



T5000 Series

Telaire® Airestat™ CO₂/Temperature Transmitter

Features:

- Low-cost
- Reliable (15 years of low-cost infrared sensor manufacturing)
- Lifetime calibration guarantee (ABC Logic™ on)
- Pre-calibrated
- Maintenance free (calibration maintained with patented ABC Logic)
- Flexible configurations (see matrix, page 2)
- Intuitive VLI display
- Three available outputs: analog 0 to 10V, 0 to 5V, passive temperature (20K thermistor), and digital UIP interface (RS-232 TTL level)
- User-definable thresholds
- RoHS and WEEE compliant



Telaire® offers high-volume manufacturing capabilities, a global sales force, and additional engineering resources to support your sensing application needs.

Telaire® Technology

The technology is based on the absorption of light in a gold-plated, reflective light pipe or waveguide diffusion gas chamber. A gas permeable polytetrafluoroethylene (PTFE) filter prevents particulate and water contamination of the sensor. Light is absorbed in proportion to the CO₂ concentration and the remaining light is measured and converted into an analog signal.

ABC Logic™ (Automatic Background Calibration)

The Telaire product line offers patented ABC Logic software for self-correction of drift to better than ±20 ppm per year. The system is virtually free of maintenance and typically has a lifetime of more than 10 years.

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The Product

The Telaire T5000 Series Airestat CO₂ and temperature transmitter is a low-cost wall-mounted sensing solution for demand-controlled ventilation. The Airestat provides an intuitive VLI (Visual Limit Indicator) display for CO₂ thresholds, a passive temperature output (20k Ω thermistor), and a standard analog 0 to 10 volt or 0 to 5 volt signal to maintain air quality in enclosed spaces (such as school classrooms, offices, gymnasiums and theaters.)

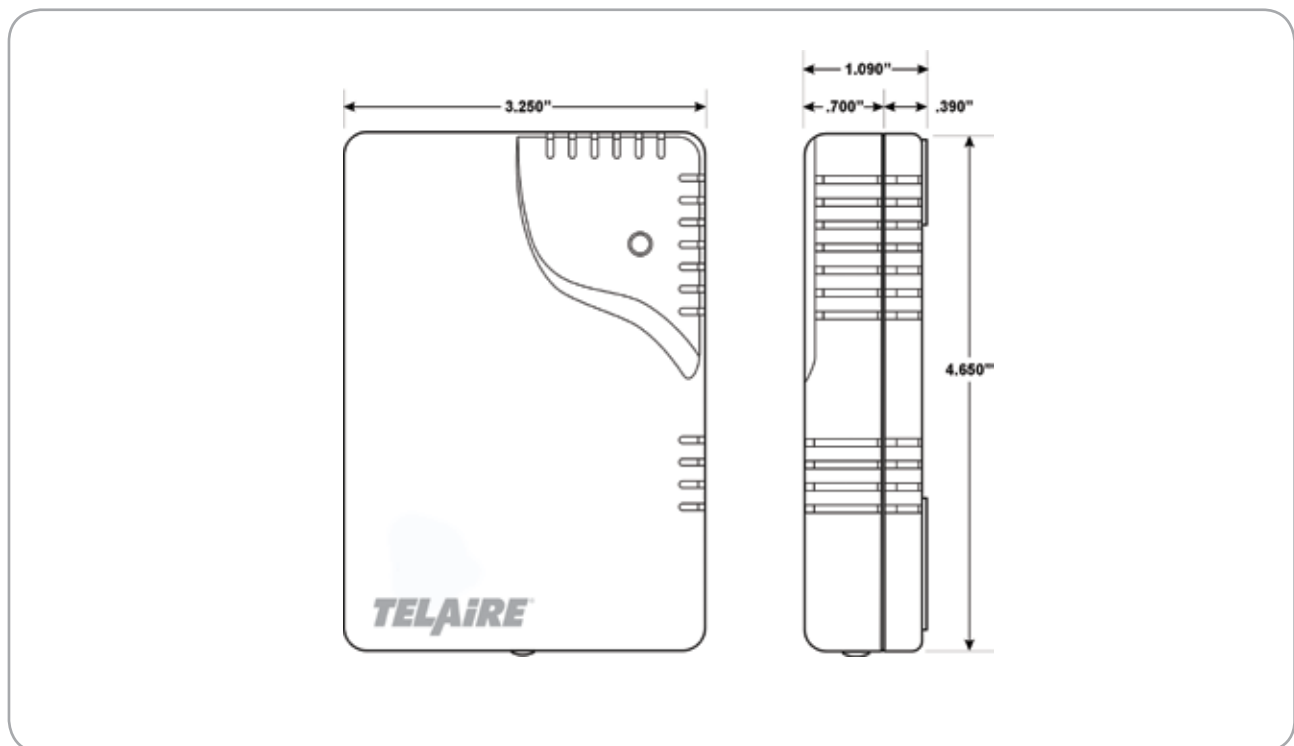
Product Features:

Telaire Model No.	CO2	Temp	LED
T5001	✓	✓	
T5003	✓	✓	
T5005	✓	✓	✓
T5007	✓	✓	✓

Please note that the models above are 0-10V output. For 0-5V output, the part number requires -5V (i.e., T5005-5V).

VLI (Visual Limit Indicator)

Telaire Products introduces an exciting new alternative to traditional scientific LCD display of the CO₂ value. Our new T5000 Series transmitter with VLI (Visual Level Indicator) communicates intuitively to the average end-user. The correlation between a CO₂ PPM reading and adequate ventilation may not be fully understood. Instead of offering the user a reading in ppm (parts per million), we provide a simple LED that communicates increased CO₂ concentrations based on definable or predetermined thresholds. The LED smoothly transitions between green, yellow and red as the CO₂ threshold is exceeded. Unlike scientific displays, training to understand ppm values is not a prerequisite with this innovative product.



T5000 Series Specifications

Product

Sampling Method

Non-dispersive infrared (NDIR), gold plated optics, (with Telaire's patented ABC Logic self calibration algorithm). Diffusion sampling.

Measurement Range

0 to 2,000 ppm factory calibrated.

Accuracy

± 75 ppm @ 72°F (22°C) when compared with a factory reference or 10% of reading, whichever is greater*

Temperature Dependence

0.2% FS per °F (°C)

Stability

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

Non-Linearity

<1% of FS

Pressure Dependence

0.13% of reading per mm Hg

Calibration Interval

Not required*

Response Time

3 to 5 minutes for 90% step change.

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

- -4°F to 158°F (-20°C to 70°C)
- 0 to 95% RH, non condensing

Temperature

NTC 20k thermistor

Output

- Analog: 0 to 10V or 0 to 5V

Connections

Screw terminals for 18 to 28 AWG

Power Supply Requirements

18 to 30 VAC RMS, 50/60Hz or 18 to 42 VDC, polarity protected

Power Consumption

1.75 VA average, 2.75 VA peak

Agency/Certifications

FCC Part 15 Class B, CE, RoHS, WEEE

Warranty Term

18 months

** Note: Automatic Background Calibration, or ABC Logic, is a patented self-calibration technique designed to be utilized in applications where concentrations will drop to outside ambient conditions (approximately 400 ppm) at least four times in a 14-day period, typically during unoccupied periods.*

Full accuracy is achieved after two weeks of operation.

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www.telaire.com

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