



**RAYCHEM**

# GM-TA Thermostat

(Firmware version r2.0 or higher)

- EN Installation and Operation Manual
- DE Montage-und Betriebsanleitung
- FR Manuel d'installation et d'utilisation
- PL Podręcznik montażu i eksploatacji
- CZ Návod k instalaci a nastavení
- RU Руководство По Монтажу И Эксплуатации
- SV Installations- och användarmanual

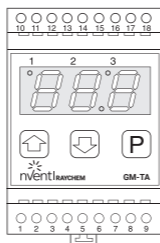


Figure A

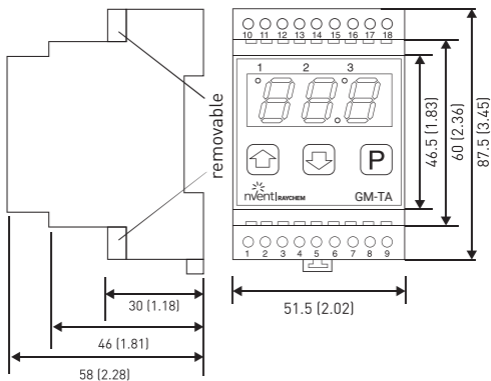
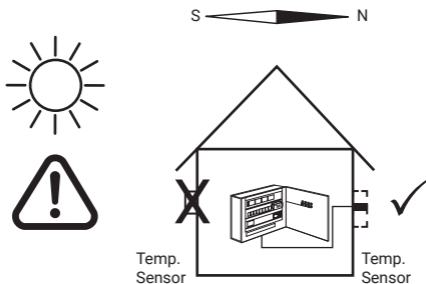


Figure B : Ambient Temp. Sensor GM-TA-AS



# ENGLISH

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## Precautions!

nVent RAYCHEM GM-TA is an electronic thermostat to control heating cables in roof & gutter snow melting applications. nVent recommends the use of this thermostat for roof & gutter heating circuits up to a maximum length of 30 m.

- Electrical installation and commissioning must be done by authorised personnel.
- To be installed and commissioned in accordance with local safety and electrical regulations.
- Do not exceed the maximum electrical ratings for the product.

GM-TA is to be DIN-Rail mounted within an electrical enclosure (indoor installation).

The ambient temperature sensor GM-TA-AS is to be installed outside of the building but protected from direct sun light.

## Functional description

The heating is switched on in accordance with the temperature range that has been set by the user.

The control relay will switch ON the heating cable when the ambient temperature falls below the temperature set point (default: +2°C). If the temperature decreases below the lower temperature set point (e.g. SP1: -10°C) the control relay switches the heating cable OFF.

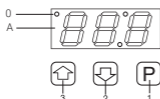
## Installation

The GM-TA thermostat is intended for installation within a distribution panel. The thermostat is to be powered from a 230 Vac electrical supply in accordance with local electrical regulations. The heating cable and earthing connections need to be made in accordance with the circuit wiring diagram (figure C - last page).

Outdoor installation of the GM-TA thermostat is possible by using the nVent GM-TA-OUTDOOR-BOX (PCN 1244-017966) with IP65 rating.

The GM-TA-AS sensor must be installed outside the building and securely fastened to the wall (preferably north facing) (figure B). The sensor must be connected with a sensor cable (e.g. round 3 x 1,5 mm<sup>2</sup>, max. 100 m) to the GM-TA thermostat.

## Display



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### A-LED Display (temperature and alarm)

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**0**-Off: Heating cable OFF

-On: Heating cable ON

-Blinking: Post heating or Test

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**1**-Program mode selection ON /OFF

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**2**-Reduce value (change set temperatures)

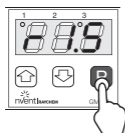
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**3**-Increase value (change of set temperature)

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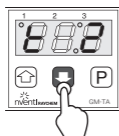
## Operation

### Firmware version check

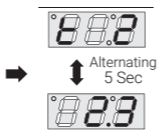


6 seconds (when in parameter menu)  
12 seconds (when in main screen)

### Set Point

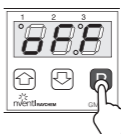
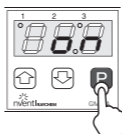
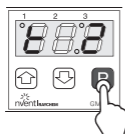


Temperature  
set point



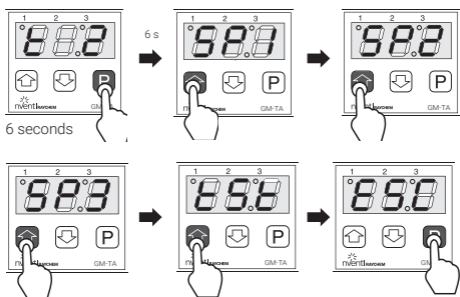
Display set and  
actual temperature

### Thermostat Control Relay: On or Off Mode



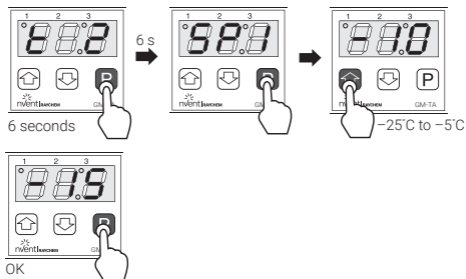
## Operation

### Parameter settings SP1; SP2; SP3 or Test

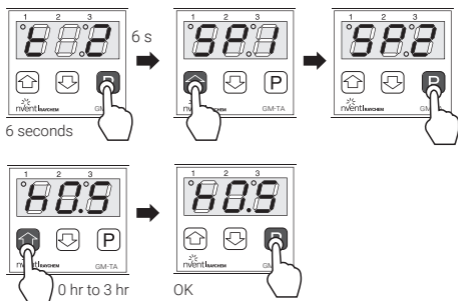


## Operation

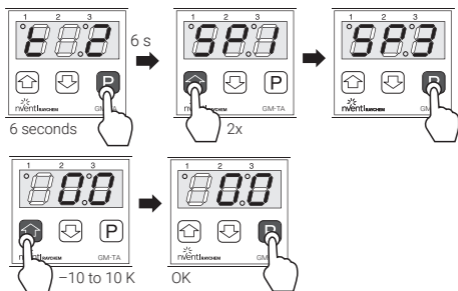
### Low temperature set point SP 1



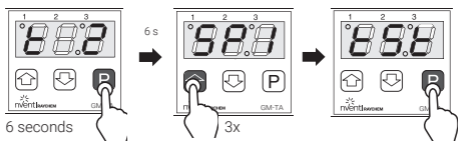
## Post heating time SP 2



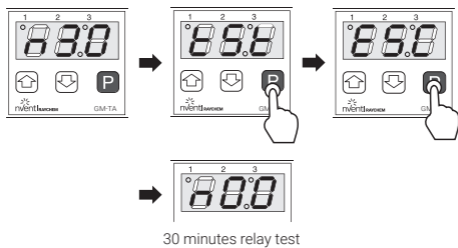
## Sensor correction value SP 3



## Test Control Relay – 30 minutes



manual test stop (< 30 min)





## Technical data

### Technical data GM-TA (PCN 1244-017783)

Supply voltage	230 Vac, +10%/-10%, 50 Hz
Relay switching capacity	Max 16 A (resistive load)
Power consumption	Max 5 VA
Terminal size	Max. 2,5 mm <sup>2</sup> , screwed
Storage temperature	-20°C to +50°C
Operation ambient temperature range	-25°C to +40°C
Switching hysteresis	+/- 1 K
Accuracy	+/- 1,5 K incl. sensor accuracy

Programmable parameters	Default
Temperature setting range	Set point : 0°C to 6°C      2°C
Lower temperature range	-5°C to -25°C                  -10°C
Post heating time	0 to 3 hours                      0,5 h
Operating modus	On: normal operation Off: relay off (open) Test: relay On (30 minutes)

### Enclosure thermostat

Installation	DIN-rail-mounted
IP rating	IP 20

### Ambient sensor GM-TA-AS (PCN 1244-017965) included

IP rating	IP 65
Installation	Wall mounted / outdoors
Ambient sensor type	202AT +/-1% NTC 2.0 K @ 25°C

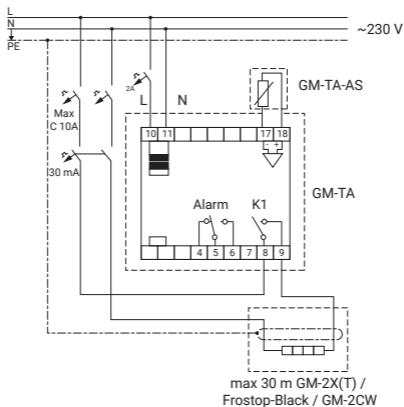
### Approvals

CE, UKCA, RoHS, REACH

### Error codes

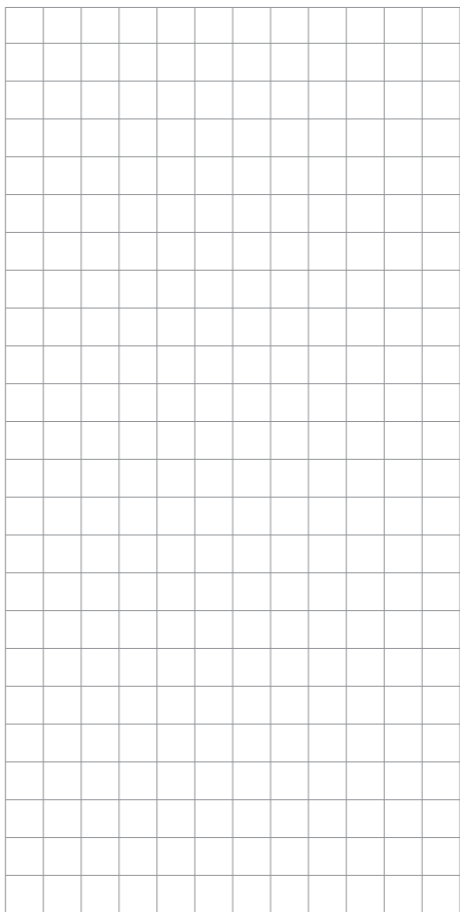
E1	Ambient sensor open circuit or short circuit / Check connections and resistance
E2	Internal error / Replace GM-TA

Figure C



Temp. sensor GM-TA-AS (202AT +/-1% NTC 2.0 kΩ @ 25°C)

TEMP.	R (kΩ)
-40°C	32,34
-35°C	24,96
-30°C	19,48
-25°C	15,29
-20°C	12,11
-15°C	9,655
-10°C	7,763
-5°C	6,277
0°C	5,114
+5°C	4,188
+10°C	3,454
+15°C	2,862
+20°C	2,387
+30°C	1,684
+40°C	1,211



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