DMM Viewer 2

GDM-9060/9061

Remote Viewer Guide

VERSION V.1.00

ISO-9001 CERTIFIED MANUFACTURER

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TABLE OF CONTENTS

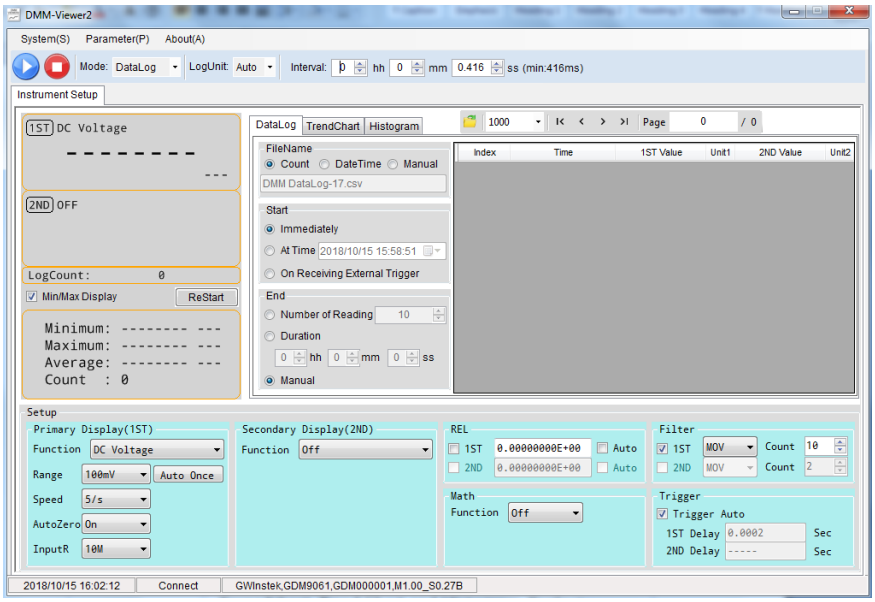
INTRODUCTION

The GDM-9060/9061 DMM-Viewer 2 Guide is intended for showing how to use the remote viewer PC software, DMM Viewer2, on Windows OS based computers (Windows 7 32bit or 64bit, Windows 8 32bit or 64bit, Windows 10 32bit or 64bit supported).

This manual consists of the following chapters.

- Setup: Connection, Installation, Uninstallation, Configuration
- Measurement: Measurement procedure and configuration settings
- Graphic Display Modes: Trend Chart and Histogram display modes
- Version: Accessing the software version of DMM Viewer 2

Software overview



The software contains the following functions.

- Making measurements in real-time
- Displaying measurement result in real-time
- Storing and loading measurement data
- Spreadsheet, Trend Chart and Histogram displays

SETUP

Wire Connection

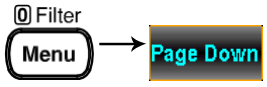
Read the following instructions regarding how to set up remote interface on GDM-9060/9061 and method of cable connection when operating DMM Viewer 2 in conjunction with the GDM-9060/9061.

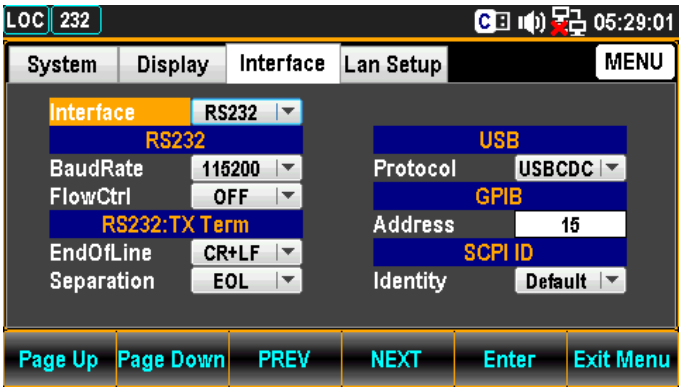
⚠Note

There are several interfaces (RS-232, USB, LAN, GPIB) to connect GDM-906X and DMM Viewer 2. The following procedure describes an example of USB connection configuration and procedure for your reference.

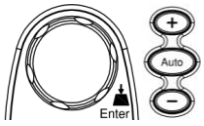
1. Configure the GDM-9060/9061 to USB interface

1. Press the Menu key, and then the Page Down key repeatedly until the Interface configuration menu appears.

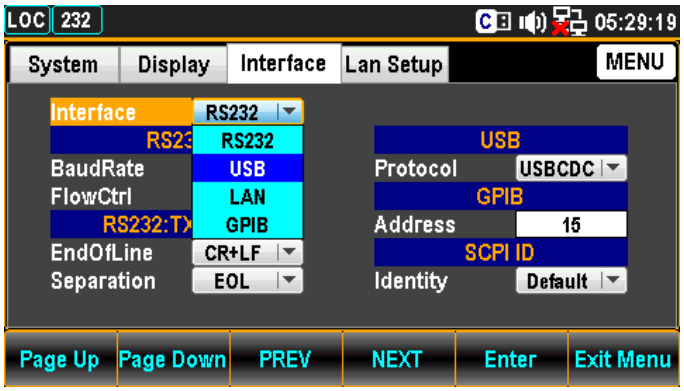




2. Press the F5 (Enter) key or Knob key followed by scrolling Knob key or pressing +/- keys to land on the USB option.

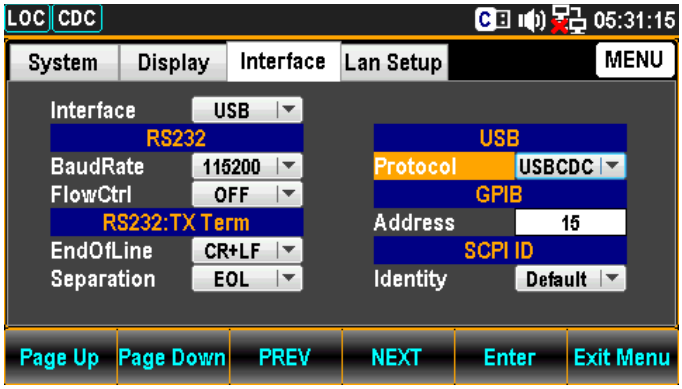


Enter

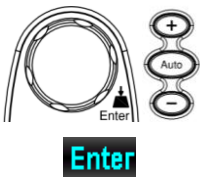


3. Press the F5 (Enter) key or Knob key to select the USB option.

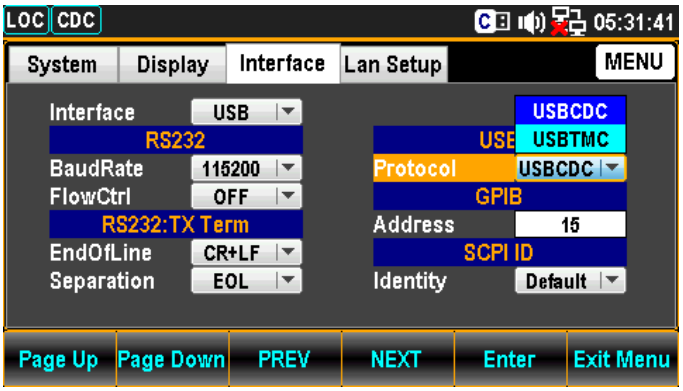
4. Press the F4 (NEXT) key repeatedly or scroll the Knob key to move to the USB - Protocol field.



5. Press the F5 (Enter) key or Knob key followed by scrolling Knob key or pressing +/- keys to land on the desired USB Protocol option. We adopt USB-CDC in the example here.



Enter

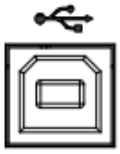


6. Press the F5 (Enter) key or Knob key again to confirm the USB Protocol option.

2. Connect the USB cable

1. Connect the one end of USB cable (USB Type B) to the corresponding port on the rear panel of GDM-906X for connection.

   USB Type B port on the rear panel



2. Connect the other end of the USB cable (USB Type A) to the corresponding port on the host PC.

Installation

There are 2 software, NI VISA and Microsoft .NET Framework, required to be installed onto the host PC prior to DMM Viewer 2 software installation.

Further, another two items from the CD, the USB driver, which is required when USB interface is utilized, and DMM Viewer 2 software, need to be installed onto the host PC in order for running the software properly.

1. Preparation

The 2 software listed below are required prior to DMM Viewer 2 installation. Please make sure that you have installed them before DMM Viewer 2 installation.

- NI VISA RunTime or Full Version 14.0 or later
- Microsoft .NET Framework 4 or later

2. Installing the USB driver

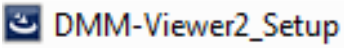
⚠ If using other interfaces (GPIB, RS-232, LAN) rather than a USB connection, this section (Installing the USB driver) may be skipped.

1. Configure the interface of GDM-906X to USB option. Page 5
2. Connect the USB cable from the GDM-906X rear panel USB port to the host PC. Page 7
3. The GDM-906X will be recognized as new hardware. Follow the Windows Installation Wizard to install the USB driver (**GDM906X_USB_Driver For All.inf**) from the CD, located in the USB_DRIVER directory.

⚠Note The PC may need to be restarted once the driver is installed.

3. Installing DMM Viewer 2

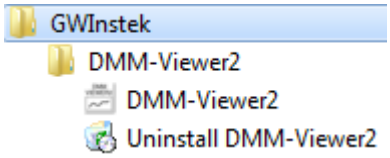
1. Go to the DMM-VIEWER 2 directory on the CD-ROM.
2. Click on the DMM-Viewer2_Setup.exe



3. The installation wizard will start up. Follow the directions of the installation wizard. When choosing an install location it is recommended that the default location is chosen.

   The default location of the software is C:\Program Files (x86)\GWInstek\DMM-Viewer2

   A program icon should be available from the Start Menu.



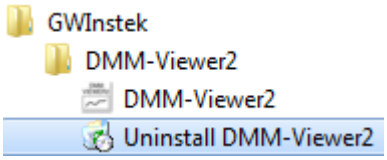
⚠Note To check the software version please see page 28.

Uninstallation

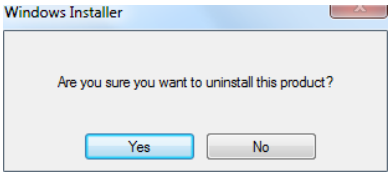
Follow the procedures described in this section when the DMM Viewer 2 software needs to be removed.

1. Uninstall the DMM Viewer2 from Start Menu

1. Click on **Uninstall DMM-Viewer2** under the default folder of **GWInstek** from Start Menu.



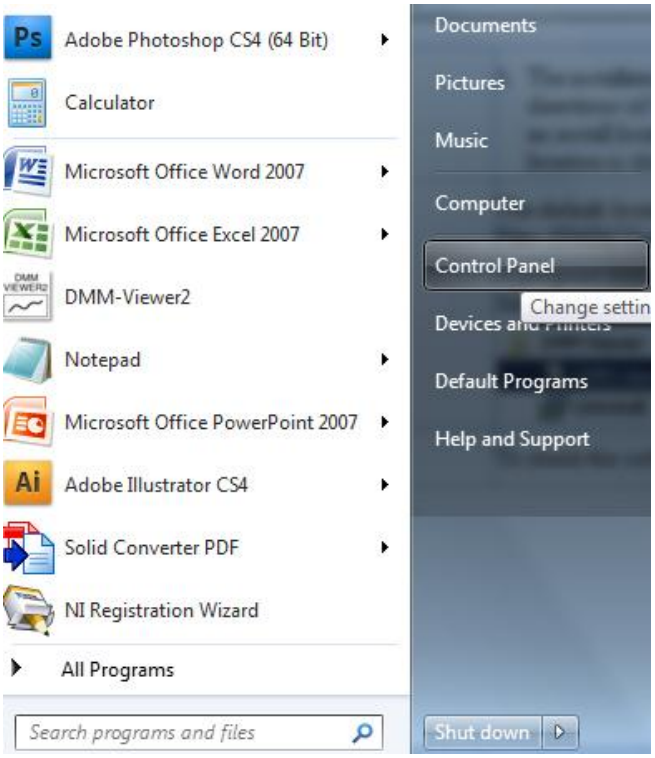
2. Click on **Yes** from the prompt message showing "Are you sure you want to uninstall this product?"



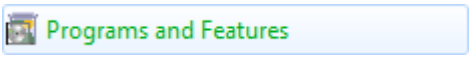
3. The uninstalling process will proceed automatically until complete finish.

2. Uninstall the DMM Viewer2 from Control Panel

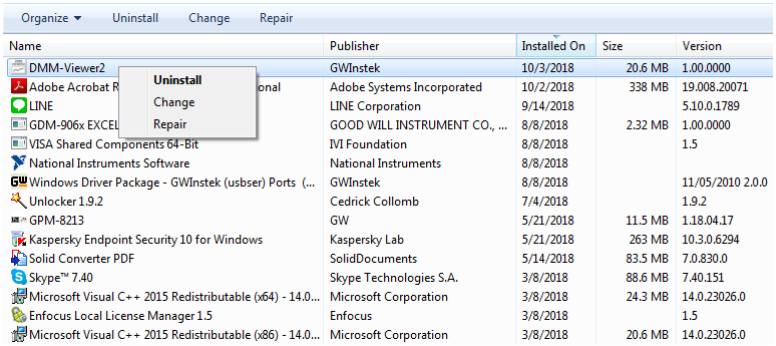
1. Press **Control Panel** from the Windows Start menu.



2. Click **Programs and Features** option.



3. Select **DMM-Viewer2** followed by pressing the **Uninstall** button.

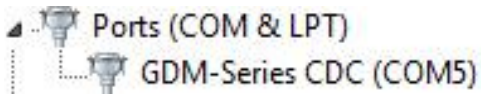


4. Follow the instructions step by step to complete the uninstalling process.

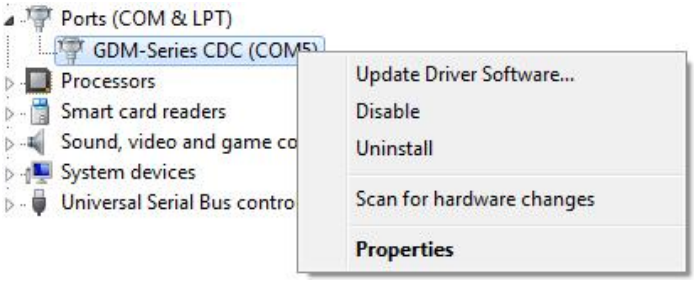
Configuration

1. Configure the host PC

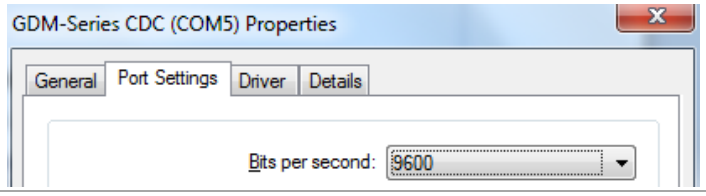
1. Before making sure the DMM is recognized by the PC, open the **Device Manager (Start > Control Panel > (System) > Device Manager**. If using USB, the USB driver, **GDM-Series CDC**, should be listed in the "Ports" section.
2. Check which COM port the USB driver connection is assigned to.



3. To see the baud rate of the connection, right click the GDM-Series CDC and select Properties.

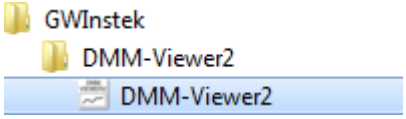


4. Click the **Port Settings** tab and check the baud rate of the connection.

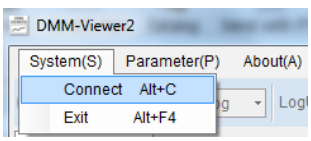


2. Configure DMM Viewer 2

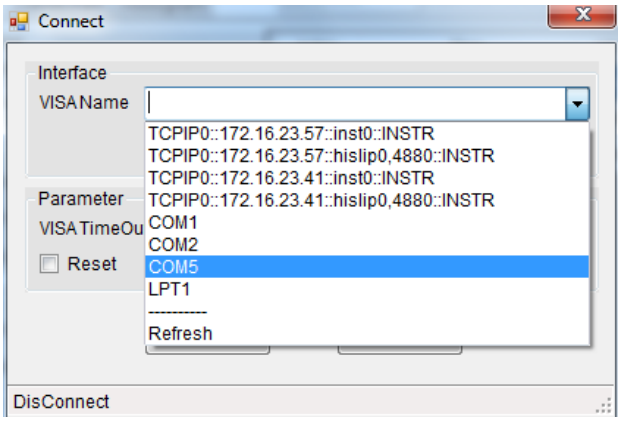
1. Activate the DMM-Viewer2 from the Start Menu.



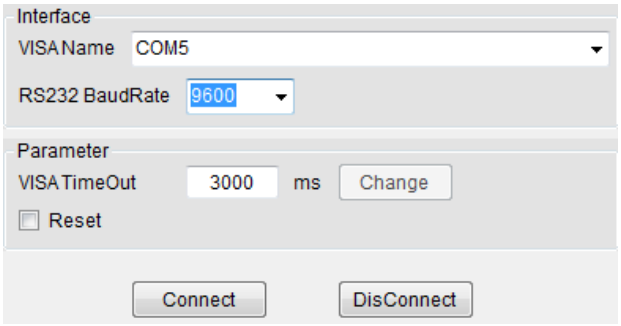
2. Click on the **System(S)** tab from the top Tool Bar and open the **Connect** dialog.



3. Select the target interface from the dropdown menu of VISA Name. We choose COM5, which represents the USB-CDC connection between the host PC and GDM-906X, for this example.

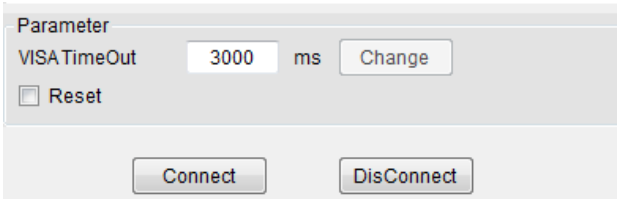


4. Further select the Baud Rate option which corresponds to the setting on the host PC followed by clicking Connect to establish the connection.

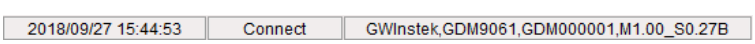


5. The VIS TimeOut allows user to define a period before timeout. From the figure below where the default 3000ms indicates if there's no response from the GDM-906X over the set 3000ms (max. 60000ms), the measurement will be halted accordingly.

   If ticking the checkbox of Reset, GDM-906X will restore to the default setting before measurement. If not ticking it, the measurement will begin with the last time setting on GDM-906X.



6. After clicking Connect, the successful message will appear in the bottom line of DMM-Viewer2.



7. Move on to the Measurement chapter (page 14).

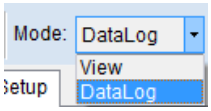
MEASUREMENT

1. Establish remote connection

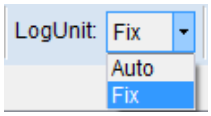
Follow the procedures for wire connection and configuration from the page 5 to 12.

2. Top bar setting

Open the dropdown menu of Mode from the top bar. Select either **View**, which allows user to view measurements only without saving logs, or **DataLog**, which conversely permits user to not only view but save the data logs simultaneously.



Select log unit options in which **Auto** changes measured unit properly adaptive per each measured count, whilst **Fix** simply locks measured unit within the basic unit per measuring functions. See the examples below.



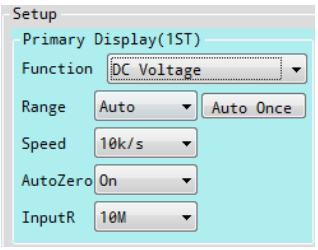
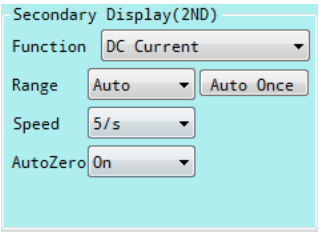
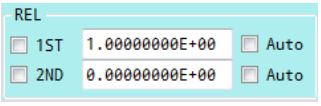
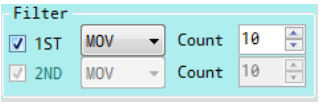
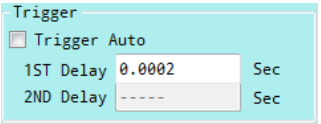
Auto Log Unit – AC Voltage

Index	Time	1ST Value	Unit1	2ND Value	Unit2
1	2018/09/20 13:57:41.4	+0.004324	VDC	--------	---
2	2018/09/20 13:57:41.5	+002.2078	mVDC	--------	---
3	2018/09/20 13:57:41.5	+0.001504	VDC	--------	---

Fix Log Unit – AC Voltage

Index	Time	1ST Value	Unit1	2ND Value	Unit2
1	2018/09/20 13:58:26.7	-4.16453160E-03	VDC	--------	---
2	2018/09/20 13:58:26.7	-5.88881706E-04	VDC	--------	---
3	2018/09/20 13:58:26.8	-4.20654429E-03	VDC	--------	---

In theory, the interval of each measured count is determined by the Speed option. However, it is available for user to customize preferable interval by inputting hour, minute and second fields respectively here.

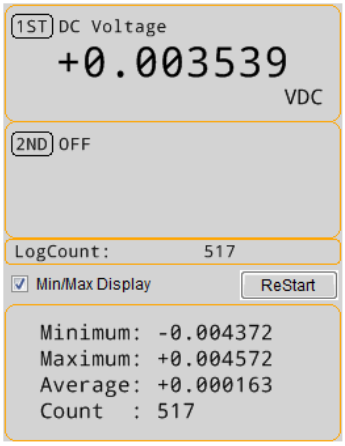
3. Measurement Setup field	The functions within the Setup field of DMM Viewer 2 software are almost identical to the functions of front panel keys on the GDM-906X. Refer to the GDM-906X User Manual for more specific details when necessary.
Primary Display	Select measurements from the Function menu and define the affiliated parameters like Range, Speed, Auto Zero, Input R, etc. The available parameter options vary by measuring functions 
Secondary Display	Identical with the above Primary Display section, the Secondary Display setup allows user to operate dual displays measurement. 
REL	The REL section indicates Relative function where user can enable it on 1ST, 2nd or both displays. Tick the Auto checkbox to auto define Relative value, while input value into the field to manually set up. 
Math	Several functions of Math can be operated here as well. The available parameters for user to define vary by each function. 
Filter	Set types (MOV, REP) of Filter and count number in this section for 1st, 2nd or both displays. 
Trigger	Define Trigger Delay time for 1st and 2nd displays, respectively, by inputting value manually. Tick the checkbox of Trigger Auto to activate auto triggering function. 

4. Start measurement

After selecting the measurement functions, click on the **Blue** arrow button to launch the measurement. The result is updated in real time in the Display as well as in the DataLog fields.

Display Field

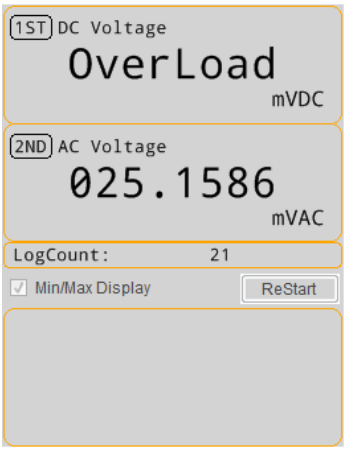
The latest measured value along with the total log counts are shown in real time. If the **Min/Max Display** checkbox is ticked, further details including Min, Max, Average and Count are displayed as well. Pressing the **ReStart** button will recount the info within **Min/Max Display** during measurement process but it is only available for View Mode. Refer to page 14 for details.



Note

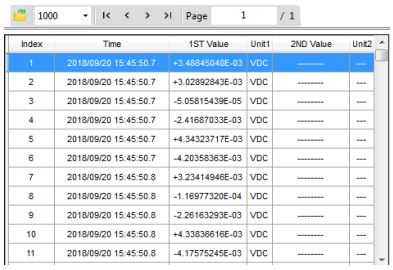
When the 2ND display is enabled, the measured value will be shown in 2ND section and the **Min/Max Display**, however, will be deactivated.

The latest measured values of both 1ST and 2ND displays.



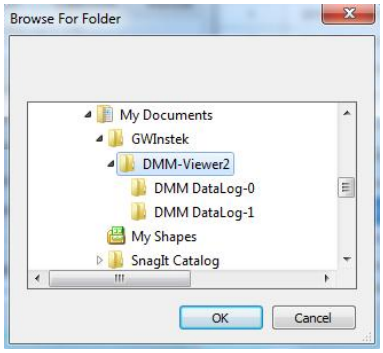
Log Field

The table field of logs contains practical info including time, value and unit of each measured count. Use the buttons (First, Previous, Next and Last Page) or input page number in upper bar to flip over the pages when counts are over single page. User can define how many counts to be shown within 1 page by expanding the dropdown menu where several options from 1,000 to the maximum 100,000 are available to be chosen.



Options of counts number in one page: 1000, 2000, 5000, 10000, 20000, 50000, 100000

Clicking the icon goes to the predefined folder (DMM-Viewer2) to check saved logs data and recall previous logs data when necessary.



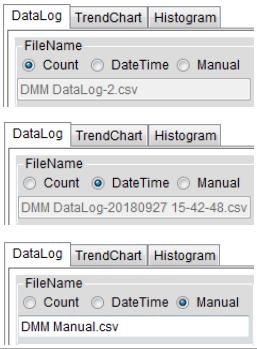
Note: Log field only appears when DataLog Mode is selected. Refer to page 14 for details.

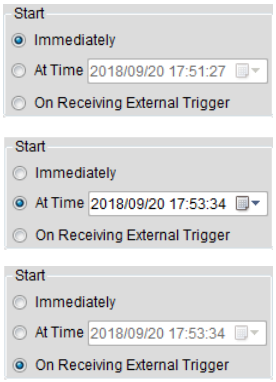
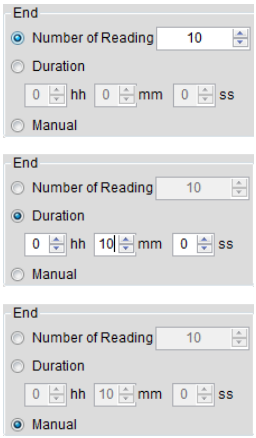
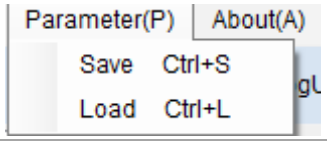
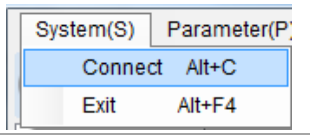
5. Setting of DataLog

This section is only available when DataLog Mode is activated. Below are the further settings.

File Name

Determine the name of saving data before measurement. Select **Count**, which adds a serial number in suffix of data name, or **Date Time**, which adopts current date & time for data name, or **Manual**, which allows user to customize data name in preference.

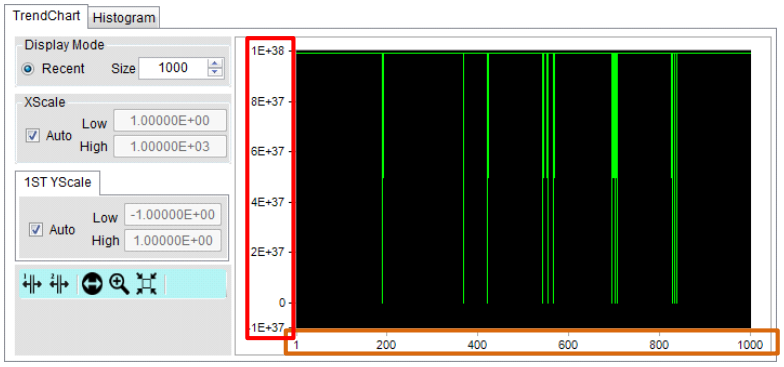
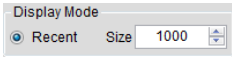


Start	Decide which way to begin measurement. **Immediately** allows user to start measurement right away by manually pressing the button. **At Time** indicates that user defines certain date & time to start. And **On Receiving External Trigger** means measurement only begins when external trigger is received. 
End	Determine which way to end measurement. **Number of Reading** indicates measurement stops when set reading number for measured counts is met. **Duration** simply means how long the set duration for measurement will last. And **Manual** allows user to halt measurement by manually pressing the button. 
6. Parameter save & load	After measurement, it is viable to save the settings of Setup section for next time utilization. Click on **Parameter(P)** tab on the top Tool Bar and press **Save** followed by designating a path where file will be stored. Press Load and pick up a saved file to recall the previous settings when necessary. 
7. Stop measurement	Click on the **Red** button to stop the measurement right away. 
8. Exit the DMM Viewer 2 software	To quit the software simply click on **System(S)** tab from the top Tool Bar and press the Exit button. 

GRAPH DISPLAY MODE

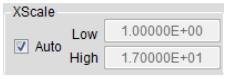
DMM Viewer 2 provides two display modes in graph for user to observe the measured results in a preferable manner. The following chapters will further introduce the display modes in details for better manipulation.

Trend Chart

Background	The measurement result can be observed in trend chart display. After measurement, click on the tab **TrendChart** and the screen will be shown as the figure below.
Trend chart overview	Of the trend chart display, X scale in orange indicates the range of the measured counts, whilst Y scale in red represents the range of the measured values. 
Display Mode (Recent)	The Size number under Display Mode indicates the latest maximum measured counts to be displayed. Manually input here to define a preferable number. The maximum number to be input is 100,000. 
	Note: Only View Mode allows user to manually input Size number. In terms of DataLog Mode, refer to page 17 on how to change measured counts number to be displayed in single page.

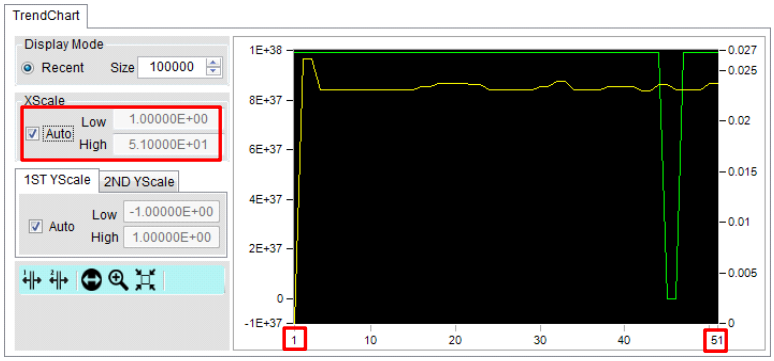
X Scale

X Scale indicates the X axis of range between the minimum (Low) and the maximum (High) count numbers for trend chart display.



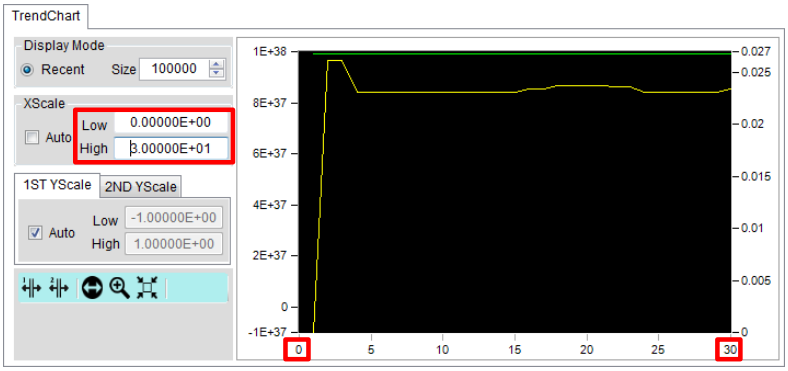
Auto X Scale

Ticking the Auto checkbox lets software determine the X range in accord with the numbers of measured counts.



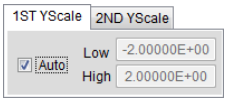
Manual X Scale

Deselecting the checkbox of Auto allows user to decide the X range by manually input preferable low & high numbers, respectively, regardless of numbers of measured counts.



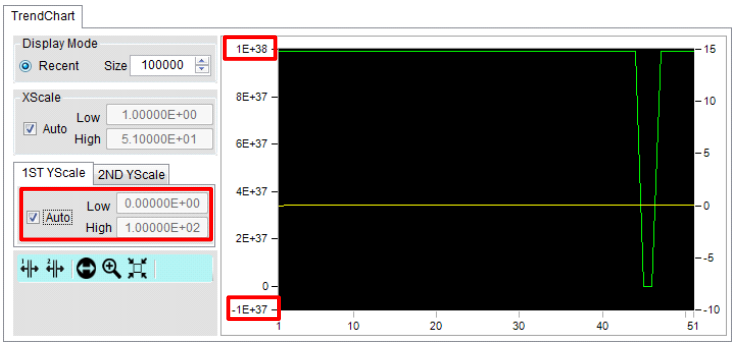
Y Scale

Y Scale indicates the Y axis of range between the minimum (Low) and the maximum (High) measured values for trend chart display.



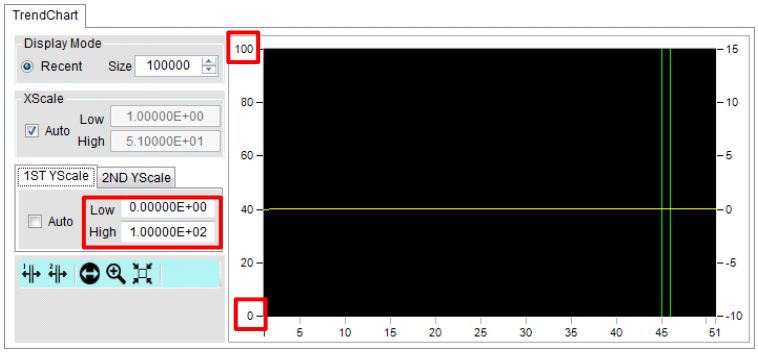
Auto Y Scale

Ticking the Auto checkbox lets software determine the Y range in accord with the entire measured values.



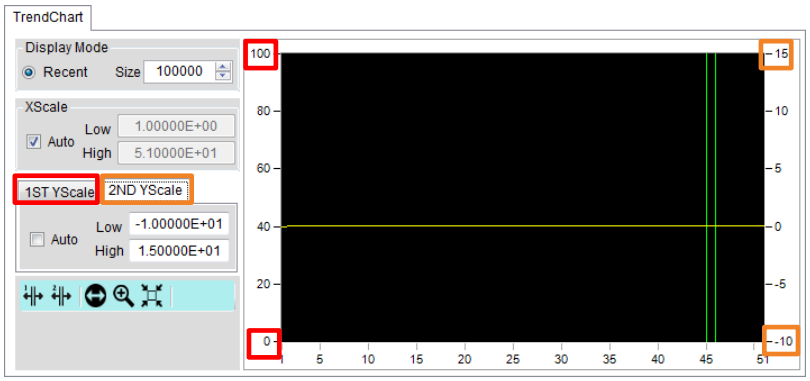
Manual Y Scale

Deselecting the checkbox of Auto allows user to decide the Y range by manually input preferable low & high values, respectively, regardless of the entire measured values.



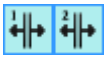
1ST & 2ND Y Scale

Trend chart supports dual channels display simultaneously. The Y scale, therefore, is divided into 1ST and 2ND sections. The way to define 2ND Y scale is identical with that of the 1ST display as mentioned above. Refer to the following figure in which red highlight indicates the Y scale of the 1ST display, whereas orange indicates the Y scale of the 2ND display.

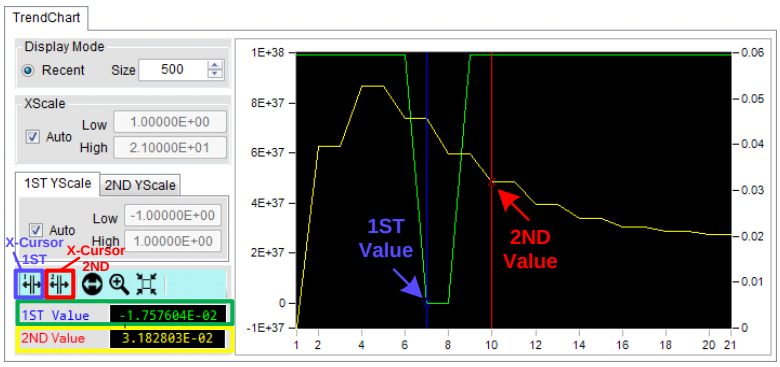


Note The 2ND Y Scale section hides out when the 2ND display measuring function is disabled.

X Cursor Indicator(s)



Click X-Cursor (1ST) or X-Cursor (2ND) or both tags to activate highlight(s) on certain measure value(s). Press and drag the cursor line(s) (blue for 1ST, red for 2ND) to preferable spot(s) on X scale, and the measured value(s) of 1ST and 2ND display will be shown clearly in green (1ST) and yellow (2ND) colors individually.

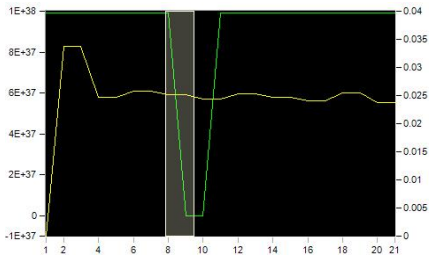


Note The X-Cursor (2ND) will be disabled once the 2ND display measuring is deactivated.

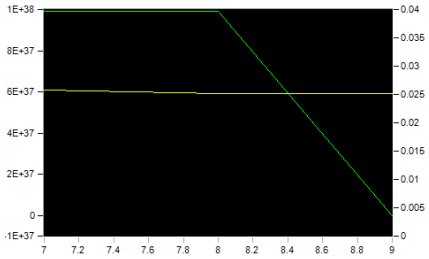
Zoom-X

Click on the Zoom-X tag and press and drag on any of a specific area of the trend chart to obtain the zoom-in close-up for detailed observation. Zoom-X can be operated consecutively on the same area for close-ups in more explicit manner.

1. Press and hold on the target zone of trend chart.



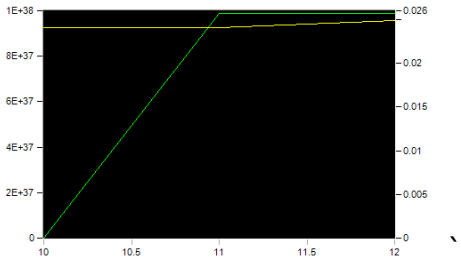
2. The close-up of target area is shown accordingly.



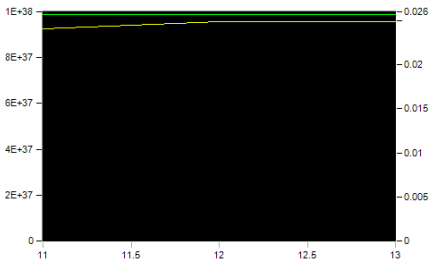
Pan-X

After operating the Zoom-X function, it is feasible to utilize Pan-X in order to move trend chart horizontally for another target area.

1. Click on the Pan-X tag and press and hold the trend chart to move it rightward or leftward.

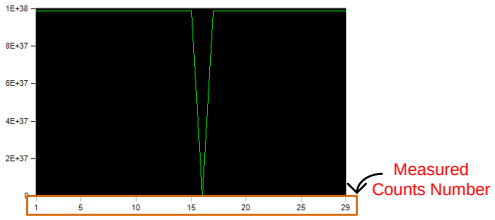


2. The close-up of target area is shown accordingly.

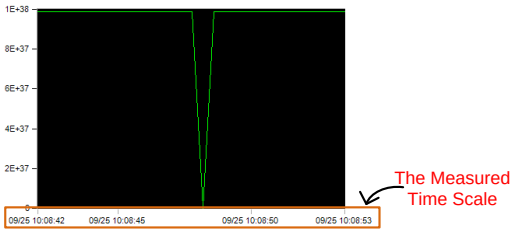


Zoom Out	When finishing Pan-X operation, press the Zoom Out tag to return to the original display.	
Time Scale	Click on the Time Scale tag to toggle between, in terms of X Scale, measured counts number and time scale displays.	

1. The original display in X scale, which indicates the measured counts number, e.g., 1 - 29, in the figure.



2. After clicking on the Time Scale tag, the display for X scale changes to time scale of the measured time.



Note: Time Scale is only available when DataLog Mode is activated.

Histogram

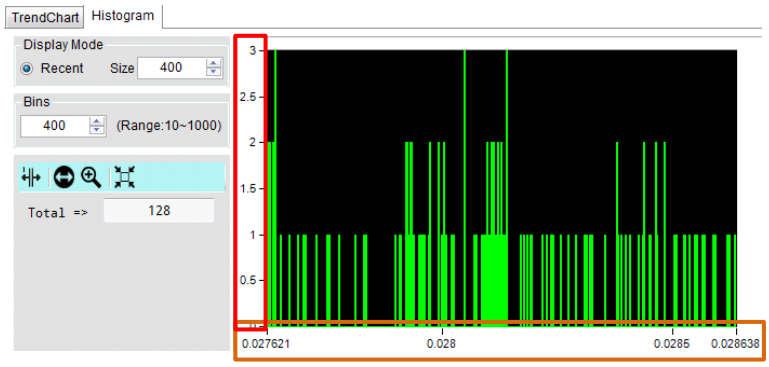
Background

In addition to Trend Chart, the measurement result can also be observed in Histogram display. After measurement, click on the tab **Histogram** and the screen will be shown as the figure below.

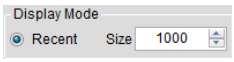
Note When 2ND measuring function is enabled, Histogram display will be hidden out.

Histogram overview

Of the histogram display, X scale in orange indicates the total range of the measured values for each bin group, whilst Y scale in red represents the accumulated measured counts for each bin group.



Display Mode (Recent)



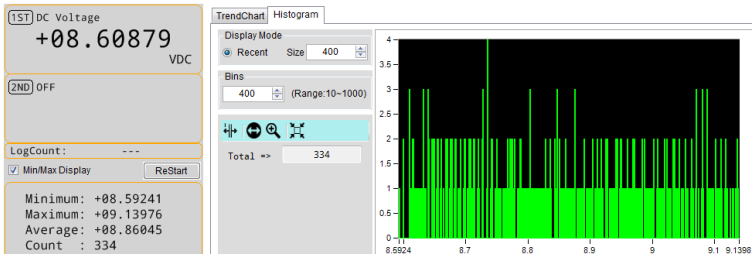
The Size number under Display Mode indicates the latest maximum measured counts to be displayed. Manually input here to define a preferable number. The maximum number to be input is 100,000.

Note Only View Mode allows user to manually input Size number. In terms of DataLog Mode, refer to page 17 on how to change measured counts number to be displayed in single page.

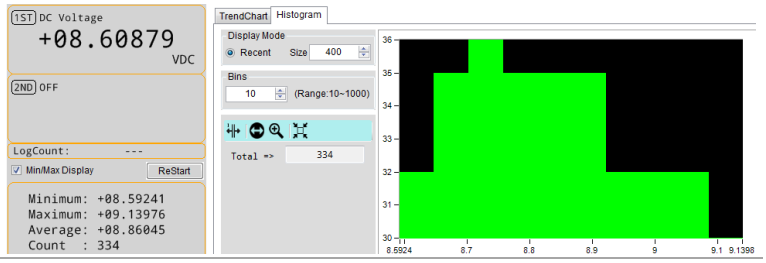
Bins

Since each bin contains different measured counts depending on varied measured conditions, it is viable to determine a maximum number of bins to display. Manually input a number ranging from 10 to 1000 into the field here for an estimated display in histogram.

1. Take the figure below for example, the total measured counts are 334, and we set the bins in 400. From the histogram we can clearly tell that the bins number is many and sporadic where the highest measured counts of bins are 4 in Y scale.

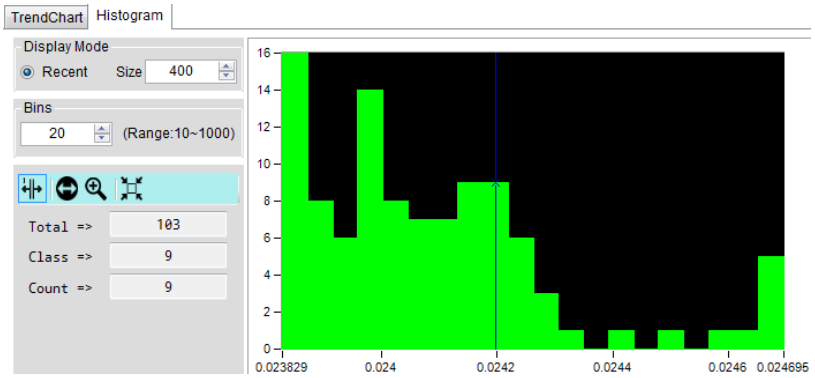


2. If we set "10" in the field, the histogram shows us the maximum bins is decreased to 10 and each bin has more measured counts than the previous. Also, the highest measured counts of bin are 36 in Y scale.



X Cursor Indicator

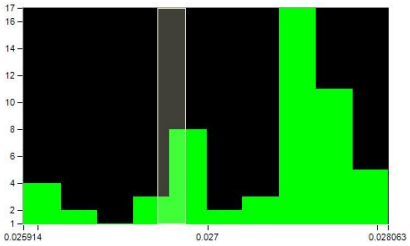
Click X-Cursor tag to activate highlight on a specific target bin group. Press and drag the blue cursor line to a preferable bin group on X scale, and the **Class**, which is the selected bin number, with the **Count**, which indicates the measured counts of the selected bin, will be shown clearly in the left section. The **Total** simply means the whole measured counts.



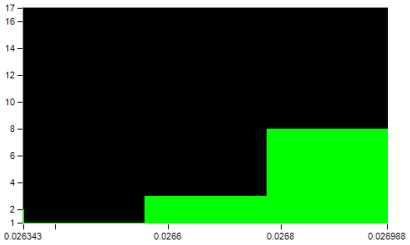
Zoom-X

Click on the Zoom-X tag and press and drag on any of a specific area of the histogram to obtain the zoom-in close-up for detailed observation. Zoom-X can be operated consecutively on the same area for close-ups in more explicit manner.

1. Press and hold on the target zone of histogram.



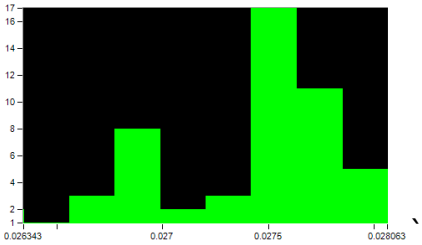
2. The close-up of target area is shown accordingly.



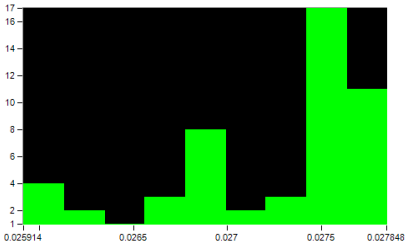
Pan-X

After operating the Zoom-X function, it is feasible to utilize Pan-X in order to move histogram horizontally for another target area.

1. Click on the Pan-X tag and press and hold the histogram to move it rightward or leftward.



2. The close-up of target area is shown accordingly.



Zoom Out

When finishing Pan-X operation, press the Zoom Out tag to return to the original display.

VERSION

This section describes how to view the version number of the software.

View Software Version

You may need to check the version of the software to see if you have the latest version.

1. Start DMM Viewer 2.
2. On the main display window click the **About(A)** tab on the top Tool Bar to show the version info.