

Mean value temperature measuring transducers, incl. mounting flange, calibratable, with Modbus connection

Calibratable mean value temperature measuring transducer **THERMASGARD® MWTM-Modbus-T3**, with Modbus connection, in an impact-resistant plastic housing with quick-locking screws, with flexible sensor rod (0.4...20m, fully active) in a robust protective plastic-coated copper tube, incl. mounting flange, optionally with /without display, measures temperature (-50...+150 °C). International system of units **SI** (default) can be changed to **imperial** (via Modbus).

The rod sensor is used to detect the mean temperature (mean value) in gaseous media. It is used in ventilation and air conditioning ducts over the entire cross-section or on a defined length (laid along a meandering route, it uniformly detects the surrounding temperature). For proper mounting of the rod, mounting clamps **MK-05-M** (accessories) are available.

Innovative Modbus sensor with galvanically separated RS485 Modbus interface, selectable bus termination resistance, DIP switch for setting the bus parameters and bus address in current-free state, internal LEDs for telegram status display, two separate push-in terminals and large three-line display (illuminated, with customised programming in the 7-segment range and dot-matrix range). Uses **internal diagnostics** to detect sensor breakage or sensor short circuit as errors. The error messages can be retrieved via Modbus and are shown on the display. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

MWTM-Modbus-T3
Rod length
3m / 6m

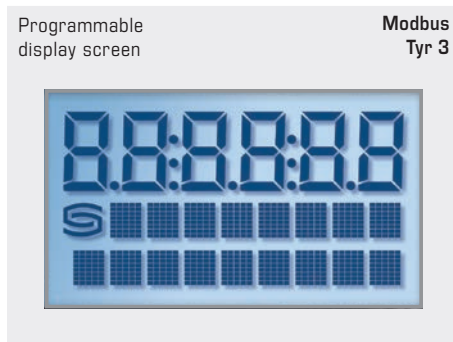
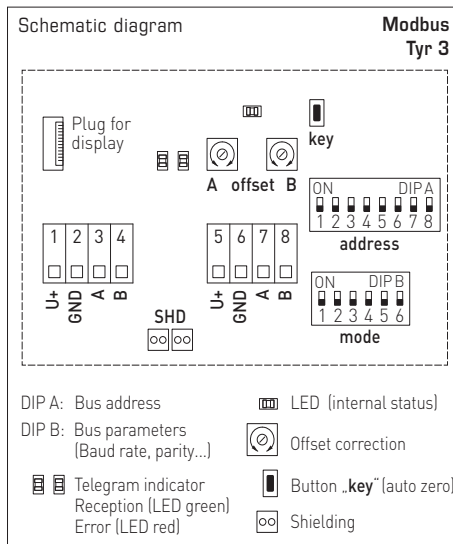


Device version with **M12 connector** (optional on request)



TECHNICAL DATA

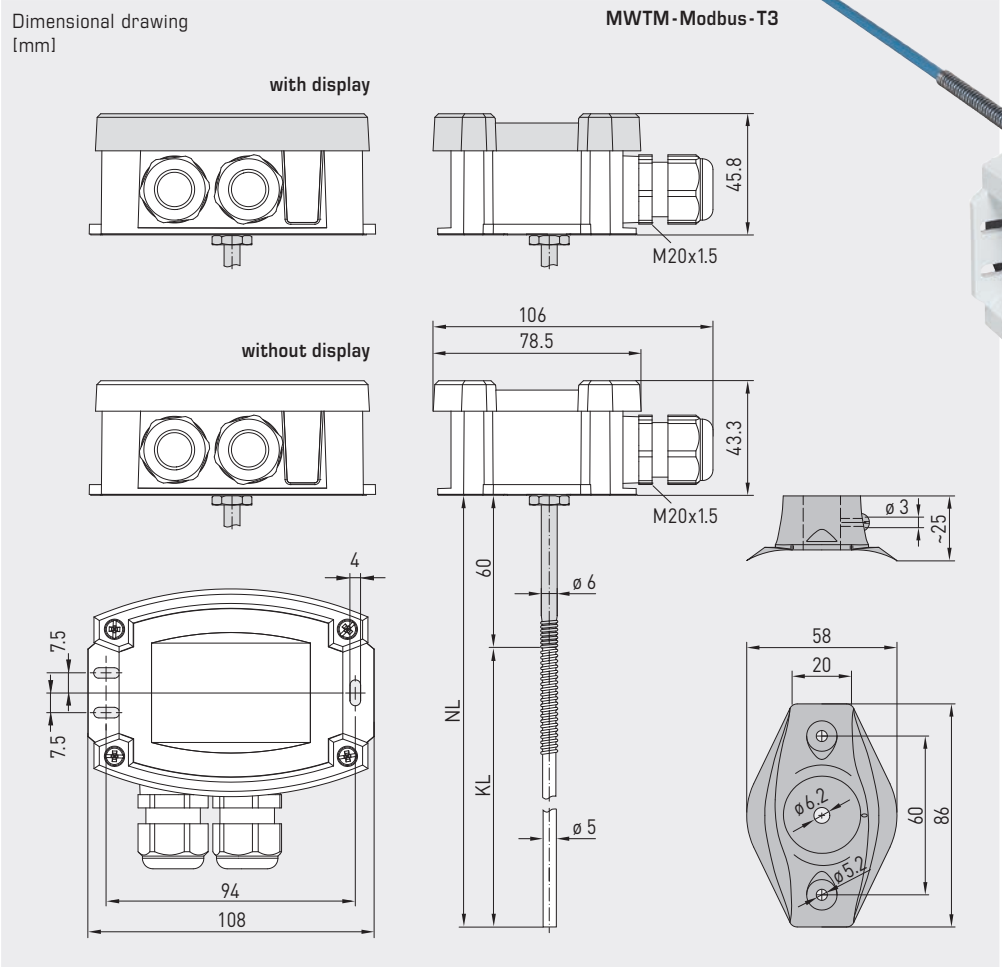
| | |
|---------------------------|---|
| Voltage supply: | 24 V AC (±20%); 15...36 V DC |
| Power consumption: | < 1.2 W / 24 V DC; < 1.8 VA / 24 V AC |
| System of units: | SI (default) or Imperial (switchable via Modbus) |
| Data points: | Temperature [°C] [°F] |
| Sensor: | Pt1000, DIN EN 60751, class B |
| Measuring range: | -50...+150 °C; T_{min} -50 °C, T_{max} +80 °C |
| Deviation, temperature: | typically ±0.2 K at +25 °C |
| Zero point offset: | ±10 °C |
| Ambient temperature: | Measuring transducer -30...+70 °C |
| Medium: | clean air and non-aggressive, non-combustible gases |
| Bus protocol: | Modbus (RTU mode), address range 0... 247 selectable |
| Baud rate: | 9600, 19200, 38400 Baud |
| Signal filtering: | 0.3 s / 1 s / 10 s |
| Sensor: | active across the entire length (averaging) |
| Rod material: | protective tube made from copper, plastic-coated , with anti-kink spring and sleeve, stainless steel V4A (1.4571) |
| Rod dimensions: | Ø = 5.0 mm, nominal length (NL) = 0.4 m / 3 m / 6 m (nominal length optional up to max. 20 m) |
| Rod laying: | Bending radius: >35 mm Vibration load: ≤0.5 g Tensile load: <480 N |
| Housing: | plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent! |
| Housing dimensions: | 108 x 78.5 x 43.3 mm (Tyr 3 without display) 108 x 78.5 x 45,8 mm (Tyr 3 with display) |
| Cable connection: | cable gland , plastic (2x M20 x 1.5; with strain relief, exchangeable, inner diameter 8-13 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request) |
| Electrical connection: | 0.2 - 1.5 mm ² , using push-in terminals |
| Process connection: | by mounting flange, plastic (galvanised steel optional, see accessories) and mounting clamps MK-05-M |
| Permissible air humidity: | <95% RH, non-precipitating air |
| Protection class: | III (according to EN 60 730) |
| Protection type: | IP 65 (according to EN 60 529) |
| according to: | CE conformity, electromagnetic compatibility according to EN 61326, according to EMC Directive 2014 / 30 / EU |
| Features: | Display with illumination , three-line, programmable, cutout approx. 51 x 29 mm (W x H), for displaying the actual temperature or an individually programmable display value |
| Internal diagnostics: | Error 1 at sensor breakage Error 2 at sensor short circuit |





S+S REGELTECHNIK

Mean value temperature measuring transducers,
incl. mounting flange, calibratable,
with Modbus connection



MWTM-Modbus-T3
Rod length
0.4 m



MF-06-K
Mounting flange,
plastic
(included in the scope of delivery)



MK-05-M
Galvanised steel
mounting clamps
(optional)



MF-06-M
Mounting flange,
metal
(optional)



KRD-04
Capillary tube
gland bracket, plastic
(optional)



THERMASGARD® MWTM - Modbus - T3 Mean value temperature measuring transducers

| Type / WG01 | Sensor | Output | Rod length (NL) | Display | Item No. | Price |
|-------------------------|--|--------|-----------------|---------|--------------------|----------|
| MWTM-Modbus-T3 | | | | | | IP65 |
| MWTM-Modbus-T3 0,4m | Pt1000 | Modbus | 0.4 m | | 1101-3266-0080-000 | 240,35 € |
| MWTM-Modbus-T3 0,4m LCD | Pt1000 | Modbus | 0.4 m | ■ | 1101-3266-4080-000 | 294,11 € |
| MWTM-Modbus-T3 3m | Pt1000 | Modbus | 3.0 m | | 1101-3266-0230-000 | 293,32 € |
| MWTM-Modbus-T3 3m LCD | Pt1000 | Modbus | 3.0 m | ■ | 1101-3266-4230-000 | 347,61 € |
| MWTM-Modbus-T3 6m | Pt1000 | Modbus | 6.0 m | | 1101-3266-0260-000 | 331,35 € |
| MWTM-Modbus-T3 6m LCD | Pt1000 | Modbus | 6.0 m | ■ | 1101-3266-4260-000 | 385,98 € |
| Extra charge: | Per meter sensor cable (from 6 m to max. 20 m) | | | | on request | |
| | Cable connection with M12 connector according to DIN EN 61076-2-101 | | | | on request | |

Note: System of units **SI** (default) or **imperial** (can be changed via Modbus).

ACCESSORIES

| | | | |
|-------------------|---|--------------------|----------|
| KA2-Modbus | Communication adapter (USB/RS485) for system connection | 1906-1200-0000-100 | 213,99 € |
| LA-Modbus | Line termination device (with terminating resistor) as an active bus termination | 1906-1300-0000-100 | 79,81 € |
| MF-06-K | Mounting flange, plastic (included in the scope of delivery) | 7100-0030-1000-000 | 6,12 € |
| MF-06-M | Mounting flange, metal, galvanised steel, Ø = 35 mm | 7100-0030-5000-100 | 9,56 € |
| KRD-04 | Capillary tube gland bracket, plastic | 7100-0030-7000-000 | 8,91 € |
| MK-05-M | Galvanised steel mounting clamps (6 pieces) | 7100-0034-0000-000 | 9,88 € |

For further information, see last chapter Accessories!