

Immersion / screw-in / duct temperature measuring transducer,
calibratable, with multi-range switching
and active output

Patented quality product (Immersion sensor patent no. DE 10 2012 017 500.0)

Calibratable temperature measuring transducer **THERMASGARD® TM 43** with eight switchable measuring ranges, continuous linear output, straight protective tube, housing made from impact-resistant plastic with snap-on lid.

Calibratable temperature measuring transducer **THERMASGARD® TM 65** with eight switchable measuring ranges, continuous linear output, straight protective tube, housing made from impact-resistant plastic with quick-locking screws, **with/without optional display**.

For the detection of temperatures in liquid or gaseous media. For aggressive media, stainless steel immersion sleeves must be used. It is used e.g. in piping systems, in heating technology, in storage tanks, in district heating compact stations, in hot-water and cold-water systems, in oil and lubricant circulation systems, in mechanical, apparatus and plant engineering as well as in the entire industrial sector. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TM 43
with snap-on lid
(IP 54)



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 (Perfect Sensor Protection)
Measuring ranges:	multi-range switching with 8 switchable measuring ranges, see table (other ranges optional) with manual zero point correction (± 10 K)
Deviation, temperature:	typically ± 0.2 K at +25 °C
Output:	0 - 10 V or 4...20 mA
Ambient temperature:	measuring transducer -30...+70 °C
Connection type:	2- or 3-wire connection
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, colour traffic white (similar to RAL 9016), TM 43 with snap-on lid TM 65 with quick-locking screws (slotted / Phillips head combination), housing cover for display is transparent!
Housing dimensions:	72 x 64 x 37.8 mm (Tyr 1 / Tyr 01 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)
Electrical connection:	0.14 - 1.5 mm ² via terminal screws on circuit board
Protective tube:	stainless steel, V4A (1.4571), Ø = 6 mm, inserted length (EL) = 50 - 400 mm (see table)
Humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60730)
Protection type:	TM 43 IP54 (according to EN 60529)* Housing tested, TÜV SÜD, Report No. 713160960A (Tyr 01) TM 65 IP67 (according to EN 60529)* Housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1) * Housing in the built-in state
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC directive 2014 / 30 / EU
Optional:	two-line display with illumination , cutout approx. 36 x 15 mm (W x H), for displaying the ACTUAL temperature and the internal diagnostics (measuring range exceeded, measuring range not reached, sensor breakage, sensor short circuit)

ACCESSORIES

MF-15-K	Mounting flange , plastic, 56.8 x 84.3 mm, Ø = 15.2 mm tube gland, $T_{max} = +100 \text{ °C}$
TH08-ms/xx	Immersion sleeve, brass, nickel-plated , Ø = 8 mm, $T_{max} = +150 \text{ °C}$, $p_{max} = 10 \text{ bar}$
TH08-VA/xx	Immersion sleeve, stainless steel, V4A (1.4571), Ø = 8 mm, $T_{max} = +600 \text{ °C}$, $p_{max} = 40 \text{ bar}$
TH08-VA/xx/90	Immersion sleeve, stainless steel, V4A (1.4571), with neck tube (90 mm), Ø = 8 mm, $T_{max} = +600 \text{ °C}$, $p_{max} = 40 \text{ bar}$

High-performance encapsulation against
vibration, mechanical stress and humidity



Display and internal diagnostics

THERMASGARD®
Measuring transducer with display



Standard



Measuring range
exceeded



Measuring range
not reached



Sensor
breakage



Sensor
short circuit



S+S REGELTECHNIK

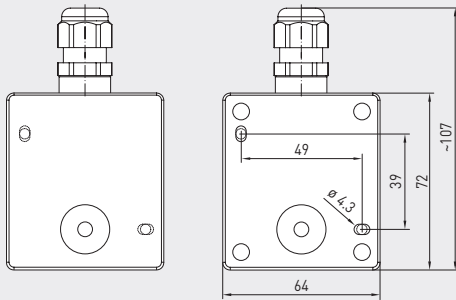
Thermasgard® TM 43
Thermasgard® TM 65

Immersion / screw-in / duct temperature measuring transducer,
calibratable, with multi-range switching
and active output

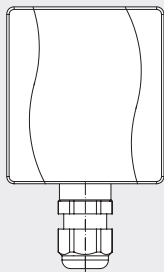
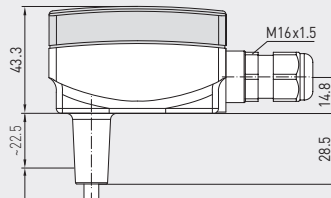
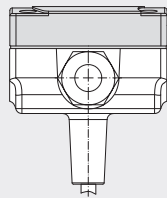
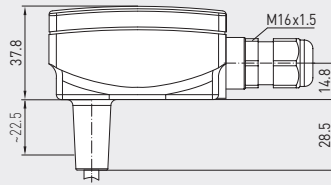
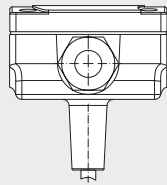


Dimensional drawing

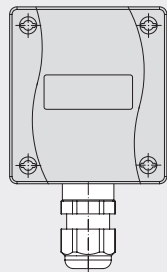
TM 43
TM 65



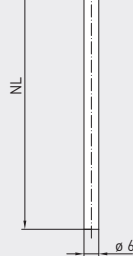
M12 connector
(optional on request)



with snap-on lid



with quick-locking
screws



TM 65
with quick-locking screws
(IP67)



TM 65
with display and
quick-locking screws
(IP67)

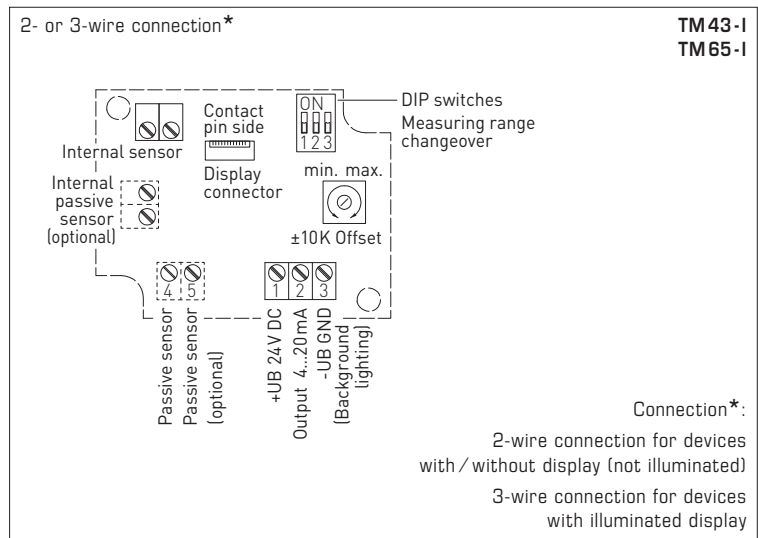
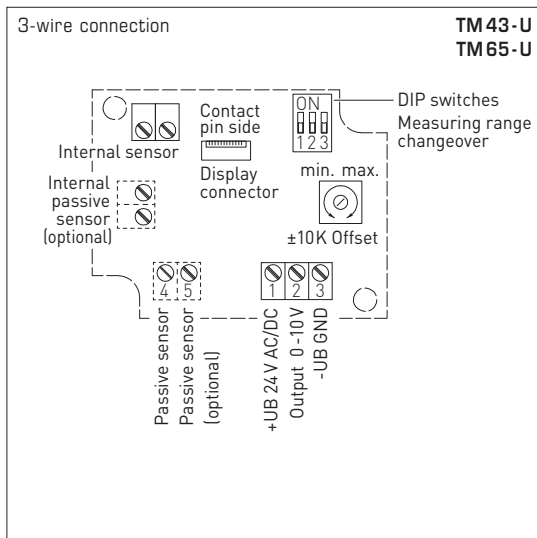


PATENTED



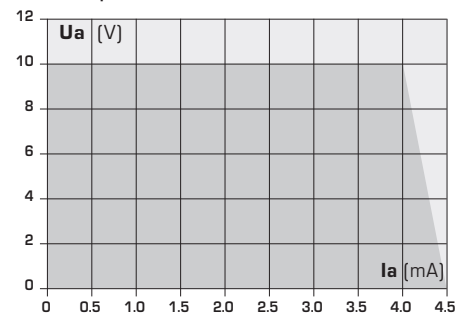
TM 65
Basic device
with accessories

Immersion / screw-in / duct temperature measuring transducer,
calibratable, with multi-range switching
and active output



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

Dependency of output voltage on output current



TM 65
with display and
quick-locking screws
(IP 67)

TM 65
with quick-locking screws
(IP 67)

TM 43
with snap-on lid
(IP 54)





THERMASGARD® TM 43		Temperature measuring transducer (basic device with snap-on lid), <i>Standard</i>			
Type / WG01B	Output	Inserted Length (EL)	Item No.	Price	
TM 43 - I			IP 54, I-variant		
TM43-I 50mm	4...20mA	50 mm	1101-7112-0019-900	72,29 €	
TM43-I 100mm	4...20mA	100 mm	1101-7112-0029-900	73,48 €	
TM43-I 150mm	4...20mA	150 mm	1101-7112-0039-900	74,55 €	
TM43-I 200mm	4...20mA	200 mm	1101-7112-0049-900	74,91 €	
TM43-I 250mm	4...20mA	250 mm	1101-7112-0059-900	76,16 €	
TM43-I 300mm	4...20mA	300 mm	1101-7112-0069-900	77,40 €	
TM 43 - U			IP 54, U-variant		
TM43-U 50mm	0 - 10 V	50 mm	1101-7111-0019-900	72,29 €	
TM43-U 100mm	0 - 10 V	100 mm	1101-7111-0029-900	73,48 €	
TM43-U 150mm	0 - 10 V	150 mm	1101-7111-0039-900	74,55 €	
TM43-U 200mm	0 - 10 V	200 mm	1101-7111-0049-900	74,91 €	
TM43-U 250mm	0 - 10 V	250 mm	1101-7111-0059-900	76,16 €	
TM43-U 300mm	0 - 10 V	300 mm	1101-7111-0069-900	77,40 €	

THERMASGARD® TM 65		Temperature measuring transducer (basic device with quick-locking screws), <i>Premium</i>			
Type / WG01	Output	Inserted Length (EL)	Display	Item No.	Price
TM 65 - I				IP 67, I-variant	
TM65-I 50mm	4...20mA	50 mm		1101-7122-0019-900	100,18 €
TM65-I 50mm LCD	4...20mA	50 mm	■	1101-7122-2019-900	151,11 €
TM65-I 100mm	4...20mA	100 mm		1101-7122-0029-900	100,46 €
TM65-I 100mm LCD	4...20mA	100 mm	■	1101-7122-2029-900	151,37 €
TM65-I 150mm	4...20mA	150 mm		1101-7122-0039-900	100,68 €
TM65-I 150mm LCD	4...20mA	150 mm	■	1101-7122-2039-900	151,62 €
TM65-I 200mm	4...20mA	200 mm		1101-7122-0049-900	100,89 €
TM65-I 200mm LCD	4...20mA	200 mm	■	1101-7122-2049-900	151,82 €
TM65-I 250mm	4...20mA	250 mm		1101-7122-0059-900	101,21 €
TM65-I 250mm LCD	4...20mA	250 mm	■	1101-7122-2059-900	152,13 €
TM65-I 300mm	4...20mA	300 mm		1101-7122-0069-900	101,97 €
TM65-I 300mm LCD	4...20mA	300 mm	■	1101-7122-2069-900	152,87 €
TM65-I 400mm	4...20mA	400 mm		1101-7122-0089-900	104,02 €
TM65-I 400mm LCD	4...20mA	400 mm	■	1101-7122-2089-900	154,95 €
TM 65 - U				IP 67, U-variant	
TM65-U 50mm	0 - 10 V	50 mm		1101-7121-0019-900	100,18 €
TM65-U 50mm LCD	0 - 10 V	50 mm	■	1101-7121-2019-900	151,11 €
TM65-U 100mm	0 - 10 V	100 mm		1101-7121-0029-900	100,46 €
TM65-U 100mm LCD	0 - 10 V	100 mm	■	1101-7121-2029-900	151,37 €
TM65-U 150mm	0 - 10 V	150 mm		1101-7121-0039-900	100,68 €
TM65-U 150mm LCD	0 - 10 V	150 mm	■	1101-7121-2039-900	151,62 €
TM65-U 200mm	0 - 10 V	200 mm		1101-7121-0049-900	100,89 €
TM65-U 200mm LCD	0 - 10 V	200 mm	■	1101-7121-2049-900	151,82 €
TM65-U 250mm	0 - 10 V	250 mm		1101-7121-0059-900	101,21 €
TM65-U 250mm LCD	0 - 10 V	250 mm	■	1101-7121-2059-900	152,13 €
TM65-U 300mm	0 - 10 V	300 mm		1101-7121-0069-900	101,97 €
TM65-U 300mm LCD	0 - 10 V	300 mm	■	1101-7121-2069-900	152,87 €
TM65-U 400mm	0 - 10 V	400 mm		1101-7121-0089-900	104,02 €
TM65-U 400mm LCD	0 - 10 V	400 mm	■	1101-7121-2089-900	154,95 €
Extra charge:	Other ranges optional Cable connection with M12 connector according to DIN EN 61076-2-101			on request	25,40 €

High-performance encapsulation against
vibration, mechanical stress and humidity



Immersion / screw-in / duct temperature measuring transducer,
 calibratable, with multi-range switching
 and active output

One basic device in four variants...



PATENTED

**TMxx +
 TH08-ms/xx**

Immersion / screw-in
 temperature sensor
 with immersion sleeve,
 brass, nickel-plated

**TMxx +
 TH08-VA/xx**

Immersion / screw-in
 temperature sensor
 with immersion sleeve,
 stainless steel, V4A

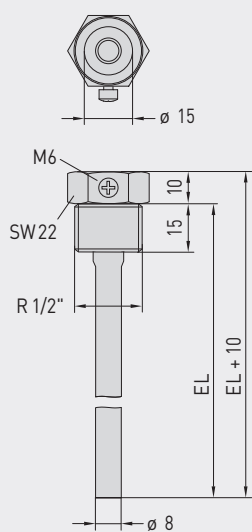
**TMxx +
 TH08-VA/xx/90**

Immersion / screw-in
 temperature sensor with
 immersion sleeve with
 neck tube, stainless steel, V4A

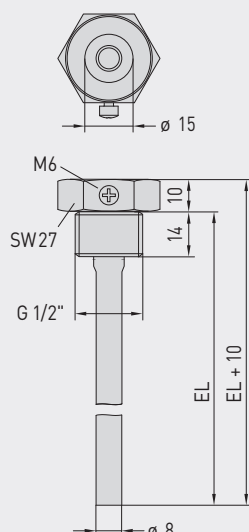
**TMxx +
 MF-15-K**

Duct temperature sensor
 with mounting flange, plastic

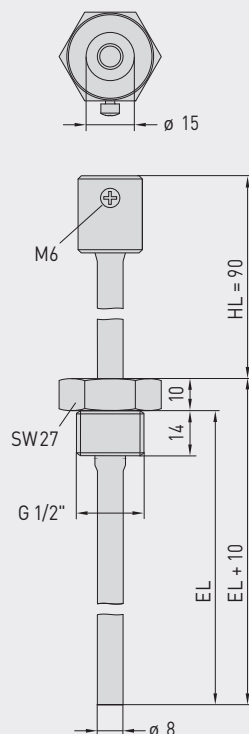
Dimensional drawing
TH08-ms/xx



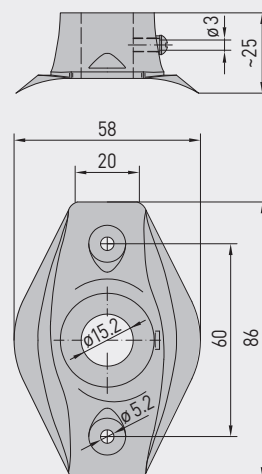
Dimensional drawing
TH08-VA/xx



Dimensional drawing
TH08-VA/xx/90



Dimensional drawing
MF-15-K





S+S REGELTECHNIK

THERMASGARD® TM 43
THERMASGARD® TM 65

Immersion / screw-in / duct temperature measuring transducer,
calibratable, with multi-range switching
and active output

... through combination with accessories:



TH08-ms/xx

Immersion sleeve,
brass, nickel-plated,
thread-sealing, conical,
according to DIN 10226



TH08-VA/xx

Immersion sleeve,
stainless steel, V4A,
flat-sealing, cylindrical,
according to DIN 228



TH08-VA/xx/90

Immersion sleeve with neck tube,
stainless steel, V4A,
flat-sealing, cylindrical,
according to DIN 228



MF-15-K

Mounting flange,
plastic

THERMASGARD® TH08		Immersion sleeve Ø 8 mm (Accessories)			
Type / WG01B	p _{max} (static)	T _{max}	Inserted Length (EL)	Item No.	Price
TH08-ms/xx	Brass nickel-plated			without neck tube	
TH08-MS 50MM	10 bar	+150 °C	50 mm	7100-0011-0010-132	9,31 €
TH08-MS 100MM	10 bar	+150 °C	100 mm	7100-0011-0020-132	10,61 €
TH08-MS 150MM	10 bar	+150 °C	150 mm	7100-0011-0030-132	11,20 €
TH08-MS 200MM	10 bar	+150 °C	200 mm	7100-0011-0040-132	11,56 €
TH08-MS 250MM	10 bar	+150 °C	250 mm	7100-0011-0050-132	13,39 €
TH08-MS 300MM	10 bar	+150 °C	300 mm	7100-0011-0060-132	13,76 €
TH08-MS 350MM	10 bar	+150 °C	350 mm	7100-0011-0070-132	13,87 €
TH08-MS 400MM	10 bar	+150 °C	400 mm	7100-0011-0080-132	14,00 €
TH08-VA/xx	Stainless steel, V4A (1.4571)			without neck tube	
TH08-VA 50MM	40 bar	+600 °C	50 mm	7100-0012-0010-132	20,28 €
TH08-VA 100MM	40 bar	+600 °C	100 mm	7100-0012-0020-132	22,41 €
TH08-VA 150MM	40 bar	+600 °C	150 mm	7100-0012-0030-132	24,08 €
TH08-VA 200MM	40 bar	+600 °C	200 mm	7100-0012-0040-132	25,38 €
TH08-VA 250MM	40 bar	+600 °C	250 mm	7100-0012-0050-132	31,55 €
TH08-VA 300MM	40 bar	+600 °C	300 mm	7100-0012-0060-132	32,97 €
TH08-VA 350MM	40 bar	+600 °C	350 mm	7100-0012-0070-132	33,19 €
TH08-VA 400MM	40 bar	+600 °C	400 mm	7100-0012-0080-132	33,78 €
TH08-VA/xx/90	Stainless steel, V4A (1.4571)			with neck tube (90 mm)	
TH08-VA 50/90MM	40 bar	+600 °C	50 mm	7100-0012-0012-132	29,04 €
TH08-VA 100/90MM	40 bar	+600 °C	100 mm	7100-0012-0022-132	30,35 €
TH08-VA 150/90MM	40 bar	+600 °C	150 mm	7100-0012-0032-132	31,84 €
TH08-VA 200/90MM	40 bar	+600 °C	200 mm	7100-0012-0042-132	33,19 €
TH08-VA 250/90MM	40 bar	+600 °C	250 mm	7100-0012-0052-132	34,79 €
TH08-VA 300/90MM	40 bar	+600 °C	300 mm	7100-0012-0062-132	37,71 €
Note:	inner diameter of socket 15.0 mm For further information see last chapter!				
Mounting flange (Accessories)					
Type / WG01B		T _{max}		Item No.	Price
MF					
MF-15-K	Mounting flange, plastic, 56.8x84.3 mm, Ø 15.2 mm tube gland	+100 °C		7100-0032-0000-000	6,12 €
Note:	For further information see last chapter!				