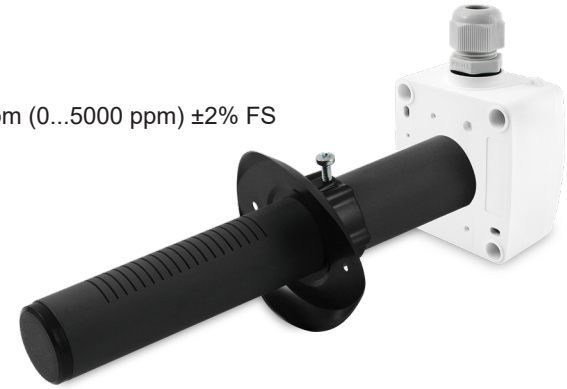
CO_2 duct sensor

SDC

Description

The SDC CO2 sensor measures air quality through the presence of carbon dioxide in air ducts in the range between 0...2000 or 0...5000 ppm. The measurement of CO2 concentration happens through a NDIR sensor that operates on an infrared basis and which compensates the presence of any impurity. 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 CO2	see configuration
Accuracy CO2	±60 ppm (0...2000 ppm) ±2% FS / ±150 ppm (0...5000 ppm) ±2% FS
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	50...120 mA
Working resistance at 0...10 V DC	10...100 kOhm
Working resistance at 4...20 mA	50...500 Ohm
Sensible element	NDIR self adjusting
Electrical connection	Screw terminal for cables 1,5 mm2
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

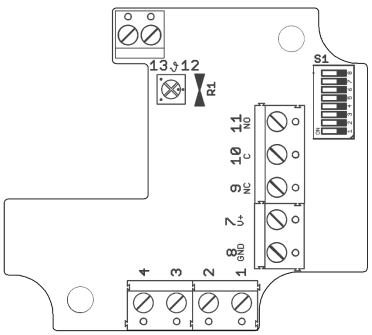
(*) See models hereafter.

Models	Temperature	Humidity	Output
SDCV	-	-	0...10 V DC
SDCT(x)V*	•	-	0...10 V DC
SDCTH(x)V*	•	•	0...10 V DC
SDCC	-	-	4...20 mA
SDCTC	•	-	4...20 mA
SDCHC	-	•	4...20 mA

(*) Replace “x” with the number of desired passive sensor:

X	Type of passive sensor
1	Pt100 (DIN EN 60751 Cl. B)
2	Pt1000 (DIN EN 60751 Cl. B)
3	Ni1000 (TK6180)
5	NTC20k (±1%)
6	NTC10k (±1%) BETA 3435K

Electrical wirings



Output 0...10 V				Output 4...20 mA			
PIN	CO_2	CO_2/T	CO_2/T/H	PIN	CO_2	CO_2/T	CO_2/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	
12		passive sensor		12		passive sensor	
13		passive sensor		13		passive sensor	

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

SDCT

Temperature range selection

Range	1	2	3	4	5	6
-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
-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	-

CO_2 range selection / setting

Range	7	8
CO_2		
0...2000 ppm	OFF	
0...5000 ppm	ON	
Self adjusting		
Not activated		ON
Activated		OFF

SDCTH

Temperature range selection

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

Humidity range selection

Range	3	4	5	6
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

CO_2 range selection / setting

Range	7	8
CO_2		
0...2000 ppm	OFF	
0...5000 ppm	ON	
Self adjusting		
Not activated		ON
Activated		OFF

Dimensions (mm) and installation