

Sidestream Capnograph Module



The BCI® 1410 Capnograph Module provides four digital outputs: CO₂, ETCO₂, FICO₂ and Respiration Rate. The digital outputs are accessed via RS232 serial communications. All CO₂ measurements are given in mmHg. The 1410 Capnograph Module is capable of driving two different pneumatic systems. A complete mounting assembly is designed to accommodate either a single valve and filter pneumatic system, or an advanced multi-valve pneumatic system with the patented Smiths Medical PM, Inc. water bottle. The pneumatic system is selected by setting a dip switch on the board. Occlusion is detected by an internal pressure transducer.

For more information, visit www.smiths-medical.com/bci-oem.

OEM TECHNOLOGY

Sidestream Capnograph Module

- Compact size:
3.2" W x 3.9" L x 1.0" H
(8.13 cm x 9.91 cm x 2.54 cm)
- Communicates to a host through single, high-speed asynchronous serial channel using the RS232 standard serial CO₂ waveform and parameter data output
- Requires a single 6-15 volt DC unregulated power source

Technical Specifications

CO₂

- **Range**
0-10%
- **Accuracy**
±2 mmHG or ±4% of reading, whichever is greater

RESPIRATION RATE

- **Range**
0-120 BPM
- **Accuracy**
±1 BPM

SAMPLE RATE

150 ml/min ±20 ml/min

DIMENSIONS

- **Length**
3.9 inches (9.91 cm)
- **Width**
3.2 inches (8.13 cm)
- **Height**
1.0 inches (2.54 cm)

WEIGHT

0.5 lbs (226 grams)

POWER

6-15 Volts, 3 Watts

COMMUNICATIONS

RS232, 19.2K Baud

CATALOG NUMBER

1410

Complete Capnography Measurement System Providing:

- CO₂ Waveform
- Status Data
- Respiration Rate
- Automatic zero calibration and manual two-point calibration
- A choice of two pneumatic systems for low-cost spot-check operation or advanced long-term continuous monitoring
- TTL Serial Communication
- Advanced pneumatics system includes high volume water trap
- Advanced 2-stage pump system used to clear occlusions
- FiCO₂
- ETCO₂
- Occlusion Detection



1410 system with advanced pneumatics

Serial Port Description

PROTOCOL

19.2K Baud; One Start Bit; Eight Data Bits; No Parity Bit; One Stop Bit

The 1410 Capnograph Module utilizes a bi-directional communications protocol with a defined set of commands and responses. Patient data is communicated in data packets that include checksums for error detection. The Module responds to the following commands:

COMMANDS

Get Atmospheric Pressure
Get CO₂ Barometric Reading
Get CO₂ Temperature Reading
Get CO₂ Offset
Get CO₂ Gain
Set Breath Timeout
Get Breath Timeout
Get CO₂ High/Low Calibration
Get Software Version
Get Hardware Version
Request CO₂ Bench EEPROM Version

MODULE RESPONSE

Atmospheric Pressure
CO₂ Barometric
CO₂ Temperature
CO₂ Low Calibration Value
CO₂ High Calibration Value
Timeout Setting
Timeout Setting
Initiates a Calibration Sequence
Software Version Number
Hardware Version Number
EEPROM Version

Reference Technical Documentation for full and current specifications. Information subject to change without notice.

For more information, please call Smiths Medical PM, Inc., at 262-542-3100 or 800-558-2345.

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The products described are covered by one or more of the following U.S. Patent Nos. 5,558,096; 5,386,833; other patents pending.

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