World Leader In Gas Detection & Sensor Technology

GX-2003 Maintenance & Calibration

For TCPL Instrument Assigned Personnel

Assembling the Calibration Kit

- Check to make sure the Calibration Gas has not expired from date of manufacture
- Attach the tubing to the regulator
- Attach the other end of the tubing to the inlet
- Connect the demand flow regulator to the multi-gas blend cylinder
- Verify that the cylinder has sufficient pressure
- CAUTION –H2S Cylinders have only one year shelf life

GX-2003 AUTO Calibration LEL / O2 / H2S / CO

- Turn the GX-2003 ON by pressing the POWER ENTER button
- Allow the instrument to warm up for two minutes
- Press and hold the AIR button to perform a Demand Zero

Auto Calibration Continued

- Remove rubber probe tip and attach tubing to the inlet fitting of the GX-2003
- Press the SHIFT and DISPLAY buttons to enter into the calibration mode
- Using the AIR or SHIFT buttons, place cursor next to AUTO CALIBRATION if necessary

Auto Calibration Continued

- Press the POWER ENTER button to enter calibration screen
  - The display should indicate expected values for CH4 (methane), OXY (oxygen) , H2S (Hydrogen Sulfide) and CO (Carbon Monoxide)
    - CH4 50% LEL
    - OXY 12.0 VOL%
    - H2S 25.0 ppm
    - CO 50 ppm
- These gas values should agree with the gas label composition as marked on the multi-gas blended cylinder

Auto Calibration Continued

- To change the gas values, press and hold the SHIFT button then press the DISPLAY button
  - The value for CH4 will be flashing
    - Change value by pressing the AIR (up) or SHIFT (down) button to match the value as listed on the cylinder
    - Once value is set, press the POWER ENTER button to set
  - Continue to set other gas values if necessary
- Press the ENTER button to continue. CAL will begin to flash indicating that GX-2003 is ready to calibrate

Auto Calibration Continued

- Attach tubing from gas regulator to inlet fitting of the GX-2003
- Allow gas to flow for one minute or until readings stabilize
- Press and release the POWER button to set calibration
- Auto Calibration END will briefly be displayed if all sensors calibrate

Auto Calibration Continued

- Remove the calibration gas from the GX-2003
- Display will return to Menu with cursor next to AUTO CALIBRATION
- Press the SHIFT (down) button to place cursor next to NORMAL OPERATION
- Press the POWER ENTER button to return to normal operation

% Gas VOL Calibration (Single Calibration Mode)

- Press and hold the SHIFT then DISPLAY buttons to enter into the calibration mode
- Press the SHIFT button to move cursor to the SINGLE CALIBRATION menu
- PRESS the POWER/ENTER button to display the single calibration menu
- Use the SHIFT button to move the cursor to CH4 VOL%
- Press the POWER/ENTER button to select

% Gas VOL Calibration (Single Calibration Mode)

- Attach tubing to regulator and screw regulator to cylinder
- Attach opposite end of tubing to instrument inlet fitting
- Allow instrument to draw gas for one minute or until the reading stabilizes

% Gas VOL Calibration

- Adjust reading to 50% using the AIR or SHIFT buttons
- Press the POWER ENTER button to set reading
- Remove tube from inlet fitting and turn off gas regulator
- Press the SHIFT button to scroll to NORMAL OPERATION, press the POWER button to return to gas measuring mode

Clearing the Calibration Required Message

- All sensors must be calibrated for the "Calibration Required" message and date to reset. This includes:
  - LEL & Vol%
  - H2S
  - O2
  - CO (if supplied)

What if a Sensor Fails Calibration?

- A failed sensor on the GX-2003 will indicate FAIL PUSH AIR KEY and will list the failed sensor(s) in brackets: <H2S>
- Verify age of calibration gas and try to calibrate again with fresh gas. If calibration still fails,
- Replace sensor as required and recalibrate before use
- Check sensor date code (details covered in the TCPL TOP's)

Sensor Replacement

- Verify that the Model GX-2003 is OFF
- Remove the GX-2003 from the rubber boot
- Unscrew and remove the three screws that secure the flow chamber to the back of the GX-2003
- Lift off the flow chamber exposing the sensors

Sensor Replacement

- Remove and replace sensor as required
- H_2S sensor is keyed for proper orientation
- NOTE: After replacing the H_2S sensor, allow the sensor to stabilize for 15 minutes before turning on instrument and calibrating

Sensor Replacement

- The Vol% Combustible Gas sensor is identified by black and yellow markings
- The oxygen sensor must be installed with the opening facing up
- Exam the filters on the underside of the sensor chamber cap replace if dirty
- Place flow chamber back on the GX-2003 and secure with the 3 Phillips screws when completed
- Calibrate as required

HC/CO Filter Replacement

- To protect the LEL combustible gas sensor from poisoning from H_2S exposure, special filters are used
- If filters are dirty or not present the meter can fail

HC/CO Filter Replacement

- The HC (combustibles filter) is Yellow for easy identification
- It is recommended that the HC filter be replaced when contaminated
- Remove filter holder from flow chamber using a quarter to unscrew holder
- The CO filter, colour coded red is changed in the same way see above

HC Filter Replacement

- Pull old filter assembly from holder and snap a new filter in place
- Reinstall filter unit back into GX-2003

Changing the USER/STATION ID

- The GX-2003 can store one USER ID and one STATION ID
  - These ID's are used to identify user and location of exposure during a data logging session
- In normal operating mode, press the DISPLAY button to enter into DISPLAY MENU
  - Press the DISPLAY button again access the USER ID, STATION ID screen
- To change the USER ID, press the SHIFT button and hold, then press the DISPLAY button

Changing User ID

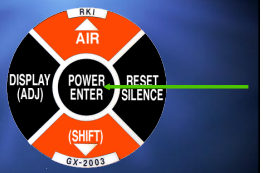
- The first character under USER ID flashes (* is default)
- Press the AIR and SHIFT buttons to scroll through the available characters. (Asterisk, dash and blank space are between the set of letters and numbers
- When the desired character displays, press and release the POWER ENTER button to enter the character and go to the next character
- Repeat above steps for the remaining 9 characters for USER ID
- Press the POWER ENTER button to move to the STATION ID

Changing STATION ID

- Use the AIR and SHIFT buttons to select the characters for the STATION ID pressing the ENTER button when completed
- Once all STATION ID characters are entered press the DISPLAY button to advance to the PEAK screen
- Continue pressing the DISPLAY button to return to normal measuring screen

Basic Set-up Mode

- With the GX-2003 OFF, press the AIR and SHIFT buttons, then press the POWER button
- When the Set-up mode Menu appears, release the buttons



Basic Set-up Mode - TCPL

- The following selections can be changed or viewed:
  - Alarm Points – to be set prior to delivery
  - Lunch Break - OFF
  - Alarm Latching - ON
  - Alarm Silence - ON
  - Confirmation Beep – OFF
  - Interval Time – 3 minutes
  - Datalog Overwrite - ON
  - Date/Time – Regionally Set
  - Cal. Interval – 255 days
  - Cal. Time Remaining - ON
  - Cal. Expired Action – Confirm to use
  - Contrast - Default

Basic Set Up Mode –TCPL

- The following selections can be changed or viewed:
  - Serial Number
  - User/Station ID - Enable
  - Auto Calibration
  - Single Calibration
  - LCD Back Light Time
  - Password ON/OFF
  - Start Measurement

Making a Change

- Using the AIR or SHIFT buttons select the item you would like to view or change. Press the ENTER button to select
- When completed, use the SHIFT button to scroll to START MEASUREMENT, then press the ENTER button to return to normal mode

Advanced Set-up Mode –

Consult OSI before making any adjustments

- This set up mode has many of the same selections as in the basic set-up mode. The differences are:
  - Requires Password to enter into this mode
  - Gas Combination
  - HC Mode
  - Zero Follower
  - Flow Adjustment
  - Default

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GX-2003 Data Logging

Quick Reference Guide

Software Installation

- Launch Windows®
- Exit from all applications and open windows
- Insert the GX-2003 Data Logging Software Installation CD in your computer's CD-ROM drive
- Installation program will automatically launch

Software Installation

- Make sure that your version of Windows® operating system has the minimum required service pack, MDAC module and Internet Explorer.
  - Use the scroll bar on the right side to move up and down
- Move to the Install Images section

Software Installation

- Select the appropriate installation item for your operating system:
  - GX-2003 datalogger Windows® 98 version
  - GX-2003 datalogger Windows® 2000/XP version

Software Installation

- Installation process will begin
  - If a File Download window appears asking if you want to open or save a file, select Open
- The GX-2003 InstallShield Wizard screen appears
  - Follow the on-screen instructions to install the software
  - If your computer finds newer versions of files on your computer than those in the installation CD, it will ask you to keep the newer files. Click Yes.

IrDA Downloading Cable

- There are two cables that can be used:
  - IrDA Serial or IrDA USB
  - Make sure that the cable is compatible with your Windows® operating system
- Install your IrDA cable to the appropriate port and software if required

Launching the Software

- Click Start on the Windows® Icon Tray
  - Select Programs, then select GX-2003
  - You may also click on the GX-2003 Icon in the Start window.
- Allow the program to start up
  - The GX-2003 Station Utility screen will appear

Connecting the GX-2003

- Place the IrDA cable a few inches away from the Ir port on the side of the GX-2003
- Turn-on the GX-2003
  - The Connect indicator on the Download status bar will turn green indicating that the connection is successful
  - Click the Complete Download button to transfer data from the computer

Viewing Data

- Click the Data button to bring up the individual Data records
  - Open the appropriate file to view data
    - Interval Trend
    - Alarm Trend
    - Alarm Events


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Questions?