

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

Calibratable temperature sensor **THERMASGARD® TM 54** with eight switchable measuring ranges, connecting head made of aluminium, continuous output, and separate stainless steel immersion sleeve for heavy-duty applications. This immersion sensor is used for the detection of temperatures in liquid or gaseous media. Applications in piping systems, in heating technology, in storage tanks, in district heating compact stations, in hot and cold-water systems, in oil and lubricant circulation systems, in mechanical, apparatus and plant engineering as well as in the entire industrial sector. These temperature transmitters are factory-calibrated. Adjustment / fine adjustment by the user is possible (range and zero point are adjustable).

TM 54
Top view



TM 54
Connecting head



High-performance encapsulation against vibration, mechanical stress and humidity

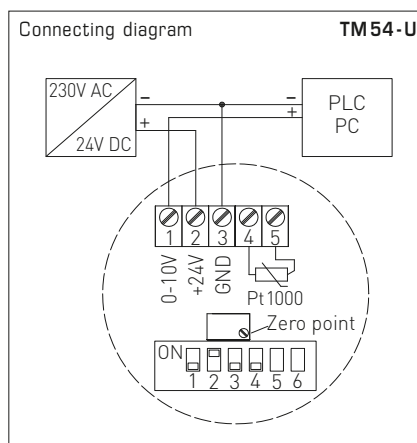
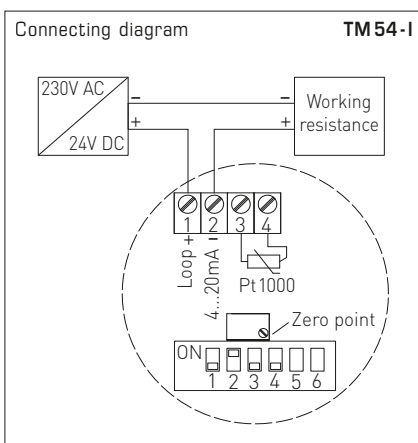


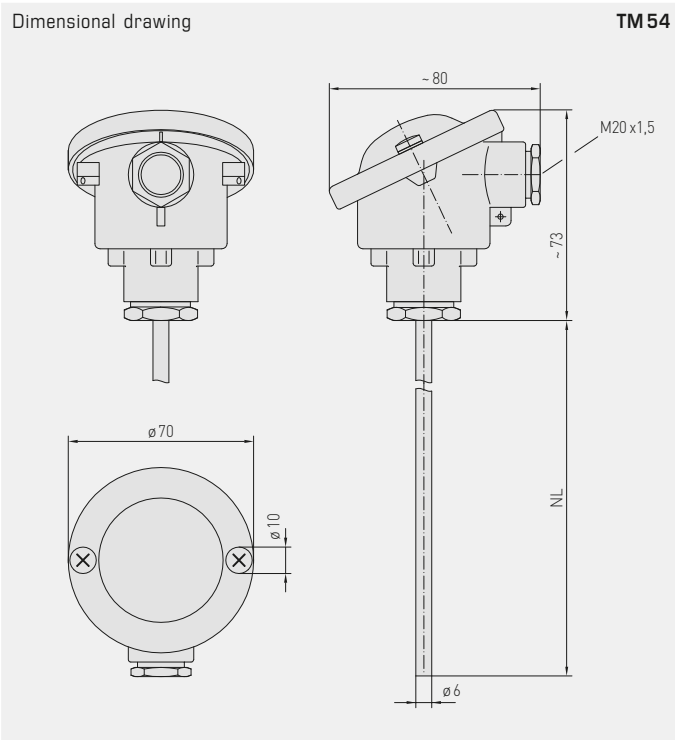
TECHNICAL DATA

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:	< 0.2 VA / 24 V AC / DC; < 0.55 VA / 24 V DC
Sensor:	Pt1000, DIN EN 60571, class B (Perfect Sensor Protection)
Measuring ranges:	multi-range switching with 8 switchable measuring ranges, see table (other ranges optional) T = +150°C with manual zero point correction (± 5K)
Deviation, temperature:	± 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
Protective tube:	stainless steel, V4A (1.4571) Ø=6 mm, inserted length (EL) = 50-400 mm (see table)
Dimensions:	see dimensional drawing
Electrical connection:	0.14 - 1.5 mm² via terminal screws
Connecting head:	form B, material aluminium, colour white aluminium (similar to RAL 9006), M20 x 1.5
Humidity:	<95% r. H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 54 (according to EN 60 529), IP 65 (optional)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU

ACCESSORIES

MF-06-M	Mounting flange, metal, galvanised steel, Ø=32 mm, Ø=6.3 mm tube gland, T_{max} = +700 °C
TH-ms/xx	Immersion sleeve, brass, nickel-plated, Ø=8 mm, T_{max} = +150 °C, p_{max} = 10 bar
TH-VA/xx	Immersion sleeve, stainless steel, V4A (1.4571), Ø=8 mm, T_{max} = +600 °C, p_{max} = 40 bar
TH-VA/xx/90	Immersion sleeve, stainless steel, V4A (1.4571), with neck tube (90 mm), Ø=8 mm, T_{max} = +600 °C, p_{max} = 40 bar





Measuring ranges (adjustable)	DIP 1	DIP 2	DIP 3	DIP 4
-20 °C...+150 °C	ON	ON	ON	ON
-50 °C... +50 °C	OFF	ON	ON	ON
-20 °C... +80 °C	ON	OFF	ON	ON
-30 °C... +60 °C	OFF	OFF	ON	ON
0 °C... +40 °C	ON	ON	OFF	ON
0 °C... +50 °C	OFF	ON	OFF	ON
0 °C...+100 °C	ON	OFF	OFF	ON
0 °C...+150 °C	OFF	OFF	OFF	ON

THERMASGARD® TM 54 – Temperature measuring transducers (basic device)

Type / WG01	Sensor	Output	Inserted Length (EL)	Item No.	Price
TM 54 - I				IP54, I-variant	
TM54-I 50MM	Pt1000	4...20 mA	50 mm	1101-7152-0019-900	128,10 €
TM54-I 100MM	Pt1000	4...20 mA	100 mm	1101-7152-0029-900	131,11 €
TM54-I 150MM	Pt1000	4...20 mA	150 mm	1101-7152-0039-900	137,01 €
TM54-I 200MM	Pt1000	4...20 mA	200 mm	1101-7152-0049-900	138,89 €
TM54-I 250MM	Pt1000	4...20 mA	250 mm	1101-7152-0059-900	140,61 €
TM54-I 300MM	Pt1000	4...20 mA	300 mm	1101-7152-0069-900	142,06 €
TM54-I 350MM	Pt1000	4...20 mA	350 mm	1101-7152-0079-900	144,96 €
TM54-I 400MM	Pt1000	4...20 mA	400 mm	1101-7152-0089-900	153,02 €
TM 54 - U				IP54, U-variant	
TM54-U 50MM	Pt1000	0- 10 V	50 mm	1101-7151-0019-900	128,10 €
TM54-U 100MM	Pt1000	0- 10 V	100 mm	1101-7151-0029-900	131,11 €
TM54-U 150MM	Pt1000	0- 10 V	150 mm	1101-7151-0039-900	137,01 €
TM54-U 200MM	Pt1000	0- 10 V	200 mm	1101-7151-0049-900	138,89 €
TM54-U 250MM	Pt1000	0- 10 V	250 mm	1101-7151-0059-900	140,61 €
TM54-U 300MM	Pt1000	0- 10 V	300 mm	1101-7151-0069-900	142,06 €
Extra charge:	Protection type IP65 (B-Head) Other sensors optional				7,96 € on request

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and active output

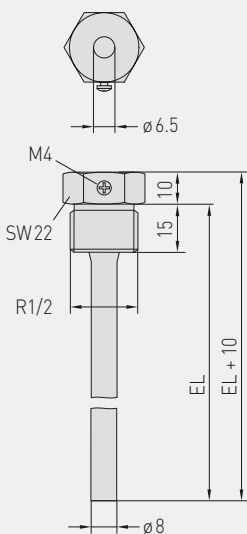
One basic device in four variants...



**TM 54 +
TH -ms /xx**

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

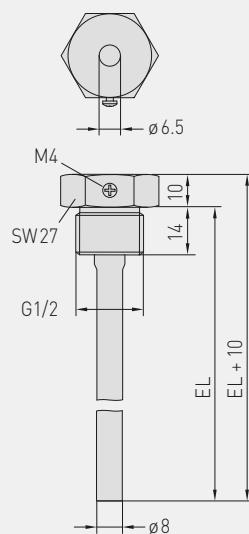
Dimensional drawing
TH -ms /xx



**TM 54 +
TH -VA /xx**

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

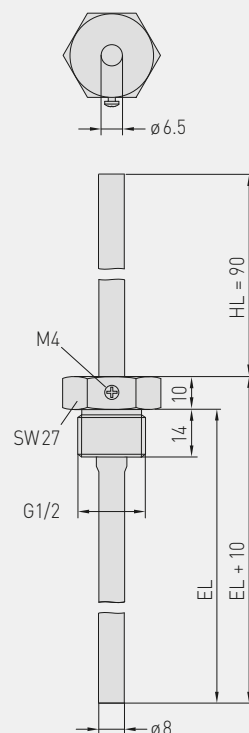
Dimensional drawing
TH -VA /xx



**TM 54 +
TH -VA /xx /90**

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

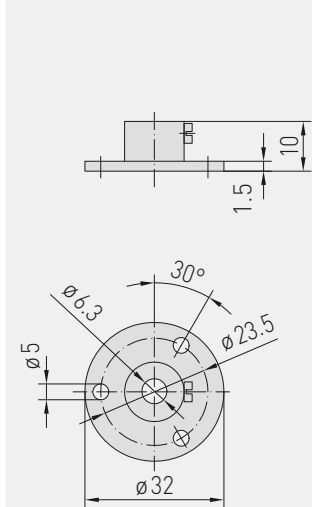
Dimensional drawing
TH -VA /xx /90



**TM 54 +
MF -06 -M**

Duct temperature sensor
with mounting flange, metal

Dimensional drawing
MF -06 -M





... through combination with accessories:



TH - ms / xx
Immersion sleeve,
brass, nickel-plated,
thread-sealing, conical,
according to DIN 10226



TH - VA / xx
Immersion sleeve,
stainless steel, V4A,
flat-sealing, cylindrical,
according to DIN 228



TH - VA / xx / 90
Immersion sleeve with neck tube,
stainless steel, V4A,
flat-sealing, cylindrical,
according to DIN 228



MF-06-M
Mounting flange,
metal

THERMASGARD® TH – Immersion sleeve Ø 8 mm (accessories)

Type / WG01	p _{max} (static)	T _{max}	Inserted Length (EL)	Item No.	Price
TH - ms / xx	Brass nickel-plated			without neck tube	
TH-MS 50MM	10 bar	+150 °C	50 mm	7100-0011-0010-001	7,85 €
TH-MS 100MM	10 bar	+150 °C	100 mm	7100-0011-0020-001	8,16 €
TH-MS 150MM	10 bar	+150 °C	150 mm	7100-0011-0030-001	9,02 €
TH-MS 200MM	10 bar	+150 °C	200 mm	7100-0011-0040-001	9,51 €
TH-MS 250MM	10 bar	+150 °C	250 mm	7100-0011-0050-001	9,83 €
TH-MS 300MM	10 bar	+150 °C	300 mm	7100-0011-0060-001	11,29 €
TH-MS 350MM	10 bar	+150 °C	350 mm	7100-0011-0070-001	13,32 €
TH-MS 400MM	10 bar	+150 °C	400 mm	7100-0011-0080-001	11,71 €
TH - VA / xx	Stainless steel, V4A (1.4571)			without neck tube	
TH-VA 50MM	40 bar	+600 °C	50 mm	7100-0012-0010-001	14,99 €
TH-VA 100MM	40 bar	+600 °C	100 mm	7100-0012-0020-001	15,78 €
TH-VA 150MM	40 bar	+600 °C	150 mm	7100-0012-0030-001	16,59 €
TH-VA 200MM	40 bar	+600 °C	200 mm	7100-0012-0040-001	17,72 €
TH-VA 250MM	40 bar	+600 °C	250 mm	7100-0012-0050-001	18,63 €
TH-VA 300MM	40 bar	+600 °C	300 mm	7100-0012-0060-001	23,20 €
TH-VA 350MM	40 bar	+600 °C	350 mm	7100-0012-0070-001	23,63 €
TH-VA 400MM	40 bar	+600 °C	400 mm	7100-0012-0080-001	24,11 €
TH - VA / xx / 90	Stainless steel, V4A (1.4571)			with neck tube (90 mm)	
TH-VA 50/90MM	40 bar	+600 °C	50 mm	7100-0012-2010-001	22,56 €
TH-VA 100/90MM	40 bar	+600 °C	100 mm	7100-0012-2020-001	23,63 €
TH-VA 150/90MM	40 bar	+600 °C	150 mm	7100-0012-2030-001	24,85 €
TH-VA 200/90MM	40 bar	+600 °C	200 mm	7100-0012-2040-001	26,05 €
TH-VA 250/90MM	40 bar	+600 °C	250 mm	7100-0012-2050-001	27,33 €
TH-VA 300/90MM	40 bar	+600 °C	300 mm	7100-0012-2060-001	29,85 €

Note: inner diameter of socket 6.5 mm
For further information see last chapter!

Mounting flange (accessories)

Type / WG01	T _{max}	Item No.	Price	
MF				
MF-06-M	Mounting flange, metal (galvanised steel) Ø 32 mm, tube gland Ø 6.3 mm	+700 °C	7100-0030-5000-000	8,06 €

Note: For further information see last chapter!