GE
Sensing

Features

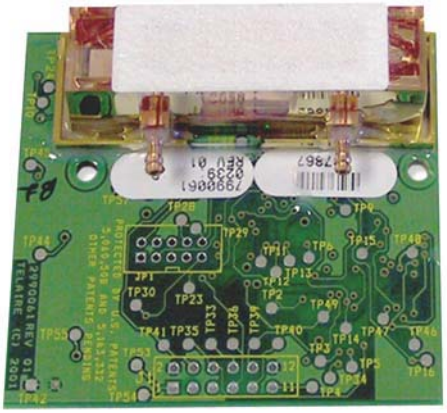
- An affordable gas sensing solution for OEMs.
- A reliable sensor design based on 15 years of engineering and manufacturing expertise.
- Flexible CO_2 sensor platform designed to interact with other microprocessor devices.
- Eliminates the need for calibration in most applications with Telaire's patented ABC Logic™ software.

The Telaire® 6004 CO_2 Module is designed to meet the volume, cost, and delivery expectations of Original Equipment Manufacturers (OEM). The module is ideal for customers who are familiar with the design, integration, and handling of electronic components, but do not wish to invest resources in their own development effort. All units are factory calibrated and can be configured to measure CO_2 concentration levels up to 5%.

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

Telaire 6004 CO_2 Module

Small, Compact CO_2 Module Designed to Integrate Into Existing Controls and Equipment



Telaire 6004 CO_2 Module is a Telaire product. Telaire has joined other GE high-technology sensing businesses under a new name–GE Industrial, Sensing.

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Telaire 6004 CO_2 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
0 to 2000 ppm

Dimensions
2 x 2.25 x 0.75 in (50.8 x 57.15 x 19.04 mm)

Accuracy*
@ 72°F (22°C) when compared against a certified factory reference ± 40 ppm + 3% of reading

Temperature Dependence
0.2% FS per °C

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

Non Linearity
< 1% of FS

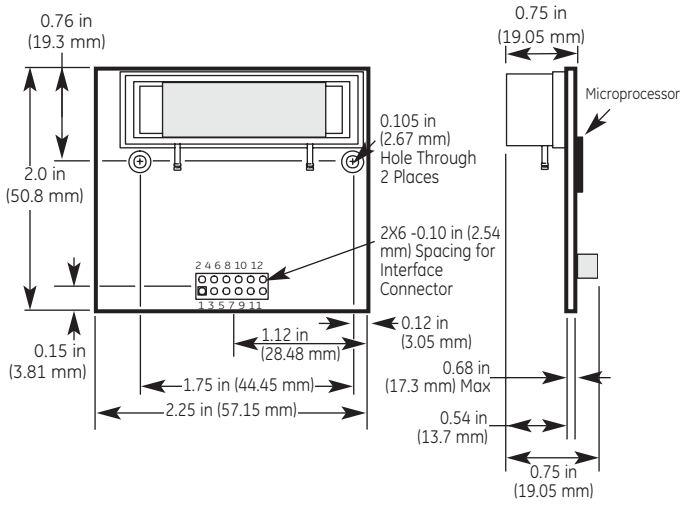
Pressure Dependence
0.135 of reading per mm Hg

Calibration Interval
Not required

Response Time
< 2 minutes for 90% step change typical

Signal update
Every 2 seconds

Warm up time
- < 2 minutes (operational)
- 10 minutes (maximum accuracy)



Board Layout and Component

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
SPI/Microwire or UART @ 9600 Baud (Please call for detailed product specifications).

Analog
0 to 4 VDC

Power Supply Requirements
5 VDC regulated (± 5%)

Power Consumption
- 0.75 watts peak
- 0.15 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)
Diffusion version 80 – 120 cc/min
Flow through version 40 – 50 cc/min

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Telaire 6004 CO_2 Module Specifications

Warranty Term
18 months

* Handling and OEM assembly may affect factory calibration. For best accuracy, modules should be zero calibrated once integrated into a product, prior to shipment. Specified accuracy is after re-zeroing process or 14 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 (approximately 400 ppm) at least 3 times in a 14 day period, typically during unoccupied periods.

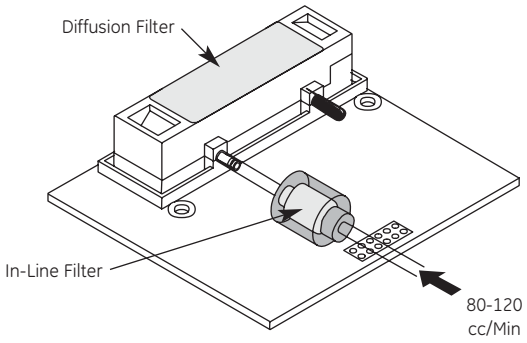
Pin Designations

Pin	Function
1	5 VDC (input power)
2	GND
3	No Connect
4	AVOUT (6004 only)
5	UB ACK
6	SER OUT
7	SER CLK
8	SER IN
9	UB REQ
10	TDX (UART)
11	RDX (UART) / ACK (SPI)
12	GND

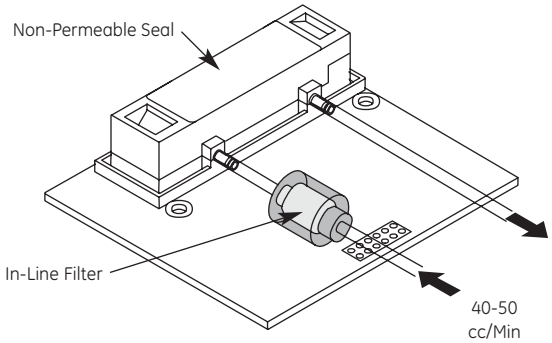
For applications that do not see periodic ambient conditions, ABC Logic can be turned off, but a regular single point calibration of the sensor may be necessary. Contact Telaire for more detailed information on operating the Modules with ABC Logic .

Models and Calibrations Configurations

Module 6004 (Diffusion)
Air can be introduced to the sensor via the flow port and exit through the diffusion membrane (typical configuration for calibration). Flow rate of 80 to 120 cc/min required.



Module 6004-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.



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