QAA24

QAA25…QAA27

# Room Temperature Sensors

# QAA24...27

with and without setpoint adjuster

## Use

In heating, ventilating and air conditioning plants, especially where a high level of comfort is required.

Major field of application:
Acquisition and adjustment of room temperature.

## Type summary

| *Type reference* | *Description* |
|---|---|
| **QAA24** | Room temperature sensor |
| **QAA25** | Room temperature sensor with setpoint adjuster (setting range 5...35 °C) |
| **QAA26** | Room temperature sensor with setpoint adjuster (setting range 5...30 °C) |
| **QAA27** | Room temperature sensor with setpoint adjuster (setting range ±3 K) |

## Ordering

When ordering, please give name and type reference, for example:
Room temperature sensor **QAA24**



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## Function

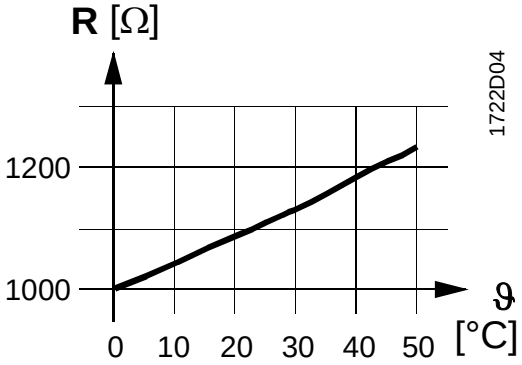
The sensor acquires the air temperature via its sensing element whose resistance changes as a function of the temperature.

The signal is delivered to a suitable controller for further handling.

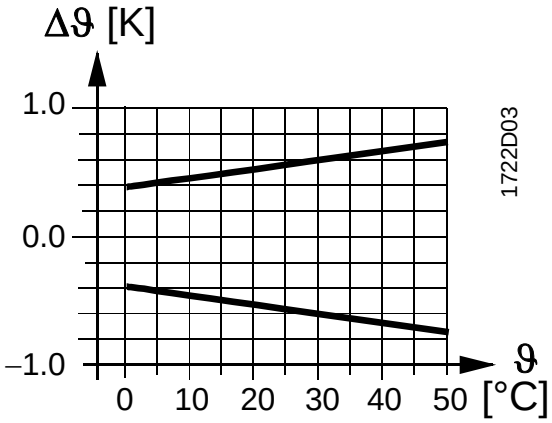
**Sensing element**

LG-Ni 1000

Characteristic:




Accuracy:




*Legend*

| | |
|---|---|
| R | Resistance value in Ohm |
| ϑ | Temperature in degrees Celsius |
| Δϑ | Temperature differential in Kelvin |

## Mechanical design

The units have been designed for wall mounting. They are suitable for use with most commercially available recessed conduit boxes. The cables can be introduced from the rear (concealed wiring) or from below or above (surface-run wires) through knock-out openings.

The units consist of two major sections: Casing and baseplate. Both snap together but can be detached again. The casing accommodates the temperature sensing element and, depending on the type of unit, various setting and operating elements. The base-plate carries the connecting terminals.



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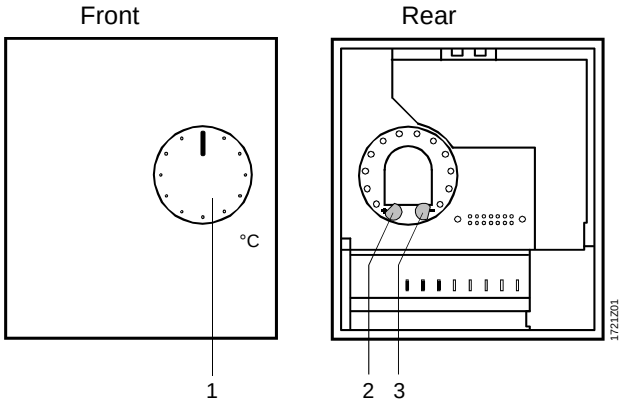
**Setting and operating elements**

(only with QAA25, QAA26 and QAA27)




*Legend*

1 Setting knob for infinite setpoint adjustment
2 Pin for mechanical maximum limitation of setpoint setting range
3 Pin for mechanical minimum limitation of setpoint setting range

**Disposal**

The major plastic components bear the material references in compliance with ISO/DIS 11 469 to facilitate environment-friendly disposal.

## Engineering notes

For the permissible lengths of lines and measured value errors, refer to «Basic System Data» of the respective control system.
Following applies to the following systems/devises:

- UNIGYR®/VISONIK®
  When using the **QAA26**, both the temperature sensor and the setpoint setting unit must be connected to a measured value input (B...) of the measured value module (PTM1.2R1K).

## Fitting and installation notes

Location

On an inner wall of the space to be heated or air conditioned. Not in recesses, shelves, not behind curtains, not opposite or near heat sources.

The unit must not be exposed to direct solar radiation.

The end of the conduit at the sensor must be sealed to prevent false measurements due to draughts through the conduit.

The permissible ambient conditions should be observed.

Installation instructions

Installation instructions are printed on the packing.



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## Technical data

| | | | | |
|---|---|---|---|---|
| **Sensor** | Range of use | 0...50 °C | | |
| | Sensing element | LG-Ni 1000 | | |
| | Time constant | 7 min (depending on air movement and thermal coupling to the wall) | | |
| | Max. permissible line lengths and measured value errors | refer to «Engineering notes» | | |
| **Setpoint setting knob** | | **QAA25** | **QAA26** | **QAA27** |
| | Setpoint setting range | 5...35 °C | 5...30 °C | ±3 K |
| | Resistance range | 95...685 Ω | 1000...1195 Ω | 1000...1175 Ω |
| | Resistance value at setpoint | | | 0 K ≙ 1091 Ω |
| | 10 °C | 193,9 Ω | 1039 Ω | |
| | 20 °C | 390,0 Ω | 1118 Ω | |
| | 25 °C | 488,3 Ω | 1157 Ω | |
| | 30 °C | 586,7 Ω | 1195 Ω | |
| **General data** | | | | |
| Connection terminals | Connection terminals for cross-sectional areas of | 2 x 1.5 $mm^2$ or 1 x 2.5 $mm^2$ | | |
| Protective data | Degree of protection | IP 30 to IEC 529 | | |
| | Safety class | III to EN 60 730 | | |
| Environmental conditions | Operation to | IEC 721-3-3 | | |
| | Climatic conditions | class 3K5 | | |
| | Temperature | 0...50 °C | | |
| | Humidity | 0…95 % r. h. (noncondensing) | | |
| | Mechanical conditions | class 3M2 | | |
| | Transport to | IEC 721-3-2 | | |
| | Climatic conditions | class 2K3 | | |
| | Temperature | −25...+65 °C | | |
| | Humidity | <95 % r. h. | | |
| | Mechanical conditions | class 2M2 | | |
| Norms and standards | CE conformity to | EMC directive 89/336/EEC | | |
| Materials and colors | Housing front | ASA+PC, NCS S 0502-G (white) | | |
| | Botton section of housing | ASA+PC, NCS 2801-Y43R (grey) | | |
| | Base | PC, NCS 2801-Y43R (grey) | | |
| | Sensor (entirely) | silicon-free | | |
| Weight | with packaging | approx. 0,1 kg | | |



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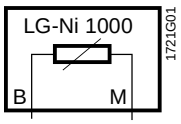
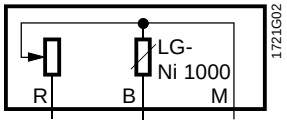
## Internal diagram

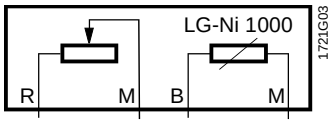
**QAA24**




**QAA25, QAA26**



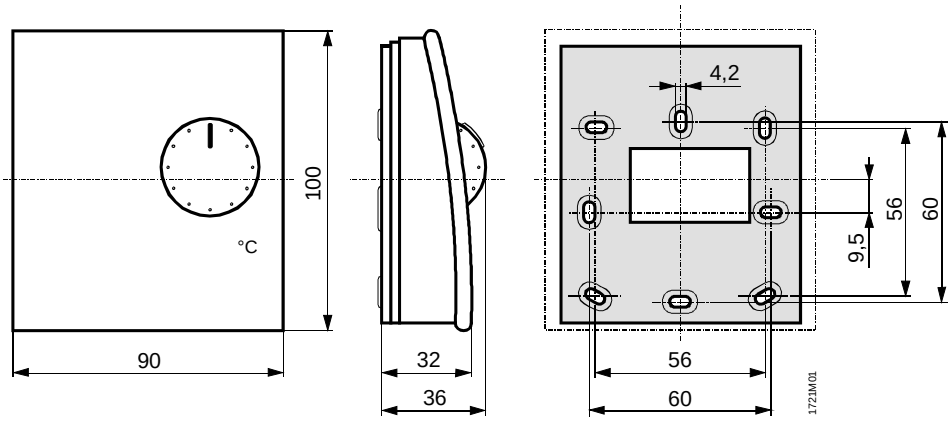

**QAA27**




*Legend*

| | |
|---|---|
| B1 | Room temperature measuring signal |
| M | Measuring neutral |
| R | Setpoint signal |

## Dimensions




Dimensions in mm

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Subject to alteration



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