Formatting USB Flash to FAT32
Downloading Sentinel I24 Firmware
Sentinel I24 Flow Sensor Replacement

New Sentinel I24 firmware or Flow meter calibration data (for mass flow instruments) are uploaded to the Sentinel I24 instrument via the USB port on the front panel. If new firmware is obtained via a file attachment, it may be sent as a zip file.

- Save the zip file on the hard drive of your computer and remember its location and name.
- To save this firmware on a USB flash drive, **the flash drive must be formatted FAT32**.
- Place your flash drive into the USB port of your computer.
- Using Windows Explorer, locate the drive location of the flash chip.
- Right click on the flash drive, i.e. USB Disk (E:), and then left click on "Format"
- Under "File System" check "Format" for FAT32. If it isn't, select FAT32 and left click on START.
- Window Explorer will format your Flash chip for FAT32.
- **THIS WILL ERASE ANY OTHER INFORMATION STORED ON THAT CHIP.**
- Go back to Window Explorer and find the saved zip file.
- Right click on the zip file.
- Click on "Extract All" and the click "NEXT"
- Use Browser to identify the flash drive as the location to send the unzipped file.
- After the firmware is stored on your flash drive, proceed to the Uploading instruction below

UPLOADING PROGRAM FIRMWARE

If changes are required in the operating firmware of the instrument, it is easy to perform an upload of new firmware. Insert the USB flash memory stick with the new firmware into the USB connection port in the lower left corner of the wall mount enclosure or upper right corner of the bench mount enclosure. **Be sure to Backup the instrument's Part Program parameters per instructions before loading new firmware.**

- Press INSTR CONFIG key repeatedly until the USB tab is highlighted on the top line of the display.
- Move the ">" next to "Backup/Restore" using the up or down arrow keys. Press the EDIT key. Use the up or down arrow keys to select "Backup Instrument" and press ENTER key.

USB Port

- After the LED stops flashing on the USB drive, move the ">" next to "Update firmware. Press the EDIT key. Use the up or down arrow keys to select "Yes" and press ENTER key.
- The instrument display will show the versions of firmware stored on the USB flash stick. Use the arrow keys to select the latest version of firmware and press ENTER.
- The instrument will download the new firmware automatically and indicate when it is complete. This takes several minutes.
- After completing the download of the firmware, move the curser to "Backup/Restore". Press EDIT and select "Restore Instrument" and ENTER.

I24 FLOW SENSOR REPLACEMENT

The Sentinel I24 leak test instrument configured for mass flow uses a mass flow sensor, located inside the individual tester cabinet. This sensor will need to be re-certified once per year. In order to operate the I24 instrument while the sensor is at CTS being calibrated, it will be necessary to have a spare sensor available. Use the following instructions for proper replacement of the flow sensor.

- Turn the power switch on the I24 to the off position
- Remove the two screws and mounting plate from the existing flow sensor.
- Unplug the three-pin connector taking care to note the orientation of the connector to the sensor.
- Install the connector to the new flow sensor making sure the connector is properly oriented.
- Mount the new flow sensor with the mounting plate and two screws.
- Insure that the o-rings are in place.
- Turn the power switch on the I24 to the on position.
- Insert the USB memory stick (supplied with each flow sensor) into the USB drive on the front of your Sentinel I24.
- Confirm that the serial number on the memory stick matches the serial number on the sensor.
- Under the "Instr Config" button, select the USB/Backup Restore/Restore Flow Cal function.
- If more than one flow sensor data file exists, select the file that matches the serial number for the sensor just installed.
- The instrument will automatically retrieve the 32-point calibration curve.

In some cases it may become necessary to install a flow meter that is different from the factory installed meter. The SentinelI24 is programmed to accept a 1000 scc/m, 6000 scc/m or a custom flow meter. Use the following instruction for proper replacement of a different type of flow sensor.

- Turn the power switch on the I-24 to the off position.
- If changing from a 1000 to a 6000 scc/m flow meter or vise versa, follow the instructions above and simply change the transducer type under the "Instr Config" button Hardware menu from 1000 to 6000 or visa versa.
- If changing to an external custom flow meter change the transducer type to "Custom".
- If "Custom" is selected, obtain the 0 to 5 volt calibration data for the new flow meter.
- On a USB memory stick, create a path of folders: Cincinnati Test/I24/Flow Cal.
- Place the .dat file of the flow cal information inside the Flow Cal folder.
- Insert the memory stick into the port on the front of the instrument.
- Under the "Instr Config" button, select the USB/Backup Restore/Restore Flow Cal function.
- Select the new .dat file with the correct flow sensor data.
- The instrument will automatically retrieve the flow calibration data.