

Winmeter 5.1 Help



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For the most accurate results, please read and follow these instructions carefully.

1.0 Overview



Winmeter 5.1 is a USB/RS232 downloading, analysis & exporting program for the Explorer Technology Group, Inc. (ETG) range of data logging battery test instruments.

Winmeter 5.1 allows the user to download the appropriate device via a RS232 or USB connection, add test parameters, create a detailed graphical and tabular report(s) and then store the report in a custom database.

The user can also save the reports in PDF or Excel format and export the raw test data to Microsoft Excel.

2.0 Installation

2.1 System Requirements

2.1.1 Operating System

- Windows 8
- Windows 7
- Windows Vista
- Windows XP

2.1.2 Hardware

- For RS232 devices, an available RS232 COM Port or USB->Serial Adapter* (COM1 to COM25)
- For USB devices, an available USB port**

Note: Not all USB->Serial Port Adapters are Windows 7/8 Compatible.

Note: Use only powered USB hubs.

2.1.3 Additional (Optional) Software:

- Microsoft Excel 2007 or later...
- Adobe Reader

2.2 Import Existing Winmet40 Database (Optional)

If you are upgrading from a previous version of Winmeter, you can import your existing database into Winmeter 5.1 before adding additional battery test data files.

Warning: Importing the database from a previous version of Winmeter will **overwrite** any existing Winmeter 5.1 database files.

Note: It is **strongly recommended** that this is done immediately after installing Winmeter 5.1 to avoid losing any data.

To import data:

- (i) From the Main Menu select **“Configuration”** → **“Import Winmet40 Database”**.
- (ii) Click **“OK”** to acknowledge the existing Winmeter 5.1 database will be overwritten.
- (iii) The previous Winmeter database will now be copied to the Winmeter 5.1 database.

Note: The existing Winmet40 4.x database is unaffected.

3.0 Configuration

3.1 Select RS232 COM Port

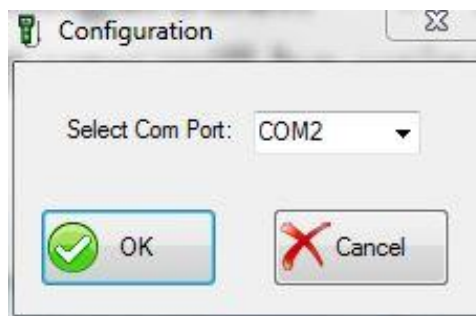
Before the user can successfully download a RS232 device, the user must select an available COM port on the PC.

Note: Use Window's "Device Manager" to see all available COM ports.

Note: Not all "USB->Serial Port Adapters" are compatible with Windows 7/8.

Instructions:

- (i) From the Main Menu select **"Configuration"** -> **"Select RS232 COM Port"**
- (ii) Select the appropriate COM port you will be using and click **"OK"**.



3.2 Enable/Disable Winmeter 5.1 Auto Launch on Device Connection



- (i) From the Main Menu select **"Configuration" → "Enable/Disable USB AutoStart"**
- (ii) Check/uncheck AutoStart check box.

If **"Enable AutoStart when USB device is connected"** is checked, Winmeter 5.1 will automatically launch and the device will be synced with Winmeter 5.1. To remove this feature, simply uncheck and it will be disabled **after** a PC restart.

4.0 Download RS232 Test Instruments

4.1 Initiate RS232 Transfer

Download Device Via RS232

Instructions:

1. Make sure correct COM port is selected
2. Connect download cable
3. Turn Device 'ON'
4. Click "Download" button below

Downloading from:

Incoming Data:

Voltmeter			
String	#Volt	String	#Volt
A	0	K	0
B	0	L	0
C	0	M	0
D	0	N	0
E	0	O	0
F	0	P	0
G	0	Q	0
H	0	R	0
I	0	S	0
J	0	T	0

Hydrometer	
String	#Hyd.
A	0
B	0
C	0
D	0
E	0
F	0
G	0
H	0

To download an instrument simply:

- (i) Make sure the correct COM port is selected (see 3.1 **“Configuration -> Select RS232 COM Port”**).
- (ii) Connect RS232 download cable.
- (iii) Turn Device **ON**.
- (iv) Click **“Download”** button to initiate data transfer.

Note: Once initiated, the data transfer cannot be cancelled until transfer is completed or an error is detected.

Once downloading is complete, simply click **“Done”** to select which strings to view for analysis and/or **“Save”** to database and/or **“Export”** to Excel.

[\(Please refer to section 8.0 Cell Float Battery Test Report Generation\)](#)

4.2 Add Test Data from Companion RS232 Instrument (Optional)

If you are downloading from a DSG30 hydrometer, DMA35(n) data logging module or DLV30 data logging voltmeter in “8 by 256 Mode” you can connect the companion instrument (module/hydrometer or voltmeter in “8 by 256 Mode”) and repeat the download process. The data from corresponding strings (A->H) from each instrument will be combined into one file.

Once downloading the second instrument is complete, simply click **“Done”** to select which strings to view for analysis and/or **“Save”** to database and/or **“Export”** to Excel.

[\(Please refer to section 8.0 Cell Float Battery Test Report Generation\)](#)

5.0 Download DLV50 Voltlogger *Plus*

5.1 Connecting the DLV50 to the PC

Minimum DLV50 Firmware Rev: 002.001

Connect the DLV50 to Winmeter 5.1 software via USB.

Once connected, the DLV50 will display “DLV50 <-> PC” and sync contained data, threshold and date & time settings with Winmeter 5.1.

If the Winmeter Autostart software is not enabled, **RUN** the Winmeter 5.1 software to initiate data transfer.

If the “DLV50 USB Interface” does not initiate automatically, select “Download Device” -> “DLV50 (search for device)”

Select required
float string tab

Select discharge
test tab

Select	String	Exported?	Data	Date	Time	MaxV[cell#]	MinV[cell#]	AvgV	SumV
<input type="checkbox"/>	A	N	10	09/12/13	14:42	2.288 [004]	2.286 [001]	2.287	22.8
<input type="checkbox"/>	B	N	11	09/12/13	14:43	2.223 [003]	2.222 [001]	2.222	24.4
<input type="checkbox"/>	C	N	10	09/12/13	14:44	2.057 [003]	2.055 [001]	2.055	20.5
<input type="checkbox"/>	D	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	E	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	F	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	G	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	H	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	I	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	J	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	K	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	L	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	M	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	N	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	O	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	P	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	Q	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	R	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	S	-	0	-/-/-	-/-/-	-	-	-	-
<input type="checkbox"/>	T	-	0	-/-/-	-/-/-	-	-	-	-

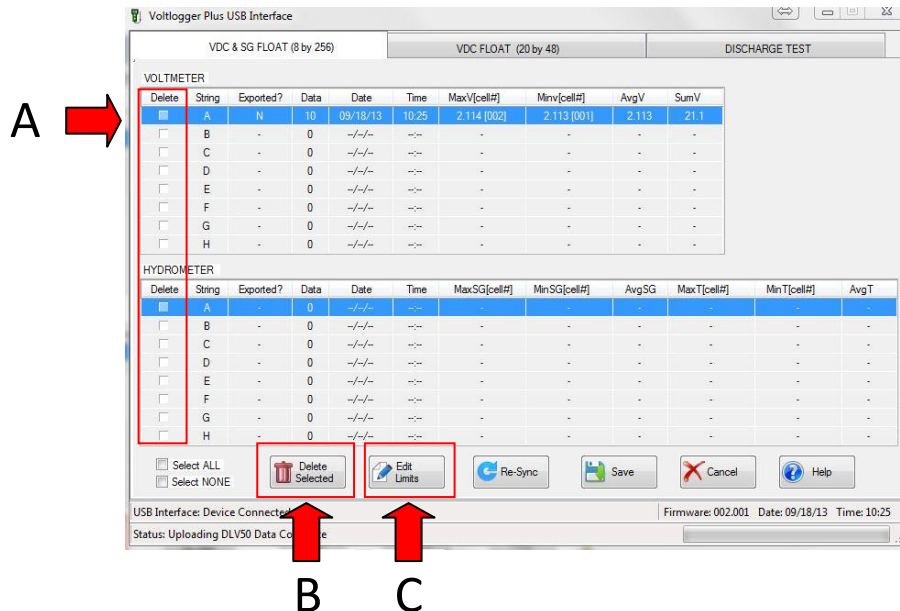
USB Interface: Connected Firmware: 002.001 Date: 09/18/13 Time: 10:14
Status: Uploading DLV50 Data Complete

5.2 “VDC & SG FLOAT (8 by 256)” or “VDC FLOAT (20 by 48)” Data

5.2.1 Select Required Float Data Tab

- Select the “VDC & SG FLOAT (8 by 256)” tab to view/edit/save 8 by 256 voltage and/or hydrometer data.
- Select the “VDC FLOAT (20 by 48)” tab to view/edit/save 20 by 48 voltage data.

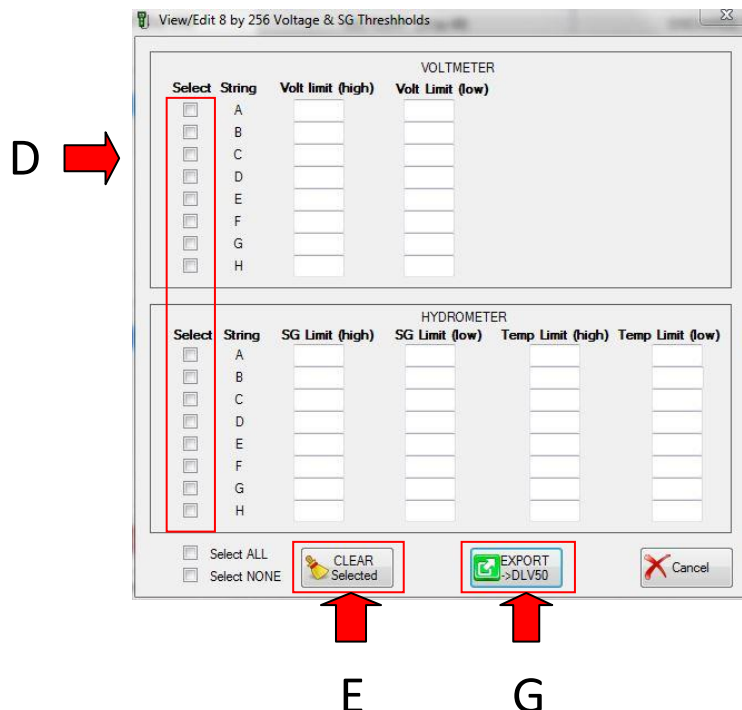
5.2.2 Deleting DLV50 Float String Data and Editing Thresholds



(A) Select any/all strings that contain obsolete data.

(B) Click the “Delete” button.
The DLV50 will then delete all selected strings.

(C) Click the “Edit V & SG Limits” button to view/edit the current 8 x 256 voltage & SG thresholds.



- (D) Select ALL strings that you would like to remove limits for.
- (E) Click **“CLEAR Selected”**.
- (F) Edit all threshold limits you would like to change.
- (G) Click **“EXPORT (Update DLV50)”** to send these changes to the attached DLV50.
- (H) Disconnect the USB cable from the DLV50.

The DLV50 USB cable **MUST BE DISCONNECTED** whenever measuring cell voltages!

5.2.3 Preview DLV50 String Data (Optional)

Double click
selected row to
preview data.



(VDC & SG FLOAT (8 x 256))

Voltlogger Plus USB Interface

VDC & SG FLOAT (8 by 256) VDC FLOAT (20 by 48) DISCHARGE TEST

VOLT METER

Delete	String	Exported?	Data	Date	Time	MaxV[cell#]	MinV[cell#]	AvgV	SumV
<input checked="" type="checkbox"/>	A	N	10	09/18/13	10:25	2.114 [002]	2.113 [001]	2.113	21.1
<input type="checkbox"/>	B	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	C	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	D	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	E	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	F	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	G	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	H	-	0	--/--	--:--	-	-	-	-

HYDROMETER

Delete	String	Exported?	Data	Date	Time	MaxSG[cell#]	MinSG[cell#]	AvgSG	MaxT[cell#]	MinT[cell#]	AvgT
<input checked="" type="checkbox"/>	A	-	0	--/--	--:--	-	-	-	-	-	-
<input type="checkbox"/>	B	-	0	--/--	--:--	-	-	-	-	-	-
<input type="checkbox"/>	C	-	0	--/--	--:--	-	-	-	-	-	-
<input type="checkbox"/>	D	-	0	--/--	--:--	-	-	-	-	-	-
<input type="checkbox"/>	E	-	0	--/--	--:--	-	-	-	-	-	-
<input type="checkbox"/>	F	-	0	--/--	--:--	-	-	-	-	-	-
<input type="checkbox"/>	G	-	0	--/--	--:--	-	-	-	-	-	-
<input type="checkbox"/>	H	-	0	--/--	--:--	-	-	-	-	-	-

☐ Select ALL ☐ Select NONE

USB Interface: Device Connected Firmware: 002.001 Date: 09/18/13 Time: 10:25

Status: Uploading DLV50 Data Complete

Click “Save” to create
report/export to Excel.

Double click selected row to preview data with string statistics.

Preview Voltage Data - String: A

String Summary

Sum Cell Voltages (abs): 21.13

Cell Readings: 10

Average Cell Voltage: 2.113

Maximum Cell Voltage: 2.114

Minimum Cell Voltage: 2.113

Cell#	Cell Voltage
1	2.113
2	2.114
3	2.114
4	2.114
5	2.113
6	2.113
7	2.113
8	2.113
9	2.113

Double click
selected row to
preview data.



(VDC FLOAT (20 x 48))

Select	String	Exported?	Data	Date	Time	MaxV[cell#]	MinV[cell#]	AvgV	SumV
<input checked="" type="checkbox"/>	A	N	10	09/12/13	14.42	2.288 [004]	2.286 [001]	2.287	22.8
<input type="checkbox"/>	B	N	11	09/12/13	14.43	2.223 [003]	2.222 [001]	2.222	24.4
<input type="checkbox"/>	C	N	10	09/12/13	14.44	2.057 [003]	2.055 [001]	2.055	20.5
<input type="checkbox"/>	D	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	E	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	F	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	G	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	H	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	I	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	J	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	K	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	L	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	M	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	N	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	O	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	P	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	Q	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	R	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	S	-	0	--/--	--:--	-	-	-	-
<input type="checkbox"/>	T	-	0	--/--	--:--	-	-	-	-

USB Interface: Connected
Status: Uploading DLV50 Data Complete
Firmware: 002.001 Date: 09/19/13 Time: 13:25

Click "Save" to create
report/export to Excel.

NOTE: You must select at least (1) set of readings in 20 x 48 mode to be able to generate a report or export to Excel.

NOTE: Also, you are able to save multiple sets of readings in 20 x 48 mode to generate a report or export to Excel.

5.2.4 Save DLV50 String Data

(i) Click "Save" to display the "Save Voltmeter Plus Data" window to create report/export to Excel.

(VDC & SG FLOAT (8 x 256))

Voltmeter Readings

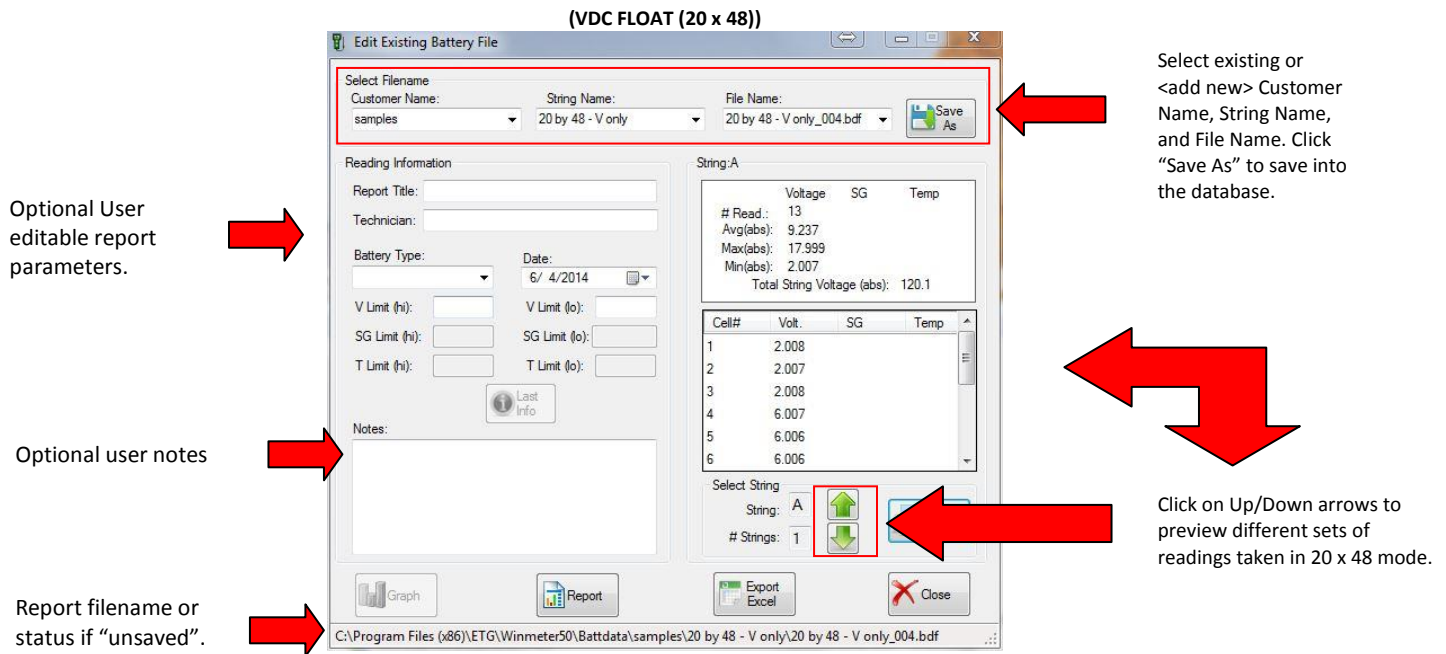
String	Select String	Data	Exported?
A	<input checked="" type="checkbox"/>	10	N
B	<input type="checkbox"/>	0	-
C	<input type="checkbox"/>	0	-
D	<input type="checkbox"/>	0	-
E	<input type="checkbox"/>	0	-
F	<input type="checkbox"/>	0	-
G	<input type="checkbox"/>	0	-
H	<input type="checkbox"/>	0	-

Hydrometer Readings

String	Select String	Data	Exported?
A	<input type="checkbox"/>	0	-
B	<input type="checkbox"/>	0	-
C	<input type="checkbox"/>	0	-
D	<input type="checkbox"/>	0	-
E	<input type="checkbox"/>	0	-
F	<input type="checkbox"/>	0	-
G	<input type="checkbox"/>	0	-
H	<input type="checkbox"/>	0	-

Instructions:
1. Select Voltmeter and/or Hydrometer string to save
2. Click "Save BDF File"

Save BDF File Cancel



- (i) Select a voltmeter and/or a hydrometer string.

NOTE: If the user selects both a voltmeter and a hydrometer string, the data for each will be combined into one battery test (.BDF) file.

NOTE: The user can select any voltmeter and hydrometer strings to combine (i.e. voltmeter string A & hydrometer string B).

- (ii) Click **"Save BDF File"**.

The **"Save New Battery File"** window will display, and the user can complete the report generation process.

[\(Please refer to section 7.0 Cell Float Battery Test Report Generation\)](#)

- (iii) Once the user closes the **"Save New Battery File"** the user is returned to the **"Save Voltlogger Plus Data"** window and can then save/generate additional battery test reports.

5.3 “DISCHARGE TEST” Data

5.3.1 Deleting DLV50 Discharge Test Data & Editing Test Thresholds

Double click any row to preview cell discharge data.

Click “Delete Test” to delete all existing DLV50 discharge test data.

Click “EXPORT Params” to update the DLV50 with new limits/settings.

Click “Save” to begin the report generation process.

String	Elapsed Time	# Cells	Sum (VDC)
A	Initial Float Voltages	10	24.5
B	00:09:04 to 00:09:56	10	24.5
C	00:25:42 to 00:26:42	10	22.4
D	00:46:24 to 00:46:58	10	21.2
E	00:51:53 to 00:52:38	10	19.1
F	01:33:17 to 01:33:58	10	15.4
G	to	-	---
H	to	-	---
I	to	-	---
J	to	-	---
K	to	-	---

5.3.2 Preview Discharge Test Data

- (i) Double click row to preview cell discharge data.

5.3.3 Save Discharge Test Data

- (i) Click “Save” to begin the discharge report generation process.

6 Download DMA35 (USB) Module

(DMA35 USB module estimated release date: TBA)

7.0 Cell Float Battery Test Reports

(Please refer to section: 4.0 to 7.0 for instructions on downloading the appropriate instrument)

After downloading the chosen instrument click “Done” to begin the Float Report generation process.

7.1 Add/Edit Float Report Parameters & Data

Optional User editable report parameters.

Optional user notes

Report filename or status if "unsaved".

Data summary

Data grid of Cell Discharge Data ("Click" cells to edit).

Add/edit report information and parameters (all optional):

- **Report Title**
- **Technician Name**
- **Battery Type**
- **Date:** Date at which the last reading was taken (user editable)
- **V Limit (hi):** Cell DC Voltage high limit.
Outside tolerance is highlighted in RED.
- **V Limit (lo):** Cell DC Voltage low limit.
Outside tolerance is highlighted in BLUE.
- **SG Limit (hi):** Cell Specific Gravity high limit above which a cell is set to
Outside tolerance is highlighted in RED.
- **SG Limit (lo):** Cell Specific Gravity Voltage limit below which a cell is set to
Outside tolerance is highlighted in BLUE.
- **T Limit (hi):** Cell Temperature limit above which a cell is set to
Outside tolerance is highlighted in RED.
- **T Limit (lo):** Cell Temperature low limit.
Outside tolerance is highlighted in BLUE.
- **Notes:** Optional user notes

The User will be able to load “Last Info” report parameters when selecting an existing database file:

Select previous saved file from database

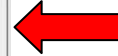


Click on “Last Info” button to load information from last saved file



Cell#	Volt.	SG	Temp
1	2.008		
2	2.007		
3	2.008		
4	6.007		
5	6.006		
6	6.006		

Click “Print All” to print all available reports from the battery file.
Note: For VDC 20 x 48 mode, the Graph and Report are combined.



7.2 View/Print Report(s)

For “20 by 48” Voltage only data, the “**Graph**” button is disabled and the “**Report**” button will generate a combined graph and tabular report.

Click “**Print All**” to print any available reports.

7.2.1 Graph

Click **“Graph”** to produce a graphical report.



7.2.2 Tabular

Click **“Report”** to produce a tabular report.

Battery Report (8 by 256)

FILE NAME: D:\Program Files (x86)\Winmet\Batteries\Samples\StringA2\StringA2_001.srf DATE PRINTED: 9/13/2011

Report Title

CUSTOMER: Samples
STRING NAME: StringA2
TECHNICIAN: Technician Name
DATE TESTED: 9/13/2011
CELL TYPE: VWR Cell

Summary Statistics:

Parameter	Value
VOLT TOT (mV)	22.6
VOLT AVG (mV)	2.288
VOLT LIMIT (mV)	2.45
VOLT MIN (mV)	2.25
SG LIMIT (max)	1.255
SG LIMIT (min)	1.000
TEMP AVG	80.6
TEMP MAX	80.7
TEMP MIN	80.4
TEMP LIMIT (max)	80.0
TEMP LIMIT (min)	80.4

Cell Data:

Cell #	Volt	SG	Temp
001	2.288	1.000	80.1
002	2.286	1.000	80.1
003	2.288	1.000	80.1
004	2.288	1.000	80.1
005	2.282	1.000	80.1
006	2.288	1.000	80.1
007	2.282	1.000	80.1
008	2.288	1.000	80.1
009	2.288	1.000	80.1
010	2.288	1.000	80.1

Notes: Optional User Notes

7.2.3 Saving Report to PDF or Excel Format



To save a report to Excel or PDF format, click the **“Save As”** icon in the report header.

7.3 Export Data to Excel (Optional)

Click the **“Export to Excel”** button.

Including report information and parameters is OPTIONAL.



	A	B	C	D	E
1	Title:		Report Title		
2	Customer:		ETG		
3	String:		A		
4	Filename:		A_002.bdf		
5	Technician:		Technician		
6	Batt. Type:		Wet Cell		
7	Date:		9/18/2013		
8	V Limit (hi):				
9	V Limit (lo):				
10	SG Limit (hi):				
11	SG Limit (lo):				
12	Temp. Limit (hi):				
13	Temp. Limit (lo):				
14					
15	Cell#	Volt.	SG	Temp	
16	1		1.177	66.7	
17	2		1.178	66.7	
18	3		1.177	66.6	
19	4		1.176	66.6	
20	5		1.176	66.6	
21	6		1.239	67.2	
22	7		1.239	67.2	
23	8		1.239	67.2	
24	9		1.239	67.2	
25	10		1.239	67.2	
26	11		1.243	72.9	
27	12		1.181	72.8	
28	13		1.18	73.8	
29	14		1.18	73.8	
30	15		1.243	73.9	
31	16		1.243	73.9	
32	17		1.295	74.1	
33	18		1.242	74.3	
34	19		1.175	74.2	
35	20		0.999	72.7	

The User will be prompted to include report parameters and to enter a file name.

7.4 Save Report

To save the battery test report into the Winmeter 5.1 battery database click **“Save”**.

[\(For further instructions, please refer to 10.1 Saving to the Winmeter 5.1 Database\)](#)

8.0 Cell Discharge Battery Test Reports

8.1 Upload Discharge Test Data

- (ii) Connect the DLV50 to the Winmeter 5.1 software via USB.

If the Winmeter 5.1 Autostart software is not enabled, **RUN** the Winmeter 5.1 Software. If the “Voltlogger Plus USB Interface” does not initiate automatically select **“Download Device” -> “DLV50 (search for device)”**.

Double click row to preview cell discharge data.




Click "Save" to begin the report generation process.

(iii) Click "Save" to begin the discharge report generation process.

8.2 Generate Cell Discharge Report(s)

Select/enter "End of Test" time & Enter/Edit cell voltage limits



Database information (remains blank until report is saved to database)



Optional report information & parameters



Optional User notes



Data grid of cell discharge data "Click" cells to edit.




Initial & final hydrometer options and limits (if data available)



Load current data options & limits (if data available). "Click" cells to edit.

- (i) Add report information and parameters:
- **# of Cells**
*Number of cell float voltages (**NOT** User Editable).*
 - **Test Date**
Date on which discharge test was started (User editable).
 - **Start Time**
Time which discharge test was started (User editable).
 - **Report Title**
(Optional)
 - **Technician Name**
(Optional)
 - **Battery Type**
(Optional)
 - **User Note**
(Optional)
- (ii) Enter/Edit “End of Test” information
(This is the time that the discharge test is complete)
Select either:
- **DLV50 “Stop Test” time-stamp**
 - **Last DLV50 measurement**
 - **User Input (time in minutes)**
- (iii) Enter/Edit cell voltage thresholds (Optional)
- *Float & discharge (hi), cell voltage readings above are highlighted in RED.*
 - *Float (lo), cell voltage readings below are highlighted in BLUE.*
 - *Discharge (lo), cell voltage readings below are highlighted in BLUE.*

Battery/string voltage is calculated from the number of cells and the various cell thresholds.

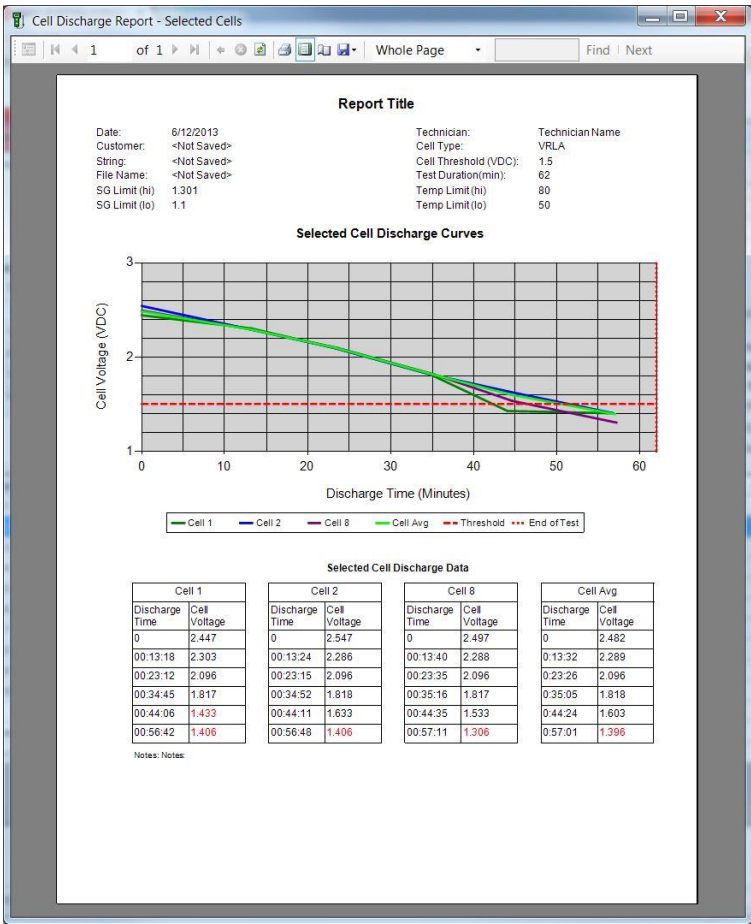
- (iv) Select hydrometer data (Optional)
- **Include Float Readings**
Edit/Enter float hydrometer limits for SG & temperature (optional)
 - *SG/T limits (hi), SG/T readings above are highlighted in RED.*
 - *SG/T limits (lo), SG/T readings below are highlighted in BLUE.*
 - **Include Final Readings**
Edit/Enter float hydrometer limits for SG & temperature (optional)
 - *SG/T limits (hi), SG/T readings above are highlighted in RED.*
 - *SG/T limits (lo), SG/T readings below are highlighted in BLUE.*
- (v) Select load current data(Optional)
Select either:
- **None**
 - **User Input**
(Enter average load current)
 - **Time-stamped data**
Enter/edit load current limits (optional)
 - *Load current limit (hi), readings above are highlighted in RED.*
 - *Load current limit (lo), readings below are highlighted in BLUE.*
 -

(vi) Review/Edit test data:

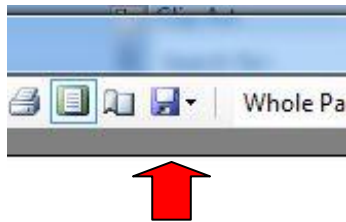
The User can now scroll through the detailed test data and edit/correct any cell's erroneous data. Simply click and edit the appropriate cell in the data grid.

8.2.1 Generate Selected Report

Select up to 4 cells (including average cell data) and click the “Selected Report” button.



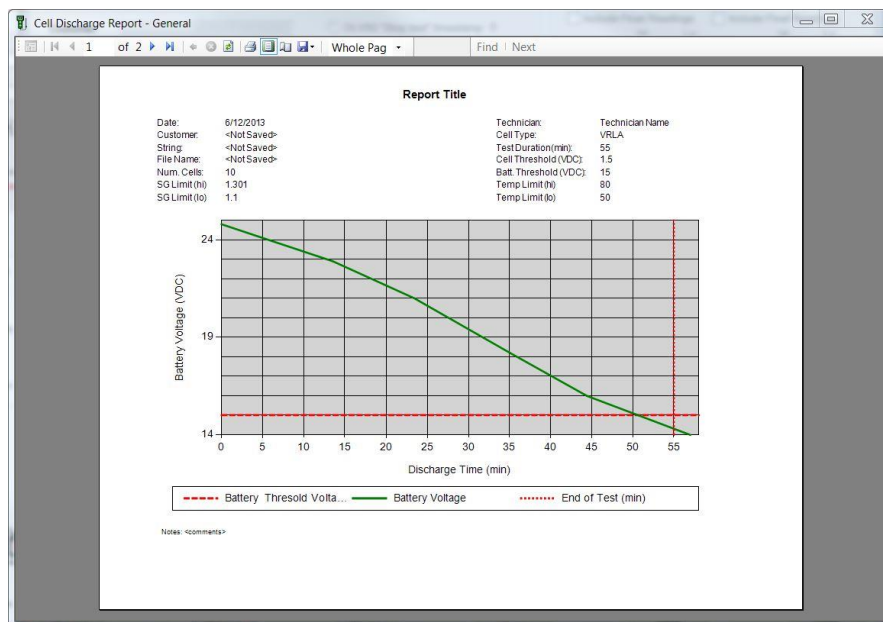
The User can generate multiple reports, selecting a different combination of cells each time.

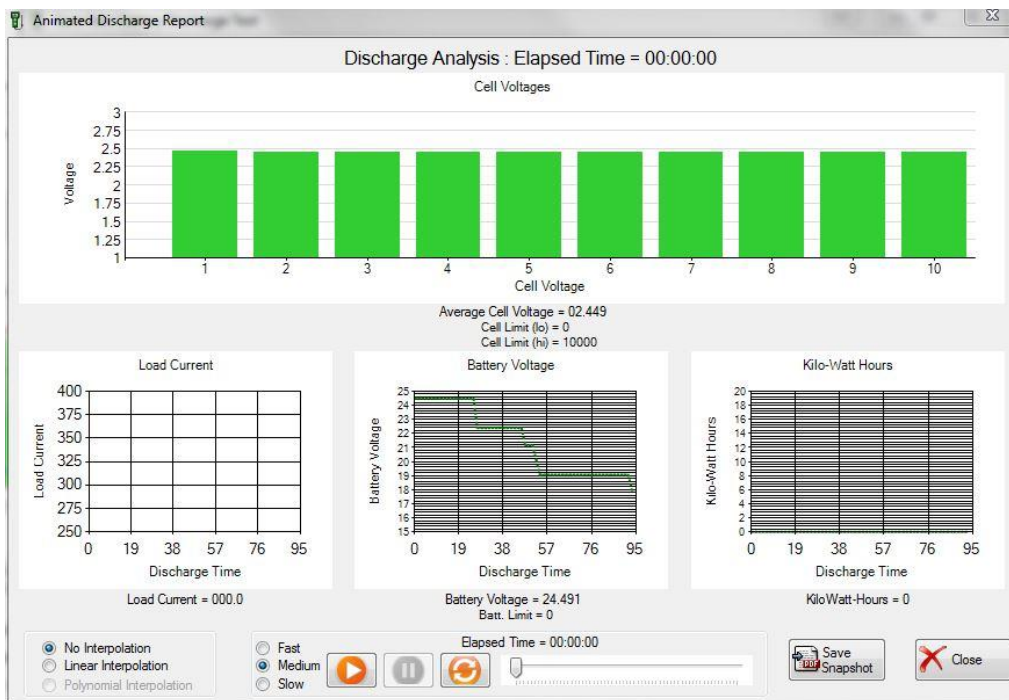


To save the report to Excel or PDF format, click the **"Save As"** icon in the Report header.

8.2.2 Generate General Report

Click the **"General Report"** button.





To save the report to Excel or PDF format, click the **"Save As"** icon in the Report header.

8.2.4 Export Data to Excel

Click the “Export to Excel” button.

Including report information and parameters is OPTIONAL.



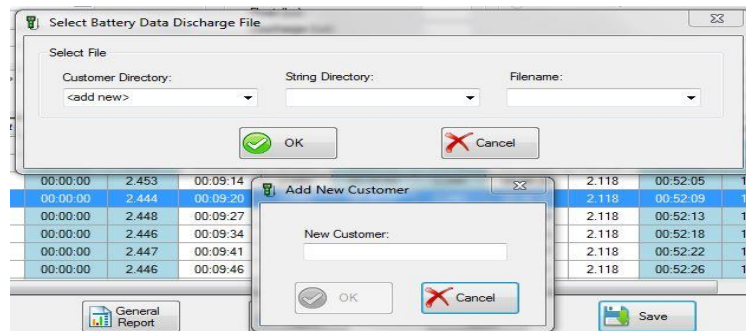
B.xls [Compati													
File Home Insert Page Layout Formulas Data Review View Add-Ins													
Clipboard Font Alignment Number													
A1 fx Title:													
	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Title:												
2	Customer:		<Not Saved>										
3	String:		<Not Saved>										
4	Filename:		<Not Saved>										
5	Technician:												
6	Batt. Type:												
7	Date:		9/18/2013										
8	Test Length (min):												
9	Num Cells:		10										
10	Cell Thres.(VDC):												
11	Batt. Thres.(VDC):												
12	SG Limit (hi):												
13	SG Limit (lo):												
14	Temp. Limit (hi):												
15	Temp. Limit (lo):												
16													
17	Cell #	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC
18	1	0:00:00	2.458	0:09:04	2.45	0:25:42	2.244	0:46:24	2.118	0:51:53	1.907	1:33:17	1.543
19	2	0:00:00	2.453	0:09:08	2.45	0:25:46	2.242	0:46:28	2.118	0:52:00	1.907	1:33:21	1.543
20	3	0:00:00	2.453	0:09:14	2.45	0:25:50	2.244	0:46:32	2.118	0:52:05	1.907	1:33:25	1.543
21	4	0:00:00	2.444	0:09:20	2.45	0:25:57	2.242	0:46:35	2.118	0:52:09	1.907	1:33:29	1.543
22	5	0:00:00	2.448	0:09:27	2.45	0:26:11	2.238	0:46:39	2.118	0:52:13	1.907	1:33:34	1.543
23	6	0:00:00	2.446	0:09:34	2.45	0:26:22	2.237	0:46:43	2.118	0:52:18	1.907	1:33:39	1.543
24	7	0:00:00	2.447	0:09:41	2.447	0:26:27	2.238	0:46:47	2.118	0:52:22	1.907	1:33:44	1.543
25	8	0:00:00	2.446	0:09:46	2.447	0:26:31	2.237	0:46:51	2.118	0:52:26	1.907	1:33:48	1.543
26	9	0:00:00	2.447	0:09:51	2.443	0:26:36	2.237	0:46:55	2.118	0:52:31	1.907	1:33:54	1.543
27	10	0:00:00	2.449	0:09:56	2.443	0:26:42	2.238	0:46:58	2.118	0:52:38	1.906	1:33:58	1.543
28													
29	Average	0:00:00	2.449	0:09:30	2.448	0:26:12	2.24	0:46:41	2.118	0:52:15	1.907	1:33:36	1.543
30	Sum (VDC)		24.5		24.48		22.397		21.18		19.069		15.43
31													
32	Notes:		<enter notes here>										
33													

The User will be prompted to include/exclude report parameters and to enter a file name.

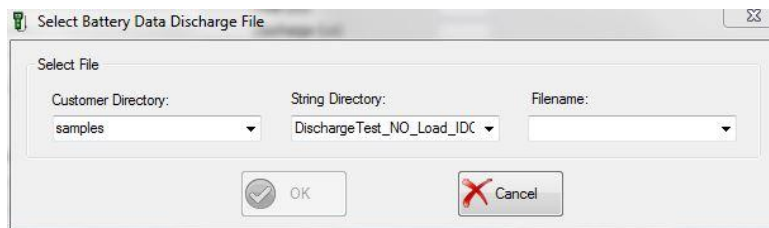
8.3 Save Cell Discharge Report(s)

Click the **“Save”** button to save the cell discharge test report into the Winmeter 5.1 battery database.

- (i) Select an **existing customer directory** or **“<add new>”** to add a new customer directory into the Winmeter 5.1 database.

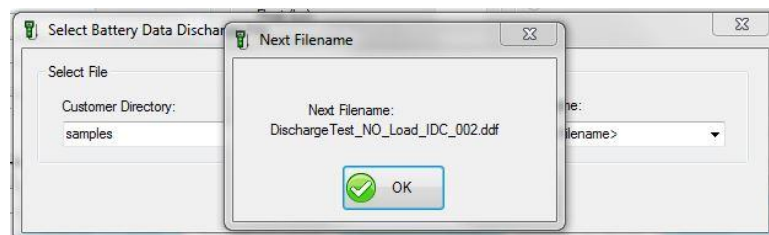


- (ii) Select an **existing string directory** or **“<add new>”** to add a new string directory into the Winmeter 5.1 database.

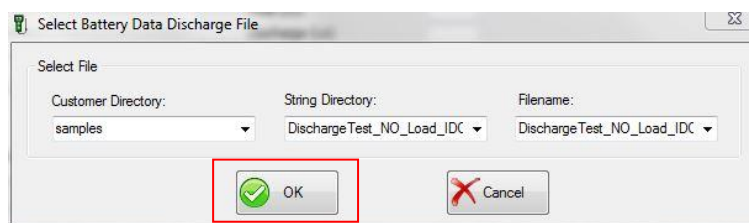


- (iii) Select either an **existing filename** or **“<next filename>”** to create a new discharge test file.

Selecting an **existing filename** will cause the **old test file** to be **overwritten!**



- (iv) Next, click the **“OK”** button to **save** the report.



The Discharge Test is now **saved** into the Winmeter 5.1 database.

(For further instructions, please refer to section 10.1 Saving to the Winmeter 5.1 Database)

Database parameters of saved file. →

Optional report information and parameters. →

Optional notes →

Data grid of Cell Discharge Data ("Click" cells to edit). →

Report filename →

Database Information

Customer: samples
String: DischargeTest_NO_Load_IDC
Filename: DischargeTest_NO_Load_IDC_001

Report Information

of Cells: 10
Test Date: 9/18/2013
Start Time: 11:15:00 AM
Title:
Technician:
Battery Type:

End of Test (minutes)

☐ DLV50 "Stop test" timestamp 0
☒ Last DLV50 measurement 01:33:58
☐ User Input (time in minutes)

Voltage Limits

Cell Voltage Thresholds:
Float & Discharge (Hi):
Float (Lo):
Discharge (Lo):

Battery/String Voltage Thresholds:
Float (#Cells x Cell lim lo) 0
Discharge (#Cells x Cell lim lo) 0

Select Hydrometer Data

☐ Include Float Readings
☐ Include Final Readings

SG Limit: Hi Lo SG Limit: Hi Lo
T Limit: T Limit:

Select Load Current Data

☒ None
☐ User Input - Enter Avg Discharge DC Current
☐ <No Time Stamped Data>

Avg: 0
Max: 0
Min: 0
IDC Lim (Hi):
IDC Lim (Lo):
100mV = 100.0 IDC

Select	Cell #	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC
<input type="checkbox"/>	1	00:00:00	2.458	00:09:04	2.450	00:25:42	2.244	00:46:24	2.118	00:51:53	1.907	01:33	
<input type="checkbox"/>	2	00:00:00	2.453	00:09:08	2.450	00:25:46	2.242	00:46:28	2.118	00:52:00	1.907	01:33	
<input type="checkbox"/>	3	00:00:00	2.453	00:09:14	2.450	00:25:50	2.244	00:46:32	2.118	00:52:05	1.907	01:33	
<input type="checkbox"/>	4	00:00:00	2.444	00:09:20	2.450	00:25:57	2.242	00:46:35	2.118	00:52:09	1.907	01:33	
<input type="checkbox"/>	5	00:00:00	2.448	00:09:27	2.450	00:26:11	2.238	00:46:39	2.118	00:52:13	1.907	01:33	
<input type="checkbox"/>	6	00:00:00	2.446	00:09:34	2.450	00:26:22	2.237	00:46:43	2.118	00:52:18	1.907	01:33	
<input type="checkbox"/>	7	00:00:00	2.447	00:09:41	2.447	00:26:27	2.238	00:46:47	2.118	00:52:22	1.907	01:33	
<input type="checkbox"/>	8	00:00:00	2.446	00:09:46	2.447	00:26:31	2.237	00:46:51	2.118	00:52:26	1.907	01:33	

Selected Report General Animated Report Export Excel Save Close

C:\Program Files (x86)\ETG\Winmeter50\Battdata\samples\DischargeTest_NO_Load_IDC\DischargeTest_NO_Load_IDC_001.ddf

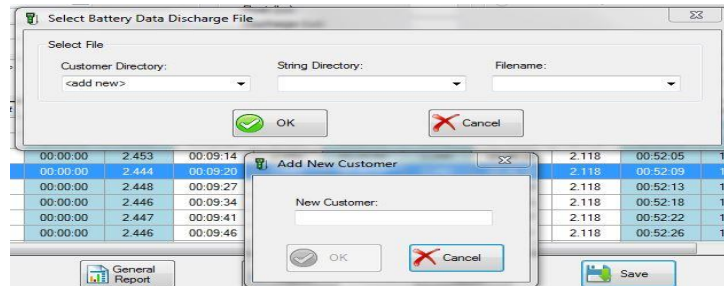
The discharge test file is now **saved into the Winmeter 5.1 database** and the User can safely **"Close"** the Winmeter 5.1 software.

9.0 Using the Winmeter 5.1 Database

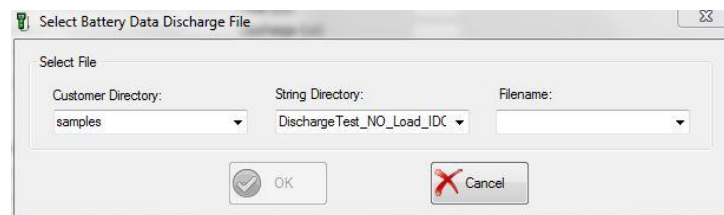
9.1 Saving to the Winmeter 5.1 Database

Click the **“Save”** button to save the cell discharge test report into the Winmeter 5.1 battery database.

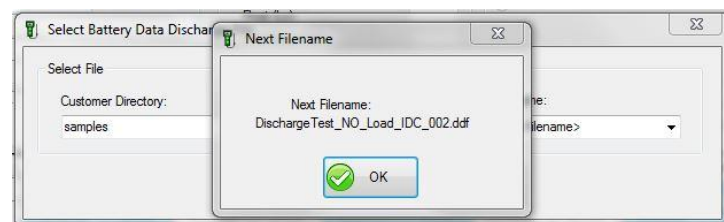
- Select an existing customer directory or **“<add new>”** to enter a new customer directory into the Winmeter 5.1 database.



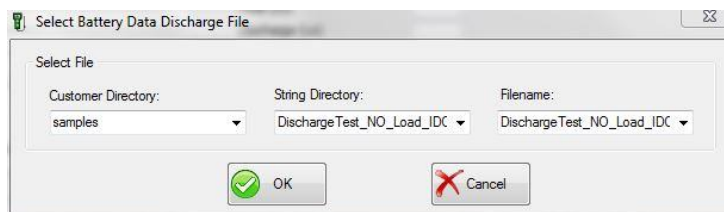
- Next, select an existing string directory or **“<add new>”** to enter a new string directory into the Winmeter 5.1 database.



- Next, select either an existing filename or **“<next filename>”** to create a discharge test file.



- Next, click the **“OK”** button to save the report.



- The appropriate Edit/View Existing Report screen is activated.

9.1.1 Cell Discharge Test

Database parameters of saved file.

Optional user notes

Data grid of Cell Discharge Data ("Click" cells to edit).

Report filename

Database Information

Customer: samples
String: DischargeTest_NO_Load_IDC
Filename: DischargeTest_NO_Load_IDC_001

Report Information

of Cells: 10
Test Date: 9/18/2013
Start Time: 11:15:00 AM
Title:
Technician:
Battery Type:

End of Test (minutes)

☐ DLV50 "Stop test" timestamp: 0
☒ Last DLV50 measurement: 01:33:58
☐ User Input (time in minutes):

Voltage Limits

Cell Voltage Thresholds:
Float & Discharge (H):
Float (Lo):
Discharge (Lo):

Battery/String Voltage Thresholds:
Float (#Cells x Cell lim lo): 0
Discharge (#Cells x Cell lim lo): 0

Select Hydrometer Data

☐ Include Float Readings
☐ Include Final Readings
SG Limit: Hi Lo SG Limit: Hi Lo
T Limit: Hi Lo

Select Load Current Data

☒ None
☐ User Input - Enter Avg Discharge DC Current
☐ <No Time Stamped Data>

Avg: 0
Max: 0
Min: 0
IDC Lim (H):
IDC Lim (Lo):
100mV = 100.0 IDC

Select	Cell #	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time	Cell VDC	Time
<input type="checkbox"/>	1	00:00:00	2.458	00:09:04	2.450	00:25:42	2.244	00:46:24	2.118	00:51:53	1.907	01:33
<input type="checkbox"/>	2	00:00:00	2.453	00:09:08	2.450	00:25:46	2.242	00:46:28	2.118	00:52:00	1.907	01:33
<input type="checkbox"/>	3	00:00:00	2.453	00:09:14	2.450	00:25:50	2.244	00:46:32	2.118	00:52:05	1.907	01:33
<input type="checkbox"/>	4	00:00:00	2.444	00:09:20	2.450	00:25:57	2.242	00:46:35	2.118	00:52:09	1.907	01:33
<input type="checkbox"/>	5	00:00:00	2.448	00:09:27	2.450	00:26:11	2.238	00:46:39	2.118	00:52:13	1.907	01:33
<input type="checkbox"/>	6	00:00:00	2.446	00:09:34	2.450	00:26:22	2.237	00:46:43	2.118	00:52:18	1.907	01:33
<input type="checkbox"/>	7	00:00:00	2.447	00:09:41	2.447	00:26:27	2.238	00:46:47	2.118	00:52:22	1.907	01:33
<input type="checkbox"/>	8	00:00:00	2.446	00:09:46	2.447	00:26:31	2.237	00:46:51	2.118	00:52:26	1.907	01:33

Selected Report General Report Animated Report Export Excel Save Close

C:\Program Files (x86)\ETG\Winmeter50\Battdat\data\samples\DischargeTest_NO_Load_IDC\DischargeTest_NO_Load_IDC_001.ddf

Optional report information and parameters.

The discharge test file is now saved into the test database and the User can safely close the Winmeter 5.0 software.

9.1.2 Float Test ("8 by 256" or "20 by 48" Mode)

Database parameters of saved file. →

Optional report information and parameters. →

Optional user notes →

Report filename →

Test summary and statistics. ←

Data grid of Cell Voltage & SG readings ("Click" cells to edit). ←

Cell#	Volt.	SG	Temp
1	10.000		
2	12.206		
3	12.198		
4	10.500		
5	12.199		
6	12.198		

Report filename: C:\Program Files (x86)\ETG\Winmeter50\Battdata\samples\20 by 48 - V only\20 by 48 - V only_001.bdf

The float test file is now saved into the test database and the User can safely close the Winmeter 5.0 software.

9.2 Open/Edit Any Existing Test File within the Winmeter 5.1 Database

- (i) From the Main form select either:
"File" -> "Open" -> "Select Float Test File (*.BDF) from database"
or
"File" -> "Open" -> "Select Discharge Test File (*.DDF) from database"
- (ii) Select the customer, string and filename of the required test file

Open Existing Battery Discharge Data File

Select File

Customer Directory: samples String Directory: DischargeTest_NO_Load_IDC Filename: DischargeTest_NO_Load_IDC

OK Cancel

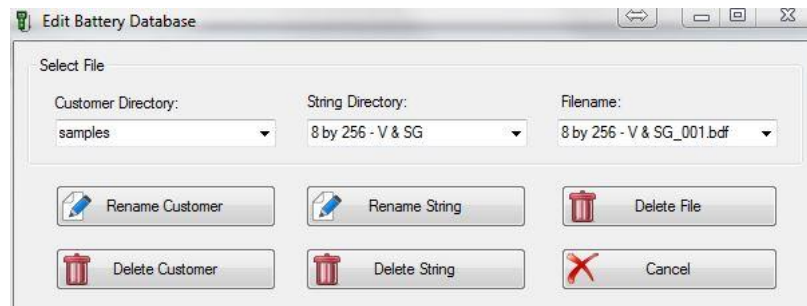
- (iii) Click "OK".

9.3 Open/Edit Open Any Test File (*.BDF or *.DDF)

- (i) From the Main form select either:
 “File” -> “Open” -> “Any float (*.BDF) file”
 or
 “File” -> “Open” -> “Any discharge (*.DDF) file”
- (iv) Select the file, click **“Open”**

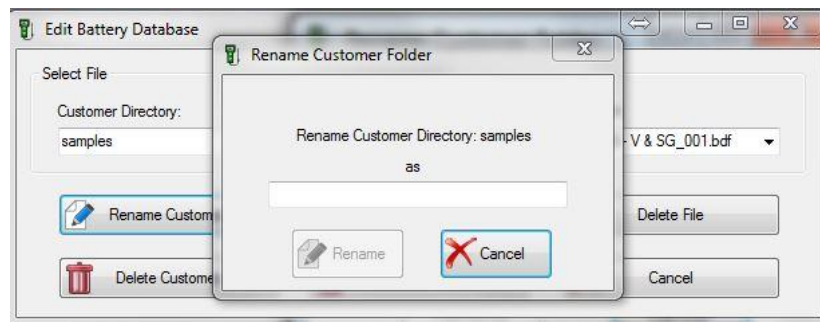
9.4 Edit the Battery Database

- (i) From the Main form select **“File” -> “Edit Battery Database”**
- (ii) Select the customer, string and filename as required.



9.4.1 Renaming Customer Folder

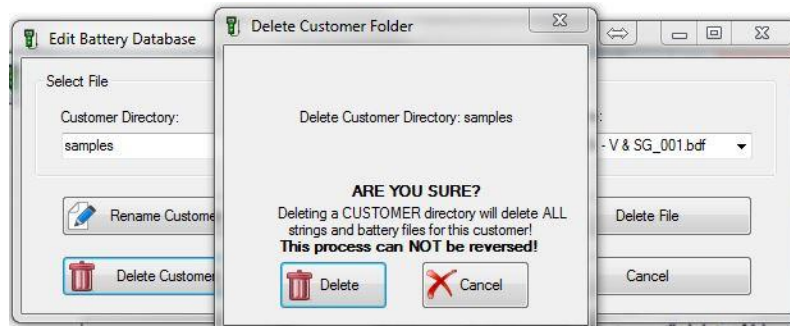
- (i) Click **“Rename Customer”**.



- (ii) Enter new Customer name and Click **“Rename”**.

9.4.2 Delete Customer Folder

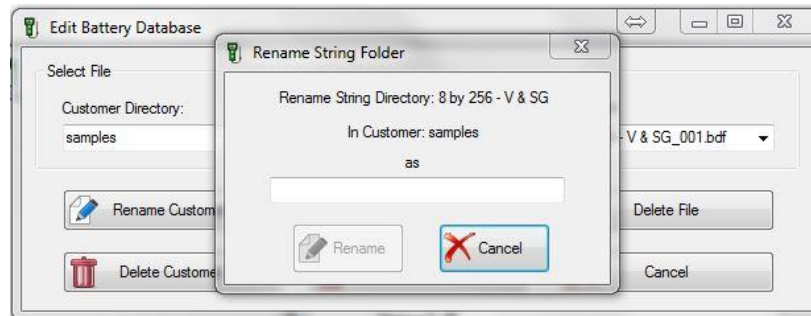
- (i) Click **“Delete Customer”**.



- (ii) Click **“Delete”** to confirm.

9.4.3 Rename String Folder

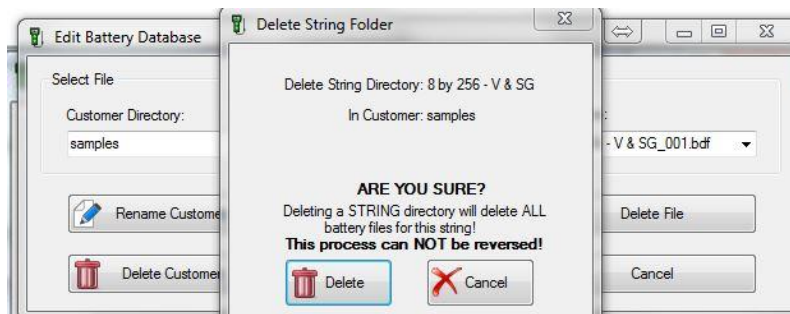
- (i) Click **“Rename String”**.



- (ii) Enter new String name and Click **“Rename”**.

9.4.4 Delete String Folder

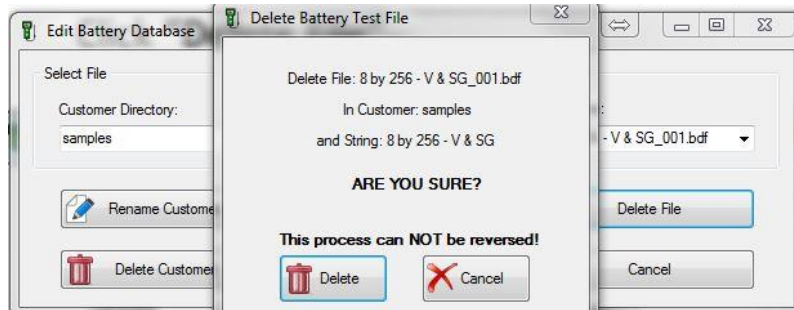
- (i) Click **“Delete String”**.



- (ii) Click **“Delete”** to confirm.

9.4.5 Delete Test File

(iii) Click **“Delete File”**.



(iv) Click **“Delete”** to confirm.

10.0 Upgrading Device Firmware (USB Instruments ONLY)

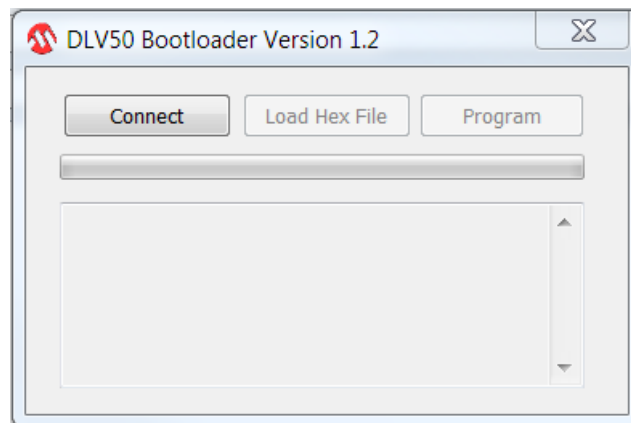
10.1 Upgrading DLV50 Firmware

- (i) Place the DLV50 into bootloader mode:
- Turn the DLV50 off
 - Push and continue to hold the right soft key below the display
 - Turn the DLV50 ON
 - The DLV50 will beep twice but the display will remain blank (this indicates the unit is in bootloader mode)

The DLV50 will restart in normal mode in ~ 30 seconds if not connected to a PC via USB

Close Winmeter 5.1 (if open)

- (ii) Connect the DLV50 to a PC via the supplied USB cable.
- (iii) Ensure that Winmeter 5.1 is **NOT** running
- (iv) Run the bootloader program “**DLV50 Bootloader Rev02.exe**”, typically located here “**C:\Program Files (x86)\ETG\Winmeter50**”



- (v) Click “**Connect**” on the Bootloader program
- (vi) Click “**Load Hex File**” and select the new DLV50 firmware file (*.hex).

Ensure the correct firmware for the correct device is selected!

- (v) Click “**Program**” to begin the firmware upgrade.

Do NOT disconnect the USB cable while the Device is being programmed!

- (vii) Once the DLV50 firmware has been updated, the Device Bootloader software will close and the DLV50 will restart with the new firmware.

11.0 Troubleshooting

11.1 Communication Issues

11.1.1 RS232

(To be completed)

11.2.1 USB

(To be completed)