

## Technical Note No. 050

### Procedure for Replacing LED Assembly on Model 405 nm NO<sub>2</sub>/NO/NO<sub>x</sub> Monitor

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#### Summary:

This Technical Note shows how to replace the LED assembly on the Model 405nm NO<sub>2</sub>/NO/NO<sub>x</sub> Monitor. This procedure should be completed when the sample photodiode voltage is above 2.1V or below 0.6V.

1. Remove the top cover.
2. Remove LED Assembly
3. Replace LED Assembly
4. Verify cell PDV is in proper range
6. Reinstall the top cover.

#### Tools needed:

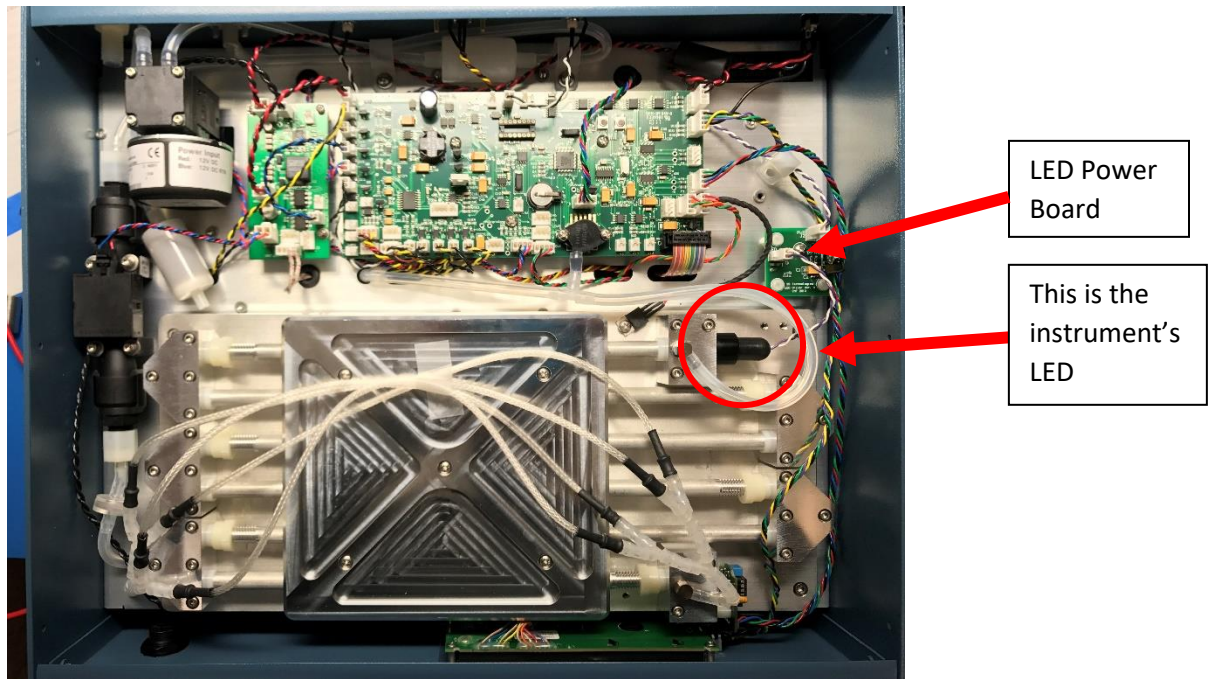
- Phillips Head Screwdriver

#### Procedure:

**Power off and unplug your instrument before proceeding.**

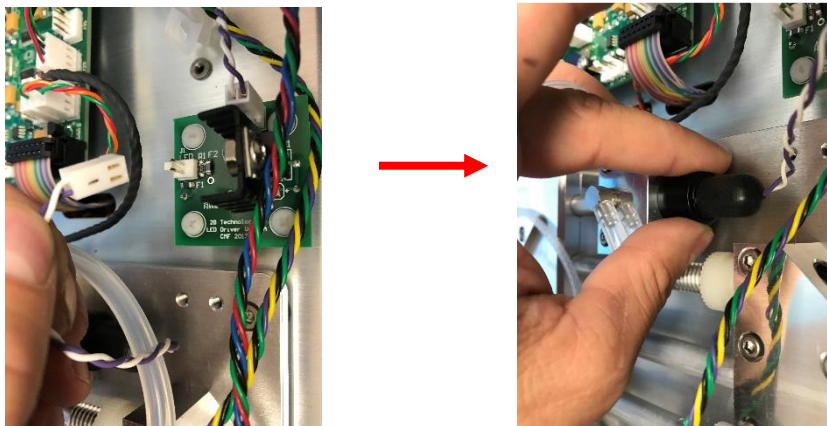
- 1.) Remove top cover to instrument by removing top three screws on both sides of instrument:





The top of your instrument with the cover removed should look similar to this.

- 2.) Remove the instrument's LED. First, unplug the wire from the LED Power Board (see figure in Step 1). Next, unscrew the LED from the cell by turning it counterclockwise.



- 3.) Reverse the procedure completed in step #2 with the new replacement LED Assembly. First screw the new LED into the optical cell by turning it clockwise (only tighten the LED to hand-tight). Next, plug the wire into the LED Power Board.

- 4.) Prior to reinstalling the enclosure top and all of the screws, plug in your instrument and connect the Serial cable to your computer. Turn the instrument on and view the data stream, which should look something like this:

Avg: 5 s/rdg

NO2,NO,NOx,ZNO2,ZNO,Tc,P,Fc,Foz,PDVs,PDVg,Ts,Date,Time,Mode

0.0,0.0,0.0,0.0,23.9,765.0,1626,68.2,1.002128,0.041,38.2,16/08/17,14:44:57,80

The value for “PDVs” is what you will be looking at. This value should now be somewhere between 0.7V and 2.0V. If the value is lower than 0.7V, either insert a higher light output LED or increase the size of the aperture after the LED on the LED mounting block (contact 2B Technical Support for more details). If the value is above 1.7, consult Technical Note #043 (“Procedure for Decreasing ‘PDVs’ on the Model 405 nm NO2/NO/NOx Monitor”).

- 5.) Now that the photodiode voltage produced by your LED is in the correct range, reinstall the top cover (only tighten the screws to hand-tight).