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Surface-mounting Thermostats AM Series

- with 1 or 2 single-pole snap-action switches
- IP40 protection

Brief description

Surface-mounting thermostats control and monitor thermal processes. Thermostats in the AM series are available with 1 or 2 single-pole snap-action switches as temperature controllers (TR) and temperature monitors (TW). On thermostats with 2 single-pole snap-action switches, the contact spacing (in °C) is factory-set according to customer requirements. Surface-mounting thermostats operate on the principle of liquid expansion, with a microswitch serving as the electrical switching device.

Switching action

Temperature controller TR and temperature monitor TW

When the temperature at the probe exceeds the selected setpoint, the microswitch is actuated via a transmission mechanism and the circuit is opened or closed. When the temperature drops below the selected setpoint (by the amount of the switching differential), the microswitch returns to its initial position.



Types and approvals

Type		Switching action	Contact
with rigid stem	with capillary		
AMs-1	AMf-1	TR	1
AMs-2	AMf-2	TW	
AMFs-13	AMFf-13	TR	2
AMFs-23	AMFf-23	TW	

Technical data

Control ranges and probe table

Control range °C	Switching differential %	Max. probe temperature °C	Capillary lengths up to [m]	Max. switch head temperature °C	Max. contact spacing °C	Probe length in mm with 6 mm probe diameter
-20 to + 40	2.5	+ 50	2	+ 50	8	245
0 to + 50	2.5	+ 60	2	+ 60	10	283
+20 to + 90	2.5 7	+115 +175	1 2	+ 80	14 70	210 91
0 to +100	2.5	+125	2		20	157
+30 to +110	2.5 7	+135 +200	2		16 80	188 84
0 to +150	2.5	+173	1		30	113
+50 to +200*	2.5	+230	1			139

* Type AMs is supplied with probe mounting UZ to Data Sheet 60.6710, and not as shown in the outline drawing.

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Housing

as standard	material: polycarbonate, impact-resistant,		color: similar to RAL 9002
Setpoint adjustment	AM . -1, AMF . -13 switching point adjustable from outside by rotary knob		AM . -2, AMF . -23 switching point adjustable with setpoint scale after removing a cover
Protection	EN 60 529-IP40		
Cable entry	push-in gland		
Weight	approx. 0.4 kg		
Switch head mounting Series AMf- . .	standard	by 2 screws through back of housing	
	extra code		
	b	steel mounting flange, capillary exit on housing spigot	
	k	wall bracket	
	g	M 18x1 thread with locknut on housing spigot, capillary exit on housing spigot	

Process connection*

Series AMs- with rigid stem	end of scale <u>up to</u> 150°C pocket U	end of scale <u>above</u> 150°C pocket UZ
	screw-in pocket with screw-in spigot G 1/2 Form A to DIN 3852/2	screw-in pocket with screw-in spigot G 1/2 Form A to DIN 3852/2 and extension, so that the max. permissible ambient temperature +80°C at the housing is not exceeded
Series AMf- with capillary	plain cylindrical probe A (standard)	
	pocket U (on request)	
	screw-in pocket with screw-in spigot G 1/2 Form A to DIN 3852/2 and clamping clip with fixing screw for securing the probe	
Material	pocket U	pocket UZ
	up to +150°C: CuZn is standard above +150°C: St is standard (CrNi on request)	above +150°C: St is standard (CrNi on request)
Fitting length S	standard lengths: 100, 120, 150, 200 or 300 mm other lengths on request	
Immersion tube dia.	D = 8 mm	

* see Data Sheet 60.6710 for other process connections and pockets

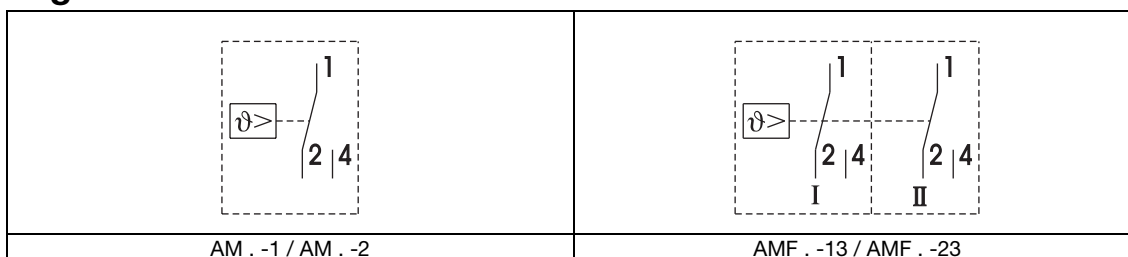
Note

Physical and toxicological properties of the expansion media that may escape in the event of a system fracture.

Control range with end of scale °C	Dangerous reactions	Fire/explosion hazard		Water contamination	irritant	Toxicological data	
		Ignition temp. °C	Explosion limit % v/v			danger to health	toxic
< +200	no	+ 355	0.6 — 8	yes	yes	1)	no
≥ 200 ≤ +350	no	+ 490	--	yes	yes	1)	no

1) At present there is no restrictive statement from the health authorities concerning any danger to health over short periods and at low concentrations, e.g. after a fracture of the measuring system.

Connection diagrams



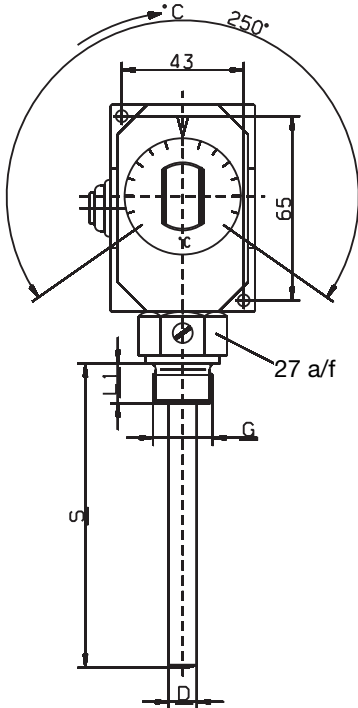
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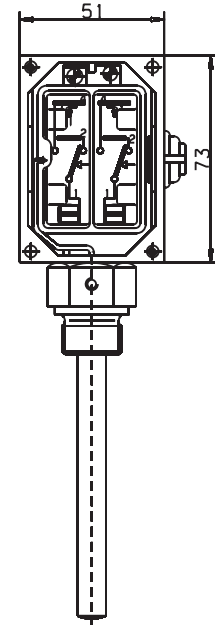
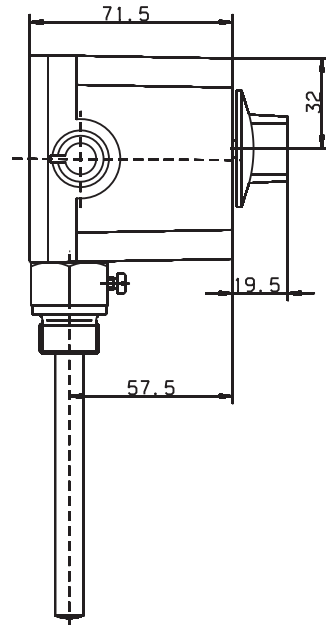
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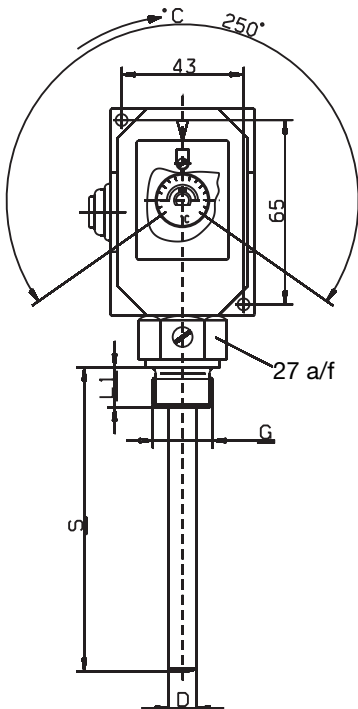
Dimensions



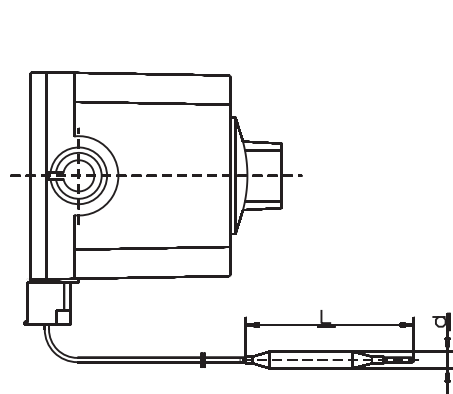
AMs-1 / AMFs-13



shown without terminal cover



AMs-2 / AMFs-23



AMf-1 (standard), fixing by 2 screws through back of housing, with plain cylindrical probe A, no pocket

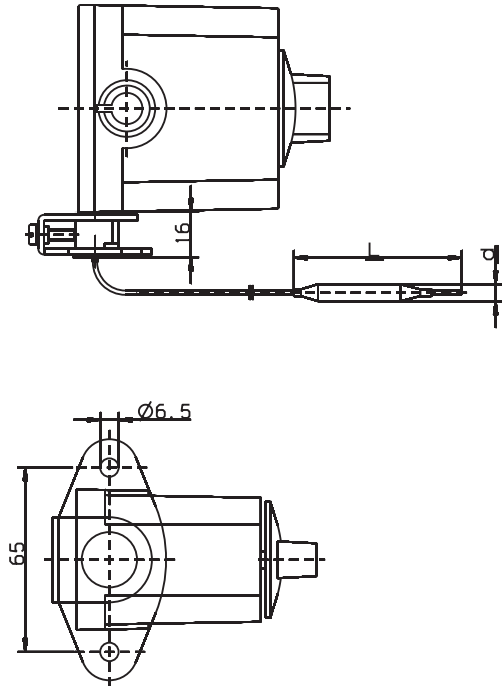
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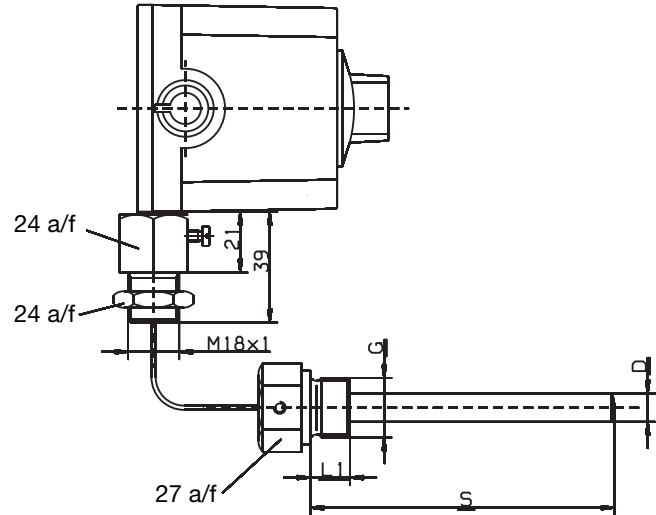
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Dimensions



AMf-1 / b
 flange mounting,
 with plain cylindrical probe A,
 no pocket



AMf-1 / g
 mounting with M 18x1 thread,
 with pocket U

Order details Stock items

(delivery 3 working days after receipt of order)

Sales No.	Type	Control range °C	Switching differential %	Process connection	Immersion tube dia. x length mm
60/60000675*	AMs-1	0 to +100	2.5	U G ¹ / ₂	8x200
60/60000679*	AMs-1	0 to +150			8x150
60/60000703*	AMs-1	+20 to + 90	7		8x120
60/60000674*	AMs-1	+30 to +110			8x100

Sales No.	Type	Control range °C	Switching differential %	Capillary mm	Process connection	Probe dia. x length mm
60/60000677*	AMf-1	0 to +100	2.5	2000	A	6x157
60/60000680*	AMf-1	0 to +150		1000		6x113
60/60000681*	AMf-1	+50 to +200		1000		6x135

* model is being phased out

Different models on request - minimum ordering quantity: 50 units

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Order details for non-stock items

AM Series

Minimum ordering quantity: 50 units

Order code	(1) Basic type
603041	Surface-mounting thermostat, AM series
	(2) Basic type extension
01	AM-1 1-pole temperature controller TR
02	AM-2 1-pole temperature monitor TW
13	AMF-13 temperature controller TR
23	AMF-23 temperature monitor TW
	(3) Style
1	AM.s with rigid stem
2	AM.f with capillary
	(4) Control / limit ranges °C
013	-20 to + 40
021	0 to + 50
041	+20 to + 90
025	0 to +100
052	+30 to +110
027	0 to +150
062	+50 to +200
	(5) Switching differential
25	2.5 % of scale span
70	7 % of scale span
	(6) Capillary length
0	AMs without capillary
1000	1000 mm
2000	2000 mm
	(7) Process connection
10	A = plain cylindrical probe (for AM.f only) 
20	U = screw-in pocket 
30	UZ = screw-in pocket with extension 
	(8) Thread for process connection
00	no thread (process connection A)
13	external thread G 1/2
	(9) Material of process connection
00	with process connection A only
46	CuZn (brass)
01	St (steel)
20	CrNi (stainless steel 1.4571)
	(10) Fitting length S (immersion tube length)
000	AMf without pocket
100	100mm
120	120mm
150	150mm
200	200mm
300	300mm
	(11) Extra codes ¹
000	no extra code
764	b steel mounting flange, capillary exit on housing spigot
715	g M 18x1 thread with locknut
248	k wall bracket
699	x screw connection up to 2.5mm ² conductor cross-section

Contact spacing for 2-pole thermostats: details in plain text (e.g. +2K or -5K)

Order code

(1) / (2) - (3) - (4) - (5) - (6) - (7) - (8) - (9) - (10) - (11)
 603041 / .. - . - ... - .. - - .. - .. - .. - ... / ...

Order example

603041 / 01 - 1 - 013 - 25 - 0000 - 20 - 13 - 46 - 300 / 000¹

¹ List extra codes in sequence, separated by commas.

Contact spacing: _____