



03-027B
2 May, 2007

INSTALLATION OF DETECTORS IN M300/300M/360 ANALYZERS

I. PURPOSE:

We have modified the design of the IR detectors used in the M300, M300M and M360 analyzers. This modification includes two parts: The addition of a heat sink to the detector and a modification of the circuitry on the Preamp board. The installation of the heat sink requires a longer screw for the detector than the standard screw. In addition, Thermal Grease is required to be added to the heat sink and detector.

II. TOOLS:

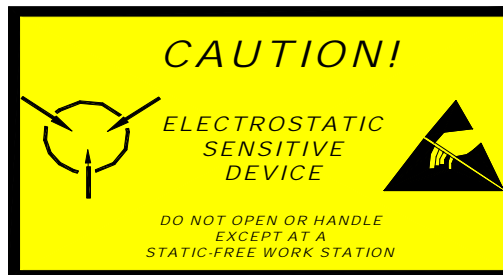
#2 Phillips Head screwdriver

III. PARTS:

For M300 use KIT186

For M300M use KIT187

For M360 use KIT188



The electronics used in T-API analyzers are sensitive to Electrostatic Discharge (ESD). When working on any T-API device, please ensure that you are properly grounded prior to handling or touching any electronic circuitry in the analyzers! For more information on how to protect sensitive components from ESD during handling, please contact T-API customer service and ask for the ESD Service note number 03-022A.

IV. PROCEDURE:

REFER TO ATTACHED DRAWING WHEN INSTALLING NEW DETECTOR.

1. Remove power from analyzer.
2. Remove cover from analyzer.
3. Remove cover from the preamp card located on top of the optical bench.
4. Near the front of the analyzer, on the left side of the preamp board, you will see two holes in the board. Under the holes are phillips head screws. These are the screws that mount the existing detector. Loosen these two screws until they are free from the bench.
5. Remove the 2 screws holding the sync-demod card to the bench.

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6. Remove the preamp/detector from the bench, along with the detector. Keep the existing screws with the preamp/detector and return them to T-API using the RMA number that was given with the new parts.
7. When installing the new preamp/detector assembly you will notice that the detector has a circle of metal between the detector and the preamp board. This is the heat sink. Ensure that it has two screws sitting in the heat sink.
8. Add thermal grease in a thin, even coat to the bottom of the heat sink.
9. Carefully lower the preamp board over the standoffs until the detector seats in the mounting hole. Install the two screws for the detector and heat sink by getting them started, then turn them 2 turns at a time, alternating between the screws until the screws are tight.
10. Install the 2 screws holding the preamp board on the bench.
11. Power on the analyzer.
12. Allow the analyzer to warm up for 1 hour.
13. Input zero air to the analyzer.
14. Adjust R7 on the Sync-Demod board until the COMEAS reads between 4000 and 4500mV.
15. Press SETUP-MORE-DIAG-ENTR. Press NEXT until you see "DARK CAL". Press ENTR-CAL and wait for the dark calibration to finish. Exit to the main menu.
16. Wait for the STAB number on the front panel (press the TST buttons to find it) to drop to <2.0 and then zero the analyzer.
17. Input span gas to the analyzer. Wait for the STAB number to drop to <2.0 and span the analyzer.

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