

**Sleeve sensors with temperature measuring transducer, calibratable, with multi-range switching and active output**

Calibratable temperature measuring transducer with sleeve sensor **THERMASGARD® HFTM** with eight switchable measuring ranges, continuous output, with or without optional display (displaying the actual temperature), terminal box enclosure made of impact-resistant plastic and enclosure cover with quick-locking screws. The temperature transmitter with remote sensor is used for temperature detection in liquid and gaseous media, e.g. by installation inside an immersion sleeve, or as duct sensor. The sensors are factory-calibrated. Adjustment / fine adjustment by the user is possible (zero point offset is adjustable). Direct and permanent use in liquids is possible in combination with **THE** immersion sleeves (see last chapter).

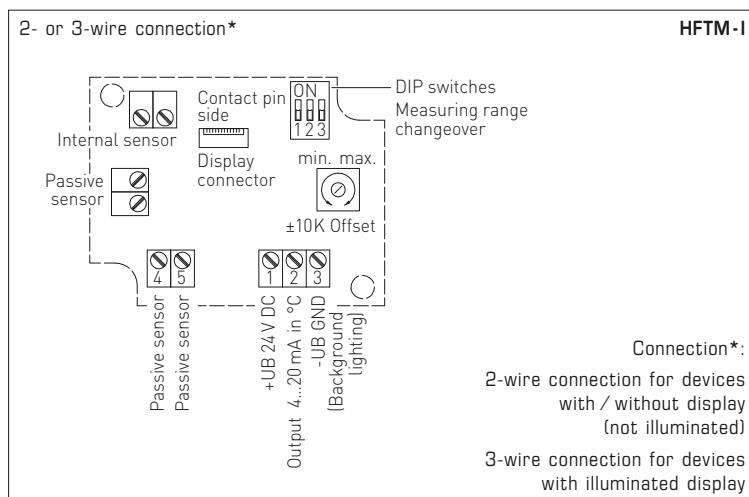
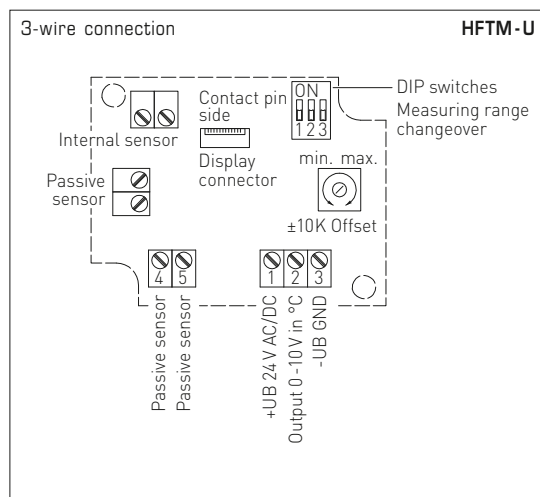
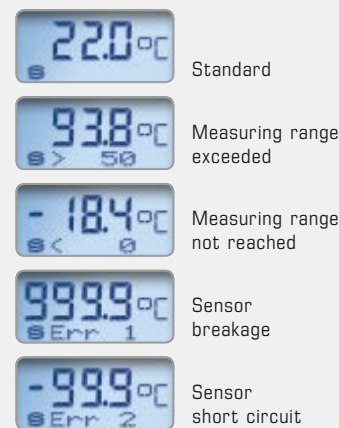
TECHNICAL DATA	
Power supply:	24 V AC / DC (± 10%) for U variant 15...36 V DC for I variant, depending on working resistance, residual ripple stabilised ± 0.3 V
Working resistance:	$R_a \text{ (ohm)} = (U_b - 14 \text{ V}) / 0.02 \text{ A}$ for I variant
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	< 1.0 VA / 24 V DC; < 2.2 VA / 24 V AC
Sensor:	Pt1000, DIN EN 60751, class B
Measuring ranges:	<b>multi-range switching with 8 switchable measuring ranges, see table (other ranges optional)</b> <b>with manual zero point correction (± 10K)</b>
Deviation, temperature:	± 0.2 K at +25 °C
Output:	0 - 10V or 4... 20 mA
Ambient temperature:	measuring transducer -30...+70 °C
Connection type:	2- or 3-wire connection
Protective tube: (sensor sleeve)	stainless steel, 1.4571, V4A, Ø = 6 mm, nominal length NL = 50 mm (other dimensions optional) cable entry stamped (optional rolled)
Connection cable:	silicone, SiHF, 2 x 0.25 mm <sup>2</sup> , KL = 1.5 m (other lengths and range limits optional, e.g. PTFE leads up to +250 °C or glass fibre with steel wire mesh up to +350 °C)
Enclosure:	plastic, material polyamide, 30% glass-globe-reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!
Enclosure dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable gland:	M 16 x 1.5, including strain relief, exchangeable, max. inner diameter 10.4 mm
Electrical connection:	0.14 - 1.5 mm <sup>2</sup> via terminal screws on circuit board
Humidity:	< 95% r. H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	<b>IP65</b> (according to EN 60 529) humidity-tight <b>stamped IP68</b> (optional watertight compound-filled) <b>rolled IP54</b> (optional <b>glass fibre</b> cable)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC directive 2014 / 30 / EU
Optional:	Two-line <b>display with illumination</b> , cutout approx. 36x15 mm (W x H), for displaying the <b>ACTUAL temperature</b> and the <b>internal diagnostics</b> (measuring range exceeded, measuring range not reached, sensor breakage, sensor short circuit)



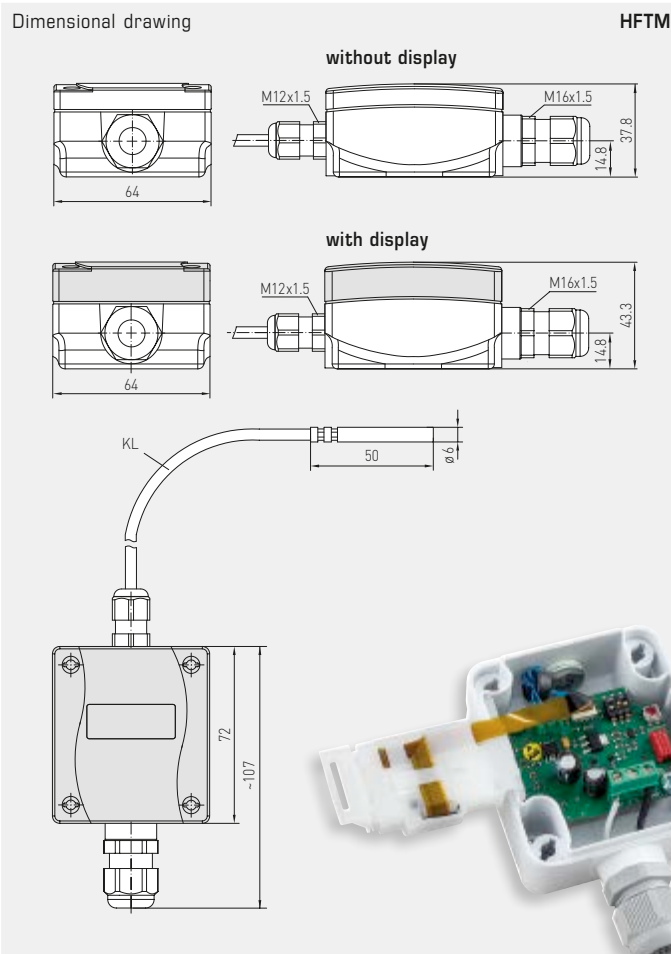
\* High-performance encapsulation against vibration, mechanical stress and humidity

**PS-PROTECTION**  
PERFECT SENSOR PROTECTION

Display and internal diagnostics  
**THERMASGARD®**  
Measuring transducer with display



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HFTM with display



**IP65** (standard)  
humidity-tight stamped

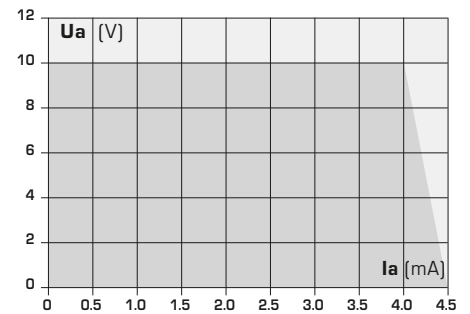
**IP68** (optional)  
watertight compound-filled, rolled

**IP54** (optional)  
with glass fibre cable

Measuring ranges (adjustable)	DIP 1	DIP 2	DIP 3
-20...+150 °C	ON	ON	ON
-50... +50 °C	OFF	ON	ON
-20... +80 °C	ON	OFF	ON
-30... +60 °C	OFF	OFF	ON
0... +40 °C	ON	ON	OFF
0... +50 °C	OFF	ON	OFF
0...+100 °C	ON	OFF	OFF
0...+150 °C	OFF	OFF	OFF



Dependency of output voltage on output current



THERMASGARD® HFTM – Sleeve sensors with temperature measuring transducer

Type / WG01	Sensor	Output	Type	Display	Item No.	Price
<b>HFTM-I</b>						
						<b>IP65, I-variant</b>
HFTM-I	Pt1000	4...20 mA	Remote sensor		1101-1152-0219-920	<b>88,15 €</b>
HFTM-I DISPLAY	Pt1000	4...20 mA	Remote sensor	■	1101-1152-2219-920	<b>131,11 €</b>
<b>HFTM-U</b>						
						<b>IP65, U-variant</b>
HFTM-U	Pt1000	0 - 10 V	Remote sensor		1101-1151-0219-920	<b>88,15 €</b>
HFTM-U_DISPLAY	Pt1000	0 - 10 V	Remote sensor	■	1101-1151-2219-920	<b>131,11 €</b>
Extra charge:	Other ranges optional					<b>21,42 €</b>
	Protection type <b>IP68</b> (Sensor sleeve watertight compound-filled)					<b>2,86 €</b>
	2-wire connecting leads, per running meter (silicone/PTFE/glass fibre)					on request
	Other lengths of protection sleeve (NL) optional					on request

Accessories

**THE-xx** Immersion sleeve, stainless steel or nickel-plated brass, Ø = 9 mm  
For further information, see last chapter Accessories!