VOC sensor

VTH-6202

OJ Air2 compatible

HVAC CONTROLS AND POWER

VOC air quality sensor

The VTH-6202 sensor is used to measure the air quality in ventilation ducts when the air handling system is to be demand controlled.

Air quality is measured on the basis of its content of volatile organic compounds, which are given off by people, furnishings, cleaning agents, building materials, etc.

VTH-6202 is a compact sensor with OJ QuickPlug™ Modbus connection, facilitating installation.

The sensor builds on OJ Electronics' many years of experience within HVAC applications and is designed to provide optimum and reliable performance.

Air quality
Volatile organic compounds (VOC) comprise alcohols, aldehydes, ketones, esters, terpenes, aromatics and alkenes (methane). The VOC concentration is converted into a CO_2 equivalent. The sensor can therefore replace existing CO_2 sensors.

High performance with a minimum of maintenance
The sensor has high resolution and is self calibrating. It utilises an advanced technology which has been used in the automotive industry for many years.

Simple and easy installation
The sensor utilises the OJ QuickPlug™ Modbus concept, which has the following advantages:
- Pre-fitted cable and connector, facilitating quick and safe installation.
- Modbus compatibility with permanently configured protocol settings that prevent configuration errors.
- Easy and simple installation.
- Compatibility with OJ AIR2 and OJ GreenZone™ systems.

Applications
The sensor can be used to great advantage in applications such as:
- Demand-controlled ventilation in air handling systems.
- Demand-controlled ventilation in decentralised HVAC systems.

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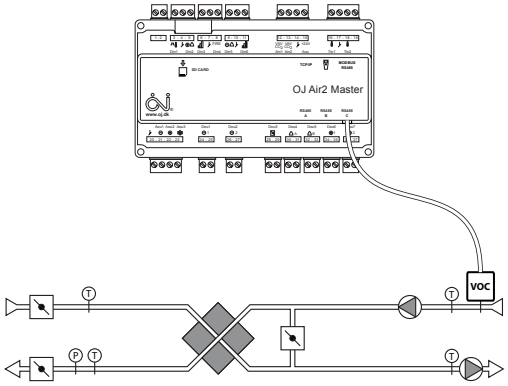
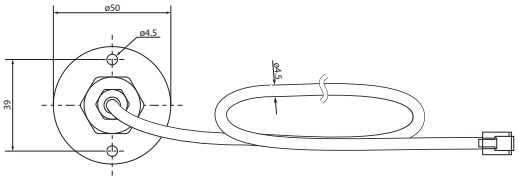
OJ ELECTRONICS
taking comfort further



Application example *BR998A01a*



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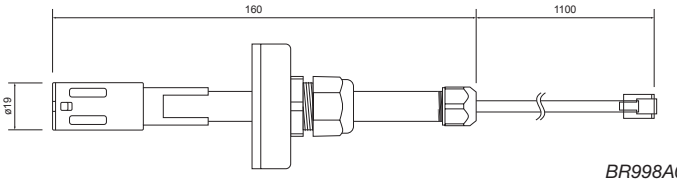

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DESCRIPTION

For decades, the air quality in homes has been controlled on the basis of air temperature, humidity and CO_2 content. The air, however, contains many other substances which affect air quality.

Such substances are produced by people, fruit, building materials, furniture, cleaning agents and anything else that gives off odours – in other words anything that people can smell and which affects our comfort and health.

Now, thanks to modern sensor technology, it is possible to include such odours and substances in ventilation control using a VOC sensor. This improves the individual perception and effectiveness of ventilation.

INSTALLATION

The VOC sensor is installed in the ventilation duct using the accompanying bracket, which must be attached to a firm, level surface by means of two screws. The 18-30 V DC supply voltage (24 V DC nominal voltage) is provided via the Modbus connection.

The sensor should be positioned in such a way that the air flow in the duct is led unhindered through the measuring hole at the tip of the sensor.
Although the VOC sensor is not affected by the position in which it is installed, it is advisable not to install the sensor in an upright position with the cable downwards as this may cause moisture to accumulate in the sensor.

TECHNICAL DATA

Supply voltage	18-30 V DC, nominal 24 V DC, via Modbus
Modbus	RS-485, 24 V DC, RJ12 connector (6P6C)
Modbus protocol	38.4 kBd, 1 start bit, 8 data bits, 1 stop bit, no parity
Modbus address, HTH-6202	Hex=6E / Dec=110
Modbus connection	1 x RJ12 6/6 connector
Cable length, pre-fitted	1100 mm
Max. cable length	50 m (in low EMC environment)
Measuring range	450-2000 ppm CO_2 equivalent
Measuring accuracy	±150 ppm
Ambient temperature, operation	0/+50°C
Ambient temperature, storage	–25/+50°C
Ambient humidity	5-95% RH
Flow rate	>0 m/s
Startup time	15 min
Response time	<5 min
Enclosure rating	IP20
Dimensions	see dimensioned drawing above
Weight	35 g (without cable)

PRODUCT PROGRAMME

TYPE	PRODUCT
VTH-6202	VOC sensor with 1100 mm cable

CE MARKING

VTH-6202 meets the requirements contained in the following standards:

EMC DIRECTIVE
EN 61000-6-2:2005
EN 61000-6-3:2007