Room Thermostat

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.
Equipment combinations

<table>
<thead>
<tr>
<th>Type of unit</th>
<th>Type reference</th>
<th>Data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motoric on/off actuator</td>
<td>SFA21...</td>
<td>4863</td>
</tr>
<tr>
<td>Thermal actuator (for radiator valve)</td>
<td>STA21...</td>
<td>4893</td>
</tr>
<tr>
<td>Thermal actuator (for small valve 2,5 mm)</td>
<td>STP21...</td>
<td>4878</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Type reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapter plate 120 x 120 mm for 4&quot; x 4&quot; conduit boxes</td>
<td>ARG70</td>
</tr>
<tr>
<td>Adapter plate 96 x 120 mm for 2&quot; x 4&quot; conduit boxes</td>
<td>ARG70.1</td>
</tr>
<tr>
<td>Adapter plate for surface wiring 112x130 mm</td>
<td>ARG70.2</td>
</tr>
</tbody>
</table>

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.
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**

<table>
<thead>
<tr>
<th>Typ (ASN)</th>
<th>Partnumber (SSN)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAA41</td>
<td>S55770-T224</td>
<td>Room thermostat RAA41</td>
</tr>
</tbody>
</table>

**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 mm² (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
  - Class 3K5
  - Temperature: 0...50 °C
  - Humidity: <95% r.h.
  - Pollution degree: Normal, to EN 60730-1
- **Transport / storage**
  - To IEC 721-3-2
  - 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
    - Low voltage directive
      - 2004/108/EC
      - 2006/95/EC

  - conformity
    - Australian EMC Framework
    - Radio Interference Emission Standard
      - CISPR 14-1: 2009

  - Environmental compatibility
    - The product environmental declaration
      - 2002/95/EC (RoHS)
  - Safety standard
    - Degree of protection of housing
      - II to EN 60730-1
      - 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 (gass-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.