Room Thermostat RAA41

Adjustable for heating only **or** cooling only

Room thermostat with manual changeover switch for heating or cooling systems
Two-position control
Switching voltage AC 24…250 V

Use

The RAA41 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

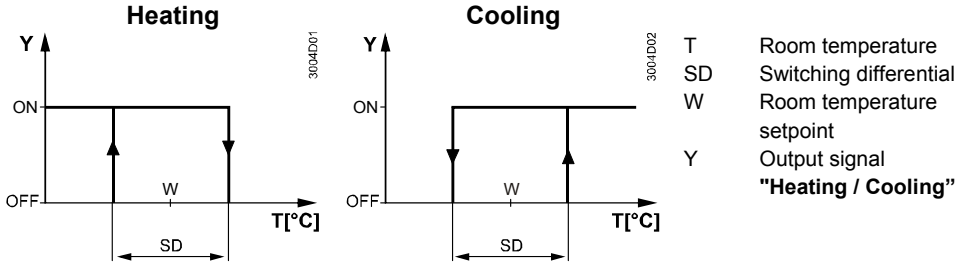
The front of the unit carries a selector with three positions for **Heating / OFF / Cooling**.

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



Equipment combinations

Type of unit	Type reference	Data sheet
Motoric on/off actuator	**SFA21...**	4863
Thermal actuator (for radiator valve)	**STA21...**	4893
Thermal actuator (for small valve 2,5 mm)	**STP21...**	4878

Accessories

Description	Type reference
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 112x130 mm	ARG70.2

Technical design

Key features of the RAA41 room thermostat:

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

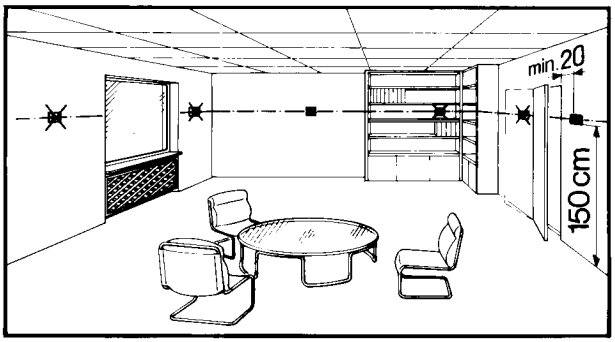
Adjustments

The required temperature is selected by a setpoint adjuster on the front of the thermostat.
The setpoint setting range can be mechanically limited by means of setpoint limiter under the unit cover.

Notes

Mounting, installation and Commissioning

The room thermostat should be located where the air temperature can be sensed 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 unit can be fitted to most commercially available recessed conduit boxes or directly on the wall.

AC 250 V

Only authorised 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 baseplate 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.

Maintenance

The room thermostat is maintenance-free.

Mechanical design

The diaphragm is filled with environmentally friendly gas.
The thermostat housing is made of plastic.

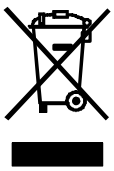
Ordering

Typ (ASN)	*Partnumber (SSN)*	*Description*
RAA41	S55770-T224	Room thermostat RAA41

Technical data

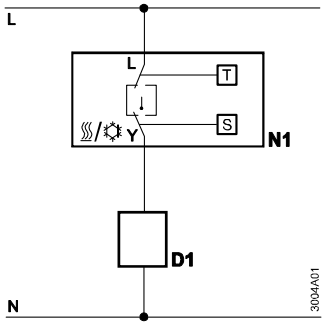
Power supply	Switching capacity	
	Voltage	AC 24...250 V
	Current	0.2…6(2.5) A
	Frequency	50 or 60 Hz
	Screw terminals for	2 x 1.5 mm^2 (min. 0.5 mm^2)
Operational data	Switching differential SD	≤1 K
	Setpoint setting range	8…30 °C
Environmental conditions	Operation	To IEC 721-3-3
	Climatic conditions	Class 3K5
	Temperature	0…50 °C
	Humidity	<95% r.h.
	Pollution degree	Normal, to EN 60730-1
	Transport / storage	To IEC 721-3-2
	Climatic conditions	Class 2K3 / 1K3
	Temperature	-20…50 °C
	Humidity	<95% r.h.
	Mechanical conditions	Class 2M2
Industry standards	Electromagnetic compatibility	
	Emissions (Residential, business and commercial	EN 55014
	CE- Conformity	
	EMC guidelines	2004/108/EC
	Low voltage directive	2006/95/EC
	- Conformity	
	Australian EMC Framework	CISPR 14-1: 2009
	Radio Interference Emission Standard	
	Environmental compatibility	
	The product environmental declaration	2002/95/EC (RoHS)
	Safety standard	II to EN 60730-1
	Degree of protection of housing	IP30 to EN 60529
	Weight	0.14 kg
	Color	White, NCS S 0502-G (RAL 9003)

Disposal



Dispose of the device as electronic waste in compliance with European directive 2002/96/EEC (WEEE) and not as municipal waste. Observe all relevant national regulations and dispose of the unit correctly. Observe all local and applicable laws.

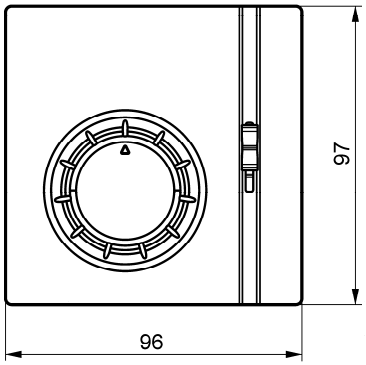
Connection diagrams



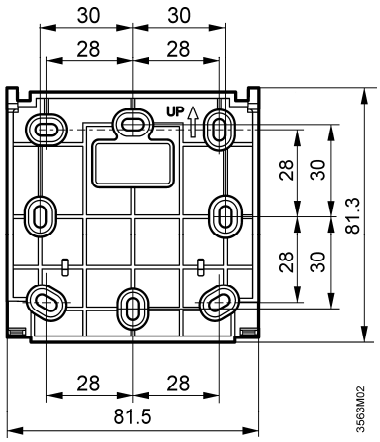
D1 Zone valve or thermal valve
L Switching voltage AC 24…250 V
N1 Room thermostat
S Selector for Heating / OFF / Cooling
Y Control output "**Heating**" or "**Cooling**", AC 24…250 V
N Neutral
T Thermostat element (gas-fillet diaphragm)

Dimensions

Room thermostat



Baseplate



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.