

# Alaris™ EtCO<sub>2</sub> Module pocket programming guide

## End-tidal carbon dioxide (EtCO<sub>2</sub>) functions

- A measurement of breath-to-breath exhaled CO<sub>2</sub>
- Reflects alveolar ventilation
- Helps measure the respiratory rate by exhaled breath
- Measures continuous respiratory rate (*ventilation breath to breath*) monitoring, and indicates hypoventilation faster than SpO<sub>2</sub> monitoring for opioid administration

## Key steps to successful EtCO<sub>2</sub> monitoring and patient-controlled analgesia (PCA)

- Patient and family education
- Proper FilterLine set positioning
- Adherence to established hospital protocols for assessment
- Sedation level assessment
- Respiratory rate and quality assessment
- Trend data assessment

BD, San Diego, CA, 92130, U.S.

[bd.com](http://bd.com)



## To view EtCO<sub>2</sub> display

1. Attach the patient disposable
2. Press CHANNEL SELECT
3. Press ENTER on the keypad to the retain view
4. Review the display

## To set/change alarm limits

1. Press CHANNEL SELECT
2. Press LIMITS
3. Select limit parameter to be changed
4. Enter numeric value using keypad or up/down arrow keys
5. Press CONFIRM
6. Press MAIN SCREEN

## To view EtCO<sub>2</sub> trend data

1. Press CHANNEL SELECT
2. Press TREND
3. Press PAGE UP and PAGE DOWN to navigate through trend data pages; move cursor using up/down arrow keys
4. Press ZOOM to change time period
5. To exit, press EtCO<sub>2</sub>
6. Press MAIN SCREEN

## To view PCA/EtCO<sub>2</sub> trend data

**Note:** Shared trend data can be viewed when the Alaris™ PCA Module is attached to the same BD Alaris™ PC Unit as the monitoring module.

1. Press CHANNEL SELECT
2. Press OPTIONS
3. Select PCA/EtCO<sub>2</sub> trend data, and navigate as described in to view EtCO<sub>2</sub> trend data section
4. To exit, press EtCO<sub>2</sub> MAIN
5. Press MAIN SCREEN

## To change waveform height or time scale

1. Press CHANNEL SELECT
2. Press OPTIONS
3. Select WAVEFORM HEIGHT or WAVEFORM TIME SCALE.
4. Select 60 mmHg or 99 mmHg/5 or 10 seconds
5. Press MAIN SCREEN

## To set/change pre-silencing alarm

1. Press SILENCE to pre-silence monitoring alarms for two minutes  
**Note:** Infusion alarms will not be silenced
2. Press CANCEL SILENCE to cancel silence before two minutes

This guide includes selected information and suggestions, not comprehensive instructions on setting up and operating the BD Alaris™ System. For complete instructions with warnings and cautions, refer to the BD Alaris System User Manual.

The associated possible responses are suggestions only and not meant to replace current clinical practice or hospital protocols. Always consult hospital protocols.

## Troubleshooting and alarms

### Low RR alarm

Possible causes	Possible responses
<ul style="list-style-type: none"> <li>Shallow breathing</li> <li>Oversedation</li> </ul>	<ul style="list-style-type: none"> <li>Check disposable placement</li> <li>Compare value to baseline</li> <li>Follow established hospital protocol</li> </ul>

### Low EtCO<sub>2</sub> alarm

Possible causes:	Possible responses
<ul style="list-style-type: none"> <li>Poorly positioned disposable</li> <li>Respiratory distress</li> <li>Increased sedation</li> </ul>	<ul style="list-style-type: none"> <li>Check disposable placement</li> <li>Compare value to baseline</li> <li>Follow established hospital protocol</li> </ul>

### High EtCO<sub>2</sub> alarm

Possible causes	Possible responses
<ul style="list-style-type: none"> <li>Hypoventilation</li> <li>Increased sedation</li> </ul>	<ul style="list-style-type: none"> <li>Check disposable placement</li> <li>Compare value to baseline</li> <li>Follow established hospital protocol</li> </ul>

### High FiCO<sub>2</sub> alarm

Possible causes	Possible responses
<ul style="list-style-type: none"> <li>Inspired exhaled CO<sub>2</sub>, or poorly attached disposable</li> <li>Drapes or covers over face</li> </ul>	<ul style="list-style-type: none"> <li>Check disposable, O<sub>2</sub> flow, mask and/or drape position</li> <li>Follow established hospital protocol</li> </ul>

### No breath detected alarm

Possible causes	Possible responses
<ul style="list-style-type: none"> <li>No breathing</li> <li>Improperly attached disposable to patient and/or device</li> <li>Undetected exhalation (<i>shallow breath</i>)</li> </ul>	<ul style="list-style-type: none"> <li>Assess patient, and follow established hospital protocol</li> <li>Check disposable</li> </ul>

### Clearing disposable alarm

- The module is trying to clear the clogged disposable
- If cleared, the module automatically resumes monitoring
- If unable to clear, the module goes into a disconnect occluded disposable alarm

### Disconnect occluded disposable alarm

#### Cause

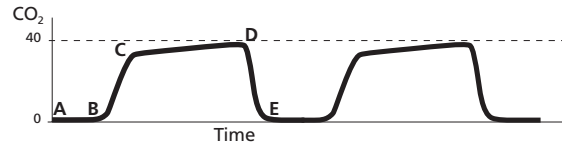
- Cannula is occluded or needs to be reset

#### Responses

- First, try disconnecting and then, try reattaching the cannula
- If the device still reads DISCONNECT OCCLUDED DISPOSABLE, then obtain and attach new a disposable

### Auto-zero in progress alarm

- Module performs an auto-zero calibration
- During this time, no data is obtained
- Monitoring automatically resumes when completed
- No intervention is necessary



**A–B** Baseline period of no CO<sub>2</sub>; end of inhalation

**B–C** Rapid rise in CO<sub>2</sub>

**C–D** Alveolar plateau

**D** End of expiration; EtCO<sub>2</sub>

**D–E** Inhalation