



RAA31



RAA31.16



RAA31.26

Room Thermostats

RAA31...

Adjustable room thermostat for heating only or cooling only systems

Room thermostat with manual ON/OFF switch

Two-position control

Switching voltage AC 24...250 V

Use

The RAA31... 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, thermal valves
- gas or oil burners
- fans
- pumps

Functions

The front of the unit carries an ON/OFF switch.

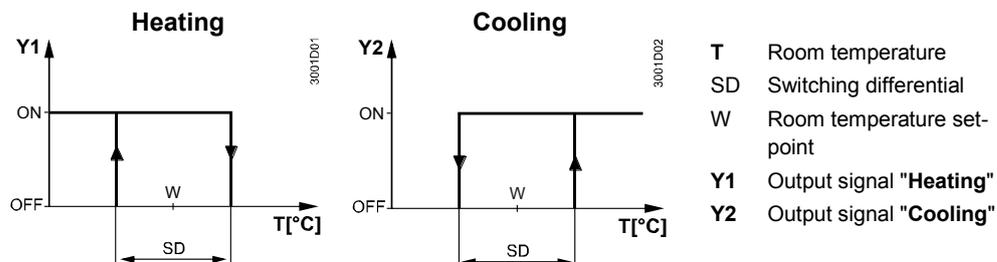
OFF

In the OFF position, the input voltage is physically separated from the output voltage.

ON

The RAA31... 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	Order number (ASN)
Thermostat for heating or cooling application with ON/OFF switch Operating voltage AC 24...250 V	RAA31
Thermostat for heating or cooling application with ON/OFF switch and operation mode indication (LED) Operating voltage AC 230 V + 10/-15 %.	RAA31.16
Thermostat for heating or cooling application with ON/OFF switch and operation mode indication (LED) and independent ON/OFF switch Operating voltage AC 230 V + 10/-15 %.	RAA31.26

Equipment combinations

Type of unit	Type reference	Data sheet
Motoric on/off actuator	SFA21...	4863
Electric actuator (for small valves)	SFP21...	4865
Thermal actuator (for radiator valve)	STA21...	4877
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 112 x 130 mm	ARG70.2

Technical design

Key features of the RAA31... room thermostat:

- Two-position control
- Manual ON/OFF switch
- Gas-filled diaphragm

Adjustments

The required temperature is selected by a setpoint adjuster on the front of the thermostat.

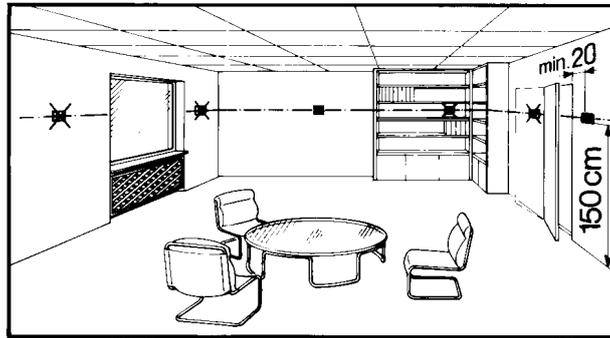
The setpoint setting range can be mechanically limited by means of setpoint limiter under the cover.

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.

Only authorised personnel may open the unit to perform service.



AC 24...250 V

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

Mechanical design

The room thermostat is maintenance-free.

The diaphragm is filled with environmentally friendly gas.

The thermostat housing is made of plastic.

Ordering

<i>Typ (ASN)</i>	<i>Partnumber (SSN)</i>	<i>Description</i>
RAA31	S55770-T221	Room thermostat RAA31
RAA31.16	S55770-T222	Room thermostat RAA31.16
RAA31.26	S55770-T223	Room thermostat RAA31.26

Technical Data

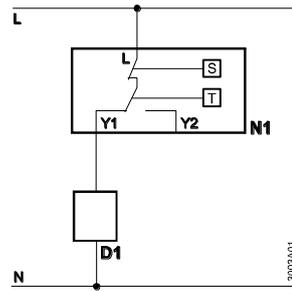
Power	Switching capacity	
	Voltage	
	• RAA31...	AC 24...250 V / 50 or 60 Hz
	• RAA31.16 and 31.26	AC 230 V +10/-15 %
	Power consumption of each LED	0.5 VA (Only RAA31.16 and RAA31.26)
	Current	0.2...6 (2.5) A
	Frequency	50 or 60 Hz
	Screw terminals for	2 x 1.5 mm ² (min. 0.5 mm ²)
Operational data	Switching differential SD	≤1 K
	Setpoint setting range	8...30 °C
Environmental conditions	Operation	to IEC 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	Electromagnetic compatibility	
	Emissions (Residential, business and commercial)	EN 55014
	 -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 of housing	2002/95/EC (RoHS)
Safety standard	II to EN 60730-1	
Degree of protection of housing	IP30 to EN 60529	
Weight	0.14 kg	
Colour of top cover	white, NCS 50502-G (RAL 9003)	

Disposal



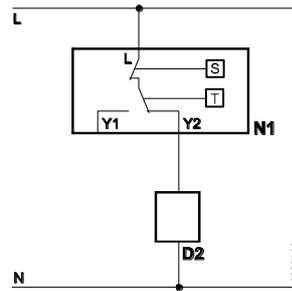
Dispose of the device as electronic waste in compliance with European directive 2002/96/EEC (WEEE) and not as municipal waste. Observe all relevant national regulations and dispose of the unit correctly. Observe all local and applicable laws.

Connection diagrams



RAA31 – Heating mode

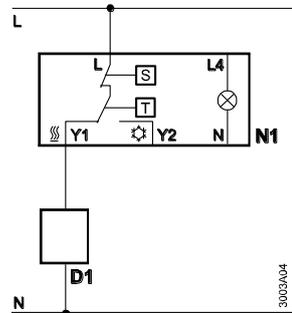
3003A01



RAA31 – Cooling mode

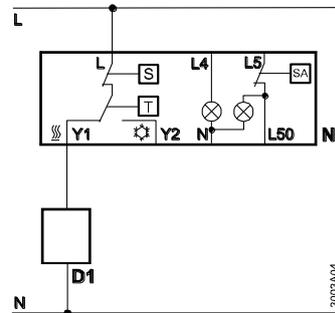
3003A02

- D1 Zone valve or thermal valve for **heating**
- D2 Zone valve or thermal valve for **cooling**
- L Switching voltage
AC 24...250 V (RAA31 only)
AC 230 V
(RAA31.16/GR / 26/GR only)
- N1 Room thermostat
- S ON/OFF switch
- Y1 Control output "**Heating**",
AC 24...250 V (RAA31 only)
AC 230 V
(RAA31.16 / 26 only)
- Y2 Control output "**Cooling**",
AC 24...250 V (RAA31 only)
AC 230 V
(RAA31.16 / 26 only)
- N Neutral
- T Thermostat element
(gas-filled diaphragm)



RAA31.16 – Heating mode

3003A04



RAA31.26 – Heating mode

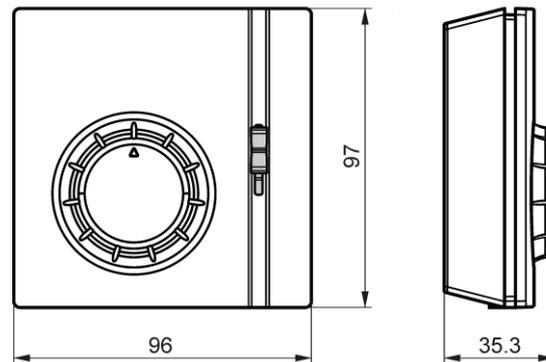
3003A04

- L4, L5 Input AC 230 V
- L50 Output
- SA Auxiliary switch

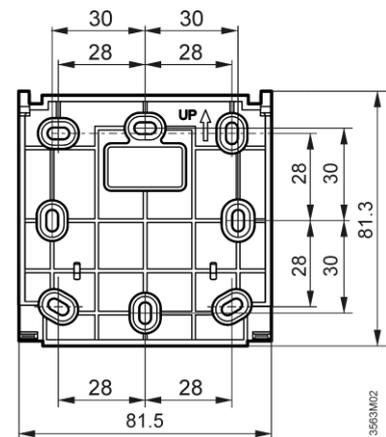
Dimensions

RAA31 and
RAA31.16

Room thermostat

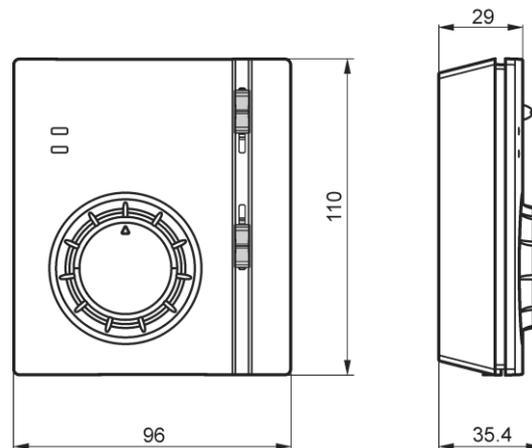


Baseplate

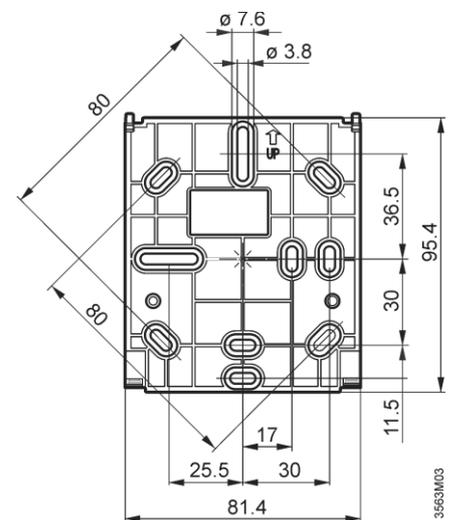


RAA31.26

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.