Mechanical Temperature Switch

MT1H

with capillary

Features

- Single switch with remote sensor
- Terminal clip integrated, set point adjustment in °C and °F under tamper protected cover
- Protection class: IP65, NEMA 4 / 13
- Optional:
  - Disconnection with manual reset, G(RD)-micro switch
  - Adjustable hysteresis (dead band), S-micro switch
- Approvals: Ex ia, UL, CSA (on request)
- Suitable for SIL2/3 (IEC 61508) acceptance

Adjustment ranges

- -45 °C...+66 °C to +160 °C...+316 °C

Applications

Temperature monitoring in

- Machine & Machine Tool Industry
- Shipbuilding
- Power plants
- Antifreeze
- Heating systems
- Compressors

Technical Data

Housing material	Die-cast aluminium, anodized
Temperature sensor material	304 stainless steel (1.4301)
Temperature sensor type	Capillary, 1.8 m long (6 foot) (optional 3.6 m and 7.5 m) (12 and 25 foot), armoured. If not equipped with thermowell the sensor may only be used up to 21 bar max.
Operation pressure without thermowell with thermowell	max. 21 bar (max. 300 psi) see accessories data sheet
Operation temperature Housing	-40°C...+75°C (-40°F...167°F) except temp. code 601, 603: -18°C...+75°C (0°F...167°F)
Sensor	see table "Adjustment range" (Sensor temperature limits)
Electrical values	All models are equipped with SPDT contacts
Micro switch type	H, M, GH, GM, S, G (RD)

Electrical connection	1/2" NPT female, internal screw terminal, cable gland in PA, for cable size 6...12 mm is included
Protection class	IP65, NEMA 4 / 13
Set point adjustment	Turn adjustment knob clockwise to increase the actuation point
Intrinsically safety	The switches are also suitable for intrinsically safe applications. In this case we recommend gold contacts. Add "Exi" in case of ordering. Maximum rating according to ATEX: Umax = 28 V Imax = 50 mA
Approvals	Ex ia, UL, CSA (on request)
Weight	approx. 1,0 kg

Adjustment ranges

Code adjustment range	Sensor temperature limits (C°)	Adjustment range (°C) [1]	Hysteresis (°C) * for micro switch			
			H, GH	M, GM	S	G (RD)
						2.8 ... manual
154	-73 ... +93	-45 ... +66	0.5 ... 1.1	1.1 ... 2.2	2.2 ... 8.3	
251	-73 ... +149	+10 ... +121	0.5 ... 1.1	1.1 ... 2.2	2.2 ... 8.3	
351	-73 ... +205	+66 ... +177	0.5 ... 1.1	1.1 ... 2.2	2.2 ... 8.3	
601	-18 ... +343	+149 ... +227	1.1 ... 2.2	2.2 ... 3.3	3.9 ... 13.9	
603	-18 ... +343	+160 ...+316	1.1 ... 2.2	2.2 ... 3.3	3.9 ... 13.9	

* Dependent on medium

[1] Factory presetting available from -15°C to +175°C

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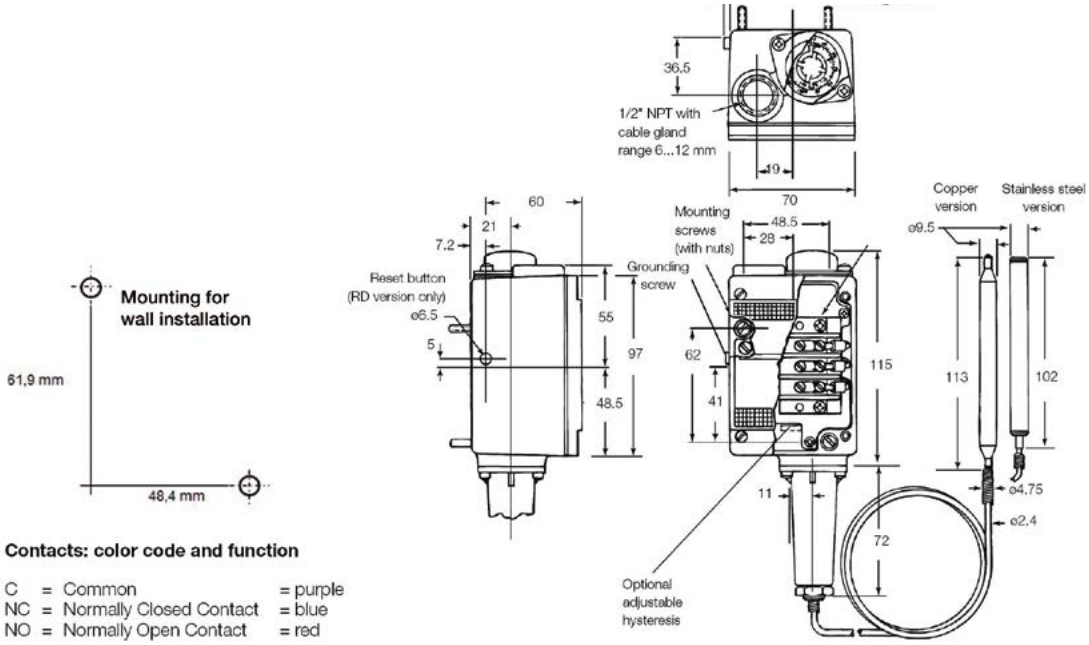

Contacts: color code and function

C	= Common	= purple
NC	= Normally Closed Contact	= blue
NO	= Normally Open Contact	= red

Electrical Ratings

Micro switch	Special features	Volt AC 50/60 Hz	Ind. load A	Res. load A	Volt DC	Ind. load A	Res. load A	Comments
H	Silver contacts	125 250 480	10 10 3	10 10 3	6 bis 28	0.5	0.5	Small hysteresis; High AC / low DC loads
M	Silver contacts	125 250 480	10 10 3	10 10 3	12 24 250	5.00 1.00 0.25	15.0 2.0 0.4	Medium hysteresis; High AC and DC loads
GH	Micro switch with gold contacts for low voltage and low current (e. g. "Exi")	125	1	1	24	1,00	1,00	Small hysteresis
GM		30	0.1	0.1	30	0.1	0.1	Medium hysteresis
S	Silver contacts	480	15	15	125	0.05	0.4	Adjustable hysteresis
G (RD)	Silver contacts	480	10	10	125	0.4	0.75	Manual reset (S2 only)

Hermetically sealed micro switch (HMT1H) on request.

Order Code

Base model**					
MT1H					
	Micro switch				
	-H	with silver contacts			
	-M	with silver contacts			
	-GH	with gold contacts			
	-GM	with gold contacts			
	-S	with silver contacts			
	-G (RD)	with silver contacts			
		Code Adjustments range			Adjustment range, (°C) - factory presseting available from -15°C to +175°C
		154			-45... +66
		251			+10... +121
		351			+66... +177
		601			+149... +227
		603			+160..+316
			Sensor length		
			S-A		1.8 m, armoured, VA
			S-12-A		3.6 m, armoured, VA
			S-25-A		7.5 m, armoured, VA
				Options	
				-EXI	for intrinsically safe application, Ex ia

Example

MT1H	-GH	251	S-A	-EXI

** Standard parts without UL approval