



## GEM5K Easy Steps

### Gas Check



**WARNING** – Calibration gases can be dangerous. For each gas used the appropriate material safety data sheet (MSDS) must be read and understood before proceeding.

1. Switch unit on by pressing the **On/Off** key  for 2-3 seconds. Wait for unit to boot up and complete self-test.
2. Press **Next** after self-test is complete.
3. If prompted to login as a technician select the proper user from the list and press enter when done.
4. When at the main read screen press the Menu key . This will take you to the Operation Settings screen.
4. Press key 2 for **Gas Check**.
5. Press key 1 for **Gas Check**; this should take you to the Select Gas Mix screen.

From the Select Gas Mix screen you will notice as default a list of 6 gas mixes, each gas mix has pre-determine gas concentrations that you can see under the gas mixture detail. From the list of gas mixes you need to select a gas mix to zero and a gas mix to span/calibrate. In the example below the following mixes will be used:

- **Fresh Air** – To zero CH<sub>4</sub>
- **CH<sub>4</sub> High** – To span CH<sub>4</sub>/ CO<sub>2</sub> and Zero O<sub>2</sub> (50% CH<sub>4</sub>, 35% CO<sub>2</sub>, 0% O<sub>2</sub>)
- **Oxygen High** – To span O<sub>2</sub> to ambient air (20.9% O<sub>2</sub>)

#### Zero CH<sub>4</sub>

6. Select gas mix **Fresh Air** and press enter. This will take you to the Gas Check screen and the pump will automatically turn on. Select **Check** when ready, a one minute timer will start for readings to stabilize.
7. When timer reaches zero the following message will be displayed **Check complete**.
8. Read the status field...



Means the gas channel is within specification.



Means the gas channel is out of tolerance and recommended to zero the gas channel.



Means the gas channel is out of range, has failed the check and can't be adjusted by a user calibration.



Means the gas channel is disabled or can't be zeroed.

9. You will notice the following options:

- **Record** – To accept and record results of the zero calibration check.
- **Calibrate** – To zero and record the zero calibration result.
- **Retry** – To allow the gas to flow for longer.

10. Select **Calibrate** to zero your CH<sub>4</sub>, note calibration result and select **Retry** or **Exit**.

#### Span CH<sub>4</sub>/CO<sub>2</sub> and Zero O<sub>2</sub>

11. Select gas mix **CH<sub>4</sub> High** and press enter.
12. Connect the 50% CH<sub>4</sub>/35% CO<sub>2</sub> calibration gas mix to the inlet (white colored) port on analyzer. Open the pressure regulator for gas to start flowing and select **Check** when ready. A one minute timer will start for readings to stabilize.
13. When timer reaches zero the following message will be displayed **Check complete**.
14. Once again, read the status field and select **Calibrate** to span the CH<sub>4</sub> and CO<sub>2</sub> and zero O<sub>2</sub>.
15. Note calibration results and select **Retry** or select **Exit** until you return to the Gas Mix screen.

#### Span O<sub>2</sub>

16. Select gas mix **Oxygen High** and press enter, the pump will start automatically then select **Check** when ready. A one minute timer will start for readings to stabilize.
17. When timer reaches zero the following message will be displayed **Check complete**.
18. Once again, read the status field and select **Calibrate** to span your O<sub>2</sub> then you can turn off the pump manually if it's running.
19. Note calibration results and select **Retry** or **Exit** until you get to the main reading screen.

**For any help or assistance please contact technical support at 909-783-3636 Ext. 6141**