



E8500 Plus Quick Reference Guide

To achieve the best performance from your E8500 Plus portable combustion gas & emissions analyzer, please practice the following instructions and maintenance recommendations:

- 1) **Initial Auto-zero Calibration**: Upon powering ON the E8500 Plus, press OK to initiate the 180 second auto-zero calibration cycle. This should be done with the sampling probe and hoses disconnected from the analyzer, and in a dry, fresh air environment preferably outdoors. After the autozero cycle is complete, the probe can be connected and testing can begin.
- 2) **Probe Connections**: Attach the probe and sampling line that are supplied with your analyzer. One hose connects to the SAMPLE IN connector, and the other hose connects to the positive (+) pressure connector (40"/1m & 60"/1.5m probes do not have a second hose). The thermocouple connector from the stack gas sampling probe should be connected to the TEMPERATURE 1 thermocouple connector on the analyzer. The probe can then be inserted into the stack, and sampling can begin. Use the MEASURE key to view the stack gas measured and calculated parameters.
- 3) **Periodic Auto-zero Calibration**: E Instruments recommends performing a fresh auto-zero calibration cycle approximately every 45 to 60 minutes of testing with the E8500 Plus. This auto-zero calibration is performed by simply disconnecting the hoses from the analyzer, and then turning the unit OFF & then back ON. Upon turning the analyzer back ON, the 180 second auto-zero calibration cycle and condensate drain will initiate. After this has been completed, you can put the probe back into the stack and then continue your tests. This procedure will help optimize the stability and accuracy of your measurements over time.
- 4) **Condensate Pump**: The E8500 Plus has an automatic condensation drain pump that pumps the condensate out the bottom of the analyzer every 25 minutes (default setting). For extremely high moisture applications, it is recommended to change the pump setting to drain the condensate more frequently (every ~10 minutes). This can be easily changed through the analyzer's SETUP keypad menu.
- 5) **Purging**: When shutting the analyzer down after the testing is completed, it is recommended to purge the analyzer with clean air for a few minutes with the hoses connected and then at least another 10 minutes with hoses disconnected before completely turning off the analyzer. This procedure will allow the analyzer to purge any toxic gases and help to better protect the sensors and lengthen the sensor lives.

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E Instruments International, 402 Middletown Blvd. Suite 216, Langhorne, PA 19047

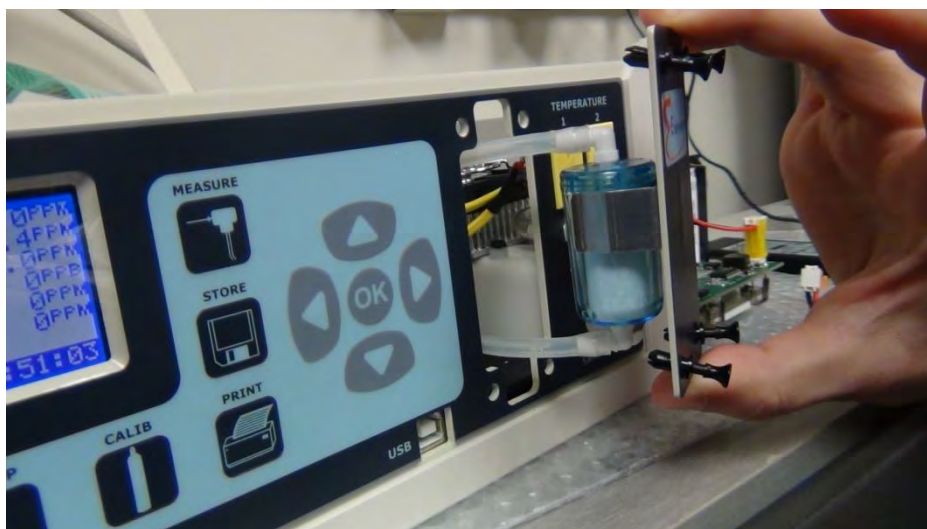
Phone: 215 750 1212 Fax: 215 750 1399

E-mail: Info@E-Inst.com Web: www.E-Inst.com



6) **Periodic Filter Replacement**: The E8500 Plus has two internal filters that are part of the flue gas sample conditioning system that help maintain the performance of the flue gas sample while also protecting the pump, sensors, and other internal components of the analyzer. The Line Filter (Part#: EE650072-A) is designed to remove ash, dust, and particulate matter present in the flue gas sample. The Condensation Filter (Part#: EE650077) is designed to remove any residual moisture that was not already removed by the condensate removal pump. Both filters should be periodically examined and replaced as needed. Turn the analyzer off when inspecting and/or replacing filters.

The Line Filter should be replaced if it begins to accumulate excessive particulate matter on its outer surface, if the filter begins to show signs of cracks in the filter, or if the filter gets wet. This filter can be easily replaced by accessing the window on the face of the analyzer as shown in the below photo:



The condensation filter is typically replaced much less frequently than the line filter and should be replaced if it becomes saturated with water. This filter is accessed by opening up the analyzer. More details can be found in the Maintenance section (Chapter 12) of the complete E8500 Plus operating manual.

7) **Calibration**: The E Instruments factory recommendation for recalibration of the E8500 Plus analyzer is at least one time each year. This can be done at the E Instruments factory or another calibration laboratory that has the proper gas bottles and setup to perform the calibration. The calibration procedure and details are published in Chapter 10 the E8500 Plus operating manual.