

UCB Particle and Temperature Sensor (UCB-PATS)

Quick Reference Guide

Version 6.6

Equipment Requirements

- UCB Particle and Temperature Sensor (UCB-PATS)
- UCB-PATS software
- PC Computer (Windows XP, Vista, or 7)
- USB serial cable (or 9-pin serial cable)
- 9-volt battery
- Ziploc bag (or sealable anti-static bag)
- Sampling data form

Installing the Software

- Install Microsoft Windows *dotnetfx* (may already be installed on your operating system)
- Install UCB 2.5 software (*setup*) – this will install both Monitor Manager and Data Browser

Launching the Monitor

- Check that your computer clock time is accurate
- Connect UCB-PATS monitor to computer using USB cable
- Open UCB Monitor Manager software
- Click **'Next'**
- Check for reasonable temperature and photoelectric signal readings
- Ensure that the battery has at least 7.5 volts
- Select **'Launch Monitor'** and click **'Next'**
- Set *Start Time* to **'Now +1 Min'** or enter desired logging start time
- Set *Logging Interval* to **'1 Minute'** (or other longer interval)
- Select **'Launch'**
- Record information on sampling data form

Zeroing the Monitor

- Locate a clean, dust/particle-free environment
- Place the monitor in a 1-liter Ziploc bag for at least 20 minutes undisturbed (e.g. not in a moving vehicle) and record initial zeroing start and end times
- Keep the monitor in the bag until installation at sampling location

Placing/Retrieving Monitor (in the field)

- Remove the monitor from the bag, place in sampling location, and record placement start time

- At the end of sampling, retrieve monitor from sampling location and record end time
- If possible, place the monitor back in Ziploc bag for at least 20 minutes and record final zeroing start and end times (as before, the monitor should be undisturbed during this period). This step is recommended, though not fully necessary.

Downloading Data

- Connect monitor to computer using USB cable
- Open UCB Monitor Manager software
- Click '**Next**'
- Select '**Download Data**' and click '**Next**'
- Select '**Save**'
- Enter proper folder and select '**Save**'
- Once notified that the data was saved, select '**Exit**'
- To view in detail and edit your data, use the UCB Data Browser (instructions below)

Processing and Saving the Data Files

- Open UCB Data Browser software and the *.ucbpm file of interest
- Select '**Initial**' for *Zeroing Period Type*
- Enter *Initial Zeroing Period* start and end times
- Enter *Sample Period* start and end times and press '**OK**'
- Check that background or minimum (*Min.*) particle concentration is between 0.030 and 0.075 mg/m³
 - If the concentration is within range, proceed to '**Export**'
 - If not, click '**Edit/Limit of Detection**' and select '**Manual Input**' from the *LOD Calculation Method* menu
 - Set *Manual Input* to **0.050 mg/m³** (or other known background PM_{2.5} concentration)
 - Click '**Update Calculations**'
- Click '**File/Export to CSV**' to save minute-by-minute data in appropriate folder
- Select '**Save Stats**' to create a CSV (Excel compatible) file of statistics from the processed data

For further details or information on data storage, monitor maintenance, and troubleshooting, please see the full UCB Particle and Temperature Sensor User Manual.

Contact Information

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