

## FP1 Zeroing

The pressure sensors of the FP1 will drift with time and temperature. They need to be re-zeroed from time to time, and especially soon after start-up. The FP1 provides the user the ability to view the zero state of the sensors, and to easily re-zero the sensors with the touch of a button.

In all modes of operation, PS1 and PS2 assume a .001 resolution manometer mode when no pressure is applied. PS1 is represented in column one of the readout, and PS2 in column two. This provides the user a view of the zero state of the sensors when there is no pressure applied.

**Before doing high pressure testing** (above 28"wc), it is a good practice to run your pressure up to the intended test pressure for a moment, then to release the pressure to zero pressure, and then zero the processor.

### Bounce

The sensor readings will tend to "bounce" and a steady zero state of .000 should not be expected. The amount of bounce depends greatly on the sample duration setting (s, or S) and the range of the sensor installed into your FP1. Typically, for a sample duration of 20 (maximum), the bounce is about .003"wc for 40"wc sensors and .006"wc for 100"wc sensors.

**The sensors must be zeroed only when absolutely no pressure is being applied to them. Do not move the pressure tubing or FP1 while zeroing.**

### Zeroing

FPcom1,2 Press the **z** (LC)key, then RETURN or ENTER.

FPcom.p Press the ZERO icon on the touch screen.

FPcom.pv touch the Casio screen and press the blue button.

The FP1 should report "Zeroing...wait" for about 2-3 seconds.

The FP1 should then continue reporting pressure sensor readings that should be closer to .000

**Hard Zero (Z)** If the pressure on PS1 has drifted higher than .1"wc (or greater than the value of **p** on later versions), the FP1 will go into System-On Calibration if you try to zero the FP1. For this reason, Hard Zeroing will cause the FP1 to zero the sensors no matter what the pressure on PS1.

To cause a Hard Zero, press the **Z** (UC) key, then ENTER or RETURN.

### Sensor drift

The sensors will drift dramatically at start-up for about 30 seconds, then continue to slowly drift for several minutes. This is normal, as the sensors are adjusting to the heat created within the electronic circuits of the FP1.

Temperature change is the main reason for sensor drift. If the ambient temperature is changing, the sensors will tend to drift at a higher rate. To minimize drift, place the FP1 in a location that will not be subject to rapid changes in temperature. Do not place near exterior walls, AC or heating ducts, large appliances or machinery.

### Troubleshooting Excessive Bounce and Drift in zero state (no pressure applied)

- The FP1 sensors may act erratically for several hours after being moved or repositioned. Allow time for the sensors to settle.
- Check pressure tubing for moisture, condensation or water in the lines. Try replacing them.
- Keep away from exterior walls, heating and cooling ducts, large machines and appliances.
- Do not place FP1 on a surface that moves or vibrates.
- Try relocating the FP1. Wiring inside a wall or a large appliance or machine nearby may be creating

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- electromagnetic radiation that is affecting the FP1.
- If all else fails, while holding the FP1 about 2 inches above a flat surface, let it drop straight down so that it lands on its rubber pads located on the bottom. If this fails, do not repeat this procedure.