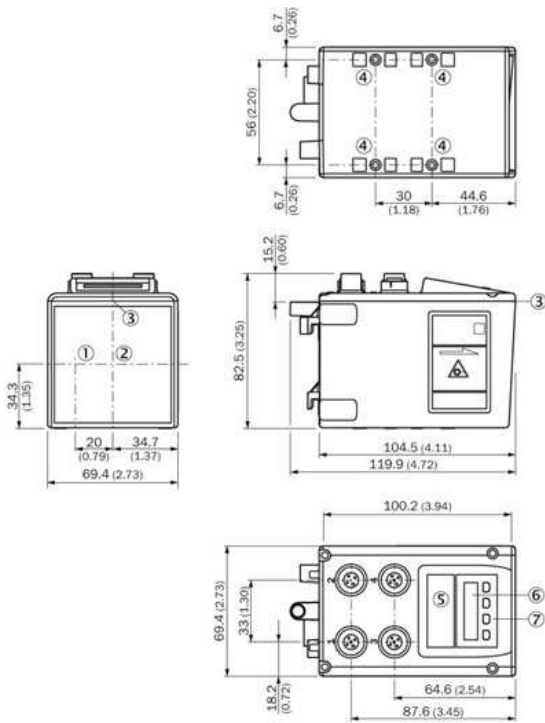
⁴⁾ Short circuit/overload protected. Max. 100 nF/20 mH

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 with cooling case: -40 ... +75 °C Storage: -40 ... +75 °C Operation with heating: -40 ... +55 °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 |

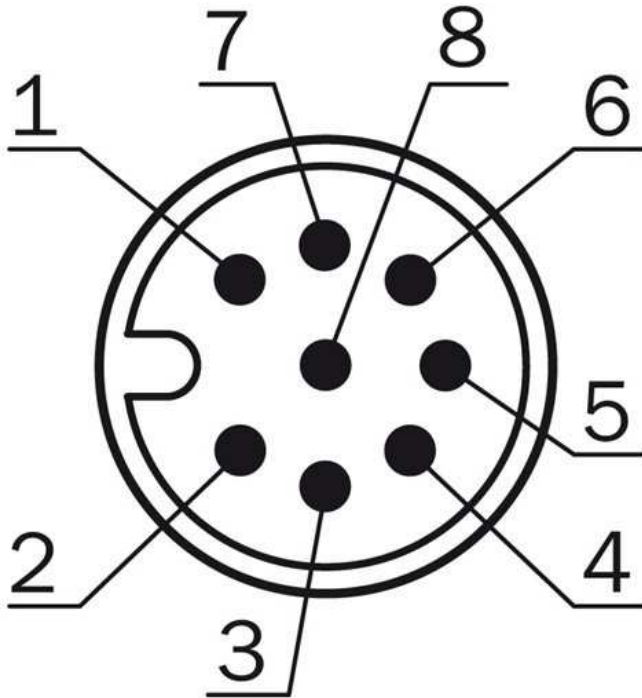
¹⁾ Temperatures < -10 °C require warm-up time of typ. 7 minutes. ²⁾ This is a Class A device. This device can cause radio interference in living quarters.

Dimensional drawing

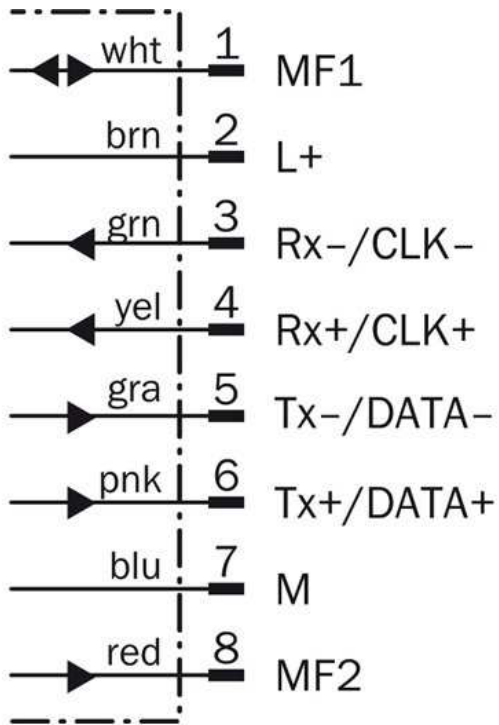


- |1| Optical axis, sender
- |2| Optical axis, receiver
- |3| Zero level
- |4| Threaded mounting hole M5
- |5| Status LED [status]
- |6| Display
- |7| Control elements

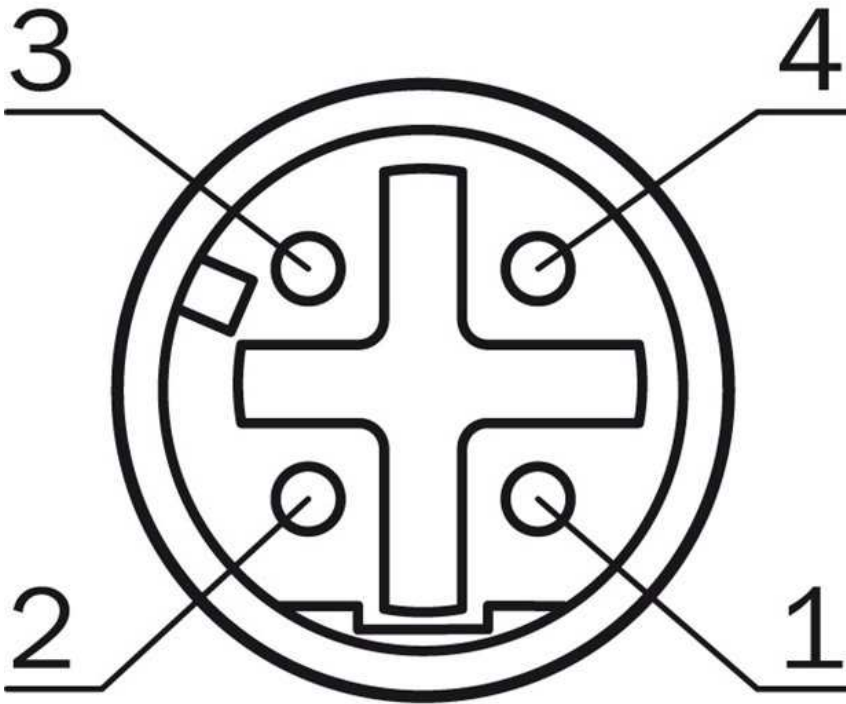
Connection type SSI/RS-422



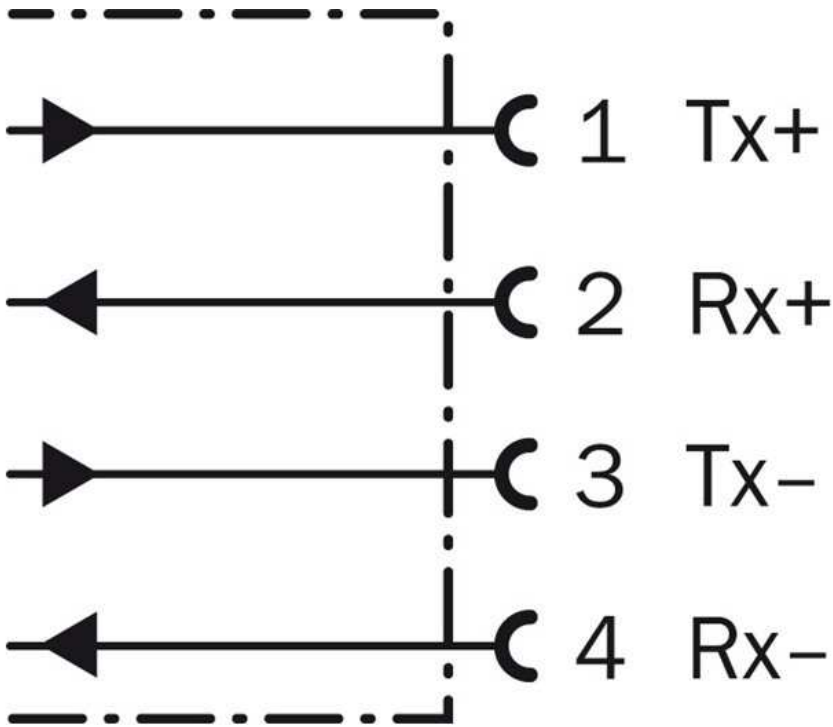
Connection diagram SSI/RS-422



Connection type Ethernet



Connection diagram Ethernet



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