

AirySense™-TH-CO2: SMART TEMPERATURE, HUMIDITY & CO2 SENSOR

General Description:

AirySense™-TH-CO2 is a Smart Temperature, Humidity & CO2 Sensor which can be connected on standard Building Automation Networks. These can be used for monitoring ambient environmental conditions for monitoring and control.

Applications:

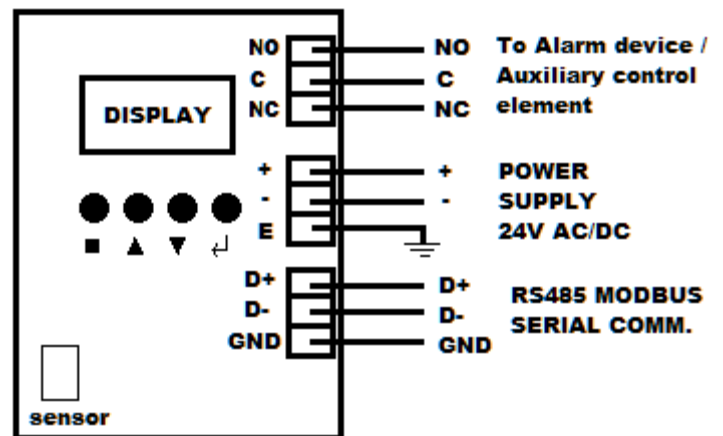
- Monitoring of Ambient Temperature, Humidity & CO2 at Solar Power Plants, Control Rooms, Machinery Room, Remote Unmanned Stations, Buildings and Complexes, Warehouses, Cold Storage areas, Hospitals etc. giving an indication of the Indoor Air Quality.
- Monitoring of Temperature and Humidity inside the Server racks, and Data Centres
- Can be integrated with Zone Thermostats for monitoring and control of Temperature, Humidity & CO2 remotely.



Salient Features:

- AirySense™-TH-CO2 provides smart monitoring of ambient Temperature, Humidity & CO2 in clean and unclean environments.
- AirySense™-TH-CO2 is based on semiconductor based monolithic precision sensor (Temperature & Humidity) with low drift and hysteresis and excellent long term stability. and Based on NDIR Absorption based sensing (CO2 Sensing) principle providing best in class accuracy, stability, low power consumption and fast response.
- AirySense™-TH-CO2 communicates on standard Modbus RTU protocol on RS485 multi-drop networks with field configurable device address and baud rates.
- Adding more sensors is very easy; the network can support up to 30 more sensors.
- The smart sensor can be optionally provided with a local display of the real time reading
- Warm up time for AirySense™-TH-CO2 is about less than 3 seconds.
- Sensor can be optionally provided with a power relay for auxiliary switching and control of equipments based on Temperature, Humidity and CO2 levels in the zone.
- AirySense™-TH-CO2 has a robust design for usage even in hostile conditions
- AirySense™-TH-CO2 is designed with an aesthetic enclosure suitable for wall mount.

Connection diagram



Specifications:

<p><u>Temperature Measurement</u></p> <p>Range : -35 to +85 °C Resolution : 0.1 °C Accuracy : ± 0.5 °C Response Time: 5 – 30 sec</p>		<p><u>CO2 Measurement:</u></p> <p>Range : 0 – 2000 PPM Resolution : 1 PPM Accuracy : ±50 PPM ± 3% of Reading Non-Linearity : < 1% of FS Response Time : 5 – 30 sec</p>	
<p><u>Relative Humidity Measurement:</u></p> <p>Range : 0 to 100 %RH Resolution : 0.1 %RH Accuracy : ± 2 %RH Response Time: ~ 20 sec</p>		<p>Operating Pressure Range : 950mbar to 1050mbar Pressure Dependence : 0.13%/mmHg Sensor Calibration : Factory calibrated; Auto/manual user calibration</p>	
<p><u>Relay Output:</u></p> <p>Channels : SPST-01 NO Contact Rating : 230VAC / 120VDC, 2A Response Time : 50ms Set point for Switching: Temp (°C) or Temp (°F) Or Humid (%RH) Hysteresis : ±9.9 Connectors : Screw Terminals</p>		<p><u>Power supply:</u></p> <p>Sensor Input Voltage : 24V AC/DC +/- 10% Power Consumption : < 200mW Protection : Overvoltage, Short Circuit, Reverse Polarity ESD: Compliant as per IEC 61000-4-2 Level 3 (Contact Discharge: 8kV, Air Discharge: 15kV) Connectors : Screw Terminals</p>	
<p><u>Serial Communication:</u></p> <p>Protocol : Modbus RTU Device ID : User configurable from HMI Physical Layer : RS485 Half Duplex Maximum Devices : 31 Maximum Length : Up to 1000m Baud Rate (BPS) : 9600, 19200, 38400, 57600 Response Time : 1-2 sec Protection : Short Circuit ESD : Compliant as per IEC 61000-4-2 Level 3 (Contact Discharge: 8kV, Air Discharge: 5kV) Connectors : Screw Terminals</p>		<p><u>Mechanical:</u></p> <p>Enclosure : Aluminum, Powder coated Mounting : Wall mount Dimensions : 88 (W) x125 (H) x30 (D) (mm) Weight : ~ 200g</p>	
		<p><u>Environmental:</u></p> <p>Operating Temperature: -35 to 85 °C Operating Humidity : 0 to 100% RH Ingress Protection : IP 20</p>	

Order Code:

Part Number	Display	Relay	Protocol	Port
Airysense-V2-TH-CO2/MB	--	--	Modbus RTU	RS485 serial port
Airysense-V2-TH-CO2/MB-R	--	✓	Modbus RTU	RS485 serial port
Airysense-V2-TH-CO2/MB-D	✓	--	Modbus RTU	RS485 serial port
Airysense-V2-TH-CO2/MB-DR	✓	✓	Modbus RTU	RS485 serial port

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