



RAM-TR



RAM-TW

## Strap-on Thermostats

Electromechanical TR and TW

**RAM-TR...**  
**RAM-TW...**

- Temperature control or limitation with single-pole changeover microswitch
- Switching capacity contact connection 1-2: 0.2...16 (2.5) A, AC 250 V  
contact connection 1-3: 0.2... 2.5 A, AC 250 V
- Mounting choices: surface-mounted on pipes or storage tanks

### Use

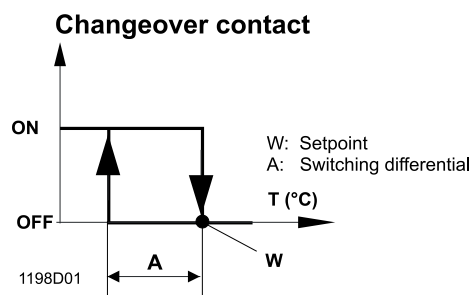
Typical applications:

- In heat generation plant (control or supervision of the water temperature, control of pumps, valves, etc.)
- For general use in heating, ventilation and air conditioning plant

## Function

Changeover switch  
(S.P.D.T)

When the externally adjustable setpoint of the control thermostat (TR) is reached on rising medium temperature, contact connection 1-2 changes over to 1-3.  
When the internally adjustable switch-off temperature of the thermal reset limit thermostat (TW) is reached on rising medium temperature, contact connection 1-2 changes over to 1-3.  
When the temperature of the medium falls by the value of the switching differential, the contact connection reverts (1-2 closes, 1-3 opens).



## Type summary

Standard set	Setpoint or switch-off temperature range	Scope of delivery
RAM-TR.2000M	20...90 °C, externally adjustable	Fixing spring, Mounting Instructions
RAM-TW.2000M	20...90 °C, internally adjustable	Fixing spring, Mounting Instructions

## Ordering

When ordering, please give type reference according to <<Type summary>>.

## Mechanical design

The housing of the thermostat is made ABS and is designed for surface mounting. The bimetal sensing element is mounted on a steel plate.

## Notes

Mounting aid

Installation Instructions are enclosed in the package.

Mounting location

Ensure that there is sufficient clearance above the thermostat for adjusting the setpoint resp. the switch-off temperature and for removing and replacing the device, if required.

Pipe mounting

Attach the fixing spring to the mounting plate. It must be properly tightened to ensure that the entire length of the sensing element is in close contact with the pipe surface. With the delivered spring clip, the thermostat can be mounted on pipes with diameters between 16 mm and 115 mm. It's necessary to clean the pipe surface properly to get a better response to the thermostat. The use of conductive paste is beneficial to improve the conductivity.

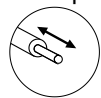
⚠ Temperature adjustment

With the TW, the switch-off temperature may only be adjusted by qualified staff.

⚠ Wiring

The thermostat must be wired by qualified staff. The cables used must meet the insulation requirements for mains voltage.

Stripping



Max. 9 mm

⚠ Max. AC 250 V

Wiring must be made in accordance with the connection diagram and in compliance with local regulations.

Caution: Before opening the housing, disconnect the thermostat from the mains supply.

## Disposal



The devices are considered electronics devices for disposal in term of European Directive 2012/19/EU and may not be disposed of as domestic waste.

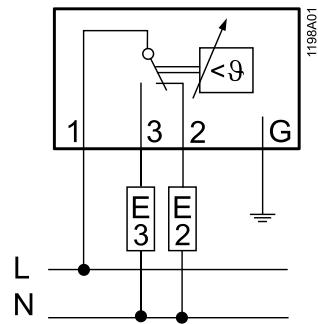
- Dispose of the device via the channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

## Technical data

Switching mechanism	Switching capacity		
	Nominal voltage range	AC 24...250 V	
	Nominal current range I (I <sub>M</sub> )	Terminals 1-2	0.2...16 (2.5) A
		Terminals 1-3	0.2...2.5 A
	External fuse	16 A	
	Life expectancy at nominal rating	min. 100,000 switching cycles	
	Safety class	I to EN 60 730	
	Degree of protection	IP 20 to EN 60 529	
	Adjustable temperature range		
	RAM-TR and RAM-TW	20...90 °C	
	Thermal switching differential	approx. 8 ± 3 K	
	Directives and Standards	Product standard	EN 60730-x
		EU Conformity (CE)	CE1T1198xx <sup>*)</sup>
Radio interference protection		click rate N ≤5 to EN 55 014	
Environmental conditions	Operation	class 3K5 to IEC 60 721-3-3	
	Max. temperature at the sensing element	163 K	
	Ambient temperature	max. 85 °C (T85)	
	Humidity	< 95 % r.h.	
	Mechanism	class 3M2 to IEC 60 721-3-3	
	Storage and transport	class 2K3 to IEC 60 721-3-2	
	Ambient temperature	-25...+70 °C	
	Humidity	< 95 % r.h.	
	Max. temperature at the base	110 °C	
	Degree of pollution	2 normal to EN 60 730	
Accuracy	Controlled medium:	water, oil	
	Calibration deviation	±2 °C	
	Manufacturing deviation temperature range	T.Min. ± 4 °C / T.Max. ± 6 °C	
	Influence of the ambient temperature	-0.2 °C / °C	
Connection	Electrical connection	screw terminals for wires 0,75 to 1,5 mm <sup>2</sup>	
	Cable entry	cable 7.5 mm dia.	
General data	Housing color	RAL 7035 (light-grey)	
	Sensing element	bimetal	
	Weight of standard set	RAM-TR	0.13 kg
		RAM-TW	0.13 kg

\*) The documents can be downloaded from <http://siemens.com/bt/download>.

## Connection diagram



## Dimensions

