multiPM - Calibration

1- Zero point calibration

1- Tools you will need
- DFU filters

2- Ensure the unit is warmed up (> 1 hour operation). Put a zero air filter (e-g: 2 DFU filters connected in series) instead of the sample head on the PM sample inlet and measure the PM-free air. Wait until the measurement is stable. It can be observed in "Linsens", in Setup/System Info/Service Interface

3- Select in the user Interface the tab "Calibration/Calibration", select "MultiPM", and click on "Display". When the measurement is stable for more than 5 minutes, click on "Calibrate zero"

2- Measurement of known concentration

1- Tools you will need
- a calibrated type-approved PM device

2- Install a calibrated type-approved monitor (MetOne BAM-1020, Grimm EDM180, Teledyne-API T640, etc.) beside the Airpointer. It will be used as a reference device. Perform a parallel measurement for a duration of 12 to 24 hours. Ideally, the PM concentration should vary and reach $> 100\mu g/m^3$. The measurement can be observed in "Linsens", in Setup/System Info/Service Interface

3- Calculate the new values of slopes as follows:
Slope(new) = Slope(old)*measurement reference/measurement airpointer

4- Select in "Setup/Configuration/MultiPM", and under "Calibration Factors", enter the new values in the respective boxes, and save the changes
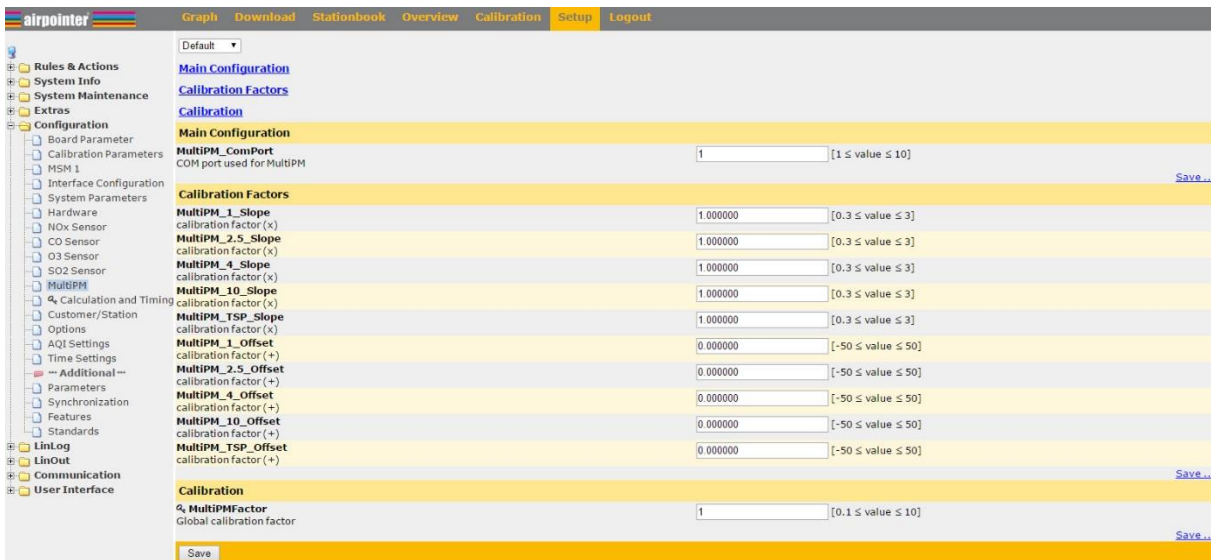
NB: If you use a BAM as a reference device, you can calibrate the multiPM for both PM2.5 and PM10, but not simultaneously. If you want to calibrate other cut-offs, you can interpolate the slopes of PM2.5 and PM10 to estimate intermediate slopes. Keep in mind that the multiPM is an indicative measurement and therefore not as accurate as a type-approved device