



Room thermostat

RAA21...

Adjustable for heating only **or** cooling only

- **2-position control**
- **Switching voltage AC 24...250 V**

Use

The RAA21.. room thermostat is used in heating only or cooling only systems to maintain the selected room temperature.

Typical use:

- Residential buildings
- Light industrial buildings

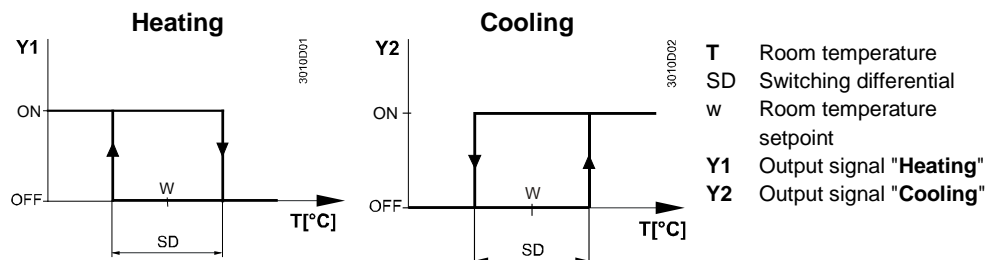
In conjunction with

- zone valves or thermal valves
- gas or oil burners
- fans
- pumps

Functions

The RAA21.. room thermostat has separate outputs for heating only and cooling only. If the room temperature falls below the selected setpoint, the heating contact will close. If the room temperature exceeds the selected setpoint, the cooling contact will close.

Function diagrams



Type summary

| Functionality | Product no. (ASN) |
|--------------------------------------------------------------------------------|-------------------|
| Room thermostat for heating or cooling mode Switching voltage AC 24...250 V | RAA21 |

Equipment combinations

| Description | Product no. (ASN) | Data sheet ¹⁾ |
|--------------------------------------------|-------------------|--------------------------|
| Motoric on / off actuator | SFA21... | 4863 |
| Thermal actuator (for radiator valves) | STA21... | 4893 |
| Thermal actuator (for small valves 2.5 mm) | STP21... | 4878 |

¹⁾ The documents can be downloaded from <http://siemens.com/bt/download>.

Accessories

| Description | Product no. (ASN) |
|-----------------------------------------------------|-------------------|
| Adapter plate 120 x 120 mm for 4 x 4" conduit boxes | ARG70 |
| Adapter plate 96 x 120 mm for 2 x 4" conduit boxes | ARG70.1 |
| Adapter plate for surface wiring 112 x 130 mm | ARG70.2 |

Technical design

Key features of the RAA21.. room thermostat:

- 2-position control
- Gas-filled diaphragm

Adjustments

The required temperature setpoint is selected with the setting knob on the front of the thermostat.

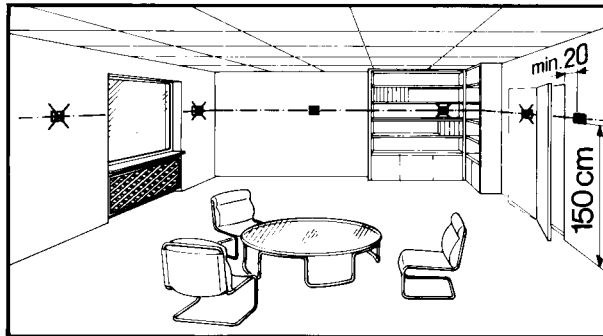
The setpoint setting range can be mechanically limited by means of setpoint limiters under the unit cover.

Notes

Mounting, installation and commissioning

The thermostat should be located where the room temperature can be acquired as accurately as possible, without getting adversely affected by direct solar radiation or other heat or refrigeration sources.

Mounting height is about 1.5 m above the floor.



The thermostat can be fitted to most commercially available recessed conduit boxes or directly on the wall.

Only authorized personnel may open the unit to perform service.

The unit must be isolated from the mains supply before opening.

When installing the unit, fix the base plate first, then hook on the thermostat body and make the electrical connections. Then, fit the cover and secure it (also refer to separate mounting instructions).

The thermostat must be mounted on a flat wall.

The local electrical regulations must be complied with.

If there are thermostatic radiator valves in the reference room, set them to their fully open position.



AC 24...250 V



Warning!

No internal line protection for supply lines to external consumers (Y1, Y2)

Risk of fire and injury due to short-circuits!

- Adapt the line diameters as per local regulations to the rated value of the installed overcurrent protection device.

Maintenance

Mechanical design

The room thermostat is maintenance-free.

The diaphragm is filled with environment-friendly gas.

The housing is made of plastic.

Ordering

| Type (ASN) | Part number (SSN) | Description |
|------------|-------------------|-----------------------|
| RAA21 | S55770-T220 | Room thermostat RAA21 |



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.

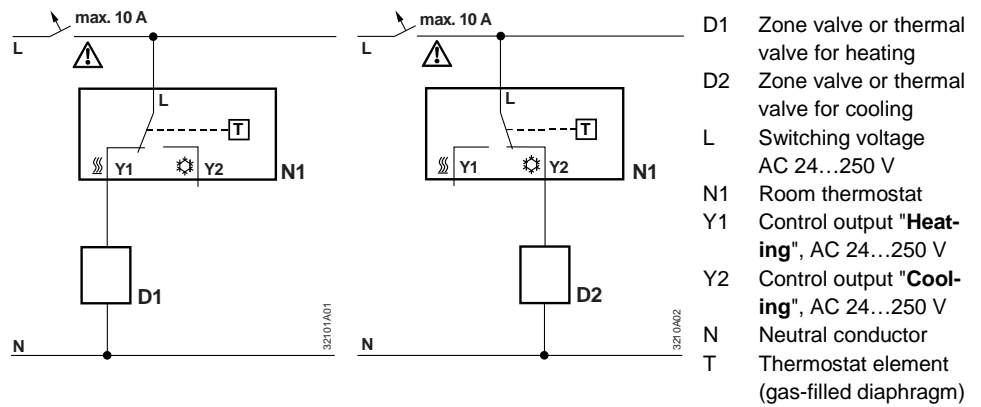
- Dispose of the device via the channels provided for this purpose
- Comply with all local and currently applicable laws and regulations.

Technical data

| | | |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Power  | Switching capacity | |
| | Voltage | AC 24...250 V |
| | Current | 0.2...6(2.5) A |
|  | Frequency | 50 or 60 Hz |
| | No internal fuse | |
| | External preliminary protection with max. C 10 A circuit breaker in the supply line required under all circumstances | |
| Operational data | Screw terminals for | 2 x 1.5 mm ² (min. 0.5 mm ²) |
| | Switching differential SD | ≤1 K |
| | Setpoint setting range | 8...30 °C |
| Environmental conditions | Operation | To IEC 60721-3-3 |
| | Climatic conditions | Class 3K5 |
| | Temperature | 0...50 °C |
| | Humidity | <95% r.h. |
| | Pollution degree | Normal, to EN 60730-1 |
| | Transport / storage | To IEC 60721-3-2 |
| Industry standards | Climatic conditions | Class 2K3 / 1K3 |
| | Temperature | -20...50 °C |
| | Humidity | <95% r.h. |
| | Mechanical conditions | Class 2M2 |
| | EU Conformity (CE) | CE1T3561xx ¹⁾ |
| | RCM Conformity | CE1T3561en_C1 ¹⁾ |
| Environmental compatibility | Safety standard | II to EN 60730-1 |
| | Degree of protection of housing | IP30 to EN 60529 |
| Mechanical design | The product environmental declaration CE1E3561 ¹⁾ contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal). | |
| | Weight | 0.14 kg (RAA21) |
| | Color | White, NCS S 0502-G (RAL 9003) |

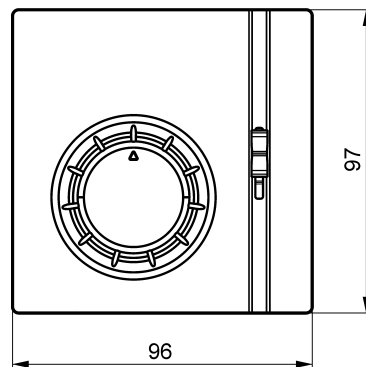
¹⁾ The documents can be downloaded from <http://siemens.com/bt/download>.

Connection diagrams

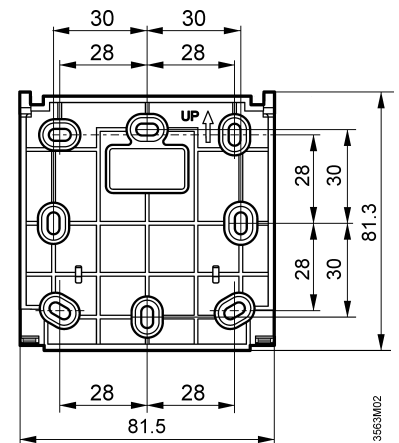


Dimensions

Room thermostat



Base plate



Remarks

Heating:

Because of the unavoidable self heating effects of the electrical current, any loads of more than 3 Amperes connected to the unit can influence the control behavior and temperature accuracy in a negative way.

Cooling:

Because of the unavoidable self heating effects of the electrical current, any loads of more than 1 Amperes connected to the unit can influence the control behavior and temperature accuracy in a negative way.

