

## CO2 OEM Module-6004

Compact, small and specifically designed to be built into a product or device

From GE/Telaire, USA



The 6004 Infrared Carbon Dioxide Module, designed and manufactured by the renowned American company GE/Telaire, serves as an optional or integrated gas detection component for microprocessor-based control systems. The module comprises two primary components: a gold-coated optical sensing element and electronic circuitry that provides calibrated digital or analog signal outputs. With a compact size of 2 inches × 1.5 inches × 0.8 inches and a low power consumption of 45 mA, it is particularly suitable for both wall-mounted and portable applications. All modules undergo factory calibration prior to shipment. The gas sampling method supports both inflow and diffusion modes, with measurable ranges spanning from 0-0.2% to 0-5%.

### Features and Advantages

Economy OEM gas detection solutions that do not require an investment in your own gas sensors can easily incorporate the complete gas detection component into your CO<sub>2</sub> monitoring or control products.

Low cost infrared gas sensors are very beneficial for complete installation in other microprocessor equipment.

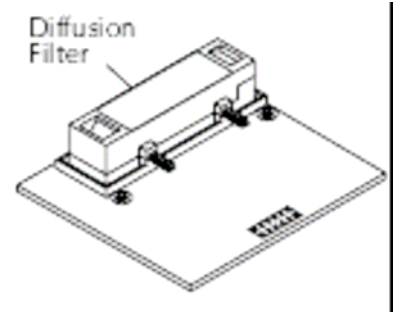
The "ABC\_Logi self-calibration" system, a patented technology of Telaire in the United States, does not require CO<sub>2</sub> calibration during use, whereas most similar products require calibration.

The reliable design comes from the 10 years of CO<sub>2</sub> research and development experience of GE/Telaire in the United States and the cooperation with many supporting manufacturers. The excellent quality comes from the technical capability and quality assurance of GE/Telaire.

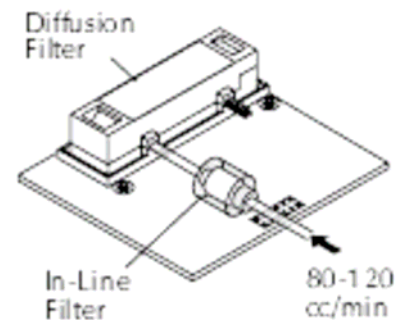
6004 Technical parameters			
method	measuring range	size	Labour costs
Non-Diffuse Infrared (NDIR)	0-2000 ppm	2.00" x 2.25" x .75"	150 mA (maximum) 30 mA (average)
Temperature sensitivity	Signal updates	nolinear	Pressure sensitivity
There is a 0.2% error per feeding degree	(2 seconds per shot)	<1% of the error	Readings 0. 13%/mm Hg
work environment	reaction time	stability	preheating time
0 - 50°C (32 - 122°F) 0 -95% RH, no condensation	90% of the step changes were in less than two minutes	The error within the service life is less than 2% (the service life is 15 years)	Working status is less than 2 minutes, maximum 10 minutes
Proofreading spacing	Storage environment	source	Output analog signal
No requirements	-20 - 70°C (-4 - 158°F)	5 VDC ±5%	0 - 4 VDC
Output digital signal	interface connection	current ratio	* definition
Serial peripheral interface SPI or universal asynchronous receiver/transmitter UART @9600bps	Designed for 12 needle heads with spacing of 0. 1" (not including joints)	Diffusion: 80-120 cc/min Inlet: 40-50 cc/min	At a temperature of 22. C (72. F), the error is: ±40ppm+ 3% of the reading

## Model Selection and Advantages

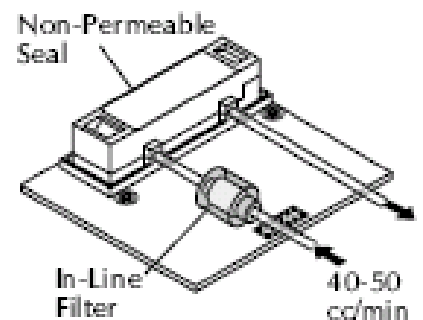
Diffusion 6004: In order to prevent liquids and particulate matter from entering the sensor, the sensor head senses the diffusion filter in the sampling chamber to diffuse gas molecules from the ambient air.



Intake pipe access type 6004: Gas can enter through the intake port and be discharged through the diffusion membrane (typical calibration configuration), requiring an inflow rate of 80-120 CC/min.



Automatic flow type 6004F: The diffusion membrane is replaced by a non-permeable pad, and two air inlets are used to collect gas, requiring an inflow rate of 40-50 CC/min.



## ABC\_Logic Automatic Verification System

The Module 6004 series can be configured with ABC\_Logic self-calibration activation or deactivation. The ABC\_Logic system operates in an environment where measured CO2 concentrations must drop to outdoor levels at least three times within a 14-day period. For example, in typical public spaces like offices, schools, and theaters, CO2 sources primarily originate from human activity. When occupants leave at night, indoor CO2 levels will align with outdoor values, typically ranging between 380-400 ppm. The ABC\_Logic system records this minimum reading every 24 hours during its analysis cycle. If statistical deviations from the baseline reading are detected, a calibration factor will be applied to subsequent CO2 measurements. The ABC\_Logic system requires continuous operation for three weeks to complete the calibration process.

The ABC\_Logic system should be disabled when application devices fail to monitor ambient CO2 levels as required, such as maintaining specific CO2 concentrations in greenhouses for plant cultivation. This configuration may compromise measurement accuracy due to the system's continuous unnecessary adjustments. The 6004 module can be pre-configured with ABC\_Logic disabled during order placement.

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