The CRW5-Series (CO2&H&T) is designed to measure air quality, humidity and temperature in rooms and areas. The air quality is measured based on CO2 levels (CO2= Carbon dioxide). The air quality sensor output and humidity are active, the temperature sensor output can be active or passive. Optional with display is available.

Use

Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System

Air quality (CO2), humidity and temperature measurement in rooms and areas

Used in all common HVAC applications

Used in Commercial and Industrial Buildings

Features

Sensor with active outputs

With self Calibration ABClogic

Professional and practical product design, withstands rough environmental conditions

Easy to use, install and maintain

Product Range

Model	Sensor Output									Display
	CO2	Humidity	Temperature							
	0-10V	0-10V	0-10V	PT100	PT1000	NTC10k	NTC10k Pre	NTC20k	Ni1000	LCD
CRW5.FB	•	•	•							
CRW5.HB	•	•	•							•
CRW5.FJ	•	•	•	•						
CRW5.FK	•	•	•		•					
CRW5.FM	•	•	•			•				
CRW5.FO	•	•	•				•			
CRW5.FN	•	•	•					•		
CRW5.FL	•	•	•						•	

Sensor Specification	Sensor Specification	Measured	Temperature & Humidity & Gas CO2
		Sensor Characteristics	Active; Passive
		Sensor Output (s)	See Product Range, Page 1
		Output Load	Max. 10mA @ AC/DC 24V
		Accuracy	
		Type CRW5.FB/HB	± 0.8°C over full measuring range; ±2% within 10…90% r.h.; ±40ppm + 4% (at 21°C)
		Type CRW5.FJ/FK	± 0.8°C over full measuring range; ± 0.3K @ 0°C; ±2% within 10…90% r.h.; ±40ppm + 4% (at 21°C)
		Type CRW5.FM/FO/FN	± 0.8°C over full measuring range; ± 0.5K @ 25°C; ±2% within 10…90% r.h.; ±40ppm + 4% (at 21°C)
		Type CRW5.FL	± 0.8°C over full measuring range; ± 0.4K @ 0°C; ±2% within 10…90% r.h.; ±40ppm + 4% (at 21°C)
		Temperature Dependency CO2	<0.2% FC /°C
		Repeatability CO2	<1% FS
		Stability CO2	2% FS
		Calibration	not required
		Measuring Range (s)	0°C…50°C Active / -40°C…150°C Passive / 0...100% r.h. / 0...2000ppm
		Pasive Sensor	See Product Range, Page 1

Technical Information	Electrical Information	Power Supply	DC 15-24V (±10%) or AC 24V (±10%)
		Frequency	50 / 60 Hz at AC 24V
		Terminal Clamp	Screw terminal, max. 1.5mm²
		Power Consumption	24V; 3W / 6VA
	Mechanical Information	Cable Entry	~30mm x 10mm on the backside
		Sensing Element Position	Inside the housing, top of the housing
	User Interface	Display	
		Type CRW5.HB	LCD
	Color and Materials	Housing Cover	White ASA, RAL 9010 (Pure White)
		Housing Bottom	White ASA, RAL 9010 (Pure White)
	Environmental Conditions	Operation Temperature	-25°C...+70°C
		Operation Humidity	<85% r.h., no condensation
		Transport Temperature	-35°C...+70°C
		Transport Humidity	< 90% r.h.
		Storage Temperature	-10°C...+70°C
		Storage Humidity	< 85% r.h., no condensation
	Norms and Directives	IP- Rating	IP20 to IEC60529
		Safety Class	III to EN 60 730
		Product Standard 1	Automatic Electric. Controls for household and similar use
		Product Standard 2	2009/EN 60 730-1
		CE Conformities to	2004/108/EG Electromagnetic Compatibility EMV
		CE Electromagnetic Compatibility Emitted Interference	2000/EN60730-1 Emitted Interference
		CE Electromagnetic Compatibility Interference resistance	2000/EN60730-1 Interference Resistance
		RoHS Compatibility	RoHS 2011/65/EC
		Operation Climatic Condition	IEC 60 721-3-3
		Operation Mechanical Condition	IEC 60 721-3-2 to class2M2
		Transport to Climatic Condition	IEC 60 721-3-2
		Transport Mechanical Condition	IEC 60 721-3-2 to class2M2
		Storage Climatic Condition	IEC 60 721-3-1
		Storage Mechanical Condition	IEC 60 721-3-1 to class2M2

Connection

Terminal Connection

1	2	3	4	5	6	7
GND/AC2	UB +24V/AC1	Out Temp 0 …10V	Out CO2 0 …10V	Out rH 0…10V	Sensor A-	Sensor B+

CRW5.FB/HB   **CRW5.FJ/FK/FM/FO/FN/FL**

Miscellanies	Accessories	Accessory not included in delivery	TRA0.A (106mmx106mm backplate)
	Shipping & Handling	Minimum Order	1 box with 1 piece
		Product Dimension (L x W x H) / Weight	85mm x 85mm x 26mm / 90gr.
		Transport and Storage dimension (L x W x H) / Weight	90mm x 90mm x 35mm / 110gr.
		Package Material	Rigid Cardboards Packaging
	Order Notes	Order Code	See Product Range, Page 1, e.g. CRW5.FB

Advices

Security Advice

⚠ Caution

The installation and assembly of electrical equipment may only be performed by a skilled electrician.
The products must not be used in any relation with equipment that supports, directly or indirectly, human health, life or with applications that can result in danger for people, animals or real value.

Mounting Advices

⚠ Caution

Mounted with screws and wall plugs onto a smooth wall surface.
For wiring, the Snap-On lid must be separated from the base plate.
The end of the installation tube in the flush box must be sealed, if the device is mounted on standard flush box.

Installation Notes

⚠ Caution

The product must be installed at a suitable place and within the range of validity of the local electrical installation laws and regulations.
2GND-wires must be laid to the CO2 sensor; one for the supply voltage and one for the measuring current to avoid a voltage drop.
Installation place must be made on representative places to measure CO2, Humidity and Temperature, to avoid a falsification of the measuring result.
Solar radiation and draught should be avoided.

Commissioning Notes

⚠ Caution

Sensing devices with transducers should in principle be operated in the middle of the measuring range.
The ambient temperature of the transducer electronics should be kept constant.
When switching the supply voltage on/off, power surges must be avoided on site.
When using the sensor in aggressive gases, an early recalibration or a change of the humidity sensor can be come necessary. Such a recalibration or a probable sensor change do not come under the general warranty.

Dimensional Drawing

84,5
25
84,5
84,5
84
67
60
67
84