

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

Calibratable temperature measuring transducer with sleeve sensor **THERMASGARD® HFTM - VA** with eight switchable measuring ranges, continuous output, rugged housing made from **stainless steel V4A** with **cable gland** or **M12 connector** according to DIN EN 61076-2-101.

The temperature transmitter with remote sensor is used to detect temperatures in liquid and gaseous media e.g. if installed in an immersion sleeve or as a duct sensor. The measuring transducer is factory-calibrated. Adjustment / fine adjustment by the user is possible (zero point offset is adjustable). A direct, permanent use in liquids is possible in combination with immersion sleeves **THE** (see chapter Accessories).

The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TECHNICAL DATA

Power supply:	24 V AC / DC ($\pm 10\%$) 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, see working resistance diagram
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	$< 1.0 \text{ VA} / 24 \text{ V DC}$; $< 2.2 \text{ VA} / 24 \text{ V AC}$
Insulating resistance:	$\geq 100 \text{ M}\Omega$, at $+20^\circ\text{C}$ (500 V DC)
Sensor:	Pt1000, DIN EN 60751, class B (Perfect Sensor Protection with IP68) Sensor external
Measuring ranges:	multi-range switching with 8 switchable measuring ranges , see table (other ranges optional) with manual zero point correction ($\pm 10 \text{ K}$)
Deviation, temperature:	typically $\pm 0.2 \text{ K}$ at $+25^\circ\text{C}$
Output:	0 - 10 V or 4...20 mA
Connection type:	2-wire connection
Electrical connection:	0.14 - 1.5 mm ² , via screw terminals
Cable connection:	cable gland, stainless steel V2A (1.4305) (M20 x 1.5; with strain relief, exchangeable, inner diameter 6 - 12 mm) or M12 connector (male, 5-pin, A-code) according to DIN EN 61076-2-101
Housing:	stainless steel V4A (1.4571), with non-distortion cover bolting, impact-resistant, high EMI shielding, corrosion, temperature, weather- and UV-resistant
Housing dimensions:	143 x 97 x 61 mm (Tyr 2E)
Sensor protection:	sensor sleeve, stainless steel V4A (1.4571), $\varnothing = 6 \text{ mm}$, 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)
Ambient temperature:	measuring transducer $-30...+70^\circ\text{C}$
Permitted humidity:	$< 95\%$ r. H., non-precipitating air
Protection class:	III (according to EN 60730)
Protection type housing:	IP 65 (according to EN 60529) Housing tested, TÜV SÜD, Report No. 713160960B (Skadi2)
Protection type sensor:	IP 65 (according to EN 60529) sleeve humidity-tight (standard) IP 68 (according to EN 60529) sleeve water-tight (optional) IP 54 (according to EN 60529) with glass fibre cable (optional)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC Directive 2014 / 30 / EU
ACCESSORIES	(see table)



S+S REGELTECHNIK

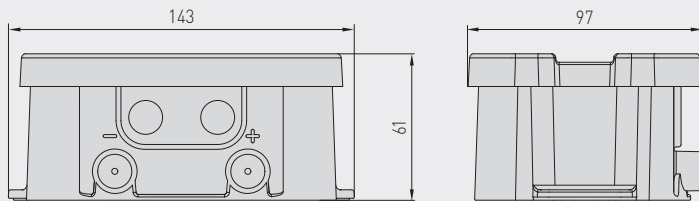
THERMASGARD® HFTM - VA

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

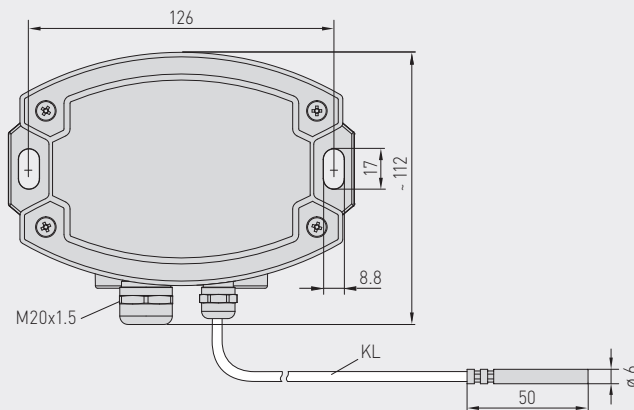


Dimensional drawing

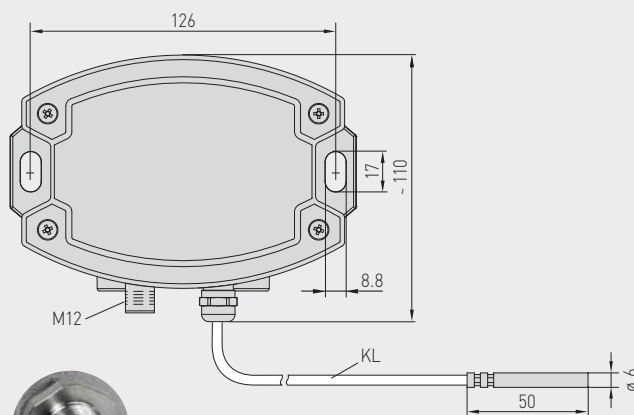
HFTM - VA



Housing with
cable gland



Housing with
M12 connector



M12 connector
(male)



IP65 (standard)
humidity-tight



IP68 (optional)
water-tight
Perfect Sensor Protection



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

High-performance encapsulation against
vibration, mechanical stress and humidity

PS-PROTECTION
PERFECT SENSOR PROTECTION

HFTM - VA
with cable gland



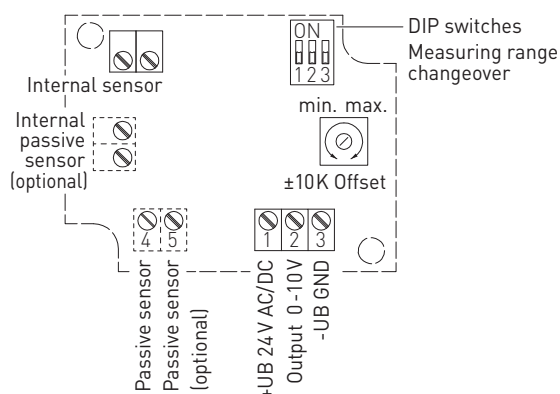
HFTM - VAQ
with M12 connector



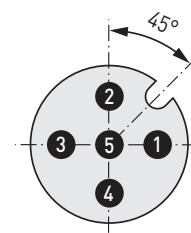
Sleeve sensor with temperature measuring transducer,
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Schematic diagram

HFTM - U

Pin assignment
(M12)

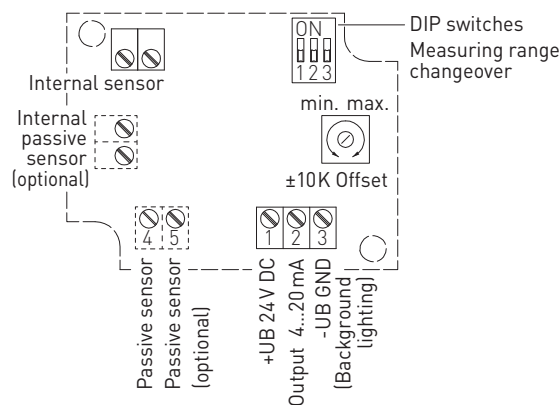
HFTM - U



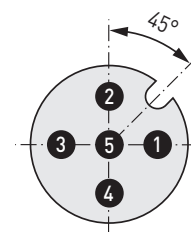
- 1 +UB 24V AC/DC
- 2 Output temperature 0-10V [°C]
- 3 free
- 4 -UB GND
- 5 Shield

Schematic diagram

HFTM - I

Pin assignment
(M12)

HFTM - I

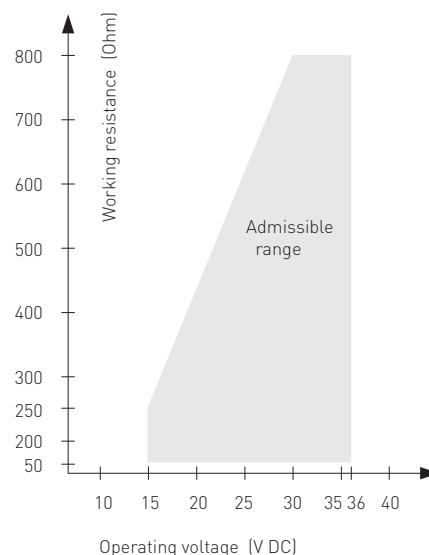


- 1 +UB 24V DC
- 2 Output temperature 4...20mA [°C]
- 3 free
- 4 -UB GND (optional)
- 5 Shield

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 (default)	OFF	ON	OFF
0...+ 100 °C	ON	OFF	OFF
0...+ 150 °C	OFF	OFF	OFF

Load resistance diagram
4... 20mA

HFTM - I





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HFTM - VAQ

with M12 connector

HFTM - VA

with cable gland



THERMASGARD® HFTM - VA		Sleeve sensor with temperature measuring transducer, ID (Stainless steel housing with cable gland)			
Type / WG02I	Sensor	Output	Type	Item No.	Price
HFTM - VA					
HFTM-I VA	Pt1000	4...20 mA	Remote sensor	2001-2141-2200-001	365,07 €
HFTM-U VA	Pt1000	0-10 V	Remote sensor	2001-2141-1200-001	365,07 €
Housing variant:		Cable connection with cable gland			
Extra charge:		other measuring ranges optional			24,19 €
		Protection type IP68 (Sensor sleeve watertight compound-filled)			3,24 €
		2-wire connecting leads, per running meter (silicone / PTFE / glass fibre)			on request
		Other lengths of protection sleeve optional			on request

THERMASGARD® HFTM - VAQ		Sleeve sensor with temperature measuring transducer, ID (Stainless steel housing with M12 connector)			
Type / WG02I	Sensor	Output	Type	● = Q Item No.	Price
HFTM - VAQ					
HFTM-I VAQ	Pt1000	4...20 mA	Remote sensor	● 2001-2141-2100-001	401,78 €
HFTM-U VAQ	Pt1000	0-10 V	Remote sensor	● 2001-2141-1100-001	401,78 €
Housing variant "Q":		Cable connection with M12 connector (male, 5-pin, A-code)			
Extra charge:		see table above!			

ACCESSORIES	
THE-xx	Immersion sleeve, stainless steel V4A (1.4571) or nickel-plated brass, Ø = 9 mm see chapter Accessories!
	Special accessories for M12 connector see chapter Accessories!