

QUICK START GUIDE

Model: P311

Handheld Laser Particle Counter

***** Operation Manual with more detailed information found on the USB Thumb Drive. *****

Thank you for purchasing a Model P311 Handheld Laser Particle Counter (particle counter). This guide will help you quickly begin using your particle counter. More detailed information is in the manual located on the included **Airy P311 Software USB Thumb Drive**. Please refer to the manual if you have any questions concerning the operation of your new particle counter.



Warranty

AIRY TECHNOLOGY INC warrants to the original user that this instrument shall be free from defects in material and workmanship for **one year** from the date of shipment. Airy's obligations under this warranty, and the sole remedy for its breach, are limited to repair or, in Airy's sole discretion, replacement of the instrument or any of its parts. Should it become necessary to return the instrument for repair during or beyond the warranty period, user shall contact Airy Technology, Inc. (USA). **E-mail: service@airytechnology.com**. User is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty shall be void in the event of user actions including misuse, improper wiring, operation outside of specification, improper maintenance or repair, unauthorized modification, or any other defect caused by the user's neglect or accident. This warranty is the sole and exclusive warranty for this instrument, and no other warranty, whether written or oral, is expressed or implied. Airy specifically disclaims any implied warranties of merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental, consequential, or punitive damages. Airy's total liability is limited to repair or replacement of the product.

Safety

This section gives instructions to promote safe and proper handling of the particle counter.

Laser Safety

The Handheld Laser Particle Counter is a Class I laser- based instrument.

- During normal operation, you will not be exposed to laser radiation.
- Precaution should be taken to avoid exposure to hazardous radiation in the form of intense, focused, invisible light.
- Exposure to this light may cause blindness.

Take these precautions:

- **DO NOT** remove any parts from the particle counter unless you are specifically told to do so in this manual.
- **DO NOT** remove the housing or covers. There are no user-serviceable components inside the housing.



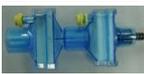
◆ **Any use of controls, adjustments, or procedures other than those specified in this manual may result in exposure to hazardous optical radiation.**



WARNING

Unpacking

1. Carefully unpack the Handheld Laser Particle Counter from the shipping container and verify that all items shown in the photos below and listed in the following tables are present.
2. Contact us immediately if any items are missing or broken.

Qty.	Item Description	Reference Picture
1	Airborne particle counter	
1	Isokinetic inlet	
1	Probe for tubing	
1	Cap	
1	AC Power adapter	
1	Zero filter	 or 
1	USB cable USB type A to mini USB-B	
1	Battery Charger & (4) NiMH Batteries	
1	Application and Manual on USB Thumb Drive	
1	Quick Start Guide	
1	Calibration Report	
1	Carrying Case	

Power

1. When using AC power, must use the affiliated AC adapter, shown below. Connect Mini USB-B plug to the instrument.



2. If using the batteries, first remove the battery cover on the back of the shell.



Second insert four AA or Ni-MH type batteries.



Running the particle counter

1. Remove a rubber cap at the inlet and attach an Isokinetic inlet. In order to turn on the instrument, press the **Power** key. After three seconds the default screen will appear. This means that the instrument is ready for operation.

AUTO		 0000/8000	 10:05
▲▼	CNT	Σ	△
0.3μm		0	0
0.5μm		0	0
5.0μm		0	0
LOC.	001	CYCLES	00/01
STIME	01:00	INT	01:00
START	Stopped	MENU	

Default Screen

- From the Default Screen, press **MENU** key to go to Main Menu. Press **PREV** key to go back to the Default Screen. At the Main Menu you can select following settings:

Menu	Description
Measurement Setting	Set measure mode, sample time, interval time, cycle count, particle units, and channel size.
Data Process	Display data records, clear data records and transmit the data.
System Setting	Set time and date, screen settings and location number.
Utility Setting	Set delay time, key sound and pump speed

- From the Main Menu, select Measurement Setting.
- Change settings (Below is an example setting)
- Press **PREV** to return to the Main Menu.

Measurement Menu	
Measure Mode	< AUTO >
Sample Time	01:00
Hold Time	01:00
Cycle Count	0001
Particle Unit	< CNT >
Channel 1 Size	< 0.3um >
Channel 2 Size	< 0.5um >
Channel 3 Size	< 5.0um >
PREV	ENTER

Measurement Menu

- Finally, select the Utility Setting and set the battery mode (Standard is Ni-MH). **DO NOT** change the Pump Control.
- Press **PREV** twice to return to the Default Screen.

Utility Menu	
Delay Time	05 sec
Key Sound	< ON >
Pump Control	< ** >
Battery Mode	< Ni-MH >
PREV	ENTER

Utility Menu

- Press **START** to run the sampling.

Software

The Airy P311 Software (Data Transfer Utility) comes on a USB Thumb Drive that loads software and USB drivers for the particle counter. After installing the software to PC, connect the instrument with PC. Go to Main Menu and select Data Process to select **Transmit Data Record** to download data to PC.

Note: this version of the software only guarantee use in the Windows® XP (SP2) or Windows Vista® or Windows®7 (32bits) OS.

1. Start the application.
2. Select **Read All** to select all records to download. And click **Save All** or use mouse to select data records to save.

The data records are saved in a format suitable for spreadsheet software (.csv) for further analysis.

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Memo