



Long range distance sensors DMT, DMT10-2

DMT10-2-1113



Model Name > [DMT10-2-1113](#)
Part No. > [1027605](#)



At a glance

- Measurement range from 0.5 m up to 155 m on natural targets
- Excellent accuracy thanks to 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
- Models with filter for measurement of glowing, hot metal (up to 1,400 °C)

Your benefits

- Extremely wide measurement range of up to 155 m on natural targets offers high flexibility in applications where range is key
- Supplementary 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 the roughest environmental conditions
- Non-visible, Class 1 IR laser for 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 allow flexible use for varied applications
- Integrated filter option allows for direct measurement of 1,400 °C glowing, hot targets



CE III **RS-232 RS-422**

Performance

Measurement range ¹⁾ :	0.5 m ... 20 m
Resolution:	≤ 1 mm
Repeatability ²⁾ , ³⁾ , ⁴⁾ , ⁵⁾ :	10 mm, 7 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
Aperture delay time:	1 s ⁸⁾
Note:	Mechanical aperture
Response time ⁹⁾ :	1 ms ... 4,000 ms
Cycle time:	1,024 per sec.
Special characteristic:	Mechanical aperture

Laser class: 1 (EN 60825-1:Nov.2001, IEC 60825-1:ÄM2:2001)
Output time: 1 ms ... 4,000 ms

Dependant on average setting, average depth, timeout, baud rate, data output and output format;

1) Max. object temperature 1,400 °C 2) Dependant on distance and remission, 7 mm, at 6 % ... 90 % remission from 0.5 m ... 65 m, at 6 % ... 18 % remission from 0.5 m ... 40 m, at 6 % remission from 0.5 m ... 15 m 3) 5) Environmental conditions constant, min. warm-up time 30 min, average depth 1,024, statistical error 1σ 4)

Dependant on distance and remission, 10 mm, at 6 % ... 90 % remission from 60 m ... 155 m, at 6 % ... 18 % remission from 40 m ... 65 m, at 6 % remission from 15 m ... 40 m 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) Dependant on average setting, average depth, timeout, baud rate, data output and output format 9) Dependant on average setting, average depth, timeout, baud rate, data output, output format and effective dead time of aperture

Interfaces

Data interface 1): RS-422
RS-232

Output type 2): Q1, Q2

Interface for parametrization: RS-232

Analog output: 4 mA ... 20 mA, scalable

1) Switchable 2) Output Q short-circuit protected

Mechanics/electronics

Supply voltage V_s : DC 18 V ... 30 V, limit values

Ripple 1): < 5 Vpp

Initialization time: 6 s

Weight: Ca. 1,200 g

Output current I_A : 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

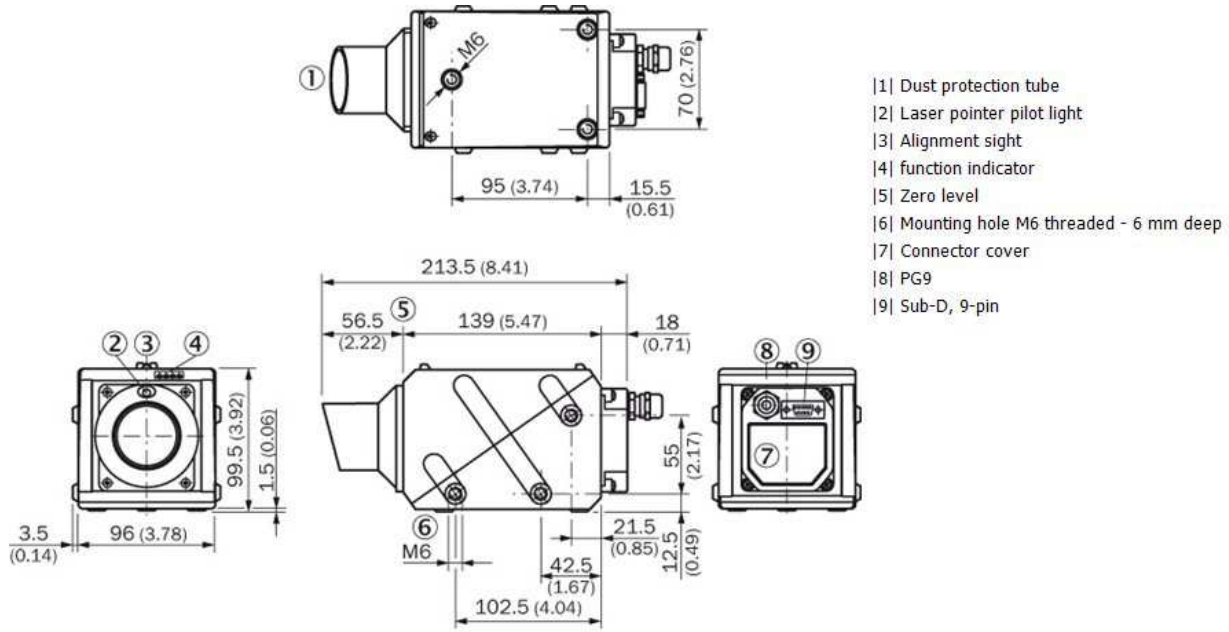
Ambient temperature: Operation with cooling case: -10 ... +75 °C
Operation: -10 ... +55 °C
Storage: -25 ... +70 °C

Mechanical load: Shock: IEC 60068-2-27, -2-29
Sine: IEC 60068-2-6

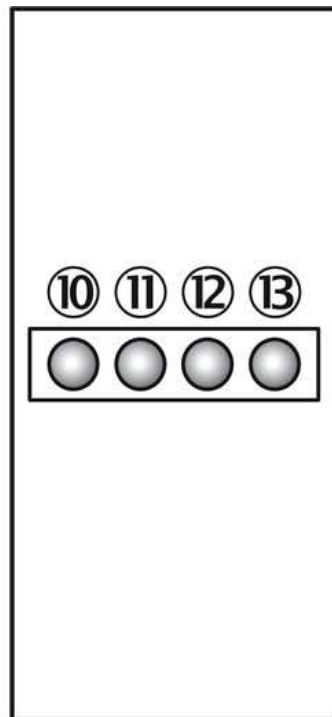
Electromagnetic compatibility (EMC): EN 55011:1998 Kl. B, Gr.1/EN 61000-6-2

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

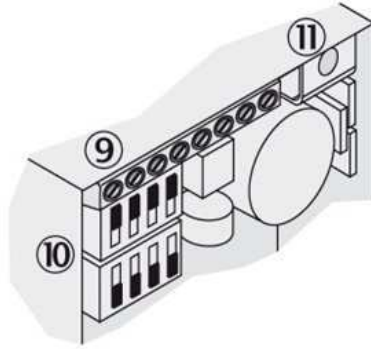
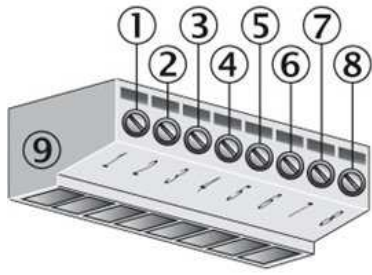


Adjustment possible



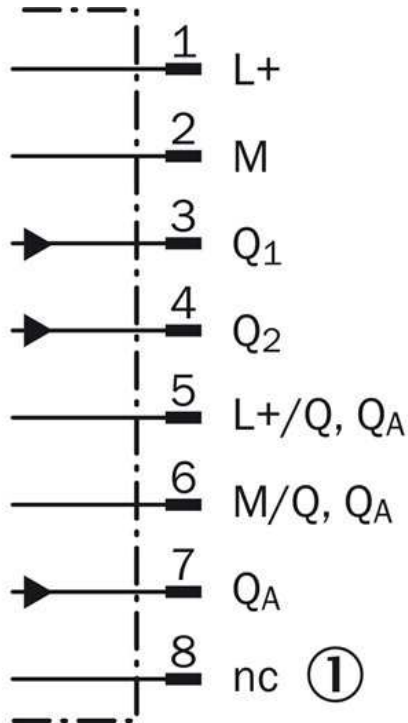
- |10| Q2 function indicator
- |11| Q1 function indicator
- |12| Operating indicator, green
- |13| Plausibility (measurement error) red

Connection type DMxxx-2 RS232/RS-422, PG9

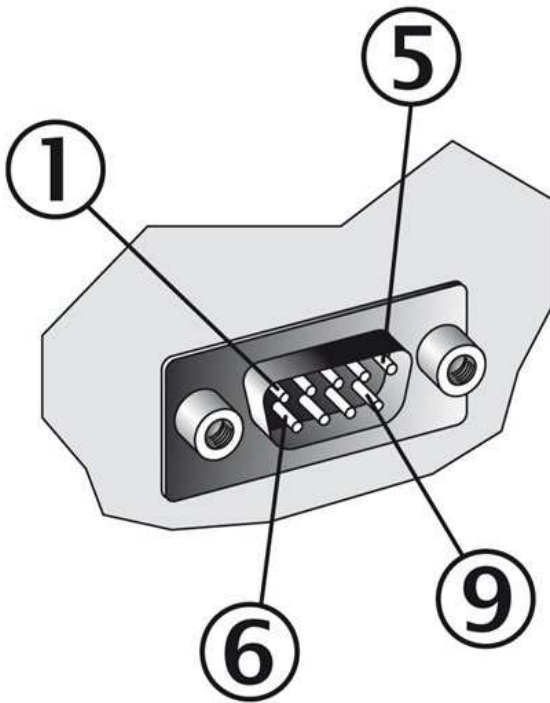


- |1| Pin 1
- |2| Pin 2
- |3| Pin 3
- |4| Pin 4
- |5| Pin 5
- |6| Pin 6
- |7| Pin 7
- |8| Pin 8
- |9| Terminals
- |10| DIP switches RS-232-/RS-422 switching
- |11| Shield

Connection diagram DMxxx-2 RS232/RS-422, PG9

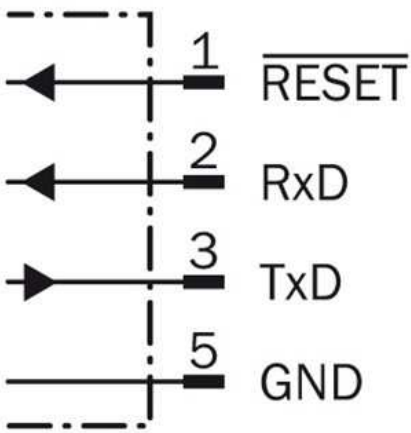


|12| not connected

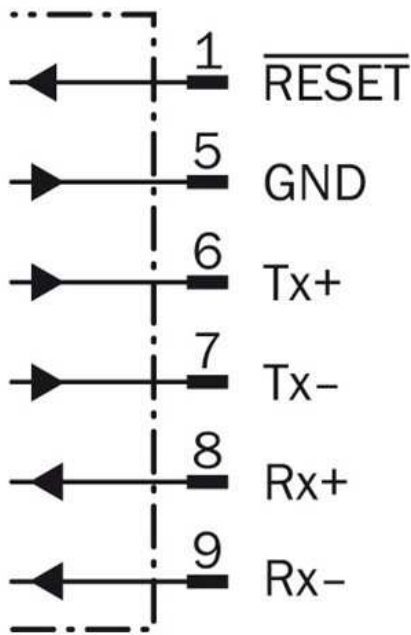


- |1| Pin 1
- |5| Pin 5
- |6| Pin 6
- |9| Pin 9

RS-232



RS-422



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