Air quality duct sensor

SDV

Description

The SDV sensor measures air quality in air ducts in the range between 450...2000 ppm. The product can be provided with humidity or humidity/temperature sensor. Output 0 ... 10 V DC or 4 ... 20 mA outputs.

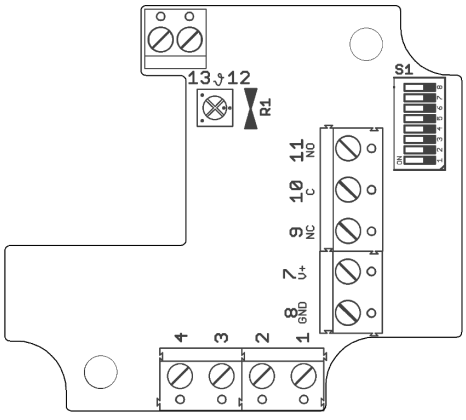
Technical specifications

Measurement range VOC	450...2000 ppm
Accuracy temperature (*)	±0,3°C (5...60°C) + 1% FS
Accuracy humidity (*)	±2% RH (20...80%RH) + 2% FS
Power supply	12...34 V AC/DC
Power consumption	40...100 mA
Working resistance at 0...10 V DC	10...100 kOhm
Working resistance at 4...20 mA	50...500 Ohm
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

(*) See models hereafter.

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

Electrical wirings



Output 0...10 V				Output 4...20 mA			
PIN	VOC	VOC/T	VOC/T/H	PIN	VOC	VOC/T	VOC/H
1	ppm	temp	temp	1	-	-	-
2	-	ppm	humidity	2	-	-	-
3	-	-	ppm	3	ppm	temp	humidity
4	-	-	-	4		ppm	ppm
7		+		7		+	
8		GND		8		GND	

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Dip-switch setting

SDVT

Temperature range selection	Range	1	2	3	4	5	6	7	8
	-100...+50°C	OFF	OFF	OFF	OFF	OFF	-	-	-
	-50...0°C	ON	OFF	OFF	OFF	OFF	-	-	-
	-50...50°C	OFF	ON	OFF	OFF	OFF	-	-	-
	-50...+150°C	ON	ON	OFF	OFF	OFF	-	-	-
	-30...+20°C	OFF	OFF	ON	OFF	OFF	-	-	-
	-30...+60°C	ON	OFF	ON	OFF	OFF	-	-	-
	-30...+70°C	OFF	ON	ON	OFF	OFF	-	-	-
	-20...+50°C	ON	ON	ON	OFF	OFF	-	-	-
	-20...+80°C	OFF	OFF	OFF	ON	OFF	-	-	-
	-20...+120°C	ON	OFF	OFF	ON	OFF	-	-	-
	-20...+150°C	OFF	ON	OFF	ON	OFF	-	-	-
	-10...+15°C	ON	ON	OFF	ON	OFF	-	-	-

Temperature range selection	Range	1	2	3	4	5	6	7	8
	-10...+120°C	OFF	OFF	ON	ON	OFF	-	-	-
	0...+40°C	ON	OFF	ON	ON	OFF	-	-	-
	0...+50°C	OFF	ON	ON	ON	OFF	-	-	-
	0...+70°C	ON	ON	ON	ON	OFF	-	-	-
	0...+100°C	OFF	OFF	OFF	OFF	ON	-	-	-
	0...+150°C	ON	OFF	OFF	OFF	ON	-	-	-
	0...+160°C	OFF	ON	OFF	OFF	ON	-	-	-
	0...+200°C	ON	ON	OFF	OFF	ON	-	-	-
	0...+250°C	OFF	OFF	ON	OFF	ON	-	-	-
	0...+400°C	ON	OFF	ON	OFF	ON	-	-	-
	0...+600°C	OFF	ON	ON	OFF	ON	-	-	-
	+10...+35°C	ON	ON	ON	OFF	ON	-	-	-

SDVTH

Temperature range selection	Range	1	2
	0...+50°C	OFF	OFF
	0...+100°C	OFF	ON
	-20...+80°C	ON	OFF
	-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	-	-

Through the necessary heating-up phase it will take about 15 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 15 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.

Dimensions (mm) and installation