

THERMASGARD® ALTM 2 - Modbus - T3

THERMASGARD® ALTM 2 - wModbus



Surface-contact temperature measuring transducer / pipe surface-contact sensor
incl. strap, with remote sensor, calibratable,
with Modbus connection or W-Modbus (wireless)

S+S REGELTECHNIK

Calibratable surface-contact temperature measuring transducer (remote variant) **THERMASGARD® ALTM 2 - Modbus - T3**, with Modbus connection, in an impact-resistant plastic housing with quick-locking screws, cable sensor with pipe feeder, incl. strap, optionally with /without display, measures temperature (-50...+150 °C). International system of units **SI** (default) can be changed to **imperial** (via Modbus). With **wModbus** device version, the W-Modbus (Wireless) replaces the RTU cable; the BMS connection is radio-based using a W-Modbus gateway.

The pipe surface-contact sensor is used to detect the temperature on lines, pipes (e.g., cold and warm water) or on heating sections for heating control.

Innovative Modbus sensor with galvanically isolated RS485 Modbus interface, switchable bus terminating resistor, DIP switch for setting in current-free state, internal LEDs for telegram status display, push-in terminals and large three-line display (illuminated, individually programmable). Uses **internal diagnostics** to detect sensor breakage or sensor short circuit as errors. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

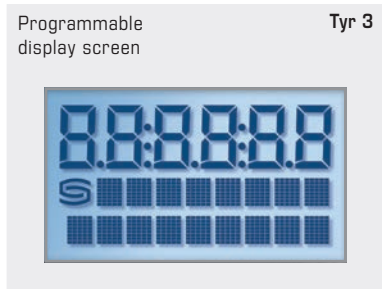
ALTM 2 - Modbus - T3
without display
(RTU cable)



ALTM 2 - wModbus
without display
(wireless)



TECHNICAL DATA	
Power 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 (Perfect Sensor Protection at IP68)
Measuring range:	-50...+150 °C, T_{max} at +150 °C (remote variant)
Accuracy, 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
Communication:	Modbus (RTU cable), Bus interface RS 485, galvanically isolated , Baud rate 9600, 19200, 38400 baud or W-Modbus (Wireless Modbus, AES-128 encrypted) Frequency 2.4 GHz ISM, Transmission power 100 mW , Range max. 500 m (open field) / approx. 50 - 70 m (inside buildings)
Bus protocol:	Modbus (RTU mode), address range 0... 247 adjustable
Signal filtering:	0,3 s / 1 s / 10 s
Insulating resistance:	≥ 100 MΩ, at +20 °C (500 V DC)
Sensor protection:	pipe feeder made of stainless steel V4A (1.4571), Ø = 6 mm, L = 50 mm
Sensor cable:	silicone, SiHF, 2 x 0.25 mm ² ; cable length (KL) = 1.5 m (other lengths and jacket materials, e.g. PTFE or glass fibre with steel mesh, available on request)
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 (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:	endless strap with metal tightener (included in scope of delivery) Ø = 13 - 92 mm (¼ - 3"), L = 300 mm
Permissible air humidity:	< 95% RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type housing:	IP65 (according to EN 60 529)
Protection type sensor:	IP65 (according to EN 60 529) sleeve humidity-tight (standard) IP68 (according to EN 60 529) sleeve water-tight (optional)
Standards (Modbus):	CE conformity according to EMC Directive 2014 / 30 / EU
Standards (W-Modbus):	CE conformity according to Radio Directive 2014 / 53 / EU
Features:	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



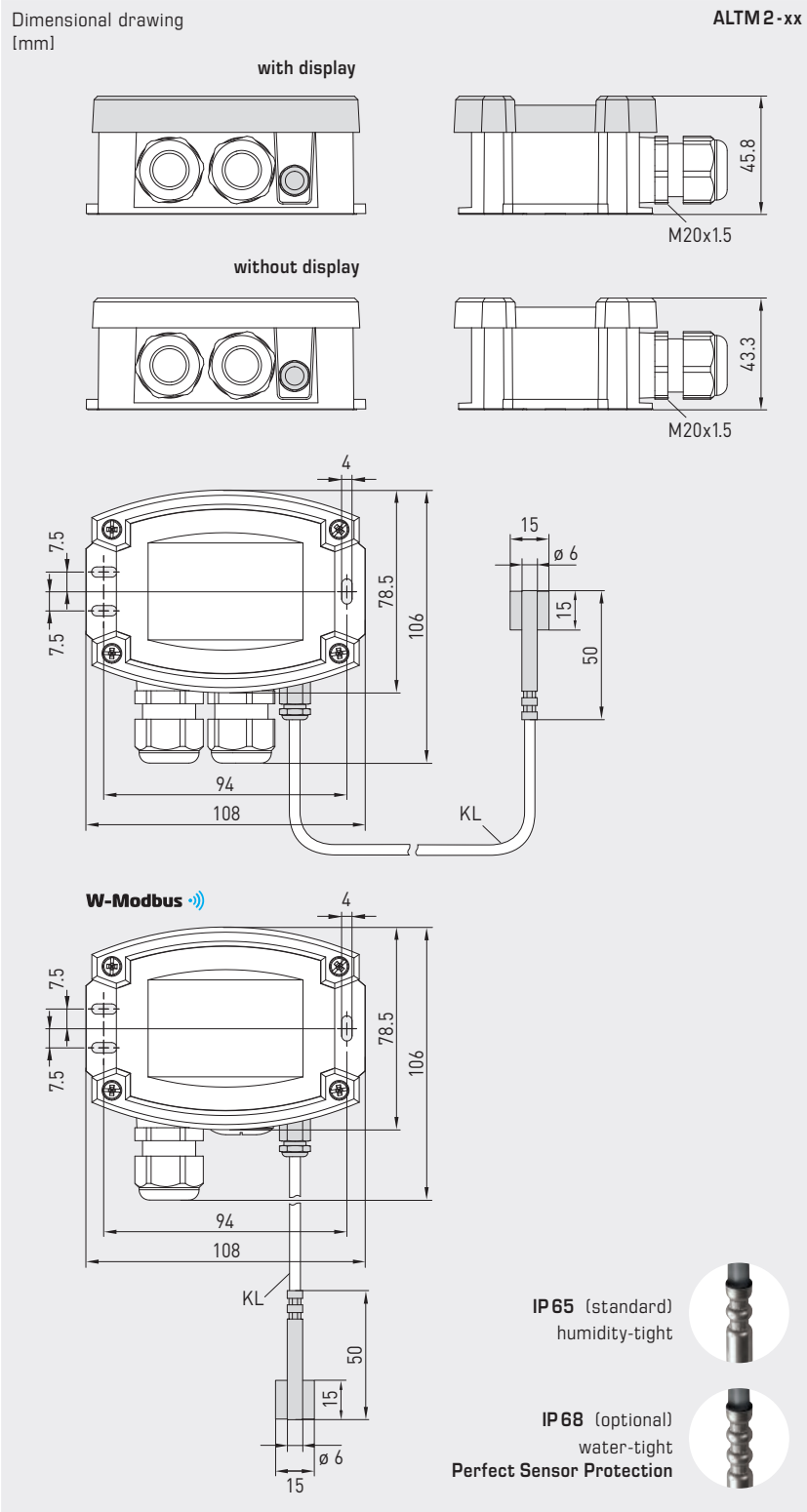


NEW

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ALTM 2-Modbus-T3
with display
(RTU cable)



ALTM 2-wModbus
with display
(wireless)



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



PS-PROTECTION
PERFECT SENSOR PROTECTION

High-performance encapsulation against
vibration, mechanical stress and humidity

THERMASGARD® ALTM 2 - Modbus - T3

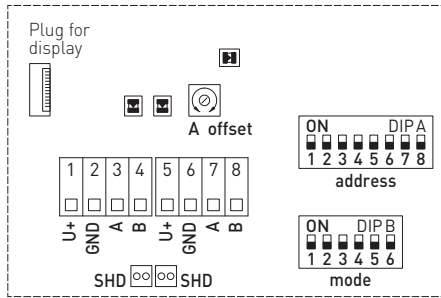
THERMASGARD® ALTM 2 - wModbus



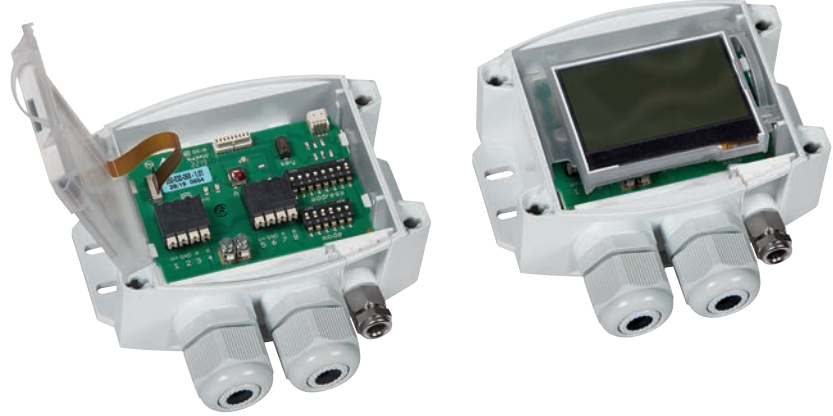
Surface-contact temperature measuring transducer / pipe surface-contact sensor
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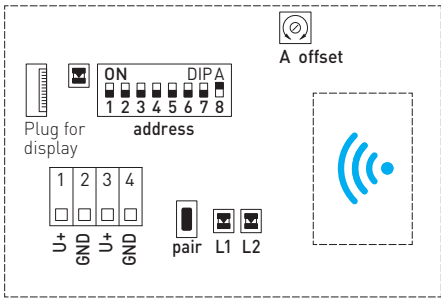
Schematic diagram (Tyr3) Modbus (RTU cable)



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



Schematic diagram (Tyr3) W-Modbus (wireless)



- DIP A address
- LED: Telegram Status
- DIP A: Bus address
- pair L1 L2
- Button: Teach-in (pair)
- LED 1: Network Status
- LED 2: Connection quality



GW-wModbus (Pro)

Gateway with W-Modbus module,
for radio-based connection to Modbus networks





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ALTM2 - wModbus
with / without display
(wireless)



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(RTU cable)



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Type / WG01	Output	Type	Display	Item No.	Price
ALTM 2 - xx					
ALTM2-Modbus-T3	Modbus (RTU cable)	Remote sensor		1101-62B6-0210-000	192,02 €
ALTM2-Modbus-T3 LCD	Modbus (RTU cable)	Remote sensor	■	1101-62B6-4210-000	250,19 €
ALTM2-wModbus	W-Modbus (wireless)	Remote sensor		1101-62BF-0210-000	233,62 €
ALTM2-wModbus LCD	W-Modbus (wireless)	Remote sensor	■	1101-62BF-4210-000	291,79 €
Extra charge:	Protection type IP 68 (sensor sleeve watertight compound-filled) per running metre of connecting lead (silicone/PTFE/glass fibre) Cable connection with M12 connector according to DIN EN 61076-2-101				3,64 € on request on request
Note:	System of units SI (default) or imperial (can be changed via Modbus).				

MODBUS ACCESSORIES

GW-wModbus	Gateway with W-Modbus (Wireless) for radio-based connection to Modbus networks, operating modes ' Gateway ' (basic function as a base station) and ' Node ' (adapter function for max. 1 wired sensor)	1801-1211-1101-000	238,16 €
GW-wModbus Pro	and ' Node Pro ' (adapter function for max. 16 wired sensors)	1801-1211-1101-100	322,40 €
KA2-Modbus	Communication adapter (USB/RS485) for system connection	1906-1200-0000-100	229,23 €
LA-Modbus	Line termination device (with terminating resistor) as an active bus termination	1906-1300-0000-100	85,49 €

For further information see the end of the chapter!

ACCESSORIES

WLP-1	Heat-conductive paste , silicone-free	7100-0060-1000-000	4,98 €
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For further information, see last chapter Accessories!