



Long range distance sensors Dx100, DL100, PROFIBUS DP

DL100-13HA2102



Model Name > **DL100-13HA2102**
Part No. > **1059972**



At a glance

- Measuring range up to 220 m
- 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



Performance

Measuring range:	0.15 m ... 220 m, On reflective tape "Diamond Grade"
Resolution:	0.1 mm, 0.125 mm, 1 mm, 10 mm, 100 mm
Repeatability ¹⁾ :	2.5 mm (at dead time 10 ms), 1.25 mm (at dead time 30 ms)
Accuracy ²⁾ :	± 5 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:	10 m/s
Laser class:	2 (EN 60825-1/CDRH)

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 $T_A = +25^\circ\text{C}$

Interfaces

Data interface:	PROFIBUS DP
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:	Connector M12, SPEEDCON™ compatible
Housing material:	Aluminum/zinc die-cast

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

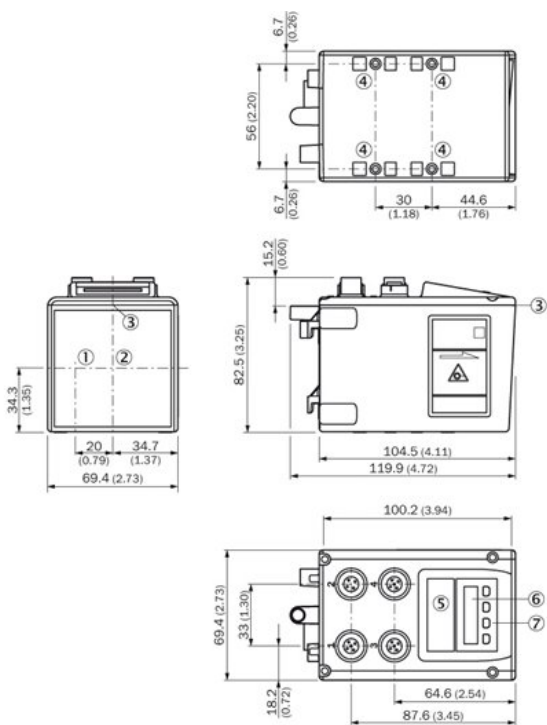
⁴⁾ Short circuit/overload protected. Max. 100 nF / 20 mH

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 heating: -40 ... 55 °C Operation with cooling case: -40 ... 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

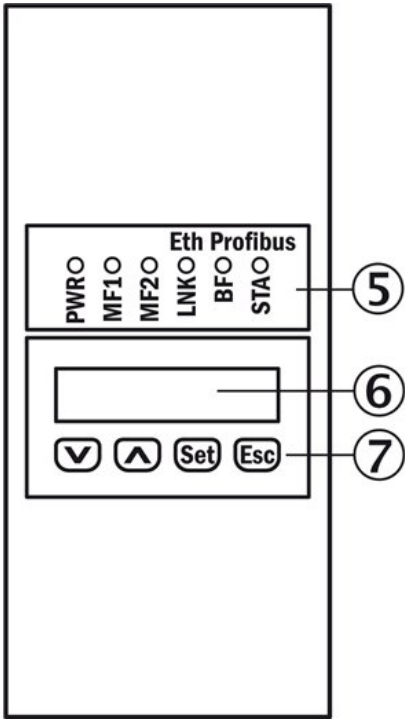
¹⁾ Temperatures < -10 °C require warm-up time of typ. 7 minutes. ²⁾ This is a Class A device. This device can cause radio interference in living quarters.

Dimensional drawing

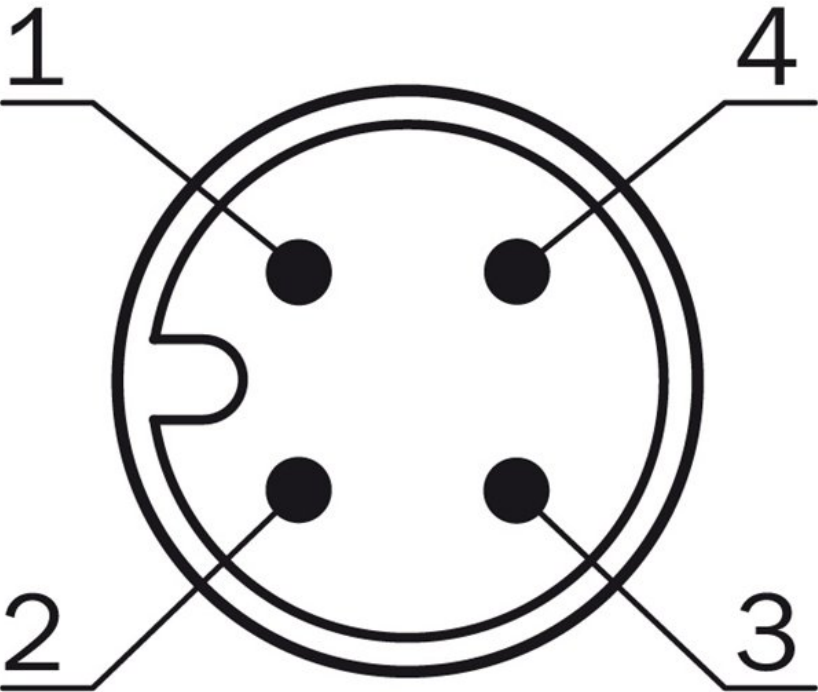


- |1| Optical axis, sender
- |2| Optical axis, receiver
- |3| Zero level
- |4| Threaded mounting hole M5
- |5| Status LED [status]
- |6| Display
- |7| Control elements

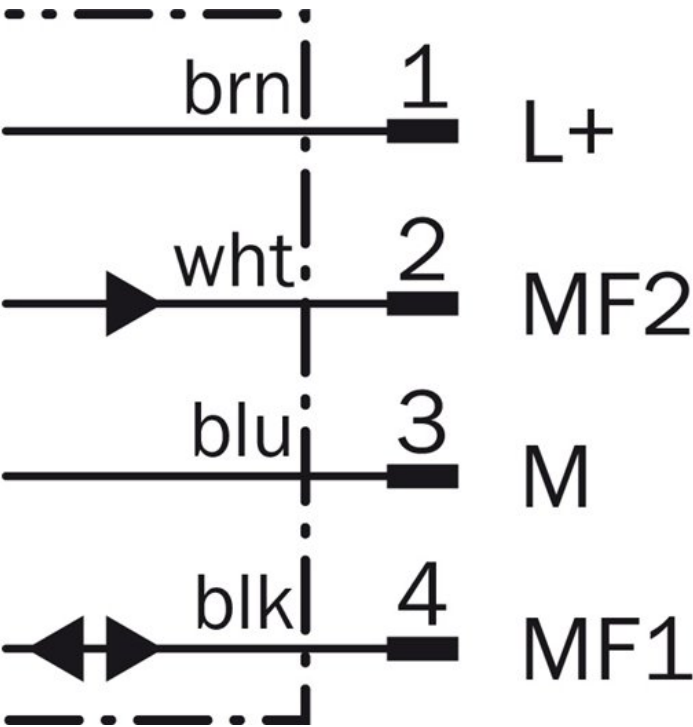
Adjustment possible

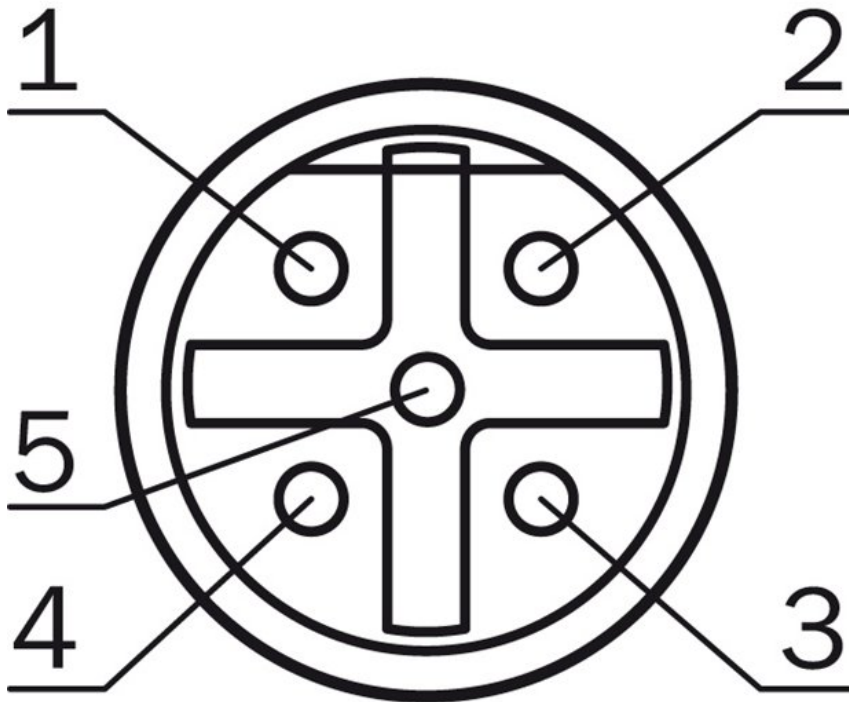


- |5| Status LED [status]
- |6| Display
- |7| Control elements

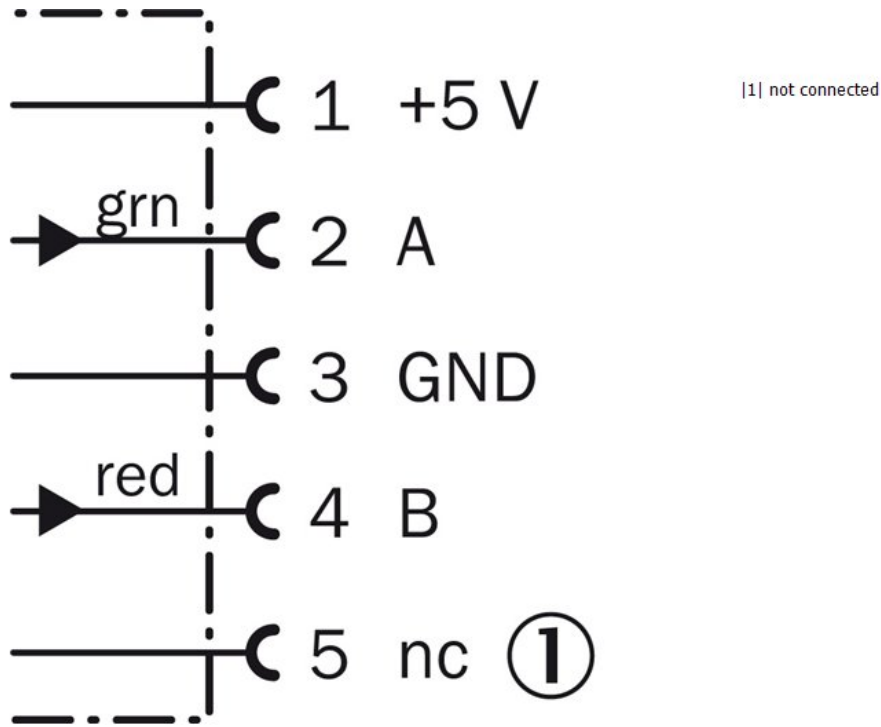


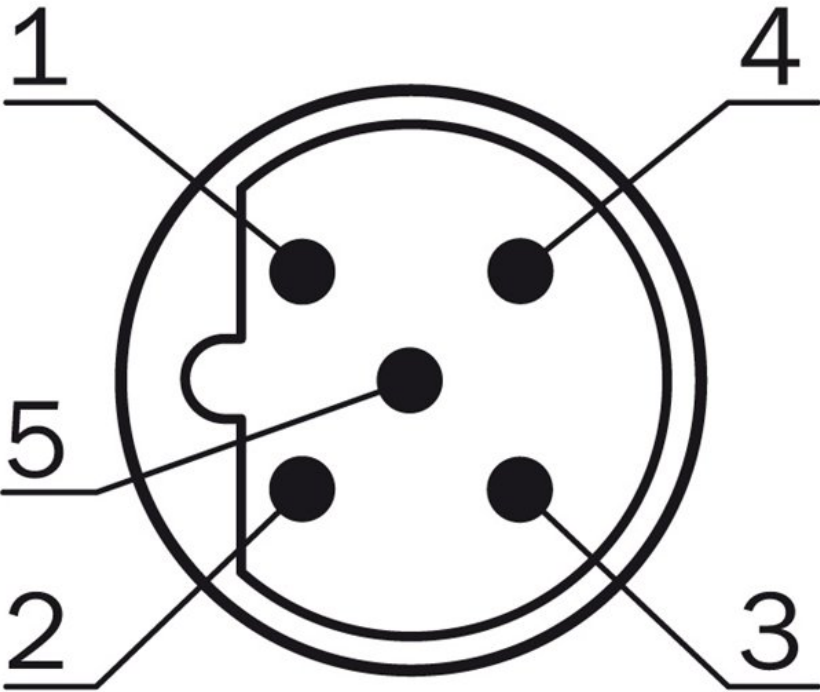
Connection diagram power supply



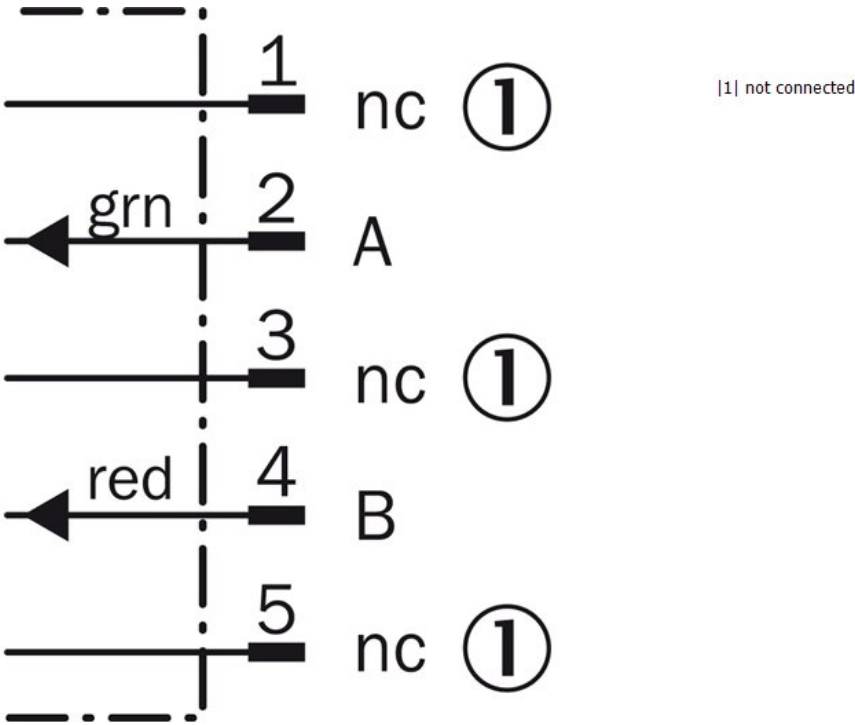


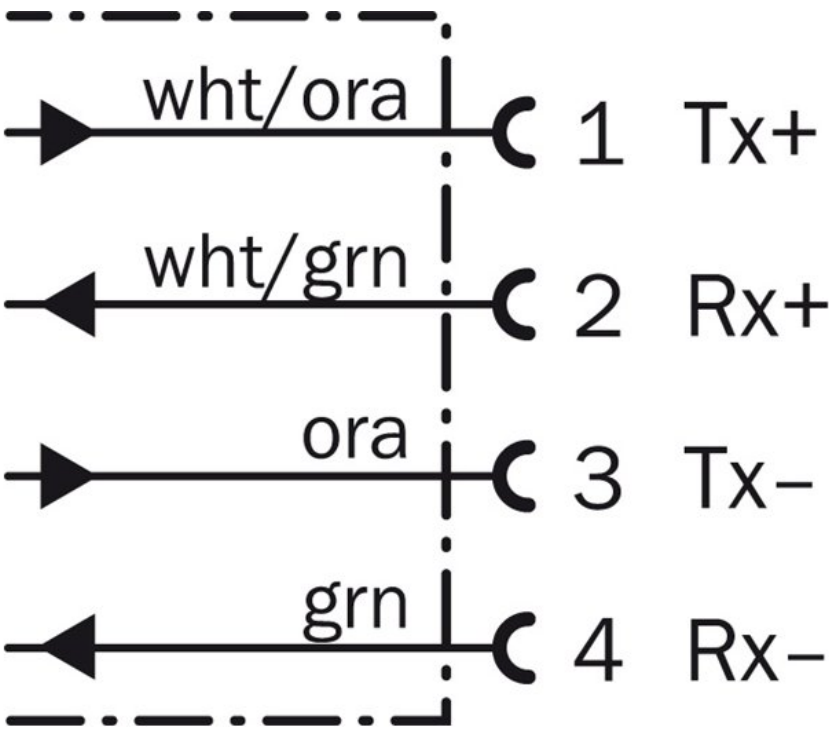
Connection diagram PROFIBUS OUT





Connection diagramm PROFIBUS IN





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