Room temperature sensor, room thermostats, remote control devices with built-in room temperature sensor

**Application**
- Room temperature sensor is used in single family homes and duplexes for:
  - Room temperature control
  - Weather-dependent flow temperature control with connection to room temperature as disturbance variable
- Primarily in non-residential buildings for:
  - Room max limits
  - Monitoring room temperature for switched off heating (frost protection) and boost heating.
  - Optimization

**Select reference room**
- The reference room for placing the room temperature sensor:
  - For single-family homes and duplexes, in general in the main living room
  - In non-residential buildings, the least favorable room from a thermal standpoint, e.g.:
- Corner room on the north/northwest side or room with large portion of exterior surfaces and must serve as representative for main use of rooms influenced by the optimization system (e.g. no interior rooms, entries, hallways, storage rooms, gangways).

**Correct**
- Best mounting location for room temperature sensor: The interior wall in the main living room opposite the radiator
- Proper placement of room temperature sensor

**False**
- Incorrect placement of room temperature sensor

**How to correctly place the room temperature sensor:**
- This device should be placed on an interior wall in the main living room opposite the radiator.
- The room behind this wall must be heated to achieve a representative temperature for the entire living area in the main living room.
- Mounting height: ca. 1.5 m above the floor.
- 1.5 m minimum distance from heat source (e.g. television and strong lights).

**However, do not place the room temperature sensor:**
- In bookcases and coves, behind doors and curtains
- In direct sun or supply air
- Close to windows and doors
- In areas with strong contamination
- On a spot on the wall where the heating or domestic hot water piping runs or where a chimney is located
- On an exterior wall.
Flow and return temperature sensor immersion or strap-on temperature sensor

<table>
<thead>
<tr>
<th>Installation position</th>
<th>Control sensor</th>
<th>Limitation sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>To protect against humidity, install the sensor housing so that the lead for the electric wiring is not pointed up.</td>
<td>As a matter of principle, place the sensors so that the medium to be measured constantly circulates on the mounting location. Where not possible, mount the sensor as close as possible to the medium used to change temperature. (Example: See indirect district heating connection).</td>
<td></td>
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</tbody>
</table>

**Correct**

- With four-port mixer
- With three-port mixer
- Without mixer (floor heating)

**False**

- Mounting location for pump in flow

- Minimum limitation of the boiler return temperature
- Min.- or maximum limitation of the heating flow temperature
- Maximum limitation of the district heating return (direct district heating connection)
- Maximum limitation of the district heating return (indirect district heating connection)
- Control of boiler mixing pump