

**Sleeve sensor / cable temperature sensor
 duct / immersion / screw-in temperature sensor,
 with passive output**

The sleeve sensor / cable sensor **THERMASGARD® HTF** is used to measure temperatures in liquid and gaseous media. It can be used as a duct sensor and - if installed in an immersion sleeve - as an immersion and screw-in sensor. The sleeve length varies, depending on request, from 30...400 mm (standard is 50 mm respectively 200 mm), the cable length is arbitrary (standard is 1.5 m). Depending on application, with silicone, glass fibre, or PVC leads, for two-wire or four-wire connection. For direct, continuous use in liquids, please use our **THE** immersion sleeves (see type table).

TECHNICAL DATA

Measuring ranges:	-35...+105 °C PVC , LiYY, 2 x 0.25 mm ²
	-50...+180 °C Silicone , SiHF, 2 x 0.25 mm ²
	-50...+250 °C PTFE , 2 x 0.25 mm ²
	-50...+350 °C glass fibre , 2 x 0.25 mm ²
	ends stripped with wire end sleeves (extended measuring range limits optional, depending on connection leads, T_{max} NTC = +150 °C / LM235Z = +125 °C / Ni1000 = +180 °C)

Sensors / output:	see table, passive (optional also with 2 sensors) (Perfect Sensor Protection with IP68)
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Connection type:	2-wire connection (4-wire connection optional)
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Testing current:	approx. 1 mA
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Protective tube (sensor sleeve):	stainless steel, V4A (1.4571), Ø = 6 mm HTF50 NL = 50 mm HTF200 NL = 200 mm (other optional dimensions also available, NL = 30...400 mm) cable entry stamped (optional rolled)
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Connection cable:	KL = 1.5 m (optional also 3 m, 5 m, 8 m, 10 m)
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Insulating resistance:	≥ 100 MΩ, at +20 °C (500 V DC)
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Process connection:	by mounting flange made of plastic (galvanised steel optional, see chapter Accessories)
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Permitted humidity:	< 95 % r.H., non-precipitating air
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Protection class:	III (according to EN 60 730)
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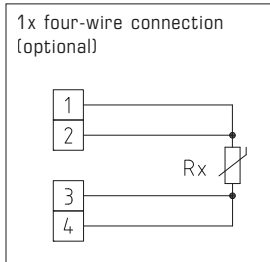
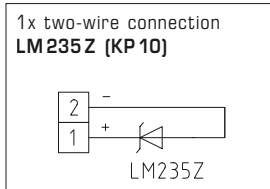
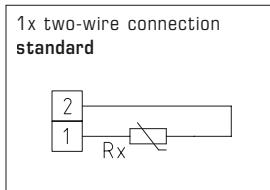
Protection type:	IP65 (according to EN 60 529) humidity-tight stamped IP68 (optional watertight compound-filled*) rolled IP54 (optional glass fibre cable)
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ACCESSORIES

MF-06-K	Mounting flange plastic, 56.8 x 84.3 mm, Ø = 6.2 mm tube gland, T _{max} = +100 °C
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THE-ms / xx	Immersion sleeve, brass, nickel-plated , Ø = 9 mm, EL = 50 - 250 mm (see table), inner diameter of socket Ø = 5.2 mm, with adjusting screw M12 x 1.5 T _{max} = +130 °C, p _{max} = 16 bar
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THE-VA / xx	Immersion sleeve, stainless steel, V4A (1.4571), Ø = 9 mm, EL = 50 - 400 mm (see table), inner diameter of socket Ø = 5.2 mm, with adjusting screw M12 x 1.5 T _{max} = +200 °C, p _{max} = 40 bar
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IP65 (standard)
 humidity-tight **stamped**



IP68 (optional)
 watertight compound-filled*,
rolled



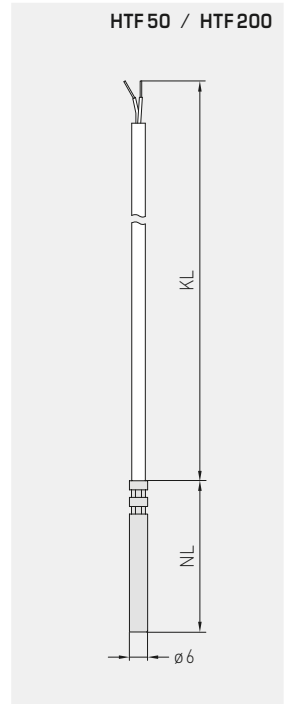
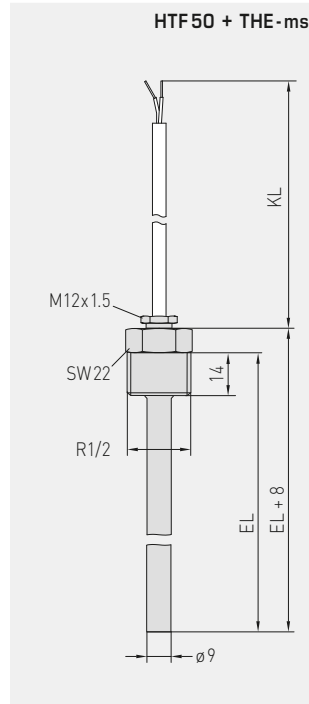
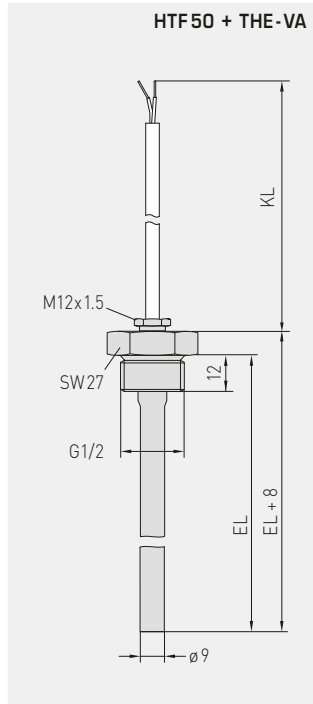
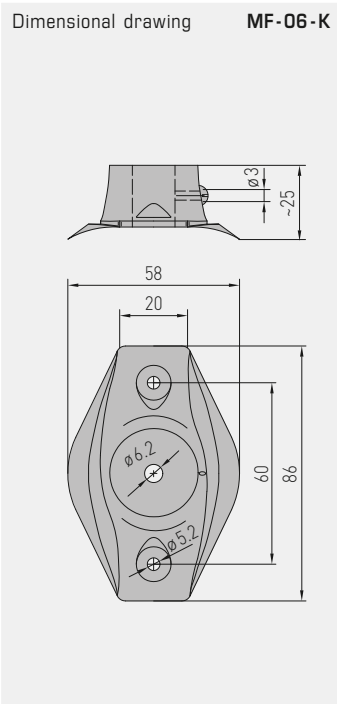
IP54 (optional)
 with **glass fibre** cable

MF-06-K
 Mounting flange,
 plastic
 (optional)



* High-performance encapsulation against vibration, mechanical stress and humidity





HTF200 + MF-06-K
with accessory mounting flange
(see type table)
as duct temperature sensor

HTF50 + THE-xx
with accessory immersion sleeve
(see type table)
as immersion / screw-in temperature sensor

HTF 50
(NL = 50 mm)
with PVC / silicone cable
(standard)



Sleeve sensor / cable temperature sensor
 duct / immersion / screw-in temperature sensor,
 with passive output

THERMASGARD® HTF 50 – sleeve sensor / cable temperature sensor (NL = 50 mm)

Type / WG03	Cable material	Cable length	Measuring Range	Protection class	Item No. Sensor	Price
					Pt 100, class B	
HTF50 PT100						
HTF50 PT100	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6030-1211-110	11,54 €
HTF50 PT100	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6030-1211-120	14,51 €
HTF50 PT100	PTFE	1.5 m	-50...+250 °C	IP65 *	1101-6030-1211-140	18,04 €
HTF50 PT100	Glass Fibre	1.5 m	-50...+350 °C	IP54	1101-6030-1211-050	40,44 €
HTF50 PT100	PVC	3 m	-35...+105 °C	IP65 *	1101-6030-1231-110	13,97 €
HTF50 PT100	Silicone	3 m	-50...+180 °C	IP65 *	1101-6030-1231-120	18,10 €
HTF50 PT100	PVC	5 m	-35...+105 °C	IP65 *	1101-6030-1251-110	17,20 €
HTF50 PT100	Silicone	5 m	-50...+180 °C	IP65 *	1101-6030-1251-120	22,89 €
HTF50 PT100	PVC	8 m	-35...+105 °C	IP65 *	1101-6030-1281-110	22,06 €
HTF50 PT100	Silicone	8 m	-50...+180 °C	IP65 *	1101-6030-1281-120	30,08 €
HTF50 PT100	PVC	10 m	-35...+105 °C	IP65 *	1101-6030-1301-110	25,28 €
HTF50 PT100	Silicone	10 m	-50...+180 °C	IP65 *	1101-6030-1301-120	34,89 €
					Pt 1000, class B	
HTF50 PT1000						
HTF50 PT1000	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6030-5211-110	13,59 €
HTF50 PT1000	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6030-5211-120	16,70 €
HTF50 PT1000	PTFE	1.5 m	-50...+250 °C	IP65 *	1101-6030-5211-140	21,53 €
HTF50 PT1000	Glass Fibre	1.5 m	-50...+350 °C	IP54	1101-6030-5211-050	40,44 €
HTF50 PT1000	PVC	3 m	-35...+105 °C	IP65 *	1101-6030-5231-110	16,02 €
HTF50 PT1000	Silicone	3 m	-50...+180 °C	IP65 *	1101-6030-5231-120	20,30 €
HTF50 PT1000	PVC	5 m	-35...+105 °C	IP65 *	1101-6030-5251-110	19,25 €
HTF50 PT1000	Silicone	5 m	-50...+180 °C	IP65 *	1101-6030-5251-120	25,10 €
HTF50 PT1000	PVC	8 m	-35...+105 °C	IP65 *	1101-6030-5281-110	24,10 €
HTF50 PT1000	Silicone	8 m	-50...+180 °C	IP65 *	1101-6030-5281-120	32,29 €
HTF50 PT1000	PVC	10 m	-35...+105 °C	IP65 *	1101-6030-5301-110	27,33 €
HTF50 PT1000	Silicone	10 m	-50...+180 °C	IP65 *	1101-6030-5301-120	37,08 €
					Pt 1000 A, class A-TGA	
HTF50 PT1000 A						
HTF50 PT1000A	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6030-6211-110	19,93 €
HTF50 PT1000A	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6030-6211-120	22,90 €
					Ni 1000	
HTF50 NI1000						
HTF50 NI1000	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6030-9211-110	13,21 €
HTF50 NI1000	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6030-9211-120	16,44 €
HTF50 NI1000	PVC	3 m	-35...+105 °C	IP65 *	1101-6030-9231-110	15,64 €
HTF50 NI1000	Silicone	3 m	-50...+180 °C	IP65 *	1101-6030-9231-120	20,03 €
HTF50 NI1000	PVC	5 m	-35...+105 °C	IP65 *	1101-6030-9251-110	18,87 €
HTF50 NI1000	Silicone	5 m	-50...+180 °C	IP65 *	1101-6030-9251-120	24,82 €
HTF50 NI1000	PVC	8 m	-35...+105 °C	IP65 *	1101-6030-9281-110	23,72 €
HTF50 NI1000	Silicone	8 m	-50...+180 °C	IP65 *	1101-6030-9281-120	32,02 €
HTF50 NI1000	PVC	10 m	-35...+105 °C	IP65 *	1101-6030-9301-110	26,95 €
HTF50 NI1000	Silicone	10 m	-50...+180 °C	IP65 *	1101-6030-9301-120	36,82 €
					Ni 1000 TK 5000	
HTF50 NI1000TK						
HTF50 NI1000TK	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6031-0211-110	16,65 €
HTF50 NI1000TK	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6031-0211-120	19,65 €
HTF50 NI1000TK	PVC	3 m	-35...+105 °C	IP65 *	1101-6031-0231-110	19,08 €
HTF50 NI1000TK	Silicone	3 m	-50...+180 °C	IP65 *	1101-6031-0231-120	23,25 €
HTF50 NI1000TK	PVC	5 m	-35...+105 °C	IP65 *	1101-6031-0251-110	22,31 €
HTF50 NI1000TK	Silicone	5 m	-50...+180 °C	IP65 *	1101-6031-0251-120	28,04 €
HTF50 NI1000TK	PVC	8 m	-35...+105 °C	IP65 *	1101-6031-0281-110	27,16 €
HTF50 NI1000TK	Silicone	8 m	-50...+180 °C	IP65 *	1101-6031-0281-120	35,24 €
HTF50 NI1000TK	PVC	10 m	-35...+105 °C	IP65 *	1101-6031-0301-110	30,39 €
HTF50 NI1000TK	Silicone	10 m	-50...+180 °C	IP65 *	1101-6031-0301-120	40,03 €
					LM235Z	
HTF50 LM235Z						
HTF50 LM235Z	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6032-1211-110	11,82 €
HTF50 LM235Z	Silicone	1.5 m	-40...+125 °C	IP65 *	1101-6032-1211-120	15,04 €
HTF50 LM235Z	PVC	3 m	-35...+105 °C	IP65 *	1101-6032-1231-110	14,24 €
HTF50 LM235Z	Silicone	3 m	-40...+125 °C	IP65 *	1101-6032-1231-120	18,63 €
HTF50 LM235Z	PVC	5 m	-35...+105 °C	IP65 *	1101-6032-1251-110	17,48 €
HTF50 LM235Z	Silicone	5 m	-40...+125 °C	IP65 *	1101-6032-1251-120	23,42 €
HTF50 LM235Z	PVC	8 m	-35...+105 °C	IP65 *	1101-6032-1281-110	22,32 €
HTF50 LM235Z	Silicone	8 m	-40...+125 °C	IP65 *	1101-6032-1281-120	30,63 €
HTF50 LM235Z	PVC	10 m	-35...+105 °C	IP65 *	1101-6032-1301-110	25,56 €
HTF50 LM235Z	Silicone	10 m	-40...+125 °C	IP65 *	1101-6032-1301-120	35,42 €

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THERMASGARD® HTF 50 – sleeve sensor / cable temperature sensor (NL = 50 mm)

Type / WG03	Cable material	Cable length	Measuring Range	Protection class	Item No. Sensor	Price
HTF50 NTC1.8K					NTC 1.8K	
HTF50 NTC1,8K	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6031-2211-110	11,17 €
HTF50 NTC1,8K	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6031-2211-120	12,84 €
HTF50 NTC1,8K	PVC	3 m	-35...+105 °C	IP 65 *	1101-6031-2231-110	13,60 €
HTF50 NTC1,8K	Silicone	3 m	-50...+150 °C	IP 65 *	1101-6031-2231-120	16,44 €
HTF50 NTC1,8K	PVC	5 m	-35...+105 °C	IP 65 *	1101-6031-2251-110	16,83 €
HTF50 NTC1,8K	Silicone	5 m	-50...+150 °C	IP 65 *	1101-6031-2251-120	21,23 €
HTF50 NTC1,8K	PVC	8 m	-35...+105 °C	IP 65 *	1101-6031-2281-110	21,68 €
HTF50 NTC1,8K	Silicone	8 m	-50...+150 °C	IP 65 *	1101-6031-2281-120	28,42 €
HTF50 NTC1,8K	PVC	10 m	-35...+105 °C	IP 65 *	1101-6031-2301-110	24,91 €
HTF50 NTC1,8K	Silicone	10 m	-50...+150 °C	IP 65 *	1101-6031-2301-120	33,22 €
HTF50 NTC10K					NTC 10K	
HTF50 NTC10K	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6031-5211-110	11,17 €
HTF50 NTC10K	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6031-5211-120	12,84 €
HTF50 NTC10K	PVC	3 m	-35...+105 °C	IP 65 *	1101-6031-5231-110	13,60 €
HTF50 NTC10K	Silicone	3 m	-50...+150 °C	IP 65 *	1101-6031-5231-120	16,44 €
HTF50 NTC10K	PVC	5 m	-35...+105 °C	IP 65 *	1101-6031-5251-110	16,83 €
HTF50 NTC10K	Silicone	5 m	-50...+150 °C	IP 65 *	1101-6031-5251-120	21,23 €
HTF50 NTC10K	PVC	8 m	-35...+105 °C	IP 65 *	1101-6031-5281-110	21,68 €
HTF50 NTC10K	Silicone	8 m	-50...+150 °C	IP 65 *	1101-6031-5281-120	28,42 €
HTF50 NTC10K	PVC	10 m	-35...+105 °C	IP 65 *	1101-6031-5301-110	24,91 €
HTF50 NTC10K	Silicone	10 m	-50...+150 °C	IP 65 *	1101-6031-5301-120	33,22 €
HTF50 NTC20K					NTC 20K	
HTF50 NTC20K	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6031-6211-110	11,17 €
HTF50 NTC20K	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6031-6211-120	12,84 €
HTF50 NTC20K	PVC	3 m	-35...+105 °C	IP 65 *	1101-6031-6231-110	13,60 €
HTF50 NTC20K	Silicone	3 m	-50...+150 °C	IP 65 *	1101-6031-6231-120	16,44 €
HTF50 NTC20K	PVC	5 m	-35...+105 °C	IP 65 *	1101-6031-6251-110	16,83 €
HTF50 NTC20K	Silicone	5 m	-50...+150 °C	IP 65 *	1101-6031-6251-120	21,23 €
HTF50 NTC20K	PVC	8 m	-35...+105 °C	IP 65 *	1101-6031-6281-110	21,68 €
HTF50 NTC20K	Silicone	8 m	-50...+150 °C	IP 65 *	1101-6031-6281-120	28,42 €
HTF50 NTC20K	PVC	10 m	-35...+105 °C	IP 65 *	1101-6031-6301-110	24,91 €
HTF50 NTC20K	Silicone	10 m	-50...+150 °C	IP 65 *	1101-6031-6301-120	33,22 €
Extra charge:	* Protection type IP 68 (Sensor sleeve watertight compound-filled) Other sensors optional Cable length (KL) 3 m, 5 m, 8 m, 10 m (standard lengths) Connection type 4-wire (4-conductor)					2,86 € on request on request on request
For special orders please specify: (possible for 25 or more pieces)	Type sensor length (NL), sensor, cable material, connection type, cable length (KL), protection type e.g. HTF -30mm, Pt1000, PVC, 2-wire, 10m, IP 68; HTF -50mm, Ni1000 TK5000, silicon, 4-wire, 5 m, IP 65					

HTF 50
(NL = 50 mm)
with PVC / silicone cable

HTF 50
(NL = 50 mm)
with glass fibre cable



IP 65 (standard)
humidity-tight stamped

IP 68 (optional)
watertight compound-filled,
rolled

IP 54 (optional)
with glass fibre cable



Sleeve sensor / cable temperature sensor
 duct / immersion / screw-in temperature sensor,
 with passive output

THERMASGARD® HTF 200 – sleeve sensor / cable temperature sensor (NL = 200 mm)

Type / WG03	Cable material	Cable length	Measuring Range	Protection class	Item No. Sensor	Price
HTF200 PT100					Pt 100, class B	
HTF200 PT100	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6090-1211-110	17,18 €
HTF200 PT100	Silicone	1.5 m	-50...+180 °C	IP 65 *	1101-6090-1211-120	20,40 €
HTF200 PT1000					Pt 1000, class B	
HTF200 PT1000	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6090-5211-110	17,18 €
HTF200 PT1000	Silicone	1.5 m	-50...+180 °C	IP 65 *	1101-6090-5211-120	20,40 €
HTF200 PT1000A					Pt 1000 A, class A-TGA	
HTF200 PT1000A	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6090-6211-110	23,38 €
HTF200 PT1000A	Silicone	1.5 m	-50...+180 °C	IP 65 *	1101-6090-6211-120	26,61 €
HTF200 NI1000					Ni 1000	
HTF200 NI1000	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6090-9211-110	17,51 €
HTF200 NI1000	Silicone	1.5 m	-50...+180 °C	IP 65 *	1101-6090-9211-120	20,40 €
HTF200 NI1000TK5000					Ni 1000 TK 5000	
HTF200 NI1000TK5000	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6091-0211-110	18,36 €
HTF200 NI1000TK5000	Silicone	1.5 m	-50...+180 °C	IP 65 *	1101-6091-0211-120	21,26 €
HTF200 LM235Z					LM 235 Z	
HTF200 LM235Z	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6092-1211-110	17,72 €
HTF200 LM235Z	Silicone	1.5 m	-40...+125 °C	IP 65 *	1101-6092-1211-120	20,95 €
HTF200 NTC1.8K					NTC 1.8K	
HTF200 NTC1,8K	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6091-2211-110	17,18 €
HTF200 NTC1,8K	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6091-2211-120	20,40 €
HTF200 NTC10K					NTC 10K	
HTF200 NTC10K	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6091-5211-110	17,18 €
HTF200 NTC10K	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6091-5211-120	20,40 €
HTF200 NTC10K PRE					NTC 10K Precon	
HTF200 NTC10K PRE	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6091-9211-110	17,18 €
HTF200 NTC10K PRE	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6091-9211-120	20,40 €
HTF200 NTC20K					NTC 20K	
HTF200 NTC20K	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6091-6211-110	17,18 €
HTF200 NTC20K	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6091-6211-120	20,40 €
Extra charge:	*	Protection type IP 68 (Sensor sleeve watertight compound-filled) Other sensors optional Cable length (KL) 3 m, 5 m, 8 m, 10 m (standard lengths) Connection type 4-wire (4-conductor)				2,86 € on request on request on request
For special orders please specify: (possible for 25 or more pieces)		Type sensor length (NL), sensor, cable material, connection type, cable length (KL), protection type e. g. HTF- 200 mm, Pt1000, PVC, 2-wire, 10 m, IP 68; HTF- 400 mm, Ni1000 TK5000, silicon, 4-wire, 5 m, IP 65				



HTF 200
 (NL = 200 mm)
 with PVC/silicone cable



IP 65 (standard)
 humidity-tight stamped



IP 68 (optional)
 watertight compound-filled,
 rolled

MF-06-K
 Mounting flange,
 plastic
 (optional)



THERMASGARD® HTF 50 – accessory as immersion / screw-in sensor temperature sensor (ESTF)				
Type / WG01	Description		Item No.	Price
THE -ms / xx				
	Immersion sleeve, brass, nickel-plated, Ø 9 mm, inner diameter of socket Ø = 5.2 mm, with adjusting screw M12 x1.5			
THE-MS 50MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 50 mm	7100-0011-6010-002	8,82 €
THE-MS 100MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 100 mm	7100-0011-6020-002	9,52 €
THE-MS 150MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 150 mm	7100-0011-6030-002	9,88 €
THE-MS 200MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 200 mm	7100-0011-6040-002	10,58 €
THE-MS 250MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 250 mm	7100-0011-6050-002	11,85 €
THE -VA / xx				
	Immersion sleeve, stainless steel, V4A (1.4571), Ø 9 mm, inner diameter of socket Ø = 5.2 mm, with adjusting screw M12 x1.5			
THE-VA 50MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 50 mm	7100-0012-6010-002	17,45 €
THE-VA 100MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 100 mm	7100-0012-6020-002	19,28 €
THE-VA 150MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 150 mm	7100-0012-6030-002	20,71 €
THE-VA 200MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 200 mm	7100-0012-6040-002	21,83 €
THE-VA 250MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 250 mm	7100-0012-6050-002	27,14 €
THE-VA 300MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 300 mm	7100-0012-6060-002	28,36 €
THE-VA 400MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 400 mm	7100-0012-6080-002	29,28 €
xx = (EL)	Other installation lengths on request			

HTF 50
(NL = 50 mm)
with THE immersion sleeve
as immersion / screw-in temperature sensor



THE -ms
Immersion sleeve,
brass, nickel-plated,
with adjusting screw



THE -VA
Immersion sleeve,
stainless steel, V4A,
with adjusting screw

THERMASGARD® HTF 50 – accessories (standard)
THERMASGARD® HTF 200 – accessories (standard)

Type / WG01	Description	T _{max}	Item No.	Price
MF				
MF-06-K	Mounting flange plastic, 56.8 x 84.3 mm, Ø 6.2 mm tube gland	+100 °C	7100-0030-1000-000	5,16 €
Note:	For further information see last chapter!			