

## Installing the Sensor

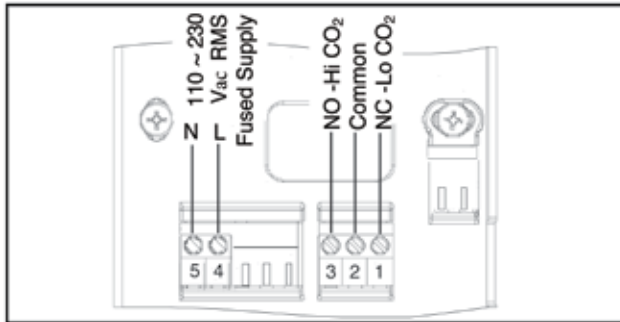
### !WARNING!

Before performing service or maintenance operations on the systems, turn OFF main power switches to the unit. Electric shock can cause personal injury. Please read and follow the wiring instructions precisely; miswiring may cause permanent damage to the product.

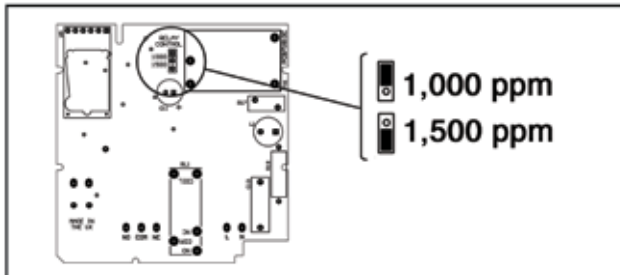
**Note:** This product does not carry UL certification and is not suitable for installation in U.S.A. or other jurisdictions that require that certification.

### Basic Installation

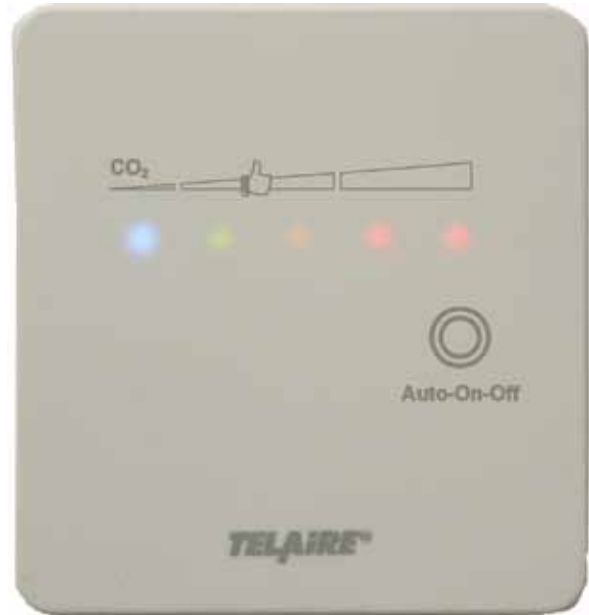
1. Separate the case into its front and rear sections.
2. Secure the rear section of the case to the wall or junction box using the supplied screws, and make necessary wire connections. The device requires a separately fused supply.



3. Change Jumper Selection on circuit board if 1,500 ppm switching is required. By default unit is set to 1,000 ppm.
4. Mount the Controller on the base by aligning the top clips and then securing to the bottom clips.



5. Secure the Airestat™ with the supplied set screw. A one-minute stabilization warmup will take place after power is switched on.



### LED Indication & Operation Description

*Note: Values are approximate.*

In Auto Mode Colour LEDs will operate in dot mode indicating the approximate level of CO<sub>2</sub> in the environment.

	blue	<800 ppm
	green	800-1200 ppm
	yellow	1200-1500 ppm
	single red	>1500 ppm
	both red	>2000 ppm

Blue and Red LEDs On continuously - Error Mode All LEDs On continuously. Manual ON mode.

All LEDs Off, occasional green flash, manual OFF mode.

The Carbon Dioxide (CO<sub>2</sub>) indicator should ideally be indicating levels of green or yellow in normal operation as indicator of good air quality, this complies with most regulatory requirements for occupied and learning spaces, however occasional red is acceptable.

A 'blue' level will be seen if a ventilation system is over ventilating (this is not good as it is likely costing more to heat), or during warmer weather if windows are opened (this is OK).

The default mode at power on is automatic.

The switch has a timer on it (anti-recycle) to prevent any controlled devices being switched too many times per hour. Operation may not concur with the indicated value during this time.

# Airestat Wiring Diagrams

## !WARNING!

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### Output Switch Levels

User selectable at 1000 ppm (default) or 1500 ppm with hysteresis of 300ppm

### Anti-recycle Time

Minimum ON or OFF period: 10 minutes (in Auto)

### Touch Switch Operation

Operate switch by touching the circle area, repeat to move to next mode. Modes repeat through Automatic, Manual On, Manual Off. Mode only effects the output and display.



Auto - Relay operated by CO<sub>2</sub>, LEDs indicate CO<sub>2</sub> concentration

On - Relay is in the powered “on” state, all LEDs lit continuously

Off -Relay is in the powered “off” state, all LEDs are off, occasional flash of Green Lamp

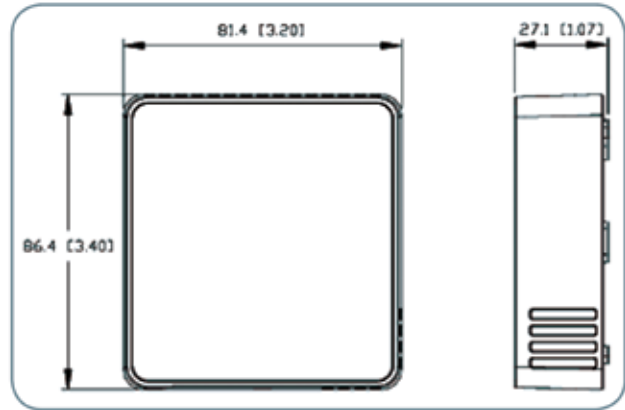
### Operational Logic

Relay	Auto Mode		Manual Mode	
	CO <sub>2</sub> ppm < threshold	CO <sub>2</sub> ppm > threshold	OFF	ON
NO	Open	Connected to Common	Open	Connected to Common
NC	Connected to Common	Open	Connected to Common	Open

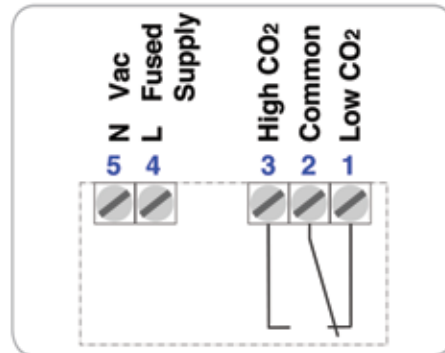
### Connections

Screw terminals for 18 to 28 AWG.

1. Output Switch Low Value (Off or Normally Closed (NC))
2. Output Switch Common
3. Output Switch High Value (On or Normally Open (NO))
4. Supply Voltage Live
5. Supply Voltage Neutral



T5100 Enclosure



Backplate Wiring Detail



## CO<sub>2</sub> Warm-up Time

< 2 minutes (operational) 10 minutes (maximum accuracy)

## Certifications

CE EMC, RoHS, REACH and WEEE compliant

## Servicing

There are no user servicing requirements in this sensor / switch

## ABC Logic™ Self Calibration System

ABC Logic™ (Automatic Background Calibration) self calibration allows the CO<sub>2</sub> sensor to continually recalibrate itself when the indoor concentrations drop to outside levels while the building is unoccupied. Generally a building must be regularly unoccupied for 4 hours or more for this self-calibration system to operate properly. Under these conditions, ABC Logic™ should maintain sensor calibration over the lifetime of the sensor.

This ensures the sensor is maintenance free.

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## Wall Mount Specifications

### Sensing Method

- Non-dispersive infrared (NDIR) absorption
- Gold-plated optics
- Patented ABC Logic self calibration algorithm

### CO<sub>2</sub> Measurement Range

0 to 2000 ppm (0 ppm = 0 V, 4 mA)

### CO<sub>2</sub> Accuracy

±30 ppm or 3% of the reading shown, whichever is higher \*

### Signal Update

Every 5 seconds

### CO<sub>2</sub> Warm-up Time

- < 2 minutes (operational)
- 10 minutes (maximum accuracy)

### Operating Conditions

- 32°F to 122°F (0°C to 50°C)
- 0 to 95% RH, non-condensing

### Storage Conditions

-40°F to 158°F (-40°C to 70°C)

### Stability

<2% of FS over life of sensor (15 years)

ASHRAE — regulation 62 states maximum indoor CO<sub>2</sub>

\*level of 1000 ppm

\*CO<sub>2</sub> accuracy statement excludes standard gas used for calibration that has an accuracy of 2%.

### Temperature Dependence

0.2% FS per °C (±0.11% per °F)

### Pressure Dependence

0.135% of reading per mm Hg

### Power Supply Requirements

110~230 Vac RMS, 50/60 Hz

### Power Consumption

Typical 0.7 W at nominal voltage

## Outputs

### Relay Rating

230Vac 8A resistive 2A inductive

### Relay Isolation

The output contacts meet the isolation requirements of LVD 2006/95/EC, and as such can be used to switch control voltages (e.g. <50Vdc) or mains voltages.

### Flammability Classification

UL94 5VA

## Warranty / Other

### Warranty

18 months parts and labour

This product is covered by one or more of the following patents:

5,650,624 / 5,721,430 / 5,444,249 / 5,747,808 / 5,834,777 /

5,163,332 / 5,340,986 / 5,502,308 / 6,344,798 / 6,023,069 /

5,370,114 / 5,601,079 / 5,691,704 / 5,767,776 / 5,966,077 /

6,107,925 / 5,798,700 / 5,945,924 / 5,592,147 / 6,255,653 /

6,250,133 / 6,285,290

### Warranty Repairs

Amphenol Advanced Sensors will repair a Telaide product that fails to meet the terms provided for in the Return and Warranty Policy Statement (See, <http://www.telaide.com>). Warranty period shall start from date of manufacture and be based on product category and type of equipment as specified in Table 1: Product Warranty Periods. For all warranty repairs, Amphenol Advanced Sensors will bear all product repair parts, labor, and standard ground shipping charges.

### Contact:

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