TELEDYNE
Analytical Instruments

9060 Analyzer
Using the "Low O2 Cal" Facility

Background
The zirconia oxygen sensor will always conform to the Nernst equation that relates the cell EMF and temperature to the partial pressure of the oxygen on both sides of the zirconia cell.

However if the thermocouple in the probe is not at the same temperature as the zirconia cell, the calculation will not be accurate. If the reference air and a supply of a certified sample gas has been applied correctly, the temperature of the cell can be calculated by reading the cell EMF.

The 9060 Analyzer
In order to allow the 9060 analyzer to be used with probes made by other manufacturers that do not have the zirconia sensor and the thermocouple at the same temperature, a "hidden" function has been included in the software in the analyzer.

The following actions can reveal this function –

1. Turn the analyzer off.
2. Press and hold the SETUP button while the analyzer is turned back on.
3. Release the SETUP button after the words "Set Temp Cal's" appears on the analyzer display.
4. After the analyzer goes through the initialization process, press the SETUP button again briefly to enter the setup mode.
5. Use the FUNCTION buttons to go to the "Low O2 Cal 1" function for setting the factor for sensor #1, or "Low O2 Cal 2" function for setting the factor for sensor #2.
6. Use the OPTION buttons to change the number from 100%
7. The function can be hidden again by turning the power off and back on, but the calibration will be retained in the battery backed memory.

The default factor is 100%. When set to 100%, the calculation of oxygen is not modified.

Using the Calibration Function

1. Make sure that the reference air has been correctly supplied to the sensor.
2. Set the probe offset with the sensor exposed to air, as described in the manual.
3. Apply a certified sample gas to the probe from a bottle with the oxygen content down near the lower end of the expected process oxygen range.
4. Note the oxygen reading on the display.
5. Use the SETUP button to go into the setup mode.
6. If the reading of oxygen on the display was low, use the option UP button to raise the calibration factor. For example, if the gas bottle was certified at 2.07%, but the analyzer was reading 1.97%, raise the calibration factor to 103.0%.
7. When the analyzer is returned to RUN mode. The display should now show the calculated value of 2.07% in the above example.