DAQ-Data Logger

For DAQ-9600

PC Software Manual

VERSION V.2.00



ISO-9001 CERTIFIED MANUFACTURER



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Software overview

NTRODUCTION

The DAQ-Data Logger Guide is intended for showing how to use the remote PC software, DAQ-Data Logger, 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 DAQ-Data Logger

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The software contains the following functions.

- Making measurements in real-time
- Displaying measurement result in real-time
- · Saving and loading measurement parameters
- Data Display, Trend Chart and Histogram displays



Wire Connection

Read the following instructions regarding how to set up remote interface on DAQ-9600 and method of cable connection when operating DAQ-Data Logger in conjunction with the DAQ-9600.

Note	There are several interfaces (USB, LAN, GPIB) to connect DAQ-9600 and DAQ-Data Logger. The following procedure describes an example of USB connection configuration and procedure.
1. Configure to USB interface	1. Press the Menu key, and then the Page Down key repeatedly until the Interface configuration menu appears. Image: Display Interface Lan Setup Frotocol USBCDC IN COMMA IN THE FORMER SEPARATION OF THE SEPARATION OF
	 Press the F5 (Enter) key or Knob key followed by scrolling Knob key or pressing +/- keys to land on the USB option.



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





NOTE

 Press the F5 (Enter) key or Knob key again to confirm the USB Protocol option. It is suggested to choose "USBTMC" protocol.



NEXT

When "USBCDC" option is selected, user can proceed to the following RS232:TX Term setting.

 Press the F4 (NEXT) key repeatedly or scroll the Knob key to move to the EndOfLine field.



 Press the F5 (Enter) key or Knob key followed by scrolling Knob key or pressing +/- keys to land on the desired option of EndOfLine field.





3. Press the F5 (Enter) key or Knob key again to confirm the selected option of EndOfLine field.



 Press the F4 (NEXT) key repeatedly or scroll the Knob key to move to the Separation field.



OC CDC		Mer	าน	📒 🗐 🔁	2 09:27:16
System	Display	Interface	Lan Setup		
Interfac	e US	B ▼	LanConn	Delay <mark>01</mark> USB	sec
			Protocol	USB GPIB	CDC
RS	232:TX Ter	m	Address		15
EndOfLi	ine CR+	LF		SCPI ID	
<mark>Separat</mark>	ion COM	IMA 🔽	Identity	Defa	ault 🔽
Page Up	Page Down	PREV	NEXT	Enter	Exit Menu

 Press the F5 (Enter) key or Knob key followed by scrolling Knob key or pressing +/- keys to land on the desired option of Separation field.





6. Press the F5 (Enter) key or Knob key again to confirm the selected option of Separation field.



Connect the
 Connect the one end of USB cable (USB Type B) to the corresponding port on the rear panel of DAQ-9600 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

The software, NI VISA, is required to be pre-installed onto the host PC prior to DAQ-Data Logger software installation.

Further, install the DAQ-Data Logger software, which can be downloaded from the GW INSTEK official website, onto the host PC.

1. Preparation	The software listed below is required prior to DAQ -Data $Logger$ installation. Please make sure that you have installed it beforehand.
	 NI VISA RunTime Full Version 17.5 (recommended) or later (32-bit only).
2. Install the DAQ-Data Logger	 Go to the DAQ-Data Logger folder downloaded from the GW INSTEK official website.
	2. Click on the setup.exe
	岃 DAQ-Data Logger
	3. The installation wizard will start up. Follow the directions of the installation wizard. When choosing a location for install, it is recommended to choose the default location.
	The default location of the software is C:\Program Files (x86)\GWInstek\DAQ-Data Logger
	A program icon should be available from the Start Menu.
	GWInstek
	🗁 DAQ-Data Logger
	👸 Uninstall DAQ-Data Logger
Note	To check the software version please see page 32.

Uninstallation

Follow the procedures below to remove the DAQ-Data Logger software.

1. Uninstall the DAQ-Data Logger from Start Menu 1. Click on **Uninstall DAQ-Data Logger** 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?"

Windo	ws Installer		
	Are you sure you wa	nt to uninstall this	product?
	,		
	Yes	No	

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

2. Uninstall the DAQ-Data Logger from Control Panel

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



2. Click Programs and Features option.

Programs and Features

3. Select **DAQ-Data Logger** followed by pressing the **Uninstall** button.

Organize 🔻 Uninstall	Change Repair				
Name	^	Publisher	Installed On	Size	Version
ChbOcx64Setup		CHB	7/6/2022	924 KB	1.0.0
CopyTrans HEIC for Wi	ndows	Ursa Minor Lt	1/8/2019	38.4 MB	1.0.0.4
DAQ-Data Logger		GWInstek	11/8/2023	54.2 MB	1.03
DMM-Viewer2	Uninstall	GWInstek	10/3/2018	20.6 MB	1.00.0000
Driver Easy 5.6.7	Change	Easeware	11/30/2018	12.4 MB	5.6.7
Uropbox	Repair	Dropbox, Inc.	11/2/2023		186.4.620
Easy 7-Zip v0.1.4		James Hoo	3/1/2016	6.99 MB	0.1.4

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

Configuration

1. Configure the host PC	1.	Make sure the DAQ-9600 is recognized by the PC via opening the Device Manager (Start > Control Panel > (System) > Device Manager. When using USB interface, for instance, the "USB Test and Measurement Devices (IVI)" should be displayed
2. Configure the DAQ-Data Logger	1. 2.	Activate the DAQ-Data Logger from the Start Menu. GWInstek DAQ-Data Logger DAQ-Data Logger Click on the System(S) tab from the top Tool Bar and open the Connect dialog. Connect Alt+C Export Languare Kit Alt+F4
	3.	Select the target interface from the dropdown menu of VISA Name . We choose the "USB0::0x2184::0x007F::000000000::INSTR", which represents the USB-TMC connection between the host PC and DAQ-9600. After selecting, click the "*IDN?" button to import and confirm the unit into the field (red highlight) followed by clicking OK .

Connect	🖳 Connect 📃 🔼
Instrument	Instrument Instrument1 Instrument2
Interface VISAName USB0-0x2184-0x007F-000000000-INSTR - *IDN7 GWInstex,DAG-9600,00000000.M1.02B_S0.95 - GK Add Instrument.	Interface VISA.Name TDN? OK
Reset	Reset

4. Since DAQ-Data Logger allows up to 4 DAQ instruments to be connected simultaneously, click the Add Instrument button (green highlight) and repeat the previous steps to include next DAQ instrument(s), if necessary.

5. Also, it is available to press the Search button and the "Interface Search" window prompts where user presses the Search button followed by checking the box of the DAQ unit(s) found from the list. And press the Add+ to add DAQ unit(s).



6. Click the **Connect** button, the successful message will appear in the bottom line of DAQ-Data Logger.

V2.00 2024/09/26 15:29:14 Connect (T) 1 GWInstek;DAQ-9600,00000000,M1.02B_S0.95 Status : NONE

7. In addition, the DAQ-Data Logger provides an alternate test, which is "Demo Mode" meaning user can connect and operate measurement scan without connecting to physical DAQ unit(s). Check the Enable box and select a time of Sweep Interval first. Then it is freely to choose different module cards for each slot (1 to 3) followed by pressing the Add Instrument to complete. Similarly, user navigates through the upper Instrument tab(s) (red highlight) and repeat the previous steps to add next DAQ unit(s), if necessary. Finally, click the Connect button to establish a new demo test.

	emo Mode	Reset Sweep Interval 100 - ms
	nstrument1 In:	strument2 Instrument3
Γ	- Demo Mode	
	Slot1 Module	20+2CH Current MUX Module
	Slot2 Module	NONE
	Slot3 Module	NONE
		Add Instrument
L		
		Connect DisConnect

8. Move on to the Scan & Measurement chapter starting from the page 13.

SCAN & MEASUREMENT

Configure Channels

Press the tab of the **Configure Channels** (red highlight) to display the available module card(s) (up to 4 at the maximum including Slot 1 to Slot 3 plus a Computer) on the upper bar (orange highlight) where user can navigate through each module card with a simple click. And each module card has its own specific numbers of channels to configure, individually.



DAQ-Data Logger offers up to 4 DAQ units to be connected simultaneously. Each DAQ unit has its own channel(s) configuration of available modules card(s). User navigates through each DAQ instrument with a simple click from the upper bar as indicated in the green highlight shown below.

	n(S) ItiContro		Operate(O)	About(A)		Monitor	1 (DFF -		2	OFF •		3	OFF	•		4 OFF	· [-
trume	nt1 (000	00001) Instrume	nt2 (000000)2)	Instrumen	t3 (0	0000003) <mark> </mark>	nst	ument4	<mark>4 (00000</mark>	004)										
nfigu	re Chan	nels Configure	Parameter	Data	Display 0	Grap	hics Display	1													
Slot1	[20CH S	Solid-State MUX] (C	H On: 3)	5	ilot2 (20+20	HR	elay MUX] (C	нс	n:0)	Slot	3 [NONE] (C	HOn:0)	Comp	uter (CH C	n:0)						
	Chanr	nel Enable			Measure	Para	meter				Scale (MX + B)				Alarm	Parameter				
Scan	СН	Label	Function	1	Range		Speed		More	Scale	Gain(M)	Offset(B)	Unit	AlarmMo	de	Low	High	AlatmO	ut	More	Note
	101		DCV	-	Auto	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		
V	102		ACV	-	Auto	-	5/s(>20	•			1	0		OFF	-	-1	1	Alarm1	-		
V	103		TEMP	-	NONE	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		
	104		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-		
	105		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-		
	106		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-		
	107		DCV	-	Auto	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		
	108		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-		
	109		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-		
	110		DCV	-	Auto	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		
	111		DCV	-	Auto	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		
	112		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-		
	113		DCV	-	Auto	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		
	114		DCV	-	Auto	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		
	115		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-		
	116		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-		
	117		DCV	-	Auto	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		
	118		DCV	-	Auto	-	60/s	•			1	0		OFF	-	-1	1	Alarm1	-	<u> </u>	
	119		DCV		Auto	-	60/s	-			1	0		OFF	-	-1	1	Alarm1	-		

Channel	Tick chock	pox(s) of Scan column to select		Chann	iel Enable					
Enable		nel for scan function. And the	Scan	CH	Label					
LIIADIE		nn is available for user to		101	Example	e				
				102						
	designate r	name for each channel.	V	103 104						
			V	105						
				106						
Measure	Select mea	surements from the Function		Measur	e Parameter					
Parameter		each channel and define the	Function DCV	Rang	e Speed	Mor				
Falameter			ACV TEMP	 Auto NONE 	 ▼ 5/s(>20 ▼ 60/s 	 ▼ − 				
	•	arameters like Range, Speed	ОНМ	▼ Auto	▼ 60/s	·				
		n which more available	FREQ DCV	 Auto Auto 		▼				
	•	s vary by measuring functions.	DCV	▼ Auto	▼ 60/s	•				
		e User Manual for more details								
	of function	parameters if necessary.								
Scale	Tick check	pox(s) of Scale column to select			(MX + B)					
(MX + B)	each chanr	nel for MX + B function, which	Scale	Gain(M)	Offset(B)	Unit				
	means mu	Itiplies the reading (X) by the		1	0					
		nd adds/subtracts Offset (B).		3	5	6				
	• •	in(M) and Offset(B) values		1	0					
	• •	column and also designate		1	0					
		ed Unit (e.g., °C) for each			0					
	channel, individually.									
	\land Note	Only when the Scale box is che following parameters be confi								
Alarm	Enable ala	rm conditions for each channel	AlarmMode	Alarm Low	Parameter High AlatmO	out Mor				
Parameter		larm Mode column followed	Low+High T	• -1 • -1	1 Alarm1 1 Alarm1	▼				
rarameter		either Low or High or both	OFF ·	• -1 • -1	1 Alarm1 1 Alarm1	▼ ▼				
		larm triggering for each	OFF ·	• -1 • -1	1 Alarm1 1 Alarm1	▼ ▼				
			OFF	• -1	1 Alarm1	.				
	channel. The Alarm Out column is to									
	configure which port to output alarm of									
	each channel. Click the More column to									
	prompt a window in which all alarm									
	parameters are shown. Tick the Stop Scan									
	box to stop scan immediately when the									
	alarm is triggered and check the Beep									
	alarm is tri	ggered and check the Beep								
		ggered and check the Beep vate beep for the alarm.								
			ox is c	hecke	ed, can t	the				

Configure Parameter

Press the tab of the **Configure Parameter** (red highlight) to display the general configurations including Name of Log File, Graph Display Buffer, Scan Start, Interval, Scan End, Data Display Mode and Auto Gain.



DAQ-Data Logger offers up to 4 DAQ units to be connected simultaneously. Each DAQ unit has its own parameters configurations. User navigates through each DAQ instrument with a simple click from the upper bar as indicated in the green highlight shown below.

DAQ-Data Logger		
System(S) Parameter(P) Operate(O)	About(A) Monitor 1 OFF	2 OFF 3 OFF 4 OFF
	Instrument3 (00000003) Instrument4 (0000000	<mark>14)</mark>
Configure Channels Configure Parameter Date	ta Display Graphics Display	
Log FileName		Data Display Mode
	Log Of Rows 65k	 Scientific Notation Isolating Point Number
DAQ DataLog 0000001-2.csv	Directory	Auto Gain (Loop-Loop)
Graph Display Buffer		Use Speed Off -
Recent Buffer Size 1000 -		
Scan Start	Scan End	
 Immediately 	 By Manual 	
On Alarm	At Sweeps	
Alarm1 👻	10 👗	
○ At Time	O At Time	
2024/09/25 14:33:20	2024/09/25 14:33:20	
On Receiving External Trigger	Ouration Time	
Interval 0 + hh 0 + mm 1 + ss 0 + ff	0 + hh 0 + mm 0 + ss	

Log File Name Determine the name of saving data before measurement and scan. 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. Also, the **Log Of Rows** has few options for user to define the maximum rows for log data. And pressing the **Directory** button can access to the log file location promptly.

Count



```
Log FileName

Count O DateTime Manual

DAQ Manual
```

Graph	Configure the Size of Recent Buffer for	Graph Display Buffer ◎ Recent Buffer Size 1000 ↓
Display Buffer	Graph Display mode. It indicates that the maximum measurements to display for both Trend Chart and Histogram under Graph Display. In the Trend Chart, when setting 1,000 in Size, there're up to the latest 1,000 measurements from each selected channel displayed simultaneously. In the Histogram, when setting 1,000 in Size, it means up to the latest 1,000 measurements from the single selected channel displayed.	
Scan Start	Decide which way to begin scan. Immediatel y allows user to start scan right away by manually pressing the button. On Alarm signals that only when the selected alarm (1 to 4) is triggered, can scan start. At Time indicates that user defines certain date & time to start scan. And On Receiving External Trigger means scan only begins when external trigger is received.	Scan Start Immediately On Alarm Alarm1 At Time 2023/11/15 08:55:15 On Receiving External Trigger
Interval	In theory, interval of each scan count is determined by the Functions and Speed options, which come with varied interval ranges individually. However, it is available for user to define preferable interval by inputting hh (hour), mm (minute), ss (second) and fff (millisecond) fields respectively for scan count interval.	Interval
Scan End	Determine which way to end scan. Manual allows user to halt scan by manually pressing the weeps indicates scan stops when the set sweep number for scan count is met. At Time signals that user defines certain date & time to stop scan. Duration simply means how long the set duration for scan to last.	Scan End By Manual At Sweeps 10 + At Time 2023/11/15 08:55:15 + Duration Time 0 + hh 0 + mm 0 + ss

Data Display Mode	This configuration applies to Data Display mode, for which refer to page 20 for details. It offers two ways to display readings. The Scientific Notation stands that the decimal point of reading is fixed with scientific exponent in suffx. For example, reading from -1.15387534E-03 to +1.15029248E-03. The Floating Point Number instead indicates that the decimal point of reading can be floating to any position necessary. For instance, reading from 0.752494 mVDC to -1.144105 mVDC.	Data Display Mode	Floating Point Number
Auto Gain (Loop-Loop)	When executing Scan action consisting of several sweeps covering multiple channels for an extended period of time, it is suggested to activate the Auto Gain in an attempt to regain the relative value of reference voltage, which is way vulnerable to be affected by long-term scan action. By enabling this function, the total scan time will be subtly extended depending on the selected speed option due to an additional Auto Gain action performed prior to initiation of each sweep.	- Auto Gain (L Use Speed	0009-L000) Off 5/s 20/s 60/s 100/s 400/s

Start & Stop Scan & Measurement

After configuring both the Channel and Parameter settings of each DAQ instrument, click on the **Blue** arrow button in the upper-left corner to launch scan and measurement. The measured reading is updated in real time in both the Monitor and Data Display sections, which will be further introduced in the later parts.

Note	DAQ-Data Logger offers up to 4 DAQ units to be connected simultaneously. When only single DAQ instrument is connected, the scan button improved appears in the way different from the connection of multiple DAQ instruments improved.
Start Scan & Measurement	After pressing the Blue arrow button (yellow) highlight), a prompt window of MultiControl pops up where scan begins and is being indicated "Start" in the Status section (green highlight). The ongoing sweep number is being recorded in the Scan Count section (red highlight). And it is practical to monitor the latest measured reading of each selected channel from the Monitor section (blue highlight) in which user can navigate through each DAQ instrument and toggle among different channels from the dropdown menu. In addition, during scan process, it is Not able to change any parameter from the Configure Channels where the color becoming gray in background indicates no action is allowed. Plus, the Top Level option (purple highlight) allows user to make the prompt window of "MultiControl" always displayed over other open windows. And the Scan Start, Scan End as well as Interval settings correspond to the previous configurations from the Configure Parameter on page 15.

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HOn:0)	Slot2 [NONE] Functi DCV DCV DCV	on ~ ~	n:0) Measure Rang Auto Auto	e Parar e	neter Speed 60/s		tate MUX	<mark>q (CH O</mark> Scale	Scale	Computer ((MX + B)	CH On : 0			Alarr	n Parameter			
	DCV DCV	~	Rang Auto	e V	Speed		More	Scale		(MX + B)				Alarr	n Parameter			
Label	DCV DCV	~	Auto	~			More	Scale		1. A.								
	DCV	~		-	60/s	1			Gain(M)	Offset(B)	Unit	AlarmMo	de	Low	High	AlatmO	ıt	Mor
	and the second design of the s	-	Auto			~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV			~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DOW	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
				-		-							-				-	
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		-				-							-				~	
	and the second se	~		~		~							~	-1			~	
		~		~		~							~		-		~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1		~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
	DCV	~	Auto	~	60/s	~			1	0		OFF	~	-1	1	Alarm1	~	
		DCV DCV	DCV ~ DCV ~	DCV V Auto DCV V Auto	DCV × Auto × DCV × Auto ×	DCV × Auto × 60/s DCV × Auto ×	DCV × Auto × 60/s × DCV × Auto	DCV × Auto × 60/s × DCV × Auto × <th>DCV × Auto × 60/s × DCV × Auto × 60/s × DCV × Auto × 60/s × </th> <th>DCV × Auto × 60/s × 1 DCV × Auto × 60/s × 1 DCV</th> <th>DCV × Auto × 60/s × 1 0 DCV × Auto × 60/s × 1 1 0 DCV × Auto × 60/s × 1 1 0 DCV × Auto × 60/s × 1 1 0 DCV × Auto × 60/s × 1 0 DCV × Auto × 60/s 1 0 <</th> <th>DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV</th> <th>DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV ×<th>DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo</th><th>DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF</th><th>DCV × Auto × 60/s × 1 0 OFF × -1 1 DCV × Auto × 60/s × 1 0 OFF × -1 1 DCV × Auto × 60/s × 1 0 OFF × -1 1 DCV × Auto × 60/s × 1 0 OFF × -1 1 DCV × Auto × 60/s × 1 0 OFF × -1 1 DCV Auto × 60/s × 1 0 OFF × -1 1 DCV Auto × 60/s × 1 0 OFF × -1 1 DCV Auto × 60/s × <!--</th--><th>DCV × Auto × 60/s × 1 0 OFF × -1 1 Alarnt DCV × Auto × 60/s × 1 0 OFF × -1 1 Alarnt DCV × Auto × 60/s × 1 0 OFF × -1 1 Alarnt DCV × Auto × 60/s × 1 0 OFF · -1 1 Alarnt DCV Auto × 60/s × 1 0 OFF · 1 1 Alarnt DCV Auto × 60/s × 1 0 OFF · 1 Alarnt DCV Auto × 60/s × 1 0 OFF · · 1 Alarnt</th><th>DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV Auto × 60/s <</th></th></th>	DCV × Auto × 60/s × DCV × Auto × 60/s × DCV × Auto × 60/s ×	DCV × Auto × 60/s × 1 DCV	DCV × Auto × 60/s × 1 0 DCV × Auto × 60/s × 1 1 0 DCV × Auto × 60/s × 1 1 0 DCV × Auto × 60/s × 1 1 0 DCV × Auto × 60/s × 1 0 DCV × Auto × 60/s 1 0 <	DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV × Auto × 60/s × 1 0 1 DCV	DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF DCV × Auto × 60/s × 1 0 OFF 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0 OFF × -1 1 Alarnt DCV × Auto × 60/s × 1 0 OFF × -1 1 Alarnt DCV × Auto × 60/s × 1 0 OFF × -1 1 Alarnt DCV × Auto × 60/s × 1 0 OFF · -1 1 Alarnt DCV Auto × 60/s × 1 0 OFF · 1 1 Alarnt DCV Auto × 60/s × 1 0 OFF · 1 Alarnt DCV Auto × 60/s × 1 0 OFF · · 1 Alarnt</th><th>DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV Auto × 60/s <</th></th>	DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × DCV × Audo	DCV × Audo × 60/s × 1 0 OFF × DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 60/s × 1 0 OFF × .1 DCV × Audo × 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Auto × 60/s × 1 0 OFF × -1 1 Alarnt DCV × Auto × 60/s × 1 0 OFF · -1 1 Alarnt DCV Auto × 60/s × 1 0 OFF · 1 1 Alarnt DCV Auto × 60/s × 1 0 OFF · 1 Alarnt DCV Auto × 60/s × 1 0 OFF · · 1 Alarnt	DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV × Auto × 60/s × 1 0 OFF × 1 Alarnt × DCV Auto × 60/s <

Stop Scan & Measurement After pressing the **Red** arrow button (yellow highlight), the scan stops and is indicated "Stop" in the **Status** section (green highlight). The total sweep number is written in the **Scan Count** section (red highlight). In addition, the color becoming white in background of Configure Channel indicates it is available to re-configure parameters of each channel.

MultiControl									
All Instument 🜔	0	Top Lev	el: ON 🔸 <	<					
1 (005) 🜔 🔘	Status :	Stop	Scan Count :	146	Scan Start :	Immediately	Scan End :	By Manual	Interval : 0 h 0 m 1.000 s
2 (003) 🜔 🔘	Status :	Stop	Scan Count :	146	Scan Start :	Immediately	Scan End :	By Manual	Interval : 0 h 0 m 1.000 s
3 (003) 🜔 🔘	Status :	Stop	Scan Count :	147	Scan Start :	Immediately	Scan End :	By Manual	Interval : 0 h 0 m 1.000 s

Data Display

While conducting scan and measurement operation, press the tab of the **Data Display** (red highlight) to show the latest measured reading of each select channle (**Data** column), the triggered alarm times (**Alarm** column), the measured minimum value (**Minimum** column), the measured maximum value (**Maximum** column), the average value (**Average** column) and the peak to peak value (**Peak-Peak** column). Also, the basic information including physical DAQ unit (**Instrument** column), channel serial number (**Channel** column) as well as select measurement function (**Function** column) are clearly displayed.



DAQ-Data Logger offers up to 4 DAQ units to be connected simultaneously. Each DAQ unit has its own Data Display. User navigates through each DAQ instrument with a simple click from the upper bar as indicated in the green highlight shown below.

🗄 DAQ-Data Logger					a. Marcan, etc. etc.	Contraction of the local diversity of the			
System(S) Parameter(P) Ope	rate(O) A	bout(A) Monito	r 1 OFF 🕶 🔤		2 OFF	3 OFF -		4 OFF	
MultiControl									
Instrument1 (00000001) Instrument2 (0	0000002) Ir	nstrument3 (00000003)	Instrument4 (000	0004)					
Configure Channels Configure Param	eter <u>Data D</u>	Display Graphics Disp	lay						
Instrument	Channel	Function	Data	Alarm	Minimum	Maximum	Average	Peak-Peak	
Demo Test	101	DC Voltage	0.835396 VDC	0	018.0546 µVDC	0.999677 VDC	0.502730 VDC	0.999659 VDC	
Demo Test	102	DC Voltage	0.297238 VDC	0	028.5585 µVDC	0.999516 VDC	0.497088 VDC	0.999488 VDC	
Demo Test	103	DC Voltage	0.669184 VDC	0	1.073881 mVDC	0.999708 VDC	0.486919 VDC	0.998634 VDC	

Per introduction of Data Display Mode in the chapter of Configure Parameter, user can choose one of the data display modes in preference.

Scientific Notation

Decimal point of reading is fixed with scientific exponent in suffix. For example, reading from -1.15387534E-03 to +1.15029248E-03.

Floating Point Number

USB0::0x2184::0x007F::000000000::IN... 105

Decimal point of reading can be floating to any position necessary. For instance, reading from 0.752494 mVDC to -1.144105 mVDC.

Frequery

Scientific	Instrument USB0::0x2184::0x007F::000000000::IN	Channel 101	Function DC Voltage	Data 0.801361 VDC	Alarm	Minimum 1.037234 mVDC	Maximum 0.824733 VDC	Average 0.788439 VDC	
	USB0::0x2184::0x007F::000000000::IN	101	AC Voltage	083.0125 mVAC	0	081.5853 mVAC	083.1465 mVAC	082.4174 mVAC	
Notation	USB0::0x2184::0x007F::000000000::IN	103	Temperature	OverLoad °C	0	0272.678 °C	OverLoad °C	OverLoad °C	
	USB0::0x2184::0x007F::000000000::IN	104	2W OHM	0.262873 GΩ	0	0.261348 GΩ	OverLoad TΩ	OverLoad TΩ	
	USB0::0x2184::0x007F::000000000::IN	105	Frequery	0.416172 kHz	0	0.180036 kHz	01.20126 kHz	0.575709 kHz	
	Instrument	Channel	Function	Data	Alarm	Minimum	Maximum	Average	_
Floating Point	Instrument	Channel 101	Function DC Voltage	Data +7.46736445E-01	Alarm 0	Minimum 1.03723437E-03	Maximum 8.24733422E-01	Average 7.87983477E-01	
•								5	
Floating Point Number	USB0::0x2184::0x007F::000000000::IN	101	DC Voltage	+7.46736445E-01	0	1.03723437E-03	8.24733422E-01	7.87983477E-01	

+8.98388793E+02

GRAPH DISPLAY MODE

DAQ-Data Logger provides two modes, Trend Chart and Histogram, in the graph display for user to observe the scanned and measured readings in a preferable manner. The following chapters will further introduce the graph display modes in details for better manipulation.

Trend Chart

Background

The scanned and measured readings are observed in trend chart display. After starting scan operation, click on the tab **Graphics Display** followed by **TrendChart** button and the screen will be shown as the figure below.





DAQ-Data Logger offers up to 4 DAQ units to be connected simultaneously. Each DAQ unit has its own Graphic Display. User navigates through each DAQ instrument with a simple click from the upper bar as indicated in the green highlight shown above. Trend chartOf the trend chart display, X scale in orange indicates theOverviewrange of the measured time, whilst Y scale in red represents
the range of the measured values.



X Scale	X Scale indicates the X axis of range of the latest measured time for trend chart display. The available displayed range of measured time varies in accordance with select channel	XScale V Auto
	numbers and count numbers.	

Auto X Scale Ticking the **Auto** checkbox lets software determine the X range in accord with the numbers of select channels and measured counts. Note that without checking the box, user can Not monitor the latest range of measured time.

```
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.



Option - Click the **Channel** button to prompt the "Channel Choose" Channel window in which user can select/unselect available channels as wish. The unselected channels will not be shown on the trend chart display accordingly.

Ē	📙 Channel (Choose	
	Display	Channel	Function
		101	ACV
	V	102	DCV
	V	103	TEMP
Option Channel			
Waveform Save	[Select All	UnSelectAll

Waveform -Click the Save button to prompt the Save Waveform FileSavewindow in which user can designate a directory to store the
scanned trend chart into .jpg file. The default directory for
waveform file is \DAQ-Demo\DAQ-Data Logger\Waveform.

Option Channel			
Waveform Save	<u> </u>	Save Waveform File	
	- V		



The following functions are only available when scan and measurement are stopped. In short, the functions below are Unavailable when scan is ongoing.

Ð

X Cursor	Click X-Cursor (1ST) or X-Cursor (2ND) or both
Indicator(s)	tags to activate highlights on selected
	channel(s), which can be chosen from the
	dropdown menu, respectively. Press and drag
	cursor line(s) (green for 1ST, red for 2ND) to
	any preferable spot(s) on X scale, and
	measured value(s) of select channel(s)
	corresponding to 1ST or 2ND cursor lines will
	be displayed in the lower fields, individually.



- Zoom-X Click on the **Zoom-X** tag and press and drag on any of a specific region 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 region from trend chart.



2. The close-up of target region 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 observing another target region.



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



2. The target region after pan action is shown accordingly.



Zoom Out	After finishing Zoom-X or Pan-X operation, press the X Zoom Out tag to return to the original display.		
Note	The following functions are only available when scan and measurement are stopped. In short, the functions below are Unavailable when scan is ongoing.		
Load Log File	Data log files from the past scan and measurement can be loaded and displayed in the graphic trend chart.	Load Log File Open Load Current Total CH 5 Total Coun 9824 1000 • IK < >>I Page 1 / 10 File: DAQ DataLog 00000000-20231116 14-41-19 1 1	

Open	Click the Open button to prompt the for user can navigate and select a log file to v	2607 449-52 44.19 23-14
Load Current	Click the Load Current button to rapidly load the latest log file from the previous scan.	Load Current
Total CH & Tota Coun	Both total channels and total counts from the loaded log file are displayed.	Total CH 5 Total Coun 11
Maximum Display Counts	Select a number from the dropdown menu to determine maximum display counts within one page window display, which range from the lowest 1,000 to the highest 50,000.	1000 2000 5000 10000 50000 1000 -
Flip Page	When log file is with large data and beyond one page window display, user can press the arrow buttons to move to First/Prev/Next/Last page. The number of current page and the total pages numbers are shown.	I< < >>I Page 2 / 5
Name of Log File	The name of loaded log file is shown here. There're up to three types of file names. Refer to page 15 for details.	File: DAQ DataLog 00000000-0

Histogram

Background

In addition to Trend Chart, the scan result can also be observed in Histogram display. After scan, click on the tab **Graphics Display** followed by **Histogram** button and the screen will be shown below.



Note	DAQ-Data Logger offers up to 4 DAQ units to be connected simultaneously. Each DAQ unit has its own Graphic Display. User navigates through each DAQ instrument with a simple click from the upper bar as indicated in the green highlight shown above.
Histogram overview	<text></text>

Option -	Only single channel can be shown		101
Channel	in the histogram display. So user	Option Charlene	102 103
	can first check the Enable box	Channel	104 105
	followed selecting a Channel	103 🔹	▶ 103 -
	number from dropdown menu.		,
	•		

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.

> Take the figure below for example, the total measured counts are 9,624, and we set the bins in 100. From the histogram we can clearly tell that the bins number is many and sporadic where the highest measured counts of bins are 18 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 113 in Y scale.





The following functions are only available when scan and measurement are stopped. In short, the functions below are Unavailable when scan is ongoing.

₩

X Cursor 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 in the lower section. The **Total** simply means the maximum measured counts in one page window display.



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 region of histogram.



2. The close-up of target region 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 region.



1.

histogram to move it rightward or leftward.

Click on the Pan-X tag and press and hold the

2. The target area after pan action is shown accordingly.



Zoom Out	After finishing Zoom-X or Pan-X operation, press the Zoom Out tag to return to the original display.	
Note	The following functions are only availa measurement are stopped. In short, th Unavailable when scan is ongoing.	
Load Log File	Data log files from the past scan and measurement can be loaded and displayed in the graphic histogram.	Load Log File Open Load Current Total CH 5 Total Coun 9624 1000 K<

Open Click the **Open** button to prompt the folder window in which user can navigate and select a log file to open.



Total CH & To Coun	tal Both total channels and total counts from the loaded log file are displayed.	Total CH 5	Total Count 9624
Maximum Display Counts	Select a number from the dropdown menu to determine maximum display counts within one page window display, which range from the lowest 1,000 to the highest 50,000.	50	00
Flip Page	When log file is with large data and beyond one page window display, user can press the arrow buttons to move to First/Prev/Next/Last page. The number of current page and the total pages numbers are shown.	K ())	Page 1 / 10
Name of L File	og The name of loaded log file is shown here. There're up to three types of file names. Refer to page 15 for details.		00000000-20231116 14-41-19

MISCELLANEOUS

Export

Export It is available to export both measured value and alarm status of selected channel(s) under chosen instrument after scan action. click the **System(S)** tab on the top Tool Bar followed by clicking the **Export** button. Designate a directory for export data and select Channel(s), Format (xls and xlsx) and Field (Measure Value, Alarm Status) for export.

System(S)	Parameter(P)
Connec	t Alt+C
Export	
Languar	re ▶
Exit	Alt+F4

Export		1	-	X
Export File File Path :				
D:\Users\francis_kuo\Documents\DAQ-Demo\DAQ-Data Logger\DAQ DataLog 0000003-20240925 14-38-05\				
File Name :				
DataLog1				
Field Select	Chan	inel Selec	t	
Measure Value	EN	Channel	Function	
Alarm Status		101	TEMP	
	V	102	DCV	
Save Format				
xls (Execl 2003)				
Isx (Exect 2007)				
- (/				
		Ok	Cance	el

Language Switch

Language On the main display window click the Switch System(S) tab on the top Tool Bar followed by placing cursor on the Language to change different languages for user interface display.



Parameter Save & Load

Parameter	After setting both Configure Channels	Pa
Save & Load	(page 13) and Configure Parameter	
	(page 15), it is viable to save the	
	configurations as a template for quick	
	test in next time. Click on Parameter(P)	
	tab on the top Tool Bar and press Save	
	button followed by designating a	
	directory where file will be stored. Press	
	Load button and select a saved file to	
	recall the previous settings.	

Pa	rameter	(P)	Operate
	Save	Ctr	l+S
	Load	Ct	rl+L

Alarm Window

Alarm Window	When anyone of the select channels is triggered with the set condition of alarm	Operate(O) About(A) Monitor 1 C Alarm Window Alt+A Image: Compared to the second secon
	(1 – 4, refer to page 14), click on the Operate(O) tab from the top Tool Bar	• Alarm - 101
	followed by pressing the Alarm Window	1 101 -0.254682 mVDC
	button to prompt the Alarm window	
	where the dropdown menu allows user	
	to select both instrument and affiliated	
	channel and the value in black signifies	
	the latest readings, whereas the value in	
	red indicates the triggered reading. Also,	
	the circle in red stands for alarm	<u>. </u>
	triggered of the select channel.	

TrendChart Info Window

Alarm Window	In terms of trendchart graphics, in order	Operate(O) About(A) Monitor 1 C Alarm Window Alt+A
Window	to customize preferred display, it is available to designate specific colors for each channel of every instrument. Click on the Operate(O) tab from the top Tool Bar followed by pressing the TrendChart Info Window button to prompt the TrendChart Information window where user can, firstly, select instrument from the upper-left drop-down menu followed by checking/unchecking each channel. Click on the Color column to designate colors of each channel. Also, by clicking the Default Color button, the default	Alarm Window Alt+A TrendChart Info Window Alt+T TrendChart Information Instrument1 Default Color EN Channel Label Color I 101 UneColor I 102 UneColor I 106 LneColor
	setting of colors will be restored at once.	

Exit DAQ-Data Logger

Exit the	To quit the software simply click on the	System(S)	Parameter(P)
DAQ-Data	System(S) tab from the top Tool Bar	Connect Alt+C	
Logger	followed by pressing the Exit button to	Export	
	exit the DAQ-Data Logger.	Languare •	
		Exit	Alt+F4



This section describes how to view the version number of the DAQ-Data Logger software.

View Software Version	You may need to check the version of the software to see if you have the latest version.		
	1. Launch the DAQ-Data Logger.		
	 On the main display window click the About(A) tab on the top Tool Bar to show the version info. 		
	About DAQ-Data Logger		
	Data Acquisition System		
	Data Logger System		
	(Free Version)		
	V2.00 20240920		
	Close		