



**TELEDYNE
INSTRUMENTS**

Advanced Pollution Instrumentation

A Teledyne Technologies Company
9480 Carroll Park Drive, San Diego, CA 92121-5201
Phone (858) 657-9800 Fax: (858) 657-9818 Toll Free 1800 324-5190
E-mail: api-customerservice@teledyne.com <http://www.teledyne-api.com>

Service Note

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TROUBLESHOOTING AZERO WARNING USING SIGNAL I/O DIAG MODE.

SCOPE: To help troubleshoot the AZERO WARNING when the problem is related to the HVPS or AZERO valve failure. Please note that PMT TEMP failure will make the AZERO fail. Thus please make sure that the PMT TEMP reads 7 degrees C before you proceed with the procedure below.

TOOLS: Philips head screwdriver, Digital Voltmeter

PROCEDURE:

- 1. Input span gas to the analyzer.**
- 2. Press SETUP-MORE-DIAG. It may offer you the 818 password, if so then press ENTR.**
- 3. The analyzer should now display SIGNAL I/O. Press ENTR.**
- 4. Press NEXT until you see AZERO VALVE.**
- 5. Press the button under the word OFF and it should now say ON. At the same time you should hear the valve click as it is energized.**
- 6. Place a DVM on DCVolts with the negative lead on TP3 of the V/F card. Place the positive lead on TP8 of the Preamp card. (You will have to remove the preamp cover to do this). The voltage you read at TP8 is the true Azero value. If it is more than 200 mV, the Azero will give you warnings but will NOT update the Azero value on the front panel.**
- 7. Record the true Azero voltage from the above step and input zero air into the analyzer. With the Azero valve still engaged, wait 5 minutes and then measure the voltage at TP8 on the Preamp card. This will be the true Azero voltage at zero.**
- 8. The true Azero readings from step 6 and step 7 should be no more than 20 mV difference. If the difference is more than 20 mV then the Azero valve is probably leaking internally. If the difference is 20 mV or less, then the HVPS should be replaced.**