

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, optionally with /without display, with flexible sensor rod (0.4...20m, fully active) in a robust protective plastic-coated copper tube, incl. mounting flange.

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, 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.

TECHNICAL DATA

Voltage supply:	24 V AC ($\pm 20\%$) and 15...36 V DC
Power consumption:	< 1.2 W / 24 V DC; < 1.8 VA / 24 V AC
Sensor:	Pt1000, DIN EN 60751, class B
Measuring range:	-50...+150 °C; $T_{\min}$ -50 °C, $T_{\max}$ +80 °C
Temperature deviation:	typically ± 0.2 K at +25 °C
Zero point offset:	± 10 °C
Medium:	clean air and non-aggressive, non-combustible gases
Bus protocol:	Modbus (RTU mode), address range 0...247 selectable
Signal filtering:	0.3 s / 1 s / 10 s
Sensors:	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:	$\varnothing = 5.0$ 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
Ambient temperature:	Measuring transducer -30...+70 °C
Permissible air humidity:	<95 % r. H., non-precipitating air
Protection class:	III (according to EN 60730)
Protection type:	IP 65 (according to EN 60529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC Directive 2014 / 30 / EU
Equipment:	Display with illumination , three-line, programmable, cutout approx. 51 x 29 mm (W x H), for displaying the actual temperature, error message or an individually programmable display value
Internal diagnostics:	Error 1 at sensor breakage Error 2 at sensor short circuit
ACCESSORIES	see table

MWTM-Modbus-T3

Rod length
3 m / 6 m

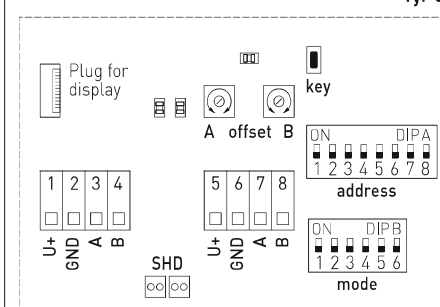


Device version
with **M12 connector**
(optional on request)



Schematic diagram

Modbus Tyr 3



- DIP A: Bus address
- DIP B: Bus parameters (Baud rate, parity...)
- Telegram indicator: Reception (LED green) Error (LED red)
- LED (internal status)
- Offset correction
- Button „key“ (auto zero)
- Shielding

Programmable display screen

Modbus Tyr 3





S+S REGELTECHNIK

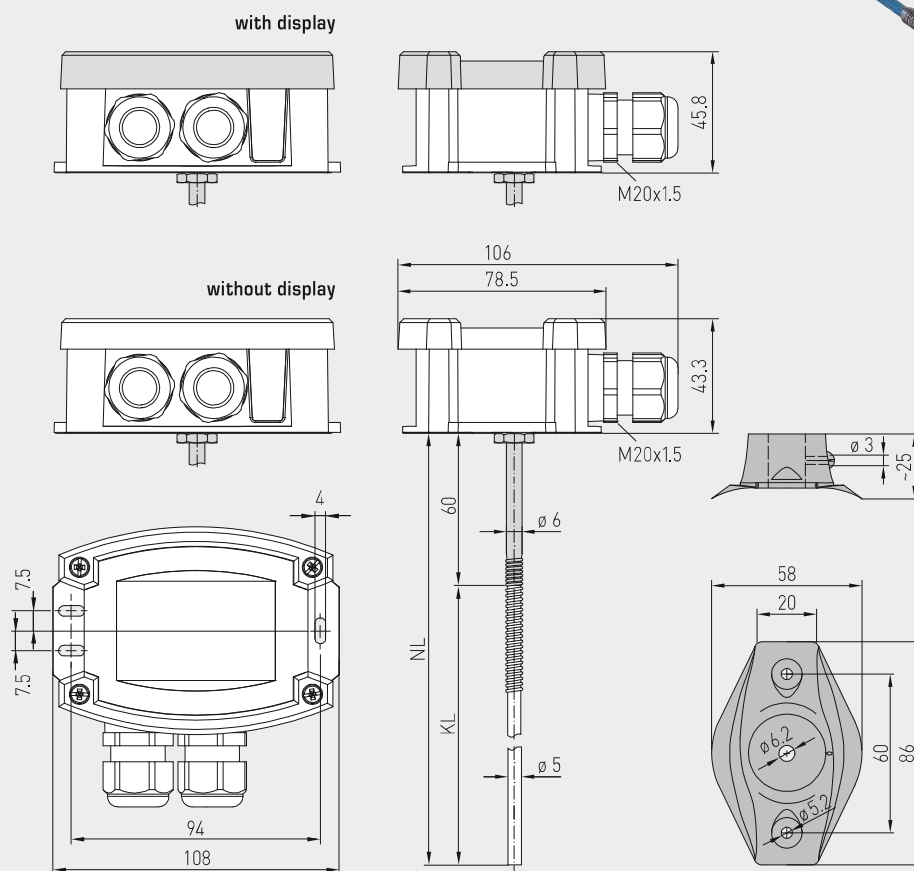
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Dimensional drawing

MWTM-Modbus-T3

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.
MWTM-Modbus-T3					IP65
MWTM-Modbus-T3 0,4m	Pt1000	Modbus	0,4 m		1101-3266-0080-000
MWTM-Modbus-T3 0,4m LCD	Pt1000	Modbus	0,4 m	■	1101-3266-4080-000
MWTM-Modbus-T3 3m	Pt1000	Modbus	3,0 m		1101-3266-0230-000
MWTM-Modbus-T3 3m LCD	Pt1000	Modbus	3,0 m	■	1101-3266-4230-000
MWTM-Modbus-T3 6m	Pt1000	Modbus	6,0 m		1101-3266-0260-000
MWTM-Modbus-T3 6m LCD	Pt1000	Modbus	6,0 m	■	1101-3266-4260-000
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
ACCESSORIES					
KA2-Modbus	Communication adapter (USB/RS485) for system connection				1906-1200-0000-100
LA-Modbus	Line termination device (with terminating resistor) as an active bus termination				1906-1300-0000-100
MF-06-K	Mounting flange, plastic (included in the scope of delivery)				7100-0030-1000-000
MF-06-M	Mounting flange, metal, galvanised steel, Ø = 35 mm				7100-0030-5000-000
KRD-04	Capillary tube gland bracket, plastic				7100-0030-7000-000
MK-05-M	Galvanised steel mounting clamps (6 pieces)				7100-0034-0000-000
For further information, see last chapter Accessories!					