

Sleeve sensor with temperature measuring transducer, calibratable, with Modbus connection or W-Modbus (wireless)

Calibratable sleeve temperature measuring transducer **THERMASGARD® HFTM-Modbus-T3**, with Modbus connection, in an impact-resistant plastic housing with quick-locking screws, cable sensor with a stainless steel sleeve, 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 sleeve sensor is used to detect the temperature in liquid and gaseous media. It is used as a duct sensor or, if installed in immersion sleeve **THE** (accessories), as an immersion and screw-in sensor in liquids.

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.

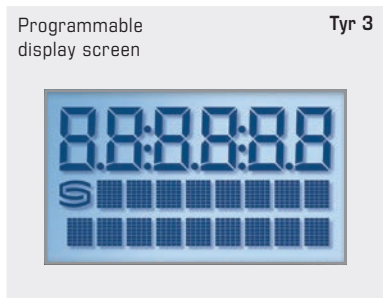
HFTM - Modbus - T3
 without display
 (RTU cable)



HFTM - wModbus
 without display
 (wireless)



TECHNICAL DATA	
Power supply:	24 V AC (±20%); 15...36V 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
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; liquids depending on selected immersion sleeve (accessory)
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:	Sensor sleeve made from stainless steel V4A (1.4571), Ø = 6 mm, nominal length (NL) = 50 mm (optional 30...400 mm)
Sensor cable:	Silicone, SiHF, 2x0.25mm ² ; cable length (KL) = 1.5m (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:	by screws
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) IP54 (according to EN 60 529) with glass fibre cable (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



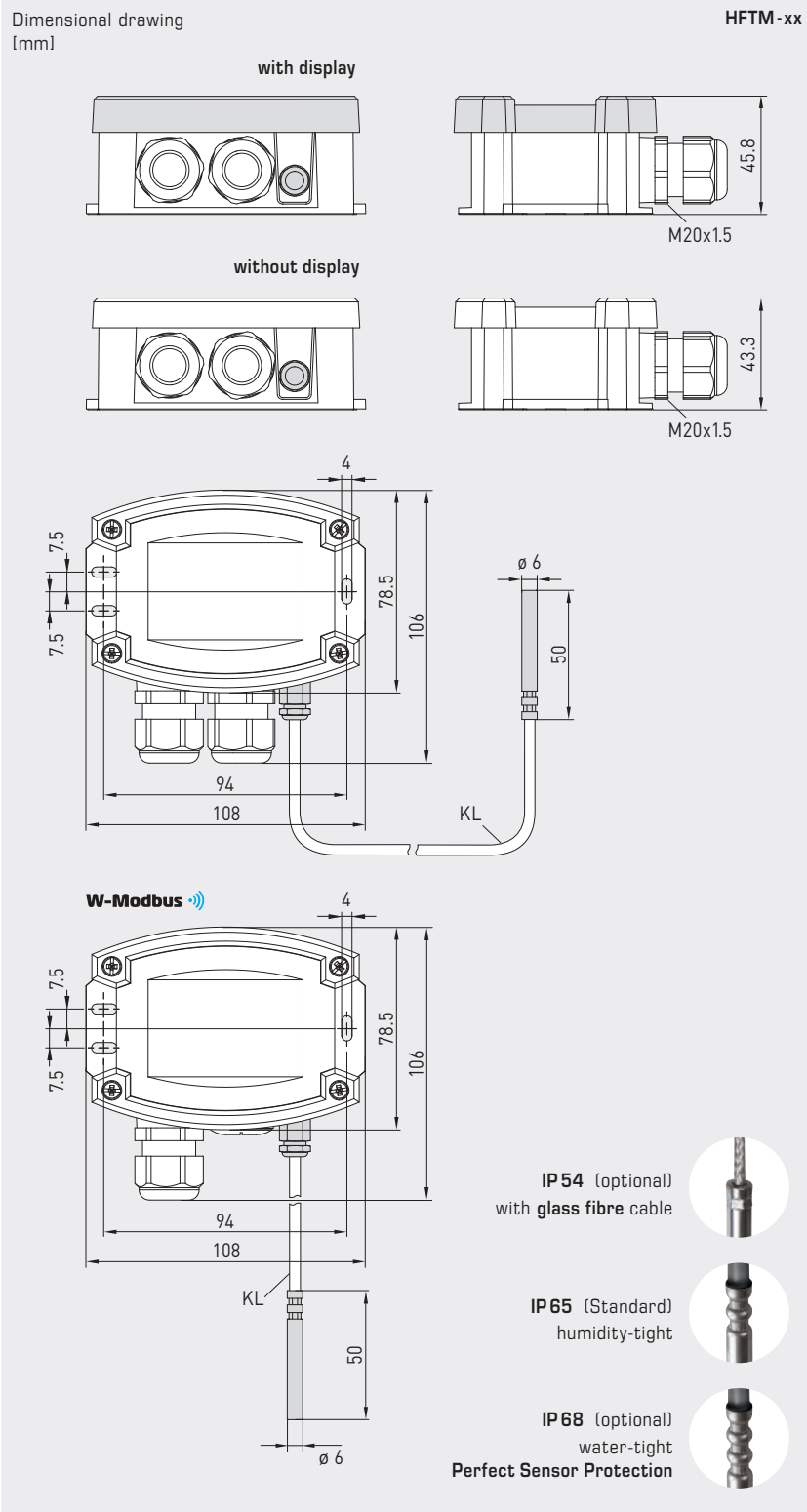


NEW

S+S REGELTECHNIK

THERMASGARD® HFTM-Modbus-T3 THERMASGARD® HFTM-wModbus

Sleeve sensor with temperature measuring transducer, calibratable, with Modbus connection or W-Modbus (wireless)



HFTM-Modbus-T3
with display
(RTU cable)



HFTM-wModbus
with display
(wireless)



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

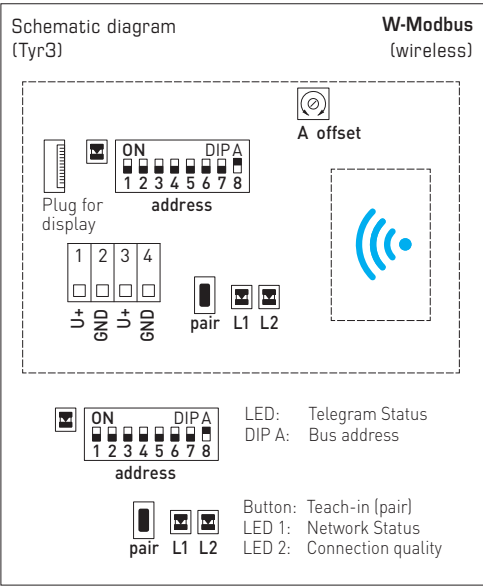
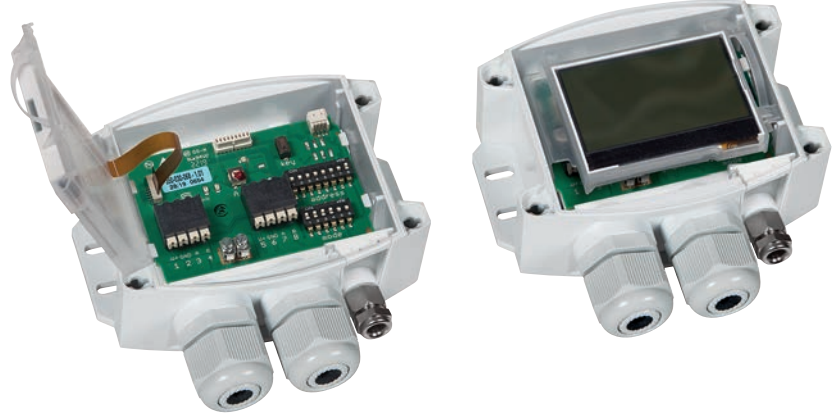
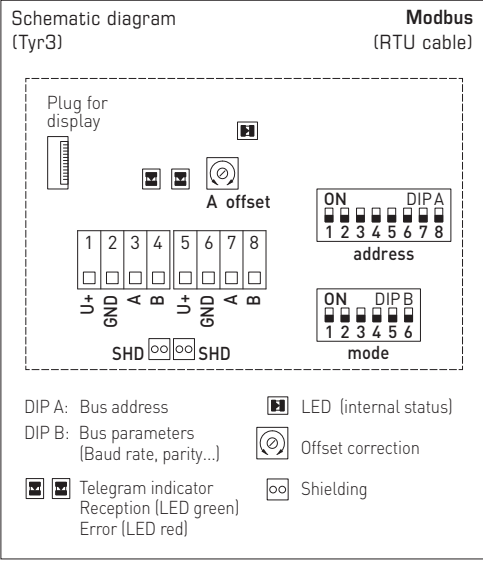


PS-PROTECTION
PERFECT SENSOR PROTECTION

High-performance encapsulation against vibration, mechanical stress and humidity



Sleeve sensor with temperature measuring transducer, calibratable, with Modbus connection or W-Modbus (wireless)



GW-wModbus (Pro)
 Gateway with W-Modbus module, for radio-based connection to Modbus networks





NEW

S+S REGELTECHNIK

THERMASGARD® HFTM - Modbus - T3 THERMASGARD® HFTM - wModbus

Sleeve sensor with temperature measuring transducer, calibratable, with Modbus connection or W-Modbus (wireless)

HFTM - wModbus
with / without display
(wireless)



HFTM - Modbus - T3
with / without display
(RTU cable)



THERMASGARD®
HFTM - Modbus - T3
HFTM - wModbus

Sleeve sensor with temperature measuring transducer, with Modbus connection (RTU cable) or with W-Modbus (wireless)



Type / WG01	Output	Type	Display	Item No.
HFTM-xx				
HFTM-Modbus-T3	Modbus (RTU cable)	Remote sensor		1101-62A6-0210-000
HFTM-Modbus-T3 LCD	Modbus (RTU cable)	Remote sensor	■	1101-62A6-4210-000
HFTM-wModbus	W-Modbus (wireless)	Remote sensor		1101-62AF-0210-000
HFTM-wModbus LCD	W-Modbus (wireless)	Remote sensor	■	1101-62AF-4210-000
Extra charge:	Protection type IP 68 (sensor sleeve watertight compound-filled) per running metre of connecting lead (silicone/PTFE/glass fibre) other protection sleeve lengths optional			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).			

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
GW-wModbus Pro	and ' Node Pro ' (adapter function for max. 16 wired sensors)	1801-1211-1101-100
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
For further information see the end of the chapter!		

ACCESSORIES

THE-xx	Immersion sleeve , stainless steel V4A (1.4571) or polished brass, Ø = 9 mm Inner diameter of socket 5.2 mm, with adjusting screw M12 x 1.5	7100-0060-1000-000
For further information, see last chapter Accessories!		

