HAPEx Nano

HAPEX Nano is a passive Particulate Matter data logger with game changing specifications. It was specially designed to monitor Household Air Pollution Exposure in households using dirty fuel for their energy needs.

HAPEX NANO MAIN FEATURES:

Compact and light weight: to our knowledge the HAPEx Nano is the smallest real time PM logger on the market (2”*3”*0.75” for 2.3 oz.)

Sturdy: no moving parts, all the electronics are coated by a protective layer of silicon. HAPEX Nano was designed be used in the field and withstand harsh conditions.

Easy to use: the user interface is simple (one window) and intuitive. You can launch a mission and download your data on MS Excel in a couple of clicks.

Wide measurement range: the HAPEX Nano measures Particulate Matter concentration from 8 µg/m3 to 150 mg/m3. This covers the range typically found in kitchens of solid fuel users.

Compliance assessment: small movements are detected and recorded to enable the researcher to know if the subject has been wearing the device during the study.

Long run time: forget about coming back every 24 or 48 hours to download the data or recharge the batteries, the HAPEX Nano can run for years!

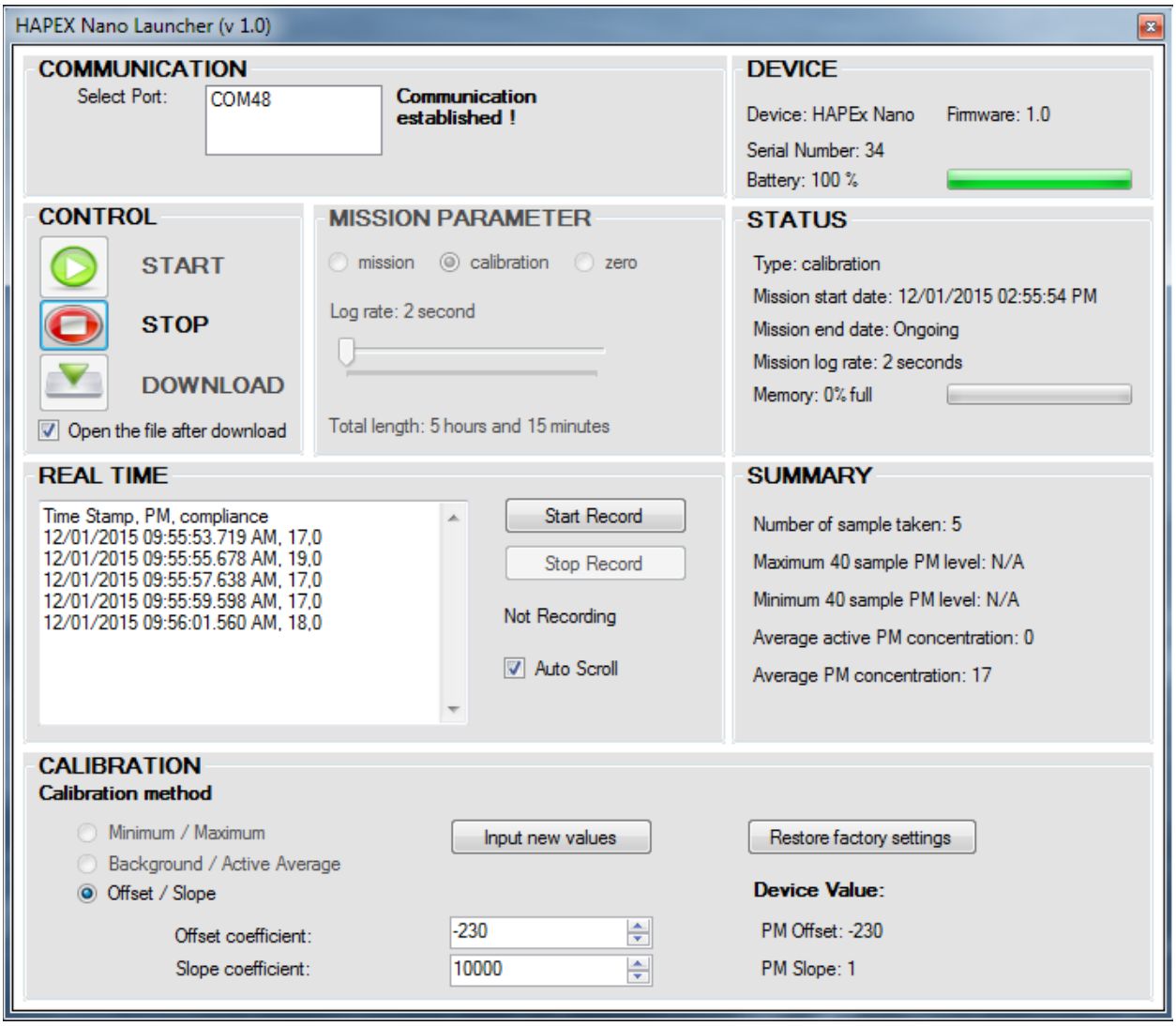
Easy to calibrate and to zero: the user can easily adjust the calibration constants to make sure each device has the same sensitivity. With a calibration chamber, one device can be used as a reference to adjust the others seamlessly.

Flexible: while the HAPEX Nano has been designed primarily for exposure assessment, it can also monitor area PM concentration or be used to test stoves (with a design like the “IAP in a box” by ARC). When connected to a computer the HAPEx Nano displays the measurements in real time.

Affordable: with a price of $120 US Dollars per unit the HAPEx Nano allows for a large sample size at a reasonable overall price.

SOFTWARE:

The HAPEX Nano come with a special USB cable and a simple software interface (Windows only) that allow the user to start and stop the logging sessions or download data in a few clicks. Basic statistics like minimum, maximum and average PM level are automatically displayed and the .csv file produced can easily be opened and processed by a software like MS Excel.



TECHNICAL SPECIFICATIONS:

Size: 5cm*7.5cm*2cm or (2”*3”*5/8”)
Weight: 65g (2.3 oz.)
Interval between measures: 20 seconds (2 seconds in calibration mode)
Log rate: 20 seconds to 2.75 hours (record the average of all sample measured between each log)
Low Limit of detection (4 sample running average): 8 µg/m3
Low Limit of detection (individual sample): 15 µg/m3

High Limit of detection (high): ~150 mg/m3 (depend on the scattering coefficient)
Maximum mission length: 1045 days.
Battery run time: 5 years (the battery is not replaceable by the user). 20 years of shelf life.
Maximum number of samples recorded: 9,024

DOWNLOAD

User Manual: this manual explains how to use the HAPEx Nano

Technical paper: in this document, we show how we determined the low and high limits of detection and we compare the HAPEx Nano to the "IAP meter" from Aprovecho Research Centre. We also looked at the inter-device variability before and after calibration.

Software: download the installation package here. Compatible with Windows 7, 8 and 10 (no support for Mac OS or Linux OS at this time, sorry…). An internet connection might be needed at install if your PC does not have the .NET framework 4.5 already installed. The drivers for the communication cable are managed directly by windows (no separate installation required).