

**Surface contact / tube contact temperature measuring transducers,  
incl. strap, with detached sensor head, calibratable,  
with multi-range switching and active output**

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

The surface-contact sensor is used for temperature detection on lines, pipes (e.g. cold and hot water) or on heating sections for heating system control.

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

#### 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, see working resistance diagram
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	< 1.0 VA / 24 V DC; < 2.2 VA / 24 V AC
Insulating resistance:	≥ 100 MΩ, at +20 °C (500 V DC)
Sensor:	Pt1000, DIN EN 60751, class B ( <b>Perfect Sensor Protection</b> with IP68) Sensor external
Measuring ranges:	<b>multi-range switching</b> <b>with 8 switchable measuring ranges</b> see table (other ranges optional) <b>T<sub>max</sub> above +100 °C</b> , operating range -50...+150 °C <b>with manual zero point correction (± 10 K)</b>
Deviation, temperature:	typically ± 0.2 K at +25 °C
Output:	0 - 10 V or 4...20 mA
Connection type:	2-wire connection
Cable connection:	<b>cable gland, stainless steel V2A</b> (1.4305) (M20 x 1.5; with strain relief, exchangeable, inner diameter 6 - 12 mm) <b>or</b> <b>M12 connector</b> (male, 5-pin, A-code) according to DIN EN 61076-2-101
Housing:	<b>stainless steel V4A</b> (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 cable:	Silicone, SiHF, 2 x 0.25 mm <sup>2</sup> ; cable length (KL) = 1.5m (other lengths and jacket materials, e.g. PTFE or glass fibre with steel mesh, available on request)
Sensor protection:	pipe feeder, made of stainless steel <b>V4A</b> (1.4571), Ø = 6 mm, L = 50 mm
Electrical connection:	0.14 - 1.5 mm <sup>2</sup> , via screw terminals
Process connection:	endless strap with metal tightener (included in the scope of delivery) Ø = 13 - 92 mm (1/4 - 3"), L = 300 mm
Ambient temperature:	measuring transducer -30...+70 °C
Permitted humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60730)
Protection type housing:	<b>IP 65</b> (according to EN 60529) Housing tested, TÜV SÜD, Report No. 713160960B (Skadi2)
Protection type sensor:	<b>IP 65</b> (according to EN 60529) <b>sleeve</b> humidity-tight (standard) <b>IP 68</b> (according to EN 60529) <b>sleeve</b> water-tight (optional)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC Directive 2014/30/EU
<b>ACCESSORIES</b>	(see table)



S+S REGELTECHNIK

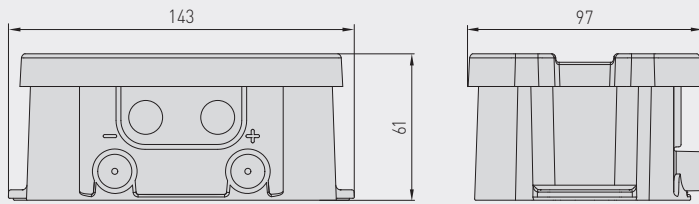
THERMASGARD® ALTM 2 - VA

Surface contact / tube contact temperature measuring transducers,  
incl. strap, with detached sensor head, calibratable,  
with multi-range switching and active output

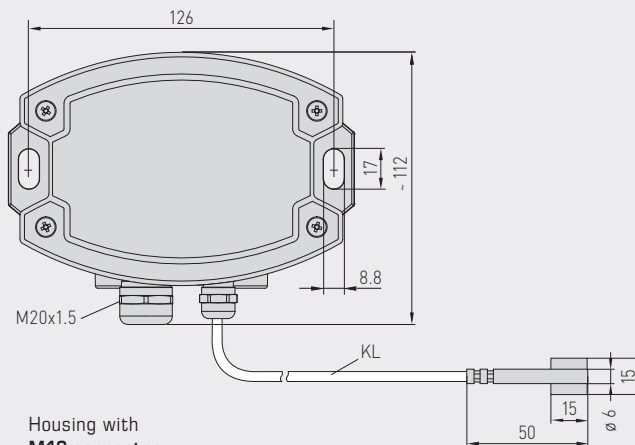


Dimensional drawing

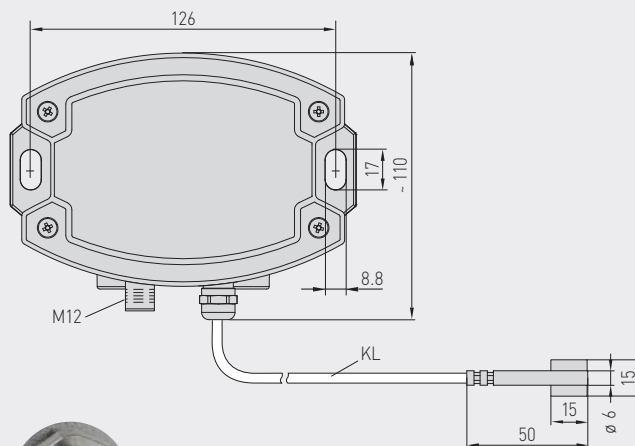
ALTM 2 - VA



Housing with  
cable gland



Housing with  
M12 connector



M12 connector  
(male)



IP65 (standard)  
humidity-tight



IP68 (optional)  
water-tight  
**Perfect Sensor Protection**

ALTM 2 - VA  
with cable gland



ALTM 2 - VAQ  
with M12 connector



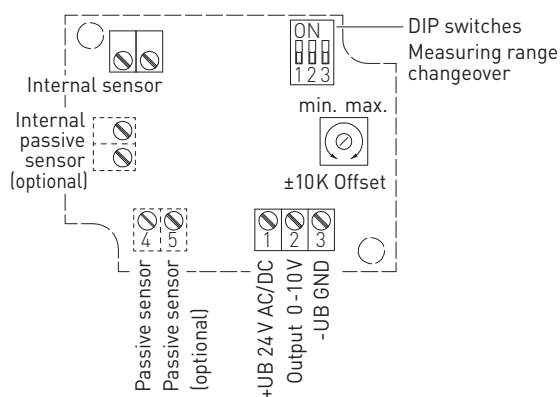
High-performance encapsulation against  
vibration, mechanical stress and humidity

**PS-PROTECTION**  
PERFECT SENSOR PROTECTION

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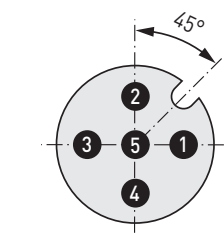
Schematic diagram

ALTM 2 - U



Pin assignment (M12)

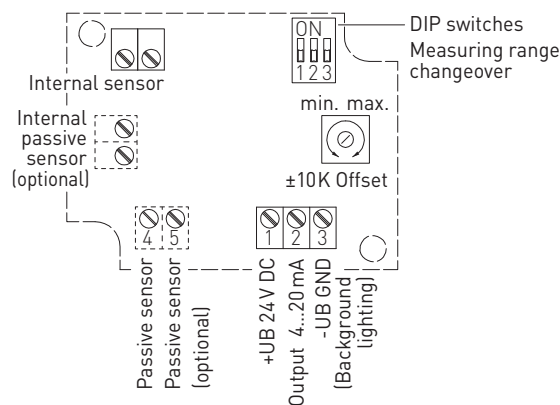
ALTM 2 - U



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

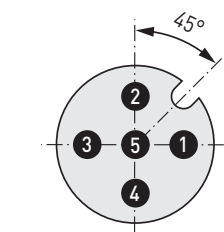
Schematic diagram

ALTM 2 - I



Pin assignment (M12)

ALTM 2 - I

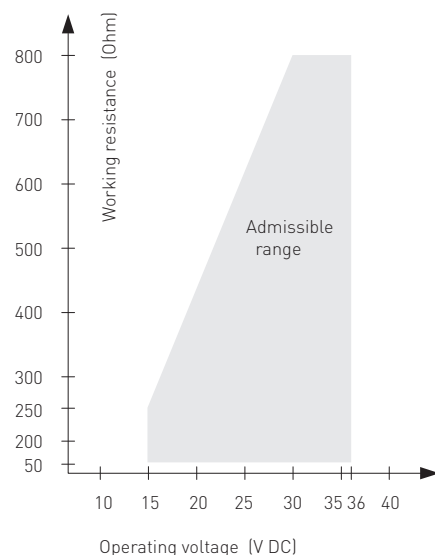


- 1 +UB 24V DC
- 2 Output temperature 4...20mA [°C]
- 3 free
- 4 -UB GND (optional)
- 5 Shield

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

ALTM 2 - I





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**ALTM 2 - VAQ**

with M12 connector

**ALTM 2 - VA**

with cable gland



THERMASGARD® ALTM 2 - VA					
Surface contact / tube contact temperature measuring transducers, <i>ID</i> (Stainless steel housing with cable gland)					
Type / WG02I	Sensor	Output	Type	Item No.	Price
<b>ALTM 2 - VA</b>					
ALTM2-I VA	Pt1000	4...20 mA	Remote sensor	2001-2151-2200-001	<b>394,61 €</b>
ALTM2-U VA	Pt1000	0-10 V	Remote sensor	2001-2151-1200-001	<b>394,61 €</b>
<b>Housing variant:</b>		Cable connection with cable gland			
Extra charge:		other measuring ranges optional Protection type <b>IP68</b> (Sensor sleeve watertight compound-filled) 2-wire connecting leads, per running meter (silicone / PTFE / glass fibre)			<b>25,40 €</b> <b>3,40 €</b> on request

THERMASGARD® ALTM 2 - VAQ						
Surface contact / tube contact temperature measuring transducers, <i>ID</i> (Stainless steel housing with M12 connector)						
Type / WG02I	Sensor	Output	Type	● = Q	Item No.	Price
ALTM 2 - VAQ						
ALTM2-I VAQ	Pt1000	4...20 mA	Remote sensor	●	2001-2151-2100-001	433,15 €
ALTM2-U VAQ	Pt1000	0-10 V	Remote sensor	●	2001-2151-1100-001	204,87 €
Housing variant "Q":	Cable connection with M12 connector (male, 5-pin, A-code)					
Extra charge:	see table above!					

ACCESSORIES	
Special accessories for M12 connector see chapter Accessories!	