

**AVM-8880**  
**USB Logging Anemometer**

**Introduction**

This digital USB logging Anemometer is a precision instrument. It measures airflow levels and has the facilities to record and store measured values when plugged into a computer. When not in use, the instrument should be kept in the carrying case provided, to protect it from damage.

**Features**

- Records maximum and minimum with recall
- Large LCD with dual display showing velocity and temperature
- Data hold
- Measures air velocity in five different units
- Selectable units temperature
- Accessories included: Carrying Case, Software, USB Connection Cable, Hotwire Probe, AC/DC Adapter and 9V Battery.

**Applications**

This item can be used for environmental testing, air conveyors, flow hoods, clean rooms, air velocity, fans, motors, blowers, furnace, and spray booths.

**Specifications**

- Measures in m/s (0.1 ~ 25.0), km/h (0.3 ~ 90.0), ft/min (20 ~ 4925), MPH (0.2 ~ 55.8) & knots (0.2 ~ 48.5)
- Measures temperature in °C/°F
- Sampling rate of approximately 0.8 seconds
- Accuracy: ±5% of reading + 0.1m/s
- Accuracy for temperature: ±1°C/±1.8°F
- Operating temperature and humidity: 0°C ~ 50°C (32°F ~ 122°F) and less than 80%RH
- Power source: 1 x 9V battery or AC/DC Adapter (supplied)
- Power current: DC 60 ~ 90mA
- 46.7mm x 60mm LCD display
- Dimensions: 210L x 75W x 50H (mm)
- Weight of unit: 280g

**Function Buttons**

1. Power On/Off Button
2. Hold/Zero Button
3. Mean Button
4. Min/Max Memory Button
5. Flow/Temp Button
6. Units Button for Temperature
7. Units Button for Velocity
8. Setup/Backlight Button
9. Enter Button



**Operation Instructions**

**Power On/Off and Back Light for Display**

To turn the meter on by pressing the **yellow power button** (No 1) on the bottom of the unit. The meter will count down from 8 before briefly showing dashes whilst the meter connects with the probe. Press the power button once to turn the meter off.

To illuminate the LCD display, press the  button (No 8). Repeat to turn the light off.

## Entering and Changing Set-up Options

To enter or exit **set-up mode** press the **SETUP button** (No 8) for 3 seconds. In set-up mode you can change the area unit, the flow area and auto power off mode. To select the option you wish to change, scroll through using the  or

 **button** (No 6&7) and press **Enter** (No 9) to change it. Using the **Unit buttons** (No 6&7) select the unit for area, or the area of measuring, or disable or enable auto power off, depending on which option you have selected. Press **Enter** to save the changes and press set-up to exit.

## Selection of Velocity, Flow and Temperature Units

To change the units for velocity press the  button (No 7) to scroll through the five different options and release when the desired unit is shown on the LCD display. For temperature and flow use the  button (No 6) and repeat the same procedure to select the correct units.

## Data Hold and Zero the Unit

Data hold allows the current reading to be frozen on the display. Press **HOLD/ZERO** button (No 2) to activate. An indicator at the top of the display will show **HOLD**. Press **HOLD/ZERO** again to cancel data hold and the instrument will return to normal operation.

Before using the unit it is recommended that the sensor cover is covering the sensor and the meter is zeroed. Press **HOLD/ZERO** (No 2) for 2 seconds and four **0000** will show across the screen where the velocity reading is shown. This indicates that zero setting has been completed and the unit is ready for use.

## Minimum and Maximum Values

This function is activated by pressing **MAX/MIN** (No 4) and will display the minimum and maximum values since the instrument was switched on. The first value is the maximum measured value with a **MAX** indicator shown at the bottom of the display. Press **MAX/MIN** again to display the minimum measured value with **MIN** indicator shown at the bottom of the LCD screen. Hold the **MAX/MIN** button for 2 seconds to exit **MAX/MIN** mode.

## Multi-point Mean Calculation

To enter multi-point mean calculation press **MEAN** button (No 3) once and **• Mean** will appear at the bottom of the screen. The upper line of the display will show stored readings and the lower line will show the current reading. To enter a reading for mean calculation press **ENTER** (No 9) when a reading is showing on the lower line of the display and the same reading will appear on the upper line of the display, this reading is now stored. Press **ENTER** to store your second reading and the second reading will appear on the upper line. Repeat this procedure until you have all the readings you require to calculate your mean value.

To calculate the mean using your saved readings press **MEAN** button once, **• Mean** will flash and your mean value will appear in the lower line of the display. Press **MEAN** again to return to normal view.

If you wish to change units whilst in mean mode press **Unit** button (No 6).

To change between temperature, flow, velocity and calculated volumetric flow rate press the **FLOW/TEMP** button (No 5). If you wish to change the units whilst in mean mode press the **Unit** button (No 6).

## Mean Calculation in Real Time

To perform a mean calculation in real time hold down the **MEAN** button for 2 seconds and **Mean**  will appear at the bottom of the display. The measuring time (**mm:ss**) is displayed in the top line, while the current reading is shown in the bottom line of the display. To start using this function press **ENTER** and the time will start counting up in seconds in the upper line of the display. Take your readings with the probe (**you don't need to press any buttons until you have finished taking all your readings**).

When you are ready to calculate the mean press **MEAN** once. The time will stop, **Mean**  will flash and your mean value will appear in the lower line of the display.

If you wish to change units whilst in mean mode press **Unit** button (No 6).

To change between temperature, flow, velocity and calculated volumetric flow rate press the **FLOW/TEMP** button (No 5). If you wish to change the units whilst in mean mode press the **Unit** button (No 6).

To return to normal view press **MEAN**.

### **Hotwire Probe**

When using the hot wire probe, make sure that the probe is connected correctly into the top of the meter. On the top of the probe there is a silver sensor cover that you slide down when you are ready to take a reading. It is important, that the sensor cover is put back over the sensor when the probe is not in use to isolate the sensor from the environment and protect from damage. The probe provided is telescopic and can be extended to a convenient length for the required application. On the top of the sensor head there is an arrow to indicate which way the probe should be used when taking a measurement. It is important that you check this, if used in the wrong direction you will receive false readings.

### **AC/DC Power Adapter**

This instrument is supplied with a regulated AC/DC adaptor. Do not use any other power adapter. Prior to connection slide off the back cover and remove the 9V battery. Connect the adaptor to the instrument and plug into a mains supply. Switch on the instrument as normal.

### **Low Battery Indicator**

When the battery power falls below the required voltage a battery symbol will appear in the top left hand side of the display. To change the battery, slide the back cover off, disconnect the expired battery and replace.

### **Maintenance and Calibration**

The instrument should be cleaned using a damp cloth to remove any dust or dirt. Do not store the instrument where the temperatures and humidity is excessively low or high. This should be taken into consideration especially when leaving the instrument in vehicles.

Recalibration of this instrument will vary due to operating conditions and regulations. It is recommended that the meter be recalibrated at least once every 12 months. ATP offers a fully traceable calibration service to national standards. Please call our technical help line for current prices 01530 566804.

### **Installing the Software**

Start Windows and insert the **CD** into the CD drive. Install Wizard should detect and install the software.

If install wizard does not appear automatically go to **START** at the bottom of the desktop, then **Run . . .** Browse for **DT-8880 DISK (D:)** which is the name of the software.

Click on **DT-8880 DISK (D:)** This will open up the files stored within the **CD**. Open the **SETUP** file and follow the instructions to install the software.

Once this is complete you will see an icon appear on your desktop. The installation was successful, but before you can use the software you need to install the hardware drivers. **Do not remove the CD**.

### **Installing the Hardware Drivers**

You **will** need to install the hardware drivers even if you already have installed the following ATP Data Logging Instruments as this meter comes with an updated version of the hardware.

**SL-8851 USB Logging Sound Level Meter**

**SL-8852 USB Data Logging Sound Level Meter.**

**LX-1309 USB Logging Lux Meter.**

**LX-8809A USB Data Logging Lux Meter**

With the CD for the software still in the CD drive, turn the instrument on, and then connect the meter to the computer using the USB cable supplied.



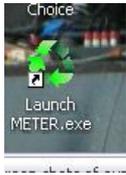
A new window should appear automatically to install the hardware. Click **install**, to start installation. If you have any older version of the hardware already on your computer a notice box will appear asking you to remove them. Click yes, to continue. At the end of installation it will ask you to restart your computer, it is advised that you click yes.

To un-install the driver (in the “add or remove programs”) you will find a driver called ‘**Silicon Laboratories CP210x USB to UART Bridge (Driver Removal)**’. Click on this to un-install.

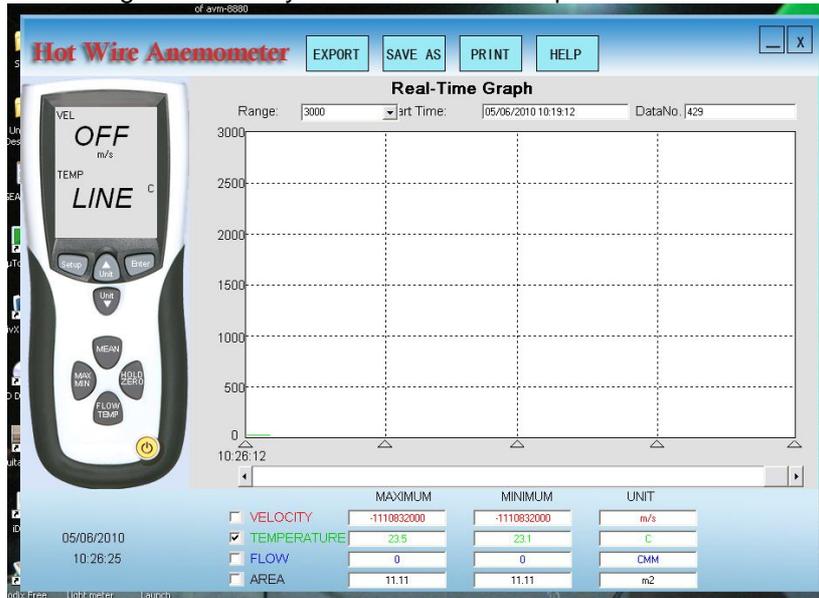
## Using the Software

Before connecting your computer turn on the instrument.

Connect the instrument to the computer with the USB cable and open the software on the icon.

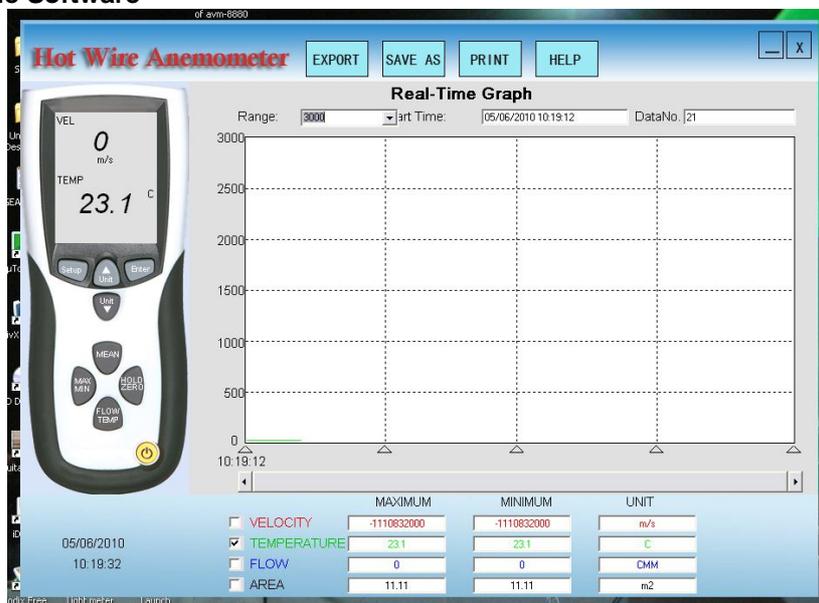


The meter should connect automatically, showing the current readings in the meter image on the left hand side of the software and the software should start recording automatically on the Real-time Graph.



If there is no connection the software will display **OFF LINE** in the instrument image. Check the connections are correct and plugged in. If the software still does not connect please look at '**Meter will not connect**' in the Troubleshooting section.

## General Recording with the Software



The software will start recording as soon as the meter is connected and the software is opened. It will take a recording every couple of seconds and shows the results as a line graph. It is very easy to use allowing you to save results quick and easy.

The results can be saved as a text file when you press **SAVE AS** at the top of the software window, or as a graph file that can only be opened through the software if you click on **EXPORT**.

## Trouble Shooting

### Meter will not connect

First make sure when you are using the meter with the software that the USB cable is connected correctly and the battery in the meter is at the voltage required.

If the hardware has been installed correctly you will be able to find out what COM port your meter will work with. To do this please follow the following instructions, but please note that these instructions were done using XP so if you are running a different version of windows it may be in a different place.

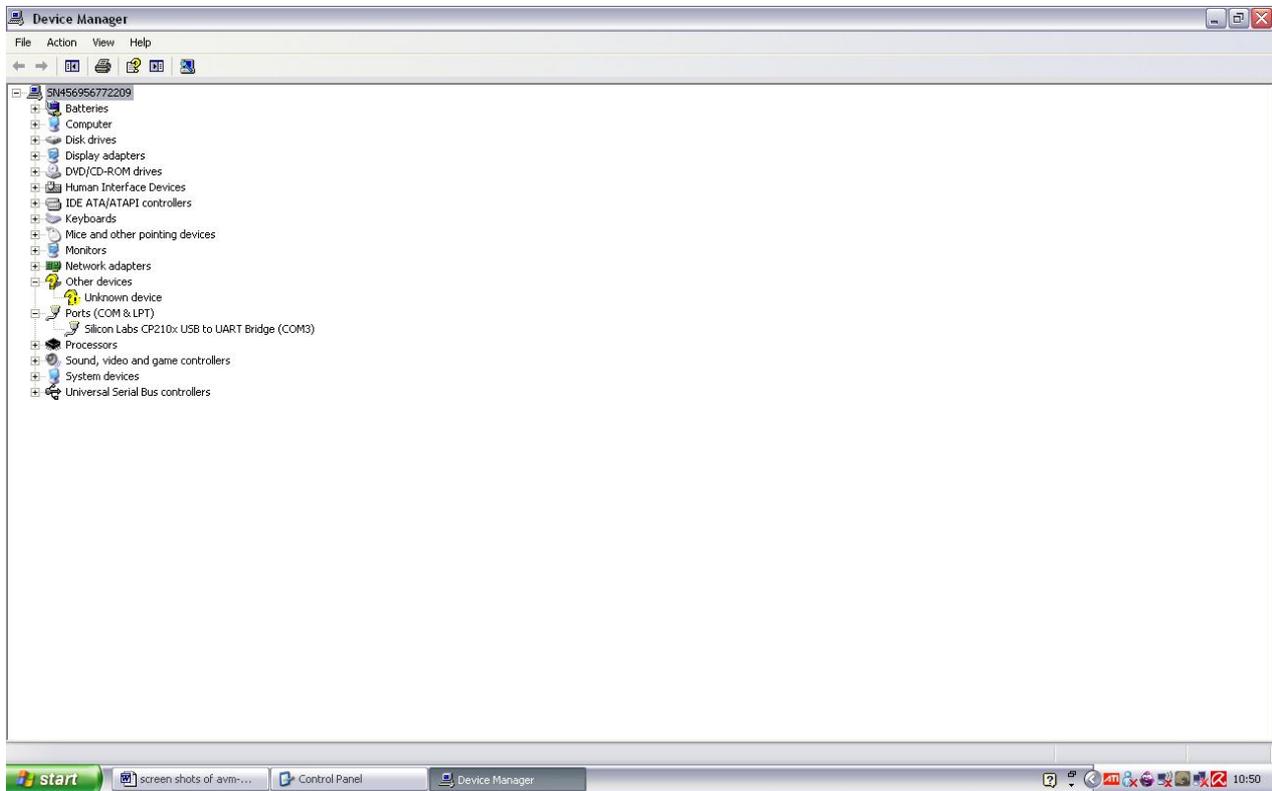
Go to **START** on the tool bar at the bottom of your laptop.



Go to Control Panel and find a computer icon with the word **SYSTEM**

Double click on this icon and at the top of the System Properties window click on the **HARDWARE** tab, then **Device Manager**.

This will open a window called Device Manager (this window can be seen below):



In the Device Manager list look for **Ports (COM & LPT)** and click on the + sign next to it to drop down a list of the hardware in your computer and next to each one there will be a COM or LPT number, this tells you which port or LPT it will work with. The name of the hardware you are looking for is **Silicon Labs CP210x USB to UART Bridge (COM3)** and next to this there will be a COM port number. For example on my computer this hardware will work when COM port 3 is selected on the software.

If the hardware is not listed, this means that the hardware was not installed correctly.

Uninstall the software and see if you can find the hardware listed in the add/remove programs (see below)



If you can see it remove it so you can re-install everything again.

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