Vaisala Air Quality Transmitter AQT410 for Measuring Pollution Gases

Applications

- Urban air quality networks
- Industrial emission monitoring
- Safety monitoring
- Roadside and tunnel monitoring
- Mobile measurement
- Building automation
- Air quality research

Features

- Measures up to four most common air pollutants NO_2, SO_2, CO and O_3. Other gases (H_2S, VOC) configurable
- Intelligent algorithms that compensate for aging and environmental conditions
- Compact design, easy to deploy in the field
- Low power consumption (typically 0.5W)
- Wireless Internet connection with an optional 2/3G modem
- RS232 and RS485 interfaces for local connectivity (eg. Modbus support)
- Easy integration and open API

New Value in Air Quality Measurements

Vaisala Air Quality Transmitter AQT410 revolutionizes air quality measurements. It offers totally new value for money in air quality measurements by providing a near reference measurement performance in a format that is extremely easy to deploy in the field. AQT410 measures the most common gaseous pollutants nitrogen dioxide (NO_2), sulphur dioxide (SO_2), carbon monoxide (CO) and ozone (O_3). The AQT410 measurement performance is based on proprietary advanced algorithms that enable ppb measurements at an affordable price using electrochemical sensors. The algorithms compensate the impact of ambient conditions and aging on the sensor elements and remove the need for costly gas sampling and conditioning equipment.

Easy to Deploy in Networks

AQT410 has been specifically designed for air quality monitoring networks in urban areas, road networks or around industrial sites and airports. Thanks to its small weight and compact size it is ideally suited for deployment even in large air quality networks. The measurement data is sent wirelessly to a web-based database with GSM module or is available locally via a serial interface. Depending on local conditions the AQT410 has a maintenance and calibration interval of 12-24 months.

Technical Data

General

Data protocols	HTTP (open API), SMS, Modbus, ASCII
Serial data interface	RS-485
Console interface	RS-232
2/3G connection for Internet protocols	Quad-band 850/900/1800/1900 MHz GSM/GPRS/EDGE + 2100 MHz UMTS
Power and data connector	Standard 8-pin M12 male
Operating voltage	8 – 30 VDC
Power consumption	Typ. 0.5 W, max. 2 W
Operating environment	-30 – 50 °C, RH 15– 95 %
Protection class	IP65
Enclosure materials	Anodized aluminium, stainless steel
Dimensions	128(w) x 125(h) x 128(d) mm
Weight	690 g (without 2/3G modem)
Warranty	2 years (sensors not included)

Measurement Specifications

Temperature range	-40 – 85 °C
Temperature resolution	0.1 °C
Temperature accuracy	±0.3 °C, repeatability ±0.1 °C
Humidity range	0 – 100 %RH (non-condensing)
Humidity resolution	0.1 %RH
Humidity accuracy	±2 %RH, repeatability ±0.2 %RH
Pressure range	800 – 1100 mbar
Pressure resolution	1 mbar
Pressure accuracy	<±1 % FS
Sampling interval	1 – 1440 minutes
Response time	<60 seconds
Factory calibration	12-24 months dependent of local measurement conditions

Gas Measurement Specifications

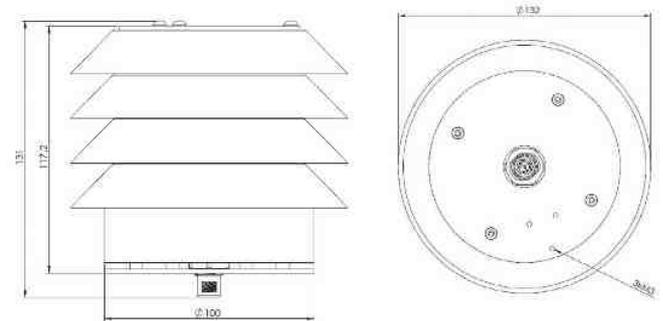| GAS	RANGE	MIN. DETECTION	RESO-LUTION	PRECI-SION	LINEA-RITY	UNIT
SO_2	0 – 2	0.005	±0.001	<±1 % FS	<±1 % FS	ppm
NO_2	0 – 2	0.005	±0.001	<±1 % FS	<±1 % FS	ppm
CO	0 – 10	0.01	±0.01	<±2 % FS	<±2 % FS	ppm
O_3	0 – 2	0.005	±0.01	<±3 % FS	<±2 % FS	ppm

Conformity

EMC	IEC/EN 61326-1, IEC/EN61000-4-2/3/4/5/6, CISPR 22I
GSM/UMTS	FCC 47 parts 15 and 24, EN 301 511, EN 301 489-1/7, EN 60950-1:2006

Ordering Information

Base Unit	AQT410
Accessories included	Calibration certificate and user manual
Options	CO sensor
	NO sensor
	H_2S sensor
	O_3 sensor
	2/3G modem
	Mounting kit
	Installation cable (2 m)
	Installation cable (5 m)
	Installation cable (10 m)
	PC connection cable

Mechanical Dimensions

(in mm)

CE