Air quality duct sensor

SDV

Description

The SDV sensor measures air quality in air ducts in the range between 0...2000 ppm. The product can be provided with humidity or humidity/temperature sensor. Output 0 ... 10 V DC or 4 ... 20 mA outputs.

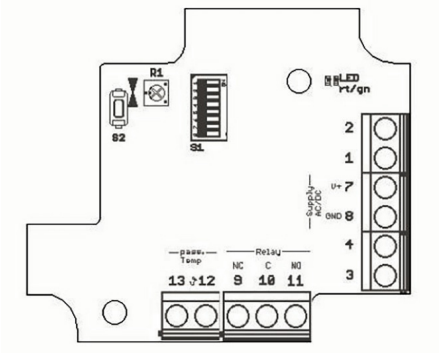
Technical specifications

Measurement range VOC	0...2000 ppm
Measurement range °C (optional)	see configuration
Accuracy temperature (*)	±0,3°C (5...60°C) + 1% FS
Measurement range RH (optional)	see configuration
Accuracy humidity (*)	±2% RH (20...80%RH) + 2% FS
Power supply	12...34 V AC/DC (20...34 V AC/DC with relay)
Power consumption	40...100 mA
Working resistance at 0...10 V DC	10...100 kOhm
Working resistance at 4...20 mA	50...500 Ohm
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
Electrical connection	Screw terminal for cables 1,5 mm^2
Protection type	IP65
Working range RH	0...98% RH in contaminant-free, non-condensing air
Working temperature °C	0...+50°C
Installation	Mounting flange (included)
Standards	CE conformity, RoHS

Models	Temperature	Humidity	Output
SDVV	-	-	0...10 V DC
SDVTV	•	-	0...10 V DC
SDVTHV	•	•	0...10 V DC
SDVC	-	-	4...20 mA
SDVTC	•	-	4...20 mA
SDVHC	-	•	4...20 mA

Optional: suffix “R” 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	ppm	temp	temp	1	-	-	-
2	(VOC)	ppm	humidity	2	-	-	-
3	-	(VOC)	ppm	3	ppm	temp	humidity
4	-	-	(VOC)	4	(VOC)	ppm	ppm
5	passive potentiometer						
6	passive potentiometer						
7	V+						
8	GND						
9	relay NC						
10	relay C						
11	relay NO						
12	passive sensor						
13	passive sensor						
R1	temp. adjustment						

Eatec srl - Loc. Förche 20 - I-39040 Naz/Sciaves (BZ) - Tel. +39 0472 055617 - Fax +39 0472 089807 - info@eatec.it - www.eatec.it

Dip-switch setting

Temperature range selection

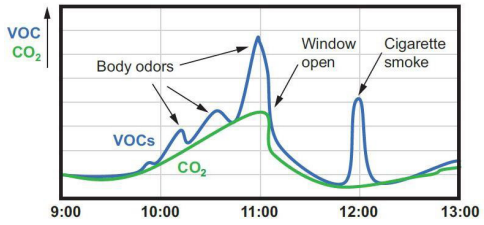
Range	1	2
-30...+70°C	OFF	OFF
-20...+80°C	ON	OFF
0...+100°C	OFF	ON
0...+50°C	ON	ON

Humidity range selection

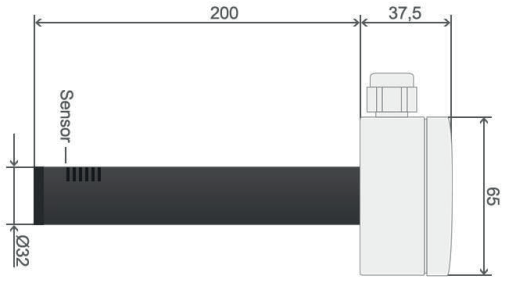
Range	3	4	5	6	7	8
Relative humidity						
0...100%	OFF	OFF	OFF	OFF	-	-
Absolute humidity						
0 g/m³...30g/m³	ON	OFF	OFF	OFF	-	-
0 g/m³...50g/m³	ON	ON	OFF	OFF	-	-
0 g/m³...80g/m³	ON	ON	ON	OFF	-	-
Mix ratio						
0 g/kg...30g/kg	OFF	OFF	OFF	ON	-	-
0 g/kg...50g/kg	OFF	OFF	ON	ON	-	-
0 g/kg...80g/kg	OFF	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	-	-

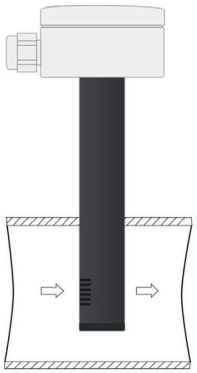
Through the necessary heating-up phase it will take about 60 minutes until the sensor emits a signal. In this phase, the sensor should be exposed to the fresh air, since it takes this as a reference. If you take away the supply voltage short he needed again for 60 minutes. Generally the sensor should at least once per day to be supplied with fresh air, as he regularly calibrates itself to this. This procedure prevents a long-term drift whereby the sensor is very stable.

Measuring behaviour



Dimensions (mm) and installation





The contents are subject to revision or change without notice.