Symaro

Don’t worry, just measure

Building Technologies

SIEMENS

Symaro™ – the range of sensors that persuades

Symaro™ simplifies and standardizes the use of sensors
Symaro™ – the new range of sensors from Siemens – simplifies and standardizes the use and installation of sensors in the most innovative way.

The new products offer you a number of benefits:

Implementation of the platform concept
The entire range of sensors is of modular design.
The result is an easy-to-understand, clearly structured product range that meets all requirements of building services plant.

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

For practical use
Symaro™ sensors are fully tested in our own HVAC laboratory and their reliability has been proven in extensive field tests.

Swiss production and full-scale final inspection
The sensors are made automatically in our production facility in Switzerland. Before leaving the factory, the characteristics of each sensor are checked and documented. Production date and serial number markings on the product ensure traceability.

An unmatched range of products
Decades of experience in the HVAC field and in building services plant enable Siemens to offer a unique range of products that operate reliably and safely in all situations.

Straightforward handling
Even staff with no special training can easily mount and commission the Symaro™ sensors.

		Temperature			Humidity, dew point			Indoor air quality			Pressure			Miscellaneous				
		Sensors	Switching sensors[1]	Certified sensors	Sensors	Switching sensors	Certified sensors	Sensors	Switching sensors	Combi sensors	Sensors	Switching sensors	Certified sensors	Velocity sensor	Velocity sensor, switching	Solar sensor	Flue gas sensor
Air	Room	●	●		●	●	●	●	●	●							
	Air duct	●	●		●	●	●	●		●	●	●	●	●			●
	Outside	●			●		●									●	
Water, refrigerants	Immersion	●									●				●		
	Strap-on	●				●											
	Cable	●															
Accessories		●			●	●	●				●	●	●				

1) Refer to separate overview of thermostats

Selling points that persuade:

- **The product range**
  Uniform, easy to understand, clearly structured and complete. For all measured values used in building services plant.
- **Mounting and commissioning**
  Straightforward and quick.
- **The high accuracy**
  Precise acquisition of measured values in all applications and mounting situations, thanks to functional design and digital technology.
- **In compliance with the standards**
  The products comply with all relevant standards and guidelines.
- **Compatibility and continuity**
  Both ensure protection of your investments.
- **Straightforward**
  Everything from a single source.
- **The brand name**
  Well known, reliably products from Siemens.
- **The design**
  Ergonomic and elegant.
- **The life expectancy**
  The products offer a very long service life.
- **The technology**
  Leading edge sensor technology.
- **The support**
  Expert support is also ensured when it comes to applications.
- **The compatibility**
  Full compatibility with a large number of Siemens controllers with an extensive choice of tested applications.
- **Degree of protection**
  IP protection can be selected depending on the requirements.
- **The packaging**
  Simple, practical and environment-friendly.

And all these features in the very best quality from Siemens!

A large number of Symaro™ sensors are also suited for use with third-party systems. One example are all the sensors that feature the standardized DC 0...10 V or 4...20 mA interface.

Modular and flexible
We produce a large number of customized versions some of which carry the customer's logo. Here, the sensors' modular platform makes us very flexible.

Symaro™ T: Temperature

Symaro™ H: Humidity

Symaro™ A: Air quality

Symaro™ P: Pressure

Symaro™ T: Temperature

Reliable and accurate temperature acquisition at any location

Model	Room sensor	Room sensor	Duct sensor	Immersion sensor	Outside sensor	Outside sensor	Strap-on sensor	Cable sensor
Type reference	QAA	QAA...D	QAM	QAE	QAC	QAC	QAD	QAP
Display		●						
Category: Standard	●	●	●	●		●	●	●
High Quality					●			

And these are the benefits offered by the range of Symaro™ temperature sensors:

Measuring ranges and accuracy
The sensors have been optimized for use in heating, ventilation, air conditioning and refrigeration plant. All standard measuring ranges are available.

Ideal housings
The design and outer appearance of the housings meet all requirements in terms of measuring technology, mounting, installation and aesthetics. The protection standard can be selected.

Outputs
All types of output signals required for HVAC plant are available. In addition to passive sensors with LG-Ni 1000, PT 100 or PT 1000 output signals, the range also includes sensors delivering active DC 0...10 V or 4...20 mA output signals.

Room temperature sensors
These sensors acquire the room temperature and – to a certain extent – also give consideration to the wall temperature. This kind of temperature weighting in rooms is based on many years of experience and ensures the highest possible level of comfort.

Duct temperature sensors
Measuring conditions in air ducts of ventilation or air conditioning systems are hardly ever ideal. This fact is taken into consideration by the averaging sensors of the Symaro™ range. Averaging ensures that temperatures are acquired more reliably and independent of the measuring location and airflow conditions.

Immersion sensors
The immersion sensors are designed for high accuracy and are available with or without protection pocket.

Strap-on sensors
These sensors excel in very short response times and ease of mounting.

Outside sensors
The outside sensors acquire the actual outside temperature and – to a small extend – the influence of wind and solar radiation.

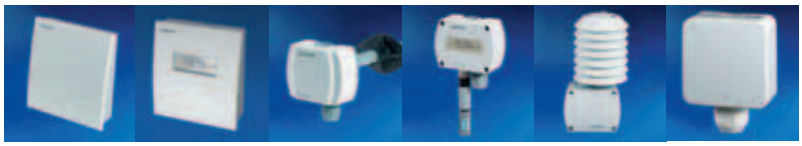
Cable sensors
The cable sensors are available in all versions for a wide field of use.

	Type references	Output										Range	Category					Length		Protection	Use/remarks
		LG-Ni 1000	PTC T1	PT100	PT1000	NTC 10K	NTC 3K	NTC 575	DC 0...10 V	4...20 mA	Display	°C	Basic	Standard	High Quality	AC 24 V	DC 13.5...35 V	Fühler mm	Kabel mm		
Room	QAA2010			●								0...+50		●						IP30	
	QAA2012				●							0...+50		●						IP30	
	QAA2030					●						0...+50		●						IP30	
	QAA2040		●									0...+50		●						IP30	
	QAA2061								●			0...+50		●		●	●			IP30	
	QAA2061D								●		●	0...+50		●		●	●			IP30	
	QAA2071									●		0...+50		●			●			IP30	
	QAA24	●										0...+50		●						IP30	
	QAA25	●										0...+50		●						IP30	With setpoint adjuster 5...35 °C
	QAA26	●										0...+50		●						IP30	With setpoint adjuster 5...30 °C
	QAA27	●										0...+50		●						IP30	With setpoint adjuster +/- 3 K
	QAA32						●					0...+40	●							IP30	
	QAA64	●										0...+50		●						IP40	Vandal-proof
Duct	QAM2110.040			●								–50...+80		●				400		IP54	Incl. mounting flange
	QAM2112.040				●							–50...+80		●				400		IP42	Incl. mounting flange
	QAM2112.200				●							–50...+80		●				2000		IP42	Incl. mounting flange
	QAM2120.040	●										–50...+80		●				400		IP42	Incl. mounting flange
	QAM2120.200	●										–50...+80		●				2000		IP42	Incl. mounting flange
	QAM2120.600	●										–50...+80		●				6000		IP42	Incl. mounting flange
	QAM2130.040					●						–40...+80		●				400		IP42	Incl. mounting flange
	QAM2140.020		●									–50...+80		●				200		IP42	Incl. mounting flange
	QAM2161.040								●			–50...+50		●		●	●	400		IP54	Incl. mounting flange
	QAM2171.040									●		–50...+50		●			●	400		IP54	Incl. mounting flange
	FK-TP/200			●								–60...+300			●			200		IP54	DIN head; incl. mounting flange
Immersion	QAE2110.010			●								–30...+130		●				100		IP54	Incl. protection pocket G$^1/_2$"
	QAE2110.015			●								–30...+130		●				150		IP54	Incl. protection pocket G$^1/_2$"
	QAE2111.015			●								–30...+130		●				150		IP42	without protection pocket
	QAE2112.010				●							–30...+130		●				100		IP42	without protection pocket
	QAE2112.015				●							–30...+130		●				150		IP42	without protection pocket
	QAE2120.010	●										–30...+130		●				100		IP42	Incl. protection pocket G$^1/_2$"
	QAE2120.015	●										–30...+130		●				150		IP42	Incl. protection pocket G$^1/_2$"
	QAE2121.010	●										–30...+130		●				100		IP42	without protection pocket
	QAE2122.013	●										–30...+130		●				130		IP42	Threaded nippple G G$^1/_2$"
	QAE2130.010					●						–30...+125		●				100		IP42	without protection pocket
	QAE2130.015					●						–30...+125		●				150		IP42	without protection pocket
	QAE2140.010		●									–30...+130		●				100		IP42	Incl. protection pocket G$^1/_2$"
	QAE2164.010								●			–10...+120		●		●	●	100		IP54	without protection pocket
	QAE2164.015								●			–10...+120		●		●	●	150		IP54	without protection pocket
	QAE2174.010									●		–10...+120		●			●	100		IP54	without protection pocket
	QAE2174.015									●		–10...+120		●			●	150		IP54	without protection pocket
	QAE3010.010			●								–50...+200			●			100		IP65	DIN head; direct immersion G$^1/_2$"
	QAE3010.016			●								–50...+200			●			160		IP65	DIN head; direct immersion G$^1/_2$"
	QAE3075.010									●		0...+200			●		●[1]	100		IP65	DC 7.5...30 V / direct immersion G$^1/_2$
	QAE3075.016									●		0...+200			●		●[1]	160		IP65	DC 7.5...30 V / direct immersion G$^1/_2$
	QAE1020.024	●										–5...+105		●				240	2000	IP64	Threaded nipple R$^1/_4$", PVC Cable
	QAE26.9	●										–40...+180		●				260	1200	IP64	Threaded nipple R$^1/_4$"
	QAE26.90	●										–50...+180		●				65	2000	IP64	Threaded nipple R$^1/_4$"
	QAE26.91	●										–50...+180		●				125	2000	IP64	Threaded nipple R$^1/_4$"
	QAE26.93	●										–50...+180		●				240	2000	IP64	Threaded nipple R$^1/_4$"
	QAE26.95	●										–50...+180		●				465	2000	IP64	Threaded nipple R$^1/_4$"
	FT-TP/100			●								–100...+450			●			100		IP54	DIN head; direct immersion G$^1/_2$"
	FT-TP/400			●								–100...+450			●			400		IP54	DIN head; direct immersion G$^1/_2$"
Strap-on	QAD2010			●								–30...+130		●						IP42	
	QAD2012				●							–30...+130		●						IP42	
	QAD2030					●						–30...+125		●						IP42	
	QAD22	●										–30...+130		●						IP42	
	QAD26.220	●										–35...+90		●					2000	IP65	
Outside	FA-T1G		●									–30...+130		●						IP42	
	QAC2010			●								–50...+70		●						IP54	
	QAC2012				●							–50...+70		●						IP54	
	QAC2030					●						–40...+70		●						IP54	
	QAC3161								●			–50...+50			●	●	●			IP65	
	QAC3171									●		–50...+50			●		●			IP65	
	QAC22	●										–50...+70		●						IP54	
	QAC32							●				–50...+70		●						IP54	
	FW-T1G		●									–50...+70		●						IP54	
Cable	QAP1030.200					●						–25...+95		●					2000	IP65	PVC-Cable
	QAP2010.150			●								–30...+130		●					1500	IP65	Siliconecable
	QAP2012.150				●							–30...+130		●					1500	IP65	Siliconecable
	QAP2040.250		●									–30...+130		●					2500	IP65	Siliconecable
	QAP21.2	●										–30...+180		●					1500	IP67	1–2 h / day at 220 °C, silicone cable
	QAP21.3	●										–30...+130		●					1500	IP65	Siliconecable
	QAP21.3/8000	●										–30...+130		●					8000	IP65	Siliconecable
	QAP22	●										–25...+95		●					2000	IP65	PVC-Cable
	QAZ21.682/101	●										–50...+80		●					2000	IP67	Siliconecable
	QAZ21.685/101	●										–50...+80		●					5000	IP67	Siliconecable
	QAH11						●					–20...+70		●					2500		Connectors, -5 °C, if cable is flex. mounted
	QAH11.1						●					–20...+70		●					2500		Ferrules, -5 °C,if cable is flex. mounted
	QAT22	●										–10...+50		●					1500		Window panel temp. sensor
Accessories	AQE2102													●							Compression fitting
	ALT-SB...													●	●						Protection pocket brass, PN10
	ALT-SS...													●	●						Protection pocket, V4A, PN16
	ALT-SSF...													●	●						Protection pocket, V4A, PN40
	AQM63.0													●							Mounting flange for QAM...
	AQM63.3													●							Mounting clamp (set w. 6 pcs)
	ARG22.1													●							Changeover kit for QAP...
	ARG22.2													●							Aluminium bar for QAP...
	ARG86.3													●							Changeover kit for QAH11

1) Refer to «Use/remarks»

Symaro™ H: Humidity

Highly stable acquisition of humidity over long periods of time even under extreme conditions



Model		Room sensors	Room sensors	Duct sensors	Room sensors	Outside sensors	Condensation monitors
Type references		QFA	QFA...D	QFM	QFA	QFA	QXA
Display			●	●	●		
Category:	Standard	●	●	●			●
	High-Quality			●	●	●	
	Certified			●	●		

And these are the benefits offered by the range of Symaro™ humidity sensors:

Capacitive humidity sensing element
Outstanding properties with regard to hysteresis, long-term stability, temperature dependency and repeatability.

Combined sensors
There are single-purpose and combined versions with temperature sensors available. Sensors with active temperature output signal have the ability of the following measure ranges: 0...50 °C / -35...+35 °C / or -40...+70 °C.

High-quality solutions
Our range of humidity sensors includes versions for very demanding applications such as those in the pharmaceutical, food, paper or electronics industry.

High precision calibration laboratory
Our laboratory is traceable to the Swiss National body METAS[1)] for the measurement of the relative humidity. This ensures optimum quality control of our humidity sensors.

Certification
Sensors that satisfy especially stringent criteria are available with a factory certificate and the appropriate recalibration service (also refer to page 15). The new exchangeable probe enables these sensors to be recalibrated within seconds.

	High-quality	Standard
Accuracy	± 2% r.h.	± 5% r.h.
Operating range	0...100% r.h.	0...95% r.h.

Sophisticated measuring technology
Housing-dependent temperature compensation was made possible with microprocessor technology. As a result, humidity measurements are accurate across the entire temperature range and not only at 23 °C.

Protection against radiation
Radiation protection is available as an option for the measurement of outdoor humidity.

Absolute humidity and enthalpy
Acquisition of absolute humidity and enthalpy is made possible with a combined humidity-temperature sensor and an absolute humidity processor SEZ220.

Dew point sensor
Potential-free relay output, switching point at 95 % ± 4-% r.h. and a short response time. The sensor is used to monitor condensation on chilled ceilings.

Hygrostats
Naturally, our range of products also includes duct and room hygrostats for monitoring and control tasks.

1) equivalent to LNE, PTB, NPL, NIST etc.

	Type references	Version		Output							Range		Category				Power Supply		Protection	Use/remarks
		Humidity only	Combi sensor	DC 0...10 V	4...20 mA	T1	LG-Ni 1000	Relay contact	Digital	Display	Humidity % r.F.	Temperature °C	Basic	Standard	High-quality	Certified	AC 24 V	DC 13,5...35 V		
Room	QFA2000	●		●							0...95			●			●	●	IP30	
	QFA2020		●	●			●				0...95	-15...+50		●			●	●	IP30	
	QFA2040		●	●		●					0...95	-15...+50		●			●	●	IP30	
	QFA2060		●	●							0...95	-15...+50		●			●	●	IP30	
	QFA2060D		●	●						●	0...95	-15...+50		●			●	●	IP30	
	QFA3100	●		●							0...100				●		●	●	IP65	
	QFA3101	●			●						0...100				●			●	IP65	
	QFA3160		●	●							0...100	-40...+70			●		●	●	IP65	
	QFA3160D		●	●						●	0...100	-40...+70			●		●	●	IP65²)	
	QFA3171		●		●						0...100	-40...+70			●			●	IP65	
	QFA3171D		●		●					●	0...100	-40...+70			●			●	IP65²)	
	QFA4160		●	●							0...100	-40...+70				●	●	●	IP65	
	QFA4160D		●	●						●	0...100	-40...+70				●	●	●	IP65²)	
	QFA4171		●		●						0...100	-40...+70				●		●	IP65	
	QFA4171D		●		●					●	0...100	-40...+70				●		●	IP65²)	
Duct	QFM2100	●		●							0...95			●			●	●	IP54	Incl. mounting flange
	QFM2101	●			●						0...95			●				●	IP54	Incl. mounting flange
	QFM2120		●	●			●				0...95	-15...+60		●			●	●	IP54	Incl. mounting flange
	QFM2140		●	●		●					0...95	-15...+60		●			●	●	IP54	Incl. mounting flange
	QFM2160		●	●							0...95	-15...+60		●			●	●	IP54	Incl. mounting flange
	QFM2171		●		●						0...95	-15...+60		●				●	IP54	Incl. mounting flange
	QFM3100	●		●							0...100				●		●	●	IP65	Incl. mounting flange
	QFM3101	●			●						0...100				●			●	IP65	Incl. mounting flange
	QFM3160		●	●							0...100	-40...+70			●		●	●	IP65	Incl. mounting flange
	QFM3160D		●	●						●	0...100	-40...+70			●		●	●	IP65²)	Incl. mounting flange
	QFM3171		●		●						0...100	-40...+70			●			●	IP65	Incl. mounting flange
	QFM3171D		●		●					●	0...100	-40...+70			●			●	IP65²)	Incl. mounting flange
	QFM4160		●	●							0...100	-40...+70				●	●	●	IP65	Incl. mounting flange
	QFM4171		●		●						0...100	-40...+70				●		●	IP65	Incl. mounting flange
Outside	QFA3100 + AQF3100	●		●							0...100				●		●	●	IP65	
	QFA3101 + AQF3100	●			●						0...100				●			●	IP65	
	QFA3160 + AQF3100		●	●							0...100	-40...+70			●		●	●	IP65	
	QFA3171 + AQF3100		●		●						0...100	-40...+70			●			●	IP65	
Dew point	QXA2000	●						●			0...100			●			●		IP40	Accessory AQX2000
Hygrostats	QFA1001	●						●			30...90		●						IP20	Room: Setpoint adjustment
	QFA1000	●						●			30...90		●						IP20	Room: Setpoint adjustment under the cover
	QFM81.2	●						●			15...95		●						IP30	Duct: Setpoint adjustment
	QFM81.21	●						●			15...95		●						IP55	Duct: Setpoint adjustment under transparent cover
Accessories	AQX2000												●						IP20	AC 230 V extension modul for QXA2000
	AQF3100													●						Radiation protection for QFA31..
	AQF3101													●						Replacement filter caps
	AQF3150		●						●		0...100	-40...+70			●					Probe for QFA31.. and QFM31..
	AQF3153		●						●						●					Service set with 3 fixed value probes
	AQF4150		●						●		0...100	-40...+70				●				Probe for QFA41.. and QFM41..

2) Available from 2008

Symaro™ A: Air quality

Energy savings and enhanced comfort thanks to long-term stable indoor air quality sensors

Model		Room sensors	Room sensors	Duct sensors	Room sensors
Type references		QPA20...	QPA20...D	QPM21...	QPA84
Display			●	●	
Measured value	CO_2	●	●	●	
	VOC	●	●	●	●
	T	●	●	●	
	r.H.	●	●	●	
Category:	Basic				●
	Standard	●	●	●	

And these are the benefits offered by the Symaro™ indoor air quality sensors:

Energy-savings potential and comfort
- Demand-controlled ventilation offers energy savings of between 20 and 70 %
- Short payback times
- Demand-controlled ventilation ensures constant levels of indoor air quality and low operating costs
- Changes in building occupancy levels and building usage as well as changes made to plant characteristics are automatically compensated for
- Indoor air quality can be recorded and documented at any time

The long-term stable sensing technology saves service costs

The Symaro™ air quality sensors acquire the CO_2 concentration by infrared absorption measurement (NDIR). Owing to an additional integrated reference light source, the measurement is always accurate and no service or recalibration is needed, thus saving service costs.

Broad range of multisensors
- The range consists of the following types of multisensors: CO_2/VOC, CO_2/T, and CO_2/T/H
- Precise and compact multisensors are reducing installation, wiring and commissioning costs
- In addition, the installation of several room sensors close to each other can be avoided – a recommendation often made by architects

Ergonomic air duct housing for fast and convenient installation eliminates installation failures
- Infinitely adjustable immersion depth for all mounting situations
- No alignment with the flow direction required
- 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 leakage – for example through the cable entry

	Type references	Version				Output			Category		Powersupply			Protection	Use/remarks
		CO_2	VOC	T	r.H.	DC 0...10V	Relay	Display	Basic	Standard	AC 24 V	DC 15...35 V	AC 230 V		
Room	QPA2000	●				●				●	●	●		IP30	
	QPA2002	●	●			●				●	●	●		IP30	
	QPA2002D	●	●			●		●		●	●	●		IP30	
	QPA2060	●		●		●				●	●	●		IP30	
	QPA2060D	●		●		●		●		●	●	●		IP30	
	QPA2062	●		●	●	●				●	●	●		IP30	
	QPA2062D	●		●	●	●		●		●	●	●		IP30	
	QPA84		●				●		●				●	IP30	Allows direct fan or flap control
Duct	QPM2100	●				●				●	●	●		IP54	
	QPM2102	●	●			●				●	●	●		IP54	
	QPM2102D	●	●			●		●		●	●	●		IP54[1)]	
	QPM2160	●		●		●				●	●	●		IP54	
	QPM2160D	●		●		●		●		●	●	●		IP54[1)]	
	QPM2162	●		●	●	●				●	●	●		IP54	
	QPM2162D	●		●	●	●		●		●	●	●		IP54 [1)]	

[1)] Available from 2008

LCD
- All multisensors for room application are available with a clear, attractive LCD. The display of measuring variables and their units alternates
- Maximum selection of the CO_2 and VOC[2)] concentrations is shown in the form of a bar graph
- The temperature display can be switched from °C to °F
- The sensors with LCD can also be used as standalone versions. For example, in a room with natural ventilation, it can be used to indicate if the windows need to be opened

Built-in self-monitoring facility and service mode
- Like all Symaro™ sensors with active output signals, the indoor air quality range has self-monitoring capability for all measuring variables built in
- In addition, the sensors can be switched to a special service mode – a very convenient feature for project development and commissioning

Universal use
The Symaro™ air quality sensors supplied by Siemens satisfy all kinds of requirements and are suited for use in all types of buildings. The standard output signals facilitate straightforward connection to a wide choice of controllers and systems.

Tested solutions
Together with the systems, controllers and variable speed drives from Siemens, there is a broad range of proven and complete solutions available. For more detailed information, please ask for the brochure «Demand-controlled ventilation».

Measurement range

CO_2	0...2000 ppm
Humidity	0...95 % r.H.
Temperature	0...50 °C/-35...+35 °C

[2)] VOC: Volatile Organic Compounds

Symaro™ P: Pressure

Reliable and stable acquisition of pressure thanks to the patented ceramics lever system

Model		Differential pressure sensor	Differential pressure sensor	Differential pressure switch	Differential pressure sensor	Absolute pressure sensor	Absolute pressure sensor
Medium		Air	Air	Air	Liquids / gases	Liquids / gases	Refrigeration
Type reference		QBM65/75	QBM66	QBM81	QBE63/64	QBE2002-P	QBE2001-P
Category:	Basic			●			
	Standard		●		●	●	●
	High-quality	●					
	Certified	●					

And these are the benefits offered by the Symaro™ range of pressure sensors:

The full spectrum
The range of Symaro™ sensors for water, refrigerants and air covers the entire spectrum of HVAC applications.

All price categories
Depending on the performance criteria and the degree of accuracy required, we offer sensors in every price category, including sensors with local indication.

Ideal mounting
The sensors are available with the appropriate mounting options to suit specific needs.

Certification
Special sensors (types QBM.../C) with factory certificate and the appropriate recalibration service are available for demanding requirements (also refer to page 15).
A number of sensors feature a display and deliver a 4...20 mA output signal (type reference QBM75.../C).

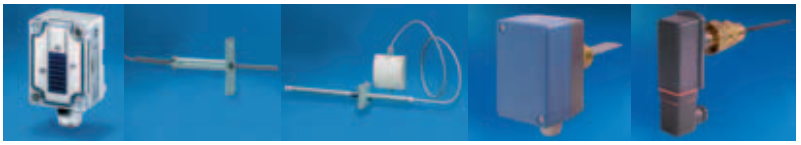
Mounting accessories
A range of accessories is available to solve the most common problems associated with mounting and connection.

Differential pressure switches
Our range of differential pressure switches can be used for various monitoring functions, especially for filter or fan belt supervision.

	Type reference	Version		Output					Range	Category				Power supply		Protection	Use / remarks
		Absolut	Differenzial	DC 0...10 V	4...20 mA	Root function	Relay contact	Display		Basic	Standard	High-quality	Certified	AC 24 V	DC 20...30 V		
Air	QBM65-1		●	●					0...100 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65-3		●	●					0...300 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65-5		●	●					0...500 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65-10		●	●					0...1000 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65-25		●	●					0...2500 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65-1U		●	●					–50...+50 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.1-1		●	●				●	0...100 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.1-3		●	●				●	0...300 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.1-5		●	●				●	0...500 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.1-10		●	●				●	0...1000 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.1-25		●	●				●	0...2500 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.2-1		●			●			0...100 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.2-3		●			●			0...300 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.2-5		●			●			0...500 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.2-10		●			●			0...1000 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65.2-25		●			●			0...2500 Pa			●		●	●	IP54	Incl. connecting tube
	QBM65-1/C		●	●					0...100 Pa				●	●	●	IP54	Incl. screwed connection
	QBM65-3/C		●	●					0...300 Pa				●	●	●	IP54	Incl. screwed connection
	QBM65-10/C		●	●					0...1000 Pa				●	●	●	IP54	Incl. screwed connection
	QBM65-25/C		●	●					0...2500 Pa				●	●	●	IP54	Incl. screwed connection
	QBM66.201		●	●					0...100 Pa		●			●	●	IP42	0...200 Pa, 2nd measuring range
	QBM66.202		●	●					0...250 Pa		●			●	●	IP42	0...500 Pa, 2nd measuring range
	QBM66.203		●	●					0...1500 Pa		●			●	●	IP42	0...3000 Pa, 2nd measuring range
	QBM66.204		●	●					0...500 Pa		●			●	●	IP42	0...1000 Pa, 2nd measuring range
	QBM75-1U/C		●		●				–50...+50 Pa				●		●	IP54	Incl. screwed connection
	QBM75.1-1/C		●		●			●	0...100Pa				●		●	IP54	Incl. screwed connection
	QBM81-3		●				●		20...300 Pa	●						IP54	Incl. air duct connection kit
	QBM81-5		●				●		50...500 Pa	●						IP54	Incl. air duct connection kit
	QBM81-10		●				●		100...1000 Pa	●						IP54	Incl. air duct connection kit
Liquids / gases	QBE2002-P1	●		●					0...1 bar		●			●	●	IP65	
	QBE2002-P2	●		●					0...2 bar		●			●	●	IP65	
	QBE2002-P4	●		●					0...4 bar		●			●	●	IP65	
	QBE2002-P5	●		●					0...5 bar		●			●	●	IP65	
	QBE2002-P10	●		●					0...10 bar		●			●	●	IP65	
	QBE2002-P16	●		●					0...16 bar		●			●	●	IP65	
	QBE2002-P20	●		●					0...20 bar		●			●	●	IP65	
	QBE2002-P25	●		●					0...25 bar		●			●	●	IP65	
	QBE2002-P40	●		●					0...40 bar		●			●	●	IP65	
	QBE61.3-DP2		●	●					0...2 bar		●			●	●	IP54	
	QBE61.3-DP5		●	●					0...5 bar		●			●	●	IP54	
	QBE61.3-DP10		●	●					0...10 bar		●			●	●	IP54	
	QBE63-DP01		●	●					0...100 mbar		●			●	●	IP65	
	QBE63-DP02		●	●					0...200 mbar		●			●	●	IP65	
	QBE63-DP05		●	●					0...500 mbar		●			●	●	IP65	
	QBE63-DP1		●	●					0...1 bar		●			●	●	IP65	
	QBE64-DP4		●	●					0...4 bar		●			●	●	IP65	
Refrigeration	QBE2001-P10U	●		●					–1...+9 bar		●			●	●	IP67	
	QBE2001-P25U	●		●					–1...+24 bar		●			●	●	IP67	
	QBE2101-P10U	●			●				–1...+9 bar		●				●	IP67	
	QBE2101-P25U	●			●				–1...+24 bar		●				●	IP67	
	QBE2101-P30U	●			●				–1...+29 bar		●				●	IP67	
Accessories	FK-PZ1										●						Air duct connection
	FK-PZ2											●					Air duct connection
	FK-PZ3									●							Air duct connection
	AQB2000										●						Mounting bracket for QBM65.../QBM66...
	AQB21.2										●						DIN rail adapter
	AQB22.1										●						Mounting bracket for QBE2002
	AQB51.1										●						SERTO connection kit for QBE...
	428616520										●						U-tube for QBE2002
	FT-PZ1										●						Fitting for QBE2001

Symaro™ X: Xtra

You can also rely on Symaro™ quality for special applications



Model	Solar sensor	Flue gas temperature sensor	Air velocity sensor	Flow switch	Flow switch
Type	QLS60	FGT-PT1000	QVM62.1	QVE1900	QVE1901
Medium		Air	Air	Water, refrigerants	Water, refrigerants
Measured value	Intensity of radiation	Flue gas temperature	Velocity, volumetric flow	Velocity, volumetric flow	Velocity, volumetric flow

Solar intensity sensor QLS60
For acquiring the impact of solar radiation. The QLS60 is used as a reference sensor in HVAC plant where compensation of solar radiation is required.

Air velocity sensor QVM62.1
Sensor for measuring air velocity or the volumetric air flow in air ducts. The sensor makes the measurements at a specific location in the flow profile. Thanks to the special thin-film sensing element used, the QVM62.1 operates largely independently of the direction of flow and is nearly insensitive to any kind of dirt in the air flow.
The sensor is used to control the air velocity to a constant value, or to balance out pressure fluctuations (supply or extract air control).

Flue gas temperature sensor FGT-PT1000
For acquiring the flue gas temperature in heating plant.

Paddle flow switch QVE19..
Flow switch for HVAC plant for monitoring the flow of liquids in heating plant, heat pumps or refrigeration systems (e.g. in condensers, compressors and heat exchangers).

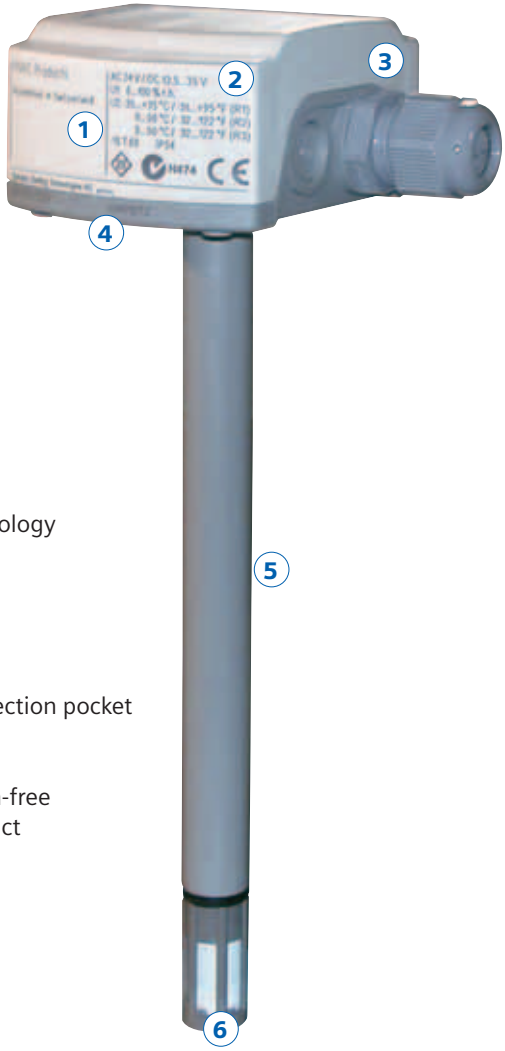
QVE1900: Flow switch for switching great loads, with microswitch.

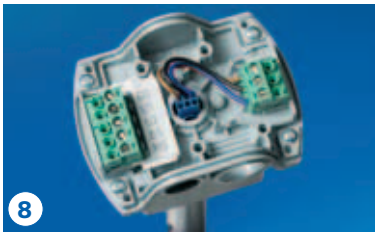
QVE1901: Compact paddle flow switch. For use in connection with controllers and building automation and control systems. High pressure range. Type of switch: Non-contact magnetic switch, very accurate pressure-independent switching point.

Type	Description	Output				Range	Power supply	Degree of protection	Sensing element /remarks
		Pt1000	DC 0...10V	4...20 mA	Relay contact				
QLS60	Solar intensity sensor		●	●		0...1000 W/m²	AC 24 V, DC 18...30 V	IP65	Solar cell
FGT-PT1000	Flue gas temperature sensor	●				-20...400°C			Teflon cable with wire mesh 1.5 m Pt1000, DIN/IEC 751, class B Measuring head made of stainless steel V4A (1.4571)
QVM62.1	Air velocity sensor		●			0...5 m/s 0...10 m/s 0...15 m/s	AC 24 V	IP42	Anemometric measuring principle
QVE1900	Flow switch				●	Nominal pipe size, DN 1¼...8" (32...200 mm)		IP65	Paddle switch for high currents Contact rating 15 (8) A, AC 24...250 V PN 11 bar, screw-in body R1" brass
QVE1901	Flow switch				●	Nominal pipe size, DN 1¾...8" (32...200 mm)		IP65	Paddle switch for use in connection with building automation and control systems. Contact rating 1 A, < AC/DC 230 V, < 26 VA/20 W PN 25 bar, Screw in body G½" brass

Symaro™ – the benefits at a glance

1 The type field on the sensor's cover shows all data required for installation
2 Outputs: DC 0...10 V, 4...20 mA, LG-Ni 1000, PT 100, PT 1000, PTC / NTC
3 Choice of IP protection standards (IP42, IP54 or IP65)
Can also be connected from the opposite side
Connection via cable gland, screwed cable gland or conduit connector
4 Cover can be easily removed (turn and click)
5 General:
– Same installation and wiring philosophie for all sensors
– Modular platform to suite individual customer needs
– Complies with all relevant standards associated with building services plant
– Guaranteed EMC compliance
– Environmental Declaration can be provided for each product
– Production process is certified in accordance with ISO 14001
– Built-in self-monitoring facility
– Special service-and commissioning mode
6 Duct humidity sensors:
Precise acquisition of climate in all applications thanks to microprocessor technology
7 Strap-on sensors: Short response time and straightforward mounting
8 Electrical connections:
– Clearly labeled
– Lift terminals suited for all types of solid and stranded wires
– Easy access
9 Immersion sensors: Precise acquisition of measured value with or without protection pocket
10 Room temperature sensors: Consideration is given to room and wall temperature to ensure optimum comfort
11 Indoor air quality- and multisensors: Absolutely maintenance- and recalibration-free
12 Duct temperature sensors: Stable and reliable averaging across the entire air duct
13 Easy-to-read type reference





Symaro™ – straightforward and market-oriented

The new Symaro™ sensors stand for:
- Ease of product selection
- Ease of installation, and
- Ease of maintenance

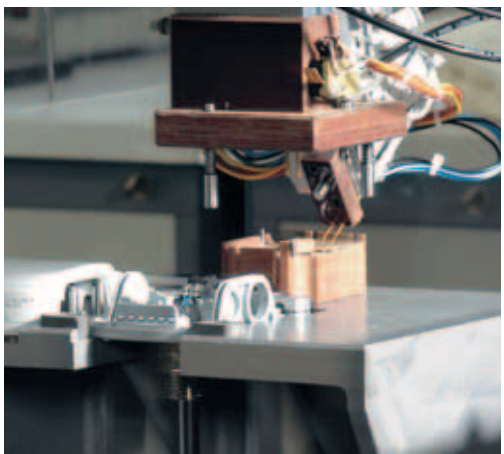
The new production line in Switzerland stands for:
- Permanent quality inspections
- Highest productivity
- Extensive flexibility, and
- Technology and automation

The temperature, humidity and indoor air quality sensors are assembled on highly automated production lines, which include:
- The world's largest fully automatic cable temperature production line (cable lengths from 40 cm to 8 m)
- A fully automatic robot which closes off the immersion sensors accurately, without any air bubbles
- The precise humidity calibration equipment which calibrates and checks up to 120 humidity sensors in one working step

After the quality check, the sensors are taken to the main production line where the signal interfaces and the ergonomic Symaro™ housings are fitted.

In another fully automatic test, all key characteristics of the sensors are checked again. Then, they are labeled, including the production date and the serial number. After that, the sensors are packed in multifunctional and environment-friendly packaging.

Symaro™ – don't worry, just measure



Symaro™ – certification offers security

Calibration
Calibrated sensors from Siemens are supplied with a device-specific serial number and the associated Calibration Certificate.

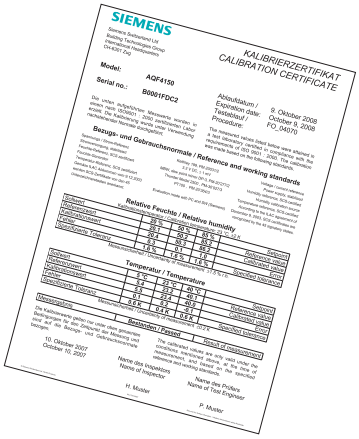
Recalibration
We guarantee the reliability of measurements in any type of room at any time. For this reason, we offer a regular recalibration service: The sensors can be recalibrated within a very short period of time.

Recalibration logbook
Keep a close watch. By making use of the comprehensive recalibration services offered by Siemens, you always have a complete picture of the current performance of your individual sensors.
Before and after each recalibration, the actual values of the measurements are compared with the reference values and deviations will be recorded in the logbook for that specific sensor, along with a record of any maintenance and repair work carried out.
You can thus rely on sensors that perform year in, year out, just like new products under warranty.

Security
- Precision sensors including calibration services
- Measuring sensors complying with the stringent requirements of FDA and GMP
- Continuous, reliable acquisition of humidity, temperature and pressure
- Recalibration services conforming to ISO 9001 with certificate
- Maintenance and repair work accurately documented in a device-specific calibration logbook

Symaro™ sensors are also suited for high-end applications:

High-end sector
The acquisition of measured values in cleanrooms, laboratories or hospital isolation wards must satisfy the most demanding requirements and meet the most stringent standards.
Siemens is well prepared for such complex tasks: With sensors and services that are specifically conceived for this kind of tasks – to ensure full reliability.


SIEMENS

KALIBRIERZERTIFIKAT
CALIBRATION CERTIFICATE

Model: AQF4150

Serial no.: B0001FDC2

Bezugs- und Gebrauchsnormale / Reference and working standards

Relative Feuchte / Relative humidity

Temperatur / Temperature

Druck / Pressure

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