# Room Thermostat RAA21

VELUX® Commercial

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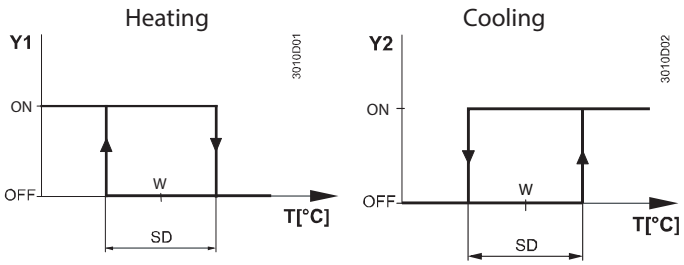



**Adjustable for heating only or cooling only**
- 2-position control
- Switching voltage AC 24...250 V

**Use of room thermostat**
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**
**T** Room temperature
**SD** Switching differential
**W** Room temperature setpoint.
**Y1** Output signal "Heating"
**Y2** Output signal "Cooling"

**Type summary**
Functionality: Room thermostat for heating or cooling mode. Switching voltage AC 24...250 V
Product no. (ASN): RAA21

**Technical design**
Key features of the RAA21.. room thermostat:
- 2-position control
- 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

**Equipment combinations**

| Description | Product No. (ASN) | Data sheet |
|---|---|---|
| Motoric on / off actuator | SFA21 ... | 4863 |
| Thermal actuator (for radiator valves) | STA21 ... | 4893 |
| Thermal actuator (for small valves 2.5 mm) | ST021 ... | 4878 |

| 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 |

**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.

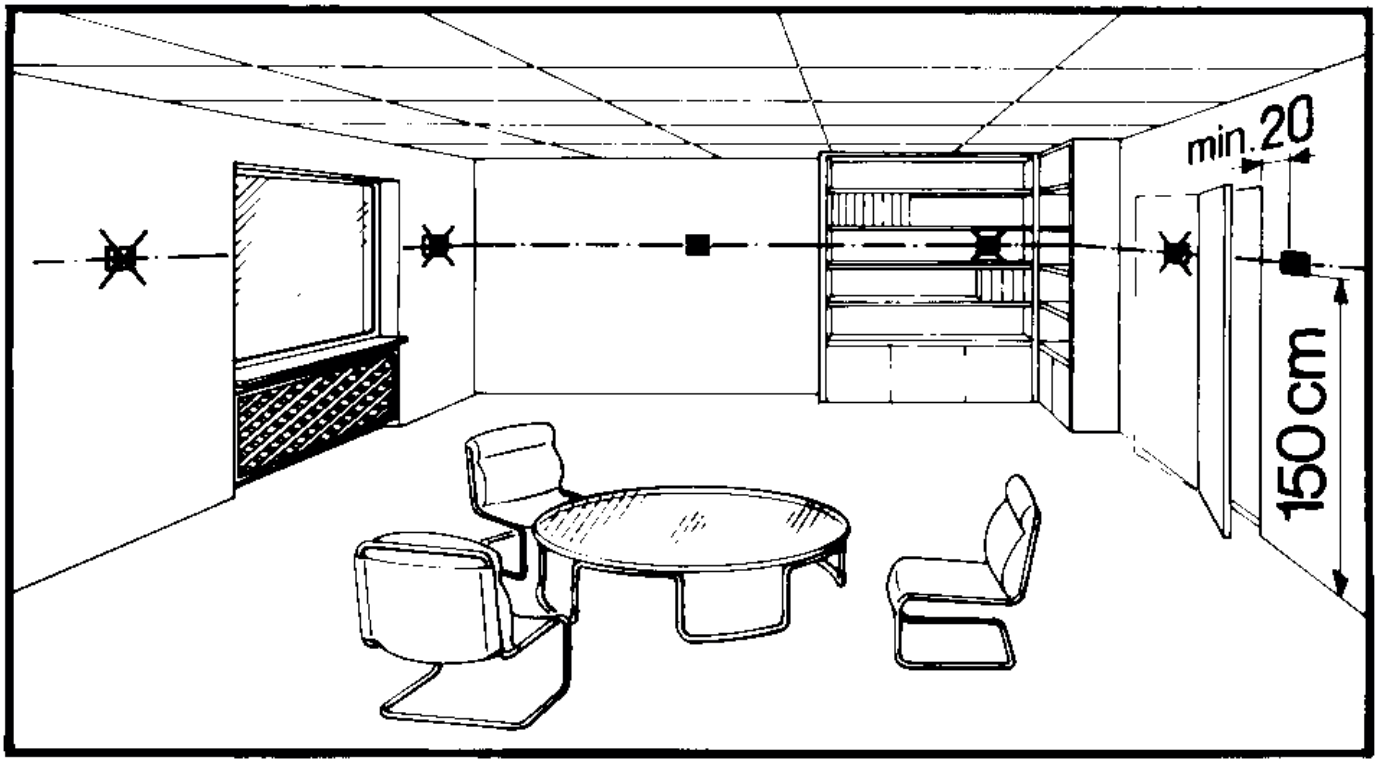
Only authorized personnel may open the unit to perform service. The unit must be isolated from the mains supply before opening. When installing the unit, fix the baseplate then hook on the thermostat body and make the electrical connections. Then, fix the cover and secure it (also refer to separate mounting 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 environment-friendly gas. The housing is made of plastic.

**Ordering**
Typ (ASN): RAA 21
Partnumber (SSN): S55770-T220
Description: Room Thermostat RAA21



| Power | |
|---|---|
| **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 mm²) |

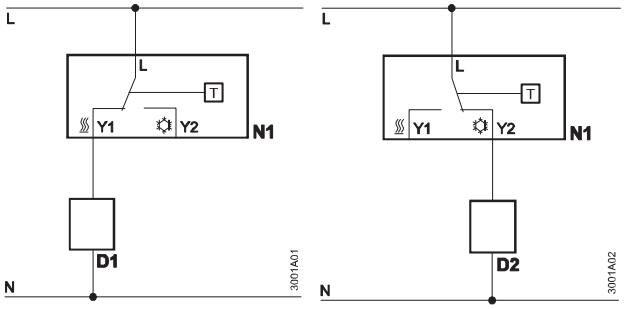
| Operational data | |
|---|---|
| Switching differential SD | <1 K |
| Setpoint setting range | 8...30 °C |

| 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** | **to EN 60730-1** |
| Degree of protection of housing | IP30 to EN 60529 |
| Weight 0.14 kg | (RAA21) |
| Color | White, NCS S 0502-G (RAL 9003) |

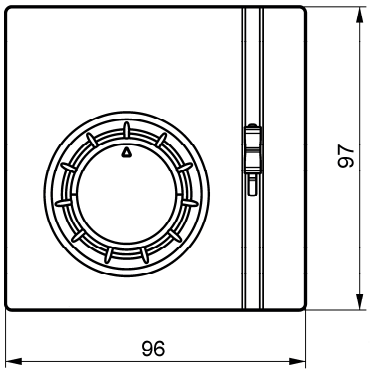
**Disposal**
Dispose of the device as electronic waste in compliance with European directive 2002/96/EEC (WEEE) and not as municipal waste. Observe all relevant national regulations and dispose of the unit correctly. Observe all local and applicable laws.

**Connection diagrams**
**D1** Zone valve or thermal valve for heating
**D2** Zone valve or thermal valve for cooling
**L** Switching voltage AC 24...250 V
**N1** Room thermostat
**Y1** Control output "Heating", AC 24...250 V
**Y2** Control output "Cooling", AC 24...250 V
**N** Neutral conductor
**T** Thermostat element (gasfilled diaphragm)

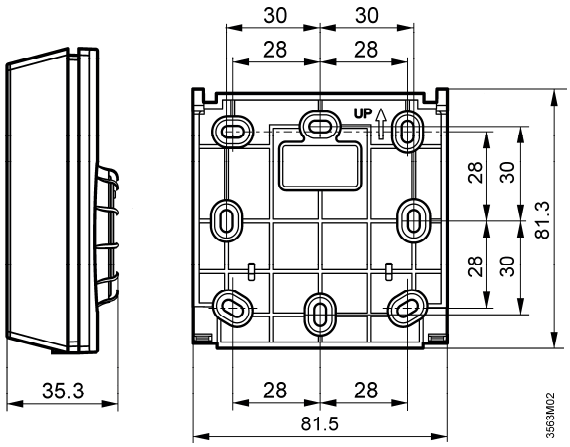



**Dimensions**

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.