



Sensing & Inspection Technologies

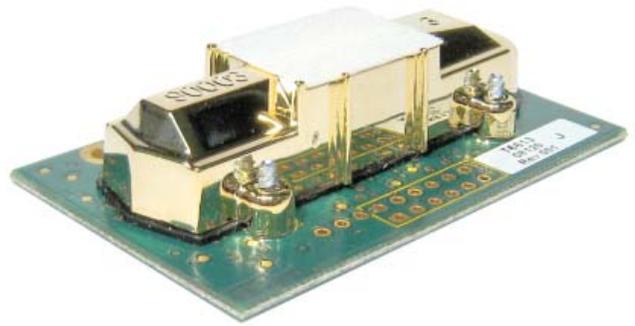
# Telaire 6613 CO<sub>2</sub> Module

## Small, Compact CO<sub>2</sub> Module Designed to Integrate Into Existing Controls and Equipment

The Telaire® 6613 CO<sub>2</sub> Module is designed to meet the volume, cost, and delivery expectations of Original Equipment Manufacturers (OEMs). The module is ideal for customers who are familiar with the design, integration, and handling of electronic components.

All units are factory calibrated to measure CO<sub>2</sub> concentration levels up to 2000 ppm. Telaire dual channel sensors are available for higher concentrations.

By joining GE Sensing & Inspection Technologies, Telaire® can now offer high-volume manufacturing capabilities, a global sales force, and additional engineering resources to support your sensing application needs.



### Features

- An affordable gas sensing solution for OEMs.
- A reliable sensor design based on 15 years of engineering and manufacturing expertise.
- Flexible CO<sub>2</sub> sensor platform designed to interact with other microprocessor devices.
- Eliminates the need for calibration in most applications with Telaire's patented ABC Logic™ software. Lifetime calibration warranty.



# Telaire 6613 CO<sub>2</sub> Module Specifications

## Method

Non Dispersive Infrared (NDIR), gold plated optics, diffusion or flow through sampling (with Telaire's Patented ABC Logic Self Calibrated Algorithm)

## Measurement Range

400 to 2000 ppm

## Dimensions

2.25 in X 1.365 in X 0.60 in  
(57.15 mm X 34.67 mm X 15.24 mm)

## Accuracy\*

@72°F (22°C) when compared against a certified factory reference  $\pm 40$  ppm + 2% of reading up to 1250 ppm

## Temperature Dependence

0.2% FS per °C

## Stability

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

## Pressure Dependence

0.135 of reading per mm Hg

## Calibration Interval

Not required

## Response Time

< 2 minutes for 90% step change typical

## Signal Update

Every 4 seconds

## Warm Up Time

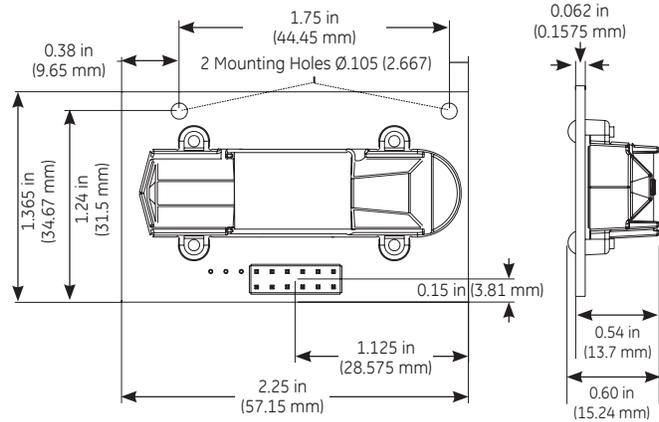
- < 2 minutes (operational)
- 10 minutes (maximum accuracy)

## 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)



## Output

### Digital

UART @ 19200 Baud (Please call for detailed product specifications).

### Analog

0.8 to 4 VDC

### Power Supply Requirements

5 VDC regulated ( $\pm 5\%$ )

### Power Consumption

- 0.90 watts peak
- 0.165 watts average

### Interface Connections

Designed for 12 pin male header with 0.1 in (2.54 mm) spacing. Header not included.

### Flow Rates (Via Flow Ports)

Flow through version 40 to 50 cc/min

### Warranty Terms

12 months

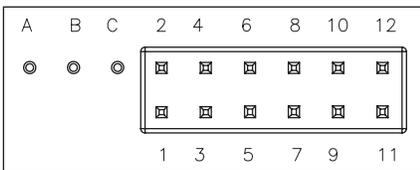
\* Handling and OEM assembly may affect factory calibration. Specified accuracy is after 21 days of continuous operation with ABC Logic.

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

*\*Full accuracy to be achieved utilizing ABC Logic. With ABC Logic enabled, the sensor will typically reach its operational accuracy after 25 hours of continuous operation at a condition that it was exposed to ambient reference levels of air at 400 ppm ±10 ppm CO<sub>2</sub>. Sensor will maintain accuracy specifications with ABC Logic enabled, given that it is at least four times in 21 days exposed to the reference value and this reference value is the lowest concentration to which the sensor is exposed. ABC Logic requires continuous operation of the sensor for periods of at least 24 hours. Note: Applies when used in typical residential ambient air. Consult GE if other gases or corrosive agents are part of the application environment.*

## Pin Designations

Connector Pinout	Function
A	TX (UART)
B	RX (UART)
C	V+ (5 VDC)
1	V+ (5 VDC)
2	GND
3	GND
4	AV OUT (0 to 4 VDC)
5	No Connect
6	No Connect
7	No Connect
8	No Connect
9	No Connect
10	TX (UART)
11	RX (UART)
12	GND



## Module 6613-F (Flow Through)

The diffusion membrane is replaced with a non-permeable seal. The two flow ports can be used for flow through sampling. Flow rate of 40 to 50 cc/min required.

## Handling and Installation

The T6613 CO<sub>2</sub> OEM modules are infrared gas sensors on a printed circuit board and should be treated carefully. Precautions should be taken to observe specified limits and prevent damage from electrostatic discharge or rough handling. Please refer to ANSI/ESD S20. 20-1999 for more information on preventing ESD damage and IPC 610 Rev D for more information on proper electronic assembly practices.

## Calibration

GE does not recommend the customer recalibrate the T6613 module after installation. The sensor ABC Logic algorithm will begin after 24 hours, adjusting the sensor measurement resulting in sensor-to-sensor consistency. If immediate consistency is desired, the sensors may be single point calibrated using pre-mixed reference gas or ambient air measured by a reference sensor.

## Available Models

Part Number	Sampling Method
T6613	Diffusion
T6613-F	Flow Through