SIEMENS

SIEMENS
Ingenuity for life

Sensors
Quick Reference Guide

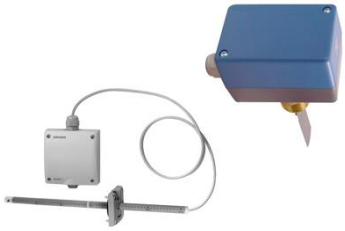
A Sensor for Every HVAC Application

Siemens sensors can be deployed throughout the HVAC system to help ensure a healthy and productive indoor climate while optimizing building efficiency. They measure and transmit environmental variables accurately and reliably, enabling efficient control of the entire HVAC system. Siemens sensors are engineered to be easily installed and to provide years of reliable performance in any building automation system.

Air Quality Sensors

Siemens offers a wide variety of air quality sensors including simple CO_2 measuring devices and more sophisticated units that measure volatile organic compounds (VOCs) and particulate matter.

Flow Sensors and Switches



Siemens offers an extensive range of flow sensors and flow switches for both the air side and the water side of your HVAC system.

Humidity Sensors

From basic measurement in an HVAC system to more precise applications in critical environments, Siemens humidity sensors provide a cost-effective and reliable solution.

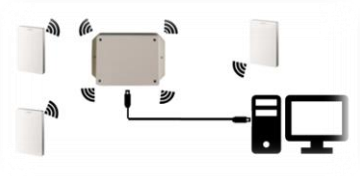
Pressure Sensors

Siemens offers an extensive range of pressure and differential pressure sensors for both the air side and the water side of your HVAC system.

Temperature Sensors

With sensors that measure temperature at nearly any point in the building, including room, outdoor, air side and water side, Siemens has one of the HVAC industry's most complete lines of temperature sensors.

Wireless Sensors



Siemens wireless sensors are simple to install and commission, feature a 15+ year battery life, and enable remote monitoring of spaces where wired sensors are not feasible.

Scan code to download this reference guide.

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Series 2200/3200 Room Relative Humidity and Temperature Sensors

Series QAA2200 Room Temperature and Series QFA3200 Room Humidity + Temperature sensors are engineered to enable accurate and efficient control of room comfort.

A wide variety of output signals is offered for compatibility with nearly any control system and a patented housing design seamlessly blends into any decor. Strategically placed ventilation slots maximize airflow and optimize accuracy.

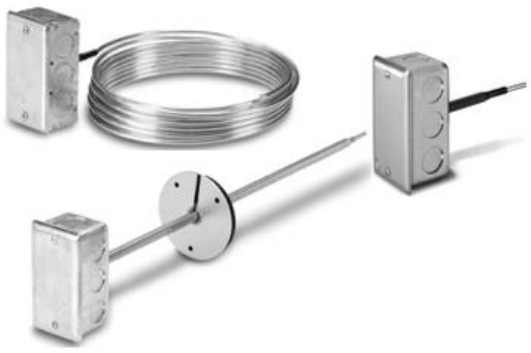
QFA3200 units combine a temperature sensor with a relative humidity sensor in a single housing to reduce installation time and improve overall room aesthetics.

Sensing-only devices feature a blank front while “room units” include a display, override button, and temperature setpoint adjustment

Series 2200/3200 Technical Specification Sheet

Duct Temperature Sensors

Siemens Duct Temperature Sensors provide an accurate and reliable indication of duct air temperature.



Sensors are offered with a variety of probe lengths to fit nearly any size duct.

Longer probes are typically flexible for easier handling and installation.

Multiple output signals are available to ensure compatibility with most common HVAC control systems.

Duct Temperature Sensors

Flush Mount and Button Style Room Temperature Sensors

Siemens flush mount and button style room temperature sensors are designed for applications in which a standard room temperature sensor is not aesthetically acceptable, or where vandalism is a concern.

The flush mount profile is resistant to damage and vandalism and offered in multiple color and finish options to suit many decors.

Button style sensors are offered in a standard push-in configuration or with a backplate to enable mounting on a 2” × 4” box.

Flush Mount and Button-Style Temperature Sensors

Immersion and Surface Mount Temperature Sensors

Siemens offers an extensive range of immersion and pipe surface mounted temperature sensors in a multitude of output signals for use with most HVAC controllers.

Immersion sensors are available in a variety of lengths and include a stainless steel well.

Strap-on or surface mount sensors are easy to install and are available in traditional metal or polycarbonate housings.

Cable sensors are essentially an RTD or thermistor with jacketed leads. These low-cost sensors can be used in many places throughout the HVAC system. They are economical enough to use as temporary sensors while being durable enough for permanent use.

Immersion Temperature Sensors

Surface Mount Temperature Sensors (with Housing)

Cable-Style Temperature Sensors

Duct Humidity Sensors

Siemens duct humidity sensors monitor and transmit changes in humidity and temperature to the building control systems. These units are especially suited for applications where precise, stable humidity sensing is required.

The QFM2100 Series sensors feature +/- 5% accuracy across the entire measuring range, while the QFM3100 Series have an accuracy of +/-2% for more critical applications.

Sensors are offered with either 4 to 20 mA or 0 to 10 Volt signals. Combination humidity and temperature sensors are also available.

Duct Humidity Sensors

Air Quality Sensors

Siemens Indoor Air Quality Sensors optimize comfort by enabling demand-controlled ventilation. Models are available that measure CO_2, CO_2 and temperature, or CO_2, temperature and relative humidity.

The CO_2/VOC models measure both CO_2 and volatile organic compounds (VOCs) for optimized indoor air quality. The combination CO_2 + VOC sensors can be seamlessly substituted for a CO_2 sensor in any demand control ventilation system.

QSA Series fine dust sensors are designed to measure and transmit room concentrations of particulate matter within the PM2.5 and PM10 classifications. Data is transmitted to the Building Automation System via a 0 to 10V signal or via Modbus RTU.

Room CO2 and VOC Sensors

Duct CO2 and VOC Sensors

Advantages of Sensing CO2 + VOC

PM2.5 Sensors

Specialty Humidity Sensors

QFA3100 and QFA4100 Series sensors are used in HVAC systems where high accuracy and short response times for measuring relative humidity are required. The sensors maintain a +/- 2% RH accuracy from 0 to 100% RH.

Typical applications include:

- Pharmaceutical facilities
- Laboratories
- Hospitals
- Indoor swimming-pools
- Computer and data processing centers
- Greenhouses

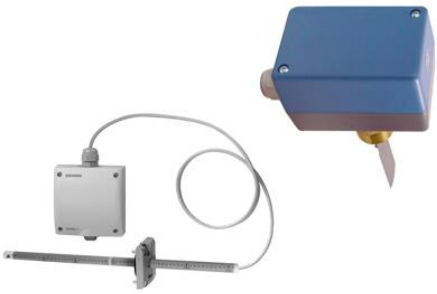
The QFA3100 Series sensors feature an enclosure with gaskets and may be installed outdoors with an AQF3100 weather shield (sold separately).

QFA4100 Series sensors are engineered for critical environments and include a third party 3-point calibration certificate.

Specialty Humidity Sensors

Flow Sensors and Switches

Siemens QVM Series flow switches are used to determine flow/no-flow conditions in HVAC piping systems. The QVE1900U is a suitable replacement for many existing flow switches. The QVE1901U features a unique design that enables it to be used with system pressure up to 360 PSIG.



The QVM62.1 is a duct mounted air velocity sensor designed for ventilation control applications requiring a high degree of accuracy and reliability. The sensor features an innovative hot film anemometer element which provides high accuracy throughout the measuring range and is less sensitive to dust than other common anemometer designs.

QVM62.1 Air Velocity Sensor

QVE1900U Liquid Flow Switch

QVE1901 High Pressure Liquid Flow Switch

Pressure Sensors

The QBM3100 Series Air Differential Pressure Sensors use ceramic sensing technology to provide years of maintenance-free measuring accuracy. They deliver temperature-compensated sensor signals for registering airflow in HVAC systems and for measuring differential pressures in environmental, laboratory, and cleanroom applications.

The QBE Series Wet Differential Pressure Sensors utilize a well-proven ceramic technology making them an ideal choice across a broad spectrum of applications. These sensors can be ordered individually or pre-assembled with an optional three-valve manifold.

The 7MF15654 Series Pressure Transmitters measure the gauge pressure of aggressive and non-aggressive gases as well as the level of liquids and vapors. They feature a rugged stainless steel housing with a temperature-compensated measuring cell and are available in pressure ranges from 0 to 300 PSIG.

QBM Series Air Differential Pressure Sensors
QBE Series Liquid Differential Pressure Sensors
7MF15 Series Liquid Pressure Sensors

Outdoor Temperature Sensors

Siemens Outdoor Temperature Sensors are ruggedly designed and built for years of reliable outdoor service. They are offered in traditional metal housing as well as modern and aesthetically pleasing polycarbonate housings that blend into today's architectural trends.

Multiple output signals are available to ensure compatibility with most common HVAC control systems.

Outdoor Temperature Sensors

Humidity Switches

The QFA1000 and QFM81 Series hygrostats control and monitor relative humidity in HVAC systems. They ensure humidity control within the selectable range of 30 to 90% relative humidity by controlling humidification or dehumidification equipment via an SPDT switch.

The QXA Series Condensation Monitors are used to avoid damage due to condensation on chilled ceilings and other HVAC installations. The SPDT switch changes state when relative humidity is approximately 95%. When used in conjunction with a Normally Closed spring return chilled water valve actuator, the QXA provides a last line of defense against condensation damage in the event the standard humidity control sequence is inadequate.

QFA1000 Room Hygrostat
QFM81 Duct Hygrostat
QXA2100 Condensation Monitor for Chilled Ceilings

Wireless Sensor System

The Series 4292 Wireless Sensor System utilizes maintenance-free, battery-powered sensors that transmit temperature, humidity, CO_2, and contact status to a gateway. Each gateway receives data from up to 100 sensors and interfaces the BAS via BACnet® MSTP, BACnet® IP, or Modbus RTU and TCP. Innovative power management technology enables 25-year battery life (15 years on the CO_2 sensor).

Series 4292 Wireless Sensor System

For more information, please download the Siemens Sensor Selection Tool from https://www.downloads.siemens.com/download-center/.

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Document No. **A6V11838145**
Printed in the USA