Room air quality sensor

SAV

Description

The air quality sensor serie SAV for mixed gases (VOC) measures the air quality from 0...2000 ppm referring to the calibration gas. The sensors with provided by linear output signal 0...10 V DC or 4...20 mA. Optional a relay SPTD.

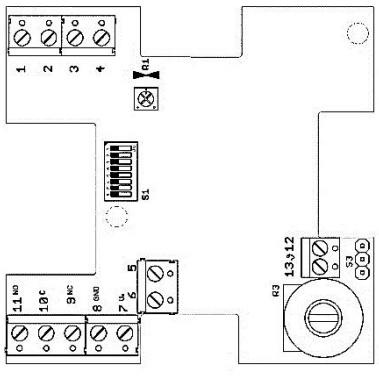
Technical specifications

Measurement range VOC	0...2000 ppm
Tolerance	±2% FS
Measurement range °C (optional)	see configuration
Accuracy °C	±0,3°C (5...60°C) + 2,5% FS
Measurement range RH (optional)	0...100% RH
Accuracy RH	±2% RH (20...80%RH) + 2% FS
Power supply	12...34 V AC/DC (20...34 V AC/DC with relay)
Calibration (corresponds)	Good air approx 1 Vdc … 4 mA = 250 ppm CO_2 equivalent 5 Vdc … 12 mA = 1175 ppm CO_2 equivalent 10 Vdc … 20 mA = 2000 ppm CO_2 equivalent
Power consumption	40...100 mA
Sensor setting up time	60 min
Working resistance at 0...10 V DC	10...100 kOhm
Working resistance at 4...20 mA	50...500 Ohm
Relay	SPTD potential free. Changing at 800 ppm
Relay contact	Max 24 V, 1 A
Electrical connection	Screw terminal for cables 1,5 mm²
Housing	ABS (plastic) colour white RAL9010
Weight	approx. 70 g
Protection type	IP30
Working range RH	0...98% RH in contaminant-free, non-condensing air
Working temperature	0...+50°C
Standards	CE conformity, RoHS

Models(*)	Temperature	Humidity	Output
SAVV	-	-	0...10 V DC
SAVTV	•	-	0...10 V DC
SAVTHV	•	•	0...10 V DC
SAVC	-	-	4...20 mA
SAVTC	•	-	4...20 mA
SAVHC	-	•	4...20 mA

(*) Add „R“ suffix for Relay version.

Electrical wirings



	Output 0...10 Vdc			Output 4...20 mA			
PIN	VOC	VOC/T	VOC/T/H	PIN	VOC	VOC/T	VOC/H
1	VOC	temp	temp	1	-	-	-
2	-	VOC	humidity	2	-	-	-
3	-	-	VOC	3	VOC	temp	humidity
4	-	-	-	4	-	VOC	VOC
7	+						
8	GND						
9	Relay NC						
10	Relay COM						
11	Relay NO						
12	(passive sensor)						
13	(passive sensor)						
S3	polarity R3						

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Dip-switch setting

Temperature range selection

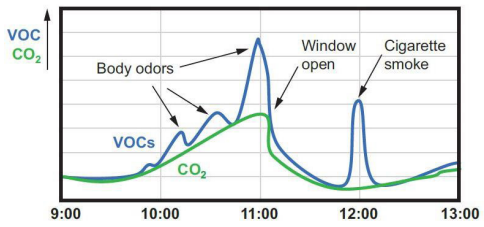
Range	1	2
0...+50°C	OFF	OFF
0...+100°C	ON	OFF
-20...+80°C	OFF	ON
-30...+70°C	ON	ON

Humidity range selection

Range	3	4	5	6	7	8
Relative humidity						
0...100%	OFF	OFF	OFF	OFF	-	-
Absolute humidity						
0 g/m³...30g/m³	ON	OFF	OFF	OFF	-	-
0 g/m³...50g/m³	ON	ON	OFF	OFF	-	-
0 g/m³...80g/m³	ON	ON	ON	OFF	-	-
Mix ratio						
0 g/kg...30g/kg	OFF	OFF	OFF	ON	-	-
0 g/kg...50g/kg	OFF	OFF	ON	ON	-	-
0 g/kg...80g/kg	OFF	ON	ON	ON	-	-
Dew point						
0...+50°C	OFF	ON	ON	OFF	-	-
-50...+100°C	ON	OFF	OFF	ON	-	-
-20...+80°C	OFF	ON	OFF	ON	-	-
Enthalpy						
0 kj/kg...85kj/kg	ON	ON	ON	ON	-	-

WARNING: At the sensor is needed warming up at powering, therefore it takes about 60 minutes before having a signal. In this phase, the sensor must be placed in the fresh air to take it as a reference. If you remove the power supply voltage it is necessary to wait 60 minutes. Generally the sensor should be placed into fresh air at least once a day. This procedure prevents a long-term drift.

Measuring behaviour



Dimensions (mm)