SIEMENS

MechTronics
C o n t r o l s
www.hvacusa.com
Phone (877) 632-4876

Technical Instructions
Document No. 155-330P25
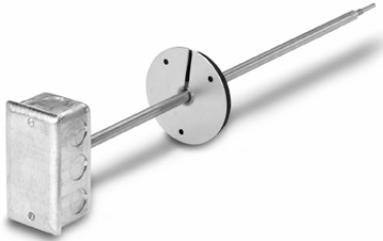April 10, 2007

1000 Ω Nickel RTD Sensors

QAM2020.045, QAM2020.020 and QAM2020.010
Duct Point Sensor
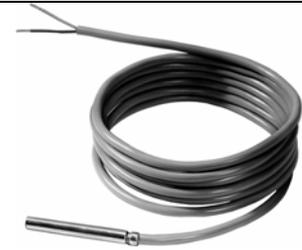

QAE2020.005 Immersion Sensor

QAC2020U Outside Air Sensor

QAA24U Room Sensor

QAA25U Room Sensor with Remote Set Point Adjustment

QAP22 Cable Temperature Sensor

Application

The 1000 ohm Nickel temperature sensors are used in HVAC installations to measure room, outside air, duct or liquid temperature. They can also be used to provide changeover from heating to cooling, or vice versa.

They are designed for integration in terminal units such as fan coil or induction units.

The sensors can be installed either by the terminal unit manufacturer or on site.

Product Numbers

Table 1.

Product Number	Description
QAM2020.045	Duct point sensor, 18-inch
QAM2020.020	Duct point sensor, 8-inch
QAM2020.010	Duct point sensor, 4-inch
QAE2020.005	Immersion sensor
QAC2020U	Outside air sensor
QAA24U	Room sensor
QAA25U	Room sensor with remote setpoint adjustment
QAP22	Cable temperature sensor

Principle of Operation

The sensor's nickel sensing element measures the air or medium temperature. The resistance of the sensing element changes as a function of the ambient temperature.

Mechanical Design

The QAP22 Cable Temperature Sensor sensing element is incorporated in the 1000 Ohm Nickel RTD sensors. It is a nickel resistor housed in a metal sleeve so that it is mechanically and electrically protected. The connecting cable inside the metal sleeve is provided with a strain relief.

- The QAA24U and QAA25U room sensors have a temperature sensor mounted on a circuit board.
- The plastic housing has a detachable wall plate.

Specifications

QAM2020.045, QAM2020.020, QAM2020.010, QAE2020.005, QAC2020U and QAP22

Range of use	−13°F to 203°F (−25°C to 95°C)
Sensing element	Siemens Ni1000 at 32°F (0°C)
Permissible ambient temperature	
Cable	−13°F to 203°F (−25°C to 95°C)
Intermittent (two hours/day)	−13°F to 230°F (−25°C to 110°C)
Permissible ambient humidity	95% rh 30 days
Connecting cable (QAP22)	PVC, 20 AWG
Length	6 feet (1.8 m)

QAA24U and QAA25U

Range of use	32°F to 122°F (0°C to 50°C)
Sensing element	Siemens Ni1000 at 32°F (0°C)
Permissible ambient temperature	32°F to 122°F (0°C to 50°C)
Permissible ambient humidity	<85% rh
Wiring screw terminals for wires of	2 × 16 AWG or 1 × 12 AWG Minimum 20 AWG

Installation

Complete installation instructions are provided with the sensors.

Accessories

AQM2000   Flange gasket kit (if adjustable depth is required for QAM2020.045 duct point temperature sensors)
ARG70   Wall plate kit (required for wall box mounting)

Wiring

Legend:

B1 Temperature sensor signal
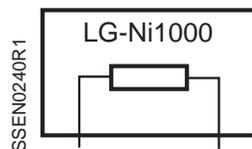B2 Setpoint signal
M   Measuring, neutral

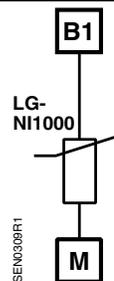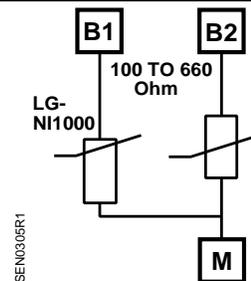**Figure 1. QAP22, QAM2020.045, QAM2020.020, QAM2020.010 and QAE2020.005.**

Figure 2. QAA24U.

Figure 3. QAA25U.

Siemens Building Technologies, Inc.
1000 Deerfield Parkway
Buffalo Grove, IL 60089-4513
U.S.A.

Your feedback is important to us. If you have comments about this document, please send them to SBT_technical.editor.us.sbt@siemens.com

Document No. 155-333
Country of Origin: US
Page 2