Sensor Selection Guide

Simple to specify, install and use. Sophisticated monitoring.
Energy-efficient control for long-term savings.

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SIEMENS

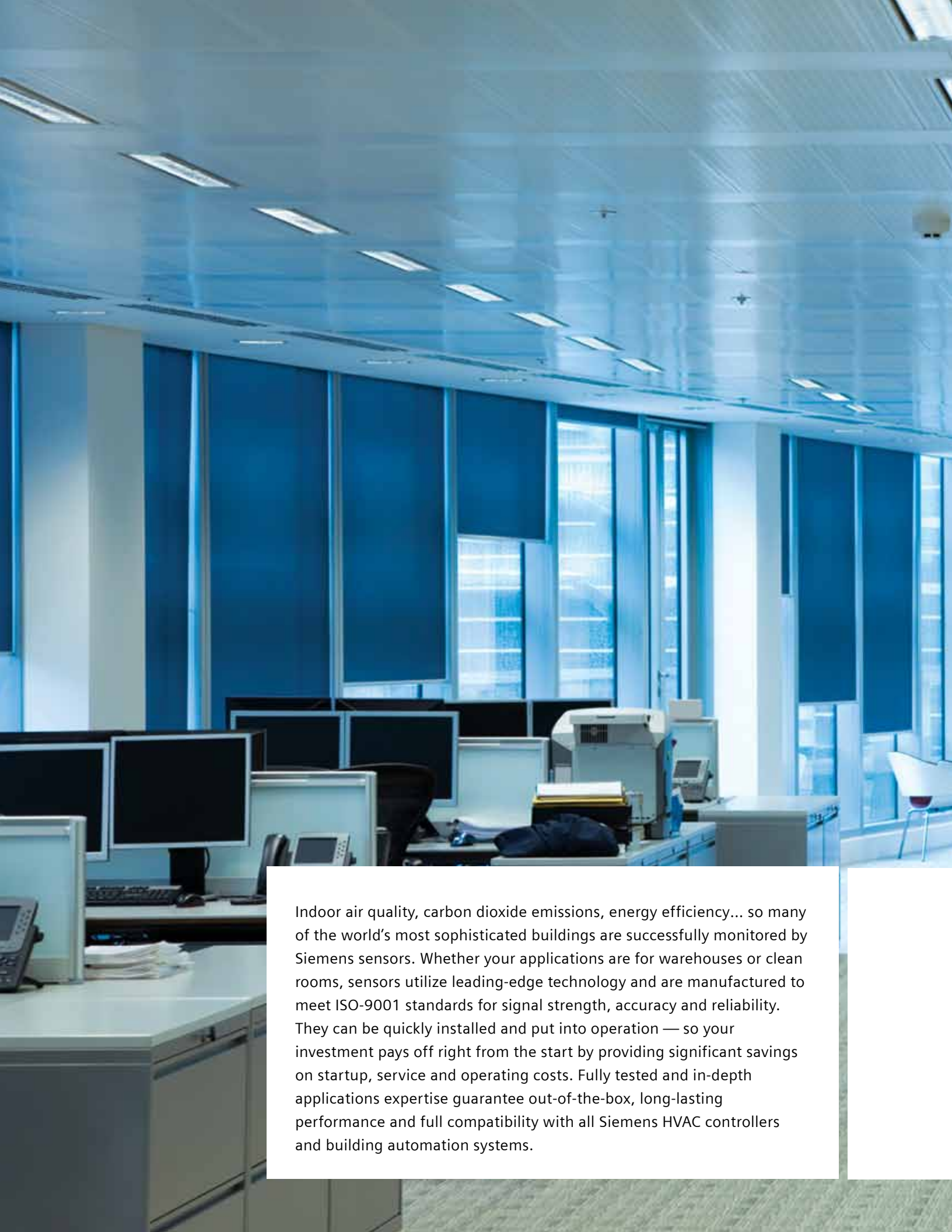
Temperature

Humidity

Air Quality

Pressure

Specialty



Indoor air quality, carbon dioxide emissions, energy efficiency... so many of the world's most sophisticated buildings are successfully monitored by Siemens sensors. Whether your applications are for warehouses or clean rooms, sensors utilize leading-edge technology and are manufactured to meet ISO-9001 standards for signal strength, accuracy and reliability. They can be quickly installed and put into operation — so your investment pays off right from the start by providing significant savings on startup, service and operating costs. Fully tested and in-depth applications expertise guarantee out-of-the-box, long-lasting performance and full compatibility with all Siemens HVAC controllers and building automation systems.

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Easy, Accurate and Cost-Effective Control...

Precisely What You Need to Handle Today's Rigorous Building Demands

With incredibly precise and accurate readings, Siemens sensors provide an optimal basis for energy- and cost-efficient control of entire HVAC systems. They are highly reliable and designed for simple, standardized, cost-saving installation with low cabling effort and fast startup.

An Unmatched Range of Sensors That Handle Every HVAC Need

Whether your applications are warehouses or clean rooms, our complete range of sensors measure temperature, pressure, humidity or air quality in rooms, ducts or outside areas. The sensor range also includes multi-sensors that measure mixed gases, as well as sensors for special areas, such as in the pharmaceutical industry.

Utilizing leading-edge technology, our sensors are manufactured to meet ISO-9001 standards for signal strength, accuracy and long-life reliability. Tested applications ensure peak performance operation and full compatibility with all Siemens HVAC controllers. In addition, the connection to standard commercial thirdparty systems is always an option thanks to standardized output signals.

Functional Modular Design, Digital Technology, Optimum Comfort

We offer a sleek line of polycarbonate as well as a standard line of metal housings. Our polycarbonate sensors feature a modular design for an easy-to-understand, clearly structured product range that meets all requirements of your building services facility.

The clever design and powerful, digital compensating algorithms of the polycarbonate range effectively suppress electrical interference, enabling the sensors to deliver unambiguous measuring signals in all situations.

The sensors allow energy-efficient, demand-controlled ventilation for optimum room quality and comfort. They automatically compensate for changes in building occupancy, building usage or plant characteristics.

The measured value display on Siemens multi-sensors makes them even more convenient. The LCD display alternately indicates the different measured temperature, humidity, and air quality readings.

Straightforward Mounting and Commissioning

No special training is required, so you can easily mount and commission these devices.

Sustainable Packaging

As an organization, Siemens Building Technologies places a high priority on reducing its products' negative environmental impact through simplicity and practicality in manufacturing, packaging and labeling.

Ready to Deliver With Immediate and Long-term Benefits

- Noticeable energy savings thanks to fast, high-precision measurement and efficient measuring techniques
- Innovative sensor technology with self-monitoring, service mode, integrated installation concept, and functional design
- High level of comfort provided by demand-controlled ventilation
- Multi-sensors reduce installation and cabling effort
- Guaranteed quality — the result of many years of experience, in-depth applications expertise, and systematic sensor tests
- The Siemens line of sensors is broader and deeper than any other manufacturer. Having one source for sensors simplifies your ordering process and makes maintenance easier for years to come

Temperature Sensors

Reliability, accuracy, and optimum comfort at any location

A complete selection of room, outside air, duct and pipe temperature sensors cost-effectively deliver superior performance. This extensive offering provides a wide range of features and functionality to deliver exceptional occupant comfort — in even the most demanding environments. All sensors incorporate precision temperature sensing elements for long-lasting accuracy and reliability. Mounting and commissioning is quick and easy, requiring no calibration or maintenance and delivering a fast return on investment.

Active and resistive output signals precisely monitor all types of HVAC systems. The active sensors, available in 0 to10 Vdc or 4 to 20 mA output signals, quickly adapt to the situation at hand. Numerous RTD or NTC thermistor resistive signal output options ensure easy integration with a building automation system.

The standard line of metal housing sensors incorporates a temperature-sensing element behind a brushed stainless steel finish cover plate. Sleekly designed and compact polycarbonate housings feature sensing only variants, as well as models with temperature setpoint LCD display and night set back. The housing on the room models optimizes airflow through its cover for fast measurement response and superior control.


QAA2330.EWNN


QAA2330.BWNN


544-973

Room Temperature Sensors

These sensors provide precise, stable temperature sensing, ensuring the highest possible level of comfort. The sensor's resistance varies with the actual room temperature being measured.

Flush mount sensors (544-973 and 540-984) incorporate a temperature-sensing element (10K Ohm Type II Thermistor, or 1000 Ohm RTD) behind a blank, stainless steel or plastic switch cover plate for seamless wall integration.

Part Number	Output											Range	Category			Power		Housing	
	RTD 1K Ni at 32° F	RTD 1K Ni at 70° F	RTD 1K Pt (385)	RTD 1K Pt (375)	NTC 10K Type II	NTC 10K Type III	0 to 10 Vdc	4 to 20 mA	Setpoint / Override	Bi-Metal Display	LCD Display	Degree F	Basic	Standard	Certified	24 Vac	24 Vdc	Metal	Polycarbonate
QAA2312.EWNN			■									55 to 95		■					■
QAA2320.EWNN	■											55 to 95		■					■
QAA2321.EWNN		■										55 to 95		■					■
QAA2330.EWNN					■							55 to 95		■					■
QAA2332.EWNN						■						55 to 95		■					■
QAA2312.BWNN			■						■	■		55 to 95	■						■
QAA2320.BWNN	■								■	■		55 to 95	■						■
QAA2321.BWNN		■							■	■		55 to 95	■						■
QAA2330.BWNN					■				■	■		55 to 95	■						■
QAA2332.BWNN						■			■	■		55 to 95	■						■
544-973				■								55 to 95	■					■	
540-984					■							55 to 95	■					■	


QAC2012U


QAC3161


QAC2012

Outdoor Air Sensors

Available in a variety of signal types, outdoor air temperature sensors monitor and transmit changes to building control systems. In addition to acquiring outside temperature, outdoor air sensors measure wind, wall temperature, and solar radiation, to help keep heating systems working efficiently. Active output signals in 0 to 10 Vdc or 4 to 20 mA and numerous resistive signals output versions in 10K Ohm NTC or 1K Ohm Platinum (375 and 385) RTD ensure compatibility.

Part Number	Output											Range	Category			Power		Housing	
	RTD 1K Ni at 32° F	RTD 1K Ni at 70° F	RTD 1K Pt (385)	RTD 1K Pt (375)	NTC 10K Type II	NTC 10K Type III	0 to 10 Vdc	4 to 20 mA	Setpoint / Override	Bi-Metal Display	LCD Display	Degree F	Basic	Standard	Certified	24 Vac	24 Vdc	Metal	Polycarbonate
QAC2012U			■									-40 to 240		■				■	
QAC2020U	■											-40 to 240		■				■	
QAC2021U		■										-40 to 240		■				■	
QAC2030U					■							-40 to 240		■				■	
QAC2032U						■						-40 to 240		■				■	
QAC2012				■								-58 to 158		■					■
QAC2030					■							-40 to 158		■					■
QAC3161							■					-58 to 122			■	■	■		■
QAC3171								■				-58 to 122			■		■		■
QAC22	■											-58 to 158		■					■
536-768								■				-58 to 122		■				■	


QAM2030.045


QAM2112.040


533-380

Duct Temperature Sensors

Measuring conditions in air ducts are hardly ever ideal. Ruggedly constructed duct point and averaging sensors are available in a variety of models to meet specific mounting requirements and sensing applications. Averaging ensures that temperatures are acquired more reliably and independent of the measuring location and airflow conditions. Active output signals in 0 to 10 Vdc or 4 to 20 mA and numerous resistive signal output versions in 10K Ohm NTC or 1K Ohm Platinum (375 and 385) RTD ensure compatibility.

For versions in metal housings, standard lengths are 8', 16', and 24' for duct averaging; 4", 8", and 18" for duct point.

Analog sensors (533 and 544) provide input for accurate loop-powered temperature sensing (detecting) for controllers via a 20 AWG twisted, shielded cable pair. The loop current varies according to the temperature being measured.

Part Number	Output								Range	Category			Power		Length	Housing	
	RTD 1K Ni at 32° F	RTD 1K Ni at 70° F	RTD 1K Pt (385)	RTD 1K Pt (375)	NTC 10K Type II	NTC 10K Type III	0 to 10 Vdc	4 to 20 mA	Degree F	Basic	Standard	Certified	24 Vac	24 Vdc	Sensor Probe	Metal	Polycarbonate
QAM2012.010			■						-40 to 240		■				4 in.	■	
QAM2012.020			■						-40 to 240		■				8 in.	■	
QAM2012.045			■						-40 to 240		■				18 in.	■	
QAM2012.250			■						-40 to 240		■				8 ft.	■	
QAM2012.500			■						-40 to 240		■				16 ft.	■	
QAM2012.750			■						-40 to 240		■				24 ft.	■	
QAM2020.010	■								-40 to 240		■				4 in.	■	
QAM2020.020	■								-40 to 240		■				8 in.	■	
QAM2020.045	■								-40 to 240		■				18 in.	■	
QAM2020.500	■								-40 to 240		■				16 ft.	■	
QAM2020.750	■								-40 to 240		■				24 ft.	■	
QAM2021.020		■							-40 to 240		■				8 in.	■	
QAM2021.045		■							-40 to 240		■				18 in.	■	
QAM2021.750		■							-40 to 240		■				24 ft.	■	
QAM2030.010					■				-40 to 240		■				4 in.	■	
QAM2030.020					■				-40 to 240		■				8 in.	■	
QAM2030.045					■				-40 to 240		■				18 in.	■	
QAM2030.250					■				-40 to 240		■				8 ft.	■	
QAM2030.500					■				-40 to 240		■				16 ft.	■	
QAM2030.750					■				-40 to 240		■				24 ft.	■	
QAM2032.010						■			-40 to 240		■				4 in.	■	
QAM2032.020						■			-40 to 240		■				8 in.	■	
QAM2032.045						■			-40 to 240		■				18 in.	■	
QAM2032.250						■			-40 to 240		■				8 ft.	■	
QAM2032.500						■			-40 to 240		■				16 ft.	■	
QAM2032.750						■			-40 to 240		■				24 ft.	■	
QAM2112.040			■						-58 to 176		■				16 in.		■
QAM2112.200			■						-58 to 176		■				6.5 ft.		■
QAM2120.200	■								-58 to 176		■				6.5 ft.		■
QAM2120.600	■								-58 to 176		■				20 ft.		■
QAM2130.040					■				-58 to 176		■				16 in.		■
QAM2161.040							■		-58 to 122		■		■		16 in.		■
QAM2171.040								■	-58 to 122		■			■	16 in.		■
533-376-4								■	20 to 120		■			■	4 in.	■	
533-376-8								■	20 to 120		■			■	8 in.	■	
533-376-18								■	20 to 120		■			■	18 in.	■	
533-377-4								■	30 to 250		■			■	4 in.	■	
533-377-8								■	30 to 250		■			■	8 in.	■	
533-377-18								■	30 to 250		■			■	18 in.	■	
533-380-8								■	20 to 120		■			■	8 ft.	■	
533-380-16								■	20 to 120		■			■	16 ft.	■	
533-380-24								■	20 to 120		■			■	24 ft.	■	
544-560-4								■	-4 to 122		■			■	4 in.	■	
544-560-8								■	-4 to 122		■			■	8 in.	■	
544-560-18								■	-4 to 122		■			■	18 in.	■	


QAE2122.015


536-767-25

Immersion Temperature Sensors

The immersion sensors are designed for high accuracy and are available with or without an immersion well. Active output signals in 0 to 10 Vdc or 4 to 20 mA and numerous resistive signal output versions in 10K Ohm NTC or 1K Ohm Platinum (375 and 385) RTD ensure compatibility. Standard lengths are 2.5", 4" and 6". Immersion sensors are simply snapped into place in preinstalled immersion wells.

Part Number	Output											Range	Category			Power		Length		Housing	
	RTD 1K Ni at 32° F	RTD 1K Ni at 70° F	RTD 1K Pt (385)	RTD 1K Pt (375)	NTC 10K Type II	NTC 10K Type III	0 to 10 Vdc	4 to 20 mA	Setpoint / Override	Bi-Metal Display	LCD Display	Degree F	Basic	Standard	Certified	24 Vac	24 Vdc	Sensor Probe (in.)	Cable (ft.)	Metal	Polycarbonate
QAE2012.005			■									-40 to 240		■				2.5"		■	
QAE2012.010			■									-40 to 240		■				4"		■	
QAE2012.015			■									-40 to 240		■				6"		■	
QAE2020.005	■											-40 to 240		■				2.5"		■	
QAE2020.010	■											-40 to 240		■				4"		■	
QAE2020.015	■											-40 to 240		■				6"		■	
QAE2021.005		■										-40 to 240		■				2.5"		■	
QAE2021.010		■										-40 to 240		■				4"		■	
QAE2021.015		■										-40 to 240		■				6"		■	
QAE2030.005					■							-40 to 240		■				2.5"		■	
QAE2030.010					■							-40 to 240		■				4"		■	
QAE2030.015					■							-40 to 240		■				6"		■	
QAE2032.005						■						-40 to 240		■				2.5"		■	
QAE2032.010						■						-40 to 240		■				4"		■	
QAE2032.015						■						-40 to 240		■				6"		■	
QAE2112.010[1]			■									-22 to 266		■				4"			■
QAE2112.015[1]			■									-22 to 266		■				6"			■
QAE2130.010[1]					■							-22 to 266		■				4"			■
QAE2130.015[1]					■							-22 to 266		■				6"			■
QAE2164.010[1]							■					4 to 248		■		■	■	4"			■
QAE2164.015[1]							■					4 to 248		■		■	■	6"			■
QAE2174.010[1]								■				4 to 248		■			■	4"			■
QAE2174.015[1]								■				4 to 248		■			■	6"			■
QAE26.9	■											-40 to 170		■				10"	4'		
544-562-25								■				32 to 212		■				2.5"		■	
544-562-40								■				32 to 212		■				4"		■	
544-562-60								■				32 to 212		■				6"		■	
536-774-25								■				20 to 70		■				2.5"		■	
536-774-40								■				20 to 70		■				4"		■	
536-774-60								■				20 to 70		■				6"		■	
536-767-25								■				30 to 250		■				2.5"		■	
536-767-40								■				30 to 250		■				4"		■	
536-767-60								■				30 to 250		■				6"		■	
544-577-25				■								-40 to 240		■				2.5"		■	

1. Without immersion well. See accessories on page 7 for immersion well.


QAD2012


536-780

Strap-on Sensors

These sensors excel in retrofit applications with their ease of mounting. Simply use the supplied clamping strip or strap and sensors are quickly and securely positioned, covering most pipe diameters. Available in 4 to 20 mA and numerous resistive signal outputs.

Part Number	Output								Range	Category			Housing	
	RTD 1K Ni at 32° F	RTD 1K Ni at 70° F	RTD 1K Pt (385)	RTD 1K Pt (375)	NTC 10K Type II	NTC 10K Type III	0 to 10 Vdc	4 to 20 mA	Degree F	Basic	Standard	Certified	Metal	Polycarbonate
QAD2012U			■						-40 to 240		■		■	
QAD2020U	■								-40 to 240		■		■	
QAD2021U		■							-40 to 240		■		■	
QAD2030U					■				-40 to 240		■		■	
QAD2032U						■			-40 to 240		■		■	
QAD2012			■						-22 to 266		■			■
QAD2030					■				-22 to 257		■			■
536-780								■	30 to 250		■		■	


QAP

Cable Sensors

The cable sensors feature rugged construction and are available in several versions for a wide range of use.

Part Number	Output						Range	Category			Length		Description
	RTD 1K Ni at 32° F	RTD 1K Ni at 70° F	RTD 1K Pt (385)	RTD 1K Pt (375)	NTC 10K Type II	NTC 10K Type III	Degree F	Basic	Standard	Certified	Sensor Probe (in.)	Cable (ft.)	
QAM1030.008P50					■		-40 to 240	■			3"	8'	Duct Temperature Sensor, for Commissioning Only. 50 per Package.
QAP1030.200				■			-13 to 203	■			3"	6.5'	PVC Cable
QAP21.3	■						-22 to 266	■				5'	Silicone Cable
QAP22	■						-13 to 203	■			3"	6.5'	PVC Cable
QAH11.1	■						-4 to 158	■				8'	Connectors, 23° F, if Cable is Flex Mounted

SIEMENS


ARG22.1

Accessories

Siemens sensors are designed to install and get to work quickly. A wide range of sensing products and accessories make mounting and maintenance even easier.

Part Number	Description	Range	Length
		Degree F	Sensor Probe (in.)
AQE2012	Repair Kit for Metal Immersion Sensors QAE2012U — Includes Element and Transmitter	-40 to 240	
AQE2020	Repair Kit for Metal Immersion Sensors QAE2020U — Includes Element and Transmitter	-40 to 240	
AQE2021	Repair Kit for Metal Immersion Sensors QAE2021U — Includes Element and Transmitter	-40 to 240	
AQE2030	Repair Kit for Metal Immersion Sensors QAE2030U — Includes Element and Transmitter	-40 to 240	
AQE2032	Repair Kit for Metal Immersion Sensors QAE2032U — Includes Element and Transmitter	-40 to 240	
AQE2000.005	Immersion Well for Metal Immersion Sensors QAE20xxU.005		2.5"
AQE2000.010	Immersion Well for Metal Immersion Sensors QAE20xxU.010		4"
AQE2000.015	Immersion Well for Metal Immersion Sensors QAE20xxU.015		6"
AQE2102	Compression Fitting for use with Immersion Sensors QAE21xx		
ARG22.1	Changeover Kit for QAPxx		
ARG100U	Immersion Well for Polycarbonate Immersion Sensors QAE21xx.010		4"
ARG150U	Immersion Well for Polycarbonate Immersion Sensors QAE21xx.015		6"
187-120	Mounting Flange (Gasket) for QAM20xx Duct Point Types		6"
536-774-RK	Repair Kit for Metal Immersion Sensors 536-774-xx — Includes Element and Transmitter	20 to 70	
536-767-RK	Repair Kit for Metal Immersion Sensors 536-767-xx — Includes Element and Transmitter	30 to 250	
544-562-RK	Repair Kit for Metal Immersion Sensors 544-562-xx — Includes Element and Transmitter	32 to 212	

Humidity Sensors

Comfort and stability, even under difficult conditions

Engineered for long-life and durability, Siemens humidity sensors are guaranteed to perform and provide energy-efficient monitoring. Impervious to dust and most chemicals, Siemens sensors conform to rigorous FDA standards and meet the especially high requirements necessary for HVAC, pharmaceutical, food, paper, clean room facilities, and other critical applications.

Each sensor's capacitive measurement element provides incredibly high accuracy, freedom from maintenance, and ongoing precise repeatability. Microprocessor technology and a sophisticated algorithm for temperature compensation ensure very high accuracy over the entire measurement range.

Combined temperature/humidity sensors offer exceptional flexibility and savings potential. They feature three defined measurement ranges that adjust easily and without the need for additional tools: 32 to 122°F, -31 to 95°F, or -40 to 158°F.

	High-Quality/Certified	Standard
Accuracy	± 2% Relative Humidity	± 5% Relative Humidity
Operating Range	0 to 100% Relative Humidity	0 to 95% Relative Humidity


QFA3160


QFA3160D

Room Humidity Sensors

Room Relative Humidity and Relative Humidity/Temperature Sensors monitor and transmit changes in humidity and temperature to the building control systems. High quality 2% and 2% certified sensors are not only exact at 73°F room temperature, but across the entire operating range of -40° to 158°F. The humidity only units are available in either 0 to 10 Vdc or 4 to 20 mA outputs. Combination humidity and temperature units are available in either dual current or voltage versions, transmitting proportional signals back to the controller. Liquid Crystal Display shows Fahrenheit or Celsius readings.

Part Number	Version		Output				Range		Category		Power		Housing
	Humidity Only	Humidity / Temp.	0 to 10 Vdc	4 to 20 mA	RTD 1K Pt (385)	LCD Display	% Relative Humidity	Degree F	2%	2% Certified	24 Vac	13.5 to 35 Vdc	Polycarbonate
QFA3100	■		■				0 to 100	-40 to 158	■		■	■	■
QFA3101	■			■			0 to 100	-40 to 158	■			■	■
QFA3160	■	■	■				0 to 100	-40 to 158	■		■	■	■
QFA3160D	■	■	■			■	0 to 100	-40 to 158	■		■	■	■
QFA3171	■	■		■			0 to 100	-40 to 158	■			■	■
QFA3171D	■	■		■		■	0 to 100	-40 to 158	■			■	■
QFA4160	■	■	■				0 to 100	-40 to 158		■	■	■	■
QFA4160D	■	■	■			■	0 to 100	-40 to 158		■	■	■	■
QFA4171	■	■		■			0 to 100	-40 to 158		■		■	■
QFA4171D	■	■		■		■	0 to 100	-40 to 158		■		■	■


QFA1000

Room Hygrostats

Hygrostats with potential-free microswitch (SPDT) are used for controlling and monitoring minimum or maximum relative humidity levels in ventilation or air conditioning facilities. They ensure room humidity control within the selectable range of 30 to 90% relative humidity by controlling humidification or dehumidification equipment. The humidity measuring element is made of stabilized plastic. Setpoint knob adjusts and controls the upper switching point. Mount directly on the wall or in a recessed conduit box.

Part Number	Version		Output	Range		Category	Power	Housing
	Concelaed Setpoint	Exposed Setpoint	Relay	% Relative Humidity	Degree F	5%	24 Vac	White PC Lexan 940
QFA1000	■		■	30 to 90	32 to 122	■	■	■
QFA1001		■	■	30 to 90	32 to 122	■	■	■

QFA3xx with AQF3100

Outdoor Air Humidity Sensors

(AQF3100 Sold separately on page 11)

Standard models available are 2% and 2% certified, for both humidity only and combination humidity with temperature sensing. A removable, replaceable sensing tip enables these sensors to be recalibrated within seconds. Sensors are offered with either 0 to 10 Vdc or 4 to 20 mA outputs.

Part Number	Version		Output		Range		Category		Power		Housing
	Humidity Only	Humidity / Temp.	0 to 10 Vdc	4 to 20 mA	% Relative Humidity	Degree F	2%	2% Certified	24 Vac	13.5 to 35 Vdc	Polycarbonate
QFA3100	■		■		0 to 100	-40 to 158	■		■	■	■
QFA3101	■			■	0 to 100	-40 to 158	■			■	■
QFA3160	■	■	■		0 to 100	-40 to 158	■		■	■	■
QFA3171	■	■		■	0 to 100	-40 to 158	■			■	■
QFA4160		■	■		0 to 100	-40 to 158		■		■	■
QFA4171		■		■	0 to 100	-40 to 158		■		■	■

QFM2160

QFM3160D

Duct Humidity Sensors

Relative Humidity and Relative Humidity/Temperature sensors monitor and transmit changes to building control systems for precise control. Several models are available for humidity only (in 5%, 2% and 2% certified) or for humidity and temperature sensing (also in 5%, 2% and 2% certified versions). All 2% and 2% certified versions feature a removable, replaceable sensing tip. The humidity only units are available in either 0 to 10 Vdc or 4 to 20 mA outputs. Combination humidity and temperature units are also available in either dual current or voltage versions, transmitting proportional signals back to the controller Liquid Crystal Display versions show Fahrenheit or Celsius readings.

Part Number	Version		Output				Range		Category			Power		Housing
	Humidity Only	Humidity / Temp.	0 to 10 Vdc	4 to 20 mA	Relay Contact	LCD Display	% Relative Humidity	Degree F	2%	2% Certified	5%	24 Vac	13.5 to 35 Vdc	Polycarbonate
QFM2100[1]	■		■				0 to 95				■	■	■	■
QFM2101[1]	■			■			0 to 95				■		■	■
QFM2160[1]	■	■	■				0 to 95	5 to 140			■	■	■	■
QFM2171[1]	■	■		■			0 to 95	5 to 140			■		■	■
QFM3100[1]	■		■				0 to 100		■			■	■	■
QFM3101[1]	■			■			0 to 100		■				■	■
QFM3160[1]	■	■	■				0 to 100	-40 to 158	■			■	■	■
QFM3160D[1]	■	■	■			■	0 to 100	-40 to 158	■			■	■	■
QFM3171[1]	■	■		■			0 to 100	-40 to 158	■				■	■
QFM3171D[1]	■	■		■		■	0 to 100	-40 to 158	■				■	■
QFM4160[1]	■	■	■				0 to 100	-40 to 158		■		■	■	■
QFM4171[1]	■	■		■			0 to 100	-40 to 158		■			■	■

1. Include mounting accessories.

SIEMENS

Dew Point Sensor

Used to monitor condensation on chilled ceilings, this sensor provides potential-free relay output with a switching point at 95% ± 4% RH and a fast response time.


QXA2000

Part Number	Version		Output				Range		Power		Housing
	Humidity	Temperature	0 to 10 Vdc	4 to 20 mA	Relay Contact	LCD Display	% Relative Humidity	Degree F	24 Vac	13.5 to 35 Vdc	Polycarbonate
QXA2000	■				■		0 to 100		■		■

Duct Hygrostats

On/off hygrostats with potential-free microswitch (SPDT) are used for controlling humidification and dehumidification equipment. The temperature-compensated humidity sensor obtains temperature-independent humidity measurements. Stabilized sensing strip provides good linearity, remains very stable even at high humidity, and is insensitive to dust and contaminated air. Field calibration possible.


QFM81.21

Part Number	Version		Output	Range		Category	Power	Housing
	External Setpoint	Internal Setpoint	Relay	% Relative Humidity	Degree F	5%	24 Vac	White PC Lexan 940
QFM81.2	■		■	15 to 95	32 to 158	■	■	■
QFM81.21		■	■	15 to 95	32 to 158	■	■	■

Accessories

Whether you're looking for remote mounting cable or a sun shield to protect a sensor from damaging rays, find what you need from Siemens.


AQF3150


AQF3100

Part Number	Description
AQY2010	10' Cable for Remote Mounting of QFA31xx, QFA41xx, QFM31xx and QFM41xx Removable Sensor Tip
AQY2030	30' Cable for Remote Mounting of QFA31xx, QFA41xx, QFM31xx and QFM41xx Removable Sensor Tip
AQF3100	Sun Shield — for use with Outdoor Air Humidity Sensors
AQF3150	Replacement Tip Duct Relative Humidity & Temperature Sensors

Air Quality Sensors

Energy-savings and superior room quality and comfort in an easy-to-install design

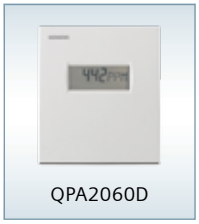
Studies indicate demand-controlled ventilation offers energy savings of up to 70% by ensuring constant levels of indoor air quality and low operating costs. With Siemens sensors, optimized indoor air quality and maximized energy savings are achieved by measuring CO_2 and VOC (Volatile Organic Compounds) and implementing demand-controlled ventilation strategies.

Like all Siemens sensors with active output signals, the indoor air quality range has a built-in self-monitoring capability for all measuring variables. The non-dispersive infrared CO_2 sensor experiences less than 1% drift per year for the first two years of operation and negligible drift thereafter, so no calibration is necessary. In addition, the sensors can be switched to a special service mode, offering additional convenience for project development and commissioning.

These sophisticated sensors are housed in an aesthetically appealing modular housing to meet the specifying recommendation of architects and eliminate the need to install multiple room sensors close to each other.

Measurement Range	
CO_2	0 to 2000 ppm
Humidity	0 to 95% Relative Humidity
Temperature	-58 to 122°F or -31 to 95°F (0 to 50°C or -35 to +35°C)


QPA2000


QPA2060D

Room Air Quality Sensors

Precise and compact, Siemens' broad range of CO_2, CO_2/VOC, CO_2/Temp, or CO_2/Temp/RH sensors reduce installation, wiring and commissioning costs. Standard output signals facilitate straightforward connection to a wide choice of controllers and systems. A built-in test function performs troubleshooting. Versions are available with a clear, attractive Liquid Crystal Display that alternates measuring variables and their units. Maximum selection of the CO_2 and VOC concentrations is shown in the form of a bar graph and temperature can switch from Fahrenheit to Celsius.

Part Number	Version				Output		Range				Power		Housing
	CO_2	VOC	Temperature	Humidity	0 to 5 / 0 to 10 Vdc	LCD Display	No Logo	CO_2 0 to 2000 ppm	Temperature 23 to 113°F	% Relative Humidity	24 Vac	15 to 35 Vdc	Polycarbonate
QPA2000	■				■			■			■	■	■
QPA2000N	■				■		■	■			■	■	■
QPA2002	■	■			■			■			■	■	■
QPA2002D	■	■			■	■		■			■	■	■
QPA2002N	■	■			■		■	■			■	■	■
QPA2060	■				■			■	■		■	■	■
QPA2060D	■		Active		■	■		■	■		■	■	■
QPA2060N	■		Active		■		■	■	■		■	■	■
QPA2062	■		Active	■	■			■	■	0 to 95	■	■	■
QPA2062D	■		Active	■	■	■		■	■	0 to 95	■	■	■
QPA1000		■			■			■			■	■	■
QPA1000N		■			■		■	■			■	■	■
QPA2080	■		Passive†		■			■			■	■	■
QPA2080D	■		Passive†		■	■		■			■	■	■

† Selectable Resistances included: Pt 100, Pt1000, LG-Ni 1000, NTC 10k


QPM2102D


QPM2162

Duct Air Quality Sensors

Fast, secure, and cost-efficient installation, this line utilizes a true duct housing, eliminating the need for a mounting kit or aspiration box. An adjustable immersion depth accommodates all mounting situations. No alignment with the flow direction is required — there's no sensitivity to air from outside the air duct. Since two completely separate compartments are used for the measurement modules and the connection terminals, the measurement cannot be falsified by air leakage. Liquid Crystal Display versions provide local visual and numeric information to the occupant in the controlled or monitored space.

Part Number	Version				Output		Range				Power		Housing
	CO_2	VOC	Temperature	Humidity	0 to 5 / 0 to 10 Vdc	LCD Display	No Logo	CO_2 0 to 2000 ppm	Temperature 31 to 113°F	% Relative Humidity	24 Vac	15 to 35 Vdc	Polycarbonate
QPM2100	■				■			■			■	■	■
QPM2100N	■				■		■	■			■	■	■
QPM2102	■	■			■			■			■	■	■
QPM2102D	■	■			■	■		■			■	■	■
QPM2160	■		Active		■			■	■		■	■	■
QPM2180	■		Passive†		■			■	■		■	■	■
QPM2160D	■		Active		■	■		■	■		■	■	■
QPM2162	■		Active	■	■			■	■	0 to 95	■	■	■
QPM2162D	■		Active	■	■	■		■	■	0 to 95	■	■	■
QPM1100		■			■						■	■	■

† Resistance included: Pt 100, Pt1000, LG-Ni 1000, NTC 10k

Pressure Sensors

Covers the entire spectrum of HVAC applications with accuracy and stability

Siemens covers the range of pressure measurement requirements with sensors that measure very low to high pressures in liquids, gases, water, refrigerants, and air. Versions offer either a 0 to 10 Vdc or 4 to 20 mA analog output that is compatible with all energy management systems. Measurement cells are matched precisely to the pressure range, further enhancing measurement accuracy and eliminating the need for temperature or pressure calibration.

The individually laser-adjusted pressure difference for air and non-aggressive gases utilizes a patented ceramic lever system. This enables highly accurate pressure measurement that remains stable over a long period, even in highly dynamic processes and through frequent operating cycles.


QBE2002-P


QBE64-DP4

Liquid/Gas Pressure Sensors

Providing measurements that are unaffected by changes in temperature, these robust pressure sensors for liquids and gases are based on a stainless steel, piezo-resistive measuring system. They are ideally suited for the measurement of static and dynamic overpressures with intensive load change. Their fully encapsulated electronics design permanently protects them against the effects of temperature and humidity. They are available in several different air pressure ranges, from 1 to 40 atmospheres of pressure (1 to 580 psi) with 0 to 10 Vdc and 4 to 20 mA output signals.

Part Number	Version		Output				Pressue		Accuracy	Category			Power	
	Absolute	Differential	0 to 10 Vdc	4 to 20 mA	Relay Contact	LCD Display	Adjustable	PSI	Percentage	Basic	Standard	High Quality	24 Vac	Vdc
QBE2002-P1	■		■	■				0 to 14.5	0.4		■		■	18 to 33
QBE2002-P2	■		■	■				0 to 29	0.4		■		■	18 to 33
QBE2002-P4	■		■	■				0 to 58	0.4		■		■	18 to 33
QBE2002-P5	■		■	■				0 to 72	0.4		■		■	18 to 33
QBE2002-P10	■		■	■				0 to 145	0.4		■		■	18 to 33
QBE2002-P16	■		■	■				0 to 232	0.4		■		■	18 to 33
QBE64-DP4		■	■	■				0 to 58	0.5		■		■	18 to 33
7MF15654BB005EA1	■			■				0 to 15	0.25		■			15 to 36
7MF15654BE005EA1	■			■				0 to 30	0.25		■			15 to 36
7MF15654BF005EA1	■			■				0 to 60	0.25		■			15 to 36
7MF15654BG005EA1	■			■				0 to 100	0.25		■			15 to 36
7MF15654CA005EA1	■			■				0 to 150	0.25		■			15 to 36
7MF15654CB005EA1	■			■				0 to 200	0.25		■			15 to 36
7MF15654CD005EA1	■			■				0 to 300	0.25		■			15 to 36
7MF15654BB105EA1	■		■					0 to 15	0.25		■			10 to 36
7MF15654BE105EA1	■		■					0 to 30	0.25		■			10 to 36
7MF15654BF105EA1	■		■					0 to 60	0.25		■			10 to 36
7MF15654BG105EA1	■		■					0 to 100	0.25		■			10 to 36
7MF15654CA105EA1	■		■					0 to 150	0.25		■			10 to 36
7MF15654CB105EA1	■		■					0 to 200	0.25		■			10 to 36
7MF15654CD105EA1	■		■					0 to 300	0.25		■			10 to 36

QBE2x01-P

Refrigerant Pressure Sensors

Designed for refrigeration areas, Siemens pressure sensors feature a stainless steel membrane that is welded to the housing, eliminating the need for a seal. This enables use with all refrigerants, even ammonia and carbon dioxide, as well as with high process temperatures and aggressive media.

Part Number	Version		Output				Pressure		Accuracy	Category			Power	
	Relative	Differential	0 to10 Vdc	4 to 20mA	Relay Contact	LCD Display	Adjustable	PSI	Percentage	Basic	Standard	High Quality	24 Vac	Vdc
QBE2001-P10U	■		■					-14.5 to 130			■		■	16 to 33
QBE2001-P25U	■		■					-14.5 to 348			■		■	16 to 33


QBM81

590-501

Air Pressure Sensors

Used in building energy management systems, these transducers are capable of measuring pressures with the accuracy necessary for proper building pressurization and airflow control. Their 0 to 10 Vdc analog output is compatible with all energy management systems.

With 10 psi proof pressure on all ranges, they are available in five different air pressure ranges. Static accuracy is ±1% full scale in normal ambient temperature environments. The units are temperature compensated to less than ±0.033% FS/°F of thermal error over the temperature range of 0°F to +150°F. 1% accuracy, or better, improves variable air volume system performance.

Part Number	Version		Output				Pressure		Accuracy	Category			Power	
	Relative	Differential	0 to10 Vdc	4 to 20 mA	Relay Contact	LCD Display	Adjustable	Water Column	Percentage	Basic	Standard	High Quality	24 Vac	0 to 10 Vdc
QBM81-3[1]		■			■		■	0.08 to 1.2"						
QBM81-5[1]		■			■		■	0.2 to 2.0"						
QBM81-10[1]		■			■		■	0.4 to 4.0"						
590-501		■	■				■	0 to 5"	1.0		■		■	
590-502		■	■				■	0 to 2"	1.0		■		■	
590-503		■	■				■	0 to 1"	1.0		■		■	
590-505		■	■				■	0 to +/- 0.25"	1.0		■		■	
590-506[2]		■	■				■	0 to 5"	1.0		■		■	
590-507[2]		■	■				■	0 to 2"	1.0		■		■	
590-508[2]		■	■				■	0 to 1"	1.0		■		■	
590-510[2]		■	■				■	0 to +/- 0.25"	1.0		■		■	
590-780		■		■			■	0 to 1"	0.4		■		■	
590-781		■		■			■	0 to 0.65"	0.4		■		■	
590-782		■		■			■	0 to 0.5"	0.4		■		■	

1. Includes mounting accessories
2. Comes with 590-500 housing for conduit


590-500

Accessories

Optional accessories help speed up installation.

Part Number	Description
590-500	Housing to Adapt to 1/2" Conduit, Use with 590 Types

Specialty Sensors

Cutting-edge solutions to meet emerging needs and assist in obtaining LEED credits.

Perfect for retrofit or new construction projects, these interchangeable sensors integrate with any building management system. Through precise control and monitoring, they will help ensure your building meets the demands of today and tomorrow. Rely on them to deliver savings on operating costs and count on Siemens expertise for assistance in meeting energy efficient control strategies and Green initiatives.

Solar Impact Sensors can be used when solar compensation is necessary for buildings or building sections with large window areas that are subjected to strong solar radiation, especially in installations where thermostatic radiator valves cannot be used.

Liquid Flow Switches are used to monitor the flow of fluids in hydraulic systems, especially in refrigeration and heat pumps, and are for use with condensers, boilers, and heat exchangers.


QLS60

Solar Impact Sensor

Used as a demand sensor in facilities where compensation of solar radiation is required or desired. To determine the impact of solar radiation, the sensor uses a solar cell that acquires the level of radiation.

Part Number	Output		Range		Power		Housing
	0 to 10 Vdc	40 to 20 mA	W/m2	W/ft2	24 Vac	18-30 Vdc	NEMA 4
QLS60	■	■	0 to 1000	0 to 93	■	■	■


QVE1900U


QVE1901U

Liquid Flow Switches

Flow switches detect the flow of the medium to be monitored by means of a paddle. If the flow velocity in the piping falls below the adjusted switch-off value, the paddle in the QVE1900U model actuates a micro-switch with a dry contact (SPDT), which closes the contact. In the QVE1901U model, the switching is achieved through two opposite magnets and a reed contact.

Part Number	Switch		Pipe	Contact		Power	Paddle Material	
	Magnetic Reed Contacts	SPDT	Diameter In.	15A	1A	24 Vac/Vdc	High Grade Steel	Non-metal
QVE1900U		■	1-1/4 to 8	■		■	■	
QVE1901U	■		3/4 to 8		■	■		■


QVM62.1

Air Velocity Sensor

The sensor is used to control the air velocity to a constant value, or to balance out pressure fluctuations (supply or extract air control). Using a special thin-film sensing element, the sensor operates largely independently of the direction of flow and is nearly insensitive to any kind of dirt in the air flow.

Part Number	Air Velocity (FPM)	Output			Measuring Range	Power
		0 to 10 Vdc	4 to 20 mA	Relay Contact	Adjustable	24 Vac
QVM62.1	0-3000	■			0 to 16 ft/s 0 to 33 ft/s 0 to 49 ft/s	■

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Siemens Building Technologies, Ltd.
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The information in this document contains general descriptions of technical options available, which are not always present in individual cases. The required features should be specified in each individual case at the time at the time of purchase.

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All other customers, call your local Siemens branch.

www.usa.siemens.com/hvac

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