

SIEMENS



Innovative sensors **measurable quality**

A structured range of sensors for all typical HVAC measurements and applications.

[siemens.com/sensors](https://www.siemens.com/sensors)

Breathe different



The Perfect Flow of air makes a sustainable difference



Fresh air may be invisible, but you will feel its impact: It turns rooms into spaces that give room for thought, creativity, productivity and well-being. Creating good indoor air quality is a complex task: temperature, humidity, CO₂-levels, VOC- and PM_{2.5}-levels and more have to be considered and optimized.

Perfect Flow Air gives you access to products and solutions that allow you to create optimum indoor conditions and optimize the efficiency of your ventilation at the same time

Energy efficiency

Perceptible energy savings thanks to fast, high-precision data logging and efficient measuring techniques

Cost saving

Reduced installation and cabling effort thanks to multi-sensors and wireless technology

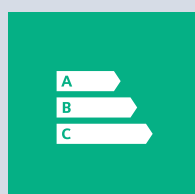
Comfort

- High level room comfort provided by demand- controlled ventilation
- Optimum room climate and atmosphere
- Automatic compensation for changes in building occupancy

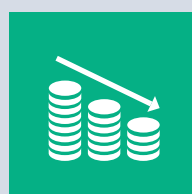
Health & Wellbeing

Providing a wide variation of accurate and reliable air quality data to create healthy interior spaces

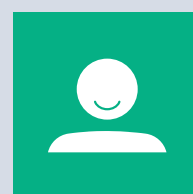
With perfect flow of air you ensure



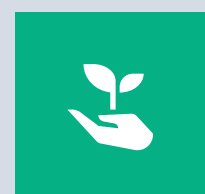
Energy efficiency



Cost saving



Comfort



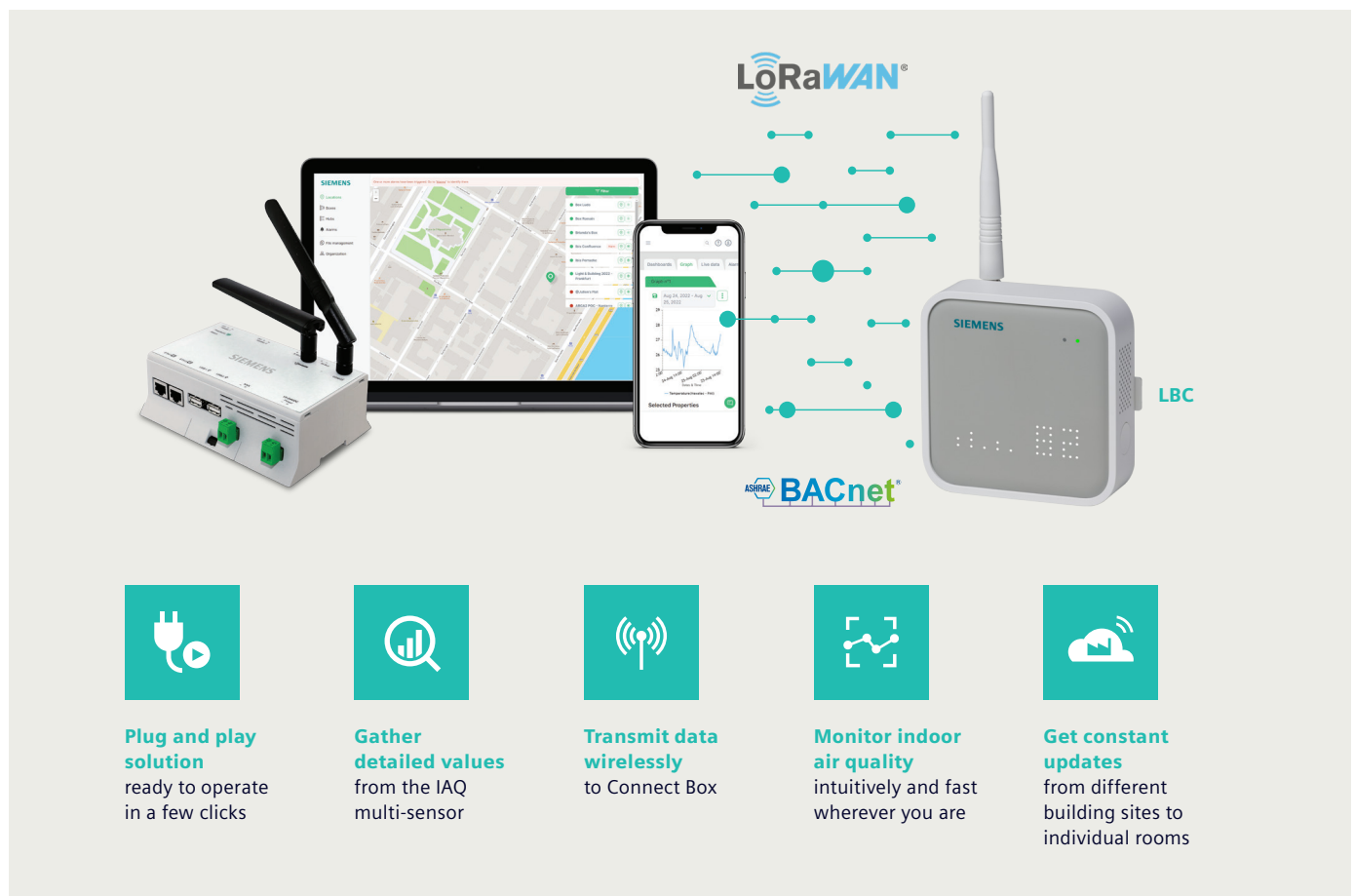
Health & Wellbeing

APPLICATION EXAMPLE WITH IAQ MULTI-SENSOR AND CONNECT BOX

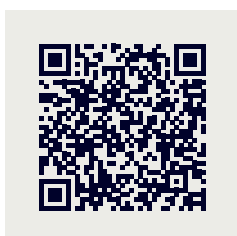
The perfect match for indoor air quality monitoring

The IAQ multi-sensor works as a plug and play solution with Connect Box to provide crucial data on room air quality.

The sensor measures air quality in real time, checking key metrics like temperature and humidity, CO₂ saturation, VOC and PM2.5 emissions, as well as light and noise level, while Connect Box monitors the air performance in the room. With its user friendly approach it can substantially improve indoor air quality in small to medium sized buildings such as schools, retail shops, apartments or small offices.



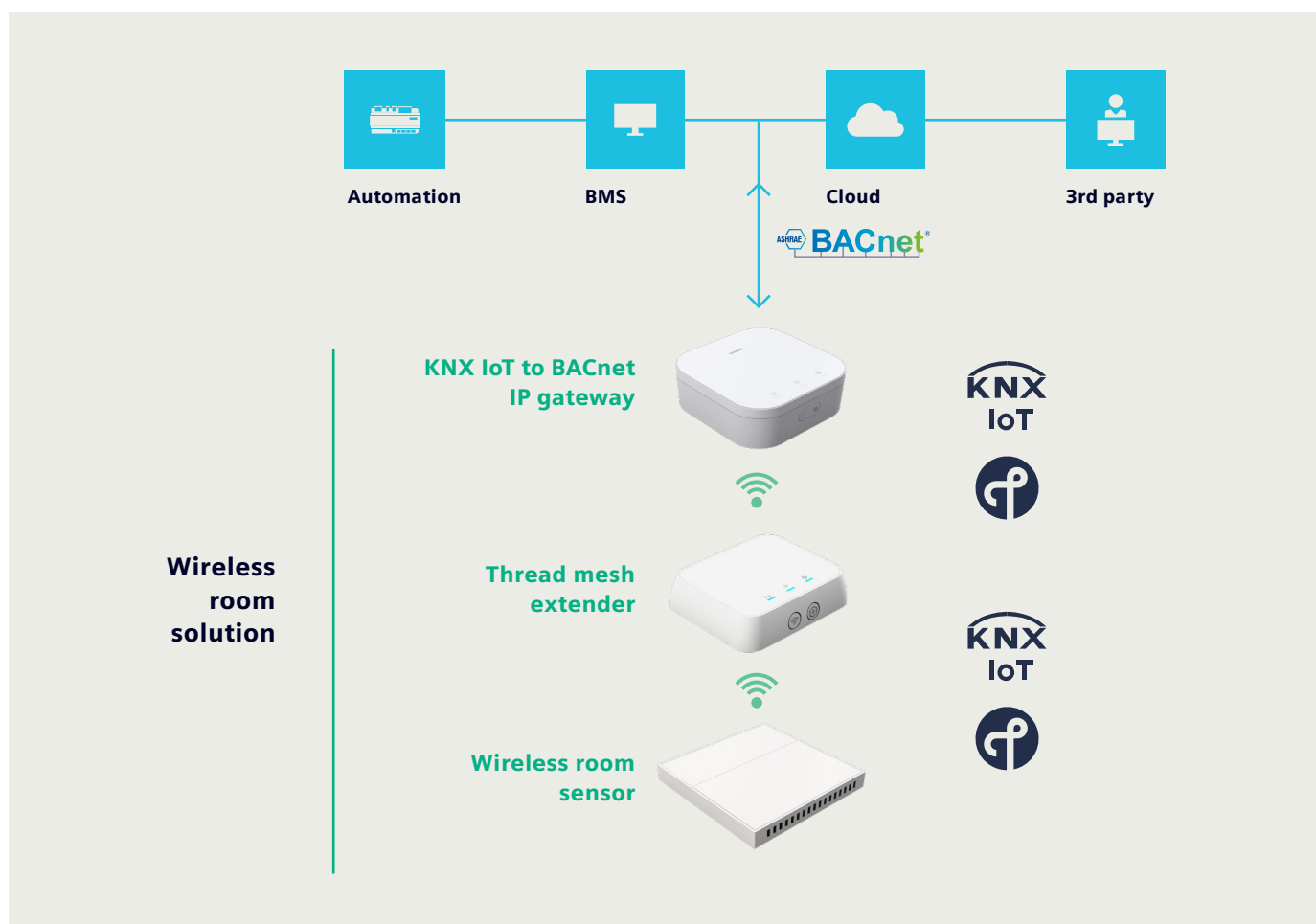
IAQ multi-sensor can support smarter energy usage and help you meet air quality monitoring requirements by achieving high energy performances and meet building regulations



APPLICATION EXAMPLE WITH WIRELESS ROOM SOLUTION

Smooth connectivity with flexible integration

The new wireless room solution enables smooth connectivity and flexible integration in commercial buildings. Based on KNX IoT via Thread communication, your building's room information is quickly collected without wiring and can be integrated into your automation, Building management systems (BMS), Cloud or 3rd party system.



Smooth connectivity

- Smooth integration in BACnet IP system
- No wiring required thanks to KNX IoT Thread connectivity

Flexibility

- It can be implemented in any commercial building, small to large size and/or existing or new
- Ability to scale the system easily to meet changes in your space usage
- 3 different sensor variants to measure depending on your needs.
- Easy integration to Siemens or 3rd party Cloud or building management via BACnet



Wireless room
solution webpage

Simply **a better way** to measure



Siemens now offers a
5 year
warranty on sensors

A range of sensors to meet every need

Whether for measuring temperature, pressure, humidity, air quality or flow in rooms, ducts or outside areas, Siemens sensors offer a transparent, clearly structured range of sensors for typical HVAC measurements and applications. The range also includes IoT, wireless and multi-sensors, that measure mixed gases, as well as sensors for special areas, for example in the pharmaceutical industry. Digital correction algorithms guarantee clean, clear measurement signals. Tested applications ensure full compatibility with all HVAC controllers from Siemens. In addition, the connection to standard commercial third-party systems is always an option thanks to standardized output signals.



**HIT –
planning
tool**

Measurable quality based on many years of experience

The sensors reflect Siemens' more than 60 years of experience in developing and producing sensors: Our sensors are highly reliable and designed for simple, standardized, cost-saving installation with low cabling effort and fast start-up. They have also been tested in the in-house HVAC laboratory. Additionally, they comply with all international standards such as CE, UL, C-Tick and RoHS.

High room comfort and user-friendly operation

Siemens sensors provide a solid foundation for optimum comfort when it comes to room climate. The sensors allow energy-efficient, demand-controlled ventilation for an optimum room atmosphere. They automatically compensate for changes in building occupancy, building usage or plant characteristics. Multi-sensors with a value display offer a direct insight to the measured temperature, humidity and air quality readings. And the temperature display can be switched from °C to °F.

Comprehensive support in every respect

With Siemens sensors, you are assured of comprehensive support, whether it's intensive training courses, practical tools, extensive documentation or expert assistance. Worldwide – if you want.

Highlights

- Perceptible energy savings thanks to fast, high-precision data logging and efficient measuring techniques
- Innovative sensor technology with self-monitoring, service mode, integrated installation concept
- High level of room comfort provided by demand-controlled ventilation
- Reduced installation and cabling effort thanks to multi-sensors
- Guaranteed quality – the result of many years of experience, in-depth applications expertise and systematic sensor tests

		Temperature			Humidity				Air quality			Fine dust		Pressure			Flow	
		Sensors	Switching sensors	IoT/ Wireless	Sensors	Switching sensors	Certified sensors	IoT/ Wireless	Sensors	Switching sensors	IoT/ Wireless	Fine dust sensors	IoT/ Wireless	Sensors	Switching sensors	Certified sensors	Flow switches	Velocity sensors
Air	Room	•	•	•	•	•	•	•	•	•	•	•	•					
	Duct	•	•		•	•	•		•					•	•	•		•
	Outside	•			•		•											
Water	Immersion	•												•	•		•	
	Strap-on	•				•												
	Cable	•																



Wireless and IoT – game-changing technology



Wireless and IoT solutions are a selection of systems and products that provide IoT game-changing technology to any building's space: increasing efficiency, connectivity and intelligence of your site.

IoT technology can make a difference

Wireless and IoT solutions allow you a faster integration into building systems through plug and play installation. You get less wiring, and I/O requirements via wireless protocols and you achieve more with less.

Wireless and IoT solutions are scalable and flexible, constantly adapting to your building's usage and occupancy time.

You are able to customize your system depending on your building in a simple way, without caring about any physical boundaries.

With wireless and IoT solutions, you can benefit from complete transparency on all measured variable in you building through intuitive UIs. Get constant connectivity and coordination between your building and systems. Leverage data more effectively across systems through our open solutions (Siemens or 3rd parties).

Cybersecurity is always guaranteed through secure encrypted communication and firewall configurations to project-specific needs.

Siemens offers different IoT solutions depending on your needs.

Have a look at our comprehensive solutions and devices and pick the right solution for you.

Highlights

- Plug and play installation
- Based on wireless protocols such as KNX IoT/Thread and LoRaWAN
- Remote configuration on selected devices
- Intuitive UIs
- Compatible with Siemens or 3rd party systems

KNX IoT/Thread

	Type	Output				Range			Protection
		CO ₂	Humidity	Temperature	Wireless	CO ₂ ppm	Humidity range % r.h.	Temperature range°C	
Model	Wireless room sensor	QAA2890/WI		●	●			0...50	IP30
		QFA2890/WI	●	●	●		0...100%	0...50	IP30
		QPA2892/WI	●	●	●	0...5000ppm	0...100%	0...50	IP30

LoRaWAN / Bacnet



Model	IAQ multi-sensor	IAQ multi-sensor
Type	QNA27...	QNA282

Type	Version				Output							Supply			Protection
	CO ₂	TVOC	Temperature	Humidity	PM2.5 & PM10	Sound pressure	Illuminance	BACnet IP	BACnet MSTP	LoRaWAN	Display	PoE IEEE802.3af	USB Type C	AC/DC 12..24 V	
QNA2700D.BA1	●	●	●	●	●	●	●	●			●	●	●		IP30
QNA2700D.BA2	●	●	●	●	●	●	●		●		●	●	●		IP30
QNA2820D.EU	●	●	●	●	●	●	●			●	●		●	●	IP30
QNA2820D.US	●	●	●	●	●	●	●			●	●		●	●	IP30
QNA2820D.AU	●	●	●	●	●	●	●			●	●		●	●	IP30

Modbus

			Humidity	Temperature	Modbus RTU	Display	Humidity range% r.h.	Temperature range°C	High performance	Supply AC 24 V	Supply DC 13.5...35 V	Protection	Mounting accessories
Temperature	Duct	QAM2151.040/MO		●	●			-50...50		●	●	IP54	●
	Immersion	QAE2154.010/MO		●	●			-10...120		●	●	IP54	
Humidity	Room	QFA2050/MO	●	●	●		0...100	-40...70			●	IP30	
		QFA2050D/MO	●	●	●	●	0...100	-40...70			●	IP30	
		QFA3150/MO	●	●	●		0...100	-40...70	●		●	IP65	
	Duct	QFM2150/MO	●	●	●		0...95	-15...60		●	●	IP54	
		QFM3150/MO	●	●	●		0...100	-40...70	●	●	●	IP65	

Air quality		 											
			CO ₂	VOC	Humidity	Temperature	Modbus RTU	CO ₂ range ppm	Humidity range %r.h.	Temperature range °C	Supply AC 24 V	Supply DC 15...35 V	Protection
	Room	QPA2052/MO	●		●	●	●	0...2000	0...100	-40...70	●	●	IP30
	Duct	QPM2102/MO	●	●			●	0...2000			●	●	IP54
		QPM2150/MO	●			●	●	0...2000		-35...50	●	●	IP54
		QPM2152/MO	●		●	●	●	0...2000	0...100	-35...50	●	●	IP54
		QPM2153/MO	●	●	●	●	●	0...2000	0...100	-35...50	●	●	IP54

Fine dust			PM2.5	DC 0...10V	Modbus RTU	Display	Selectable range PM2.5 concentration µg/m³	AC 24 V	DC 13.5...35 V	Protection
	Room	QSA2700	●	●	●		0...50 0...100	●	●	IP30
		QSA2700D	●	●	●	●	0...300 0...500	●	●	IP30



Air pressure							
	QBM3700-5/MO	●	●	0...500 Pa	●	●	IP54
	QBM3700-13/MO	●	●	0...1250 Pa	●	●	IP54
	QBM3700-25/MO	●	●	0...2500 Pa	●	●	IP54

Temperature – **reliable and precise measurement** at any place



Flexible sensors for temperature collection

Siemens offers temperature sensors with all important active and passive output signals. The active sensors can be quickly adapted to the situation at hand using a number of different, easily adjustable measurement ranges.

Exact measuring results in every application

- The best possible comfort even during dynamic processes is ensured by the optimum weighting of room and wall temperatures
- In addition to outside temperature, to keep heat requirements economical, the outside sensors measure wind, wall temperature and solar radiation
- Strap-on, immersion and cable sensors optimize control thanks to their sophisticated design and short reaction times
- The air duct sensors deliver precise results with their mean value measurement, regardless of temperature stratification or flow conditions. The duct sensors can therefore be flexibly positioned

NEW wireless room sensors

Siemens now offers wireless room sensors, including a temperature sensor, for easy and cost-effective installation and reliable measurement.

Innovative and simple installation

All temperature sensors can be quickly, securely and easily mounted – saving time and money during installation.

- The mounting plate allows the room sensors to be wired in advance
- Then, after all plastering and painting work is finished, the sensor is snapped on
- When it comes to pre-installed protection pipes, immersion sensors are simply snapped in place
- Strap-on sensors can be fixed fast and securely, regardless of the pipe diameter, using the supplied clamping strip

Highlights

- Wide choice of products covering all usual measurement ranges and output signals
- Energy-efficient heat requirements and high room comfort – the result of balanced measurement weighting, short reaction times and high measuring precision
- Innovative and simple installation thanks to housing design and construction



	Wireless								
Model	room sensor	Room sensor	Room sensor	Duct sensor	Immersion sensor	Outside sensor	Outside sensor	Strap-on sensor	Cable sensor
Type	QAA2890/ WI	QAA	QAA...D	QAM	QAE	QAC3...	QAC2...	QAD	QAP

Type		Output										Range	Category	Supply		Length		Protection
Room		LG-Ni1000	Pt100	Pt1000	NTC 10k	DC 0...5 V	DC 0...10 V	DC 4...20 mA	Modbus RTU	Wireless	Display	Temperature °C	High performance	AC 24 V	DC 13.5...35 V	Sensor mm	Cable mm	
	QAA2010		●									0...50						IP30
	QAA2012			●								0...50						IP30
	QAA2030				●							0...50						IP30
	QAA2061						●					0...50		●	●			IP30
	QAA2061D						●					0...50		●	●			IP30
	QAA2071							●				0...50			●			IP30
	QAA24	●										0...50						IP30
	QAA25	●										0...50						IP30
	QAA26	●										0...50						IP30
	QAA27	●										0...50						IP30
	QAA32				NTC 3K							0...40						IP30
	QAA64	●										0...50						IP30
	QAA2890/WI									●		0...50						IP30
	Duct	QAM1612.020			●								-30...70				200	
QAM1630.020					●							-30...70				200		IP42
QAM2110.040			●									-50...80				400		IP54
QAM2112.040				●								-50...80				400		IP42
QAM2112.200				●								-50...80				2000		IP42
QAM2120.040		●										-50...80				400		IP42
QAM2120.200		●										-50...80				2000		IP42
QAM2120.600		●										-50...80				6000		IP42
QAM2130.040					●							-40...80				400		IP42
QAM2151.040/MO									●			-50...50		●	●	400		IP54
QAM2161.040						●	●	●				-50...50		●	●	400		IP54
QAM2171.040								●				-50...50			●	400		IP54



Type	Output										Range	Category	Supply		Length		Protection	
	LG-Ni1000	Pt100	Pt1000	NTC 10k	DC 0...5 V	DC 0...10 V	DC 4...20 mA	Modbus RTU	Wireless	Display	Temperature °C	High performance	AC 24 V	DC 13.5...35 V	Sensor mm	Cable mm		
Immersion	QAE1612.010		●								-15...100				100		IP42	
	QAE1630.010			●							-15...100				100		IP42	
	QAE2111.010	●									-30...130				100		IP42	
	QAE2111.015	●									-30...130				150		IP42	
	QAE2112.010		●								-30...130				100		IP42	
	QAE2112.015		●								-30...130				150		IP42	
	QAE2115.010		Class A								-30...130				100		IP42 (IP54)	
	QAE2115.015		Class A								-30...130				150		IP42 (IP54)	
	QAE2120.010	●									-30...130				100		IP42	
	QAE2120.015	●									-30...130				150		IP42	
	QAE2121.010	●									-30...130				100		IP42	
	QAE2121.015	●									-30...130				150		IP42	
	QAE2130.010				●						-30...125				100		IP42	
	QAE2130.015				●						-30...125				150		IP42	
	QAE2154.010/MO								●			-10...120		●	●	100		IP54
	QAE2164.010					●	●	●				-10...120		●	●	100		IP54
	QAE2164.015					●	●	●				-10...120		●	●	150		IP54
	QAE2174.010							●				-10...120			●	100		IP54
	QAE2174.015							●				-10...120			●	150		IP54
	QAE3010.010		●									-50...200	●			100		IP65
	QAE3010.016		●									-50...200	●			160		IP65
	QAE3075.010		●					●				0...200	●		● ¹⁾	100		IP65
	QAE3075.016		●					●				0...200	●		● ¹⁾	160		IP65
	QAE3174.010			Class A				●				-40...120	●		●	100		IP65
	QAE3174.015			Class A				●				-40...120	●		●	150		IP65
	QAE3174D.010			Class A				●			●	-40...120	●		●	100		IP65
	QAE3174D.015			Class A				●			●	-40...120	●		●	150		IP65
	QAE3176.010			Class A				●				-40...120	●		●	100		IP65
	QAE3176.015			Class A				●				-40...120	●		●	150		IP65
	QAE26.90	●										-50...180				65	2000	IP64
	QAE26.91	●										-50...180				125	2000	IP64
	QAE26.93	●										-50...180				240	2000	IP64
	QAE26.95	●										-50...180				465	2000	IP64
	QAE1020.024	●										-5...105				240	2000/ 5000	IP64

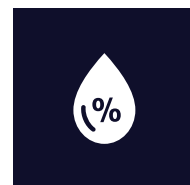


Type	Output										Range	Category	Supply		Length		Protection
	LG-Ni1000	Pt100	Pt1000	NTC 10k	DC 0...5 V	DC 0...10 V	DC 4...20 mA	Modbus RTU	Wireless	Display	Temperature °C	High performance	AC 24 V	DC 13.5...35 V	Sensor mm	Cable mm	
Strap-on	QAD2010	●									-30...130						IP42
	QAD2012		●								-30...130						IP42
	QAD2030			●							-30...125						IP42
	QAD22	●									-30...130						IP42
Outside	QAC2010	●									-50...70						IP54
	QAC2012		●								-50...70						IP54
	QAC2030			●							-40...70						IP54
	QAC3161					●					-50...50	●	●	●			IP65
	QAC3171						●				-50...50	●		●			IP65
	QAC22	●									-50...70						IP54
Cable	QAP1030.200			●							-25...95					2000	IP65
	QAP2010.150		●								-30...130					1500	IP65
	QAP2012.150			●							-30...130					1500	IP65
	QAP21.2	●									-30...180					1500	IP67
	QAP21.3	●									-30...130					1500	IP65
	QAP21.3/8000	●									-30...130					8000	IP65
	QAP22	●									-25...95					2000	IP65
	QAZ21.682/101	●									-50...80					2000	IP67

¹⁾DC 7.5...30 V



Humidity – highly stable measurement **under all conditions**



Robust sensors with a long life cycle

When it comes to energy-optimized control concepts, Siemens humidity sensors guarantee fault-free operation for years, even in critical applications. Thanks to the capacitive measurement element, they feature excellent long-term stability with high accuracy, freedom from maintenance and high precision. Microprocessor technology and a sophisticated algorithm for temperature compensation ensure very high accuracy not only in the comfort range, but over the entire measurement range. Additionally, the sensors are impervious to dust and most chemicals.

High-quality sensors for strictest standards

The portfolio also includes humidity sensors for applications with especially high requirements in the HVAC application area, for example in the pharmaceutical, food and paper industries as well as in clean room facilities.

NEW wireless room sensors

Siemens now offers wireless room sensors, including a humidity and temperature sensor, for easy and cost-effective installation and reliable measurement. They even conform to the rigorous FDA and GMP guidelines.

Comfortable in handling

Combined temperature/humidity sensors offer exceptional flexibility and savings potential. They have three defined measurement ranges that are extremely simple to adjust with no need for additional tools.

Quality thanks to a high-precision calibration laboratory

The laboratory for measuring relative humidity is based on the Swiss Federal Office of Metrology's (METAS)¹⁾ standard for calibration laboratories. This serves as a reference system for the production of humidity sensors and multi-sensors. The result: documented process transparency and production reliability that translates into optimum quality, precision and reproducibility for Siemens humidity sensors.

Highlights

- Energy efficiency thanks to outstanding long-term stability with a high level of accuracy, freedom from maintenance and precision
- Reliable operation even in critical applications
- High degree of reliability thanks to innovative, FDA- and GMP-certified precision measuring sensors
- Best quality, accuracy and reproducibility thanks to high-precision calibration laboratory

¹⁾ Equivalent internationally to LNE, PTB, NPL, NIST, BEV, etc.



Model	Wireless room sensor	Room sensor	Room sensor	Duct sensor	Duct sensor	Room sensor	Room sensor	Outside sensor	Dew point sensor
Type	QFA2890/WI	QFA2..	QFA2..D	QFM2..	QFM3..D	QFA3..	QFA3..D	QFA3.. + AQF310	QXA2..

	Type	Version		Output							Range		Category		Supply		Protection		
		Humidity	Temperature	LG-Ni1000	DC 0...5 V	DC 0...10 V	DC 4...20 mA	Modbus RTU	Wireless	Relay contact	Display	Humidity % r.h.	Temperature ²⁾ °C	High performance	Certified	AC 24 V	DC 13.5...35 V		
Room	QFA2000	●				●						0...95	-15...50			●	●	IP30	
	QFA2001	●					●					0...95	-15...50			●	●	IP30	
	QFA2020	●	●	●		●						0...95	-15...50			●	●	IP30	
	QFA2050/MO	●	●					●				0...100	-40...70				●	IP30	
	QFA2050D/MO	●	●					●			●	0...100	-40...70				●	IP30	
	QFA2060	●	●			●						0...95	-15...50			●	●	IP30	
	QFA2060D	●	●			●					●	0...95	-15...50			●	●	IP30	
	QFA2071	●	●				●					0...95	-15...50			●	●	IP30	
	QFA2890/WI	●	●						●			0...95	0...50					IP30	
	QFA3100 ¹⁾	●				●						0...100	-40...70	●		●	●	IP65	
	QFA3101 ¹⁾	●					●					0...100	-40...70	●			●	IP65	
	QFA3150/MO ¹⁾	●	●					●				0...100	-40...70	●			●	IP65	
	QFA3160 ¹⁾	●	●			●						0...100	-40...70	●		●	●	IP65	
	QFA3160D ¹⁾	●	●			●					●	0...100	-40...70	●		●	●	IP65	
	QFA3171 ¹⁾	●	●				●					0...100	-40...70	●			●	IP65	
	QFA3171D ¹⁾	●	●				●				●	0...100	-40...70	●			●	IP65	
	QFA3173 ¹⁾	●	●				●					0...100	-40...70	●			●	IP65	
	QFA3173D ¹⁾	●	●				●				●	0...100	-40...70	●			●	IP65	
	QFA4160	●	●			●						0...100	-40...70		●	●	●	IP65	
	QFA4160D	●	●			●					●	0...100	-40...70		●	●	●	IP65	
Duct	QFA4171	●	●				●					0...100	-40...70		●	●	●	IP65	
	QFA4171D	●	●				●				●	0...100	-40...70		●		●	IP65	
	QFM1660	●	●			●						10...90	0...50			●	●	IP42	
	QFM2100	●			●	●	●					0...95	-15...60			●	●	IP54	
	QFM2101	●					●					0...95	-15...60				●	IP54	
	QFM2120	●	●	●	●	●						0...95	-15...60			●	●	IP54	
	QFM2150/MO	●	●					●				0...95	-15...60			●	●	IP54	
	QFM2160	●	●		●	●	●					0...95	-15...60			●	●	IP54	
	QFM2171	●	●				●					0...95	-15...60			●	●	IP54	
	QFM3100	●			●	●	●					0...100		●		●	●	IP65	
	QFM3101	●					●					0...100		●			●	IP65	
	QFM3150/MO	●	●					●				0...100	-40...70	●		●	●	IP65	
	QFM3160	●	●		●	●	●					0...100	-40...70	●		●	●	IP65	
	QFM3160D	●	●		●	●	●				●	0...100	-40...70	●		●	●	IP65	
	QFM3171	●	●				●					0...100	-40...70	●			●	IP65	
	QFM3171D	●	●				●				●	0...100	-40...70	●			●	IP65	
	QFM4160	●	●			●						0...100	-40...70		●	●	●	IP65	
	QFM4171	●	●				●					0...100	-40...70		●		●	IP65	
	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	QXA2100	●								●		0...100				●		IP40	
	QXA2101	●								●		0...100				●		IP40	
Hygrostat	QFM81.2	●								●		15...95						IP30	
	QFM81.21	●								●		15...95						IP55	

¹⁾optional: AQF3102 anti-H₂O₂, AQF3103 stainless steel filter caps available



Air quality – energy efficiency and **more comfort**



Unique product range with stable measurement method

The air quality sensors cover all requirements and are suitable for every type of building. The high-precision multi-sensors (CO₂/VOC ¹⁾, CO₂/T and CO₂/T/r.h.) are available for room and duct applications, and also with an attractive display.

Efficient in usage

Through infrared absorption measurement (NDIR), air quality sensors determine the CO₂ concentration. And because of an additionally integrated reference light source, they can also periodically recalibrate themselves. This ensures freedom from maintenance, long-term stability and maximum measuring accuracy. The sensors also deliver immediately, precisely measured values regardless of room occupation. Ultimately, you save substantial start-up, service and operating costs.

Comfortable and economical installation in the air duct

Fast, secure and cost-efficient installation – with no need for additional duct installation housing or sealing measures: The installation of air duct sensors is very easy thanks to their ergonomic, installation-friendly housing. Due to the infinitely variable immersion depth, the sensors can be optimally adapted to every installation situation. Additionally, because of the patented measurement system, alignment with the flow direction is no longer needed. Two totally separate chambers for measurement modules and connection terminals prevent air outside the duct from affecting the measurement accuracy.

Energy-saving room comfort

Optimum air quality with low energy consumption: Combined with systems from Siemens, controllers and variable speed drives, Siemens air quality sensors allow for optimized demand-controlled ventilation ²⁾. Thus, 20 to 70 percent in energy and cost savings can be achieved.

NEW wireless room sensors

Siemens now offers wireless room sensors, including a CO₂-multi sensor, which also measures temperature and humidity. This ensures easy and cost-effective installation and reliable measurement.

Highlights

- Wide selection of multi-sensors for room and duct applications
- Cost efficiency with guaranteed measurement accuracy and long-term stability – through precise infrared measurement and self calibration
- High application and installation comfort – through patented technology
- Energy savings and maximum room comfort thanks to demand-controlled ventilation

¹⁾ VOC: Volatile Organic Compound (mixed gas)

²⁾ www.siemens.com/sensors



Model	Wireless room sensor	Room sensor	Room sensor	Duct sensor	Duct sensor	Room sensor
Type	QPA2892/ WI	QPA10../20..	QPA20..D	QPM11../21..	QPM21..D	QPA84

	Type	Version				Output						Range					Supply			Protection
		CO ₂	VOC	Temperature	Humidity	DC 0...10 V	DC 0...5 V or DC 0...10 V 4...20 mA	Modbus RTU	Wireless	Relay contact	Display	CO ₂ 0...2000 ppm	Temperature 0...50/ -35...35 °C	Temperature passive ²⁾	Humidity 0...95%/1 00% r.h.	AC 24 V	DC 15...35 V	AC 230 V		
Room	QPA1000		●				●									●	●		IP30	
	QPA1004	●				●						●				●	●		IP30	
	QPA1064	●		●		●						●				●	●		IP30	
	QPA2000	●					●					●				●	●		IP30	
	QPA2002	●	●				●					●				●	●		IP30	
	QPA2002D	●	●				●				●	●				●	●		IP30	
	QPA2052/MO	●		●	●			●				●	●		●	●	●		IP30	
	QPA2060	●		●			●					●	●			●	●		IP30	
	QPA2060D	●		●			●				●	●	●			●	●		IP30	
	QPA2062	●		●	●		●					●	●			●	●		IP30	
	QPA2062D	●		●	●		●				●	●	●		●	●	●		IP30	
	QPA2080	●		●			●					●		●		●	●		IP30	
	QPA2080D	●		●			●				●	●	●			●	●		IP30	
	QPA2892/WI	●		●	●				●			●	●		●				IP30	
	QPA84		●							●								●	IP30	
Duct	QPM1100		●				●									●	●		IP54	
	QPM1104	●				●						●				●	●		IP54	
	QPM1160		●	●			●						●			●	●		IP54	
	QPM1162		●	●	●		●						●		●	●	●		IP54	
	QPM1164	●		●		●						●	●			●	●		IP54	
	QPM2100	●					●					●				●	●		IP54	
	QPM2102	●	●				●					●				●	●		IP54	
	QPM2102D	●	●				●				●	●				●	●		IP54	
	QPM2102/MO	●	●					●				●				●	●		IP54	
	QPM2150/MO	●		●				●				●	●			●	●		IP54	
	QPM2152/MO	●		●	●			●				●	●		●	●	●		IP54	
	QPM2153/MO	●	●	●	●			●				●	●		●	●	●		IP54	
	QPM2160	●		●			●					●	●			●	●		IP54	
	QPM2160D	●		●			●				●	●	●			●	●		IP54	
	QPM2162	●		●	●		●					●	●		●	●	●		IP54	
	QPM2162D	●		●	●		●				●	●	●		●	●	●		IP54	
	QPM2163	●	●	●	●		●					●	●		●	●	●		IP54	
	QPM2180	●		●			●					●		●		●	●		IP54	

¹⁾ resistance included: LG-Ni1000, Pt100, Pt1000, NTC 10k

If you are looking for information about the new IAQ multi-sensor please refer to the IoT section on page 6.



Fine dust sensors – for a healthier indoor climate



What is fine dust?

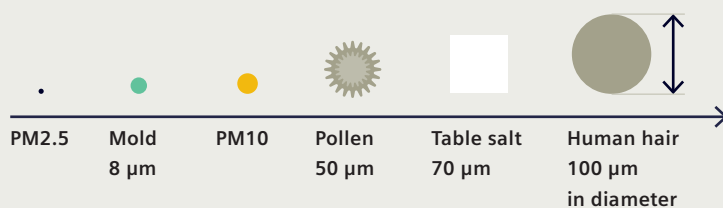
Fine dust is contained in the airborne particulate matter – invisible to the naked eye. The particles enter the nose, mouth, and throat and can even penetrate deep into the lungs and ending up in the blood stream, causing lung cancer and cardiovascular diseases.

Newly launched fine dust sensors

The first-of-their-kind fine dust sensors from Siemens are specifically designed to monitor and control air pollution in offices and other indoor spaces. The sensors complement existing Siemens controls to form a comprehensive set of applications for a healthy indoor environment solutions portfolio.

Fine dust particles

- **PM2.5:** 0.3 to 2.5 μm diameter
- **PM10:** 0.3 to 10 μm diameter



Highlights

- Sufficient selection of multi-sensors for room and duct application
- Accurate measurement of fine dust concentration
- Very reliable for both room and duct monitoring and control
- Selectable in measuring range
- Multiple output in one
- Sensor module replaced quickly and easily in routine service

The danger of fine dust and smog

The damage

PM10+

10+ µm



Blocked by nose

PM2.5–10

2,5...10 µm



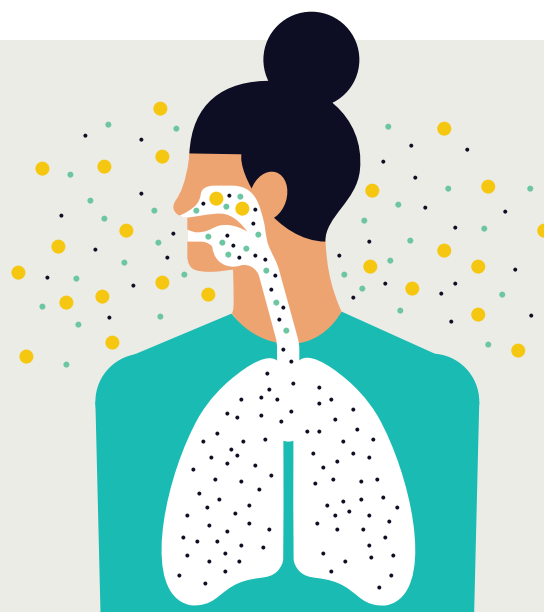
Blocked in mouth and throat

PM2.5

2,5 µm



Can penetrate deep into the lungs and blood stream, causing lung and cardiovascular diseases



A worldwide issue

Coming from our everyday surroundings, fine dust is a ubiquitous health hazard: China, India and the Middle East experience exceptionally harsh consequences; and bustling European cities such as London, Paris or Rome are also increasingly at risk.

The European Environment Agency estimates that every year more than 400,000 people die ¹⁾ in Europe alone as a result of air pollution.

¹⁾ EEA Report No 28/2016, Air quality in Europe 2016



Model	Fine dust sensor	Fine dust sensor	Fine dust duct sensor	Fine dust duct sensor
Type	QSA2700	QSA2700D	QSM2100	QSM2162

	Type	Version			Output				Range				Supply		Protection	
		PM2.5	Humidity	Temperature	DC 0...5 V	DC 0...10 V	DC 4...20mA V	Modbus RTU	Display	PM2.5 (selectable)	Humidity 5...95% r.h.	Temperature 0...50/ -35...35 °C	AC 24 V	DC 13.5...35 V		
Room	QSA2700	●				●		●		0...50 µg/m³ 0...100 µg/m³ 0...300 µg/m³ 0...500 µg/m³			●	●	IP30	
	QSA2700D	●				●		●	●					●	●	IP30
Duct	QSM2100	●			●	●	●							●	●	IP54
	QSM2162	●	●	●	●	●	●					●	●	●	●	IP54



Pressure – **highly precise and robust** pressure measurement



Precise pressure sensors for all requirements

Siemens covers the entire range of requirements for pressure measurement. It comprises sensors for measuring very low to high pressures in all kinds of different media such as liquids, gases, water, refrigerants and air. Measurement cells matched precisely to the pressure range increase the measurement accuracy. This eliminates the need for temperature or pressure calibration.

Siemens pressure sensors are designed to quickly and accurately measure the pressure in all fields of use.

Innovations for very good long-term stability

Thanks to patented membranes, the operating points of the Siemens pressure differential switch for air are stable over a long period. And because of its gold-coated contacts, even frequent operating cycles pose no problem.

The individually laser-adjusted pressure difference sensors for air and non-aggressive gases use the patented ceramic bending bar technology. That allows a highly accurate pressure measurement, which is stable over a long period, even with highly dynamic processes.

Ideal measurement even during intensive load change

The 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.

Precise within use – even in refrigeration areas

When it comes to Siemens pressure sensors for use in refrigeration areas, the stainless steel membrane is welded to the housing with no need for a seal. This means they can be used in conjunction with all refrigerants, even ammonia and carbon dioxide, as well as at high process temperatures and with aggressive media.

Highlights

- Optimum pressure sensors for every measuring and application area
- High measurement accuracy and best quality thanks to optimized measuring cells over the entire measurement range
- Great, long-term stability thanks to innovative and patented measuring elements



Model	Differential pressure sensor	Differential pressure sensor	Differential pressure sensor with I/O extension	Differential pressure sensor	Differential pressure sensor	Differential pressure switch
Medium	Air	Air	Air	Air	Air	Air
Type	QBM3020/QBM3120	QBM3020..D/QBM3120..D	QBM3700../MO	QBM4..	QBM2030	QBM81

Air

Type		Output						Range		Category		Supply		Protection
	Differential	DC 0...10 V	DC 4...20 mA	Modbus RTU	Switchable root function	Relay contact	Display	Adjustable		High performance	Certified	AC 24 V	DC 18...33 V	
QBM3020-1U	●	●			●				−50...50 Pa	●		●	●	IP54
QBM3020-1	●	●			●				0...100 Pa	●		●	●	IP54
QBM3020-3	●	●			●				0...300 Pa	●		●	●	IP54
QBM3020-5	●	●			●				0...500 Pa	●		●	●	IP54
QBM3020-10	●	●			●				0...1000 Pa	●		●	●	IP54
QBM3020-25	●	●			●				0...2500 Pa	●		●	●	IP54
QBM3020-1D	●	●			●		●		0...100 Pa	●		●	●	IP54
QBM3020-3D	●	●			●		●		0...300 Pa	●		●	●	IP54
QBM3020-5D	●	●			●		●		0...500 Pa	●		●	●	IP54
QBM3020-10D	●	●			●		●		0...1000 Pa	●		●	●	IP54
QBM3020-25D	●	●			●		●		0...2500 Pa	●		●	●	IP54
QBM3120-1U	●		●		●				−50...50 Pa	●		●	●	IP54
QBM3120-1UD	●		●		●		●		−50...50 Pa	●		●	●	IP54
QBM3120-1	●		●		●				0...100 Pa	●		●	●	IP54
QBM3120-3	●		●		●				0...300 Pa	●		●	●	IP54
QBM3120-5	●		●		●				0...500 Pa	●		●	●	IP54
QBM3120-10	●		●		●				0...1000 Pa	●		●	●	IP54
QBM3120-25	●		●		●				0...2500 Pa	●		●	●	IP54
QBM3120-1D	●		●		●		●		0...100 Pa	●		●	●	IP54
QBM3120-3D	●		●		●		●		0...300 Pa	●		●	●	IP54
QBM3120-5D	●		●		●		●		0...500 Pa	●		●	●	IP54
QBM3120-10D	●		●		●		●		0...1000 Pa	●		●	●	IP54
QBM3120-25D	●		●		●		●		0...2500 Pa	●		●	●	IP54
QBM3700-5/MO	●			●					0...500 Pa	●		● ¹⁾		IP54
QBM3700-13/MO	●			●					0...1250 Pa	●		● ¹⁾		IP54
QBM3700-25/MO	●			●					0...2500 Pa	●		● ¹⁾		IP54
QBM4000-1	●	●							0...100 Pa		●	●	●	IP54
QBM4000-3	●	●							0...300 Pa		●	●	●	IP54
QBM4000-10	●	●							0...1000 Pa		●	●	●	IP54
QBM4000-25	●	●							0...2500 Pa		●	●	●	IP54
QBM4100-1U	●		●						−50...50 Pa		●		●	IP54
QBM4100-1D	●		●				●		0...100 Pa		●		●	IP54
QBM2030-1U	●	●						●	−50...50 Pa −100...100 Pa 0...100 Pa			●	●	IP42
QBM2030-5	●	●						●	0...200 Pa 0...250 Pa 0...500 Pa			●	●	IP42
QBM2030-30	●	●						●	0...1000 Pa 0...1500 Pa 0...3000 Pa			●	●	IP42
QBM2130-1U	●		●					●	−50...50 Pa −100...100 Pa 0...100 Pa				●	IP42
QBM2130-5	●		●					●	0...200 Pa 0...250 Pa 0...500 Pa				●	IP42
QBM2130-30	●		●					●	0...1000 Pa 0...1500 Pa 0...3000 Pa				●	IP42
QBM81-3	●					●		●	20...300 Pa					IP54
QBM81-5	●					●		●	50...500 Pa					IP54
QBM81-10	●					●		●	100...1000 Pa					IP54
QBM81-20	●					●		●	500...2000 Pa					IP54
QBM81-50	●					●		●	1000...5000 Pa					IP54

¹⁾ 24 V DC



Model	Relative pressure sensor	Differential pressure sensor	Differential pressure sensor	Relative pressure sensor	Pressure switch
Medium	Liquid/gas	Liquid/gas	Liquid/gas	Refrigerants	Liquid/gas
Type	QBE2x03-P	QBE63	QBE3x00-D	QBE2x04-P	QBE1900

	Type	Version		Output		Range	Supply		Protection
		Relative	Differential	Thread	DC 0...10 V	DC 4...20 mA		AC 24 V	DC 18...33 V
Liquid/gases	QBE1900-P7M ¹⁾			G 1/2"			-0.3...7 bar		IP33
	QBE1900-P32M ¹⁾			G 1/2"			6...32 bar		IP33
	QBE1900-P7 ²⁾			G 1/2"			-0.3...7 bar		IP33
	QBE1900-P32 ²⁾			G 1/2"			6...32 bar		IP33
	QBE2003-P1	●		G 1/2"	●		0...1 bar	●	●
	QBE2003-P1.6	●		G 1/2"	●		0...1.6 bar	●	●
	QBE2003-P2.5	●		G 1/2"	●		0...2.5 bar	●	●
	QBE2003-P4	●		G 1/2"	●		0...4 bar	●	●
	QBE2003-P6	●		G 1/2"	●		0...6 bar	●	●
	QBE2003-P10	●		G 1/2"	●		0...10 bar	●	●
	QBE2003-P16	●		G 1/2"	●		0...16 bar	●	●
	QBE2003-P25	●		G 1/2"	●		0...25 bar	●	●
	QBE2003-P40	●		G 1/2"	●		0...40 bar	●	●
	QBE2003-P60	●		G 1/2"	●		0...60 bar	●	●
	QBE2103-P1	●		G 1/2"		●	0...1 bar		●
	QBE2103-P1.6	●		G 1/2"		●	0...1.6 bar		●
	QBE2103-P2.5	●		G 1/2"		●	0...2.5 bar		●
	QBE2103-P4	●		G 1/2"		●	0...4 bar		●
	QBE2103-P6	●		G 1/2"		●	0...6 bar		●
	QBE2103-P10	●		G 1/2"		●	0...10 bar		●
	QBE2103-P16	●		G 1/2"		●	0...16 bar		●
	QBE2103-P25	●		G 1/2"		●	0...25 bar		●
	QBE2103-P40	●		G 1/2"		●	0...40 bar		●
	QBE2103-P60	●		G 1/2"		●	0...60 bar		●
	QBE61.3-DP2		●	G 1/2"	●		0...2 bar	●	●
	QBE61.3-DP5		●	G 1/2"	●		0...5 bar	●	●
	QBE61.3-DP10		●	G 1/2"	●		0...10 bar	●	●
	QBE63-DP01		●	G 1/8"	●		0...100 mbar	●	●
	QBE63-DP02		●	G 1/8"	●		0...200 mbar	●	●
	QBE63-DP05		●	G 1/8"	●		0...500 mbar	●	●
	QBE63-DP1		●	G 1/8"	●		0...1 bar	●	●
	QBE3000-D1		●	G 1/8"	●		0...1 bar	●	●
	QBE3000-D1.6		●	G 1/8"	●		0...1.6 bar	●	●
	QBE3000-D2.5		●	G 1/8"	●		0...2.5 bar	●	●
	QBE3000-D4		●	G 1/8"	●		0...4 bar	●	●
	QBE3000-D6		●	G 1/8"	●		0...6 bar	●	●
	QBE3000-D10		●	G 1/8"	●		0...10 bar	●	●
	QBE3000-D16		●	G 1/8"	●		0...16 bar	●	●
QBE3100-D1		●	G 1/8"		●	0...1 bar		●	
QBE3100-D1.6		●	G 1/8"		●	0...1.6 bar		●	
QBE3100-D2.5		●	G 1/8"		●	0...2.5 bar		●	
QBE3100-D4		●	G 1/8"		●	0...4 bar		●	
QBE3100-D6		●	G 1/8"		●	0...6 bar		●	
QBE3100-D10		●	G 1/8"		●	0...10 bar		●	
QBE3100-D16		●	G 1/8"		●	0...16 bar		●	
Refrigerants	QBE2004-P10U	●		7/16-20 UNF	●		-1...9 bar	●	●
	QBE2004-P25U	●		7/16-20 UNF	●		-1...24 bar	●	●
	QBE2004-P30U	●		7/16-20 UNF	●		-1...29 bar	●	●
	QBE2004-P60U	●		7/16-20 UNF	●		-1...59 bar	●	●
	QBE2104-P10U	●		7/16-20 UNF		●	-1...9 bar		●
	QBE2104-P25U	●		7/16-20 UNF		●	-1...24 bar		●
	QBE2104-P30U	●		7/16-20 UNF		●	-1...29 bar		●
	QBE2104-P60U	●		7/16-20 UNF		●	-1...59 bar		●

¹⁾Manual reset ²⁾Auto reset

Perfect Flow: Air

You won't see it. But you'll feel it. Fresh air makes an invisible, but important difference. It turns rooms into spaces that give room for thought, creativity, productivity and well-being.

See more





Flow – flexible and efficient measurement of flow



Innovative flow switches for all requirements

The flow switches are made of glass-fiber reinforced plastic featuring a Reed contact, which is actuated by a magnetic field, absolutely contact-free and without a return spring. This leads to stable switching points. Depending on the model, the switches offer pressure ranges up to 25 bar without using bellows, resulting in pressure-independent switching points. This means that the switching point is solely dependent on the volumetric flow. The sensor range of flow switches covers nominal sizes from DN 10 to DN 200.

Innovative, high-quality air velocity sensors

With an extended measuring range, air velocities of up to 20 m/s are now possible. The sensor is insensitive to dirt and always measures perfectly, regardless of the direction of flow.

Highlights

- Suited for all types of flow applications – for versatile use in liquids and air
- Excellent resistance to media
- Longevity and long-term stability
- Dirt-resistant
- Stable, pressure-independent switching point



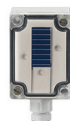
Model	Flow switch	Flow switch	Flow switch	Velocity sensor
Medium	Liquids	Liquids	Liquids	Air
Type	QVE1900	QVE1901	QVE1902	QVM62.1-HE

Liquid/gases

Type	Version			Output			Range	Supply		Protection
	Nominal size	Thread	Pipe housing	DC 0...10 V	DC 4...20 mA	Relay contact		AC 24 V	DC 18...33 V	
QVE1900	DN 32...200					●				IP65
QVE1901	DN 20...200					●				IP65
QVE1902.010	DN 10		Brass			●				IP65
QVE1902.015	DN 15		Brass			●				IP65
QVE1902.020	DN 20		Brass			●				IP65
QVE1902.025	DN 25		Brass			●				IP65
QVM62.1 -HE				●	●		0...5 m/s 0...10 m/s 0...20 m/s	● ¹⁾		IP65

¹⁾ The supply of QVM62.1-HE is AC/DC24V.

Solar		Output			Range	Supply		Protection
		DC 0...10 V	DC 4...20 mA	Relay contact		AC 24 V	DC 18...33 V	
Model	Solar sensor							
Type	QLS60	●	●		0...1000 W/m ²	●	●	IP65



Smart Infrastructure intelligently connects energy systems, buildings and industries to adapt and evolve the way we live and work.

We work together with customers and partners to create an ecosystem that intuitively responds to the needs of people and helps customers to better use resources.

It helps our customers to thrive, communities to progress and supports sustainable development.

Creating environments that care.

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