



Long range distance sensors DML, DML40-2, PROFIBUS DP

DML40-2-1211



Model Name > **DML40-2-1211**
Part No. > **1027608**



At a glance

- Measurement range from 0.5 m up to 1,200 m with a reflector
- Time-of-flight measurement
- Easy alignment thanks to pilot laser
- Freely programmable parameters
- RS-422, RS-232, PROFIBUS, analog and two switching outputs
- Near field blanking parameter for operation through a protection window

Your benefits

- Extremely long measurement ranges of up to 1,200 m on natural targets offer high flexibility in applications where range is key
- Special visible alignment laser allows fast and easy alignment - even over long distances, offering fast and cost-effective installation
- Tough, metal housing design for trouble-free operation in rough environmental conditions
- Class 1 IR laser for discrete and safe measurement and detection
- User-friendly software with an easy-to-follow interface ensures fast and cost-optimized setup
- Serial and analog interfaces as well as two digital switching outputs offer local over/under limit and service signals



Performance

Measuring range ^{1), 2), 3)} :	0.5 m ... 1,200 m, on reflector OP60 0.5 m ... 600 m, on reflective tape "Diamond Grade" 0.5 m ... 800 m, on reflector PL880FS01
Resolution:	≤ 1 mm
Repeatability ^{4), 5)} :	6 mm
Accuracy ^{6), 7)} :	± 10 mm
Light source:	Laser, infrared
Typ. light spot size (distance):	20 mm (+ 5 x distance in m)
Average depth:	1/16/64/256/1,024
Output rate ⁸⁾ :	1 ms ... 600 ms
Response time ⁹⁾ :	1 ms ... 600 ms
Cycle time:	5,120 per sec.
Laser class:	1 (EN 60825-1:Nov.2001, IEC 60825-1:ÄM2:2001)

¹⁾ On reflective tape "Diamond Grade" ²⁾ On reflector PL880FS01 ³⁾ On reflector OP60 ⁴⁾ 6 % ... 90 % remission ⁵⁾ Environmental conditions constant, min. warm-up time 30 min, average depth 1,024, statistical error 1 σ ⁶⁾ 23 °C air temperature, 977 hPa, min. warm-up time 30 min. ⁷⁾ When operating in ambient temperatures

between +40 °C ... +55 °C the accuracy can decrease by factor 2.5^{8) 9)} Dependant on average setting, average depth, timeout, baud rate, data output and output format

Interfaces

Data interface:	PROFIBUS DP
Output type ¹⁾ :	Q1, Q2
Interface for parametrization:	RS-232
Analog output:	4 mA ... 20 mA, scalable ²⁾

^{1) 2)} Output Q short-circuit protected

Mechanics/electronics

Supply voltage Vs:	DC 18 V ... 30 V, limit values
Ripple ¹⁾ :	5 Vpp
Initialization time:	6 s
Weight:	Ca. 1,200 g
Output current IA:	100 mA
Power consumption ²⁾ :	≤ 6 W
Connection type:	1 x cable gland, 1 x Sub-D, 9-pin

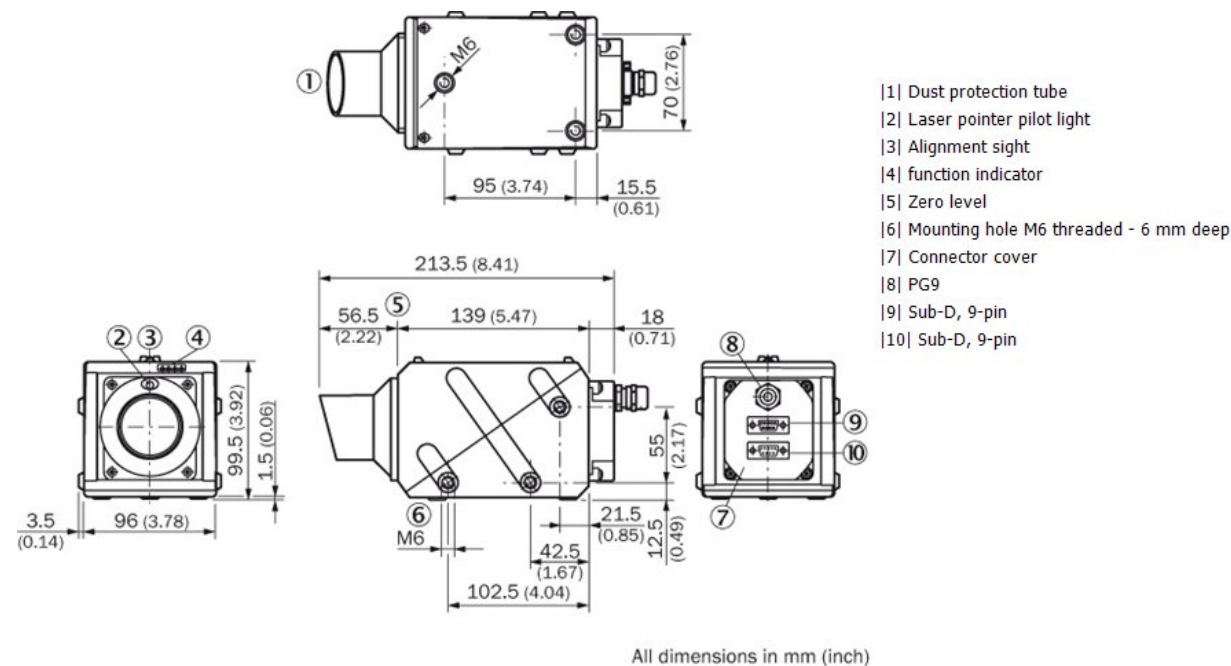
¹⁾ May not fall short of or exceed V_S tolerances ²⁾ Without load

Ambient data

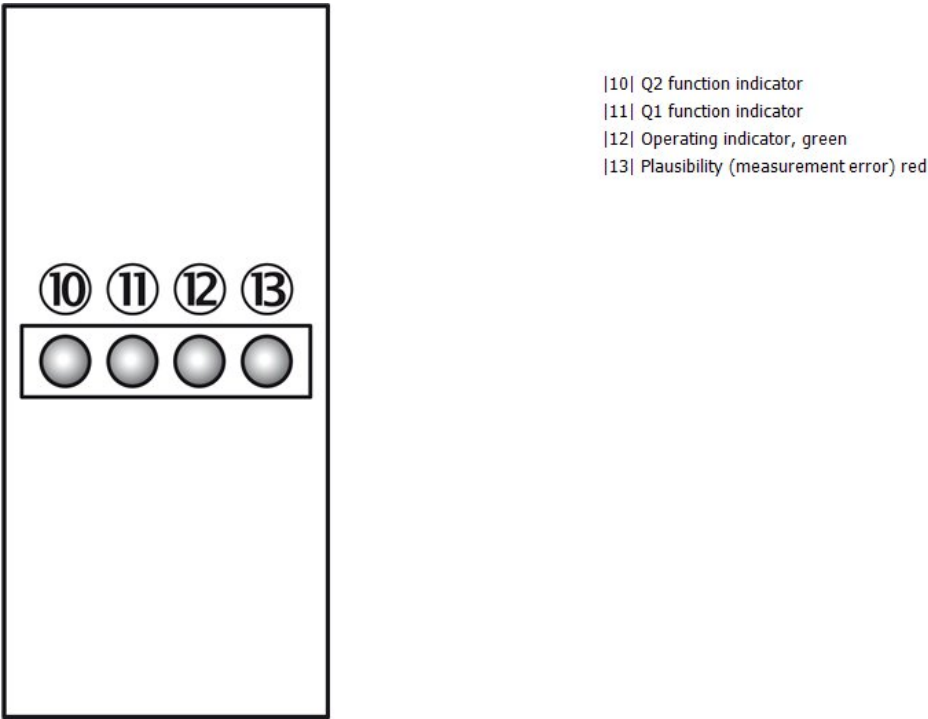
Enclosure rating:	IP 65
Protection class ¹⁾ :	III
Temperature drift ^{2) 3)} :	Typ. 0.3 mm/K Typ. 0.6 mm/K
Ambient temperature:	Operation: -10 ... 55 °C Operation with cooling case: -10 ... 75 °C Storage: -25 ... 70 °C
Mechanical load:	Shock: IEC 60068-2-27, -2-29 Sine: IEC 60068-2-6
Electromagnetic compatibility (EMC):	EN 55011:1998 Kl. B, Gr.1/EN 6100-6-2:1999

¹⁾ Reference voltage DC 50 V PELV-voltage (EN 50178) ²⁾ -10° C ... 0° C, +40 °C ... +55 °C ³⁾ 0 °C ... +40 °C

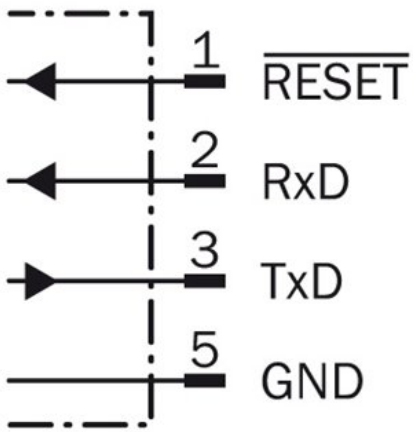
Dimensional drawing



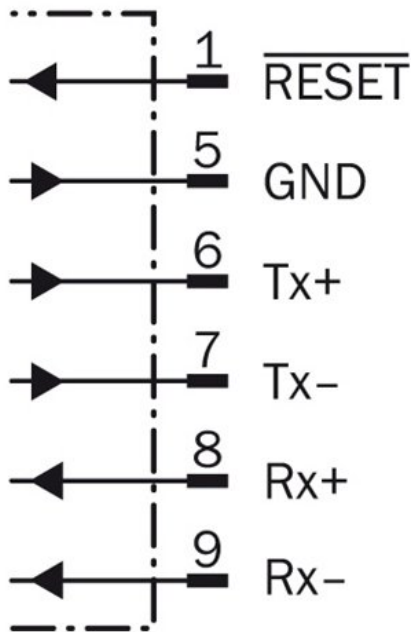
Adjustment possible



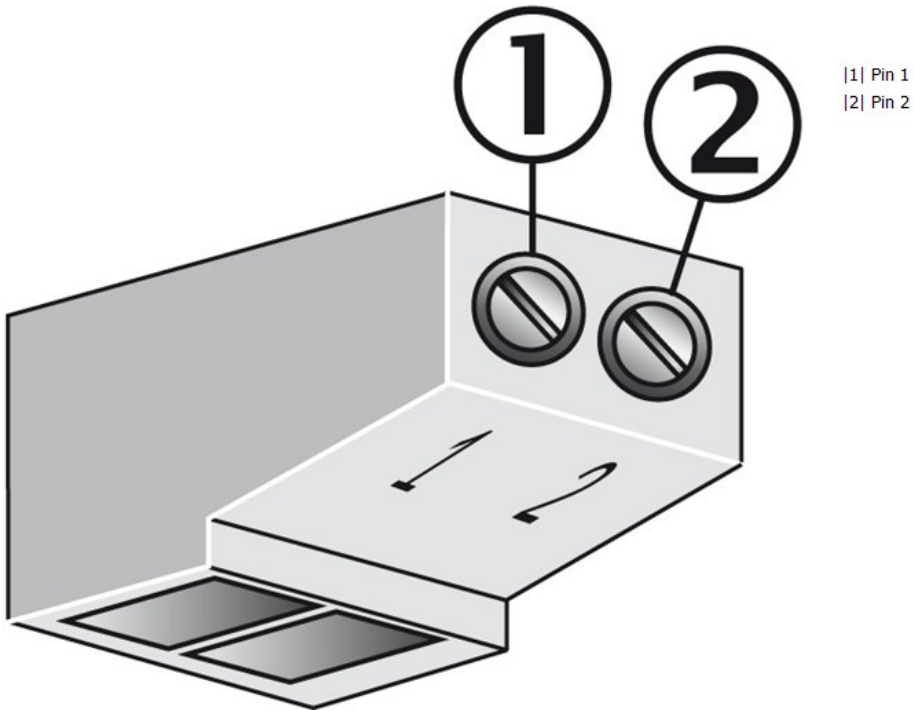
RS-232



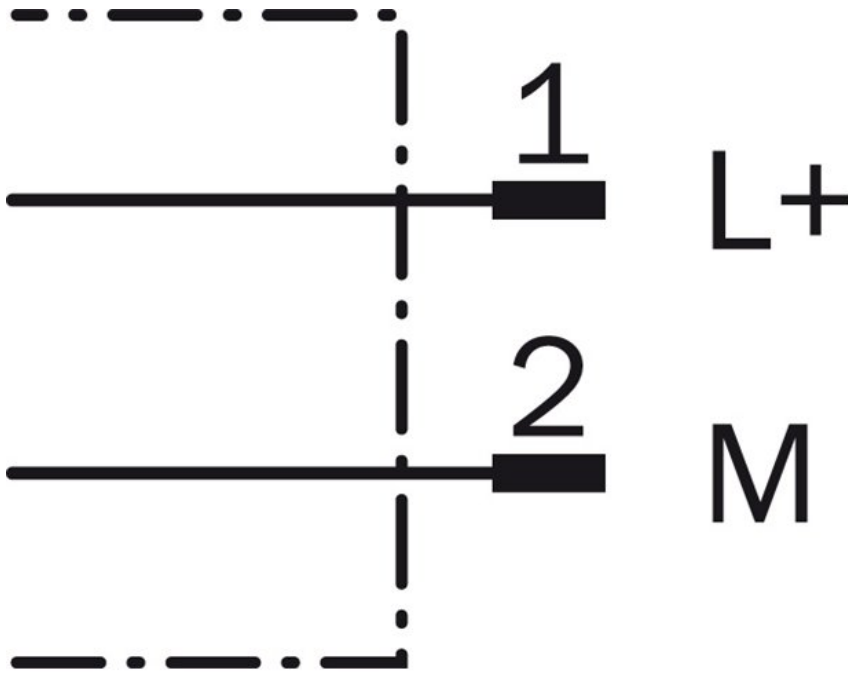
RS-422



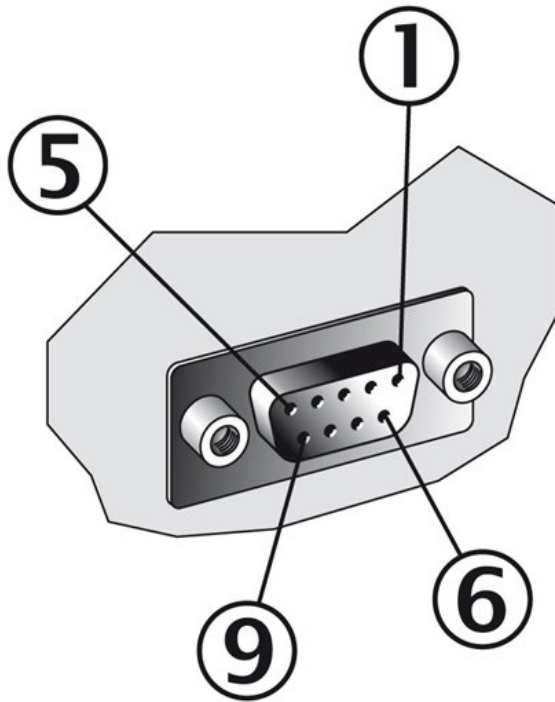
Connection type RS-232/PROFIBUS



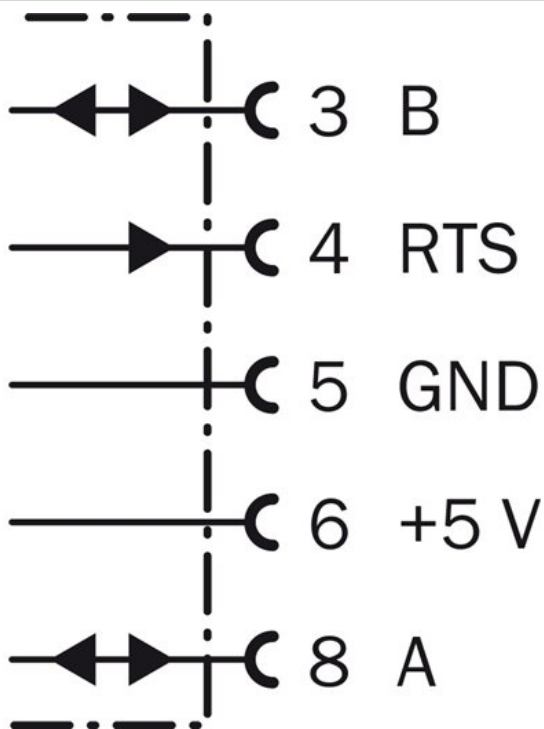
Connection type RS-232/PROFIBUS



Connection type DMxxx-2 RS-232/PROFIBUS, socket



- |1| NC = normally closed
- |5| M
- |6| L+
- |9| NC = normally closed



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