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Service Note

97-029 Rev B
2 May, 2007

M200A TPC ENABLE

SCOPE: **Information regarding Temperature and Pressure compensation in the API Model M200A and M200AH analyzers.**

TOOLS: **None**

BACKGROUND: **The M200A analyzer uses Temperature and Pressure Compensation, (TPC) to minimize drift resulting from changes in ambient pressure or vacuum. This service note will instruct the user how to enable TPC and how to calibrate using TPC.**

NOTE:
IN ORDER TO MAINTAIN USEPA EQUIVALENCY TPC MUST BE ENABLED IN THE MODEL 200A NOX ANALYZER.

PROCEDURE:

1. **The default setting in software for TPC is "OFF" or disabled. TPC is turned on at the factory. If the analyzer has had a new CPU installed, the RAM or EEPROM has been reset, the analyzer will not have TPC enabled.**

2. **M200A TPC can be enabled as follows:**
   A. **Press SETUP-MORE-VARS-ENTR. You should see "TPC_ENABLE".**
   B. **Press EDIT-OFF-ENTR. Press EXIT to return to the SAMPLE menu.**

3. **M200AH TPC is enabled as follows:**
   A. **Press SETUP-MORE-VARS-ENTR. You should see "TPC_ENABLE=" followed by the word ON or OFF. If it is ON, simply press EXIT to return to the SAMPLE menu. If it is OFF, press EDIT-OFF-ENTR, then EXIT to return to the sample menu.**

CALIBRATION:

The M200AH can be calibrated using the Factory Calibration Procedure in the manual. This procedure is correct regardless of the state of TPC.
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The M200 can be calibrated using the Factory Calibration Procedure in the manual with one modification: The formulae for calculating PMT mV must be modified as follows:

For Sea level installations (SAMP PRESS = 29.9 +-2"-Hg-A):
For Range 10-2000 PPB:

$$\left(\frac{5.0}{\text{Rcell Press}}\right) \text{ times 2 times concentration = PMT mV}$$

For Range 2001 - 20000

$$\left(\frac{5.0}{\text{Rcell Press}}\right) \text{ times .2 times concentration = PMT mV}$$

For installation where SAMP PRESS is less than 27.9 "-Hg-A:
For Range 10 - 2000 PPB:

$$\left(\frac{\text{SAMP PRESS}}{29.97}\right) \text{ times } \left(\frac{5.0}{\text{Rcell Press}}\right) \text{ times 2 times concentration = PMT mV}$$

For Range 2001 - 20000 PPB:

$$\left(\frac{\text{SAMP PRESS}}{29.97}\right) \text{ times } \left(\frac{5.0}{\text{Rcell Press}}\right) \text{ times .2 times concentration = PMT mV}$$