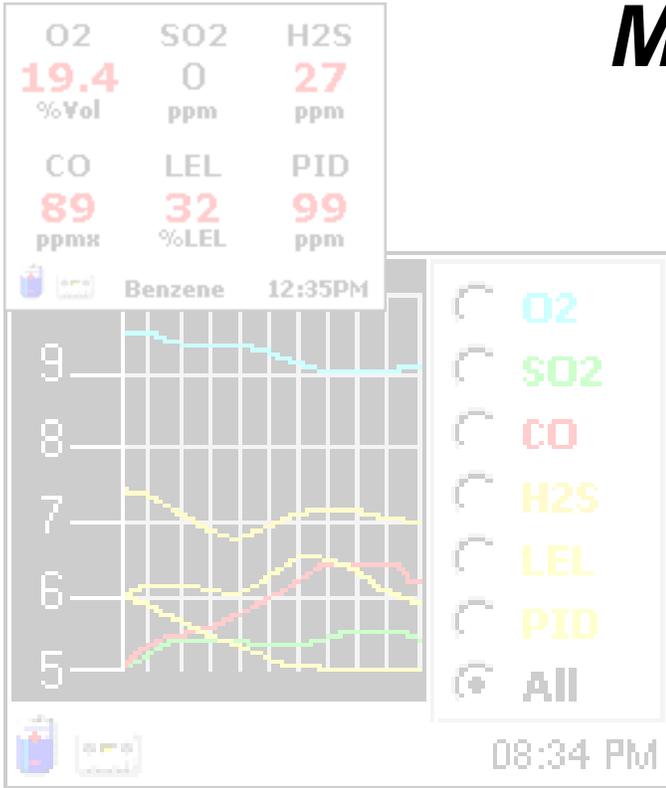


Bump Test Result		
O2	H2S	CO
Pass	Fail	Pass
CO2	LEL	PID
Pass	Pass	Pass
OK		

# MX6 iBrid™

## Multi-Gas Monitor

### Operation Guide



**Part Number:** 17130279-1  
**Revision:** 3  
**Release Date:** June 18, 2009

This Operation Guide contains an abbreviated version of the MX6 iBrid manual and is intended as a quick guide to the basic operation of the monitor. For detailed information on the configuration, operation, maintenance, and menu options of this device, please refer to the MX6 iBrid manual on the CD included with the instrument.

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## WARNINGS AND CAUTIONARY STATEMENTS

**IMPORTANT:** Failure to perform certain procedures or note certain conditions may impair the performance of this product. For maximum safety and optimal performance, please read and follow the procedures and conditions listed below.



**IMPORTANT:** Read and understand this manual before operating.



**IMPORTANT:** The instrument must be charged before its first use.



**IMPORTANT:** Be sure to turn off the instrument before (1) servicing the unit or (2) replacing the battery.



**IMPORTANT:** Battery contacts are exposed on battery packs when they are removed from the instrument. Do not touch the battery contacts and do not stack battery packs on top of each other.



Prior to each day's use, a bump test should be performed. If the instrument does not pass the bump test, a full calibration is recommended.



Oxygen deficient atmospheres may cause combustible gas readings to be lower than actual concentrations.



Oxygen enriched atmospheres may cause combustible gas readings to be higher than actual concentrations.



Verify the calibration of the combustible gas sensor after any incident where the combustible gas content has caused the instrument to display an over-range condition.



Silicone compound vapors or other known contaminants may affect the combustible gas sensor and cause readings of combustible gas to be lower than actual gas concentrations. If the instrument has been used in an area where silicone vapors were present, always calibrate the instrument before next use to ensure accurate measurements.



Sensor openings and water barriers must be kept clean. Obstruction of the sensor openings and/or contamination of the water barriers may cause readings to be lower than actual gas concentrations.



Sudden changes in atmospheric pressure may cause temporary fluctuations in the oxygen reading.



Charge battery, service unit, and use its communication port only in non-hazardous locations. Not for use in oxygen-enriched atmospheres.



**WARNING:** Substitution of components may impair intrinsic safety and may cause an unsafe condition.

**AVERTISSEMENT:** La substitution de composants peut compromettre la sécurité intrinsèque.



**CAUTION:** For safety reasons, this equipment must be operated and serviced by qualified personnel only. Read and understand the instruction manual completely before operating or servicing.

**ATTENTION:** Pour des raisons de sécurité, cet équipement doit être utilisé, entretenu et réparé uniquement par un personnel qualifié. Étudier le manuel d'instructions en entier.

avant d'utiliser, d'entretenir ou de réparer l'équipement.



**CAUTION:** High off-scale readings may indicate explosive concentration.

**ATTENTION:** Des lectures supérieures a l'échelle peuvent indiquer des concentratoins explosives.



**CAUTION:** Any rapid up-scale reading followed by a declining or erratic reading may indicate a gas concentration beyond the upper scale limit which may be hazardous.



Canadian standards association (CSA) has assessed only the combustible gas detection portion of this instrument for performance according to CSA standard C22.2 No. 152. CSA No. 152 certification applies when the instrument is calibrated to 50% LEL CH<sub>4</sub>, and for a temperature range of 0°C to 40°C.



**CAUTION:** Before each day's usage, sensitivity must be tested on a known concentration of pentane or methane equivalent to 25%-50% of full scale concentration. Accuracy must be within -0% to +20% of actual concentration. Accuracy may be corrected by referring to the zero/calibration section of the instruction manual.



The MX6 multi-gas monitor is certified as intrinsically safe for Zone 1 Classified Areas within an ambient temperature range of -20°C to 40°C, with the alkaline battery pack and -20°C to 55°C with the li-ion battery pack.

NOTE: The MX6 is CSA certified according to the Canadian Electrical Code for use in Class I, Division 1 Hazardous Locations within an ambient temperature range of -40°C to 40°C for the alkaline battery pack and -40°C to 55°C for the li-ion battery pack.



The MX6 multi-gas monitor complies with relevant provisions of European ATEX directive 94/9/EC and EMC directive 89/336/EEC, amended by directives 92/31/EEC and 93/68/EEC.



The EC type examination certificate is DEMKO 07 ATEX 0626395X; with marking code EEx ia d IIC T4; for equipment group and category II 2G.



The MX6 multi-gas monitor is constructed with reference to published standards of directive 72/23/EEC, to eliminate electrical risks and fulfill 1.2.7 of ANNEX II of directive 94/9/EC.



Contact your service representative immediately if you suspect that the MX6 monitor is working abnormally.

*Specifications subject to change.*

▽ ▽ ▽

The following instructions pertain to the use of the MX6 in conjunction with MSHA approval.

**Conditions of Use:**

MSHA approved for use with the following battery packs only:

- (A) Replaceable alkaline battery pack, P/N 1713-1046-6, consisting of three each of either of the following 1.5 V battery types: Duracell MN 1500 or Rayovac LR6.
- Do not mix batteries from different manufacturers.
  - Batteries must be replaced in fresh air.
  - Replace all batteries at the same time.
- (B) Rechargeable lithium-ion battery pack P/N 1713-1038-4, or -5, containing two or three 3.6V, 1.8 amp-hour Lithium Batteries.
- The lithium-ion cells are not user-replaceable.
  - The lithium-ion pack must be charged in fresh air only.

**CAUTION:** For compliance determinations required by 30 CFR 75, Subpart D, the monitor must display "CH4" and "% VOL" during the monitor's start-up sequence.

**CAUTION:** The Model MX6 iBrid Multi-Gas Monitor must be configured to include a catalytic sensor, Model 4L-LEL, P/N 1710-5081, (CH4, 0-5% v/v).

**CAUTION:** The IR (infrared) methane sensor reading is not to be used for methane concentrations below 5% in air.

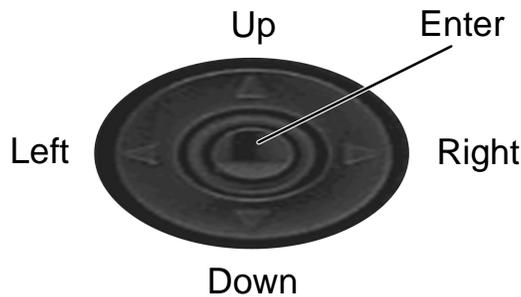
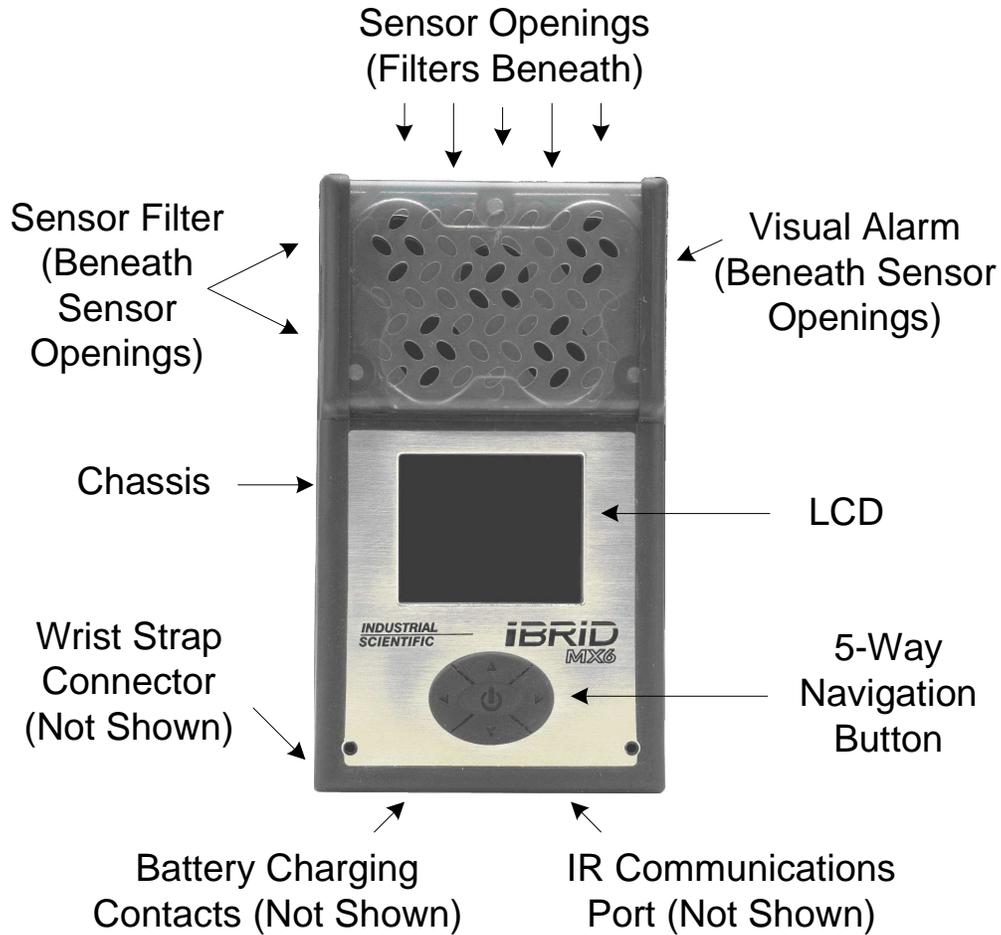
**CAUTION:** The Model MX6 iBrid Multi-Gas Monitor must be calibrated according to the procedure specified in the instruction manual.

**CAUTION:** In applications requiring MSHA certification, the IR sensor for detecting up to 100% v/v methane-in-air the sensor must be calibrated manually; the DS2 docking station cannot be used to calibrate the IR sensor. The recommended calibration gas for IR methane sensor calibration is 99% volume methane.

**CAUTION: When calibrated using methane concentrations less than 5% of volume, reading accuracy of the infrared methane sensor may not be guaranteed to be better than +/-20%**

### Hardware Overview

The MX6 multi-gas monitor is Industrial Scientific Corporation’s next-generation handheld, “dockable,” multiple gas monitoring instrument. It includes up to five temperature-compensated sensors to monitor up to six ambient gases across the full temperature range of the instrument.



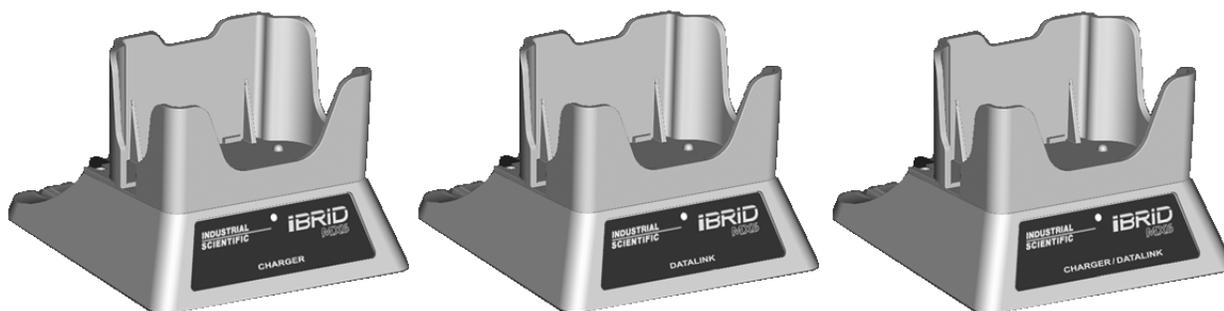

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**NOTE:** The backlight of the LCD is enabled for 7 seconds each time a button is pressed. Any additional button press during the 7 seconds reset the timer for an additional 7 seconds.

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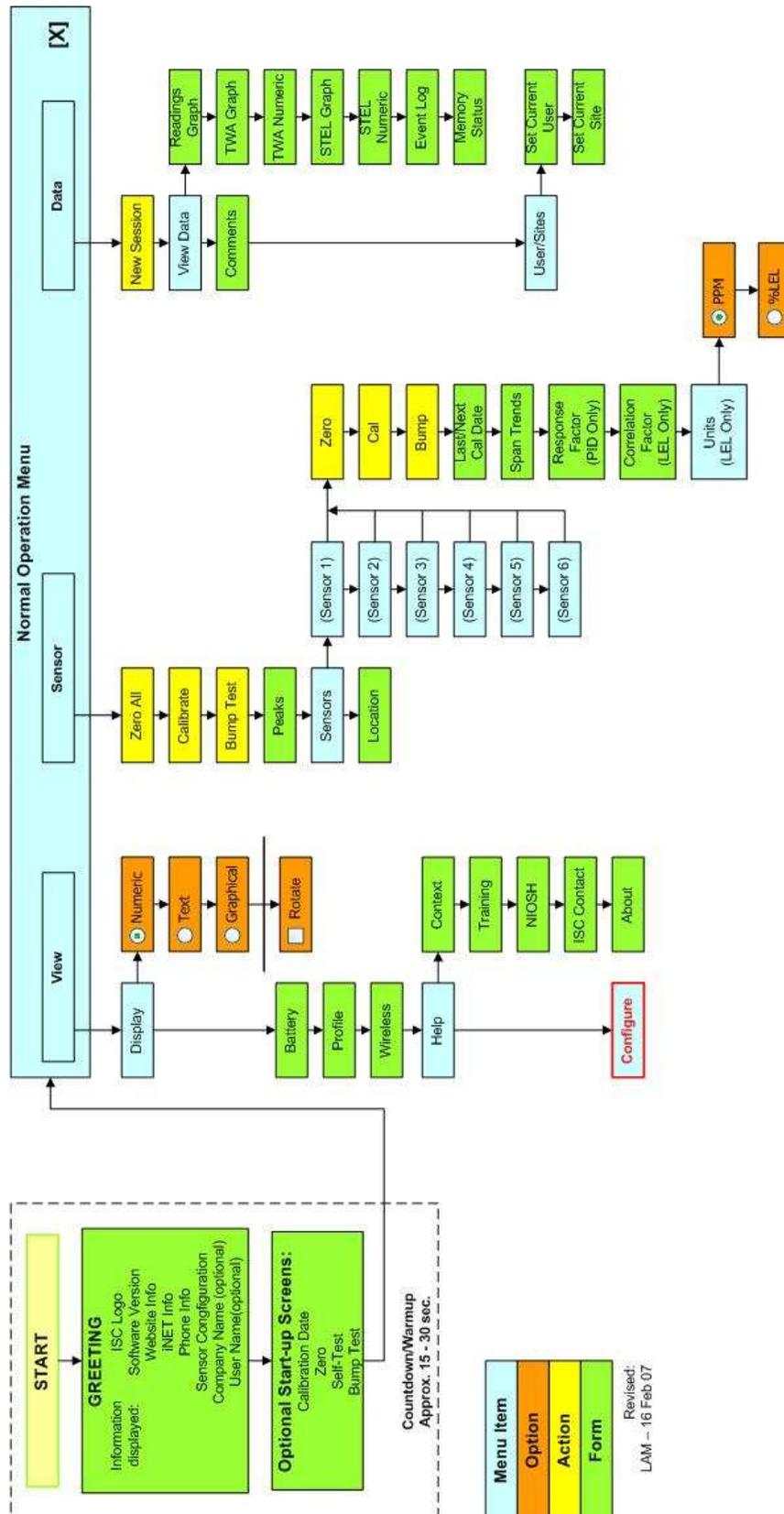
## Key Features

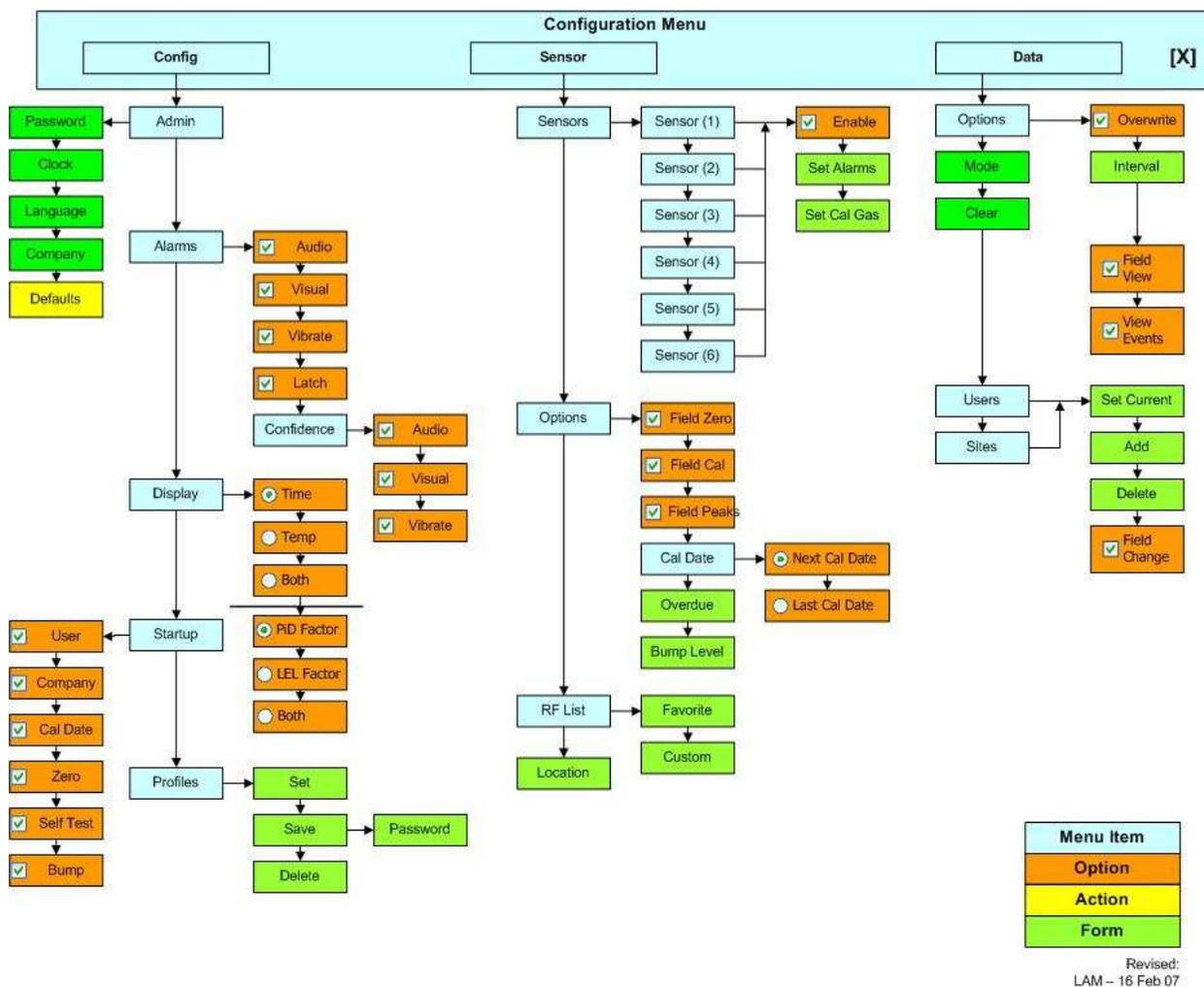
Audio Indicator	<p>Used for alarming, warnings, and the optional confidence indicator. There are two levels of audio gas alarms based on the frequency of the beeps and the length of delay between beeps.</p> <p style="padding-left: 40px;">Low-level (level-1)    Low frequency beeps with a long delay High-level (level-2)    High frequency with short delay</p> <p>For all sensors but oxygen, if the gas reading is above the high alarm level, the instrument sustains the high alarm until the gas reading is below the high alarm level, then the instrument switches to the low alarm until the gas reading is below the low alarm level. For the oxygen sensor, a high alarm only is indicated for both oxygen enrichment and depletion.</p>
Vibrating Alarm	Optional pulsing alarm that is used for limit alarms and as a confidence indicator.
Visual Alarm	<p>The instrument has alarm LEDs located beneath the opaque sensor array at the top of the unit. There are two levels of visual alarms based on the length of delay between the LED flashes.</p> <p style="padding-left: 40px;">Low-level (level-1)    LEDs are pulsed with a long delay High-level (level-2)    LEDs are pulsed with a short delay</p> <p>The LCD backlight flashes as part of all alarm sequences, except for the battery low condition. The visual alarm is also used as the confidence indicator which, when enabled, blinks the LEDs once every 30 seconds.</p>
Infrared (I/R) Port	An optical media interface (per IrDA physical layer specification) is located on the bottom of the instrument and is used for infrared (I/R) data transmissions at speeds of 115200 bytes/second.
Clip/Connector	Located on the back of the MX6 for hands-free gas monitoring. A wrist strap is also provided to protect against drops during operation.
Cradles	<p>Three different cradles are available for use with the MX6 multi-gas monitor.</p> <ul style="list-style-type: none"> <li>• Charger                      Charge the internal batteries</li> <li>• Datalink                     Download data (e.g., events) to a host computer</li> <li>• Charger/Datalink        Combination of both.</li> </ul>



Color LCD	The STN color graphic liquid crystal display (LCD) uses a 256-color palette (including a gray scale) and graphics for displaying information.
Menu-Driven User Interface	<p>The user interface is menu-driven and contains the LCD, Navigation Button, Audio Indicator, Vibrating Alarm, and Visual Alarm. It consists of two different main menus. The background color of the LCD identifies the current menu.</p> <ul style="list-style-type: none"> <li>• Normal Operation Menu      White background on LCD</li> <li>• Configuration Menu          Yellow background on LCD.</li> </ul> <p>During Normal Operation Mode, the menu bar is hidden, but can be displayed by pressing the center [ENTER] navigation button. The menu bar has a five-second time out. If no button is pressed within five seconds of the menu being activated, it is deactivated.</p>
Security	Access to the Configuration Menu can be protected using a security password. When activated, this password must be entered in order to access and change the parameters within the Configuration Menu.
Alarm Events	Fifteen alarm events for the instrument are recorded into a FIFO queue in non-volatile memory and are time stamped. An event is recorded any time that the instrument goes into alarm. Event information (which can be downloaded from the instrument) includes instrument serial number, sensor type, sensor serial number, gas type, peak exposure level, alarm duration in minutes and seconds, and date and time that alarm occurred.
Error Events	Fifteen error events for the instrument are recorded into a FIFO queue in non-volatile memory and are time stamped. An error event is recorded any time that a fault occurs (including pump faults and fault events during the self-test). The information stored for each event includes instrument serial number, fault that occurred, fault error code, date and time stamp, and any pertinent data (i.e., pump current reading).
Datalog	<p>Datalogging is a feature that allows a variety of system parameters to be recorded at regular intervals (and saved internally) for retrieval (and viewing) at a later date. The datalog feature saves the following information:</p> <ul style="list-style-type: none"> <li>• Gas Type</li> <li>• Time of Day</li> <li>• Temperature</li> <li>• Alarm Conditions Flagged</li> <li>• STEL</li> <li>• Snapshot Enabled/Disabled</li> <li>• Gas Reading</li> <li>• Date</li> <li>• Battery Level</li> <li>• User ID</li> <li>• Site ID</li> <li>• TWA</li> </ul> <hr/> <p><b>NOTE:</b> Data saved for one year can be downloaded within 15 minutes.</p> <hr/> <p><b>NOTE:</b> Data is saved in case of power loss.</p> <hr/>

# Quick Start Menu Flowcharts





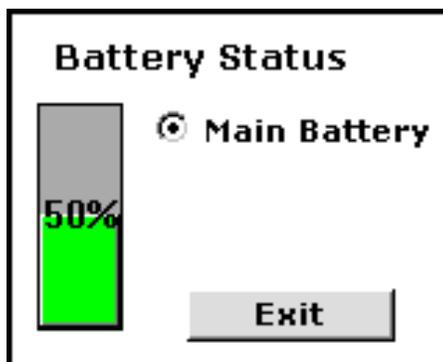
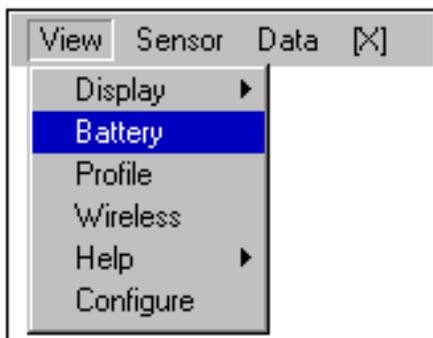
## Charging the Battery

The MX6 multi-gas instrument is powered using an internal alkaline or Lithium-ion (Li-ion) rechargeable battery. The Li-ion battery is partially charged before it leaves the factory, but must be fully recharged prior to use. To charge the battery, follow the steps listed below.

1. Insert the power cord of the charging cradle into an appropriate wall outlet.
2. Place the instrument in a Charger or Charger/DataLink cradle.
3. Note that the LCD on the MX6 shows that the battery is charging.
4. Wait 8 hours for the MX6 to be fully charged.

Under the main menu [View] option, there is a [Battery] menu option. The menu provides a link to the Battery Status screen.

The Battery Status screen shows approximately how much run-time is left on the instrument. The instrument polls the battery manager every second to get a battery voltage reading. The user is able to cycle through the main battery and any attached modules to get the battery status.

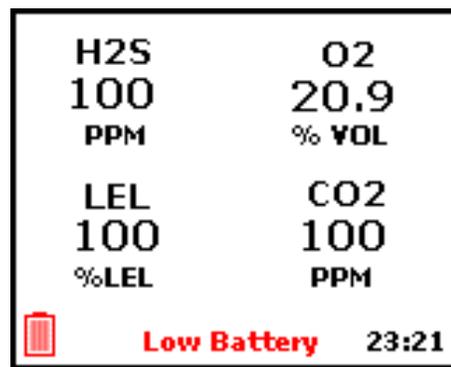


**NOTE:** The Battery Status screen is shown for 15 seconds, after which, the instrument returns to the Normal Readings screen.

The Battery icon on the NRS visually reflects the current status of the battery life as well.

	% Charge Remaining				
	100%	>75%	>50%	>25%	>5%
Icons					
Color	Blue	Blue	Blue	Blue	Yellow

**NOTE:** If the battery life remaining is less than one hour, the battery icon also flashes on the display and has an audible battery low alarm. If the runtime is less than 10 minutes, instrument alerts the user of impending shutdown by showing “Low Battery” on the lower central part of the display, where the response factor would be. If there is a response factor there, the “Low Battery” is displayed instead of the response factor.



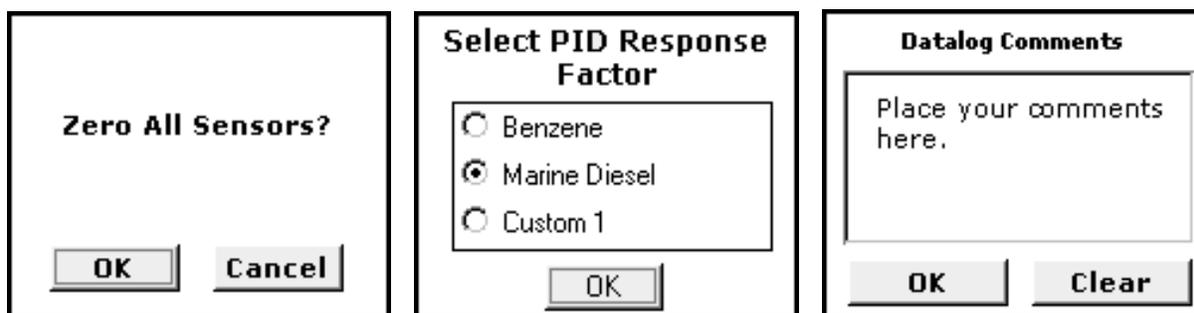
## Menu Operation Basics

The actions that are initiated by pressing the five-way navigation button may vary significantly based on (1) the user's location within the menu structure, and on (2) a particular action item of interest (of many) on one individual screen. Focus refers to a way of identifying that single item (from possibly several items) on the LCD screen.

There are several types of "indicators" that may be present on any given LCD screen within the menu structure of the MX6 instrument. These indicators include:

- single function buttons (e.g., OK button)
- radio buttons (e.g., select user profile)
- check box buttons (e.g., an enable/disable check box)
- text box windows (e.g., user-supplied site name)
- combo box windows (combinations of these).

Typically, the [LEFT] and [RIGHT] navigation buttons are used to change the current focus and cycle through those items on the screen that allow some form of user intervention. The item that currently has the focus is usually denoted with highlighting or a border.



The actions of other buttons are typically dependent on the type of item that has focus. For example, when a checkbox control has focus, the center [ENTER] navigation button toggles the check on and off. When a group of radio button controls has focus, the [UP] and [DOWN] navigation buttons are used to switch focus between the controls and the center [ENTER] navigation button is used to complete the selection.

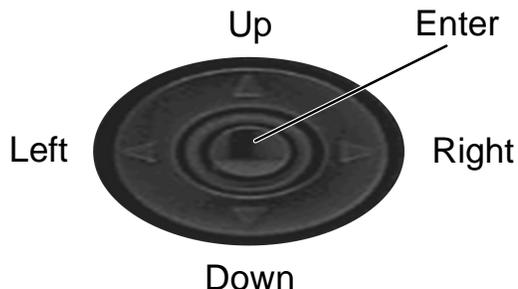
When a text box is displayed, the user changes the value of each character one at a time. Once the focus is on the text box, pressing [ENTER] allows changes to be made to the character values in the text box. The user changes the character value of the field by using the [UP] and [DOWN] navigation buttons. The list of available characters varies by text box. The user advances to the next character using the [RIGHT] navigation button. The user can backspace to the previous character using the [LEFT] navigation button.

To get the focus on the combo box, the center [ENTER] navigation button must be pressed. If the user presses the [UP] or [DOWN] navigation buttons when the focus is on the combo box, the user can scroll through the list of entries. To select one, the user must press the [ENTER] navigation button once the focus is on the desired entry. Pressing the [RIGHT] or [LEFT] key removes the focus from the combo box.

If the backlight is off, the first button press only turns on the backlight. If the backlight is on, the first button press triggers the action.

## Power Up and Shut Down

Two key operation basics are powering up the instrument and shutting it down. To power up the MX6 instrument, locate, press and hold the center [ENTER] navigation button for at least 3 seconds.

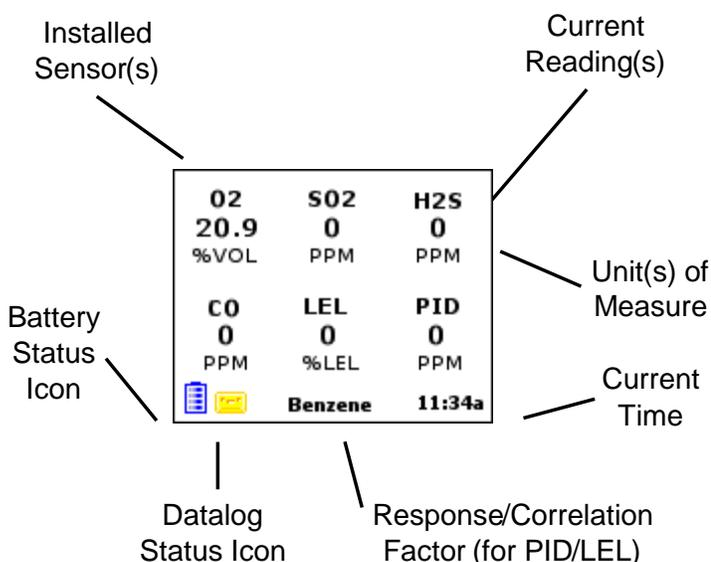


After power up, a series of startup screens are displayed on the LCD. Optional startup screens may be displayed depending on your configuration.

To shut down the instrument, hold the center [ENTER] navigation button for more than two seconds. A confirmation screen is displayed to provide verification of the shut down.

## Normal Operation Mode

After the optional Startup Self Test is completed, the instrument displays the Normal Operation Mode. The Normal Readings screen is the default screen displayed while the instrument is in Normal Operation Mode. Other options include View Menu Options, Sensor Menu Options, and Datalog Menu Options. Configuration menus and options are accessed through the Configuration option of the View Menu.



Up to six sensors may be installed in the instrument. As a result, the screen layout of sensor information varies based on the number of sensors that are actually installed.

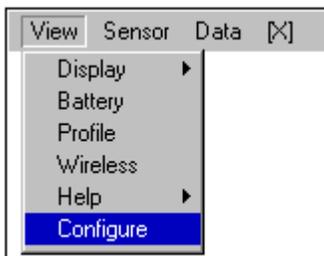
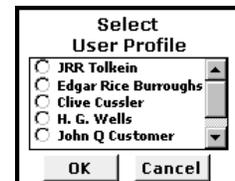
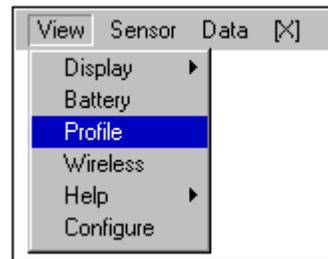
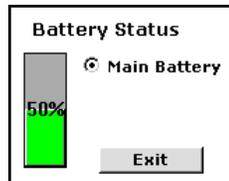
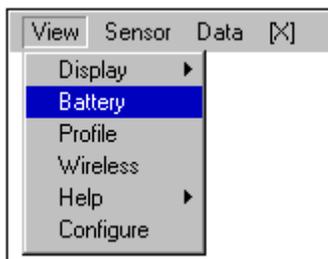
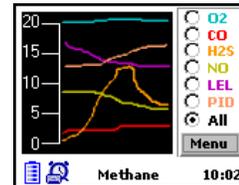
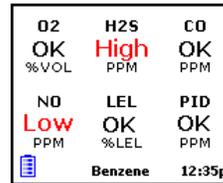
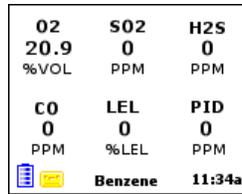
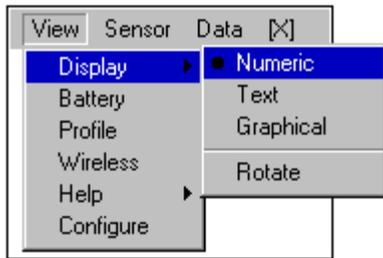
Display Component	Attribute	Normal Mode	Alarm Mode
Sensor Name	Color	Black	Black
	State	Solid	Solid
Sensor Reading	Color	Black	Red
	State	Solid	Solid
Sensor Units	Color	Black	Black
	State	Solid	Solid

**NOTE:** For over range conditions, a blinking “OR” is displayed in red as the sensor value. If the alarm is a STEL or TWA, the word “STEL” or “TWA” are shown to indicate the corresponding alarm.

Sensor names are displayed as solid black text during normal operation, and blinking black text during alarm conditions. The sensor readings are displayed as solid black numerals during normal operation, and solid red numerals during alarm conditions. Units (e.g., % Vol, ppm, %LEL, etc.) are displayed as black text beneath the sensor readings. Below is a summary of navigation instructions available for the Normal Readings Screen (NRS).

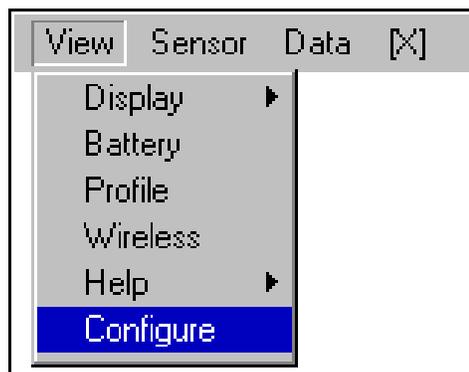
<b>Destination</b>	<b>Description</b>
Menu Display	Press and release the center [ENTER] navigation button. Use the [UP], [DOWN], [LEFT] and [RIGHT] navigation buttons to navigate the menus. Once activated, the menu is deactivated if no buttons are pressed within five seconds.
Shutdown	Hold the center [ENTER] navigation button for more then two seconds.
Battery Status	From the [VIEW] option, select [BATTERY] to view the battery status.
Datalog Memory Status	From the [DATA] menu option, select [VIEW DATA] then [MEMORY STATUS] to display the Datalog Memory Status screen.
Sensor Selection	<p>When there is more the one sensor, it is possible to view the installed sensors one at a time. Pressing either the [LEFT] or [RIGHT] navigation button causes the Sensor Selection (SS) menu to be displayed along the right side of the screen.</p> <p>The Sensor Selection menu lists the currently installed sensor and the selection “All” (the default). Navigate the Sensor Selection list using the [UP] and [DOWN] navigation buttons (with wrap-around).</p> <p>When a sensor is selected, press the center [ENTER] navigation button to display the selected sensor in Single Sensor Layout mode. The SS menu remains on the left. If the “All” list item is selected and the center [ENTER] navigation button is pressed, all currently installed sensors are displayed and the SS menu is deactivated. When the SS menu is activated and a sensor other than the one selected goes into alarm, then that sensor alarm type (in red) is cycled with the sensor name.</p>

### View Menu Options



## Configuration Menus

Under the main menu [View] option, there is a [Configure] menu option. This menu provides access to the Configuration screens of the instrument. The user must enter a password to get to the Configuration Menus (if a password has been set). If the password is still the factory default of nothing, no password protection is set. In this case, the instrument directly enters Configuration mode.



If the password is anything other than the factory default value, the [Password] screen is displayed. The [Password] screen is used to enter a password for verification, as well as changing the current password. This password can and should be different than the user profile passwords.



**NOTE:** Passwords are a minimum of three characters and a maximum of 10.

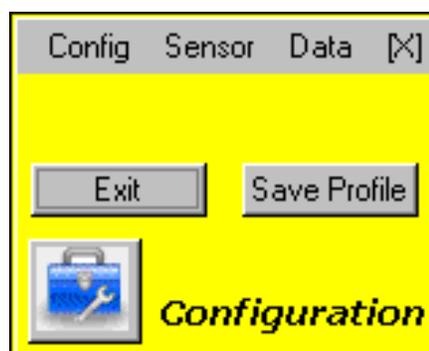
**NOTE:** If the user uses any navigation buttons while this screen is displayed, the screen time-out timer is suspended. The screen time-out timer suspends for 30 seconds after the last navigation button is pressed.

**NOTE:** If the user doesn't remember the password, entering "412" as the password and pressing the [LEFT] and [RIGHT] navigation buttons simultaneously resets the password to nothing.

The initial Configuration Screen consists of several pieces of information:

- Config, Sensor, and Data Menus
- Exit button
- Save Profile button.

**NOTE:** All screens under the Configuration menu have a yellow background.



The Exit Button and the [X] exits Configuration mode and returns to the Normal Readings screen. Changes to the configuration are saved while the instrument remains on, but do not affect the current profile.

The Save Profile Button exits the Config mode and returns to the Normal Readings screen. Changes to the configuration are saved to the current profile.

---

**NOTE:** To reset the password to nothing, the user must enter “412” as the password, and then press and hold the [LEFT] and [RIGHT] navigation buttons simultaneously.

---

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**NOTE:** If a time for a configuration screen to remain showing is not specified in this document, it is 90 seconds. After 90 seconds the instrument returns to the main Configuration screen. After 5 minutes of being on the main configuration screen, the instrument returns to the NRS.

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**NOTE:** If the instrument is still reading gas while in configuration mode, and there is an alarm, the instrument returns to the normal readings screen, but then allows the user to go back into the Configuration menu.

---

The Configuration, Sensor, and Datalog menus are explained in their own chapters later in this manual.

## Calibration Policy

Gas detection instruments are potentially life-saving devices. Recognizing this fact, Industrial Scientific Corporation recommends that a functional (“bump”) test be performed on every instrument prior to each day’s use. A functional test is defined as a brief exposure of the monitor to a concentration of gas(es) in excess of the lowest alarm setpoint for each sensor for the purpose of verifying sensor and alarm operation and is not intended to be a measure of the accuracy of the instrument. If an instrument fails to operate properly following any functional “bump” test, full instrument calibration should be performed prior to use. If conditions do not permit daily testing, bump tests may be done less frequently based on instrument use, exposure to gas, and environmental conditions. The frequency of testing is best determined by company policy or local regulatory agencies.

Industrial Scientific further recommends that a full instrument calibration be performed using a certified concentration(s) of Industrial Scientific branded calibration gas(es) monthly to ensure maximum accuracy. Use of calibration gases from manufacturers other than Industrial Scientific may void product warranties and limit liability claims against the manufacturer.

These recommendations are based on safe work procedures, industry best practices and regulatory standards to ensure worker safety. Industrial Scientific is not responsible for setting safety practices and policies.



Prior to each day’s use, a bump test should be performed. If the instrument does not pass the bump test, a full calibration is recommended.

## Zero All Option

Under the main menu [Sensor] option, there is a [Zero All] menu option.

If [Zero All] is selected, the MX6 displays the verification question. At this time, the focus is on the OK button.

- If Cancel is selected, the user is returned to the NRS and the zeroing is skipped.
- If the OK button is selected, the zeroing of the sensors starts.

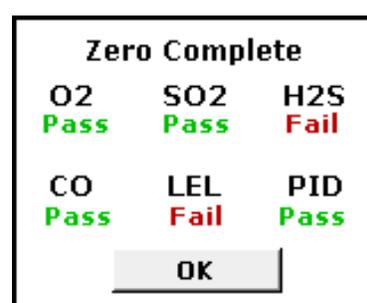
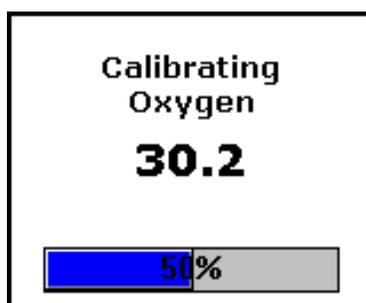
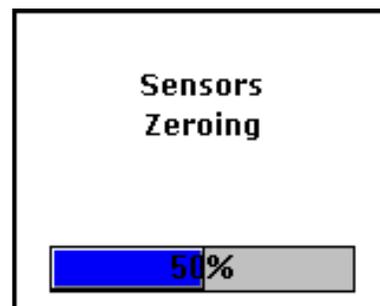
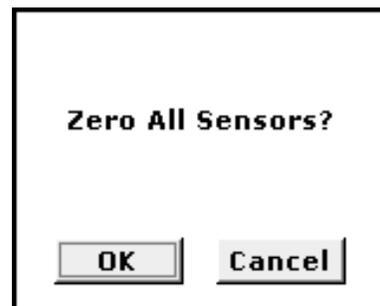
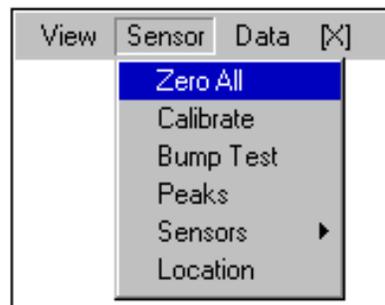
If there is a CO<sub>2</sub> sensor present in the instrument, it is zeroed last. Zero air must be applied to zero a CO<sub>2</sub> sensor. The instrument prompts the user to apply zero air. The focus is on the OK button. If the user selects the OK button, the CO<sub>2</sub> sensor starts zeroing.

By pressing the [LEFT] or [RIGHT] key, the focus moves from the OK button to the Cancel button and back again. If the user selects Cancel, the CO<sub>2</sub> sensor is not zeroed.

If there is an oxygen sensor installed in the instrument, it is calibrated during the zeroing operation.

When the zero is finished, the results screen is displayed.

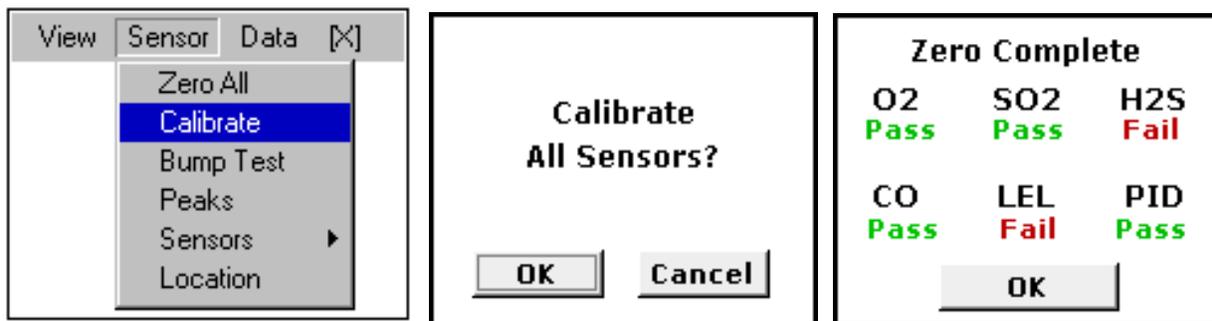
Selecting OK, by pressing [ENTER] when the focus is on the OK button, returns the instrument to the NRS. If OK is not selected, the instrument asks if the user wants to calibrate after a 15 second time-out. The calibration confirmation screen will have focus on the Cancel button.



## Calibrate Option

The instrument alarms are deactivated during the calibration to save battery life. If the [Calibrate] option is selected, the instrument displays the confirmation screen shown below. If Cancel is selected, the user is returned to the NRS.

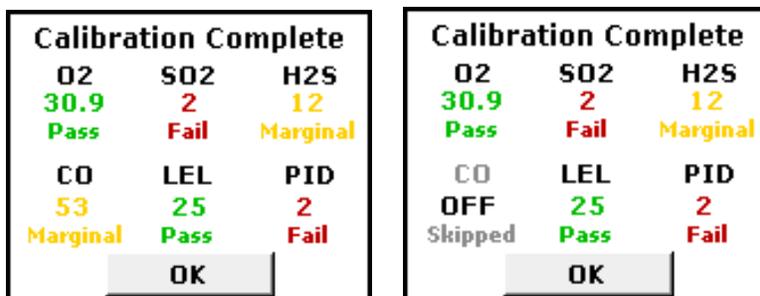
If the user selects OK, all the installed sensors are zeroed first (following the Zero All steps) and then calibrated. After the zero, the results are shown, for 5 seconds and then the calibration of the first sensor begins.



The screen to alert the user to connect gas to the instrument is then shown. Once the sensor starts to read gas, the calibration begins. The user has 5 minutes to apply gas before the calibration times out. Gas should be applied at a flow rate of 0.5 lpm. If the user chooses to skip the sensor, the instrument will move to the next sensor. The Abort option aborts the calibration and shows the Cal Complete screens.



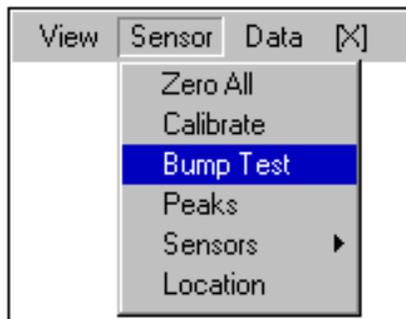
When the calibration is finished, the following screen shows the passed, marginal, skipped, and failed sensors, when six sensors are installed. All passing sensors must first pass a zero check.



## Bump TEST Option

Under the main menu [Sensor] option, there is a [Bump Test] menu option.

If the [Bump Test] option is selected, a confirmation screen is displayed. If Cancel is selected, the user is returned to the NRS. If the user selects OK, all the installed sensors are bump tested, starting with the first sensor.



The screen to alert the user to apply gas to the instrument is then shown. The user has a fixed number of seconds to apply gas and select Start before the bump times out. If the user selects Skip, the bump for this particular sensor is not done. The instrument moves on to the next sensor in the list.

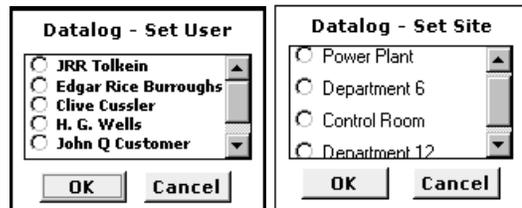
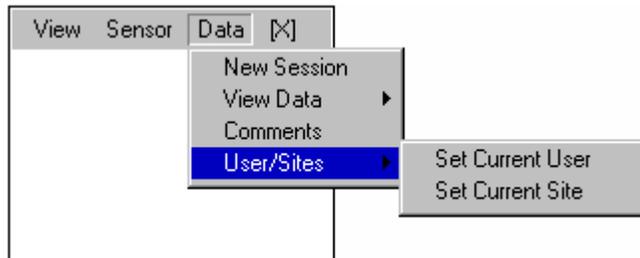
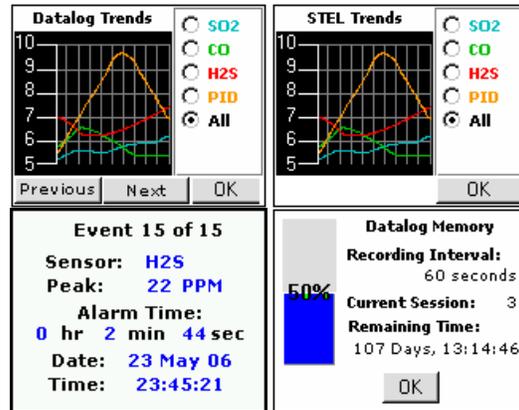
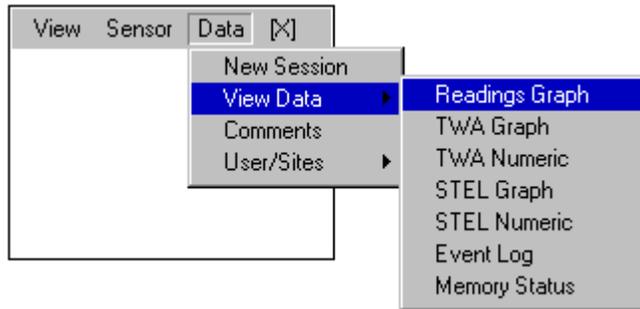
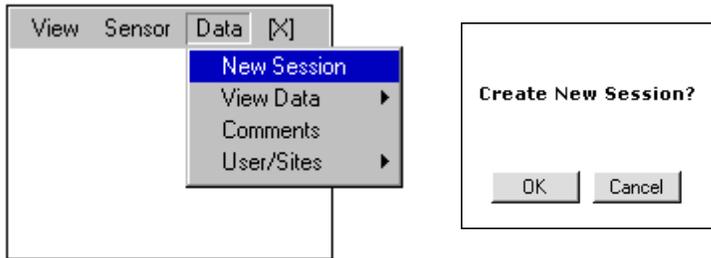
If the user selects Start, the bump test is started for this sensor. The sensor must reach a gas reading of 50% or greater (user selectable in configuration menu) of the applied gas (calibration) concentration within 60 seconds (user selectable in configuration menu) to pass. Once the sensor has done so, the word “pass” is displayed for 3 seconds before the instrument moves on to the next sensor.

After all the sensors installed in the instrument have been bump tested, a result screen is shown. The user must acknowledge this screen to continue, by selecting the OK button. If all the sensors have passed the bump test, the instrument goes into NRS. If any sensor failed the bump test, after viewing and acknowledging the results, the instrument asks the user to continue, or calibrate the failing sensor(s). If the user selects the Cancel button, the sensor is not calibrated and the instrument moves on to the next sensor in the list. If the user selects OK, the failing sensor is calibrated.



If there is more than one sensor that failed the bump test, they are calibrated in order (top row left to right, bottom row left to right on the Normal Readings screen), one at a time – each time prompting the user to choose whether to calibrate the sensor or not.

### Datalog Menu Options

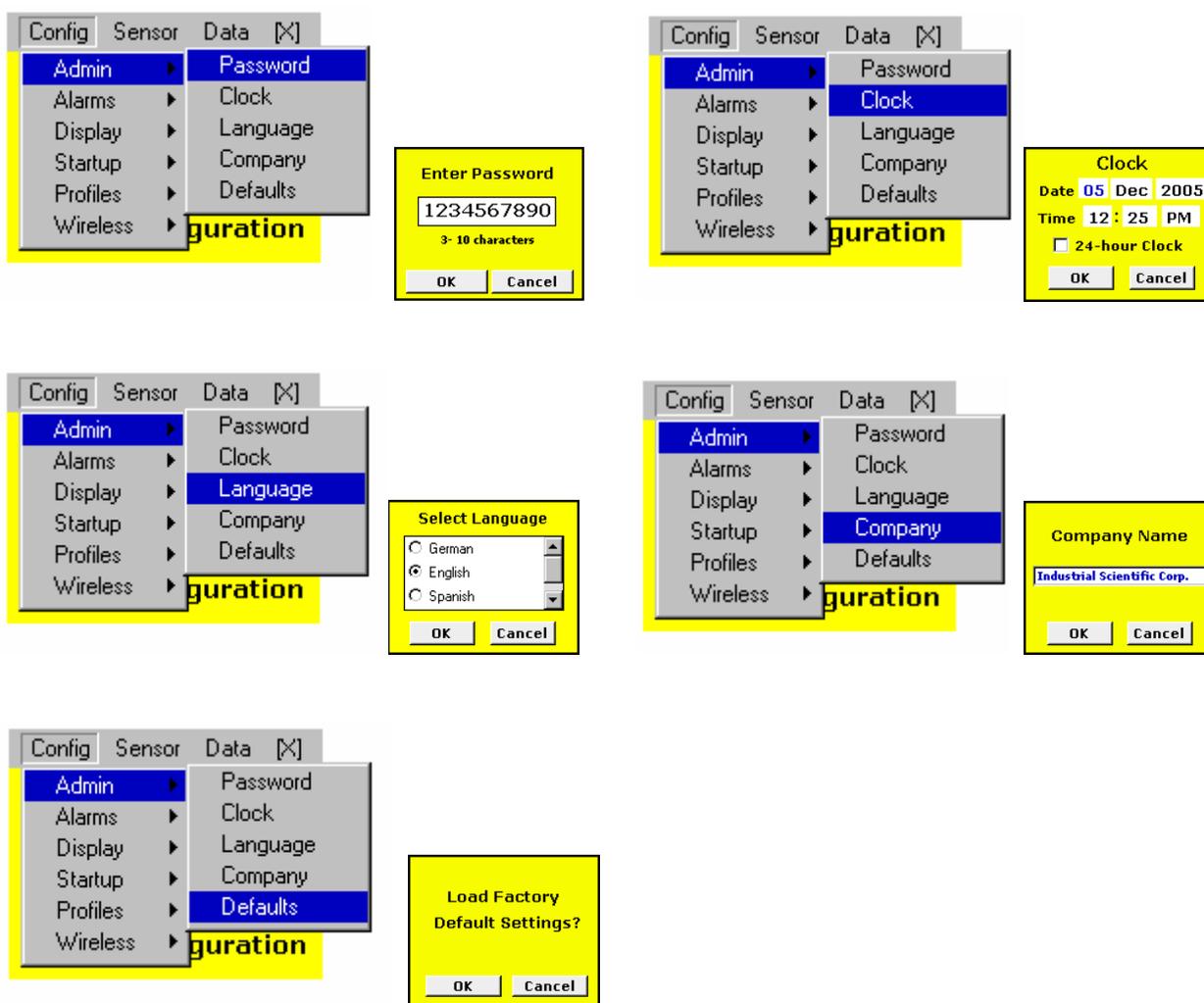


## Configuration Menus

These are similar to the earlier menus, but these menus provide a deeper layer of access for detailed operational configuration of the device. As such, the settings presented in these three chapters should only be adjusted by experienced personnel, as inadvertent or accidental changes to these settings could alter the device's operation significantly. To prevent inadvertent or accidental changes to these critical parameters, these settings, which are collectively referred to as the "Configuration/Administration Menus," are password protected.

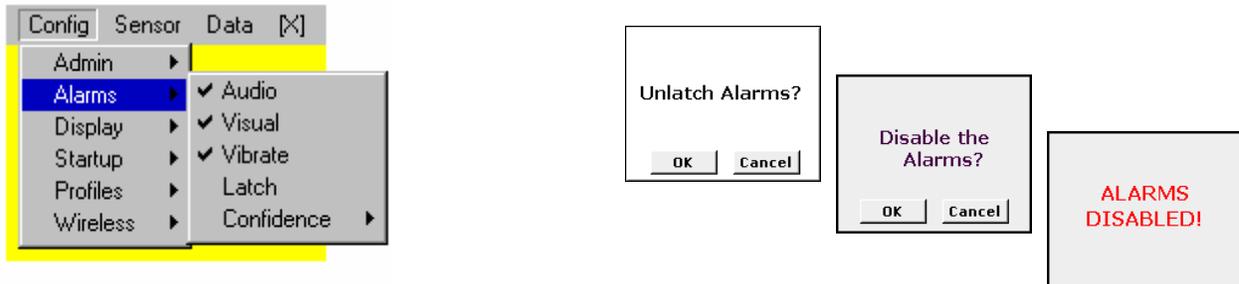
Options of the Admin menu include the following:

- Password (Setting passwords)
- Clock (Setting time and date)
- Language (Language settings)
- Company (Company information)
- Defaults (Restoring default settings).

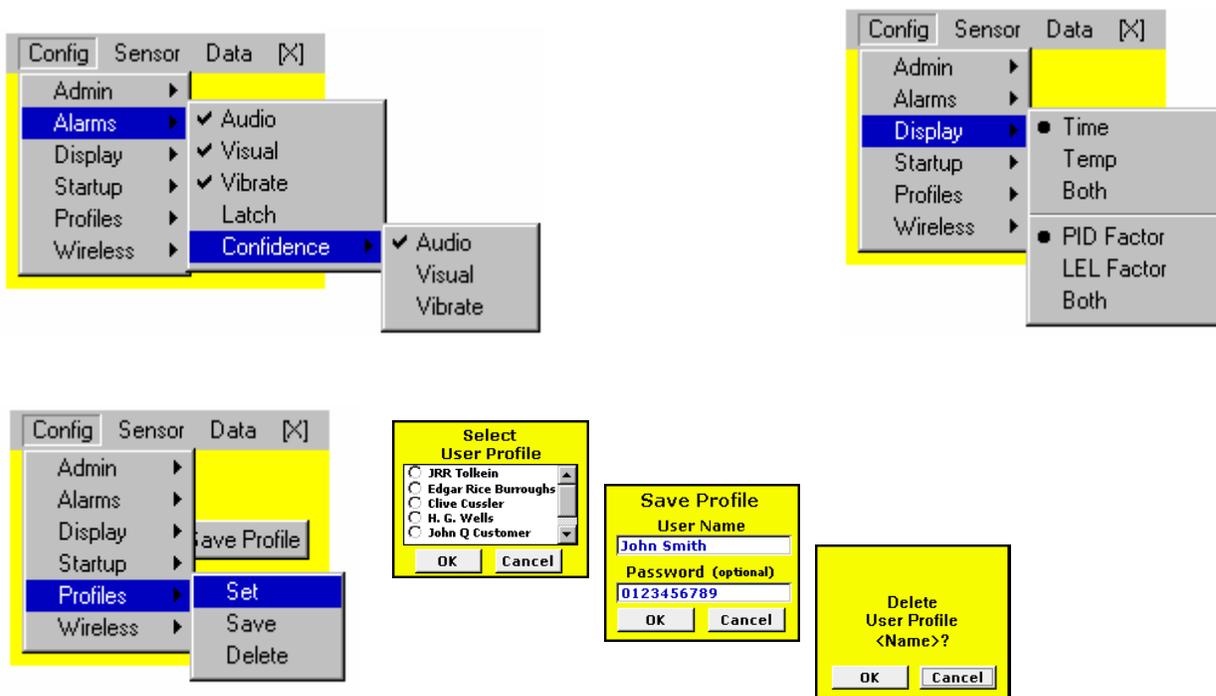


The [Config] [Alarms] menu option allows the user to setup the alarms. Each of these alarm options are checkbox items which can be toggled between checked and unchecked by focusing on it and pressing enter.

If any two of these alarms are disabled and the user checks the box to disable the third alarm, a screen is displayed to verify this action. Selecting OK disables the third and final alarm. A screen is displayed, notifying the user of the action.



If all 3 alarms are disabled, “ALARMS OFF!” is displayed on the bottom of the NRS in red.



## **WARRANTY**

Industrial Scientific Corporation's MX6 iBrid™ portable gas monitors are warranted to be free from defects in material and workmanship for as long as the instrument is in service.

The above warranty does not include sensors, battery packs, and internal pumps, which are warranted to be free from defects in material and workmanship for 24 months from date of shipment, except where otherwise stated in writing in Industrial Scientific literature accompanying the product.

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**INDUSTRIAL SCIENTIFIC**  

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**CORPORATION**

Industrial Scientific Corporation  
1001 Oakdale Road  
Oakdale, PA 15071-1500  
USA

Phone: 412-788-4353  
Toll Free: 1-800-DETECTS (1-800-338-3287)  
Fax: 412-788-8353  
Service: 1-888-788-4353  
Web: [www.indsci.com](http://www.indsci.com)

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Corporate Headquarters  
**Industrial Scientific Corporation**  
1001 Oakdale Road  
Oakdale, PA 15071-1500  
**Phone:** (412) 788-4353  
1-800-DETECTS (338-3287)  
**Fax:** (412) 788-8353  
**e-mail:** [info@indsci.com](mailto:info@indsci.com)

Industrial Scientific Asia-Pacific  
**Asia-Pacific Headquarters**  
290 Guiqiao Rd.  
Pudong, Shanghai 201206  
People's Republic of China  
**Phone:** +86 21 5899 3279  
**Fax:** +86 21 5899 3280  
**e-mail:** [info@ap.indsci.com](mailto:info@ap.indsci.com)

Singapore  
**Industrial Scientific Corporation Pte. Ltd.**  
7 International Business Park  
#03-01 TechQuest Building  
Singapore 609919  
**Phone:** +65 6561 7377  
**Fax:** +65 6561 7787  
**e-mail:** [info@ap.indsci.com](mailto:info@ap.indsci.com)

Australia  
**Industrial Scientific Australia Pty. Ltd.**  
Level 5, 113 Wicks Road  
North Ryde, NSW 2113  
Australia  
**Phone:** +61 2 8870 3400  
**Fax:** +61 2 8870 3444  
**e-mail:** [info@ap.indsci.com](mailto:info@ap.indsci.com)

Industrial Scientific Oldham  
**Industrial Scientific Oldham Headquarters**  
Z.I. Est – rue Orfila  
B.P. 417  
62 027 Arras Cedex  
France  
**Phone:** +33 3 21 60 80 80  
**Fax:** +33 3 21 60 80 00  
**e-mail:** [info@eu.indsci.com](mailto:info@eu.indsci.com)

Germany  
**Industrial Scientific Winter GmbH**  
Gernotstr. 19  
44319 Dortmund  
Germany  
**Phone:** +49 231 9241 0  
**Fax:** +49 231 9241 25  
**e-mail:** [info@winter-gmbh.com](mailto:info@winter-gmbh.com)

The Netherlands  
**Industrial Scientific B. V.**  
Westbroek 52  
4822 ZW Breda  
The Netherlands  
**Phone:** +31 76 5427 609  
**Fax:** +31 76 5427 197  
**e-mail:** [info@eu.indsci.com](mailto:info@eu.indsci.com)

United Arab Emirates / Dubai  
**Industrial Scientific FZCO**  
P.O. Box 261086, Jebel Ali  
Dubai  
United Arab Emirates  
**Phone:** +971 50 455 8518  
**Fax:** +971 4 367 5919  
**e-mail:** [info@eu.indsci.com](mailto:info@eu.indsci.com)



The company **Industrial Scientific Corporation**, Oakdale, Pennsylvania USA, declares that the following new material intended for use in Explosive Atmospheres:

*(La société Industrial Scientific Corporation, Oakdale, Pennsylvania USA, atteste que le matériel neuf destiné à être utilisé en Atmosphères Explosives désigné ci-après :)*

**Gas detector (Détecteur de gaz) MX6 with optional Sampling Pump SP6**

**comply with the requirements of the following European Directives :**

*(est conforme aux exigences des Directives Européennes suivantes:)*

**I) The European Directive ATEX 94/9/CE of 23/03/94: Explosive Atmospheres**

*Directive Européenne ATEX 94/9/CE du 23/03/94 : Atmosphères Explosives*

**A) No. of EC type examination certificate:**

**DEMKO 07 ATEX 0626395X**

*(N° Attestation CE de Type du matériel:)*

Issued by the Notified Body no. 0539:

UL International DEMKO A/S, LYSKEAR 8

*(Délivrés par l' Organisme notifié sous le numéro 0539)*

P.O. Box 514, DK – 2730, HERLEV, DENMARK

**B) No. of EC type examination certificate:**

**INERIS 08 ATEX 0026X**

*(N° Attestation CE de Type du matériel:)*

Issued by the Notified Body no. 0080:

INERIS, rue Taffanel, 60550 Verneuil

*(Délivrés par l' Organisme notifié sous le numéro 0080)*

en Halatte, France

**Reference European Standards (Normes européennes de référence):**

Rules of construction (*Règles de construction*) :

EN60079-0, EN60079-1, EN60079-11, EN50303

Category (*Catégorie*):



II 2G / I M1 (without IR module)

Ex ia d I/IC T4

T<sub>a</sub>: -20°C to 55°C (Li-Ion Battery)

T<sub>a</sub>: -20°C to 40°C (Alk Battery)



II 2G / I M2 (with IR module)

Ex ia d I/IC T4

T<sub>a</sub>: -20°C to 55°C (Li-Ion Battery)

T<sub>a</sub>: -20°C to 40°C (Alk Battery)

**Production Quality Assurance Notification No. of the Oakdale factory** SIRA 00 ATEX M0080

*(N° de la Notification Assurance Qualité de Production de l'usine de Oakdale)*

Issued by the Notified Body no. 0518:

SIRA Certification Services, Rake Lane

*(Délivrés par l'Organisme notifié sous le numéro 0518)*

Eccleston, Chester CH4 9JN, UK

**II) The European Directive EMC 89/336/CEE of 3/05/89: Electromagnetic Compatibility**

*Directive Européenne CEM 89/336/CEE du 3/05/89 : Compatibilité Electromagnétique*

**Harmonised applied standards:**

EN 50270

*(Normes harmonisées appliquées)*

**On behalf of the manufacturer**  
*Pour le fabricant*

**Industrial Scientific Corporation**  
1001 Oakdale Road  
Oakdale PA, 15071 USA  
Tel +01 412 788 4353  
www.indsci.com

**On behalf of the manufacturer representative in EC**  
*Pour le représentant du fabricant dans l'UE*

**Industrial Scientific Oldham**  
Z.I. EST - B.P. 417  
62027 ARRAS Cedex – FRANCE  
Tel +33 3 21 60 80 80

**The ATEX Authorized Representative**  
*La Personne Autorisée ATEX*

**Scott Lordo**  
Director, Engineering  
*Directeur Technique*