

# COMPACT, LOW POWER, FLEXIBLE

## microMediCO<sub>2</sub>™ OEM module with Microstream™ technology

### The microMediCO<sub>2</sub>™ OEM Module

The microMediCO<sub>2</sub>™ OEM capnography module is the core component of Microstream™ etCO<sub>2</sub> measurement technology. Smaller and lower power than previous modules, the microMediCO<sub>2</sub>™ module can be integrated into an even wider range of host configurations. Microstream™ capnography solutions are engineered to offer accuracy and flexibility in virtually all environments with virtually all patient populations.

### Why Microstream™ Technology?

#### Accurate measurement technology

- CO<sub>2</sub>-specific infrared (IR)-based technology
- Integrated Pulmonary Index™ algorithm (IPI) is engineered to provide an inclusive assessment of respiratory status in a single number
- Only technology with Smart Capnography™ alarm management algorithms, such as Smart Alarm for Respiratory Analysis™ (SARA) and Smart Breath Detection™ (SBD) algorithms, designed for nonintubated applications
- Clear, crisp waveforms and accurate respiratory rates based on CO<sub>2</sub> breath cycle
- Fast-on power-up; fully accurate at first reading
- Low sampling flow rate of 50 ml/min, recommended for neonates because of low tidal volumes
- Automatically adjusts for changes in ambient temperature and barometric pressure



### microMediCO<sub>2</sub>™ OEM Module Features

- Measures etCO<sub>2</sub>, FiCO<sub>2</sub>, respiration rate
- Provides CO<sub>2</sub> waveform and etCO<sub>2</sub> values
- Smart Capnography™ algorithms
- Compact size
- Low power consumption
- RS232, USB
- Power and communication via one cable

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## Patented Smart Capnography™ Measurement Technology

- IPI measures adequacy of ventilation and oxygenation\*
- SBD mitigates the effect of artifact, enabling quality monitoring for nonintubated general floor patients
- SARA recognizes and reduces nuisance alarms, promoting caregiver alarm vigilance
- Apnea-Sat Alert™ algorithm measures apneas per hour and oxygen desaturation index values, offering clinicians an efficient method to identify and quantify apnea and oxygen desaturation events†

## Versatile design for fast, simple setup and use

- A single, integrated sensor is engineered for use with all patient populations in all clinical settings
- Offers the option to switch between patient types without re-zeroing or re-calibration†
- Rugged and cost effective — no expensive external sensor or cable to damage
- Designed for use in and out of hospital

## Broad sampling line portfolio

A wide array of sampling lines to meet clinical needs — longer-term monitoring; high-humidity environments; adult, pediatric, and neonate patient types, both intubated and nonintubated, with or without supplemental oxygen delivery

\*SpO<sub>2</sub> data from host required.

†Requires annual calibration.

## Specifications

### MEASURING PARAMETERS

Integrated Pulmonary Index™ Algorithm CO<sub>2</sub> waveform, etCO<sub>2</sub>, FiCO<sub>2</sub>, respiration rate

Apnea-Sat Alert™ Algorithm	Apneas per hour and Oxygen Desaturation Index values
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### ACCURACY

CO <sub>2</sub> partial pressure (at sea level)	Accuracy
0-38 mmHg	± 2 mmHg
39-99 mmHg	± (5% of reading + 0.08 x [reading - 39 mmHg])
100-150 mmHg	± (5% of reading + 0.08 x [reading - 39 mmHg])

### PERFORMANCE

CO <sub>2</sub> range	0 to 150 mmHg, 0 to 20 Vol%, 0 to 20 kPa
CO <sub>2</sub> sampling flow rate	50 ml/min (+ 15 ml/min, -7.5 ml/min) flow measured by volume
Initialization time	Typically 30 seconds to obtain both reading and waveform. At full accuracy when value first appears.
Respiration rate	0-150 breaths/min
Mode	Adult, pediatric, neonatal

### PHYSICAL CHARACTERISTICS

Power requirements	1.0W (typical in normal operation), 0.5W in standby mode
Powering options	3.3V only, 3.3V to digital supply; 3.3V - 5.5V to DC/DC input, 5V only
Weight	115 g
Dimensions	72 mm L x 25.4 mm H x 50.8 mm W
Communication interface	RS232 Standard; USB, RS485 and TTL available upon request

### ENVIRONMENTAL

Temperature	
Operating	0° to 65° C (32° to 149° F)
Storage	-40° to 70° C (-4° to 158° F)**
Operating Pressure and Altitude	
Pressure	430 to 795 mmHg
Altitude	-380 m to 4572 m (-1,250 ft to 15,000 ft)
Storage Pressure and Altitude	
Pressure	88 mmHg to 795 mmHg
Altitude	-380 m to 15,240 m (-1,250 ft to 50,000 ft)
Relative humidity	10% to 95% (non-condensing)

### STANDARDS AND REGULATIONS

The following standards are met by the module, as long as the monitor in which it is installed also meets the standards:

RoHS Directive 2011/65/EU, UL 60601-1, EN ISO 21647 (including transport requirements), EN 60601-1-2, emission class B, CSA C22.2 No. 601-1-M90, ISO 7137/DO-160E, IEC 62304, UL 60601, EN1789 (applicable parts for medical devices), MIL STD 810F Method 514.5, Helicopter category 14. Meets all applicable standards and regulations required to support a host monitor 510 (k) submission.

\*\*For microMediCO<sub>2</sub>™ OEM module only.  
Specifications subject to change without notice.