The controller provides complete access to all advanced features of the Ultima® X Gas Monitor through its full-function keypad. The controller is used for basic calibration functions along with displaying minimum, maximum and average gas values, displaying date of last calibration, setting span-gas values and alarm values, setting the real time clock, and changing address. It is completely password-protected.
Calibration & Instrument Selection

Ultima Controller Summary
• ON – Press ‘ENTER’
• OFF – Press ‘CLEAR’ for 5 seconds or unit turns off automatically after 100 seconds

Calibration Signal
• Disable / enabling
• Press ‘SEND’
• Press ‘CAL’
• +/- to select ‘CAL SIGNAL ENABLE’
• Enter
• Aim
• Press ‘0’ or ‘1’

Select Ultima or Ultima X
• Ready
• Display
• Press ‘0’ or ‘1’

Calibration Procedure
Zero Only
• Ready
• Aim controller
• Press “ZERO”

Zero & Span
• Ready
• Aim controller
• Press “CALIBRATION”

Information Display

Information Retrieval
• Ready
• Send
• Display
• Use +/- to scroll to desired item
  (min, max, avg, zero, span value, alarm values, etc)
• Aim
• Enter

Display All Information
• Ready
• Send
• Hold display button until display all
• Aim
• Press ‘1’
## Settings

### Setting Span Values
- Ready
- Send
- Span
- Use +/- for gas list (i.e. 500 ppm CO)
- Enter
- Put in number (i.e. 300)
- Aim
- Enter

### Setting Alarm Values
- Ready
- Send
- Alarm
- 0 – set point
- Use +/- for gas type
- Enter
- Point #
- Enter
- Point value
- Aim
- Enter

### Set Date or Time
- Press and hold Date or Time
- Prompt appears
- Put in new date or time
- Enter

### Send Date or Time
- Send
- Aim
- Date or Time

### Send Average Time Interval
- Ready
- Send
- Average
- Use +/- for 1, 8, 24 hours
- Aim
- Enter

## Programs
You can create Programs 1–9 for repetitive items. (See Manual)

### Example
- Press and hold ‘PROGRAM’ button until ‘Enter Program #’
- Enter number ‘1 – 9’
- Enter
- Ready
- Hit keystrokes and listen for 2 beeps
- Send
- Display
- +/ -
- Previous Cal Date
- Enter (saving)

### Program Run
- Press ‘PROGRAM’
- Enter #
- Aim
- Enter

### Program O
- Repeats last command
- Press ‘PROGRAM’
- Enter ‘0’
- Aim
- Enter

### Clear Programs
- Hold in #0
- Reset Prompt
- Yes/No
- Aim
- Press 0 = N, 1 = Y
Notes

### Regular Calibration
Point Controller at detector, press “CAL” button, zero and span is automatic.

### Initial Calibration
Press and Hold the SPAN button – 3 seconds, press 1 for yes, zero and span is now automatic, with 30 second countdowns.

### To abort span cal
hit, zero/cal/or address button.

### Set Time
Press and hold the TIME button

### Set Date
Press and Hold the DATE button

### Battery Life
“READY” displayed in capital letters indicates strong batteries
“ready” displayed in lower case indicates weak batteries

### Default Controller Password
9999

Troubleshooting Tips

**CAL FAULT**
- You did not pass calibration – Do over
  A. May have used wrong gas
  B. Adjustment limits exceeded – Do “I Cal”

**I CAL**
- Overrides factory adjustments
- Hold “SPAN” button down until prompt asked for “I Cal”
- Aim
- Press “1”

**SENSOR RESET**
- Press “SEND” twice
- Prompt asked for reset
- Aim
- Press “0” or “1”

**CALIBRATION ABORT**
- You can press “CAL” or “ZERO” button during countdown and it will abort calibration

MSA Controller Menu Table

<table>
<thead>
<tr>
<th>SEND / DISPLAY</th>
<th>SEND / SPAN</th>
<th>SEND / CAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Current Gas Value</td>
<td>• Current Date</td>
<td>• Ultima X Span Value</td>
</tr>
<tr>
<td>• Minimum Gas Reading</td>
<td>• Future Cal Date</td>
<td>• Sensor Swap Delay</td>
</tr>
<tr>
<td>• Maximum Gas Reading</td>
<td>• Previous Cal Date</td>
<td>• Alert Option</td>
</tr>
<tr>
<td>• Average Gas Reading</td>
<td>• Sensor Address</td>
<td>• 4-20</td>
</tr>
<tr>
<td>• Zero Value</td>
<td>• Cal Interval</td>
<td>• Cal Sig Enable</td>
</tr>
<tr>
<td>• Span Value</td>
<td>• Cal Sig Status</td>
<td>• Days per Auto Cal</td>
</tr>
<tr>
<td>• Alarm 1 Setpoint</td>
<td>• Range Value</td>
<td>• Start Hr of Cal</td>
</tr>
<tr>
<td>• Alarm 2 Setpoint</td>
<td>• Alert Option</td>
<td>• Next Cal Date</td>
</tr>
<tr>
<td>• Alarm 3 Setpoint</td>
<td>• Gas Table Value</td>
<td></td>
</tr>
<tr>
<td>• Current Time</td>
<td>• Swap Delay Option</td>
<td></td>
</tr>
<tr>
<td>• Future Cal Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Average Time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.

ID 0720-159-MC / January 2015
© MSA 2015 Printed in U.S.A.