

CO₂ room sensor with ModBus output

SACM



Description

The SAC CO₂ sensor measures air quality through the presence of carbon dioxide in the room 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.

Technical specifications

Measurement range CO₂	0...2000 / 0...5000 ppm
Accuracy CO₂	±60 ppm (0...2000 ppm) ±2% FS ±150 ppm (0...5000 ppm) ±2% FS
Accuracy temperature	± 0,3K (5...60°C) + 1% FS
Accuracy humidity	25°C ± 2% RH (20...80%RH) + 2% FS
Power supply	12...34 V AC/DC (20...34 V AC/DC)
Power consumption	40...100 mA
Sensor setting up time	60 min.
CO₂ sensitive element	NDIR self adjusting
Electrical connection	Screw terminal for cables 1,5 mm ²
Protection type	IP 30
Weight	ca. 70 g
Housing	ABS RAL9010
Working range RH	0...98% RH in contaminant-free, non-condensing air
Working temperature °C	0...+50°C
Standards	CE, RoHs compliance



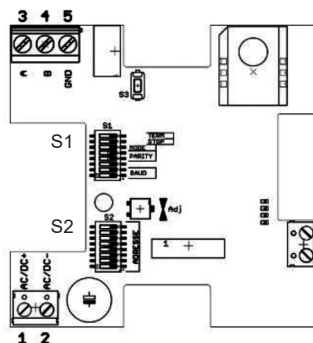
Model	Temperature	Humidity
SACM	-	-
SACTM	●	-
SACTHM	●	●

Measurement source

Unit	ModBus source	Gain
ppm CO ₂	10	-
Temperature °C	20	-
Relative humidity %u.r.	21	-
Absolute humidity g/m ³	22	-
Dewpoint °C	23	-
Enthalpy J	24	-

Electrical wirings

PIN	Wiring
1	SHD
2	B
3	A
4	+
5	GND



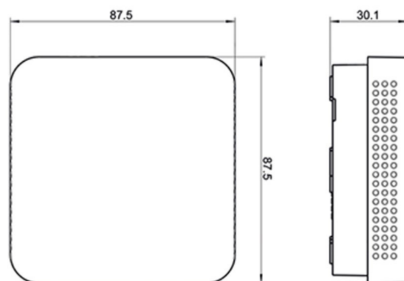


Dip-switch setting

Setting	1	2	3	4	5	6	7	8
Baudrate								
9600	OFF	OFF						
19200	OFF	ON						
38400	ON	OFF						
57600	ON	ON						
Termination								
nessuna								OFF
120 Ω								ON
Parity								
Even				OFF	OFF			
Odd				OFF	ON			
No parità				ON	OFF			
No parità				ON	ON			
Modality								
RTU						OFF		
ASCII						ON		
Bit stop								
1							OFF	
2							ON	

Autocalibration CO₂ sensor: The sensor must be mounted with the ventilation slots against the flow direction. The screw connector shall be installed in the direction of the ventilation slots.
The sensor shall be exposed to fresh air at least once a day, otherwise it will give incorrect readings on long term.
The sensor requires 15 days of calibration to be adapted to the real values.

Dimension (mm)





DIP-switch 2

Address	1	2	3	4	5	6	7	8	Address	1	2	3	4	5	6	7	8	Address	1	2	3	4	5	6	7	8	Address	1	2	3	4	5	6	7	8	Address	1	2	3	4	5	6	7	8		
1									43									84								125								166						207						
2									44									85								126								167						208						
3									45									86								127								168						209						
4									46									87								128								169						210						
5									47									88								129								170						211						
6									48									89								130								171						212						
7									49									90								131								172						213						
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40									82									123								164								205						246						
41									83									124								165								206						247						
42																																														

ON		Switch at: ON
OFF		