

Room thermostat

RAA41/S



Adjustable for heating only or cooling only

- 2-position control
- Manual switch for Heating / OFF / Cooling
- Gas-filled diaphragm
- Scale from 1 to 5 (Scale 1: 10 °C, Scale 2: 15 °C, Scale 3: 20 °C, Scale 4: 25 °C, Scale 5: 30 °C)

Use

The RAA41/S room thermostat is used in heating or cooling systems to maintain the selected room temperature.

Typical use:

- Residential buildings
- Light industrial buildings

In conjunction with

- zone valves
- thermal valves

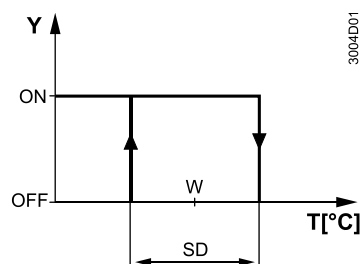
Functions

The front of the unit carries a selector with three positions for Heating / OFF / Cooling.

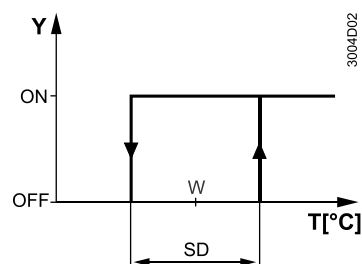
OFF	In the OFF position, the input voltage is physically separated from the output voltage.
Heating	If the room temperature falls below the selected setpoint, the heating contact will close (cooling contact open). If the room temperature exceeds the selected setpoint, the heating contact will open and the cooling contact will close but remains inactive because the selector is set to "Heating".
Cooling	Action reversed.

Function diagrams

Heating



Cooling



T	Room temperature
SD	Switching differential
W	Room temperature setpoint
Y	Output signal "Heating / Cooling"

Equipment combinations

Description	Product no. (ASN)	Data sheet ^{*)}
Motonic on / off actuator	SFA21...	4863
Thermal actuator (for radiator valves)	STA21...	4893
Thermal actuator (for small valves 2.5 mm)	STP21...	4878

^{*)} 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 RAA41/S room thermostat:

- 2-position control
- Manual switch for Heating / OFF / Cooling
- Gas-filled diaphragm

Adjustments

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

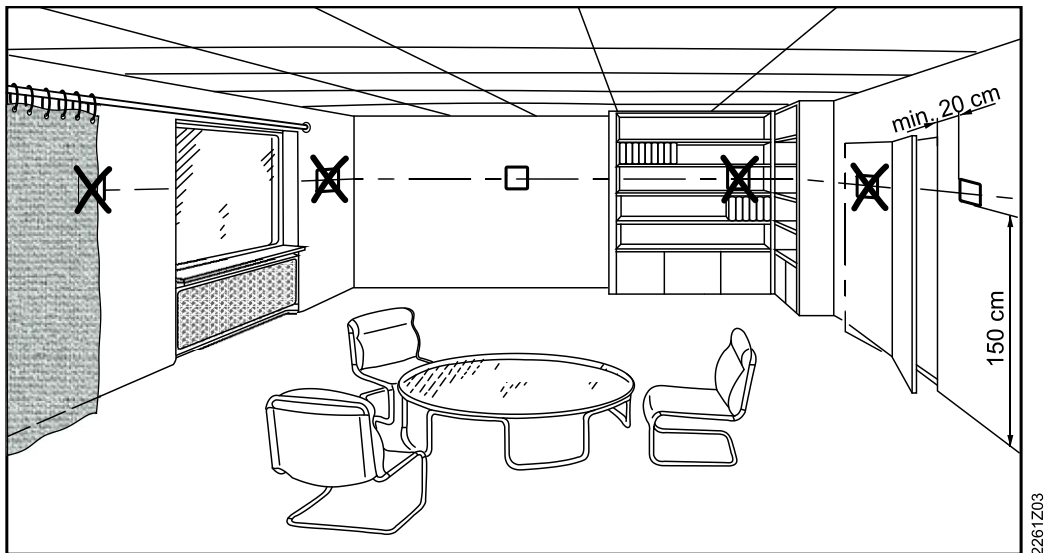
The setpoint setting range can be mechanically limited by means of setpoint limiters under the unit cover.

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.

CAUTION



Mounting and maintenance

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.

CAUTION



Warning of using power

No internal line protection for supply lines to external consumers (Y)

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.

Mechanical design

The diaphragm is filled with environment-friendly gas.

The housing is made of plastic.

Maintenance

The thermostat is designed for maintenance-free operation.

Disposal



This symbol or any other national label indicate that the product, its packaging, and, where applicable, any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation.
For additional details, refer to www.siemens.com/bt/disposal.

Heating and cooling

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.

Ordering

Type (ASN)	Part number (SSN)	Description
RAA41/S	S55770-T507	Room thermostat RAA41/S

Technical data

Power

Item	Value
Voltage	AC 24...250 V
Current	0.2...6(2.5) A
Frequency	50 or 60 Hz

⚠ CAUTION



No internal fuse

External preliminary protection with max. C 10 A circuit breaker in the supply line required under all circumstances

Operational data

Item	Value
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

Item	Value
Operation: 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	
Climatic conditions	Class 2K3 / 1K3
Temperature	-20...+50 °C
Humidity	< 95 % r.h
Mechanical conditions	Class 2M2

Industry standards

Item	Value
EU conformity (CE)	8000064801 ^{*)}
UK conformity (UKCA)	A5W00209372A ^{*)}
RCM conformity	CE1T3561en_C1 ^{*)}
Safety standard	II to EN 60730-1
Degree of protection of housing	IP30 to EN 60529

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

Environmental compatibility

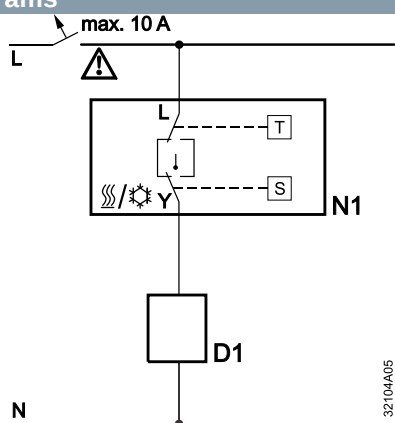
The product environmental declaration A5W00280794A^{*)} contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

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

Mechanical design

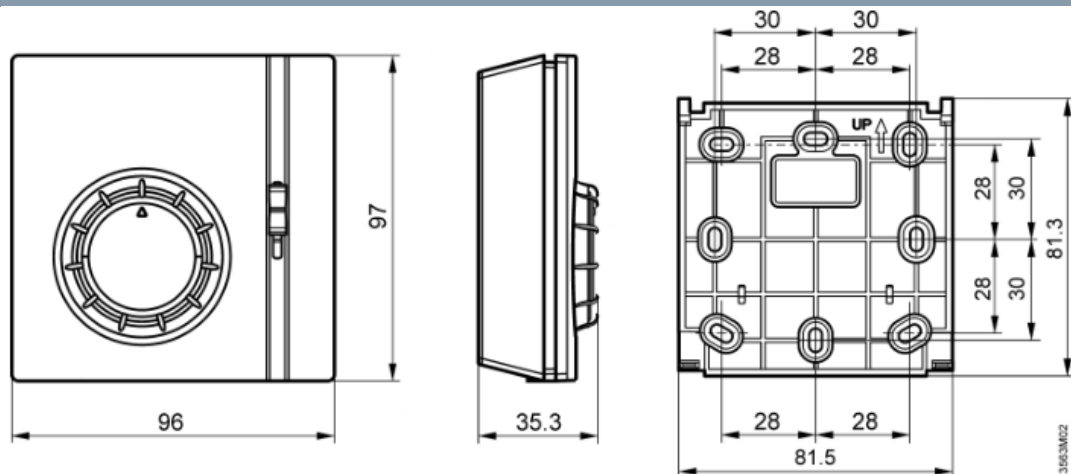
Item	Value
Weight	0.14 kg
Color	White, NCS S 0502-G (RAL 9003)

Connection diagrams



D1	Zone valve or thermal valve
L	Switching voltage AC 24...250 V
N1	Room thermostat
S	Selector for Heating / OFF / Cooling
Y	Control output "Heating" or "Cooling", AC 24...250 V
N	Neutral conductor
T	Thermostat element (gas-filled diaphragm)

Dimensions



Issued by
Siemens Switzerland Ltd
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Global Headquarters
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www.siemens.com/buildingtechnologies

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Document ID A6V13583431_en--_a
Edition 2022-09-30