

Immersion / screw-in / duct temperature sensor with passive output

Resistance thermometer / temperature sensor **THERMASGARD® TF 54** with straight protective tube and connection head made of aluminium.

It is used for measuring temperatures in liquid or gaseous media, in piping systems, in vessels or storage tanks.

TF 54
Top view

TECHNICAL DATA	
Measuring range:	-35...+180 °C (T_{max} NTC = +150 °C, T_{max} LM235Z = +125 °C)
Sensors / output:	see table, passive (Perfect Sensor Protection) (optional also with two sensors)
Connection type:	2-wire connection (3- or 4-wire connection optional)
Testing current:	approx. 1 mA
Protective tube:	stainless steel, V4A (1.4571), $\varnothing = 6$ mm, inserted length (EL) = 50 - 400 mm (see table)
Dimensions:	see dimensional drawing
Connecting head:	form B, material aluminium, colour white aluminium (similar RAL 9006), ambient temperature -20...+100 °C, M 20 x 1.5
Electrical connection:	0.14 - 2.5 mm ² via terminal screws on ceramic base
Insulating resistance:	≥ 100 M Ω , at +20 °C (500 V DC)
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

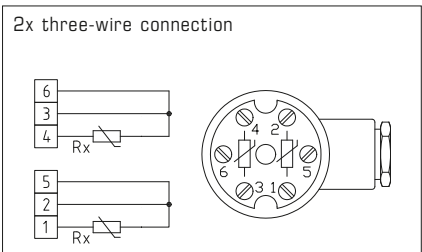
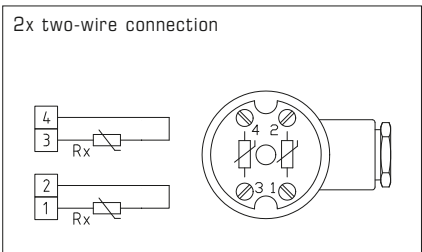
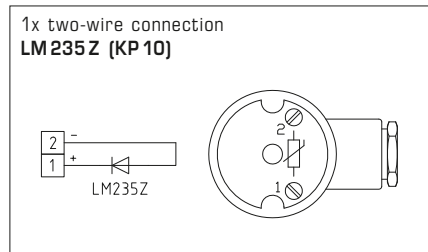
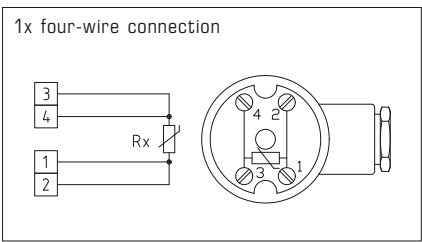
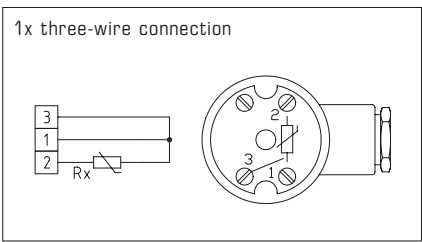
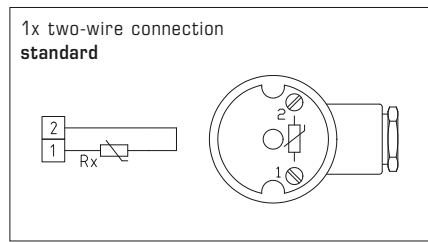
ACCESSORIES	
MF-06-M	Mounting flange , metal, galvanised steel, $\varnothing = 32$ mm, $\varnothing = 6.3$ mm tube gland, $T_{max} = +700$ °C
TH-ms / xx	Immersion sleeve , brass, nickel-plated, $\varnothing = 8$ mm, $T_{max} = +150$ °C, $p_{max} = 10$ bar
TH-VA / xx	Immersion sleeve , stainless steel,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

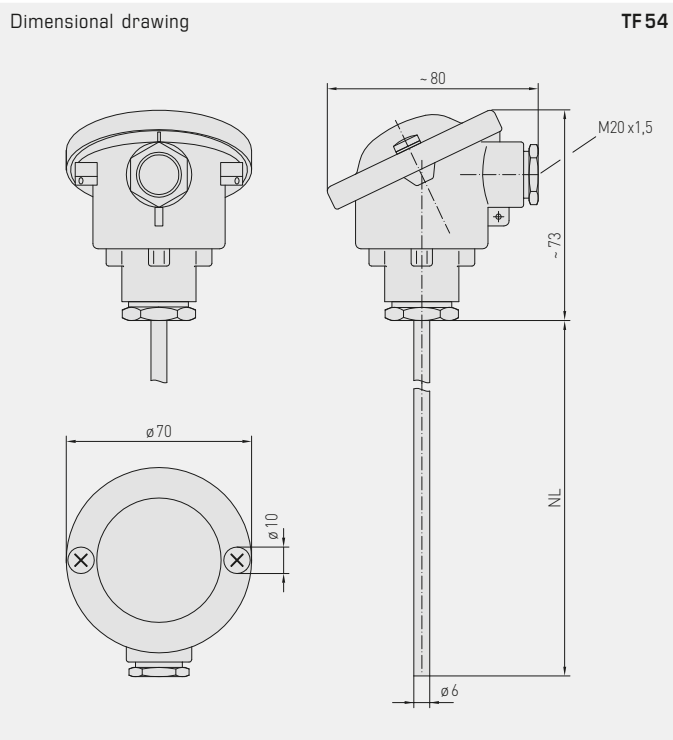


2-wire connection (standard)



4-wire connection (optional)





TF 54



TF 54
standard
(IP 54)



TF 54
optional
(IP 65)

High-performance encapsulation against vibration, mechanical stress and humidity



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

Type / WG03 / EL	Sensor / Output	Item No.	Price
TF 54 PT100 xx	Pt100	IP 54	
TF54 PT100 50MM	Pt100 (according to DIN EN 60 751, class B)	1101-7050-1013-000	55,99 €
TF54 PT100 100MM	Pt100 (according to DIN EN 60 751, class B)	1101-7050-1023-000	57,34 €
TF54 PT100 150MM	Pt100 (according to DIN EN 60 751, class B)	1101-7050-1033-000	58,58 €
TF54 PT100 200MM	Pt100 (according to DIN EN 60 751, class B)	1101-7050-1043-000	60,83 €
TF54 PT100 250MM	Pt100 (according to DIN EN 60 751, class B)	1101-7050-1053-000	61,09 €
TF54 PT100 300MM	Pt100 (according to DIN EN 60 751, class B)	1101-7050-1063-000	61,31 €
TF54 PT100 400MM	Pt100 (according to DIN EN 60 751, class B)	1101-7050-1083-000	62,17 €
TF 54 PT1000 xx	Pt1000	IP 54	
TF54 PT1000 50MM	Pt1000 (according to DIN EN 60 751, class B)	1101-7050-5011-000	55,99 €
TF54 PT1000 100MM	Pt1000 (according to DIN EN 60 751, class B)	1101-7050-5021-000	57,34 €
TF54 PT1000 150MM	Pt1000 (according to DIN EN 60 751, class B)	1101-7050-5031-000	58,58 €
TF54 PT1000 200MM	Pt1000 (according to DIN EN 60 751, class B)	1101-7050-5041-000	60,83 €
TF54 PT1000 250MM	Pt1000 (according to DIN EN 60 751, class B)	1101-7050-5051-000	61,15 €
TF54 PT1000 300MM	Pt1000 (according to DIN EN 60 751, class B)	1101-7050-5061-000	61,31 €
TF54 PT1000 400MM	Pt1000 (according to DIN EN 60 751, class B)	1101-7050-5081-000	62,17 €
TF 54 Ni1000 xx	Ni 1000	IP 54	
TF54 Ni1000 50MM	Ni1000 (according to DIN EN 43 760, class B, TCR = 6180 ppm / K)	1101-7050-9011-000	56,96 €
TF54 Ni1000 100MM	Ni1000 (according to DIN EN 43 760, class B, TCR = 6180 ppm / K)	1101-7050-9021-000	58,59 €
TF54 Ni1000 150MM	Ni1000 (according to DIN EN 43 760, class B, TCR = 6180 ppm / K)	1101-7050-9031-000	59,53 €
TF54 Ni1000 200MM	Ni1000 (according to DIN EN 43 760, class B, TCR = 6180 ppm / K)	1101-7050-9041-000	60,88 €
TF54 Ni1000 250MM	Ni1000 (according to DIN EN 43 760, class B, TCR = 6180 ppm / K)	1101-7050-9051-000	61,26 €
TF54 Ni1000 300MM	Ni1000 (according to DIN EN 43 760, class B, TCR = 6180 ppm / K)	1101-7050-9061-000	61,48 €
TF54 Ni1000 400MM	Ni1000 (according to DIN EN 43 760, class B, TCR = 6180 ppm / K)	1101-7050-9081-000	62,39 €
TF 54 Ni1000TK xx	Ni1000 TK5000	IP 54	
TF54 Ni1000TK 50MM	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-7051-0011-000	57,19 €
TF54 Ni1000TK 100MM	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-7051-0021-000	59,27 €
TF54 Ni1000TK 150MM	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-7051-0031-000	60,26 €
TF54 Ni1000TK 200MM	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-7051-0041-000	61,10 €
TF54 Ni1000TK 250MM	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-7051-0051-000	61,48 €
TF54 Ni1000TK 300MM	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-7051-0061-000	61,68 €
TF54 Ni1000TK 400MM	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-7051-0081-000	62,60 €
TF 54 LM235Z xx	LM235Z	IP 54	
TF54 LM235Z 50MM	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-7052-1011-000	57,14 €
TF54 LM235Z 100MM	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-7052-1021-000	57,50 €
TF54 LM235Z 150MM	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-7052-1031-000	57,61 €
TF54 LM235Z 200MM	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-7052-1041-000	58,26 €
TF54 LM235Z 250MM	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-7052-1051-000	59,76 €
TF54 LM235Z 300MM	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-7052-1061-000	60,24 €
TF54 LM235Z 400MM	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-7052-1081-000	61,26 €
TF 54 KTY81-210 xx	KTY81-210	IP 54	
TF54 KTY81-210 50MM	KTY81-210	1101-7052-0011-000	56,86 €
TF54 KTY81-210 100MM	KTY81-210	1101-7052-0021-000	60,24 €
TF54 KTY81-210 150MM	KTY81-210	1101-7052-0031-000	60,56 €
TF54 KTY81-210 200MM	KTY81-210	1101-7052-0041-000	60,99 €
TF54 KTY81-210 250MM	KTY81-210	1101-7052-0051-000	62,01 €
TF54 KTY81-210 300MM	KTY81-210	1101-7052-0061-000	62,60 €
TF54 KTY81-210 400MM	KTY81-210	1101-7052-0081-000	62,83 €

Continued on next page...



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

Type / WG03 / EL	Sensor / Output	Item No.	Price
TF54 NTC 1.8K xx	NTC 1.8K	IP54	
TF54 NTC1,8K 50MM	NTC 1.8K	1101-7051-2011-000	56,86 €
TF54 NTC1,8K 100MM	NTC 1.8K	1101-7051-2021-000	60,24 €
TF54 NTC1,8K 150MM	NTC 1.8K	1101-7051-2031-000	60,56 €
TF54 NTC1,8K 200MM	NTC 1.8K	1101-7051-2041-000	60,99 €
TF54 NTC1,8K 250MM	NTC 1.8K	1101-7051-2051-000	62,01 €
TF54 NTC1,8K 300MM	NTC 1.8K	1101-7051-2061-000	62,60 €
TF54 NTC1,8K 400MM	NTC 1.8K	1101-7051-2081-000	62,83 €
TF54 NTC10K xx	NTC 10K	IP54	
TF54 NTC10K 50MM	NTC 10K	1101-7051-5011-000	56,86 €
TF54 NTC10K 100MM	NTC 10K	1101-7051-5021-000	60,24 €
TF54 NTC10K 150MM	NTC 10K	1101-7051-5031-000	60,56 €
TF54 NTC10K 200MM	NTC 10K	1101-7051-5041-000	60,99 €
TF54 NTC10K 250MM	NTC 10K	1101-7051-5051-000	62,01 €
TF54 NTC10K 300MM	NTC 10K	1101-7051-5061-000	62,60 €
TF54 NTC10K 400MM	NTC 10K	1101-7051-5081-000	62,83 €
TF54 NTC10K PR xx	NTC 10K Precon	IP54	
TF54 NTC10K PR 50MM	NTC 10K Precon	1101-7051-9011-000	56,86 €
TF54 NTC10K PR 100MM	NTC 10K Precon	1101-7051-9021-000	60,24 €
TF54 NTC10K PR 150MM	NTC 10K Precon	1101-7051-9031-000	60,56 €
TF54 NTC10K PR 200MM	NTC 10K Precon	1101-7051-9041-000	60,99 €
TF54 NTC10K PR 250MM	NTC 10K Precon	1101-7051-9051-000	62,01 €
TF54 NTC10K PR 300MM	NTC 10K Precon	1101-7051-9061-000	62,60 €
TF54 NTC10K PR 400MM	NTC 10K Precon	1101-7051-9081-000	62,83 €
TF54 NTC20K xx	NTC 20K	IP54	
TF54 NTC20K 50MM	NTC 20K	1101-7051-6011-000	56,86 €
TF54 NTC20K 100MM	NTC 20K	1101-7051-6021-000	60,24 €
TF54 NTC20K 150MM	NTC 20K	1101-7051-6031-000	60,56 €
TF54 NTC20K 200MM	NTC 20K	1101-7051-6041-000	60,99 €
TF54 NTC20K 250MM	NTC 20K	1101-7051-6051-000	62,01 €
TF54 NTC20K 300MM	NTC 20K	1101-7051-6061-000	62,60 €
TF54 NTC20K 400MM	NTC 20K	1101-7051-6081-000	62,83 €
TF54 NTC30K xx	NTC 30K	IP54	
TF54 NTC30K 50MM	NTC 30K	1101-7051-7011-000	56,86 €
TF54 NTC30K 100MM	NTC 30K	1101-7051-7021-000	60,24 €
TF54 NTC30K 150MM	NTC 30K	1101-7051-7031-000	60,56 €
TF54 NTC30K 200MM	NTC 30K	1101-7051-7041-000	60,99 €
TF54 NTC30K 250MM	NTC 30K	1101-7051-7051-000	62,01 €
TF54 NTC30K 300MM	NTC 30K	1101-7051-7061-000	62,60 €
TF54 NTC30K 400MM	NTC 30K	1101-7051-7081-000	62,83 €
Extra charge:	Protection type IP65 (B-Head) Other sensors optional	on request	7,96 €



TF54
optional
(IP65)



TF54
standard
(IP54)

Immersion / screw-in / duct temperature sensor
with passive output

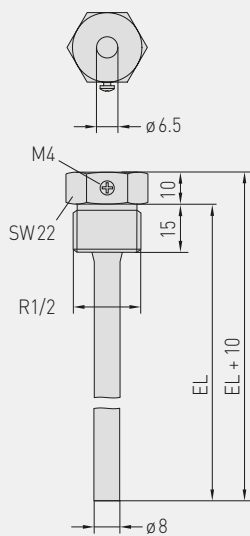
One basic device in four variants...



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

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

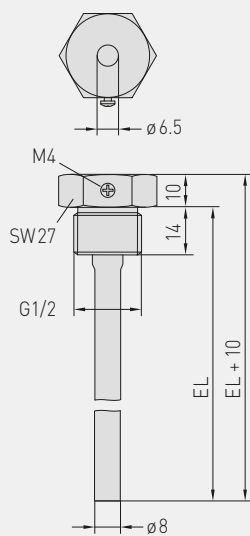
Dimensional drawing
TH -ms /xx



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

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

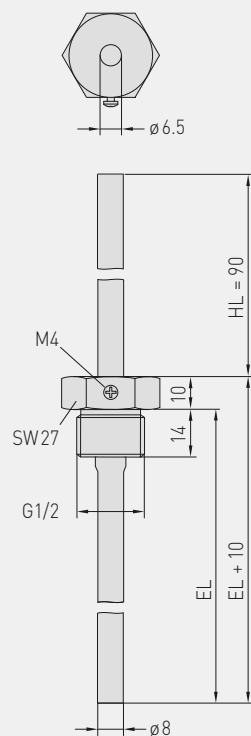
Dimensional drawing
TH -VA /xx



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

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

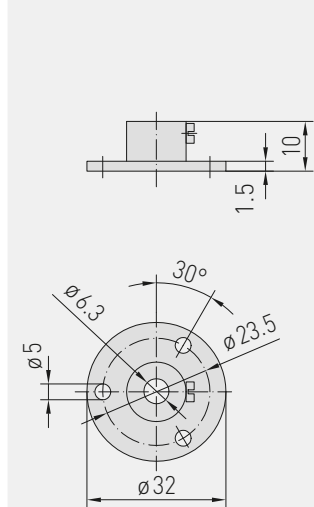
Dimensional drawing
TH -VA /xx /90



**TF 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!				