KANOMAX
The Ultimate Measurements

# 0.1μm Particle Counter

## MODEL 3950

User Manual

**List of Components**

■ **Standard**

| Item | Model | Functions |
|---|---|---|
| Main Unit | 3950 | Main unit |
| AC Adapter | 3910-08 | Exclusive adapter |
| USB Cable | | Communicates with the PC. |
| Zero Filter | 3950-60 | Cleans the air flow path inside the device with clean air. |
| Tygon Tube (1 m) | | Connects to the inlet to perform a measurement. |
| Inlet Protective Cap | | Prevents the entry of foreign objects into the Main unit when not using the device. |
| Software CD | 3950-40 | Software for remote measurement, User Manual |

■ **Optional Accessories**

| Item | Model | Qty |
|---|---|---|
| Compact Printer | NP-DPU-S245-00C-E | 1 |

■ **Consumables**

| Item | Model | Qty |
|---|---|---|
| Zero Filter | 3950-60 | 1 |

## Important Safety Information

The symbols for the warnings used in this manual are defined below:

### Classifications

**Warning**

Warnings in this classification indicate risks that may result in serious injury or death if not observed.

**Caution**

Warnings in this classification indicate risks that may result in injury or damage to the surrounding objects if not observed.

**Notice**

Warnings in this classification indicate risks of damage to the product that may void the product warranty if not observed.

### Description of Symbols

This symbol indicates a condition that requires caution (including warning). The subject of each caution is illustrated inside the triangle (e.g. the high temperature caution symbol is shown on the left).

This symbol indicates a prohibition. Do not take the prohibited action shown inside or near this symbol (e.g. the disassembly prohibition symbol is shown on the left).

This symbol indicates a mandatory action. A specific action is given near the symbol.

This symbol indicates a warning of possible laser radiation.

##  Warning

(Forbidden) Do not use the AC adapter other than the provided one with the instrument.
Using an inappropriate adapter may damage the instrument.
It may generate heat and cause fire.

(Do not remodel/disassemble) Never disassemble, modify, or repair.
This instrument uses a Class 4 laser diode as the light source.
Exposure to the laser may cause loss of eyesight and other injury.
Never open the instrument other than the battery compartment.

(Handle properly) Handle the instrument properly in accordance with the

instructions provided in this manual.
Failure to do so may cause electric shock, fire, or sensor damage.


(Caution) If abnormal noise, smell, or smoke is observed, or if liquid has entered the instrument, turn off the power immediately, remove the batteries or pull out the plug.
Failure to observe the above may cause electric shock, fire hazard, or damage.
Please contact your local distributor or Kanomax service center for repair.

## Caution

(Handle properly) Pull out the plug when the instrument is not in use.
Failure to do so may cause electric shock, fire hazard, and circuit damage.

## Notice

(Forbidden) Do not use or keep the instrument in hot, humid, or dusty environment. Do not expose the instrument to direct sunlight for a prolonged period of time.
The instrument may not function properly out of the specified operational temperature range.

(Forbidden) Do not subject the instrument to strong impact.
Dropping or hitting the instrument may cause damage and malfunction.

(Forbidden) Do not wipe the instrument with volatile solvent.
The body may deform or deteriorate. Use soft dry cloth to remove stains. If stains persist, soak the cloth in neutral detergent and wipe the instrument with the cloth.

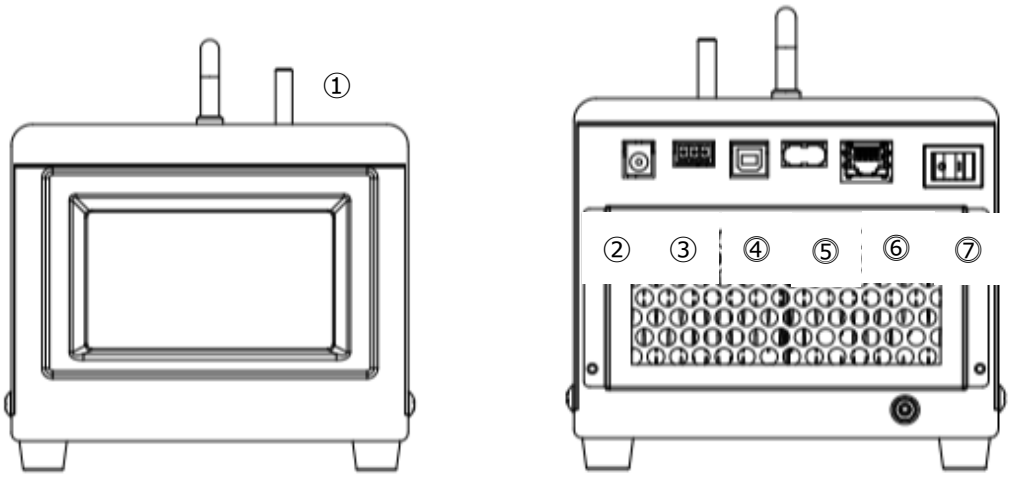
(Forbidden) Do not touch the LCD screen with a sharp-pointed object or with excessive pressure.
It may cause distortion of the screen or a malfunction.
A rapid temperature change may cause a malfunction of the screen.

(Handle properly) When storing the instrument, put the instrument in the carrying bag and keep it in a place with an ambient temperature of -10 to 50℃ and no condensation.

(Forbidden) Do not dispose of the instrument as household waste.
Please note that the disposal of the instrument and batteries should be in line with your local or national legislations. For details, please consult with your local distributor.

## Table of Contents

## § 1 Part Names and Functions




| Name | Functions |
|---|---|
| ① Inlet | Suction volume : 2.83 L/min.<br>Outer diameter : 6.4 mm |
| ② DC Power Terminal | Connects to the main unit with the AC Adapter. |
| ③ Communication Terminal | Communicates in the RS-485 method. |
| ④ USB Terminal (for PC) | Connects to the PC with the USB Cable. |
| ⑤ USB Terminal<br>(for the Printer, for the USB memory) | Connects to the Printer with the USB Cable.<br>The measurement results are copied to the USB memory. |
| ⑥ Communication Terminal | Communicates with the Ethernet. |
| ⑦ Power Switch | Turns ON/OFF power to the Main unit |

## § 2 Preparation Before Measurement

### AC adapter

- Be sure to use the provided AC adapter when using the Main unit.

### Warm-up

- If the device is brought in from a different temperature place, prior to a measurement, let the device allow adapt the current temperature environment. Be sure to warm up the device at least for 10 minutes before starting a measuring. A sudden temperature change may cause a measurement error.

## § 3 Measurement Procedures

### Internal Cleaning

- Prior to use, purge the device (Interior cleaning) with the Zero Filter.
- Remove the Inlet Protective Cap, and attach the Zero Filter to the inlet.
- Turn the power on and press the Start button to perform a continuous measurement for 10 to 15 minutes. When the measuring count value is stable and confirm the value is retained at least for 10 seconds, finish a measurement.
  (If the value doesn't reach to zero, block the inlet of the Zero Filter for a few seconds to accelerate the cleaning while measuring.)
- Remove the Zero Filter from the inlet.

### Measurement

- Connect the Tygon Tube to the inlet. (Using the Tube leads to less influence by the ambient environment.)
- Set the required setup on the General setup and Measurement setup sub-menus.
- Set the measurement conditions in the Measurement mode, and select the measurement conditions in the Preset.
- Return to the Main screen. Press the **Start** button to perform a measurement.
- The measurement will complete automatically or by pressing the **Stop** button.
- The previous measurement results can be viewed from the History sub-menu.
- Do not run the device for eight (8) hours or more per day.
- Try to avoid a suction sampling in the general atmosphere. A suction sampling in the general atmosphere may cause contamination in the optical system, resulting in providing unstable measurement.

### Errors

- The following errors can occur by the self-diagnostic function. Even if an error occurs, the measurement and other processes will be continued.

| | |
|---|---|
| Laser power failure | The laser diode may be defective or reached the end of its life. |
| Flow rate | The pump current is increasing or decreasing. If the inlet Protective Cap is attached, remove the Cap. If the error persists, the pump may be defective or reached the end of its life. |
| Maximum measurable concentration is exceeded | The concentration exceeds the maximum measurable range. Perform the measurement at a cleaner location or attach the Zero Filter to the device to measure. |

## § 4 User Interface

### Title Screen

- Turn on the power to the device. After four (4) seconds, the Main screen will appear automatically. Or tap the Title screen to go to the Main screen.


### Main Screen

- There are three main screens as required. You can go to the sub-menu screens from the main screens.

Table Form
Cumulative Σ

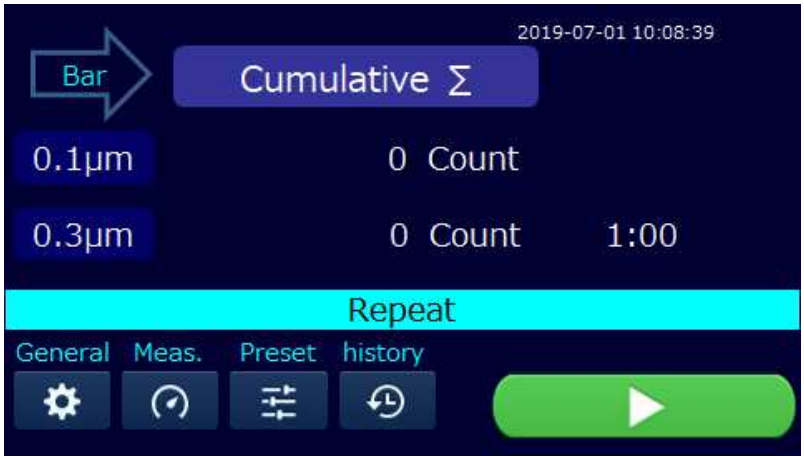
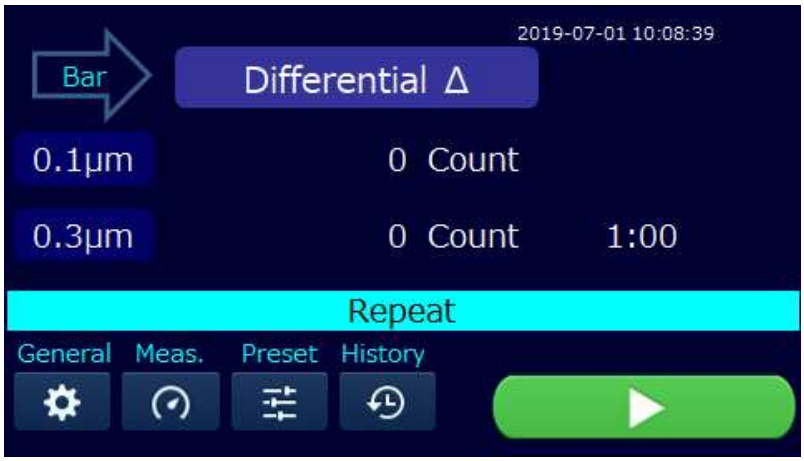


Table Form
Differential Δ




Bar Graph
Differential Σ


A Line graph is shown while measuring.

| Icon | Name | Functions |
|---|---|---|
|  | General setting | Opens the menus to set the unit, calendar, data, sound and language and to display device information. |
|  | Measurement setting | Opens the menu to set the mode, alarm, save, and remote. |
|  | Preset | Opens the menu to set or select up to 12 Presets. |
|  | History | Views the previous measurement results and prints the data. |
|  | Chart type changing | Switches the chart types between a Bar graph and a Table form Σ graph. |

| | | |
|---|---|---|
|  | ΣΔ Display Switching | Switches the Main screen to **Differential Δ**. ※ |
|  | ΣΔ Display Switching | Switches the Main screen to **Cumulative Σ**. ※ |
|  | Start | Starts a measurement. |
|  | Stop/Suspend measurements | Stops or suspends a measurement. |
|  | Particle Size Setup | Switches the required particle size (0.1 μm or 0.3 μm) when tapping the line graph. |
|  | Error | Displays the details of an error when tapping the **Error**. |

※ The number of the 0.1 μm-range in Cumulative Σ is the cumulative number of all channels over the size of 0.1 μm. This includes the number of 0.3 μm.

※ The number of the 0.1 μm-range in Differential Δ is the number of channels over 0.1 μm and under 0.3 μm.

| Icon | Name | Functions |
|---|---|---|
|  | Mode Display | Displays the selected measurement mode. |

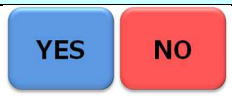
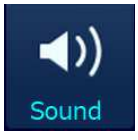
| Mode | Display |
|---|---|
| | Main Screen |
| Repeat | Repeat |
| Single | Single |
| Continuous | Continuous |
| Calculation | Calculation |

<table>
<tr><td></td><td></td><td>Displays the selected preset mode.
<table>
<tr><th rowspan="2">Mode</th><th colspan="3">Display</th></tr>
<tr><th>Preset 1</th><th>Preset 2</th><th>Preset 3</th></tr>
<tr><td>Repeat</td><td>P1 (Repeat)</td><td>P2 (Repeat)</td><td>P3 (Repeat)</td></tr>
<tr><td>Single</td><td>P1 (Single)</td><td>P2 (Single)</td><td>P3 (Single)</td></tr>
<tr><td>Continuous</td><td>P1 (Continuous)</td><td>P2 (Continuous)</td><td>P3 (Continuous)</td></tr>
<tr><td>Calculation</td><td>P1 (Calculation)</td><td>P2 (Calculation)</td><td>P3 (Calculation)</td></tr>
</table></td></tr>
</table>

## General Setting

- Select the **General setting** icon on the Main screen to set the unit, calendar, data, language, and sound. This menu indicates the device information.

| Icon | Name | Functions |
|---|---|---|
|  | Unit | Selects one (1) of the following three (3) options.<br>Measured values in the Measurement results on the Main screen will be shown by the designated unit.<br>• count : The integrated number of measured particle counter.<br>• /m3 : Particle counts per cubic meter (Conversion)<br>• /ft3 : Particle counts per cubic foot (Conversion) |
|  | Calendar | Sets the date and time<br>• Touch the setup button to display a ten-digit keypad. Enter year, month, day, hour, and minute in two (2) digits in blanks. |

<table>
<tr><th>Icons</th><th>Names</th><th>Functions</th></tr>
<tr><td> 
</td><td>Data</td><td>Confirms and operates information related to the entire measured data.<br>• Memory remaining: Displays the ratio of the remaining storage capacity of memory to all the storage capacities of memory.<br>• Number of Records: Displays the number of the stored records.<br>• Copy: Copies all files to the USB memory.<br>• Delete: Deletes all files. Copying the files prior to the use of this function is recommended.<br>Note that copying the measured data to the USB memory and deleting the data from the internal memory on the Main unit are not performed in partial copying/deleting but batch processing.<br>Follow the steps below.
<table>
<tr><th>Step 1</th><th>Step 2</th><th>Step 3</th></tr>
<tr><td>Select the Data in the General setting<br>  </td><td>【To copy the measured data to the USB Memory】<br> 
<br>Insert the USB memory into the Main unit and tap the Copy all button.<br>【To delete the measured Data】<br> 
<br>Tap the Delete all button.</td><td> 
<br>Tap YES to execute.<br>Tap NO to return without running the command.</td></tr>
</table></td></tr>
<tr><td> 
</td><td>Language</td><td>Selects a language from English or Japanese.</td></tr>
<tr><td> 
</td><td>Sound</td><td>Sets the operation sound to ON/OFF.</td></tr>
<tr><td> 
</td><td>Information</td><td>Displays the device information.<br>Latest calibration date: The frequency of a calibration cycle depends on the usage patterns of the device, but the recommended calibration cycle is 12 months at the longest.<br>Version: Shows the software version of the device.</td></tr>
</table>

Measurement Setting

- Select **Measurement Setup** on the Main screen in order to set the mode, alarm, save and remote.

<table>
<tr><th>Icon</th><th>Name</th><th>Functions</th></tr>
<tr><td rowspan="3"> 
</td><td rowspan="3">Mode</td><td>Selects one (1) measurement mode from four (4) options. Measurements will be performed in the latest setting mode.<br>• Repeat mode: Repeats measurements in the set sampling time and cycles.<br>• Single mode: Performs a measurement only once in the set sampling time.<br>• Continuous mode: Continues measurements until pressing the Stop button.<br>• Calculation mode: Repeats measurements in the set sampling time and cycle, and calculate the average, standard deviation, maximum, and minimum of measurements.</td></tr>
<tr><td>Set the required conditions in each option in the measurement modes.
<table>
<tr><th></th><th>Location</th><th>Sampling time</th><th>Repeat count</th><th>Interval time</th></tr>
<tr><td>Repeat</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Single</td><td>✓</td><td>✓</td><td>—</td><td>—</td></tr>
<tr><td>Continuous</td><td>✓</td><td>—</td><td>—</td><td>—</td></tr>
<tr><td>Calculation</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table></td></tr>
<tr><td>Tap the display ( ) to show the ten-digit keypad to enter required numbers.<br> 
</td></tr>
</table>

| Item | Description | Range |
|---|---|---|
| Location | Sets measurement locations in number. | From 1 to 99 |
| Sampling time | Sets the sampling time for one (1) cycle. | From 6 sec. to 99 min. 59 sec. |
| Repeat count | Sets the number of repetition. | From 2 to 9999 |
| Interval time | Sets a time interval between a starting time of a measurement and a starting time of the following measurement.<br>A time interval must be longer than a sampling time. The difference between a sampling time and a time interval is a suspension time. | From 6 sec. to 99 min. 59 sec. |

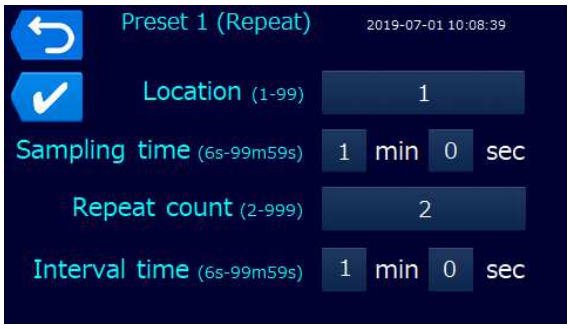
| Icon | Name | Functions |
|---|---|---|
|  | Alarm | Sets a threshold to issue the alarm when a measurement cumulative value Σ is increasing.<br>Tap the display ( ) to set a threshold.<br>• Alarm: To select the alarm function ON/OFF (Default setting: OFF)<br>• Threshold: To set a threshold of a cumulative value Σ in each channel. (Default value: 2,000,000)<br>The threshold value set here will be the upper limit of the chart display. |
|  | Save | Sets whether the measurement data saving is required or not. |
|  | Remote | Performs a measurement by following the command from the PC.<br>• Setting: Sets the connecting methods of the RS485 or the Ethernet, and set the communication parameters in each connecting method. ID is the identification number of the device.<br>• Connection: Connects to the PC. |

Preset

- Select **Preset** on the Main screen in order to set and select the measurement conditions.

- There are three (3) preset numbers. Each one has four (4) measurement modes. Hence, 12 measurement modes in all can be preset.
- To select and set the Preset, follow Step 1～4 as shown in the figures below.
  Tap ✓ to select the measurement mode.

| Step 1 | Step 2 |
|---|---|
| Select **Preset** on the Main screen. | Select one (1) Preset number.<br>No measurement conditions have been selected yet. |
|  |  |

| Step 3 | Step 4 |
|---|---|
| Select the Mode.<br>No measurement conditions have been selected yet. | Set the measurement conditions.<br>Tap ✓ to select the measurement conditions. |
|  |  |

History

- Select **History** on the Main screen in order to confirm and print the measurement results.

| Step 1 | Step 2 |
|---|---|
| Select **History** on the Main screen.<br>  | Select one (1) of the measurement modes.<br>  |

| Step 3 | |
|---|---|
| The measurement results are displayed.<br>  |  <br>Displays the previous number of the history.<br>  <br>Displays the following number of the history.<br>  <br>Selects a required number to show the history.<br>  <br>Selects the unit (CNT、CF、m³)<br>  <br>(Optional) Prints the result with the Printer. |

## Print Example

Print examples are :

### (1) Repeat mode

| | | |
|---|---|---|
| 2019/04/19 11: 02 | | E= - - - |
| Repeat | Number | 1 |
| | Location | 1 |
| | S-Time | 00:21 |
| | I -Time | 00:21 |
| 0.1um | 16 | CNT |
| 0.3um | 14 | CNT |

### (2) Single, Continuous mode

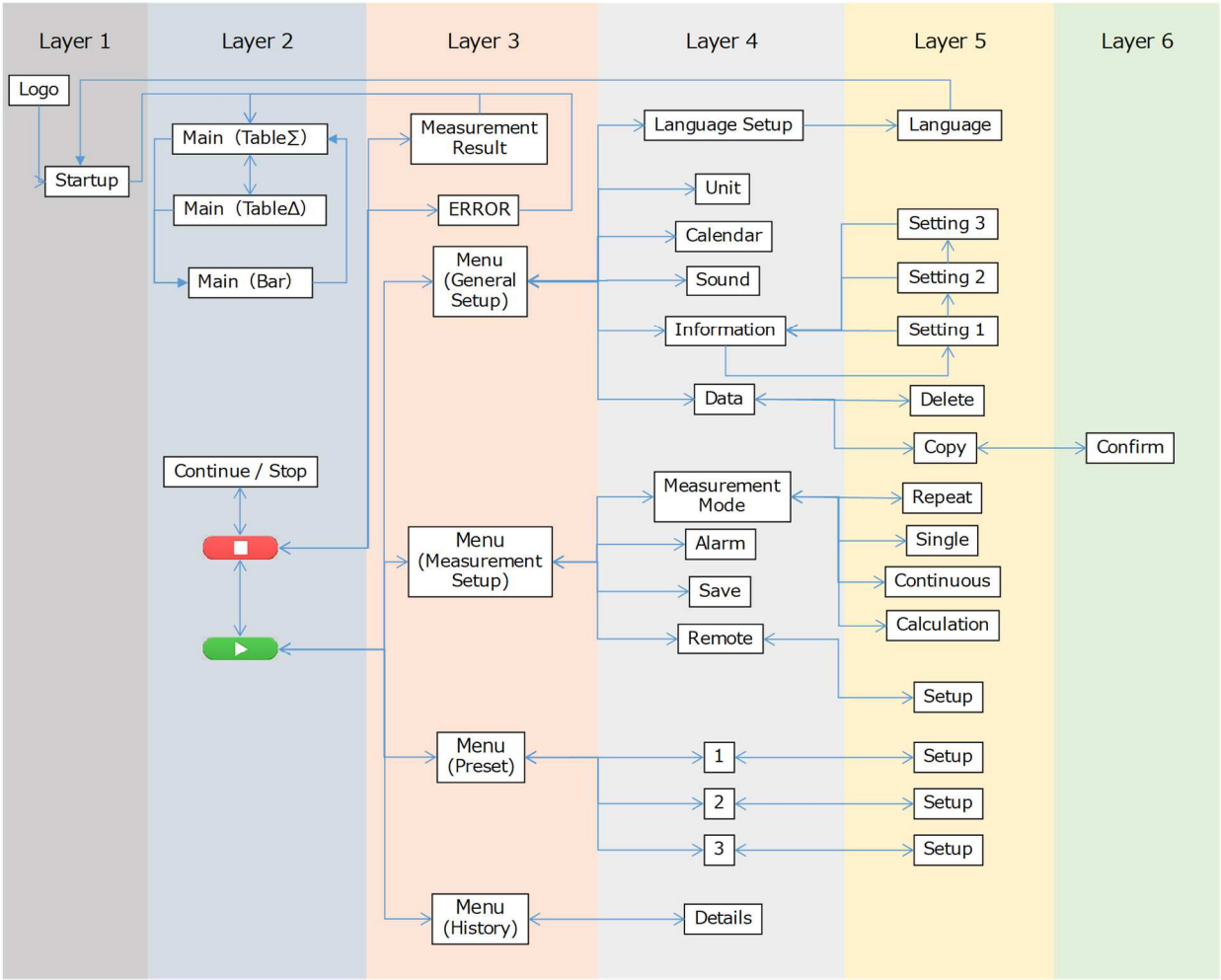
| | | |
|---|---|---|
| 2019/04/19 11: 02 | | E= - - - |
| Single | Number | 1 |
| | Location | 1 |
| | S-Time | 00:21 |
| 0.1um | 16 | CNT |
| 0.3um | 14 | CNT |

### (3) Calculation mode

| | | | |
|---|---|---|---|
| 2019/4/19 11: 02 | | | E= - - - |
| Calculation | | Number | 7 |
| | | Location | 1 |
| | | S-Time | 00:21 |
| | | I -Time | 00:21 |
| | | Times | 2 |
| 0.1um | AVE | | 87CNT |
| | SD | | 128CNT |
| | MAX | | 235CNT |
| | MIN | | 0CNT |
| 0.3um | AVE | | 39CNT |
| | SD | | 66CNT |
| | MAX | | 116CNT |
| | MIN | | 0CNT |

## Screen Flow Diagram

- The screen comprises six (6) layers. Layer 2 and higher are mainly used for the operations.
- When not performing a measurement, the measurement-standby screen will appear on the Main screen. While, when performing a measurement, the measurement-underway screen will appear on the Main screen.
- From the measurement-standby on the Main screen, you can go to the four (4) menu screens: General setting, Measurement setting, Preset, and History.
-



## §5 Specifications

| | | |
|---|---|---|
| Product | | 0.1 μm Particle Counter |
| Model | | 3950 |
| Particle Measurement | Measuring method | Light scattering |
| | Size distribution | 2 channels (0.1 μm and 0.3 μm) |
| | Flow rate | 0.1 CFM (2.83 L/min)<br>Accuracy: ±5%<br>(Compliant with JIS B9921 and ISO21501-4) |
| | Sampling time | From 6 seconds to 99 minutes and 59 seconds in one (1) sampling time |
| | Interval time | From 6 seconds to 99 minutes 59 seconds<br>(Time interval between a starting time and a following starting time in continuous samplings.) |
| | Sampling cycle | From 1 to 9999 cycles or continuous samplings |
| | Location classification | 99 locations |
| | Measuring mode | Repeat, Single, Continuous, Calculation |
| | Display of measured value | Cumulative Σ, Differential Δ or Bar graph |
| | Maximum measurable concentration | 10,000,000 particles/㎥<br>(Coincidence loss: less than 10%)<br>(Compliant with JIS B9921 and ISO21501-4) |
| | Counting efficiency | 50±20% (for PSL particles near the minimum measurable size)<br>100±10% (for PSL particles of 1.5 to 2 times as large as the minimum measurable size)<br>(Compliant with JIS B9921 and ISO21501-4) |
| | False count | ≦1 particle/35 minutes<br>(Compliant with JIS B9921 and ISO21501-4) |
| | Size resolution | ≦15% (for PSL particles around 0.3 μm)<br>(Compliant with JIS B9921 and ISO21501-4) |
| | Pump | Built-in |
| Display and Operation | | 4.3 inch color LCD with touch panel |
| Communication | Data | USB (Host: for printer, and for USB memory,<br>Device: for PC) |
| | Remote Measurement | Modbus (Ethernet, RS485: 9600, 19200, 38400 baud) |
| Recording | Media | Built-in memory |

| | | |
|---|---|---|
| Media | No. of recording capacity, Format | Up to 8 MB, CSV format |
| Language | | English, Japanese |
| Power | | AC adapter Input: 100～240 V, Output: DC15V 4A |
| Operating environment | | 15～35℃, 0～85%RH (with no condensation) |
| Storage environment | | -20～50℃ (with no condensation) |
| Dimension | | W150 X H163 X D228 mm |
| Weight | | 3.4 kgs. |
| Initial Accessories | | Main unit, AC Adapter, USB Cable, Zero Filter,<br>Tygon Tube (1 m), Inlet Protective Cap, Software CD |
| Guaranteed Time of Operation | | Within 8 hours per day, within 240 days per year |

## § 6 Troubleshooting

| Symptoms | Possible causes(s) → Solution(s) | Reference |
|---|---|---|
| The display does not appear even if the power is ON. | The AC adapter is not connected properly.<br>→ Confirm the AC adapter and the power cable. | 6 |
| Particle measured value is too high. | The concentration is high in a measurement environment or the device may be defective.<br>→ If the interior of the device is contaminated, block the inlet of the Zero Filter for seconds when measuring, interior cleaning can accelerate.<br>If the counts still don't reach to zero, the device may be defective. | 6 |
| Particle measured value is too low. | Laser power failure or a flow error<br>→ The device may be defective. | - |
| The printer does not work. | Incorrect setting<br>→ Confirm the printer setting in the manual of the printer. | - |
| Data cannot be stored | Saving data function is OFF→ Confirm the setting of data storage. | 12 |
| | There is a possibility of no data remaining. | 10 |

## § 7 Warranty and After Service

The limited warranty set below is given by KANOMAX USA, Inc. (hereafter referred to as “KUI”) with respect to this instrument, its attachment parts including standard accessories (hereafter referred to as “PRODUCT”) that you have purchased. PRODUCT you have purchased shall be the only one that the limited warranty stated herein applies to.

Your PRODUCT, when delivered to you in new condition in its original container, is warranted against defects in materials or workmanship as follows: for a period of two (2) years from the date of original purchase, defective parts or a defective PRODUCT returned to KUI, as applicable, and proven to be defective upon inspection, will be exchanged for a new or comparable rebuilt parts, or a refurbished PRODUCT as determined by KUI. Warranty for such replacements shall not extend the original warranty period of the defective PRODUCT.

To obtain service under this warranty, you must notify Kanomax USA, Inc. on or before the expiration of the warranty period to obtain directions for returning the defective product. You are responsible for all return shipping charges to the authorized Kanomax service center.

This limited warranty covers all defects encountered in normal use of the PRODUCT, and does not apply to the following cases:
(1) Use of parts or supplies other than the PRODUCT sold by KUI, which cause damage to the PRODUCT or cause abnormally frequent service calls or service problems.
(2) If any PRODUCT has its serial number or date altered or removed.
(3) Loss or damage to the PRODUCT due to abuse, mishandling, improper packaging by the owner, alteration, accident, electrical current fluctuations, failure to follow operating, maintenance or environmental instructions prescribed in the PRODUCT's instruction manual provided by KUI, or service performed by other than KUI.

NO IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, APPLIES TO THE PRODUCT AFTER THE APPLICABLE PERIOD OF THE EXPRESS LIMITED WARRANTY STATED ABOVE, AND NO OTHER EXPRESS WARRANTY OR GUARANTY, EXCEPT AS MENTIONED ABOVE, GIVEN BY ANY PERSON OR ENTITY WITH RESPECT TO THE PRODUCT SHALL BIND KUI. KUI SHALL NOT BE LIABLE FOR LOSS OF STORAGE CHARGES, LOSS OR CORRUPTION OF DATA, OR ANY OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY THE USE OR MISUSE OF, OR INABILITY TO USE, THE PRODUCT, REGARDLESS OF THE LEGAL THEORY ON WHICH THE CLAIM IS BASED, AND EVEN IF KUI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL RECOVERY OF ANY KIND AGAINST KUI BE GREATER IN AMOUNT THAN THE PURCHASE PRICE OF THE PRODUCT SOLD BY KUI AND CAUSING THE ALLEGED DAMAGE. WITHOUT LIMITING THE FOREGOING, THE OWNER ASSUMES ALL RISK AND LIABILITY FOR LOSS, DAMAGE OF, OR INJURY TO THE OWNER AND THE OWNER'S PROPERTY AND TO OTHERS AND THEIR PROPERTY ARISING OUT OF USE OR MISUSE OF, OR INABILITY TO USE, THE PRODUCT NOT CAUSED DIRECTLY BY THE NEGLIGENCE OF KUI. THIS LIMITED WARRANTY SHALL NOT EXTEND TO ANYONE OTHER THAN THE ORIGINAL PURCHASER OF THE PRODUCT, OR THE PERSON FOR WHOM IT WAS PURCHASED AS A GIFT, AND STATES THE PURCHASER'S EXCLUSIVE REMEDY.

## §8 Contact Information

KANOMAX
The Ultimate Measurements

- U.S.A.

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  FAX: (973)-786-7586
  URL: http://www.kanomax-usa.com/
  E-Mail: info@kanomax-usa.com

- JAPAN

  KANOMAX JAPAN INC.
  2-1 Shimizu, Suita City, Osaka 565-0805, Japan
  TEL: 81-6-6877-0183
  FAX: 81-6-6879-5570
  URL: http://www.kanomax.co.jp
  E-Mail: sales@kanomax.co.jp

- CHINA

  Shenyang Kano Scientific Instrument Co., Ltd.
  TEL: 86-24-23846440
  FAX: 86-24-23898417
  URL: http://www.kanomax.com.cn/
  E-mail: sales@kanomax.com.cn

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