

Symaro™

Outside Sensor

QAC9020



Outside sensor acquiring outside temperature

- Passive sensors for acquiring the outside temperature and – to a lesser degree – solar radiation, the wind effect and the temperature of the wall.
- Range of use -50...70 °C / 5...95 % r.h.

Use

The QAC9020 outside sensor is for use in heating, ventilation and air conditioning plants as:

- Reference sensors for weather-compensated control
- Measuring sensors, e.g. for optimization, measured value indication, or for connection to a building automation and control system

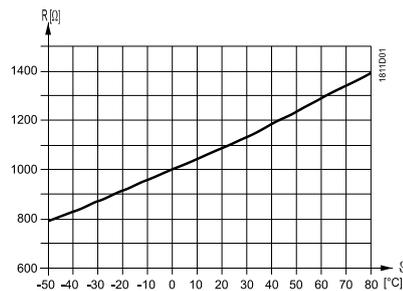
Function

The outside sensor acquires the outside temperature and – to a lesser degree – solar radiation, the wind effect and the temperature of the wall. The sensing element changes its resistance value as a function of the temperature.

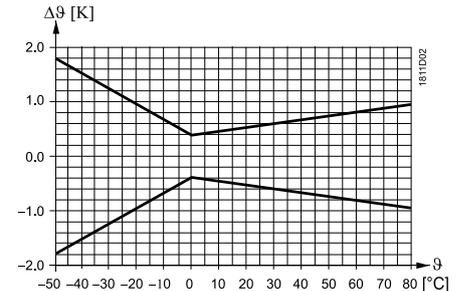
Sensing elements

LG-Ni 1000

Characteristic



Accuracy



Legend

R	Resistance value in Ohm
Θ	Temperature in degrees Celsius
$\Delta\Theta$	Temperature differential in Kelvin

Mechanical design

The sensor has a plastic housing with a removable cover.

The connection terminals can be accessed after removal of the cover.

Cable entry is either from the rear (concealed wiring) or from below (surface-run wires). A cable entry gland can be screwed into the bottom of the housing.

Type summary

Type	Sensing element	Range of use	Time constant	Packing size
QAC9020	LG-Ni 1000	-50...70 °C	ca. 14 min	42 pieces in multipacks

Ordering

When ordering, please give name and type reference, e.g.: Outside sensor **QAC9020**.

Equipment combinations

The outside sensor is suited for use with all types of controllers capable of acquiring and handling the sensor's measured value.

Notes

Engineering

The permissible cable lengths depend on the type of controller with which the sensor is used. They are specified in the Data Sheet of the relevant controller.

Mounting and installation

Depending on use, the outside sensor must be located as follows:

Mounting location

- For control:
On the wall of the house or building that has the windows of the occupied rooms, but the sensor must not be exposed to the morning sun. In case of doubt, it should be mounted on the wall facing north or north-west
- For optimization:
Always on the coldest wall of the house or building (normally the wall facing north). The sensor must never be exposed to the morning sun

Mounting height

Preferably in the middle of the house or building or heating zone, but at least 2.5 m above the ground.

The sensor must **not** be fitted at the following locations:

- Above windows, doors, air extracts or other heat sources
- Below balconies or the eave of the roof

To prevent measuring errors due to air circulation, the cable conduit at the sensor should be sealed.

The sensor may not be painted over.

Mounting instructions are printed on the packaging.

Disposal



The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Functional data	
Range of use	Refer to Type summary [→ 2]
Sensing element	Refer to Type summary [→ 2]
Time constant	Refer to Type summary [→ 2]
Accuracy	Refer to Function [→ 2]
Type of measurement and output	Passive

Ambient conditions and protection classification	
Protection degree of housing	IP54 according to EN 60529
Protection class	III according to EN 60730
Environmental conditions	
Transport/Storage	IEC 60721-3-2
• Climatic conditions	Class 2K3
– Temperature	-25...65 °C
– Humidity	<95 % r.h.
• Mechanical conditions	Class 2M2
Operation	IEC 60721-3-3
• Climatic conditions	Class 3K5
– Temperature	-40...70 °C
– Humidity	5...95 % r.h.

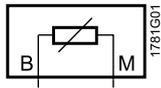
Standards, directives and approvals	
Product standard	EN 60730-1 Automatic electrical controls for household and similar use
Electromagnetic compatibility (Applications)	For use in residential, commerce, light-industrial and industrial environments
EU conformity (CE)	8000073890 *)
UL	UL 873, http://ul.com/database
Environmental compatibility	The product environmental declaration (A5W00127894A *) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

General	
Perm. cable lengths	Refer to Engineering [→ 2]
Electrical connections screw terminals for	1 × 2.5 mm ² or 2 × 1.5 mm ²
Cable entry for Grommet	Cable gland (e.g. M 16 x 1.5) For 5.5...7.2 mm dia. cable
Cable entry gland	M 16 × 1.5
Materials and colors	
Base	Plastic (ASA)
Cover	Plastic (ASA), RAL9003
Packaging	Corrugated cardboard
Weight	Approx. 0.093 kg

*) The documents can be downloaded from <http://siemens.com/bt/download>.

Diagrams

Connection terminals

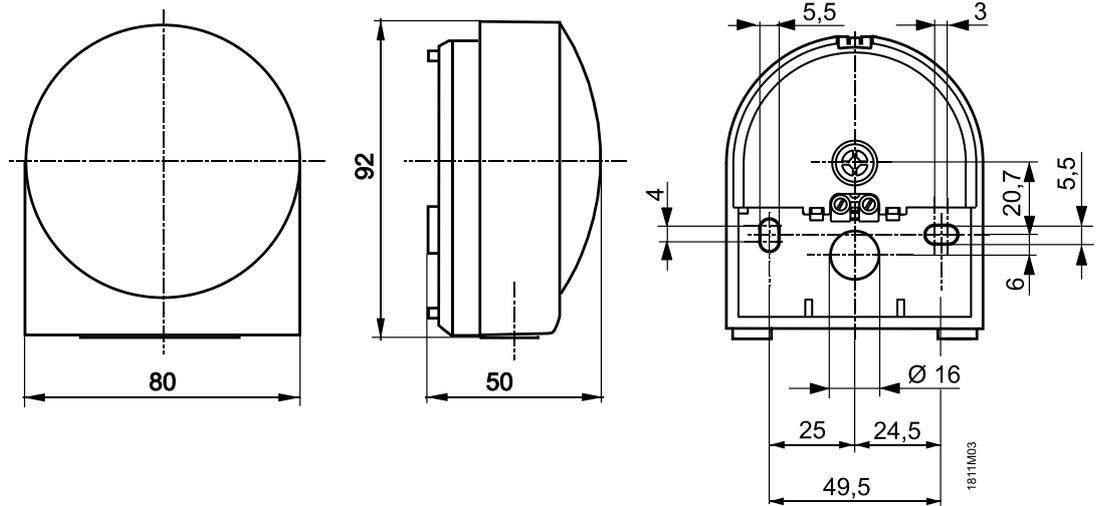


Legend

B
M

Room temperature measuring signal
Measuring neutral

Dimensions



Dimensions in mm

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