

RSCO2TH Range

CARBON DIOXIDE, TEMPERATURE
& HUMIDITY SENSORS



BLANK VERSION

LED VERSION

DISPLAY SCREEN

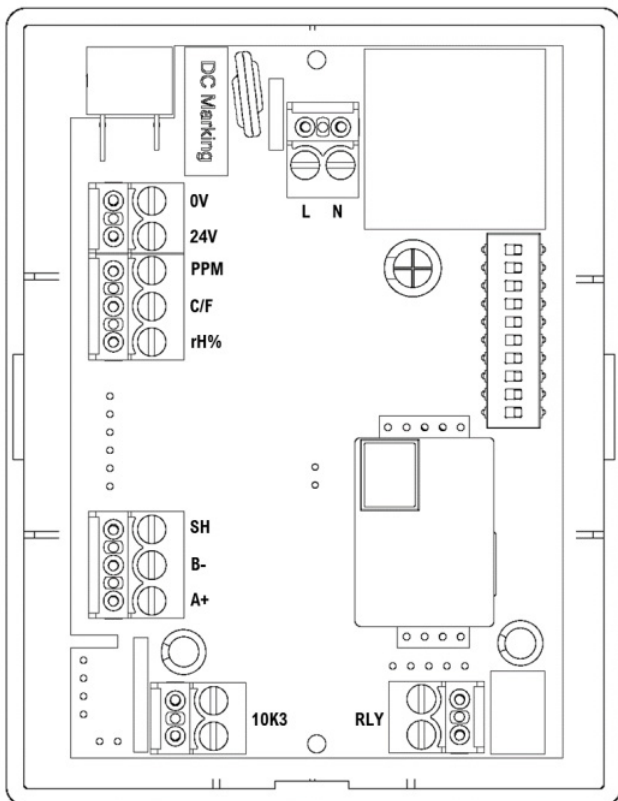
Product Overview:

The RSCO2TH Range: Featuring Carbon Dioxide Sensors, Temperature Sensors & Humidity Sensors, designed to monitor and measure vital indoor air quality environmental parameters with precision and reliability. Engineered to be used across residential, public, commercial, and light industrial settings, these sensors offer digital & analog outputs and exceptional performance features.

Key Features:

- Digital RS-485: Modbus RTU or BACnet MS/TP communication protocols
- Analog: 3x Linear 0-10V/2-10V CO₂, Temperature & Humidity.
- VFC Relay (CO₂): 1x SPST 70mA Max

Circuit Board Diagram:



CONNECTION

230V AC IN

24V AC/DC INPUT

ANALOG OUT/P

DIGITAL OUT/P

THERMISTOR

CO₂ VFC RELAY

LABEL

POWER LIVE IN

24V IN

+10V OUT

RS-485

10K3

RLY 70mA

TERMINATION

L (Line)
N (Neutral)

+24V
0V (Common GND)

PPM (CO₂ Sensor O/P)
°C/F (Temperature O/P)
%RH (Humidity O/P)

A+
B-
SH (Shield)

(No Polarity)

(Open/Close Circuit)

Technical Specifications

Mechanical		
Mounting	Wall Mounted	
Entry	1/2" DIA Rear Entry	
Size (W x H x D)	Display Screen – 3.38" x 4.48" x 1.3" / Blank & LED – 3.38" x 4.48" x 0.98"	
Weight	0.35lb	
Enclosure	ABS UL Flame retardant – IP40	
Electrical		
24V AC/DC Power Rating	12–24VDC (11–32 VDC) / 24VAC, (20–27 VAC) 50–60Hz	
230VAC Power Rating	Nominal 230VAC, (90–250V AC), 50–60H	
Internal Fuse	Resettable PPTC 110VAC, 400mA	
Communication	127 Units Max	
Power Consumption	5W Max	
Environmental		
Operating Temperature	14°F to 122°F / –10°C to 50°C	
Storage	32–86°F / 0°C to 30°C	
Room Humidity	0 to 95% RH (continuous) Non-Condensing	
Atmospheric Pressure	80 to 110Pa	
Altitude	<6562ft	
Installation Cat (230V Voltage)	II (Class 2) Pollution Degree 2	
Installation Cat (24V Voltage)	III (Class 3) Pollution Degree 2	
Inputs / Outputs		
Analog Outputs	3x Linear 0–10V/2–10V CO2, Temperature & Humidity. Thermistor (10K3).	
Digital Networks	BACnet MS/TP or MODBUS RTU (Parity: None Data bit: 8bit Stop bit: 1)	
Relay Outputs	1 x SPST 70mA	
Cable Spec		
Power	22 – 24 AWG	
Analog Output	22 – 24 AWG	
Relay	22 – 24 AWG	
Digital Output	22 – 24 AWG twisted pair + ground, shielded cable with 120 Ω characteristic impedance.	
User Interface		
Lanugage	English	
Optional Display	2.8" TFT	
Indication	Green: Power (OK) / Yellow: Warning (Pre-Alarm) / Red: Danger (Alarm)	
Safety & EMC		
Safety	IEC 61010–1	
Electromagnetic Compatibility	FCC	
Compliance	CE, EMC, RoHS, REACH and WEEE Compliant	
CO2 Sensor (PPM)		
Sampling: Diffusion Type	Fully Calibrated	Fully Calibrated
NDIR Indication Range: 400 – 5000ppm	Normal Indication Range: 32–122°F	Indication Range: 0–100% RH
Response: t90 <120s	Response: t63% @ 77°F ~20s	Quick Response: t63% @ 77°F ~8s
Calibration: ABC Logic Self Calibration	Typical Excellent long term stability	Excellent long term stability
Warm Up Time: ~1 Minute	Strong anti-interference	Strong anti-interference
Accuracy: 5% FS @ 77°F	Warm Up Time: 1 minute	Warm Up Time: 1 minute
Lifespan: > 10 Years	Accuracy: ±0.5° @ 50–113°F	Accuracy: ±2% @ 59–86°F (20–90%RH)
Resolution: 1ppm	Resolution: 0.1°	Resolution: 0.1%