



## Long range distance sensors DMT, DMT10-2

DMT10-2-1213



**Model Name** > [DMT10-2-1213](#)  
**Part No.** > [1027606](#)



**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



**Performance**

Measurement range <sup>1)</sup> :	0.5 m ... 20 m
Resolution:	≤ 1 mm
Repeatability <sup>2)</sup> , <sup>3)</sup> , <sup>4)</sup> , <sup>5)</sup> :	10 mm, 7 mm
Accuracy <sup>6)</sup> , <sup>7)</sup> :	± 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 <sup>8)</sup>
Note:	Mechanical aperture
Response time <sup>9)</sup> :	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;

<sup>1)</sup> Max. object temperature 1,400 °C <sup>2)</sup> 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 <sup>3) 5)</sup> Environmental conditions constant, min. warm-up time 30 min, average depth 1,024, statistical error  $1 \sigma$  <sup>4)</sup>

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 <sup>6)</sup> 23 °C air temperature, 977 hPa, min. warm-up time 30 min. <sup>7)</sup> When operating in ambient temperatures between +40 °C ... +55 °C the accuracy can decrease by factor 2.5 <sup>8)</sup> Dependant on average setting, average depth, timeout, baud rate, data output and output format <sup>9)</sup> Dependant on average setting, average depth, timeout, baud rate, data output, output format and effective dead time of aperture

## Interfaces

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

<sup>1)</sup> Output Q short-circuit protected

## Mechanics/electronics

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

<sup>1)</sup> May not fall short of or exceed  $V_S$  tolerances <sup>2)</sup> Without load

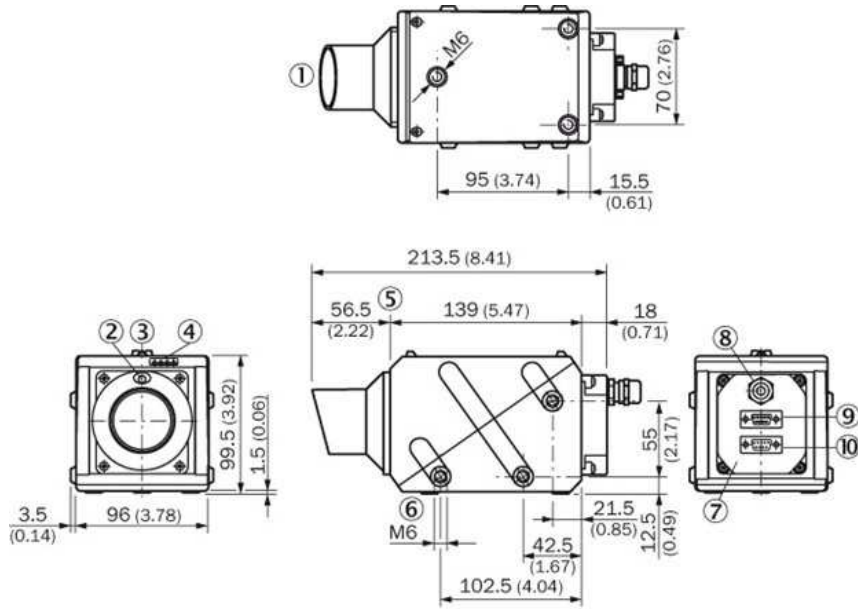
## Ambient data

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Enclosure rating:	IP 65
Protection class <sup>1)</sup> :	III
Temperature drift <sup>2)</sup> , <sup>3)</sup> :	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

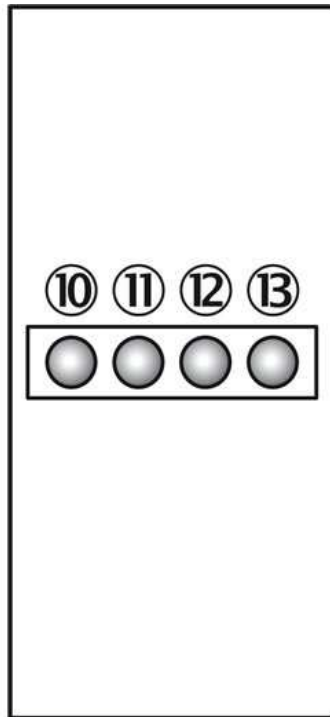
<sup>1)</sup> Reference voltage DC 50 V PELV-voltage (EN 50178) <sup>2)</sup> -10 °C ... 0 °C, +40 °C ... +55 °C <sup>3)</sup> 0 °C ... +40 °C

**Dimensional drawing**



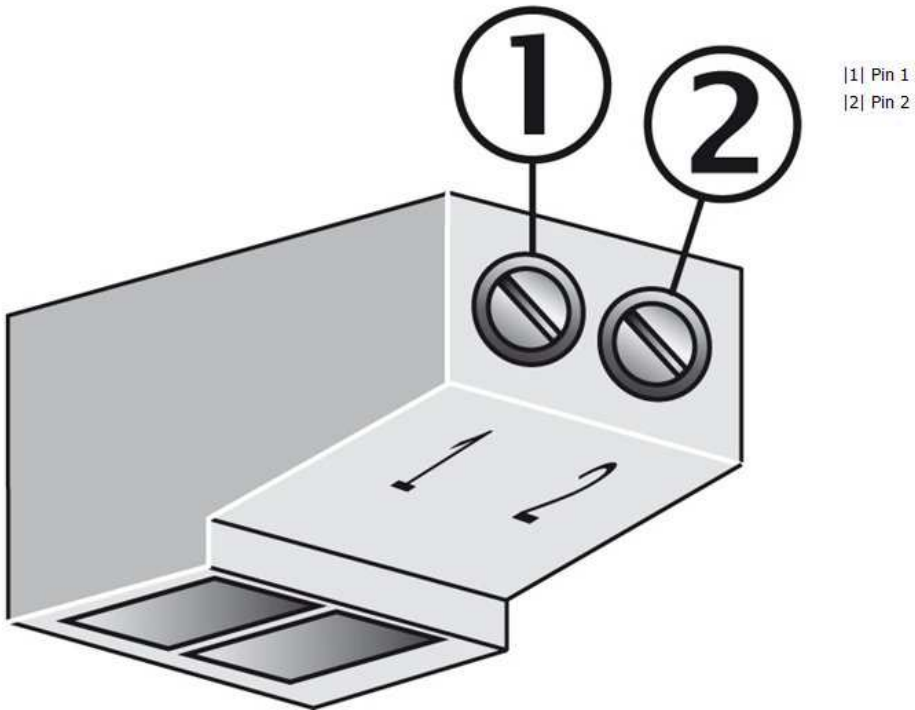
- |1| Dust protection tube
- |2| Laser pointer pilot light
- |3| Alignment sight
- |4| function indicator
- |5| Zero level
- |6| Mounting hole M6 threaded - 6 mm deep
- |7| Connector cover
- |8| PG9
- |9| Sub-D, 9-pin
- |10| Sub-D, 9-pin

**Adjustment possible**

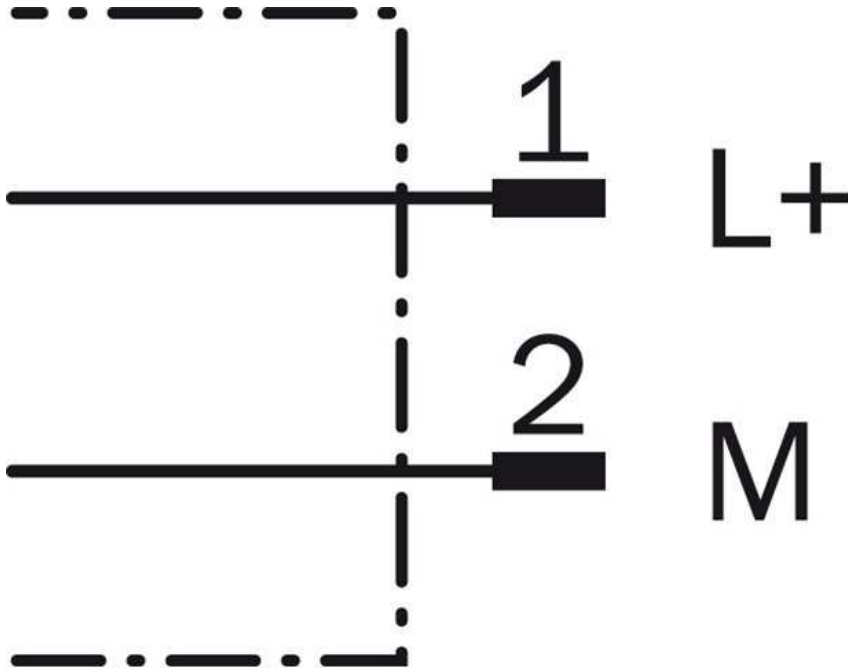


- |10| Q2 function indicator
- |11| Q1 function indicator
- |12| Operating indicator, green
- |13| Plausibility (measurement error) red

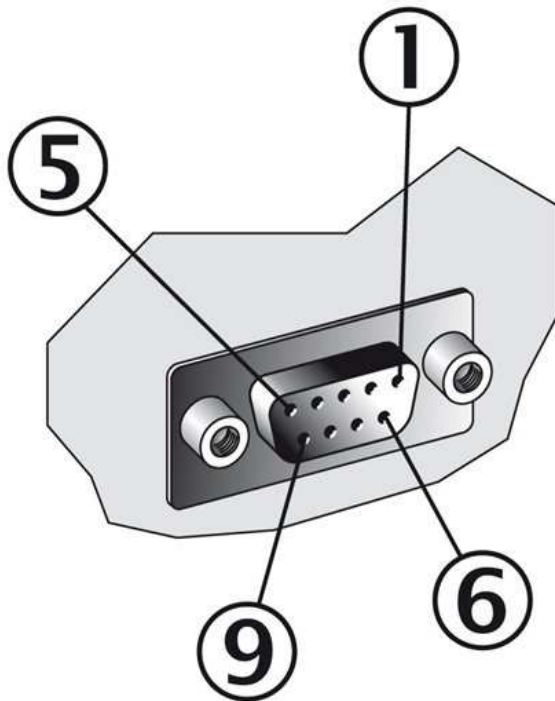
Connection type RS-232/PROFIBUS



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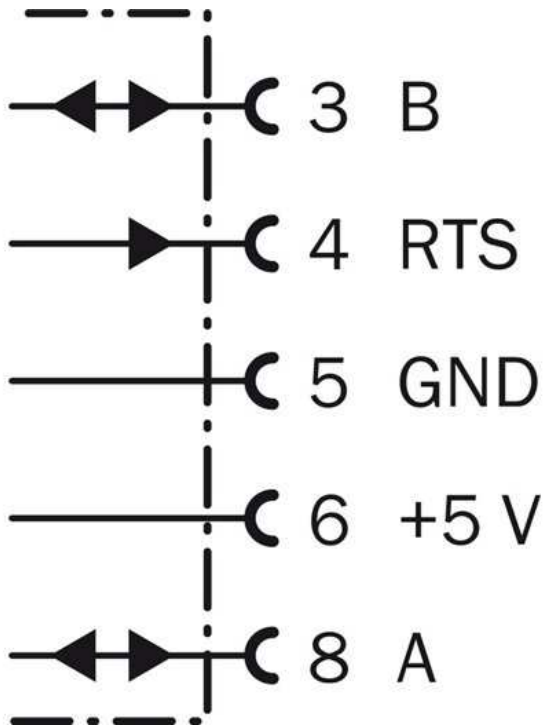


Connection type DMxxx-2 RS-232/PROFIBUS, socket



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

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



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