Power DB LITE

Operation with the Megger BITE Battery Testers

Megger

EN
ENGLISH

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For Patent information about this instrument refer to the following web site:
megger.com/patents

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Contents

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Introduction

Thank you for purchasing the Power DB Software. This software operates with the BITE2, BITE2P and BITE3 battery testers. This software allows you transfer data from the unit, analyze the data and create custom reports. This manual lists the requirements of the software, as well as the step-by-step instructions.

If you find any bugs in the PowerDB Software or have any comments, please send them to Megger via fax, e-mail or phone.

Megger

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For Technical Support please consult the Megger Web Site at www.megger.com for the local distributor near you.

Receiving Information

Contents of Power DB Kit:

Qty	Part No.	Description
1	1001-381	Power DB software
1	AVTM82318	Manual

When your Megger Power DB Software Kit arrives, check the items received against the packaging list to ensure that all materials are present. Notify Megger of any shortages.

Examine the contents for damage received in transit. If any damage is discovered, file a claim with the carrier at once and notify Megger or its nearest authorized sales representative, giving a detailed description of the damage.

Equipment Required

The following equipment or equivalent is required to operate the Power DB Software.

Qty	Part Number	Description
1	1001-381	Power DB Software
1	IBM Compatible PC	2 GHz PC with 2GB RAM Windows XP / Vista / Windows 7, Windows 8 or Windows 10.

Power DB Overview

Power DB is a PC based Megger instrument interfacing software, that operates with multiple Megger units, including Megger's line of Battery Testing Instrumentation. Power DB will operate with the BITE2, BITE2P, BITE3, DMA Hydrometer, Torkel and BVM voltage monitors.

There are 3 versions of the Power DB software, Power DB LITE, Power DB Advanced and Power DB Pro. Power DB LITE comes with the BITE2, BITE2P and the BITE3 at no additional charge. The Power DB Advanced and Pro versions are ordered separately and have associated charges with them.

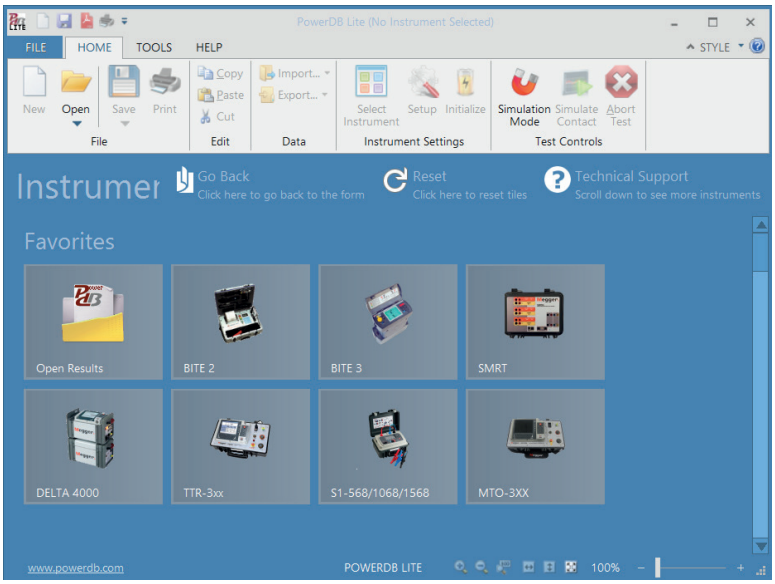
The Power DB LITE software allows operator to communicate with the BITE2, BITE2P and BITE3 as well as import data, configure the units, import Hydrometer data, create reports and charts, configure the reports and charts, configure battery data as well as import pre-existing ProActiv Databases. The following table illustrates the differences between the different versions of Power DB.

COMPARISON GUIDE	PowerDB Edition		
	ONBOARD	LITE	PRO
Runs in a hardened embedded environment	■		
Navigate with arrow and enter keys (no mouse)	■		
Manage data files with internal drive and USB drive	■		
Uses a subset of PowerDB Pro forms applicable to your instrument	■	■	
Files can import into PowerDB Pro	■	■	
Relay/Breaker/Re-closer curve library	■	■	■
Completed forms are saved as files to your computer	■	■	■
Associates current test data with historical results	■	■	■
Control Megger instruments and download test data		■	■
Control non-Megger instruments			■
280+ industry standard test forms are provided			■
advanced Relay Form			■
Trend historical results for asset for predictive failure analysis			■
Trend historical results for asset against other similar assets			■
Database functionality to manage data for all electrical equipment			■
One step report generation			■

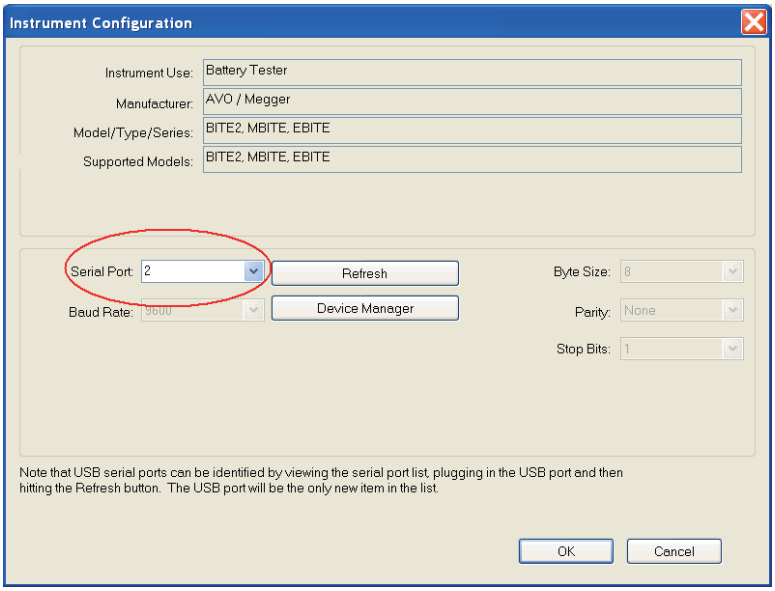
COMPARISON GUIDE	PowerDB Edition		
	ONBOARD	LITE	PRO
Summarize noted comments and/or deficiencies			■
Trigger work order and maintenance schedules			■
Synchronize results from field to master database			■
Synchronize results with other testers			■
Form editor allows test sheets to be created or customized			■
Import data from other software packages			■
Maintain calibration data for test instruments			■

Transferring Data from a BITE2/2P Receiver

Open PowerDB LITE. (The following screen will appear)

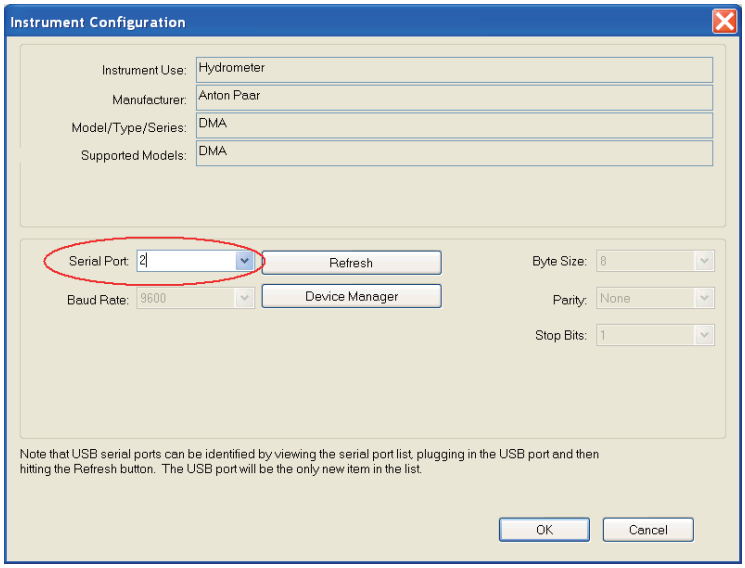


Click on the BITE2 picture. (The following screen will appear)



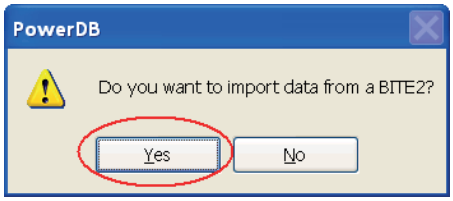
Select COM Port that the unit is connected to, then click OK.. (The following screen will appear)

NOTE: If you are unsure what COM port the unit will be connected to then click on DEVICE MANAGER and scroll down to COM Ports. Expand the COM Port section and you will be able to see what the COM port designations are.

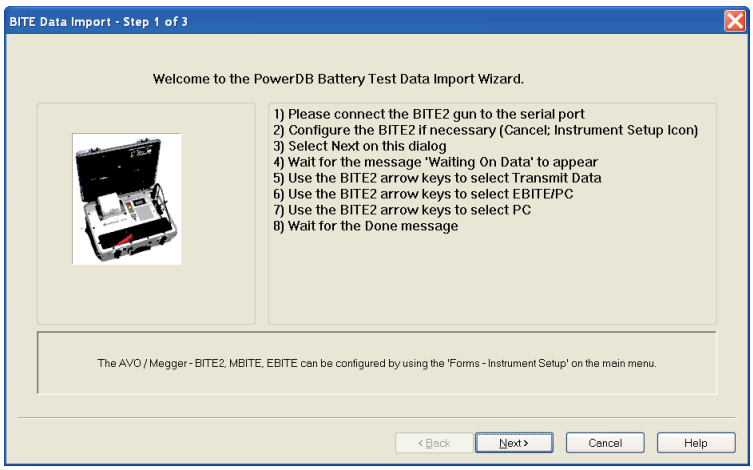


Select COM Port for Hydrometer then click OK. (The following screen will appear)

NOTE: If you are not using a hydrometer then just click OK to proceed.

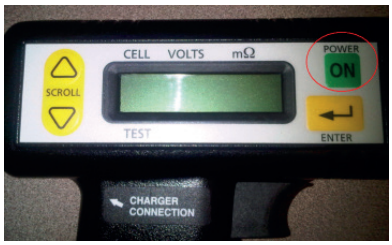


Click YES on the "Do you want to import data from a BITE2" screen. (The following BITE2 data transfer Wizard screen will appear)



Connect the BITE2 receiver to the COM port you selected.

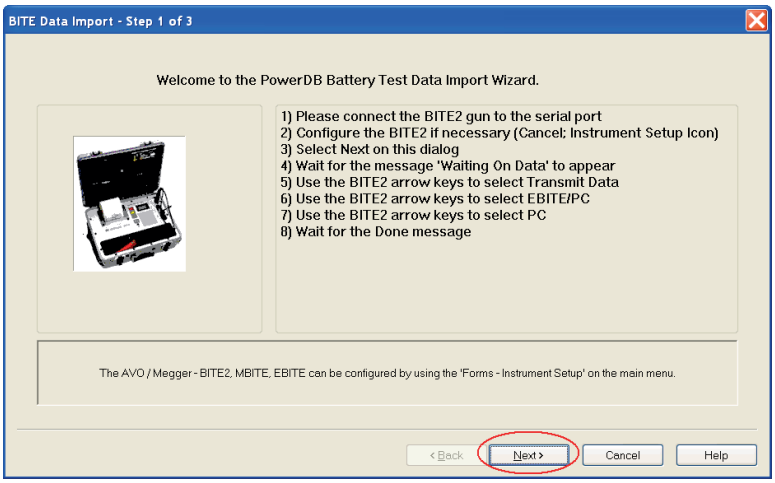
Power Up the BITE2 receiver by pressing the Power ON key on the receiver.



The message "TRANSMIT DATA (Y/N)?" should appear on the BITE2 Receiver display.

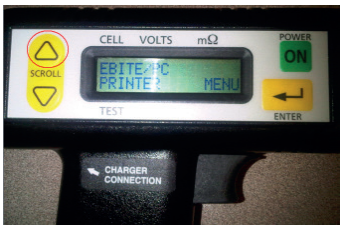
Click NEXT in the PowerDB software.

NOTE: Read the entire selection below before proceeding. The software will time out if too much time lapses between these steps.

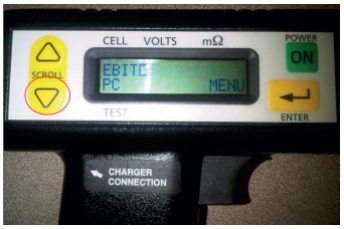


Select "Y" on the BITE2 receiver by pressing the UP arrow key on the BITE2 receiver. (The following will be displayed on the BITE2 receiver)

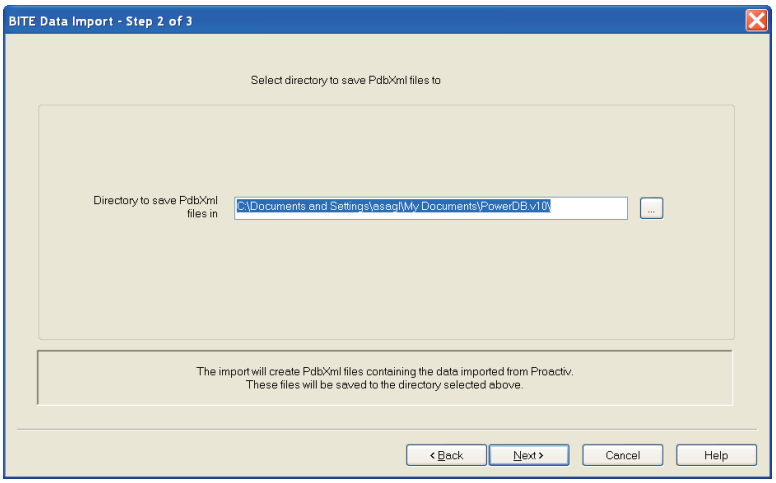
Select "EBITE / PC" on the BITE2 receiver by pressing the UP arrow key on the BITE2 receiver. (The following will be displayed on the BITE2 receiver)



Select "PC" on the BITE2 receiver by pressing the DOWN arrow key on the BITE2 receiver. (The receiver will now start transferring the data to the PC)

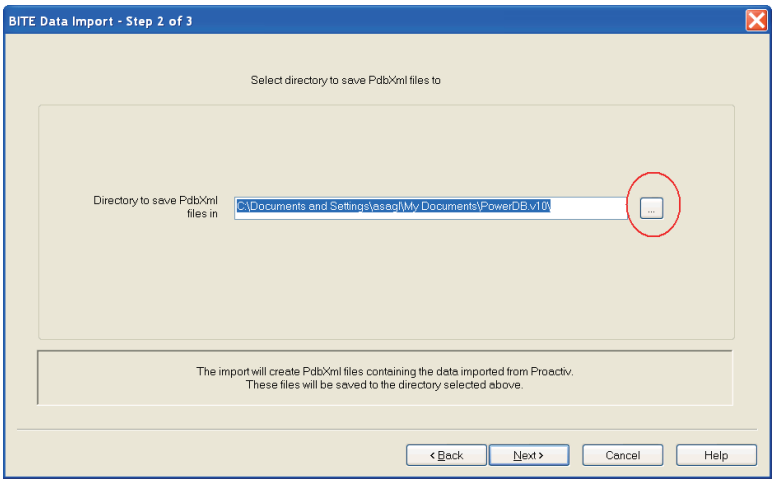


When the data transmission is complete, the following screen is displayed. This screen will allow you to select the data path you wish to save the transmitted data to.



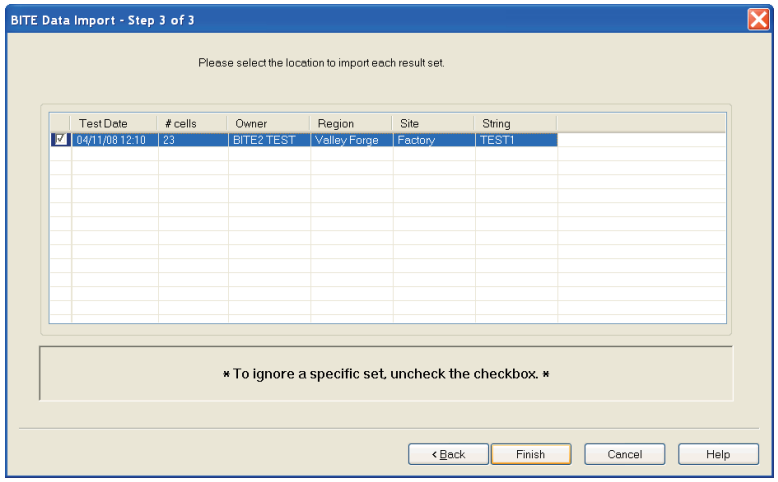
If you wish to save the data to a different path then the one displayed then click on the BROWSE button and select the desired path.

NOTE: The default data path is displayed. If you are not saving the data to a different path just click on NEXT to proceed.



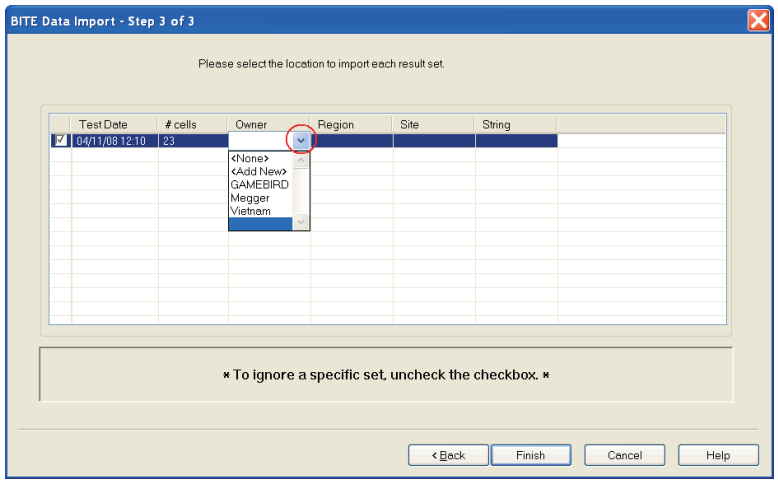
When the desired path is selected, click on the NEXT button. (The following screen is displayed).

NOTE: All the recorded data files in the receiver will be displayed. Uncheck the box next to any files you do NOT want to save; such as old files that have already been saved.



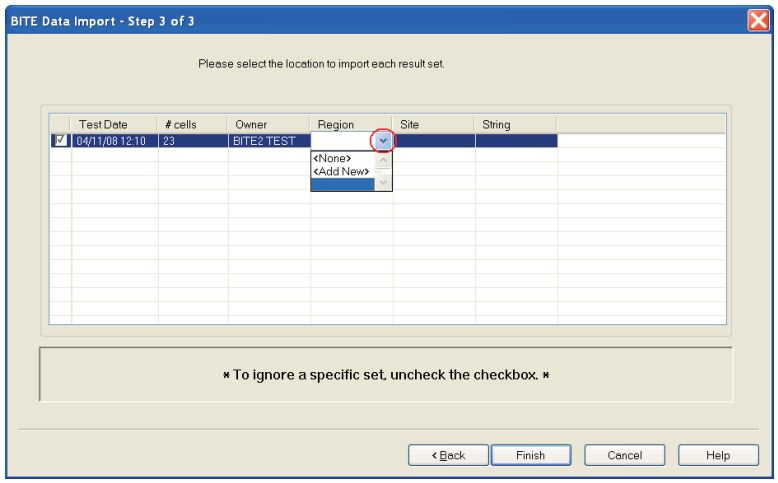
Select the desired OWNER by clicking on the drop down arrow.

NOTE: You can also select to add a NEW OWNER.



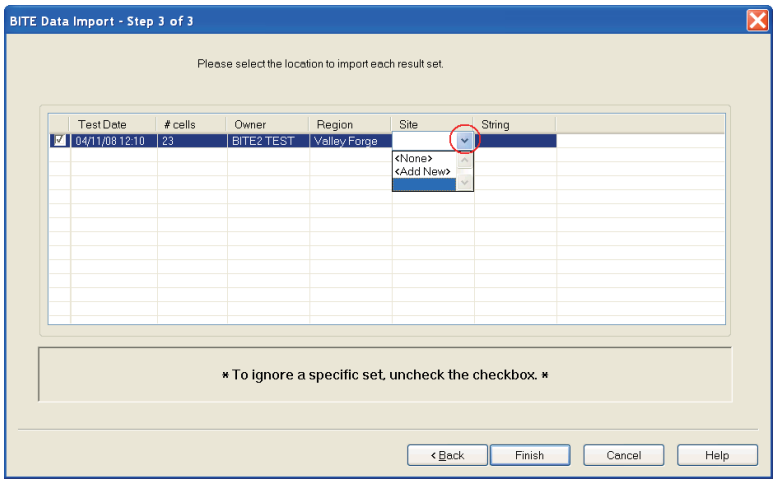
Select the desired REGION by clicking on the drop down arrow.

NOTE: You can also select to add a NEW REGION.



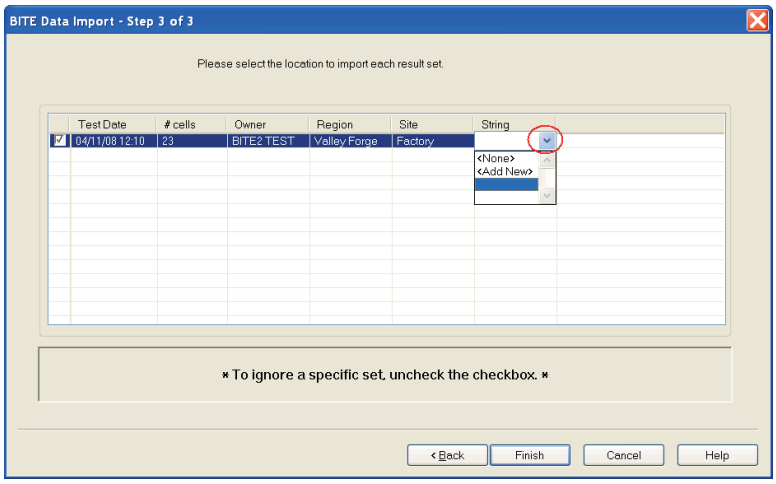
Select the desired SITE by clicking on the drop down arrow.

NOTE: You can also select to add a NEW SITE.

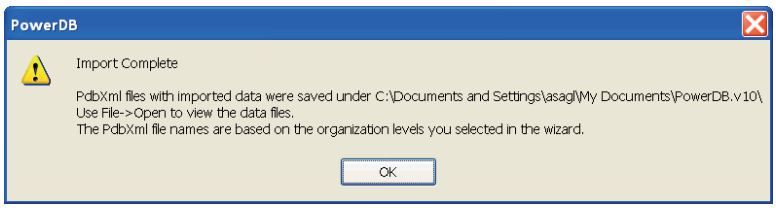


Select the desired STRING by clicking on the drop down arrow.

NOTE: You can also select to add a NEW STRING.



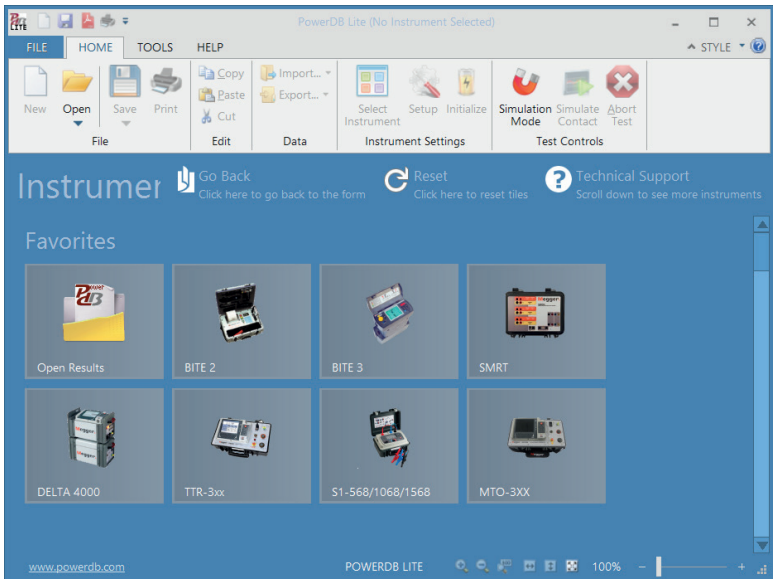
When selections have been completed click on the FINISH button. The transferred data will now be saved to the desired location and the following import completion message will appear.



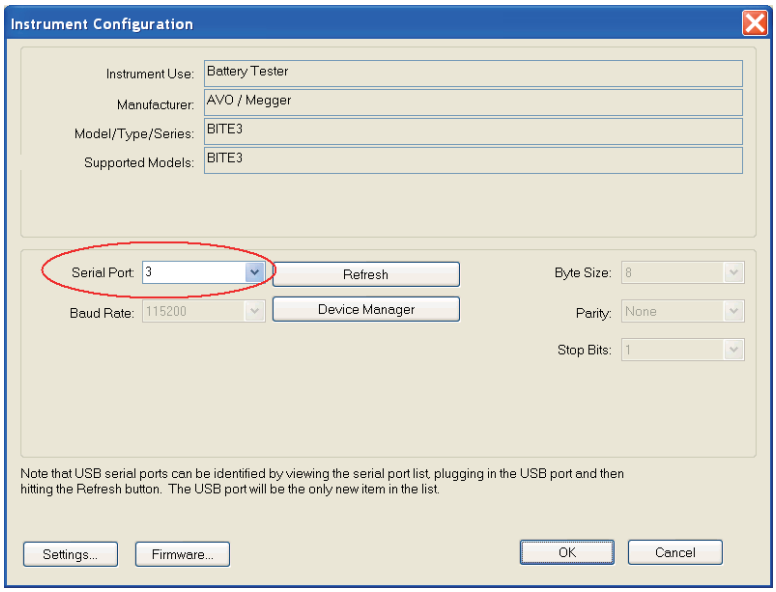
Click OK.

Transferring Data from a BITE3

Open PowerDB LITE. (The following screen will appear)

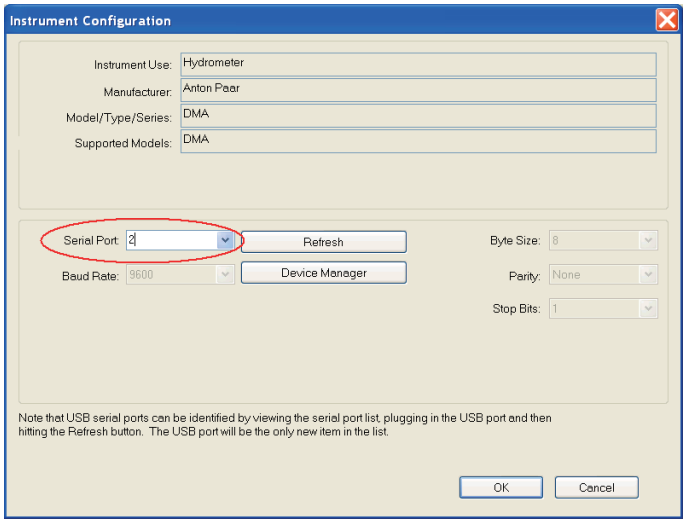


Click on the BITE3 picture. (The following screen will appear)



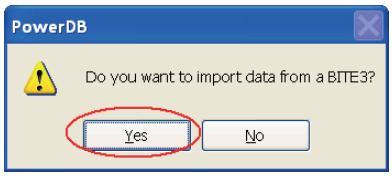
Select COM Port he unit is connected to then click OK. (The following screen will appear)

NOTE: If you are unsure what COM port the unit will be connected to then click on DEVICE MANAGER and scroll down to COM Ports. Expand the COM Port section and you will be able to see what the COM port designations are.

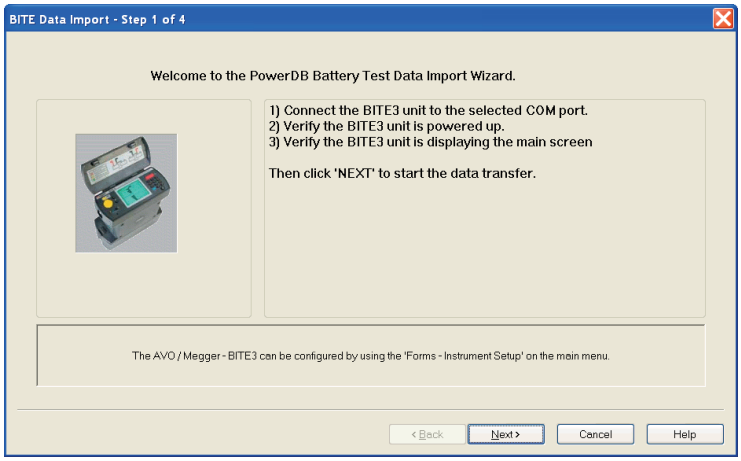


Select COM Port for Hydrometer, then click OK. (The following screen will appear)

NOTE: If you are not using a hydrometer then just click OK to proceed.



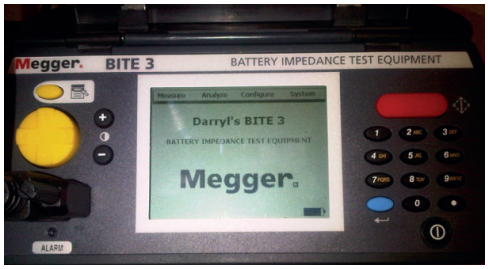
Click YES on the "Do you want to import data from a BITE3" screen. (The following BITE3 data transfer Wizard screen will appear)



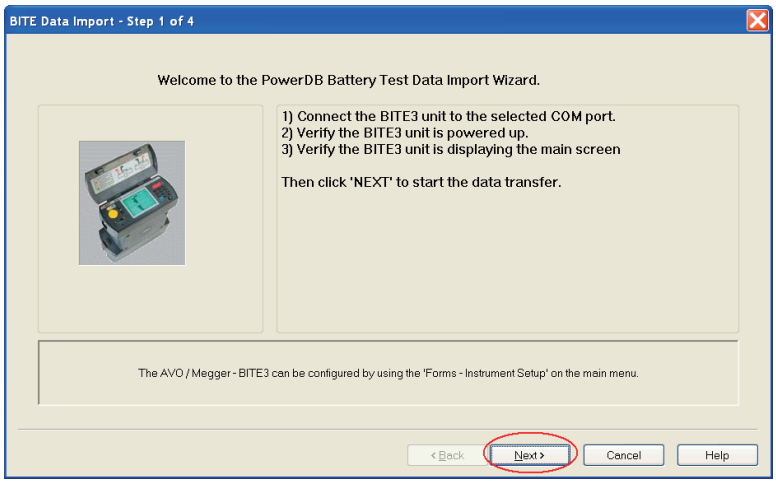
Connect the BITE3 receiver to the COM port you selected, using the Null modem RS-232 cable supplied with the unit .

Power Up the BITE3 receiver by pressing the Power ON / OFF button on the unit.

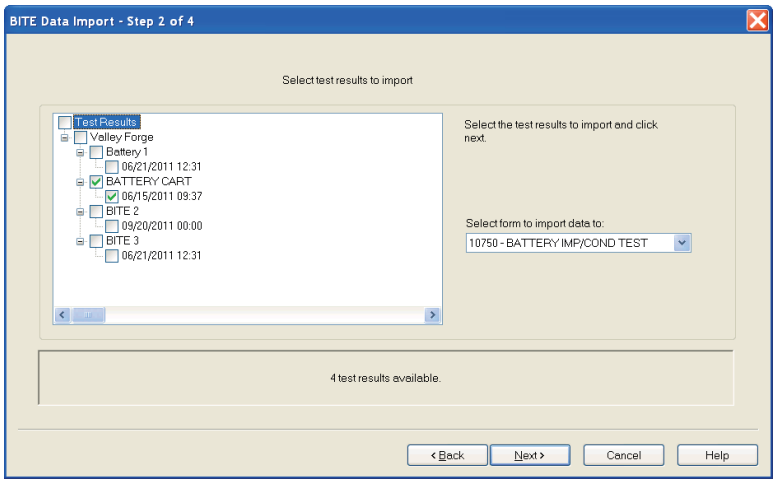
Verify the unit boots up to its main menu.



Click NEXT in the PowerDB software.



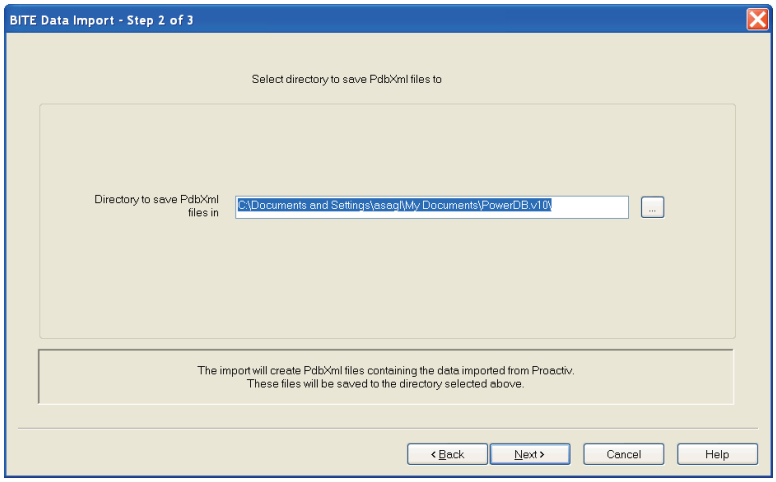
Power DB LITE will now display all the data files recorded in the BITE3 unit.



Select the data files you wish to download by checking the box next to them. When complete click the NEXT button.

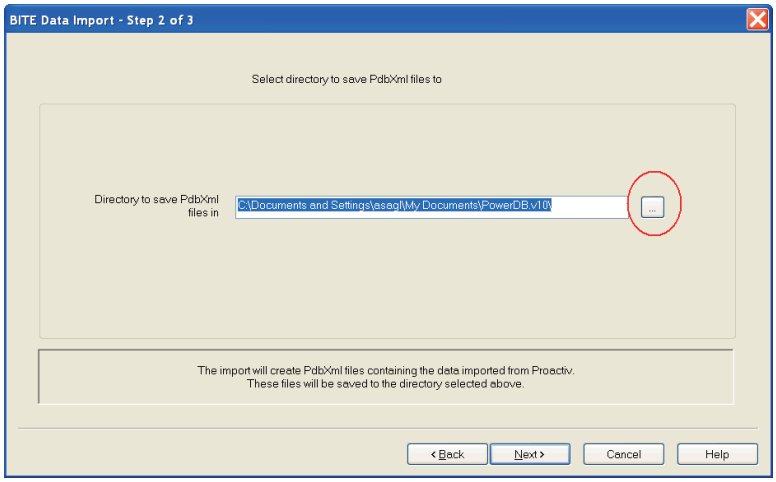
The data will now transfer from the BITE3 to the Power DB LITE software.

When the data transmission is complete, the following screen will be displayed. This screen will allow you to select the data path you wish to save the transmitted data to.



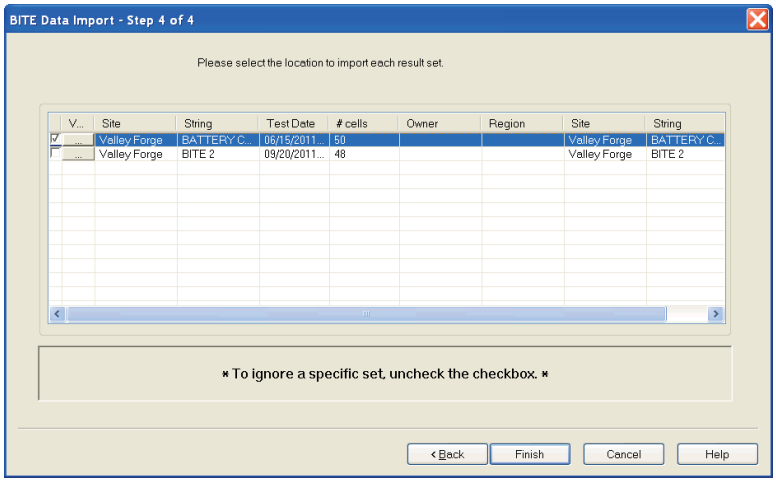
If you wish to save the data to a different path then the one displayed then click on the BROWSE button and select the desired path.

NOTE: The default data path is displayed. If you are not saving the data to a different path just click on NEXT to proceed.



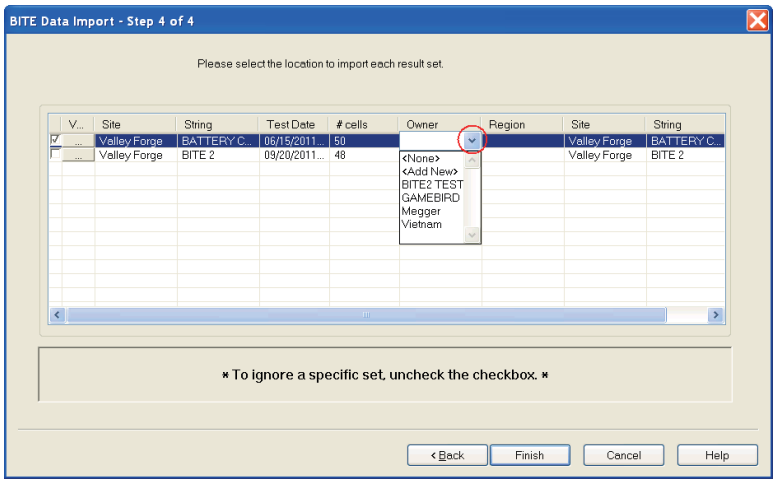
When the desired path is selected, then click on the NEXT button. (The following screen will be displayed)

NOTE: All the recorded data files in the receiver will be displayed. Uncheck the box next to any files you do NOT want to save; such as old files that have already been saved.



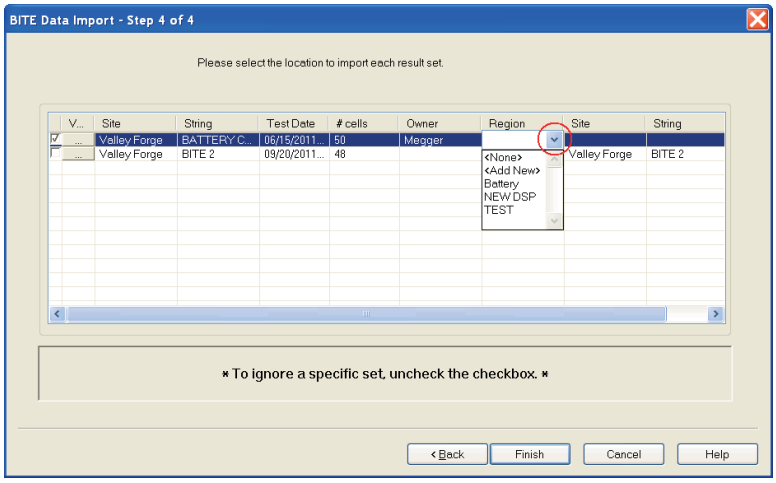
Select the desired OWNER by clicking on the drop down arrow

NOTE: You can also select to add a NEW OWNER.



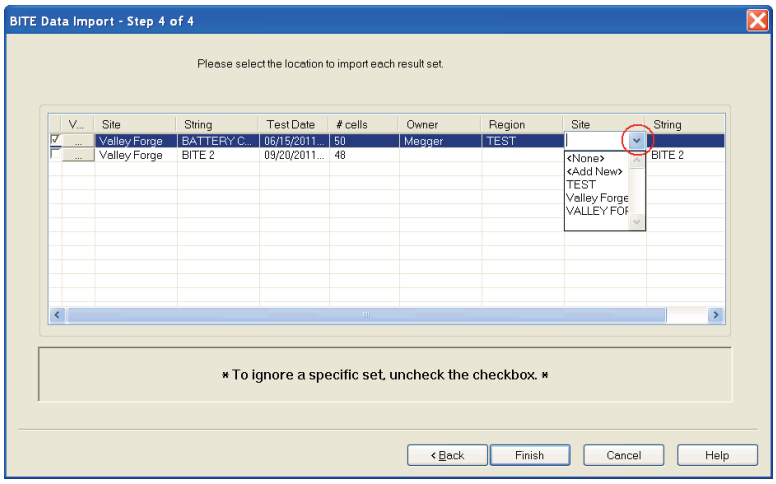
Select the desired REGION by clicking on the drop down arrow.

NOTE: You can also select to add a NEW REGION.



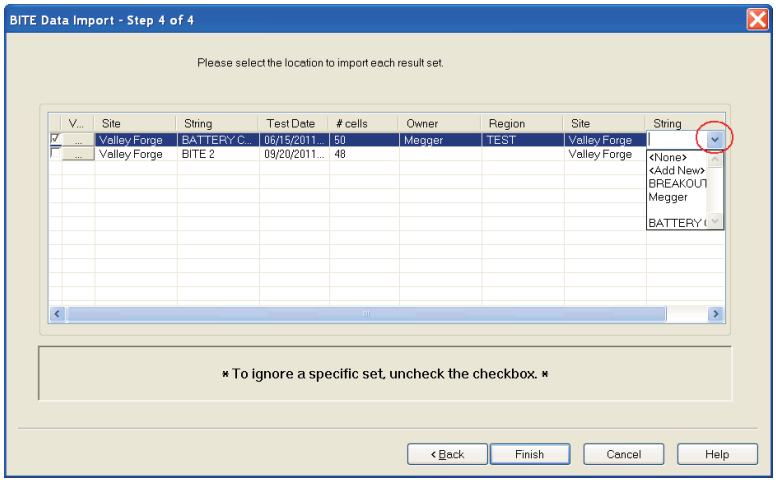
Select the desired SITE by clicking on the drop down arrow.\

NOTE: You can also select to add a NEW SITE.

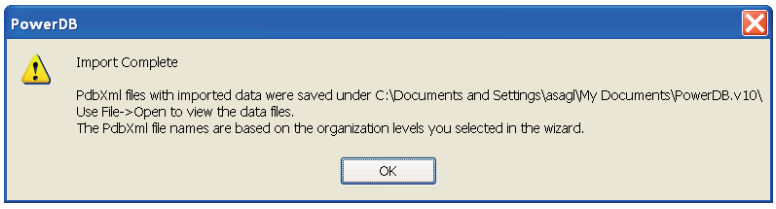


Select the desired STRING by clicking on the drop down arrow.

NOTE: You can also select to add a NEW STRING.



When selections have been completed click on the FINISH button. The transferred data will now be saved to the desired location and the following import completion message will appear.

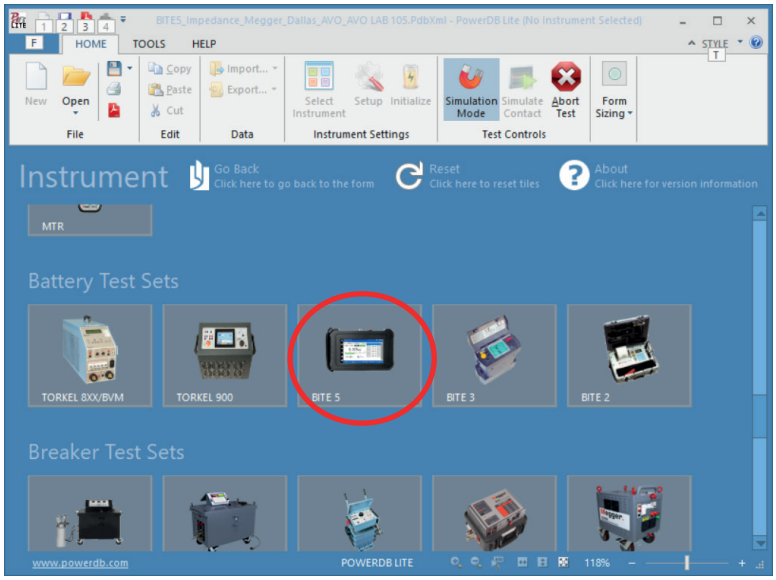


Click OK.

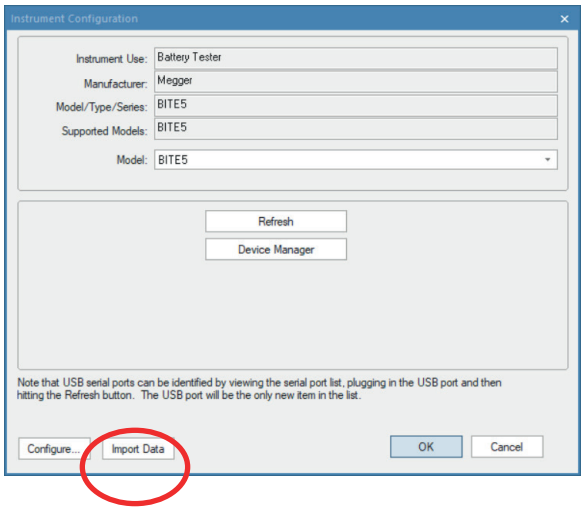
Transferring Data from a BITE5 Receiver

The BITE5 series of battery testers can be used to record battery impedance data and battery discharge data. A discharge test will utilize a load box such as the Megger Torkel, used in conjunction with the BITE5. The recorded string data can be transferred from the BITE5 series to Power DB. This section of the manual describes how to transfer discharge data into Power DB,

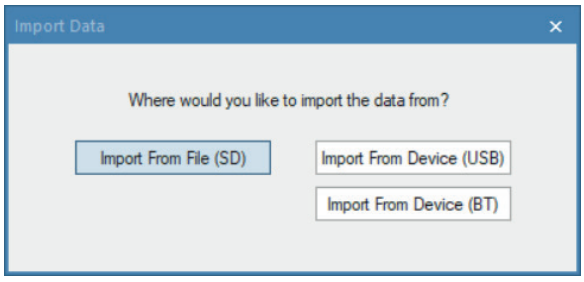
1. Open the Power DB software and select the BITE5,



2. Click on "Import Data"



3. Select the desired method of data transfer. This can be transfer via a USB cable, an SD card or via Bluetooth.



4. If transferring data via USB cable then connect the USB cable between the PC and the BITE5. Then select "Import From Device (USB)". The PC will automatically locate the USB port.

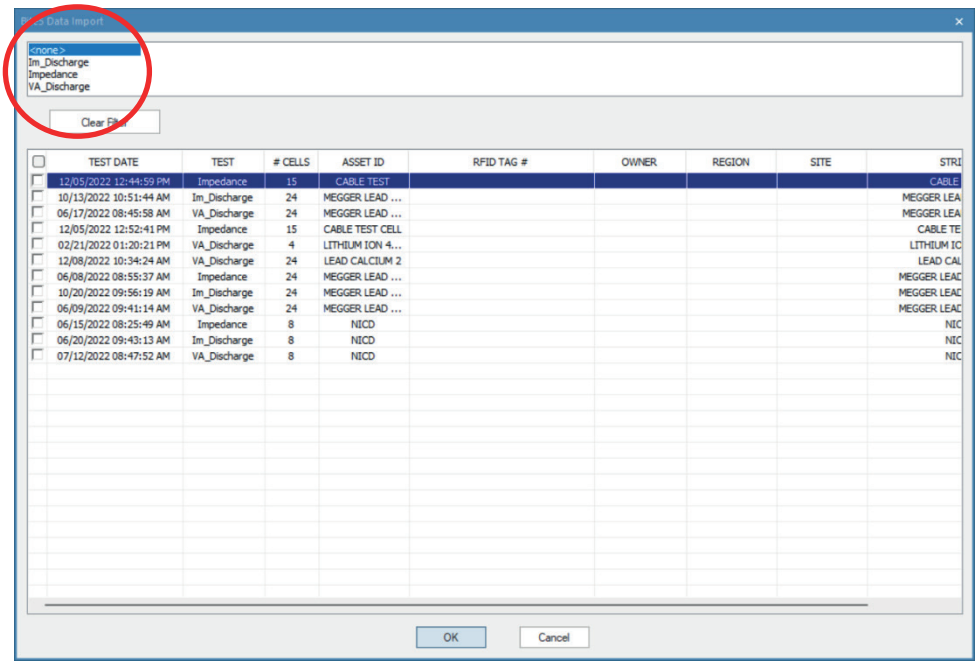
If transferring data via the SD card then remove the SD card from the BITE5. Place the card into the SD card-USB adapter.

Place the adapter with the card into the PC. Then select "Import From File (SD)".

5. If transferring data via Bluetooth, verify this option is available on your unit. Then select "Import From Device (BT)". Follow the instructions on the screen to pair the PC with the BITE5

6. Once the PC communicates with the BITE5, it will display all the files that are present in the BITE5.

7. Select the type of file, using the data file filter.

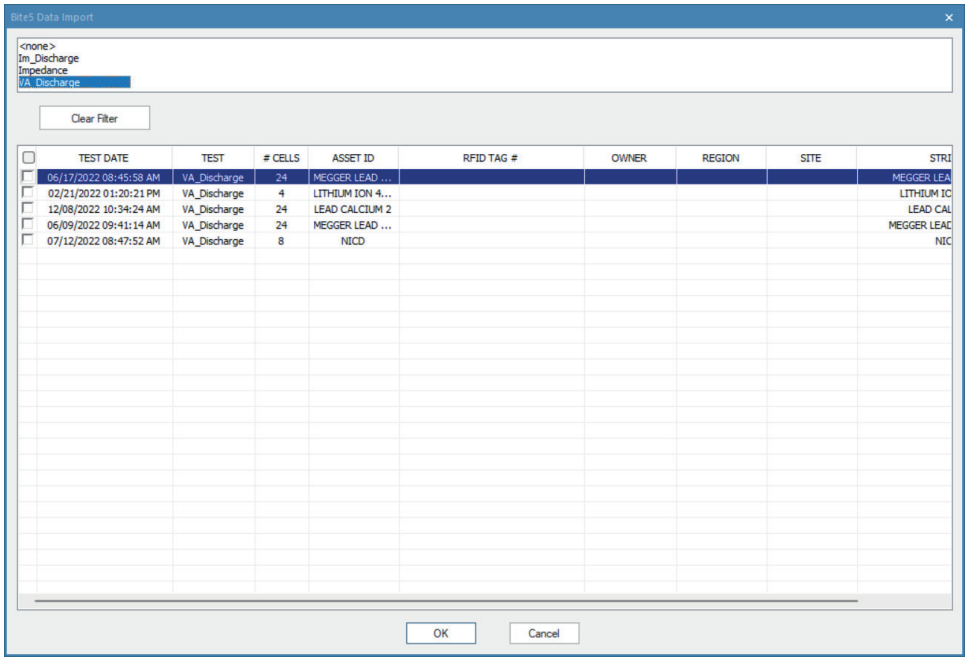


8. Select "Impedance", when transferring string impedance recorded data during an ohmic test.

Select "VA_Discharge", when transferring cell voltage measurements recorded data during a discharge test.

Select "Im_Dischare", when transferring cell voltage and impedance cell impedance recorded data during a discharge test. Note this is a special test that is typically only performed during an acceptance discharge test, if the operators wants to identify the ohmic limit to be used for any future ohmic testing.

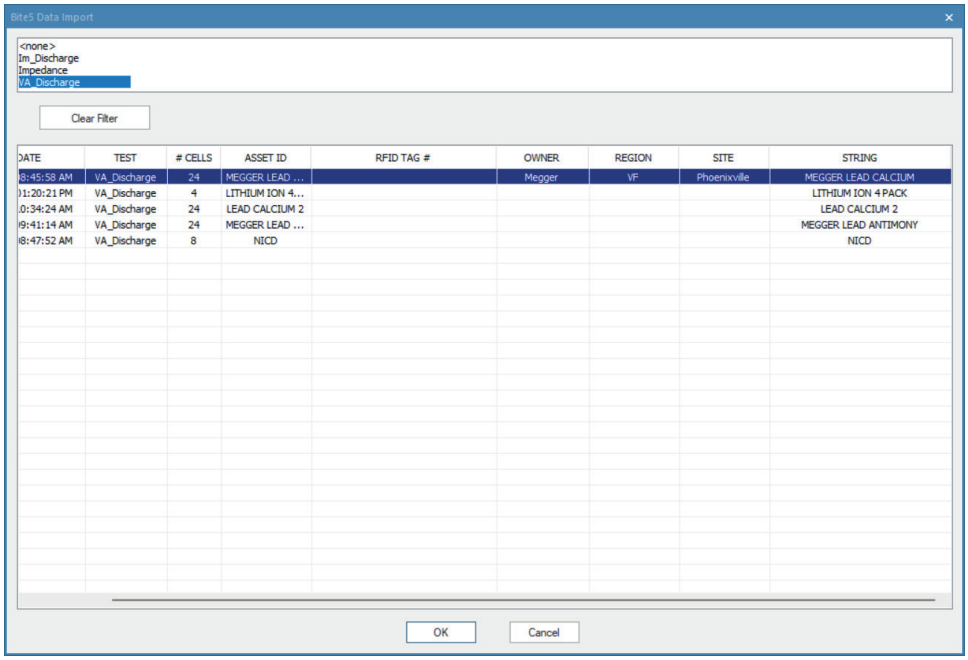
Once the proper data file is type is selected Power DB will only display those particular data files.



9. Select the desired data by checking the box next to the test date.
   Enter string information.
10. The data import screen displays various columns of data, that help sort the data.

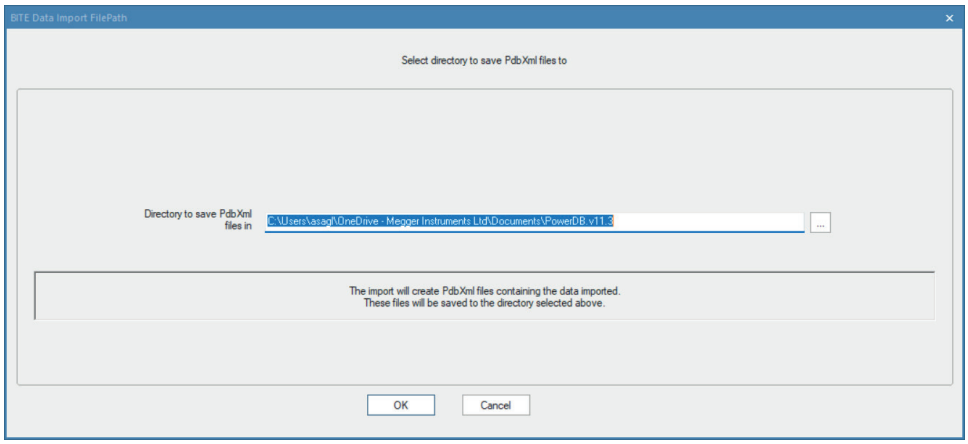
Column	Purpose
TEST DATE	The date and time the test was performed.
TEST	The type of test that was performed.
# CELLS	The number of cells in the string, that was tested.
ASSET ID	This will be the name of the string as entered into the BITE5 string configuration file.
RFID TAG #	The number of the RFID tag that was scanned, if used.
OWNER	A user input field. This allows the data to be placed under the current unique string. This is a drop-down field. Select NEW to enter a new owner. Any previously entered owners will be displayed and can be selected. If nothing is entered then this field will be listed as <none>.
REGION	A user input field. This allows the data to be placed under the current unique string. This is a drop-down field. Select NEW to enter a new region. Any previously entered regions will be displayed and can be selected. If nothing is entered then this field will be listed as <none>.
SITE	A user input field. This allows the data to be placed under the current unique string. This is a drop-down field. Select NEW to enter a new site. Any previously entered sites will be displayed and can be selected. If nothing is entered then this field will be listed as <none>.
STRING	A user input field. This allows the data to be placed under the current unique string. This is a drop-down field. This field will be auto-populated with the name of the string as entered in the BITE5 string configuration file.

11. Select or input any desired owner, region, site or string settings.



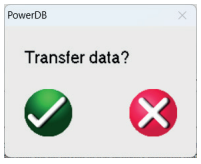
NOTE: These selections determine the battery string, that the recorded data will be associated with. For trending purposes take care not to alter this data, or the recorded data may not be associated with the proper string.

12. When done select OK.
13. The software will now prompt you to select the desired path for the data. The path will always be the same as the path last selected. There is no need to change it every time. Once the desired path is set, it will be the default path.

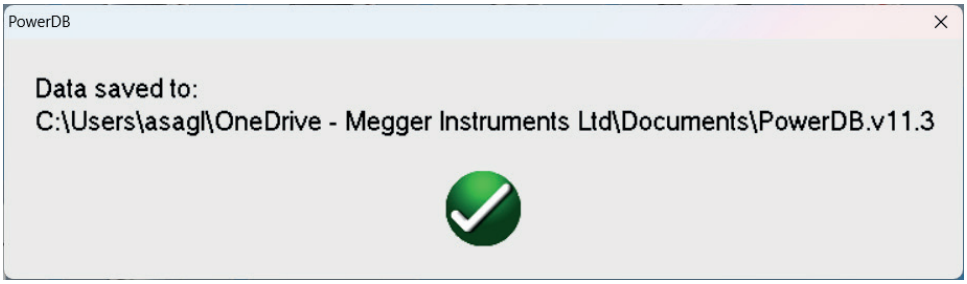


14. Click on OK, once the desired path is set.

15. The software will now verify you wish to transfer the data.



16. Click on the green check mark to approve transfer.
17. The data will now transfer,
18. A success message will be displayed when the transfer is complete.



19. Click OK

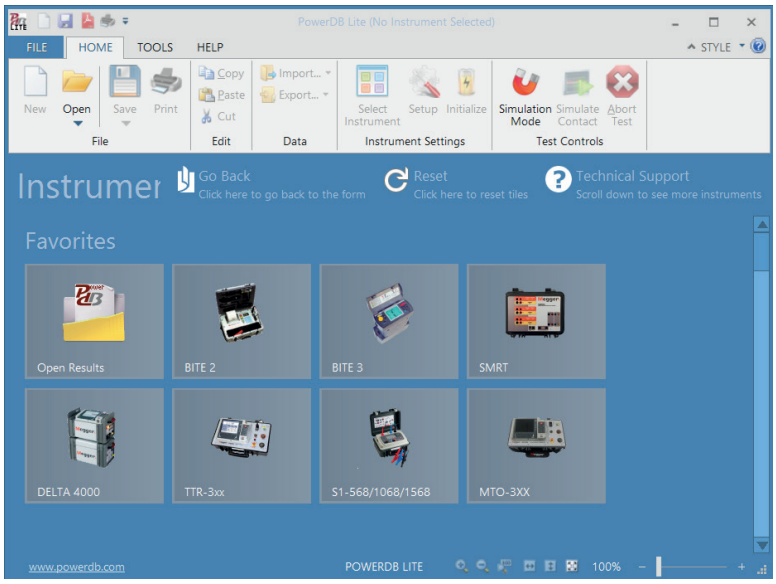
The data will now be saved to the selected folder. The data will be saved under the following file format.

<BITE5_TEST TYPE_OWNER_REGION_SITE_STRING>

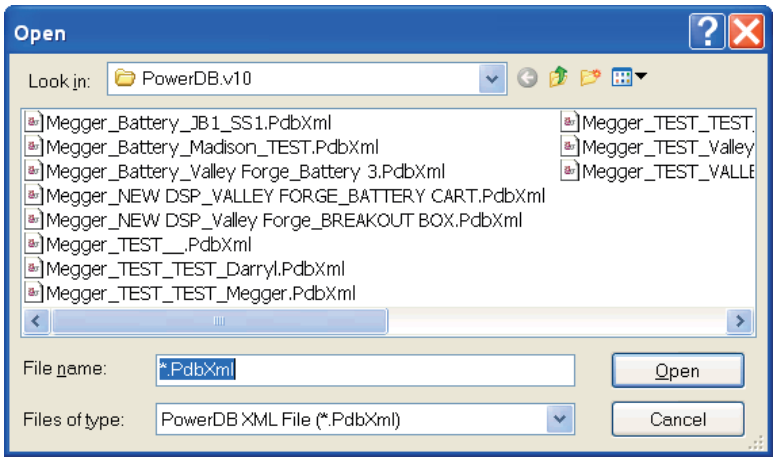
Report Generation

Opening a Report

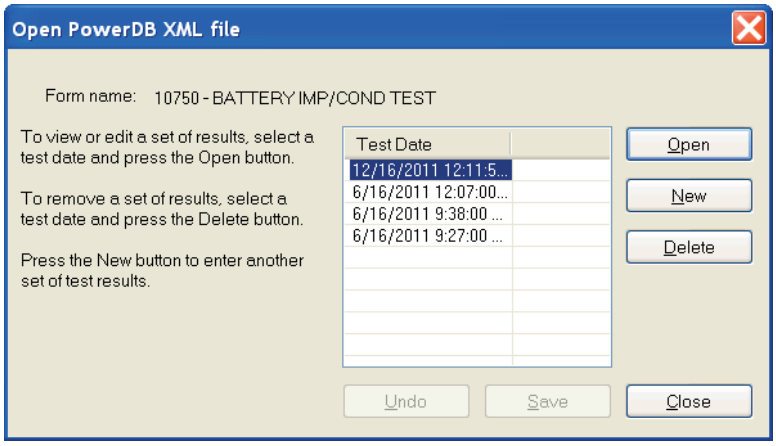
1. To open a report either click on the "Open" folder or the picture "Open Results".



2. The following window will open.



3. Select the desired file to open then click on OPEN. The following screen will open.



4. Select the desired test to open then click on OPEN. The report will now open, as shown in the example below.

Megger
www.megger.com

BATTERY TEST

Megger

DATE 12/14/2015 PAGE 1
AMBIENT TEMP. 0 °F JOB # 0001
SUBSTATION AVO String HUMIDITY % ASSET ID
POSITION Rack Number 3 TEST STATUS
EQUIPMENT LOCATION

STRING

STRING NAME:	VRLA String	BATTERY TYPE:	VRLA	NUMBER OF JARS:	6
NSTALLATION DATE:	01-23-2013	DUTY CYCLE:	Amps	NUMBER OF CELLS:	6
HYDROMETER. START/SKIP CELLS:	1 / 0	for	Minutes	NUMBER OF CELLS / JAR:	1
VOLTS PER CELL: NOMINAL:		to	VPC	NUMBER OF STRAPS:	6

CHARGER

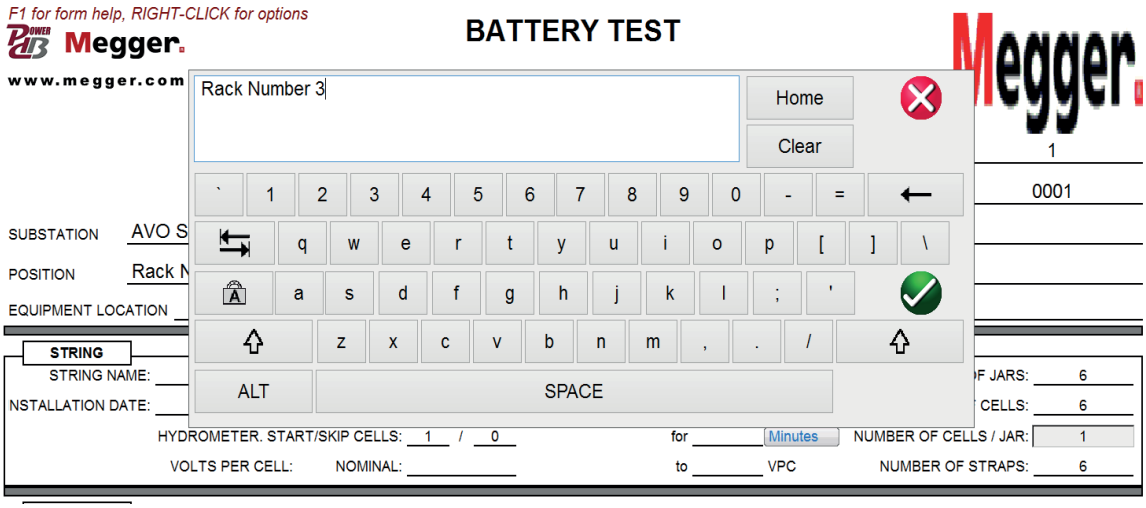
MANUFACTURER:	Vannel	BATTERY FLOAT CURRENT:		CHARGER CURRENT:	Amps
MODEL:	CBC	BATTERY RIPPLE CURRENT:	0	CHARGER VOLTAGE: 12.47	Volts
		TEST AC CURRENT:		EQUALIZATION VOLTAGE:	Volts

LIMITS

LOW VOLTAGE LIMIT (V): 2	HIGH VOLTAGE LIMIT (V): 2.1	VARIATION WARNING (%): 20.0	VARIATION ALARM (%): 30.0
DEVIATION WARNING (%): 30.0	DEVIATION ALARM (%): 50.0	CHANGE WARNING (%): 5.0	CHANGE ALARM (%): 10.0
STRAP WARNING (%): 10.0	STRAP ALARM (%): 20.0		

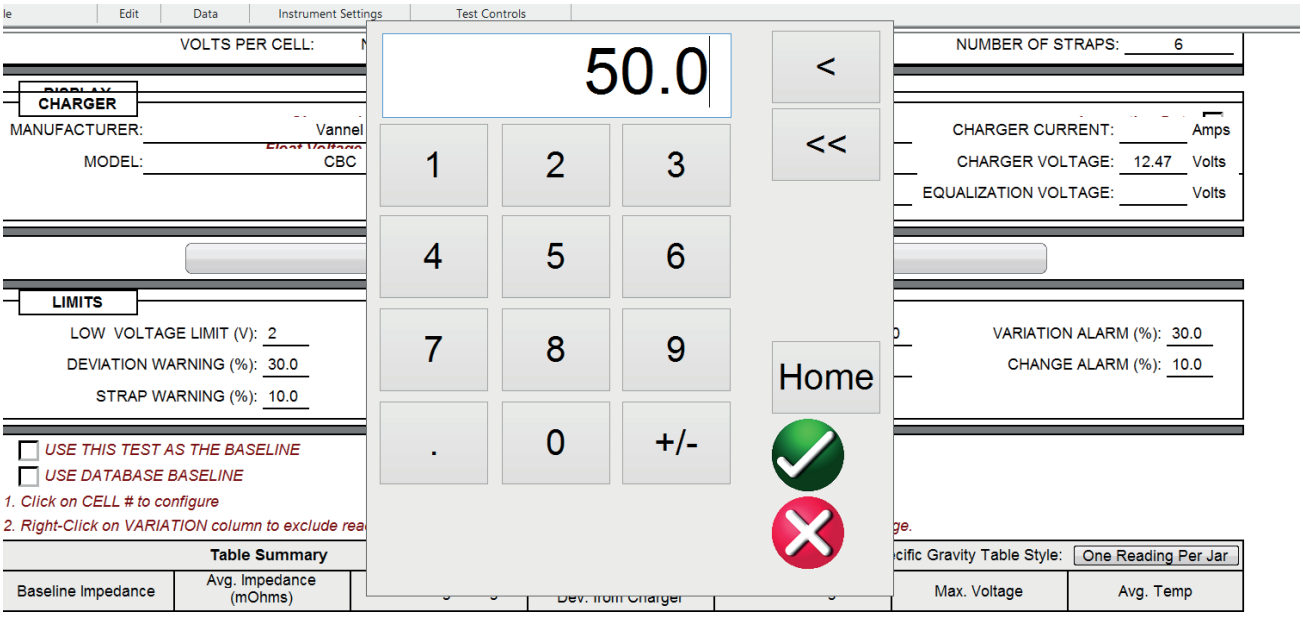
Manually Entering Site Information

SITE data can be entered manually in the below section of the report. Simply click on the desired field and a window will open. Enter the data either from the PC keypad or from a touch screen. When the report is closed, it will prompt you to save the changes. Select YES to save the data you entered and any changes you made.



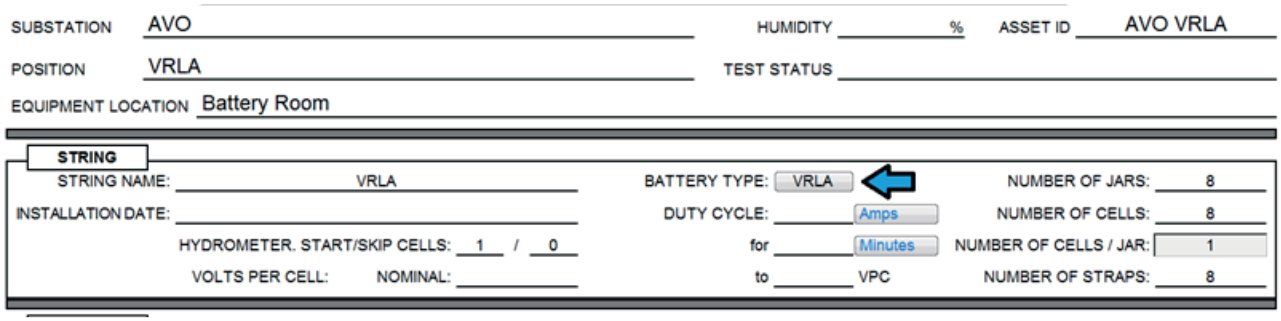
Manually Entering Limits

LIMIT data can be entered manually in the below section of the report. This data will be used by the reports to calculate voltage limits, variation limits, deviation limits, percent change limits and strap limits. Simply click on the desired field and a window will open. Enter the data either from the PC keypad or from a touch screen. When the report is closed, it will prompt you to save the changes. Select YES to save the data you entered and any changes you made.

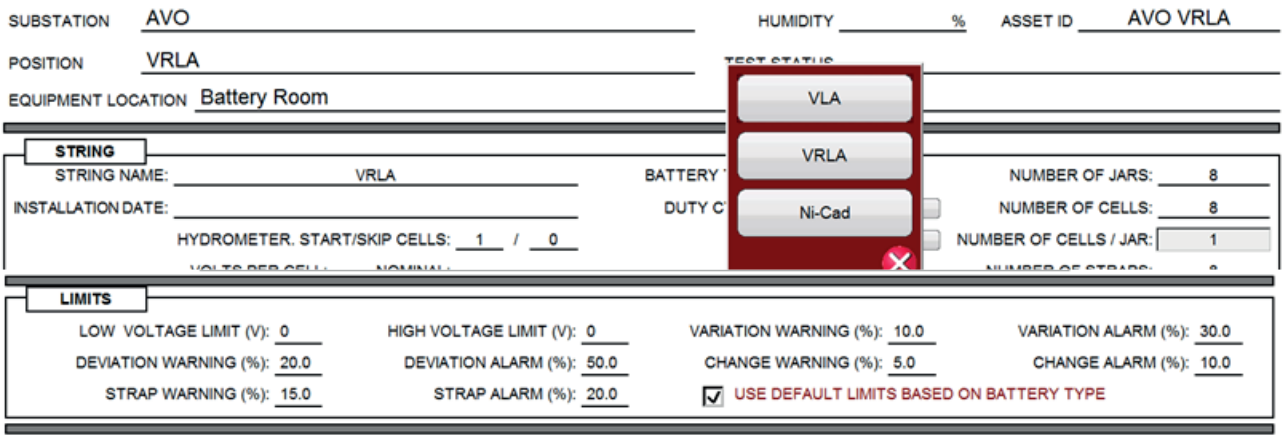


Auto Select Limits based on Battery Chemistry

The Power DB software will automatically set the limits based on the battery chemistry being tested. To use this feature enable "USE DEFAULT LIMITS BASED ON BATTERY TYPE".



Then select the battery chemistry.

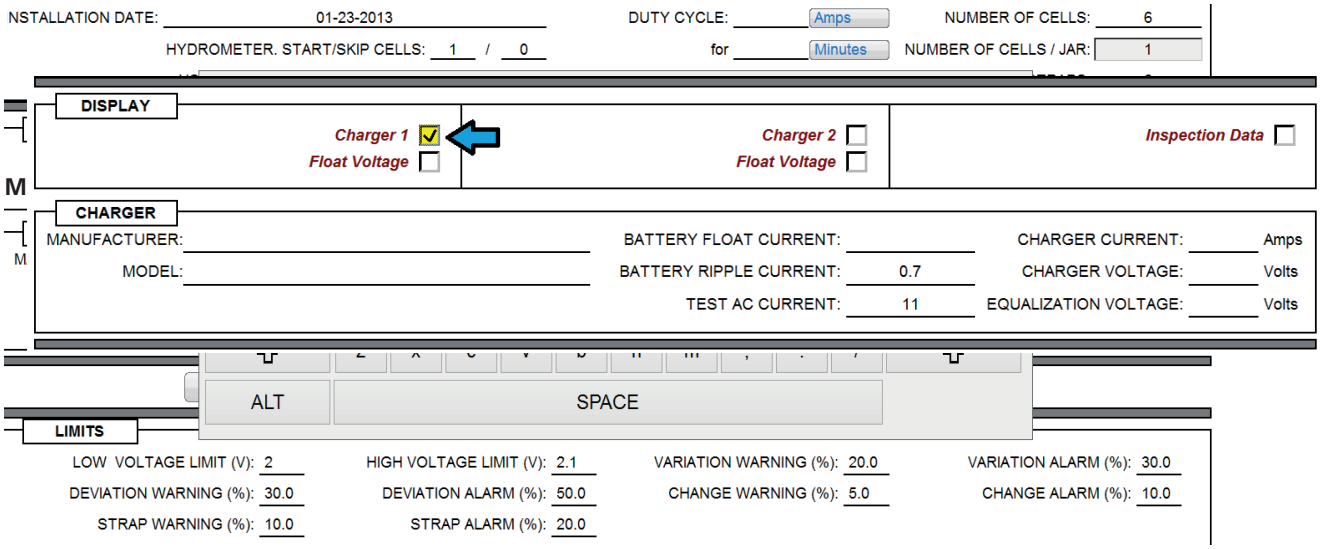


ed to

NOTE: These limits are intended as initial values.

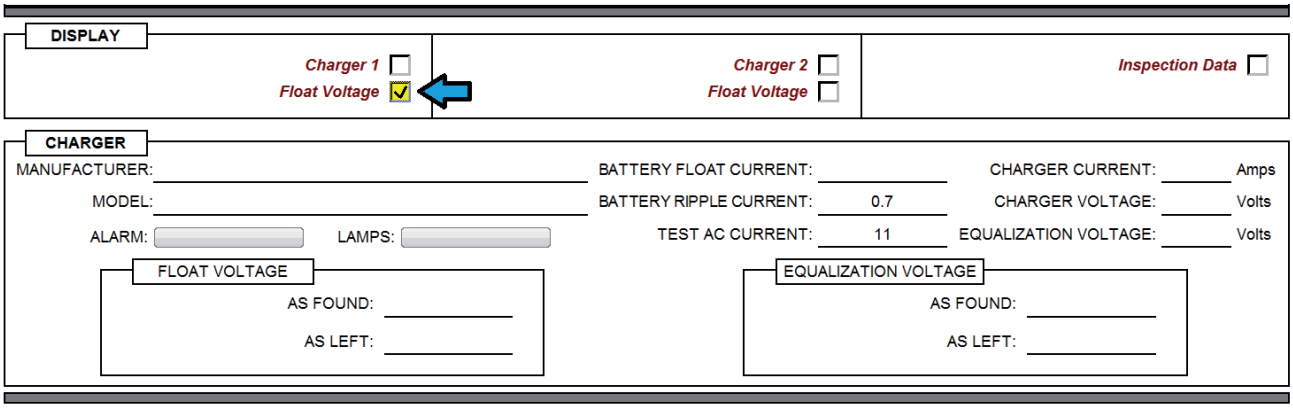
Manually Entering String Data

STRING data can be entered manually in the below section of the report. Simply click on the desired field and a window will open. Enter the data either from the PC keypad or from a touch screen. When the report is closed, it will prompt you to save the changes. Select YES to save the data you entered and any changes you made.

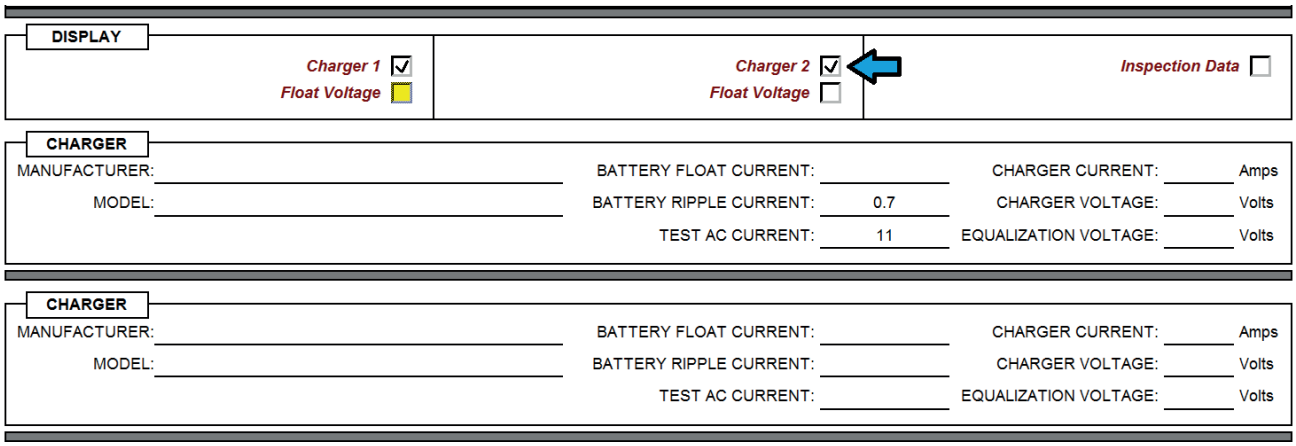


open.
nges.

Float voltage information can be entered by enabling the "FLOAT VOLTAGE" field.

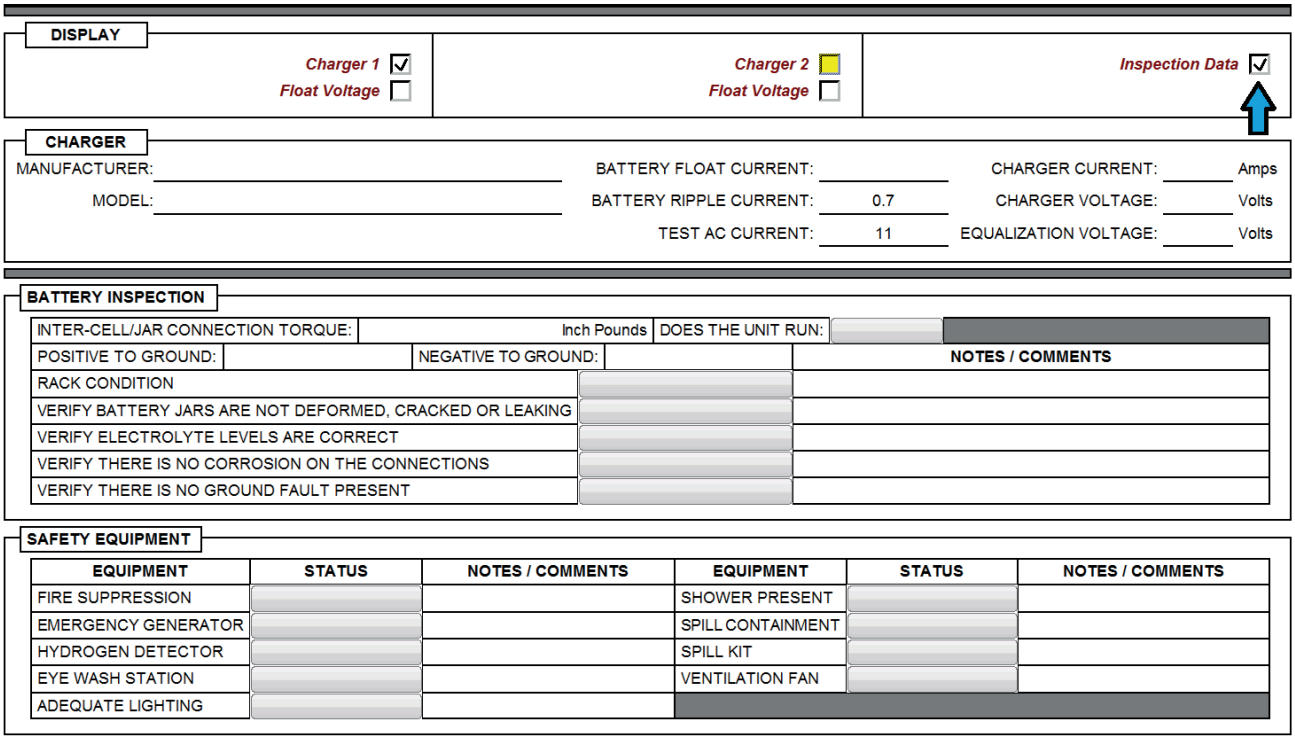


Data for a second charger can be entered by enabling the "CHARGER 2" field.



Manually Entering Inspection Data

Inspection data can be added to the Power DB report. To add inspection data to the report enable the "INSPECTION DATA" field.



DISPLAY

Charger 1 ☑	Charger 2 ☐	Inspection Data ☑
Float Voltage ☐	Float Voltage ☐	

CHARGER

MANUFACTURER:		BATTERY FLOAT CURRENT:		CHARGER CURRENT:	Amps
MODEL:		BATTERY RIPPLE CURRENT:	0.7	CHARGER VOLTAGE:	Volts
		TEST AC CURRENT:	11	EQUALIZATION VOLTAGE:	Volts

BATTERY INSPECTION

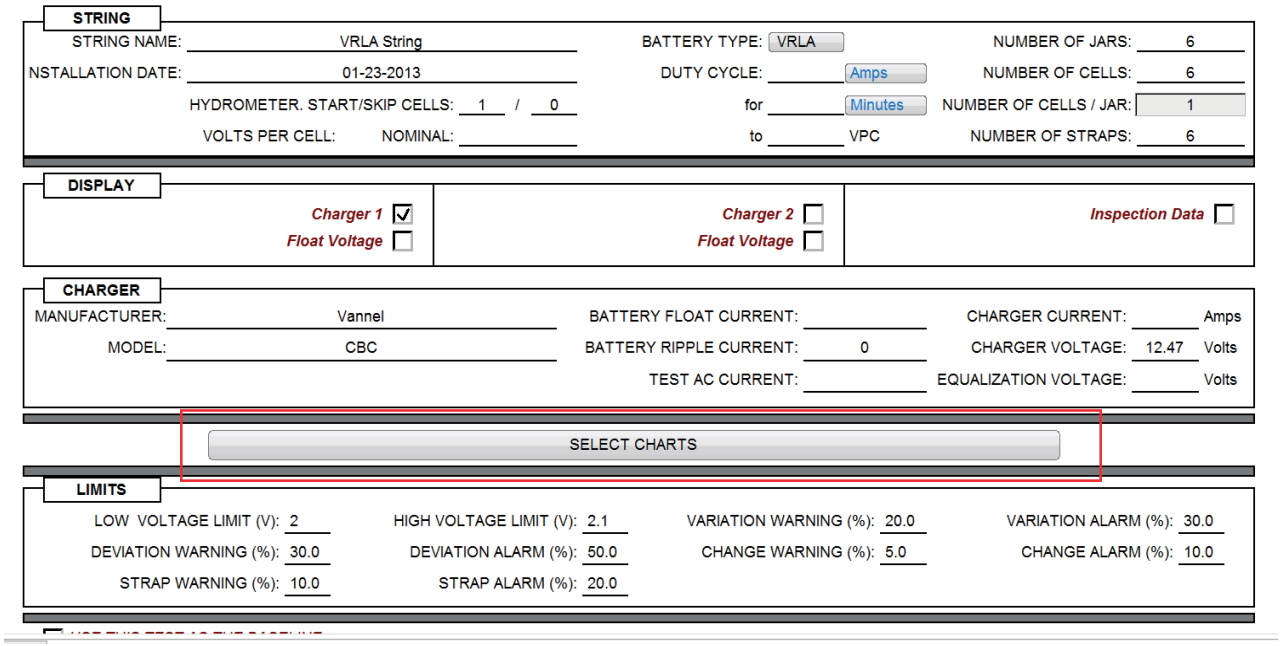
INTER-CELL/JAR CONNECTION TORQUE:	Inch Pounds	DOES THE UNIT RUN:		
POSITIVE TO GROUND:		NEGATIVE TO GROUND:		NOTES / COMMENTS
RACK CONDITION				
VERIFY BATTERY JARS ARE NOT DEFORMED, CRACKED OR LEAKING				
VERIFY ELECTROLYTE LEVELS ARE CORRECT				
VERIFY THERE IS NO CORROSION ON THE CONNECTIONS				
VERIFY THERE IS NO GROUND FAULT PRESENT				

SAFETY EQUIPMENT

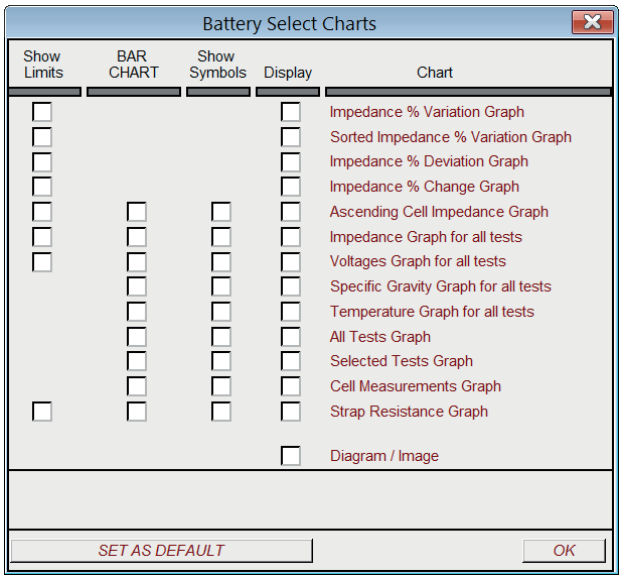
EQUIPMENT	STATUS	NOTES / COMMENTS	EQUIPMENT	STATUS	NOTES / COMMENTS
FIRE SUPPRESSION			SHOWER PRESENT		
EMERGENCY GENERATOR			SPILL CONTAINMENT		
HYDROGEN DETECTOR			SPILL KIT		
EYE WASH STATION			VENTILATION FAN		
ADEQUATE LIGHTING					

Creating Charts

To add a chart to the report scroll down the report then click on SELECT CHART.



Click on SELECT CHARTS and the following Window should open.

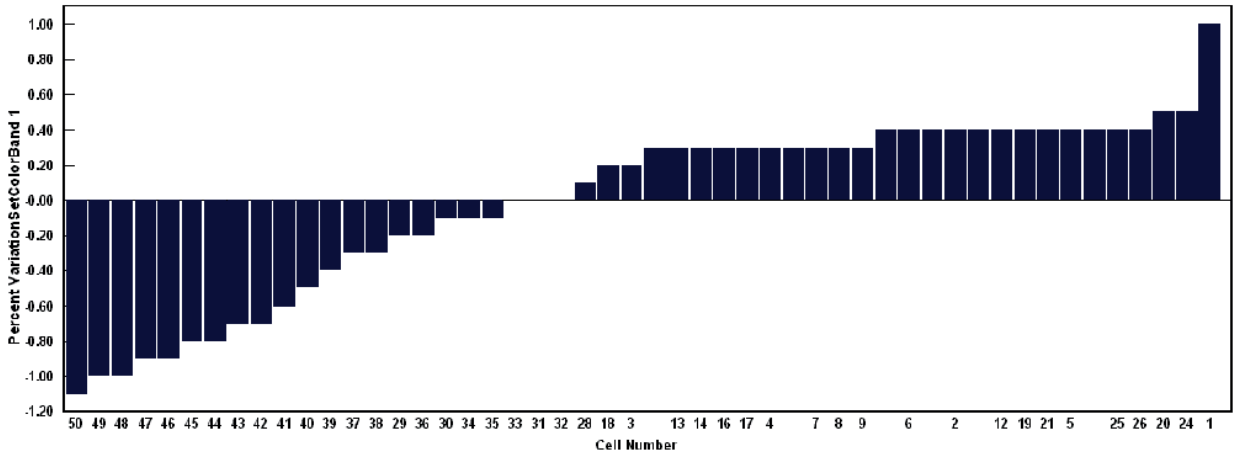


All available charts are displayed on the right side of the window under CHART. To view a chart in the report simply click on the display box in front of the chart. If the check is present the chart will be displayed in the report.

There are several options the operator can select to customize the charts in the report.

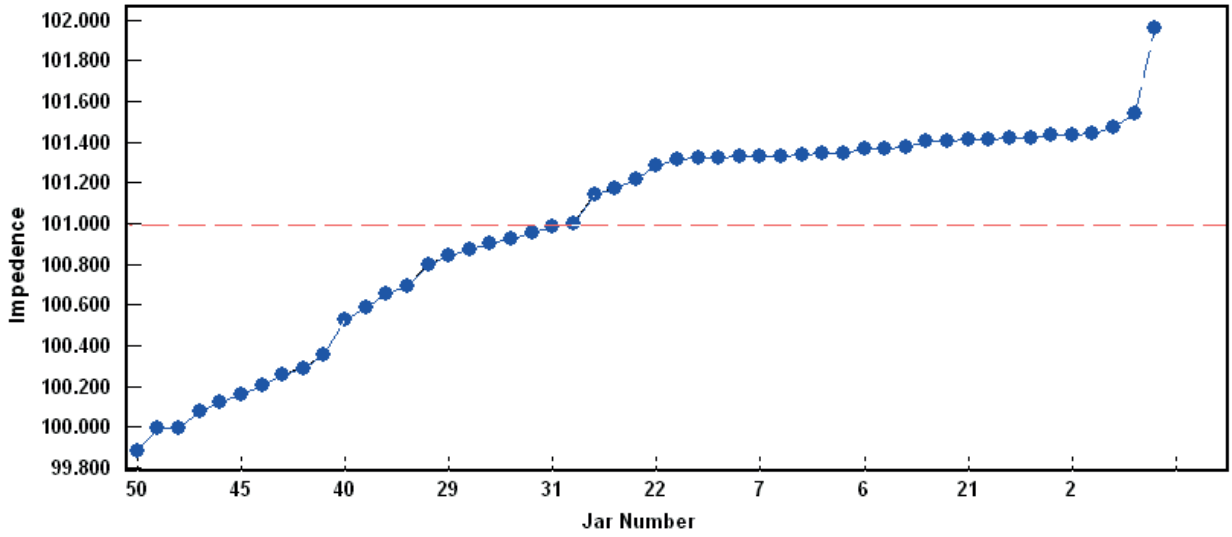
Bar Chart

All charts will be displayed as line charts unless the bar chart selection is checked for the associated chart. (NOTE: This option is only available for those charts that are displayed as both bar charts and line charts.)



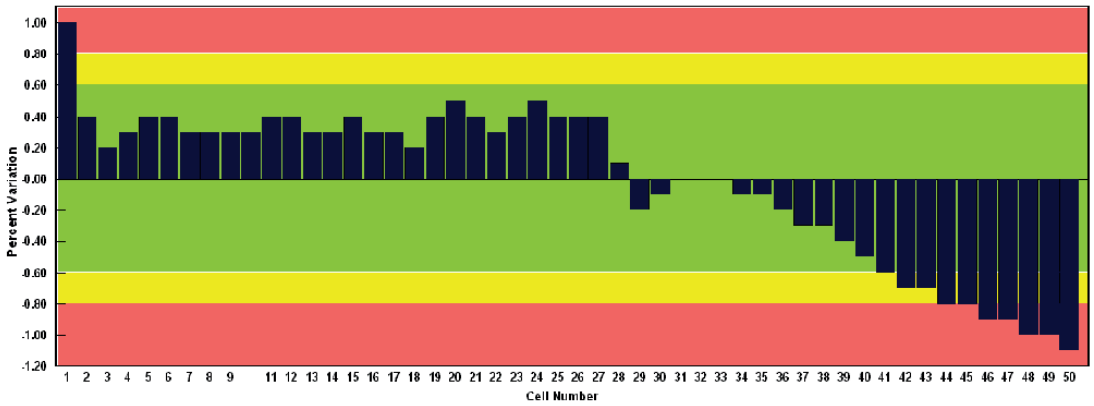
Show Symbols

When this selection is enabled for the associated chart, it will display symbols in the line chart where each data point is located. (NOTE: This only applies to line charts.)



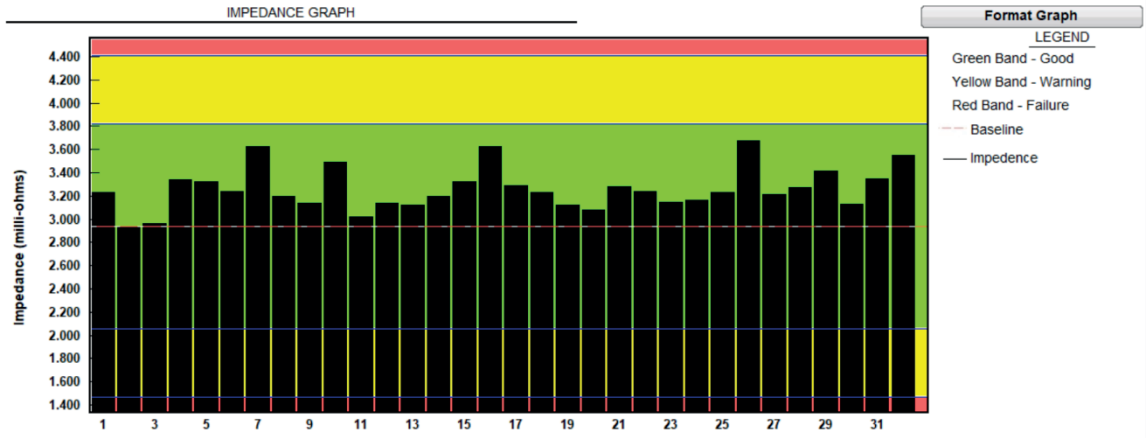
Show Limits

When this selection is enabled for the associated charts, it will display warning limits and alarm limits in the chart. (NOTE: These limit values in the report are the ones used by the charts.)

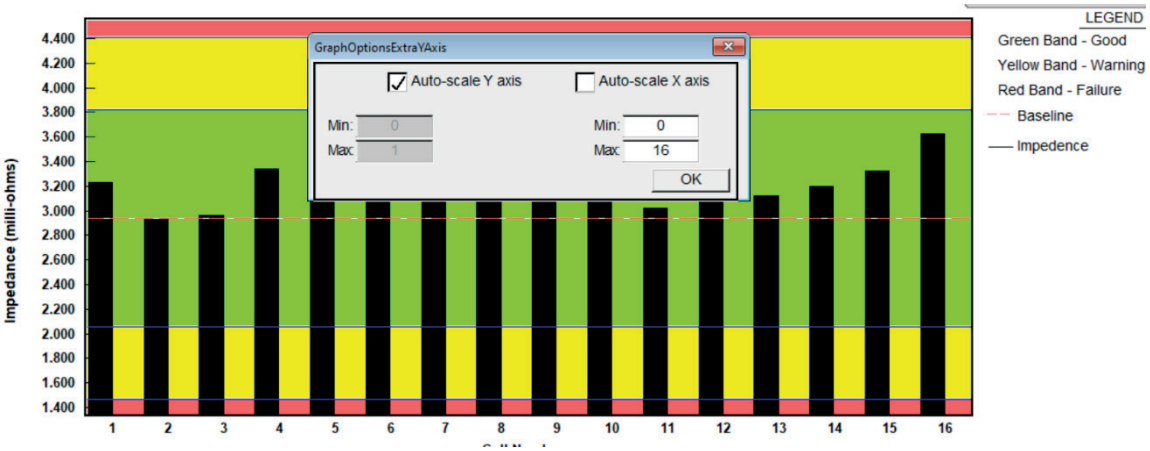


Selecting only partial cells

Click on "Format Graph" button.



Uncheck "Auto scale X axis". Select the range of cells you wish to view. Then click OK.



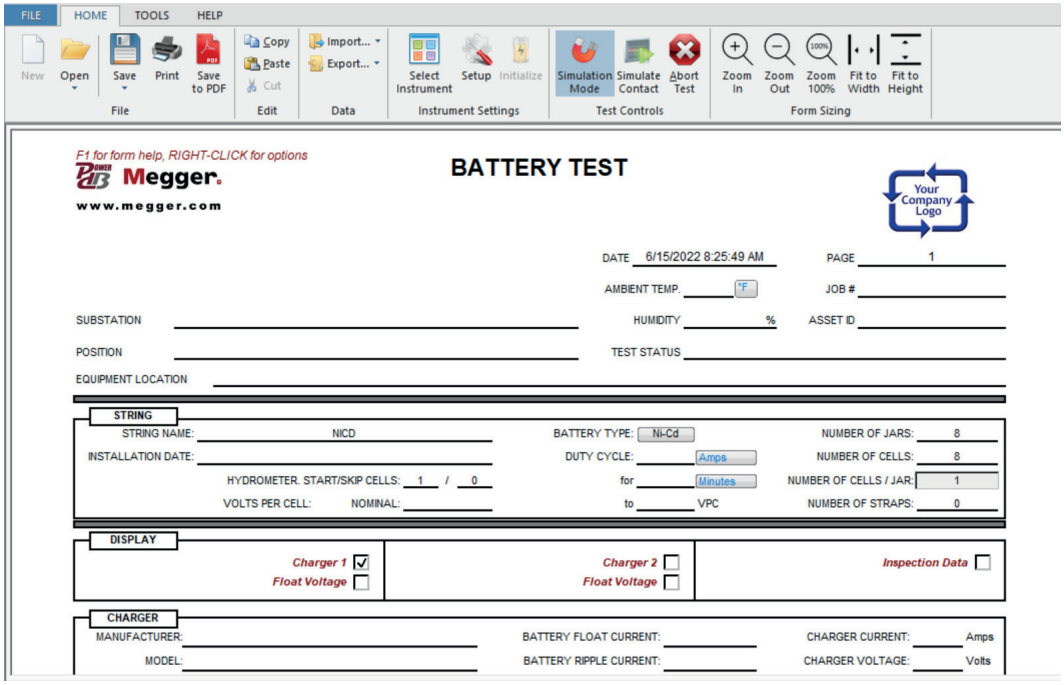
Only 1 of any particular type of chart can be created at a time. So they would need to scan through the cells on the chart.

Creating Chart Selections

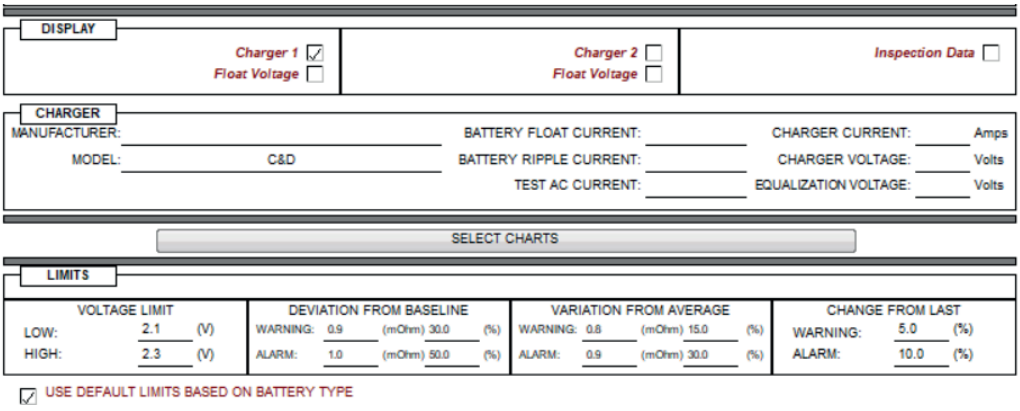
Power DB allows the operator to select the desired section of the created reports. This section of the manual will illustrate what can be selected and how it can be performed, for both the impedance report and the discharge report.

Impedance Report

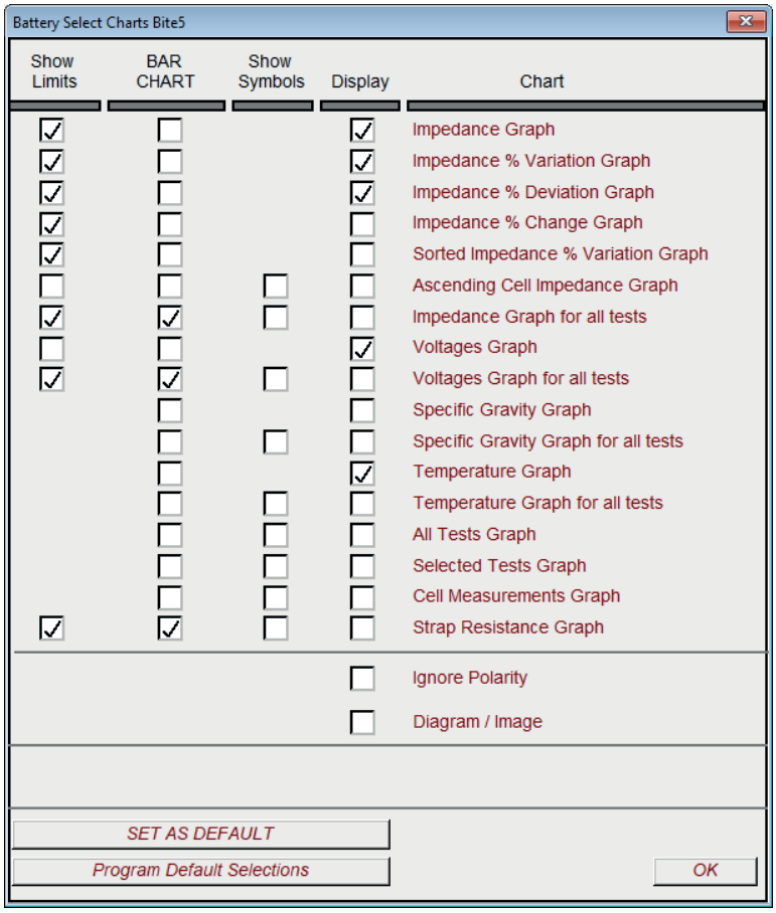
Open the desired BITE5 impedance report.



Either right click on the background of the report to open the special functions window and select "Select Charts" or click on the button in the report ""Select Charts".

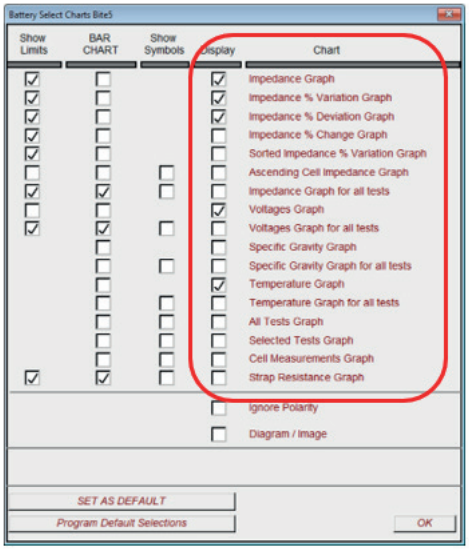


The chart selection screen will open.

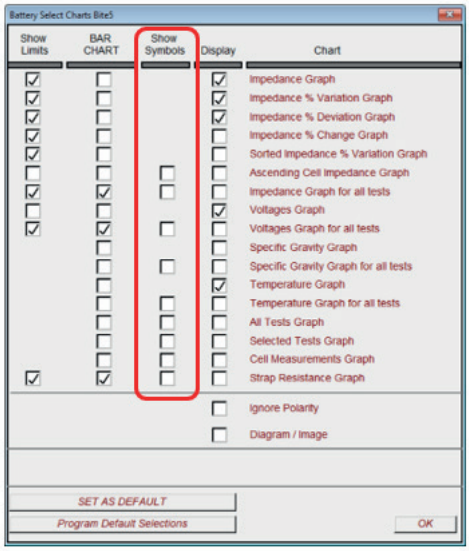


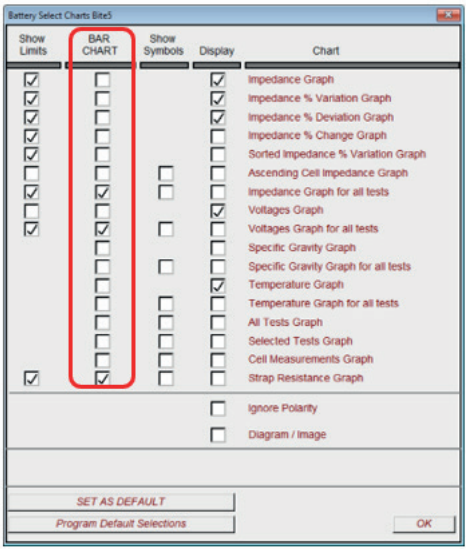
From this screen the following selections can be enabled or disabled.

Enable or disable desired charts.

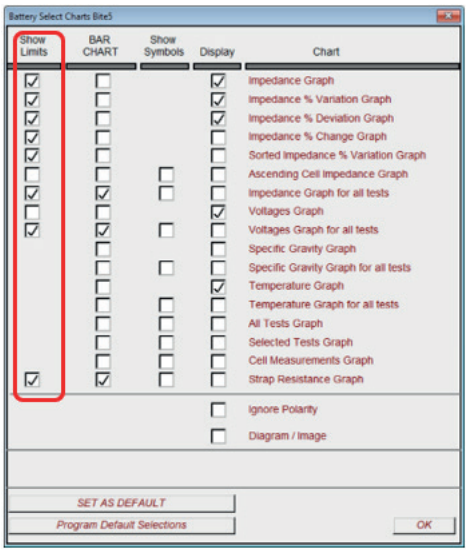


Enable or disable symbols on each point of a trended chart.

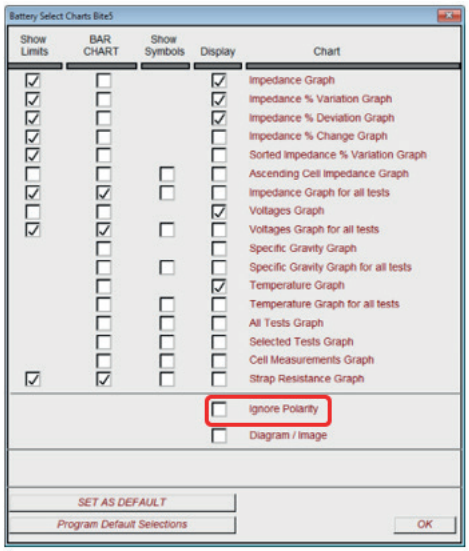




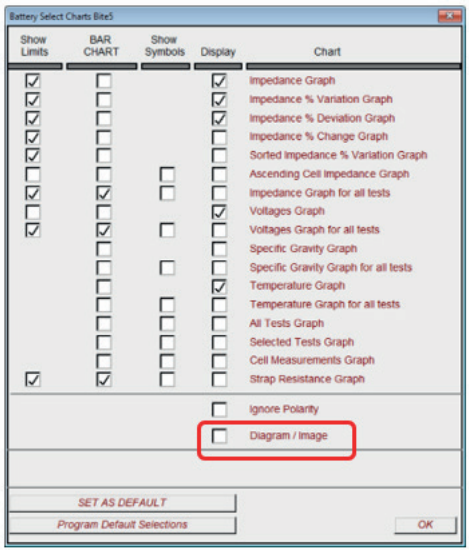
Choose to have the pass, warning and fail limits viewable on chart,



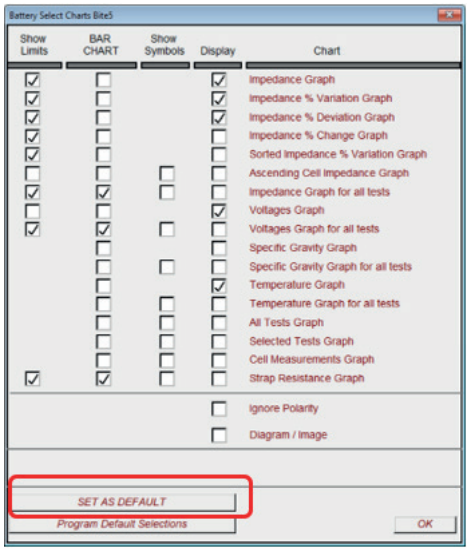
Enable of disable polarity. If some voltages are backwards, due to measurement errors during testing, this feature will remove the negative sign.



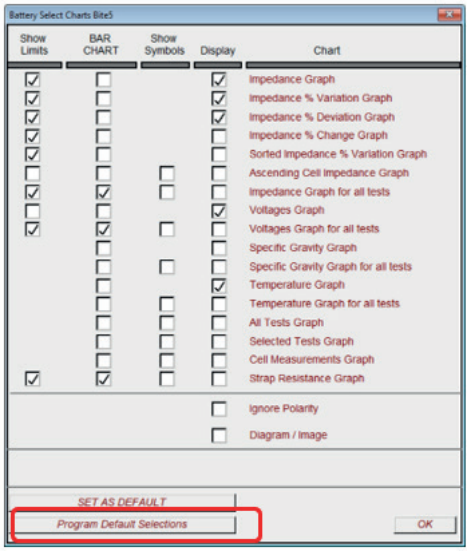
Enable a section in the report that will allow an image file to be copy and pasted.



Set the chosen settings as default setting for this report.



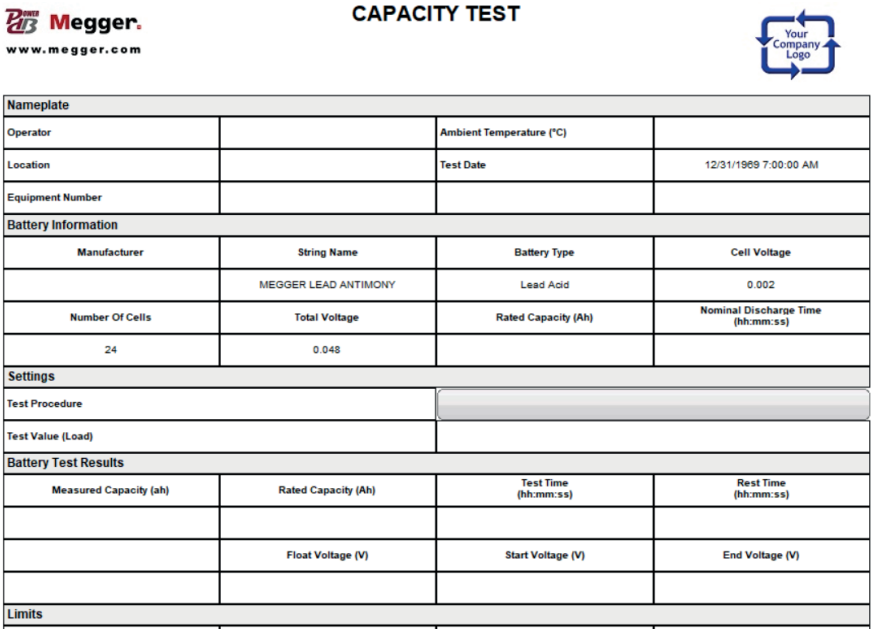
Set the setting as default settings for ALL reports.



When selections are complete click "OK" button to save selections.

Discharge Report

Open the desired BITE5 discharge report.



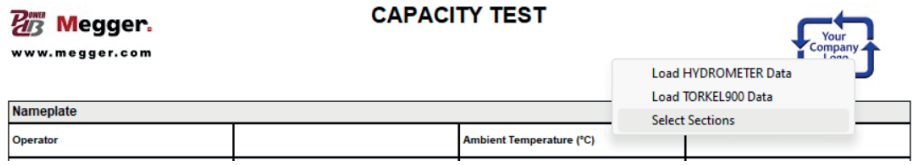
Megger
www.megger.com

CAPACITY TEST

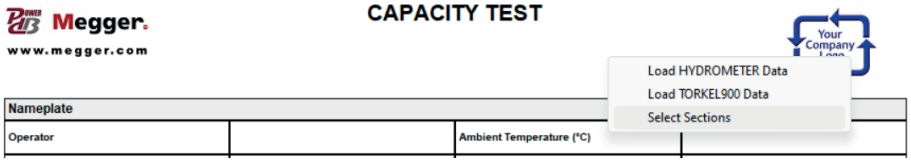
Your Company Logo

Nameplate			
Operator		Ambient Temperature (°C)	
Location		Test Date	12/31/1969 7:00:00 AM
Equipment Number			
Battery Information			
Manufacturer	String Name	Battery Type	Cell Voltage
	MEGGER LEAD ANTIMONY	Lead Acid	0.002
Number Of Cells	Total Voltage	Rated Capacity (Ah)	Nominal Discharge Time (hh:mm:ss)
24	0.048		
Settings			
Test Procedure			
Test Value (Load)			
Battery Test Results			
Measured Capacity (ah)	Rated Capacity (Ah)	Test Time (hh:mm:ss)	Rest Time (hh:mm:ss)
	Float Voltage (V)	Start Voltage (V)	End Voltage (V)
Limits			

Right click on the background of the report to open the special functions window and select “Select Sections”.

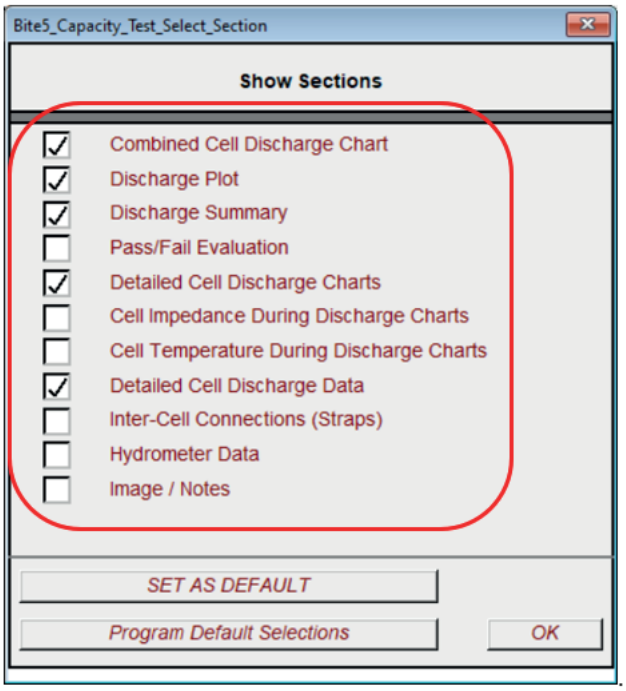


The chart selection screen will open.

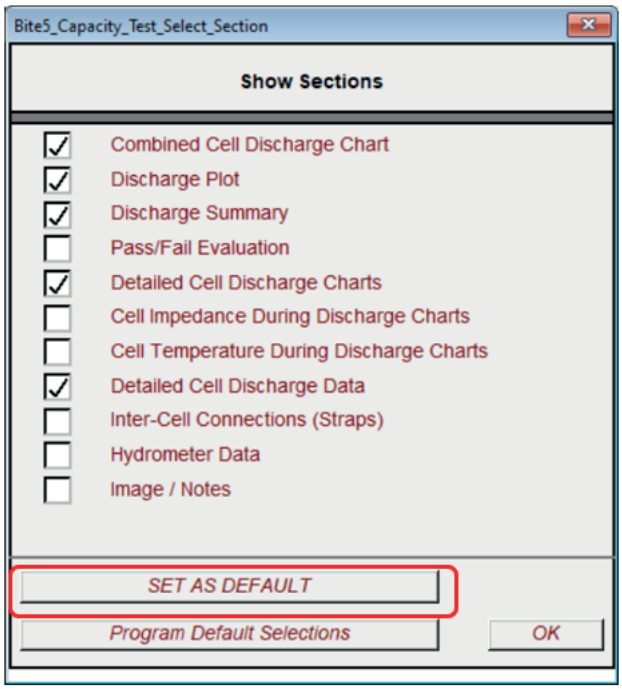


From this screen the following selections can be enabled or disabled.

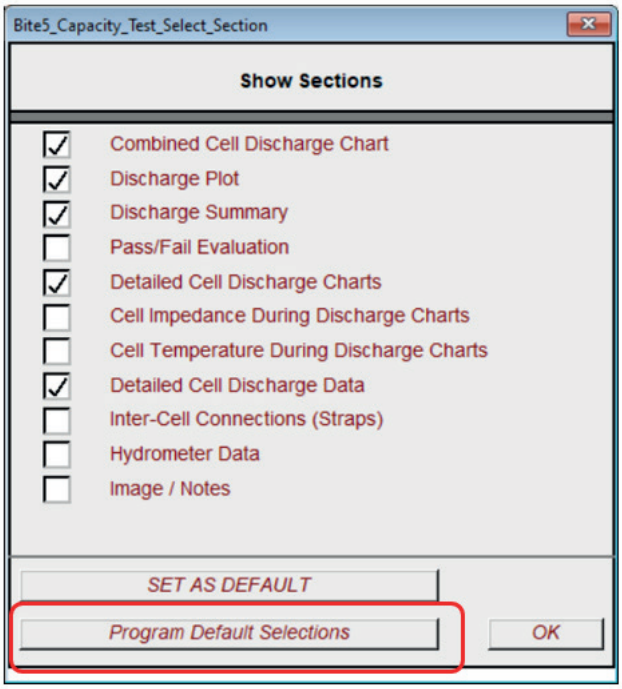
Enable or disable desired charts



Set the chosen settings as default setting for this report.



Set the setting as default settings for ALL reports.



When selection are complete click "OK" button to save selections.

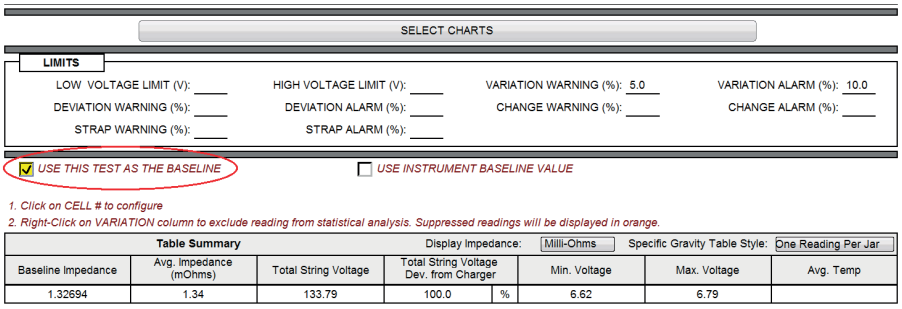
Calculating Baseline Data

Power DB allows you to establish baseline values in three different manners.

If you need to establish a baseline value for a battery string Power DB will calculate the baseline value with the data from the first test. (It is recommended to use data from a new string that has completed formation to use as a baseline value.)

To establish a new baseline value first create a report

Click on USE THIS TEST AS THE BASELINE.



SELECT CHARTS

LIMITS

LOW VOLTAGE LIMIT (V): ____ HIGH VOLTAGE LIMIT (V): ____ VARIATION WARNING (%): 5.0 VARIATION ALARM (%): 10.0

DEVIATION WARNING (%): ____ DEVIATION ALARM (%): ____ CHANGE WARNING (%): ____ CHANGE ALARM (%): ____

STRAP WARNING (%): ____ STRAP ALARM (%): ____

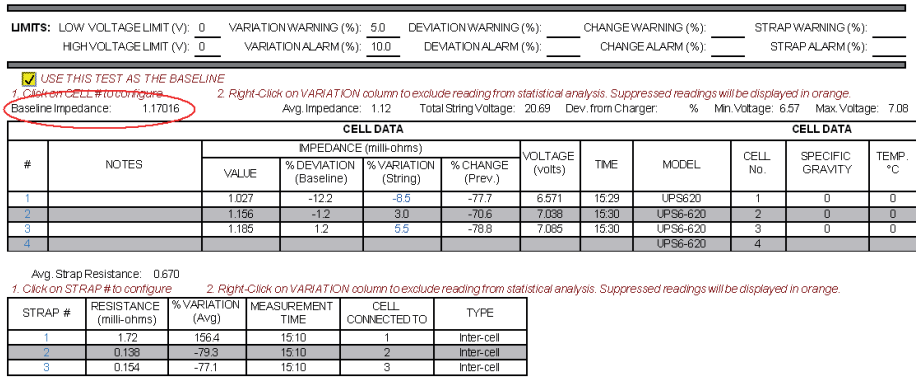
☑ USE THIS TEST AS THE BASELINE ☐ USE INSTRUMENT BASELINE VALUE

1. Click on CELL # to configure
2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Table Summary — Display Impedance: Milli-Ohms — Specific Gravity Table Style: One Reading Per Jar

Baseline Impedance	Avg. Impedance (mOhms)	Total String Voltage	Total String Voltage Dev. from Charger		Min. Voltage	Max. Voltage	Avg. Temp
1.32694	1.34	133.79	100.0	%	6.62	6.79	

The new baseline value will be displayed. (This value is calculated by averaging all the cells together then discarding any cells values that are more that 5% from the average. Then the average is recalculated. This process id continued until all the cell values used are within 5% of the calculated average. This value is now the baseline value.)



LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): ____ CHANGE WARNING (%): ____ STRAP WARNING (%): ____

HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): ____ CHANGE ALARM (%): ____ STRAP ALARM (%): ____

☑ USE THIS TEST AS THE BASELINE

1. Click on CELL # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Baseline Impedance: 1.17016 Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

#	NOTES	CELL DATA — IMPEDANCE (milli-ohms) VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)	VOLTAGE (volts)	TIME	MODEL	CELL No.	CELL DATA — SPECIFIC GRAVITY	TEMP. °C
1		1.027	-12.2	-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156	-1.2	3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185	1.2	5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

Avg. Strap Resistance: 0.670

1. Click on STRAP # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

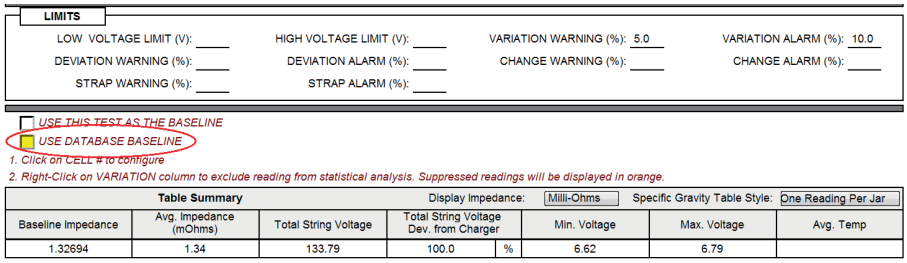
Inputting a New Battery Baseline Value

If you already established baseline values these can be either entered manually or downloaded from the instrument used to test the battery string.

Enter a baseline manually.

Create a battery report.

Select USE DATABASE BASELINE



LIMITS

LOW VOLTAGE LIMIT (V): ____ HIGH VOLTAGE LIMIT (V): ____ VARIATION WARNING (%): 5.0 VARIATION ALARM (%): 10.0

DEVIATION WARNING (%): ____ DEVIATION ALARM (%): ____ CHANGE WARNING (%): ____ CHANGE ALARM (%): ____

STRAP WARNING (%): ____ STRAP ALARM (%): ____

☐ USE THIS TEST AS THE BASELINE

☐ USE DATABASE BASELINE

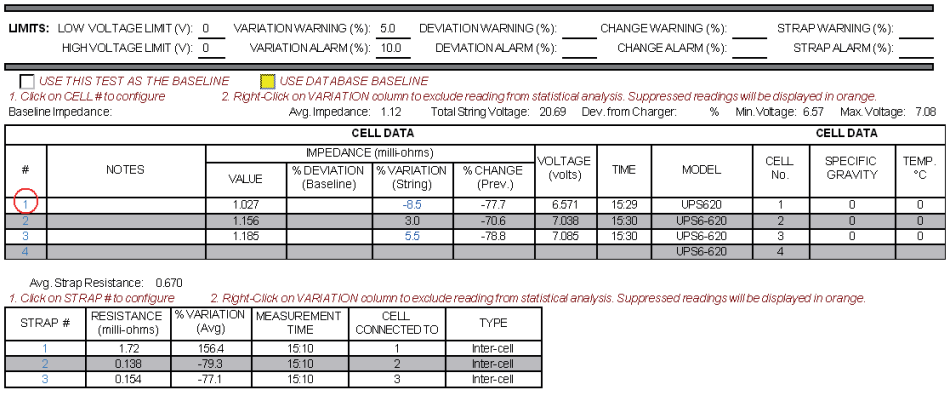
1. Click on CELL # to configure

2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Table Summary — Display Impedance: Milli-Ohms — Specific Gravity Table Style: One Reading Per Jar

Baseline Impedance	Avg. Impedance (mOhms)	Total String Voltage	Total String Voltage Dev. from Charger		Min. Voltage	Max. Voltage	Avg. Temp
1.32694	1.34	133.79	100.0	%	6.62	6.79	

Click cell "1". (The Cell Information Window will now open)



LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): ____ CHANGE WARNING (%): ____ STRAP WARNING (%): ____

HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): ____ CHANGE ALARM (%): ____ STRAP ALARM (%): ____

☐ USE THIS TEST AS THE BASELINE ☐ USE DATABASE BASELINE

1. Click on CELL # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Baseline Impedance: Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

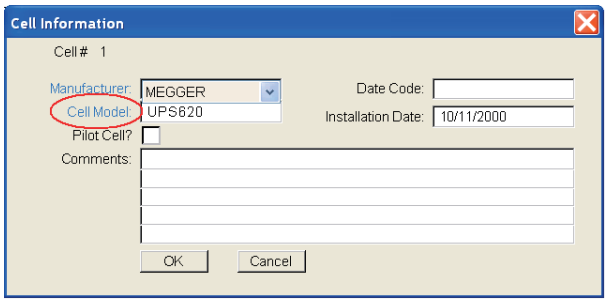
CELL DATA											CELL DATA
#	NOTES	IMPEDANCE (milli-ohms) VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)	VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	TEMP. °C
1		1.027		-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156		3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185		5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

Avg. Strap Resistance: 0.670

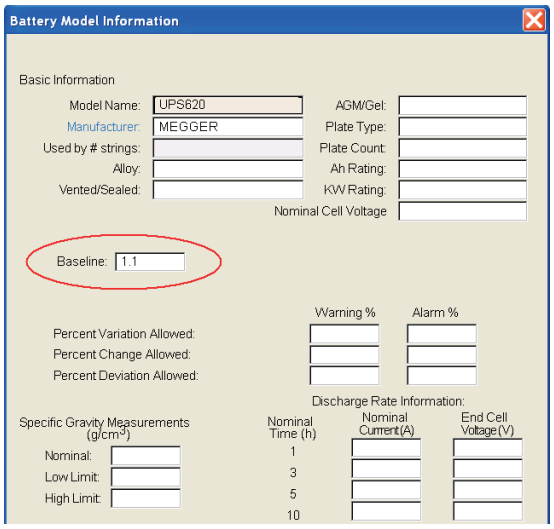
1. Click on STRAP # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

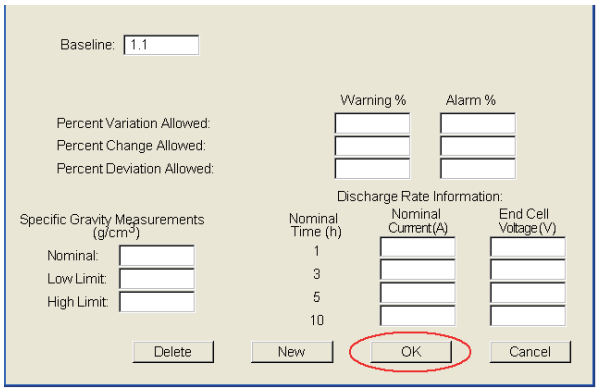
Click on CELL MODEL. (The Battery Model Window will now open.)



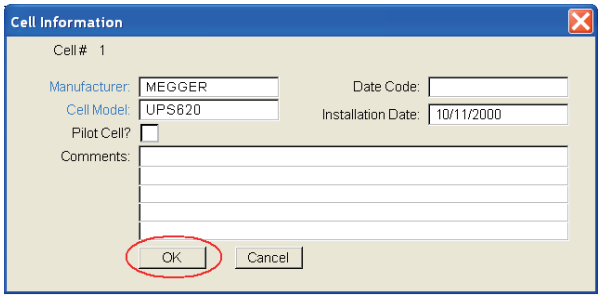
Enter the new baseline value.



Click OK to close the Battery Model Window



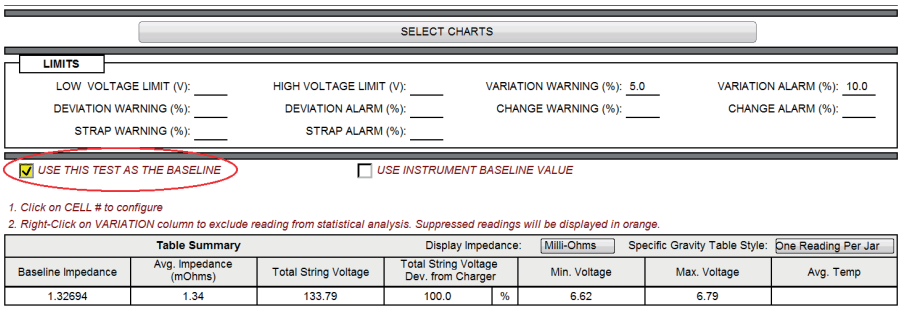
Click OK to close the Battery Cell Information Window



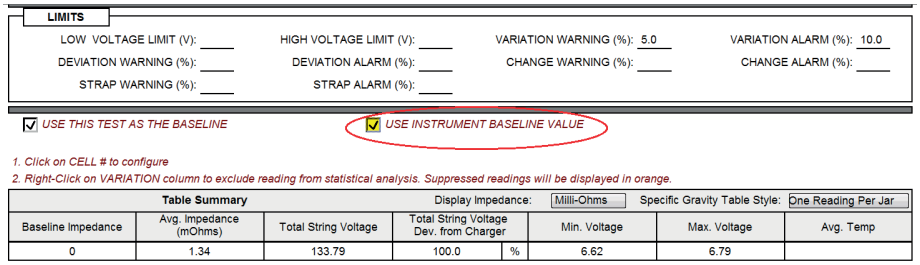
Downloading the Baseline from the BITE

If you already have establish a baseline values programmed into the BITE unit, this value can be loaded into the report.

Click on USE THIS TEST AS THE BASELINE. (This should be done on the first test performed on the battery string under test.)



Click on USE INSTRUMENT BASELINE VALUE.



The Power DB report will now use the baseline value programmed in the BITE instrument as the reference value for this string.

Entering New Battery Cell Data

Create the Battery Report

LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): ____ CHANGE WARNING (%): ____ STRAP WARNING (%): ____
HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): ____ CHANGE ALARM (%): ____ STRAP ALARM (%): ____

☐ USE THIS TEST AS THE BASELINE ☐ USE DATABASE BASELINE
1. Click on CELL # to configure *2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.*
Baseline Impedance: 1.1 Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

CELL DATA										CELL DATA	
#	NOTES	IMPEDANCE (milli-ohms) VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)	VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	TEMP. °C
1		1.027	-6.6	-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156	5.1	3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185	7.7	5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

Avg. Strap Resistance: 0.670
1. Click on STRAP # to configure *2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.*

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

Click cell "1". (The Cell Information Window will now open)

LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): ____ CHANGE WARNING (%): ____ STRAP WARNING (%): ____
HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): ____ CHANGE ALARM (%): ____ STRAP ALARM (%): ____

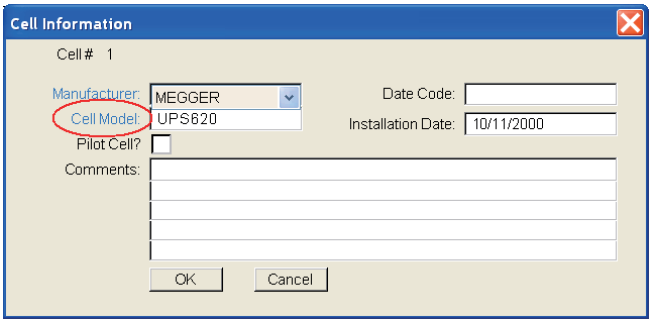
☐ USE THIS TEST AS THE BASELINE ☐ USE DATABASE BASELINE
1. Click on CELL # to configure *2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.*
Baseline Impedance: Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

CELL DATA										CELL DATA	
#	NOTES	IMPEDANCE (milli-ohms) VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)	VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	TEMP. °C
1		1.027		-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156		3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185		5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

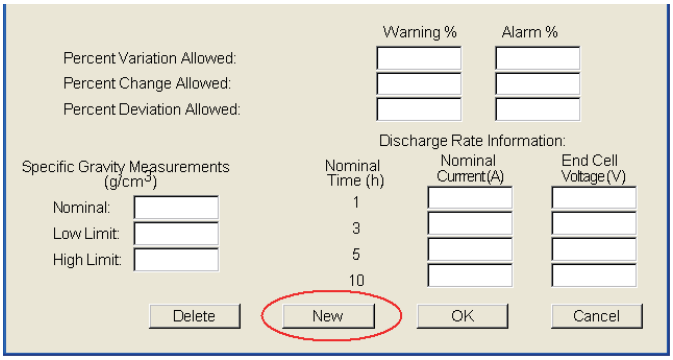
Avg. Strap Resistance: 0.670
1. Click on STRAP # to configure *2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.*

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

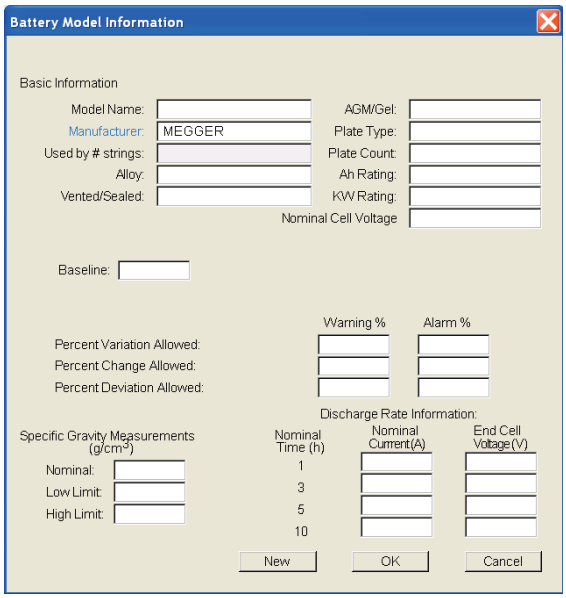
Click on CELL MODEL. (The Battery Model Window will now open)



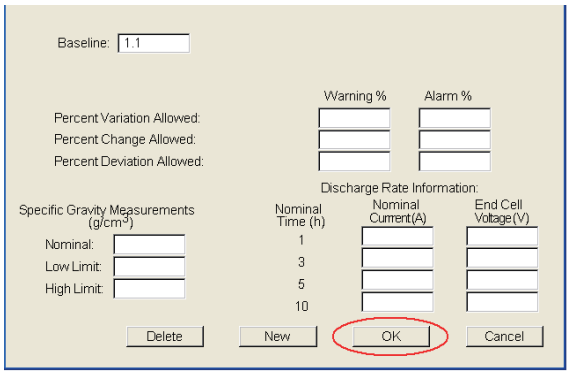
Click on NEW.



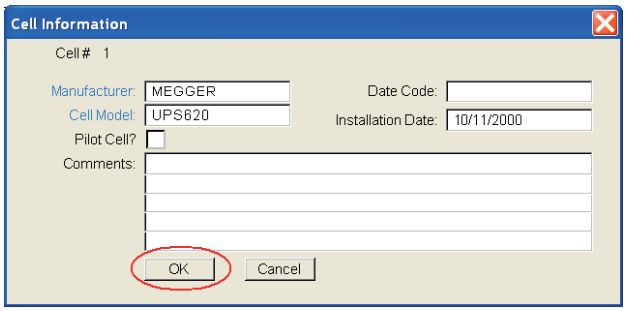
Enter new battery data.



Click OK to close the Battery Model Window.

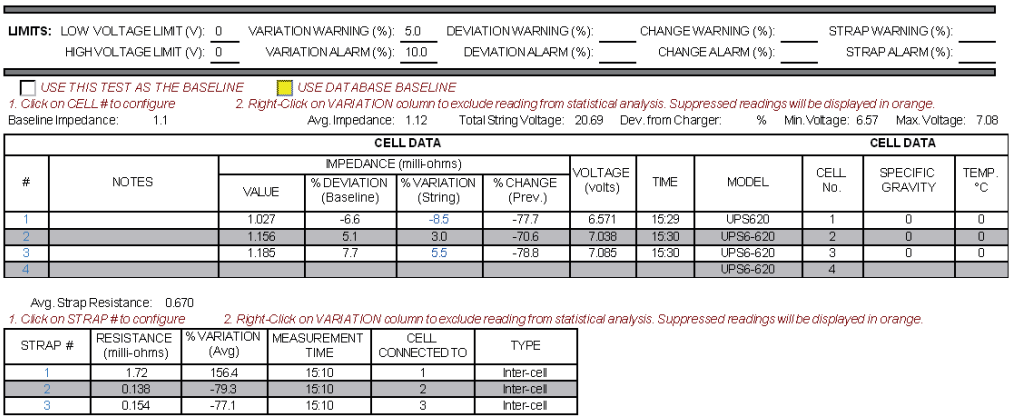


Click OK to close the Battery Cell Information Window.



Entering New Warning & Alarm Limit Values

Create the battery report.



LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): CHANGE WARNING (%): STRAP WARNING (%):
HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): CHANGE ALARM (%): STRAP ALARM (%):

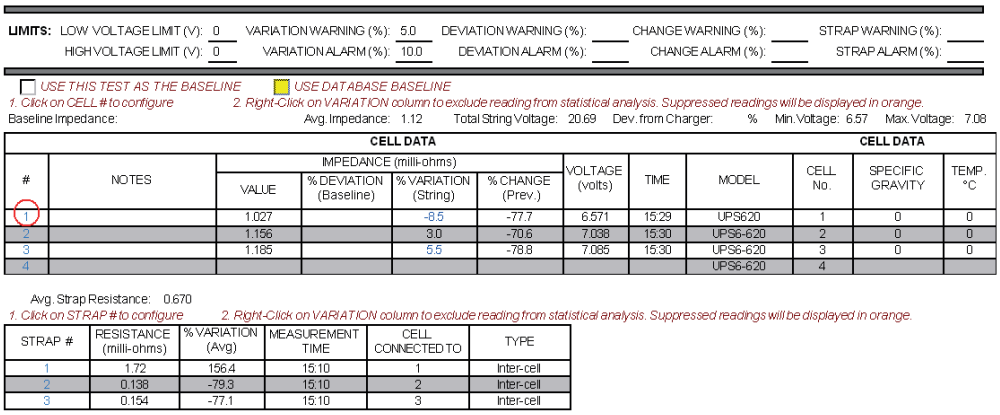
☐ USE THIS TEST AS THE BASELINE ☐ USE DATABASE BASELINE
1. Click on CELL # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.
Baseline Impedance: 1.1 Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

CELL DATA											CELL DATA
#	NOTES	IMPEDANCE (milli-ohms)				VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	TEMP. °C
		VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)						
1		1.027	-6.6	-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156	5.1	3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185	7.7	5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

Avg. Strap Resistance: 0.670
1. Click on STRAP # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

Click cell "1". (The Cell Information Window will now open).



LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): CHANGE WARNING (%): STRAP WARNING (%):
HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): CHANGE ALARM (%): STRAP ALARM (%):

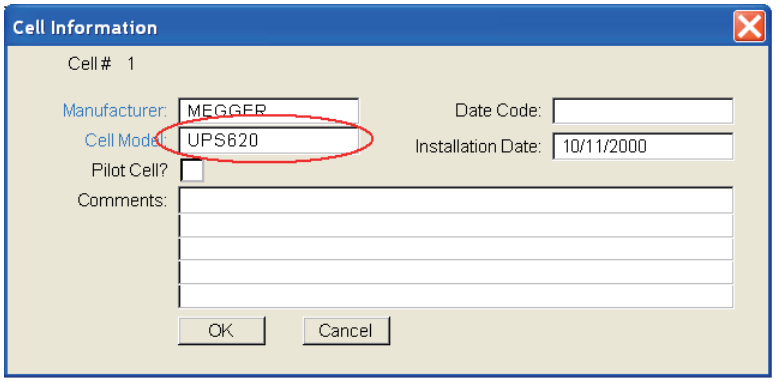
☐ USE THIS TEST AS THE BASELINE ☐ USE DATABASE BASELINE
1. Click on CELL # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.
Baseline Impedance: Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

CELL DATA											CELL DATA
#	NOTES	IMPEDANCE (milli-ohms)				VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	TEMP. °C
		VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)						
1		1.027		-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156		3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185		5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

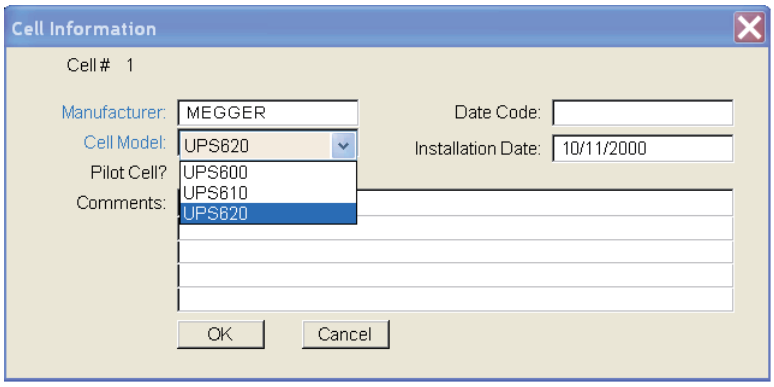
Avg. Strap Resistance: 0.670
1. Click on STRAP # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

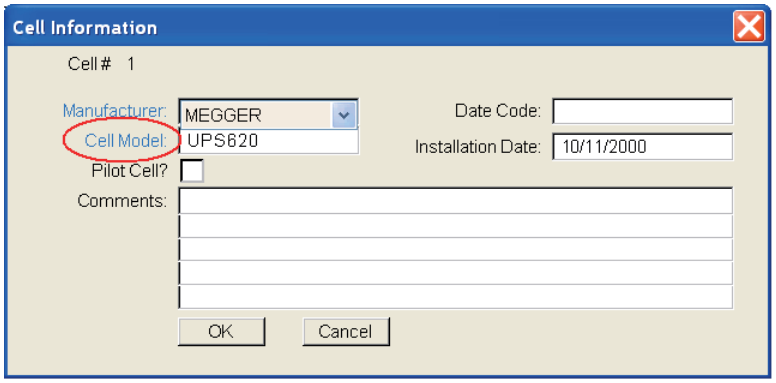
Click in the Cell Model Field.



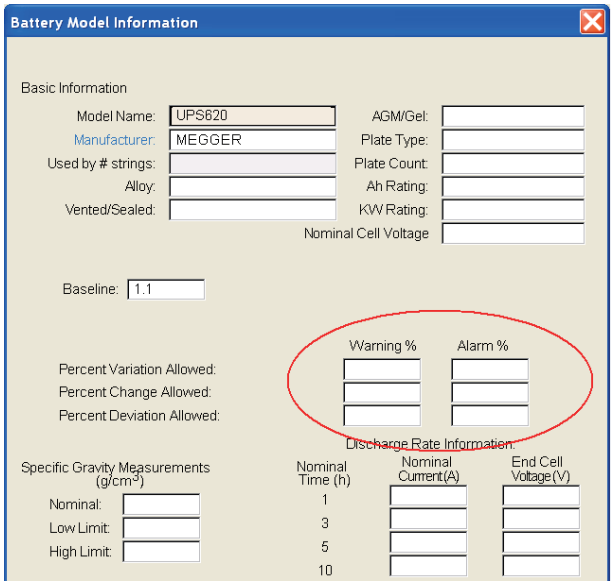
Select the desired battery.



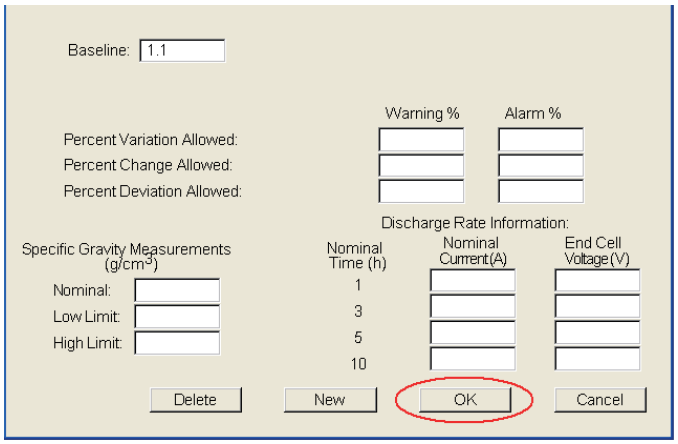
Click on CELL MODEL.



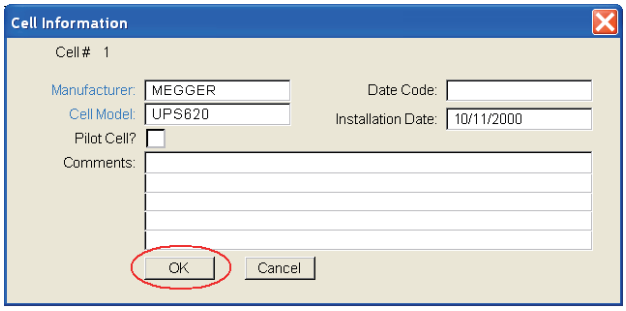
Enter new warning and alarm values.



Click OK to close the Battery Model Window.

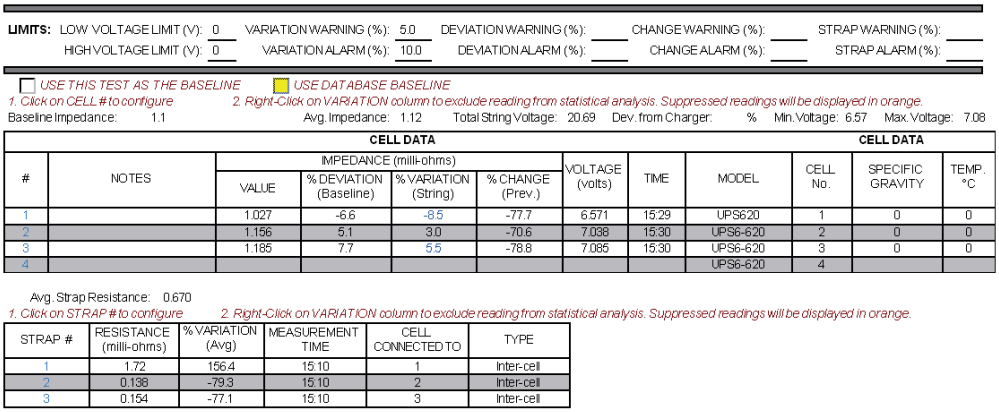


Click OK to close the Battery Cell Information Window.



Selecting a New Battery Cell

Create a battery report.



LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): CHANGE WARNING (%): STRAP WARNING (%):
HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): CHANGE ALARM (%): STRAP ALARM (%):

USE THIS TEST AS THE BASELINE USE DATABASE BASELINE

1. Click on CELL # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Baseline Impedance: 1.1 Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

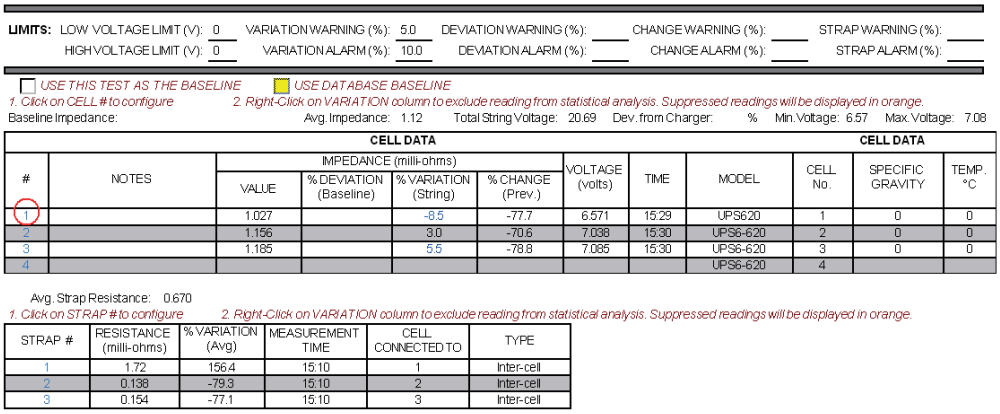
CELL DATA											CELL DATA	
#	NOTES	IMPEDANCE (milli-ohms)				VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	TEMP. °C
		VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)						
1		1.027	-6.6	-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156	5.1	3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185	7.7	5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

Avg. Strap Resistance: 0.670

1. Click on STRAP # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

Click cell "1". (The Cell Information Window will now open).



LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): CHANGE WARNING (%): STRAP WARNING (%):
HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): CHANGE ALARM (%): STRAP ALARM (%):

USE THIS TEST AS THE BASELINE USE DATABASE BASELINE

1. Click on CELL # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Baseline Impedance: Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

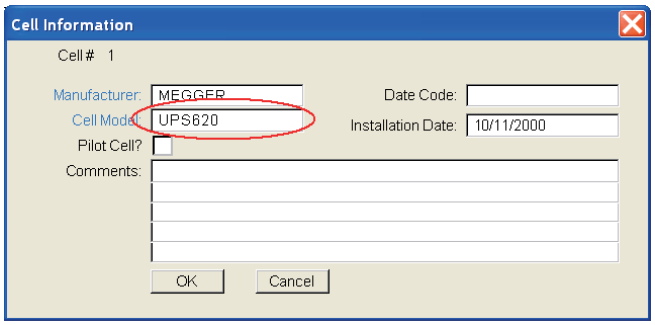
CELL DATA											CELL DATA	
#	NOTES	IMPEDANCE (milli-ohms)				VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	TEMP. °C	
		VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)							
1		1.027		-8.5	-77.7	6.571	15:29	UPS620	1	0	0	
2		1.156		3.0	-70.6	7.038	15:30	UPS6-620	2	0	0	
3		1.185		5.5	-78.8	7.085	15:30	UPS6-620	3	0	0	
4								UPS6-620	4			

Avg. Strap Resistance: 0.670

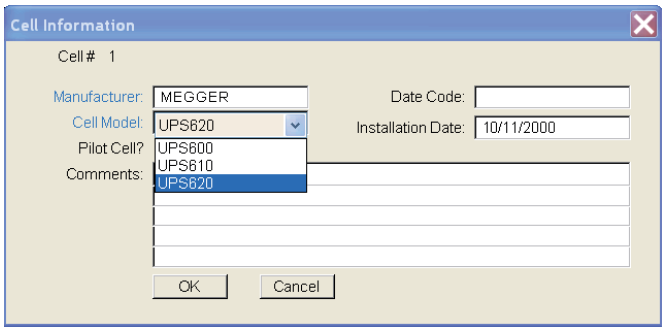
1. Click on STRAP # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

Click in the Cell Model Field.



Select the desired battery.



Click OK to close the Battery Cell Information Window.

Inputting new battery model number in PowerDB Database

Click on "1" in the "#" column of the report. This opens the database.

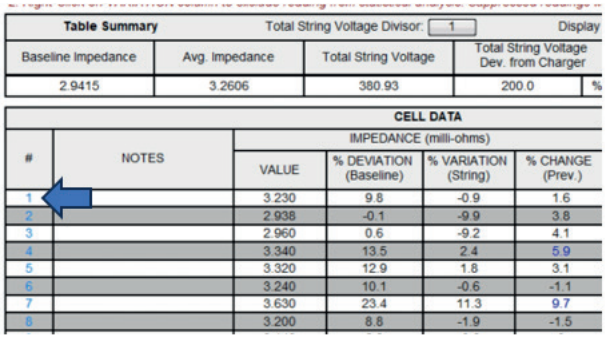
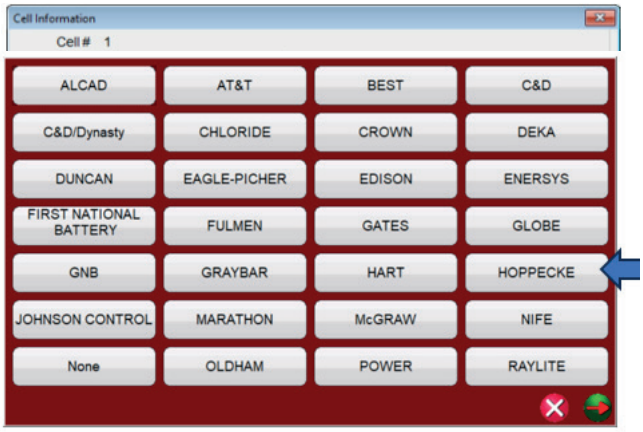


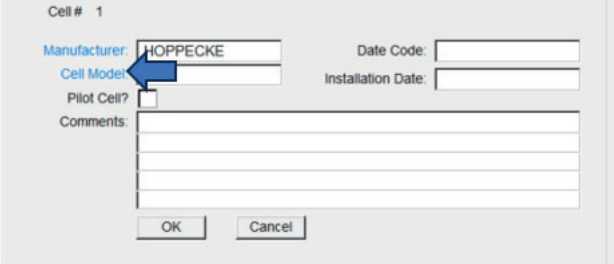
Table Summary		Total String Voltage Divisor: 1		Display
Baseline Impedance	Avg. Impedance	Total String Voltage	Total String Voltage Dev. from Charger	
2.9415	3.2606	380.93	200.0	%

CELL DATA					
#	NOTES	IMPEDANCE (milli-ohms)			
		VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)
1		3.230	9.8	-0.9	1.6
2		2.938	-0.1	-9.9	3.8
3		2.960	0.6	-9.2	4.1
4		3.340	13.5	2.4	5.9
5		3.320	12.9	1.8	3.1
6		3.240	10.1	-0.6	-1.1
7		3.630	23.4	11.3	9.7
8		3.200	8.8	-1.9	-1.5

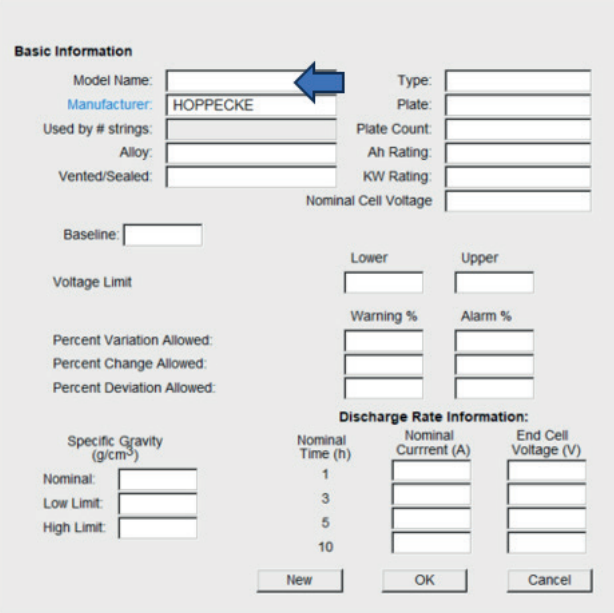
Click on blank Manufacturers field. This will display all the available battery manufacturers.



Now click "Cell Model" to create a new database entery.



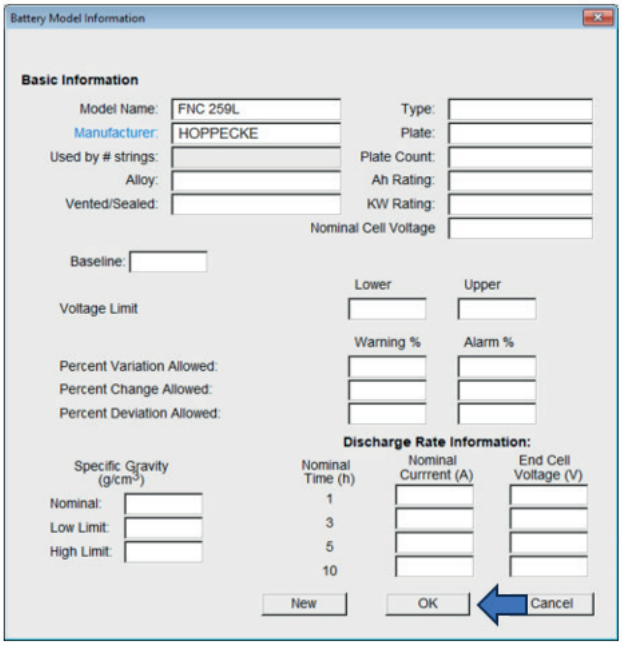
Click on the "Model Name" field to enter a new model number.



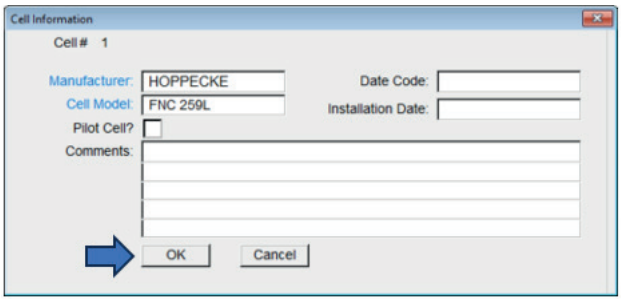
Enter the model number and then click the check mark.

The new model number will now be displayed. You can also enter all the other below parameters in the same manner. (If so desired) Click on the field, enter the data.

When done click on OK.



Now click on "OK" to save in database.



You will now see the value in the "Model" column.

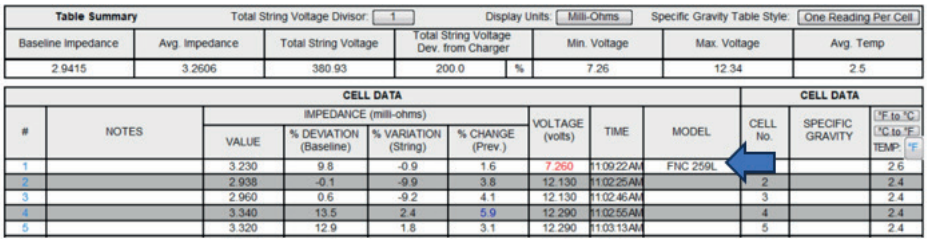
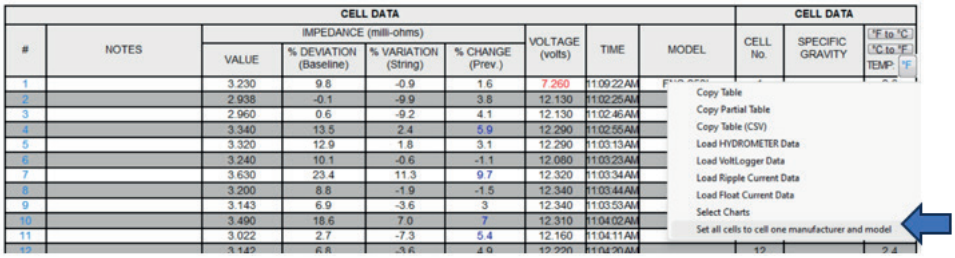


Table Summary — Total String Voltage Divisor: 1 — Display Units: Milli-Ohms — Specific Gravity Table Style: One Reading Per Cell

Baseline Impedance	Avg. Impedance	Total String Voltage	Total String Voltage Dev. from Charger		Min. Voltage	Max. Voltage	Avg. Temp
2.9415	3.2606	380.93	200.0	%	7.26	12.34	2.5

CELL DATA									CELL DATA		
#	NOTES	IMPEDANCE (milli-ohms) VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)	VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	°F to °C / °C to °F TEMP. °F
1		3.230	9.8	-0.9	1.6	7.260	11:09:22 AM	FNC 259L			2.6
2		2.938	-0.1	-9.9	3.8	12.130	11:02:25 AM		2		2.4
3		2.960	0.6	-9.2	4.1	12.130	11:02:46 AM		3		2.4
4		3.340	13.5	2.4	5.9	12.290	11:02:55 AM		4		2.4
5		3.320	12.9	1.8	3.1	12.290	11:03:13 AM		5		2.4

Right click on the model number in row 1 and select "Set all cells to cell one manufacturer and model".



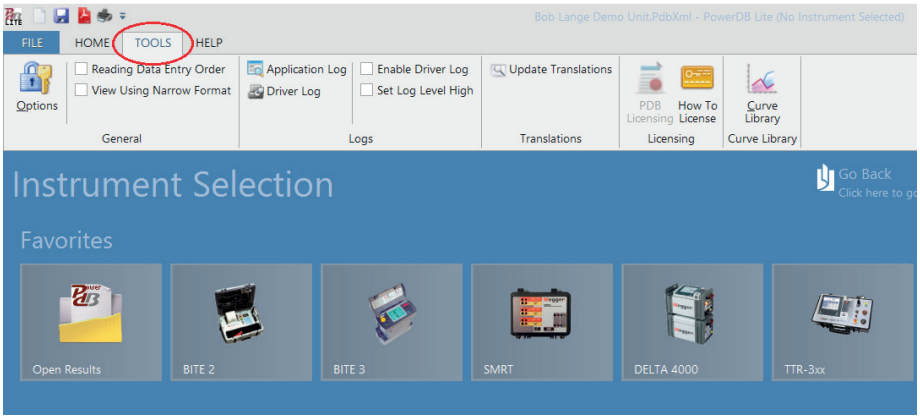
CELL DATA									CELL DATA		
#	NOTES	IMPEDANCE (milli-ohms)				VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	°F to °C °C to °F TEMP °F
		VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)						
1		3.230	9.8	-0.9	1.6	7.260	11:09:22 AM				
2		2.938	-0.1	-9.9	3.8	12.130	11:02:25 AM				
3		2.960	0.6	-9.2	4.1	12.130	11:02:46 AM				
4		3.340	13.5	2.4	5.9	12.290	11:02:55 AM				
5		3.320	12.9	1.8	3.1	12.290	11:03:13 AM				
6		3.240	10.1	-0.6	-1.1	12.080	11:03:23 AM				
7		3.630	23.4	11.3	9.7	12.320	11:03:34 AM				
8		3.200	8.8	-1.9	-1.5	12.340	11:03:44 AM				
9		3.143	6.9	-3.6	3	12.340	11:03:53 AM				
10		3.490	18.6	7.0	7	12.310	11:04:02 AM				
11		3.022	2.7	-7.3	5.4	12.160	11:04:11 AM				
12		3.142	6.8	-3.6	4.9	12.220	11:04:20 AM		12		2.4

You will now see the model number listed in every row for each cell.

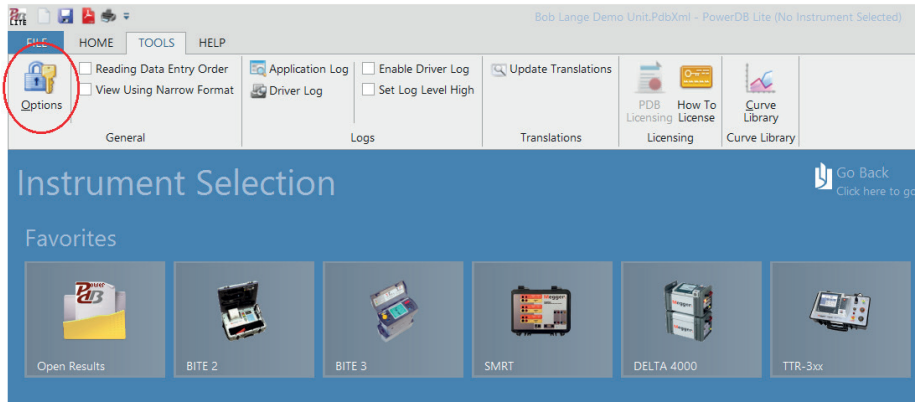
CELL DATA									CELL DATA	
#	NOTES	IMPEDANCE (milli-ohms)				VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY
		VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)					
1		3.230	9.8	-0.9	1.6	7.260	11:09:22 AM	FNC 259L	1	
2		2.938	-0.1	-9.9	3.8	12.130	11:02:25 AM	FNC 259L	2	
3		2.960	0.6	-9.2	4.1	12.130	11:02:46 AM	FNC 259L	3	
4		3.340	13.5	2.4	5.9	12.290	11:02:55 AM	FNC 259L	4	
5		3.320	12.9	1.8	3.1	12.290	11:03:13 AM	FNC 259L	5	
6		3.240	10.1	-0.6	-1.1	12.080	11:03:23 AM	FNC 259L	6	
7		3.630	23.4	11.3	9.7	12.320	11:03:34 AM	FNC 259L	7	
8		3.200	8.8	-1.9	-1.5	12.340	11:03:44 AM	FNC 259L	8	
9		3.143	6.9	-3.6	3	12.340	11:03:53 AM	FNC 259L	9	
10		3.490	18.6	7.0	7	12.310	11:04:02 AM	FNC 259L	10	
11		3.022	2.7	-7.3	5.4	12.160	11:04:11 AM	FNC 259L	11	
12		3.142	6.8	-3.6	4.9	12.220	11:04:20 AM	FNC 259L	12	
13		3.125	6.2	-4.2	5.1	12.110	11:04:30 AM	FNC 259L	13	

Inputting a Company Logo

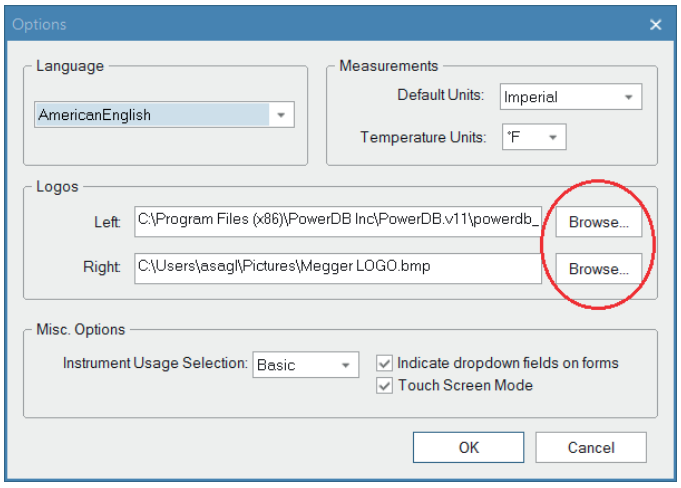
To input a company logo into a report first click on the TOOLS tab.



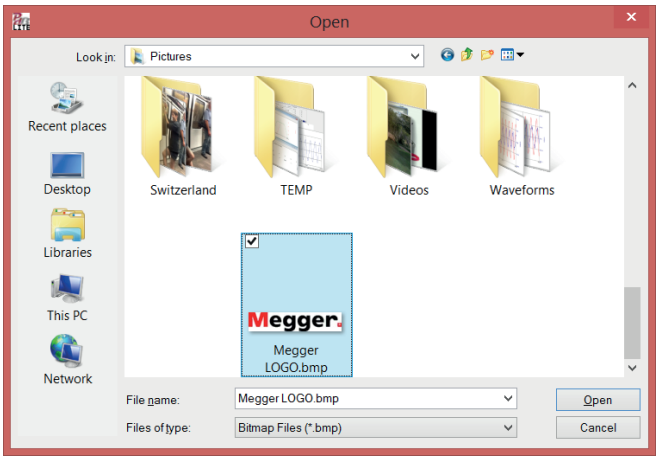
Click on OPTIONS.



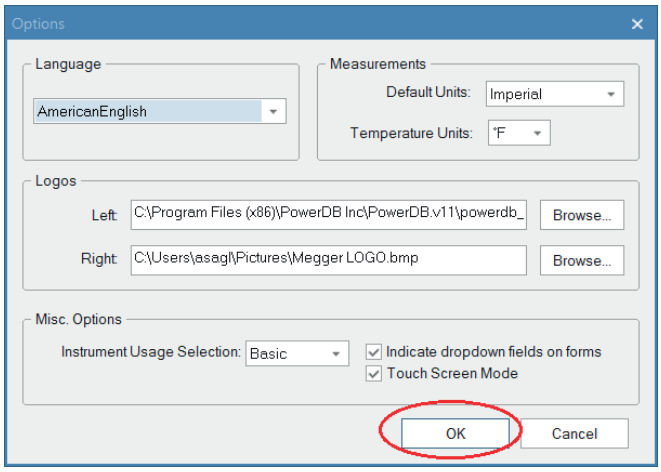
The Options window will now open. This window will allow the operator to insert logos on both sides of the report, right or left. Simply click on the BROWSE button for the logo location you are interested.



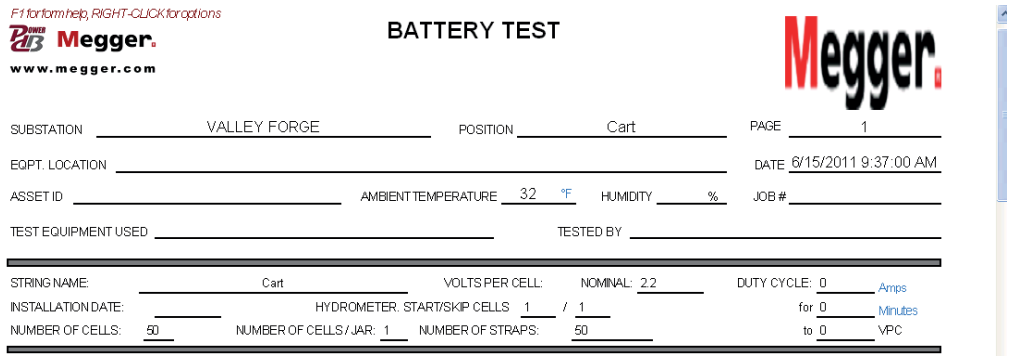
A standard Windows OPEN screen will be displayed. Navigate to the location of the bitmap you wish to use. Select the desired bitmap and then click on OPEN.



The software will return to the OPTIONS screen. Simply click on OK to apply the logo.

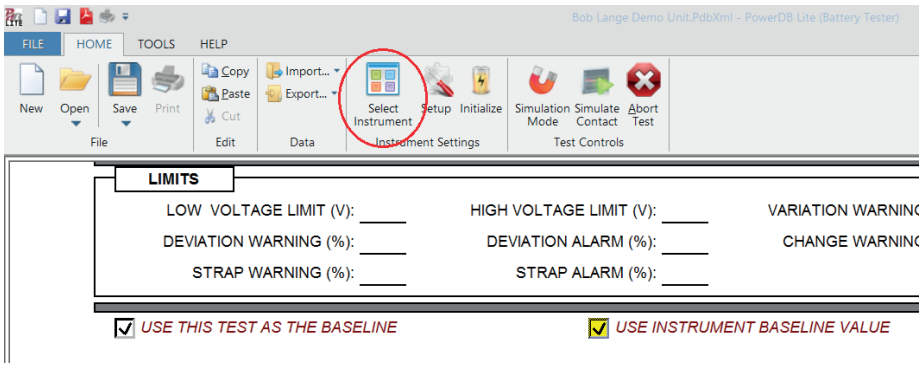


NOTE: It will be necessary to close and re-open the report in order to view the logo.

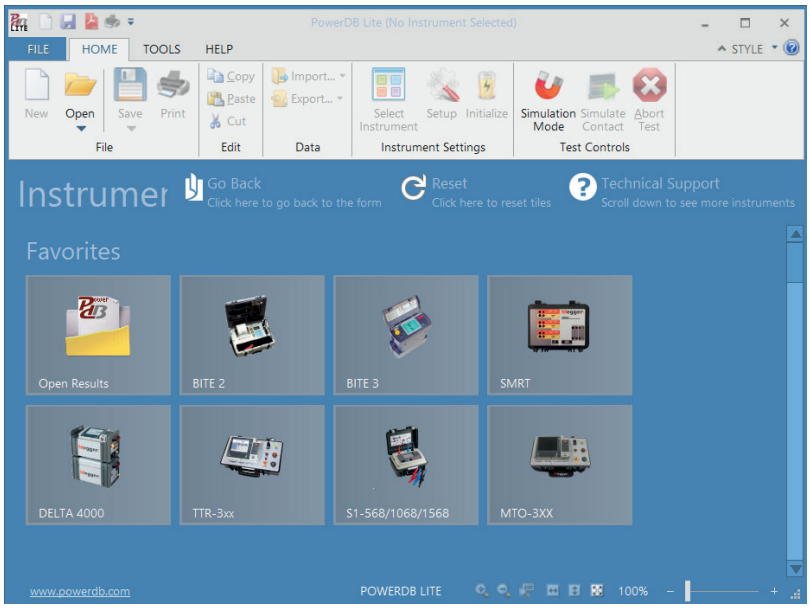


Transferring Instrument Setup Data to the BITE3

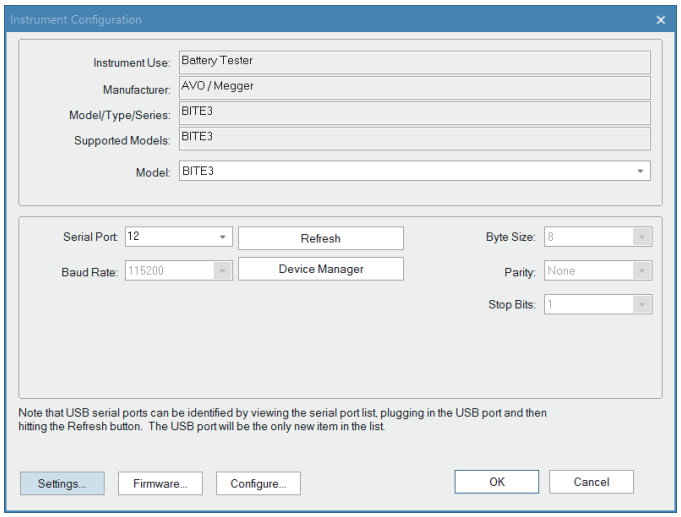
Click on SELECT INSTRUMENT button to open the home screen.



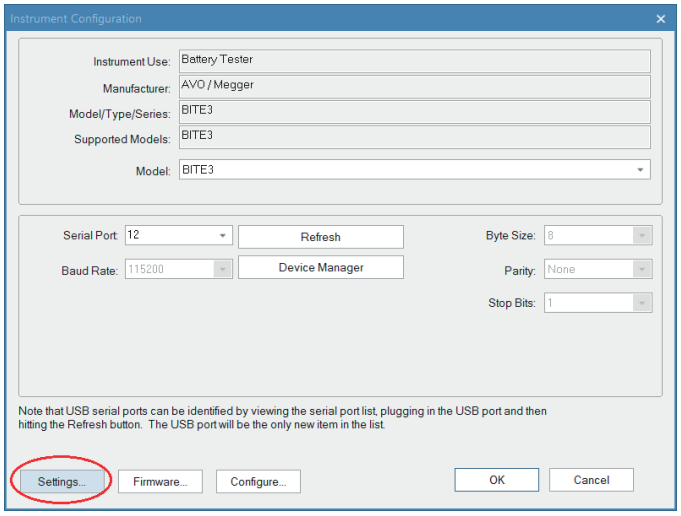
Select the BITE 3 by clicking on the BITE3 image.



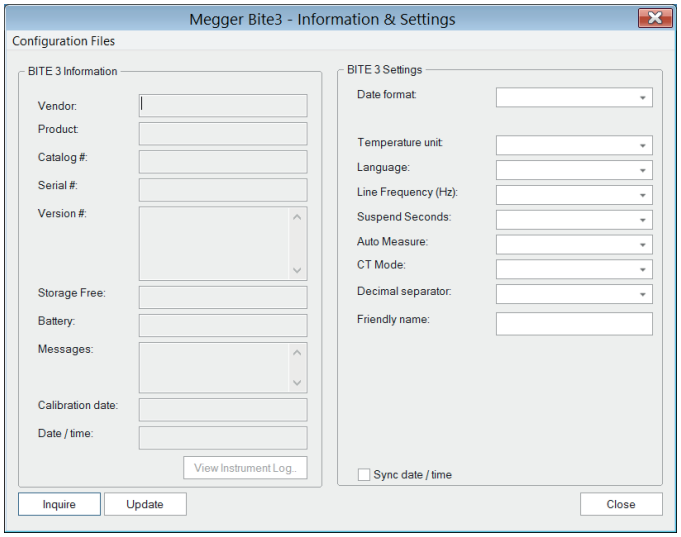
The following window will open.



Select the correct settings for the COM PORT in use and click on the SETTINGS button.



The following INFORMATION AND SETTINGS Window will open.



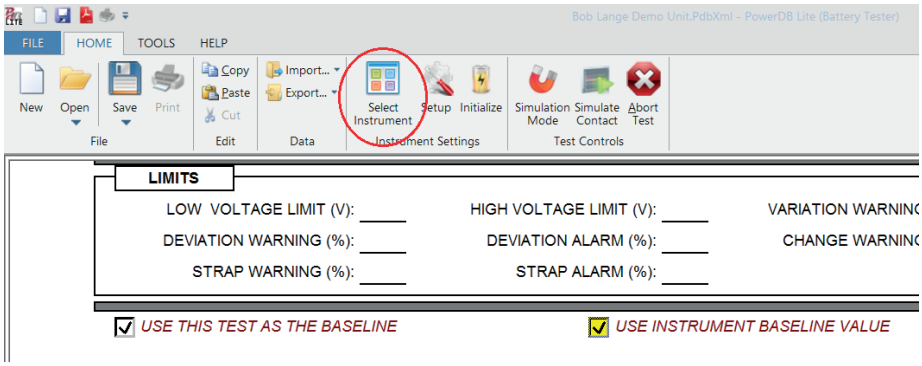
Turn on the BITE 3 instrument, wait until unit has completed boot up and click on the **INQUIRE** button to view the present BITE3 settings.

Input the desired data under the "Bite 3 Settings" Section.

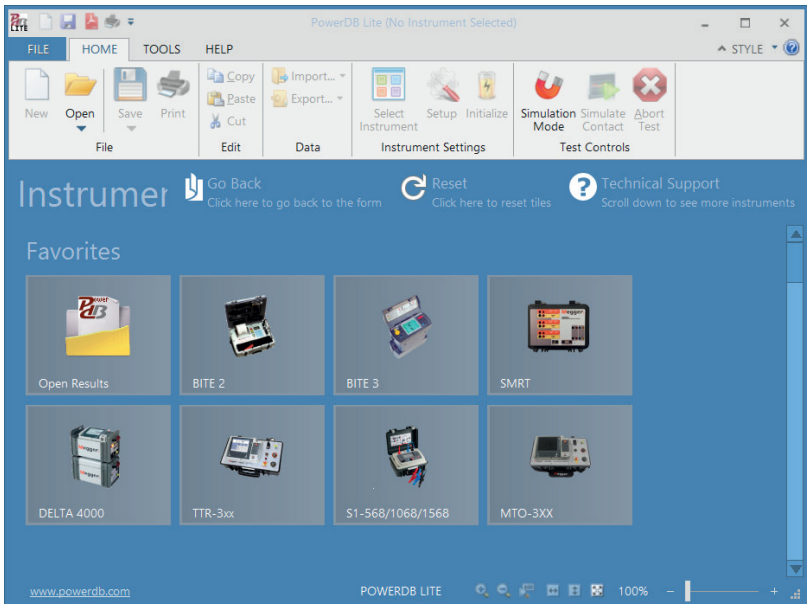
Turn on the BITE 3 instrument, wait until unit has completed boot up and click on the **UPDATE** button.

Transferring String Configurations to the BITE3

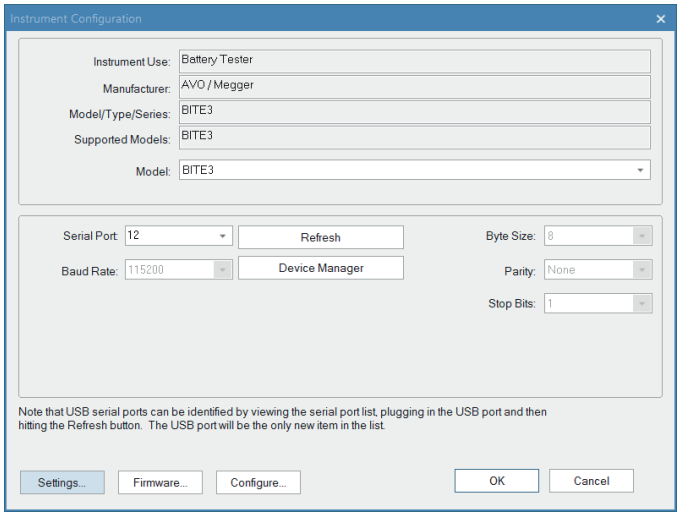
Click on SELECT INSTRUMENT button to open the home screen.



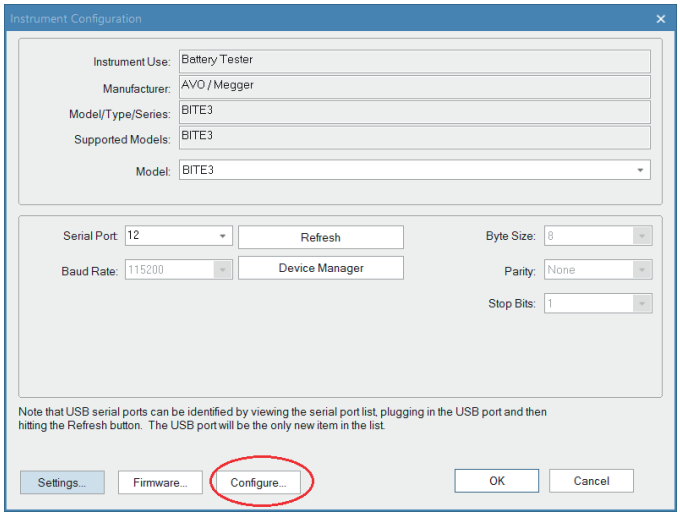
Select the BITE 3 by clicking on the BITE3 image.



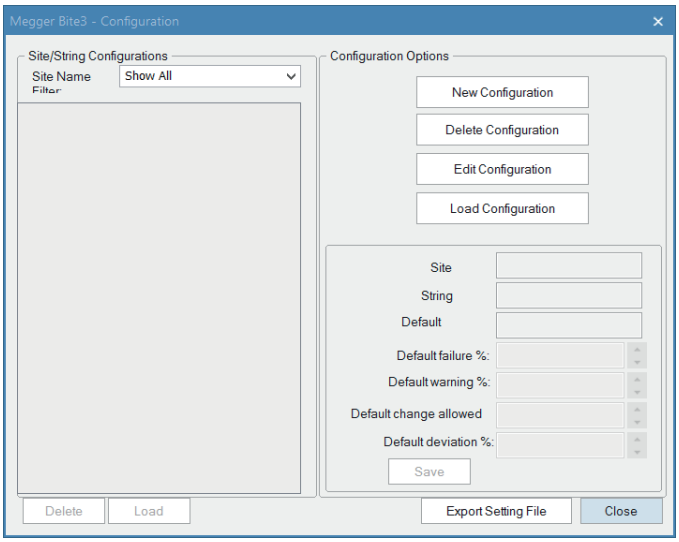
The following window will open.



Select the correct settings for the COM PORT in use and click on the CONFIGURE button.



The following Configurations Window will open.



Configure and install new configuration into the BITE3.

Edit existing configurations in the BITE3.

Delete string configurations in the BITE3.

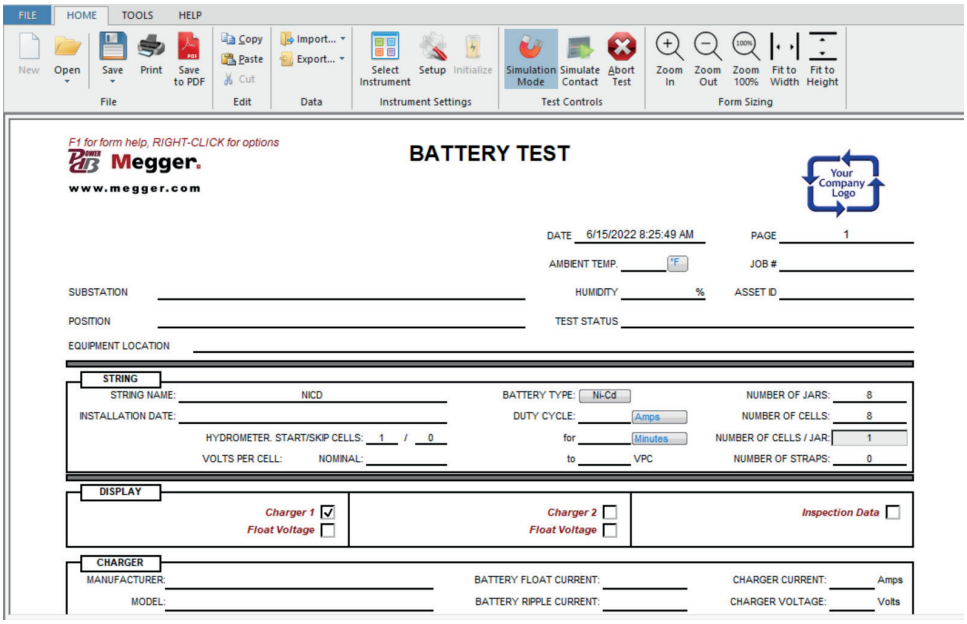
Importing inter-cell (strap) measurements from a Megger DLRO2X

If battery intercell (strap) measurements are desired during the battery test, the operator can either use a BITE5-Pro or a BITE5-ADV. These units perform battery and inter-cell measurements. If the operator is using a BITE5 unit, this unit does not support inter-cell (strap measurements). In this case the strap measurements can be taken using a Megger DLRO2X. These measurements can then be imported directly from the DLRO2X into the BITE5 report, as follows.

Before importing data from DRLO2X to a Power DB report first export the data from the DLRO2X to a USB stick. Reference the DLRO2X manual for instructions.

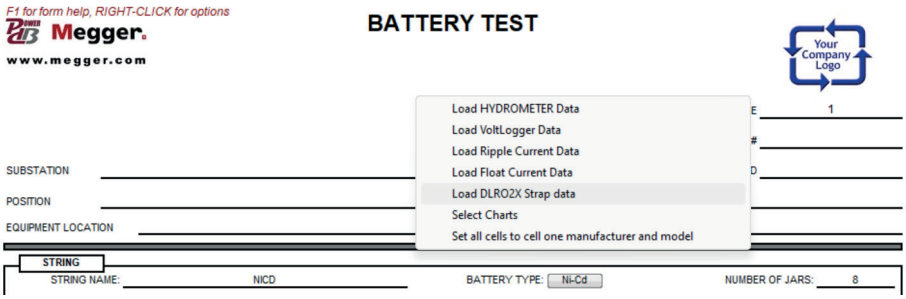
After the DLRO2X data is on a USB stick, place the USB stick in the PC.

Open the desired BITE5 report.

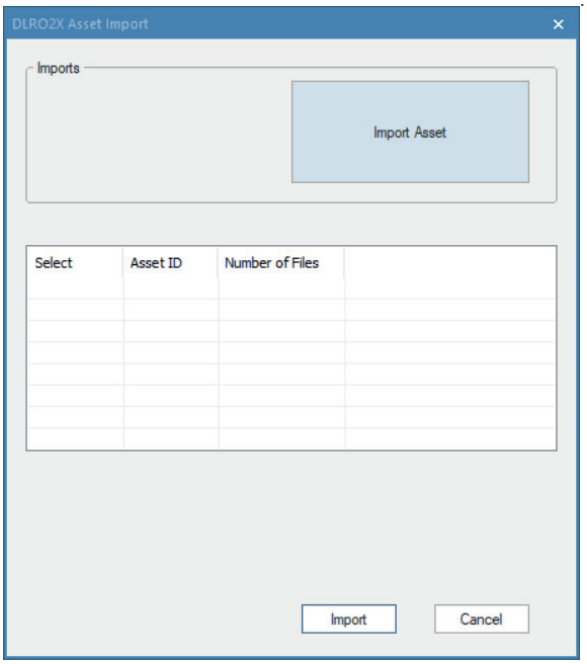


Right click on the background of the report to open the special functions Window.

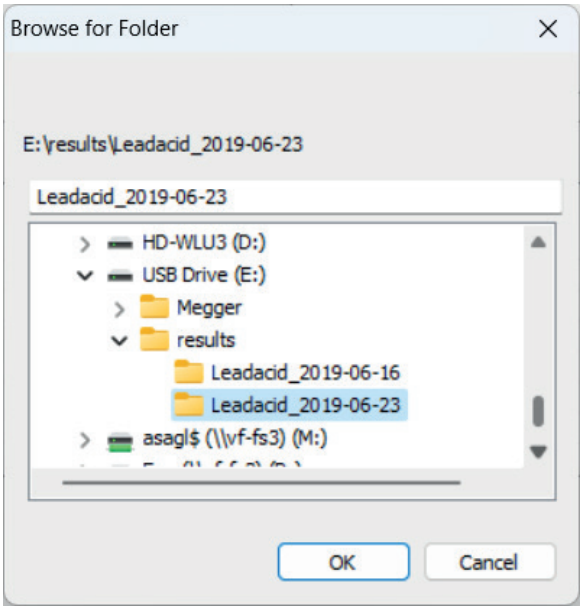
Select "Load DLRO2X Strap Data".



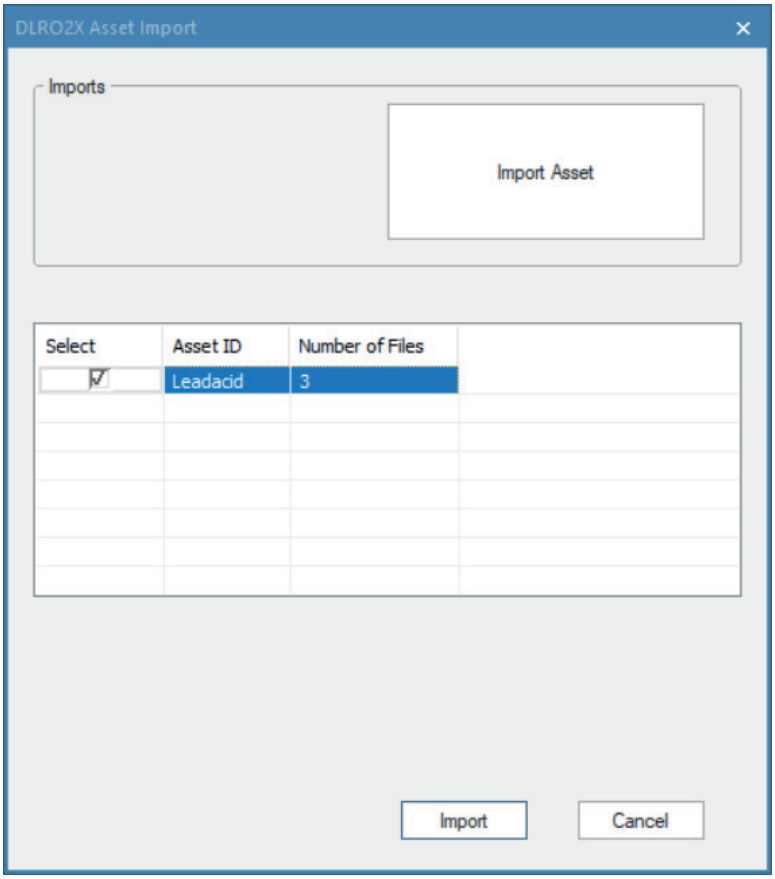
Click on the "Import Asset" button in Power DB.



Navigate to the desired asset (string) on the USB stick, then click OK.



Select the test and then click the "Import" button.



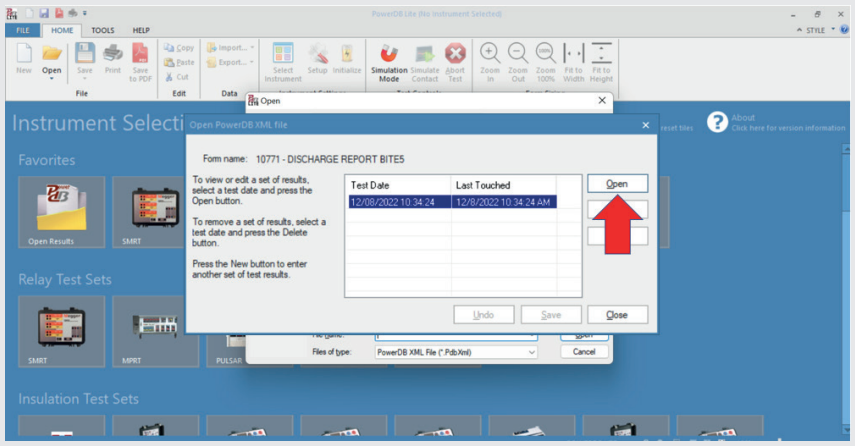
The data will now be imported into the report

STRAP #	RESISTANCE (micro-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	9,000	0.9	12:59:33	1	Inter-cell
2	8,000	-0.9	13:00:03	2	Inter-cell
3	9,000	0.9	13:00:18	3	Inter-cell

Importing Torkel Discharge Data to a BITE5 discharge report

Open the report and select the desired test

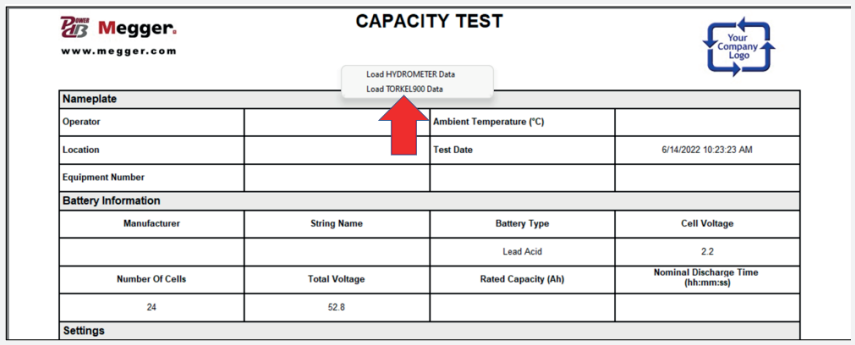
Click “Open”



Insert the USB stick that contains the Torkel data, into the PC.

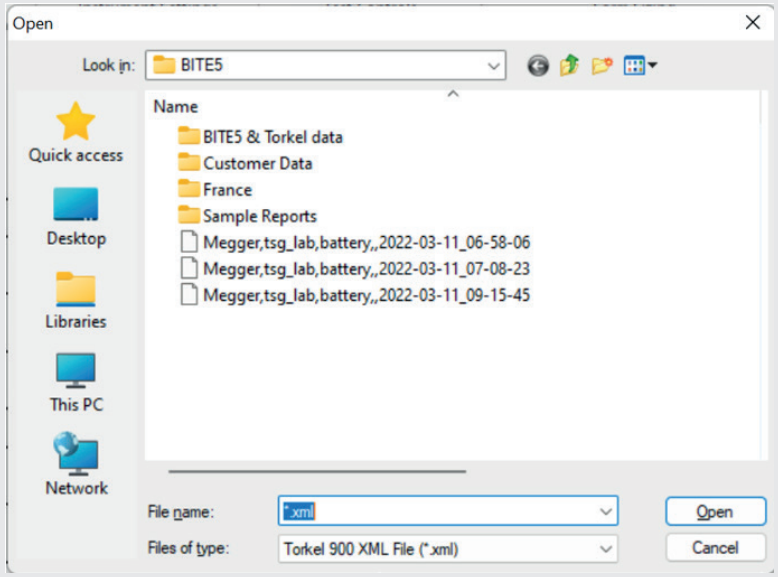
Right click on the background of the report.

Select “Import Torkel Data” from the menu.

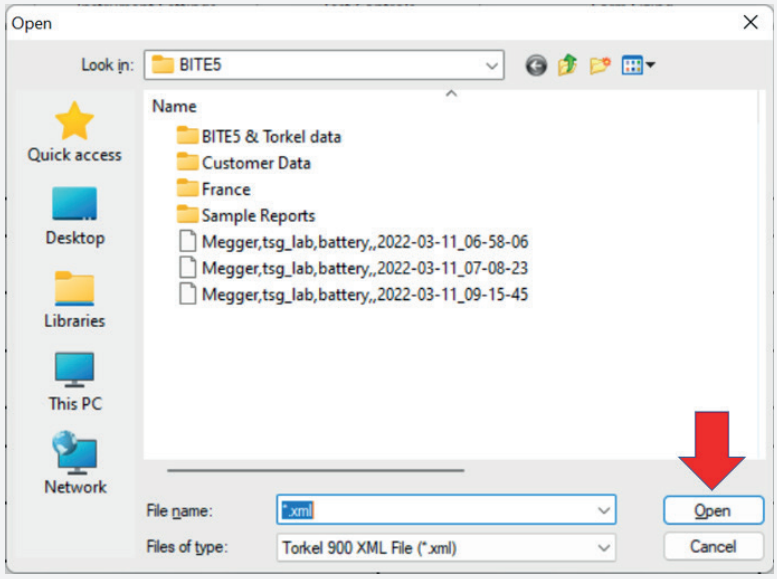


Navigate to the USB stick with the Torkel data.

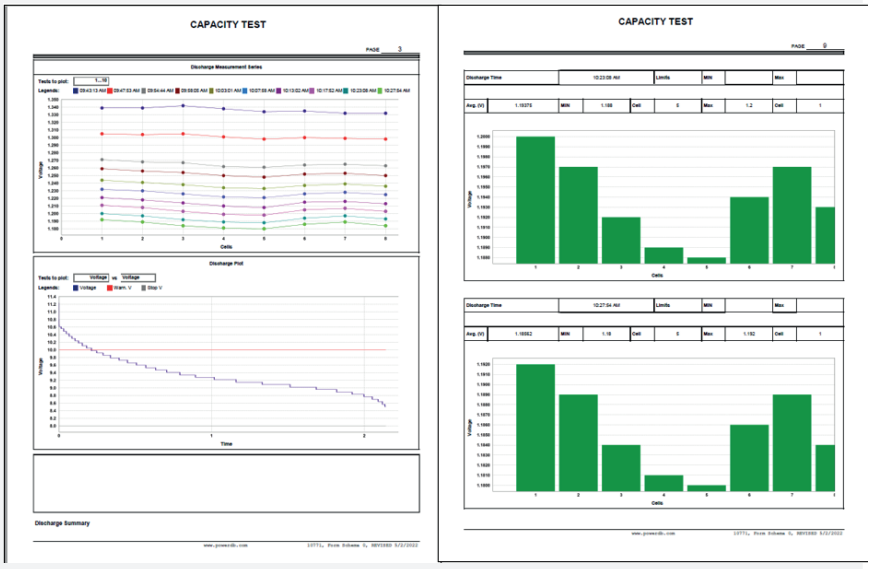
Select the desired file on the USB stick.



Click OK



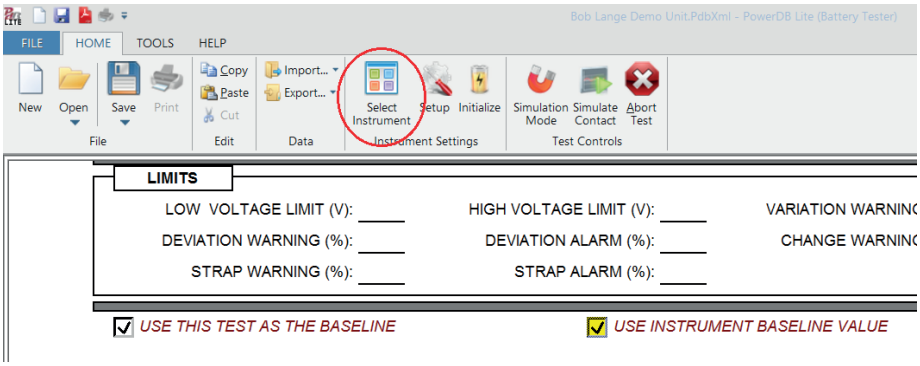
The Torkel data from the USB stick will now be imported into the BITE5 discharge report.



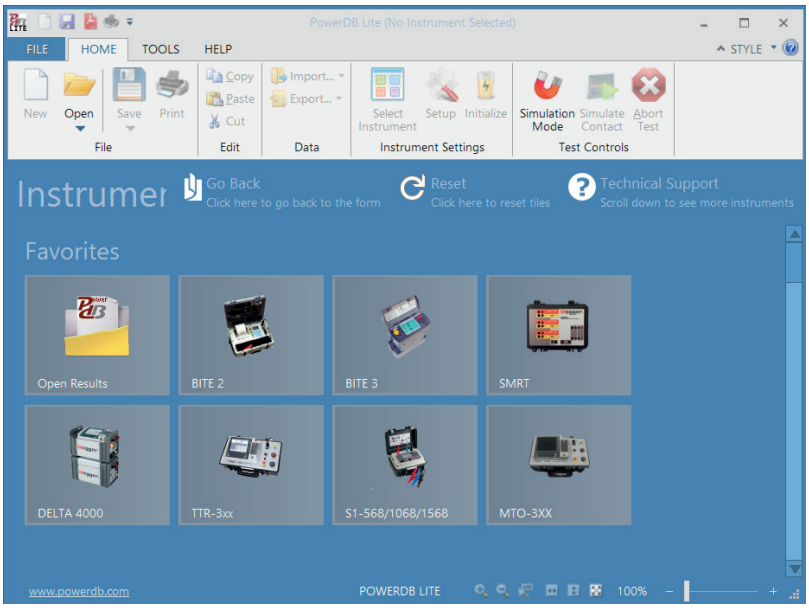
Updating Firmware in the BITE3

Connect the BITE3 to the PC and power up the BITE3.

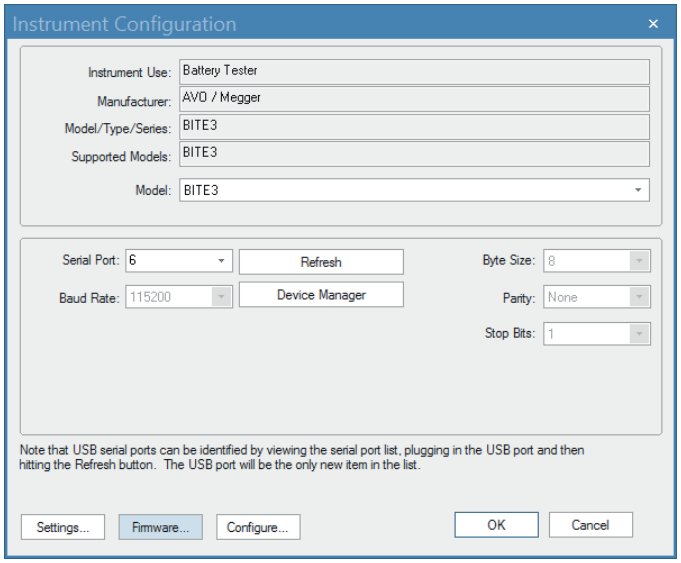
Click on select instrument button to open the home screen.



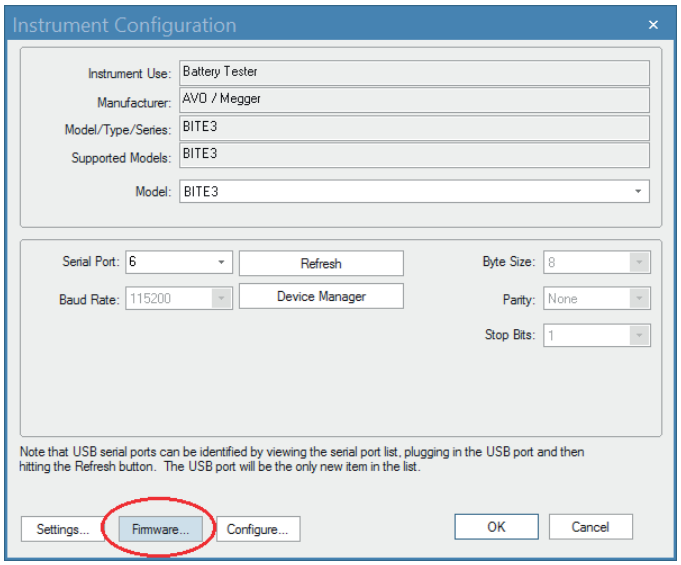
Select the BITE 3 by clicking on the BITE3 image.



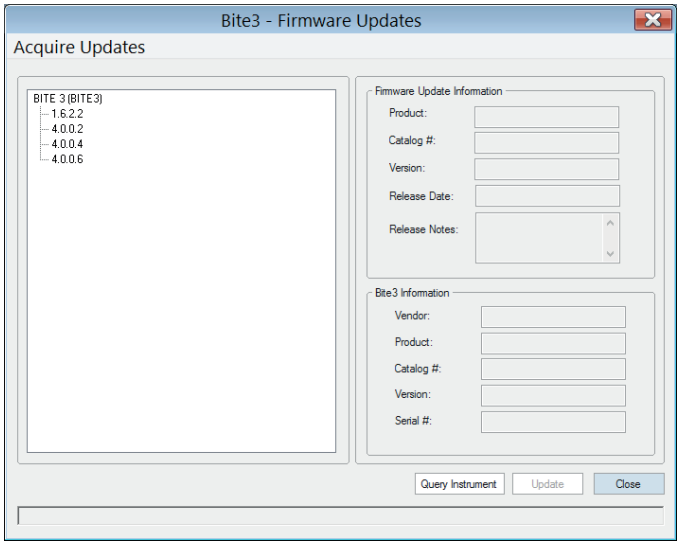
The following window will open.



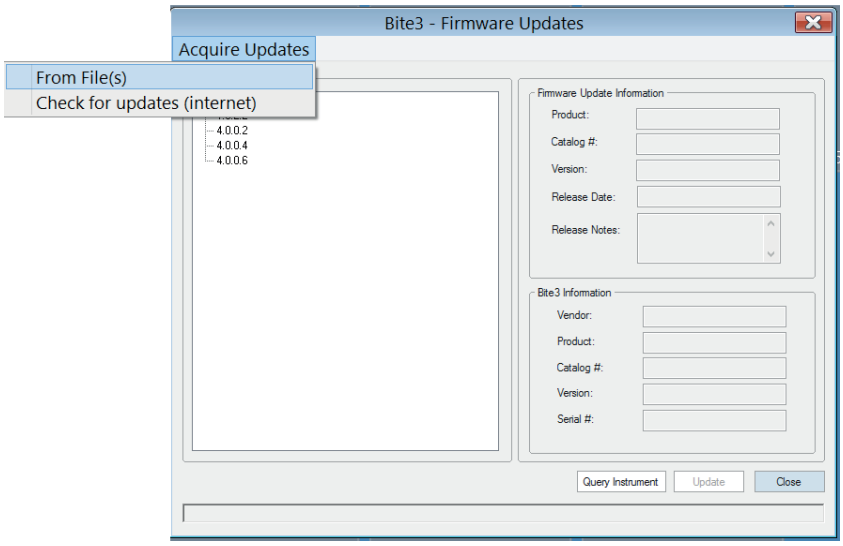
Select the correct settings for the COM PORT in use and click on the FIRMWARE button.



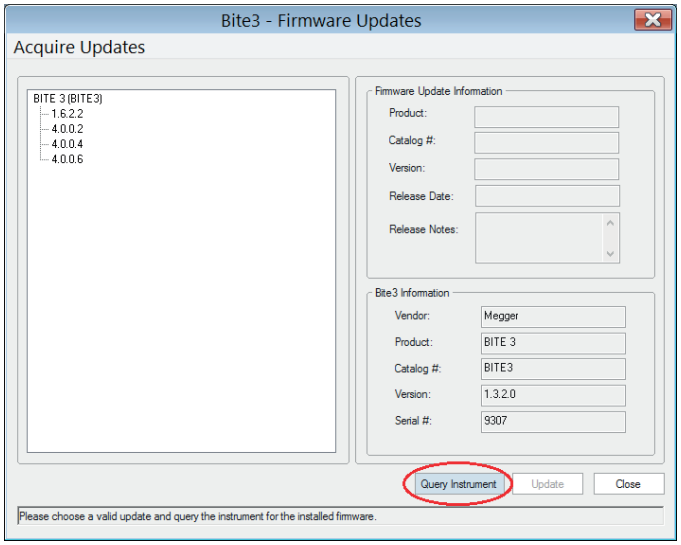
The following BITE3 – FIRMWARE UPDATES Window will open.



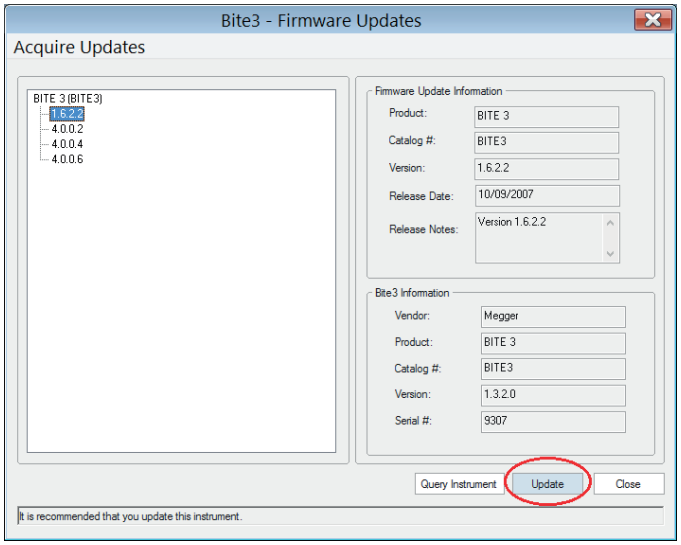
Click on the "ACQUIRE UPDATES" button in the top left of the window. You can acquire the BITE3 firmware updates either from a local file on your PC or from the internet.



Now click the "QUERY INSTRUMENT" button in the bottom right of the WINDOW to get the instrument information required to check which firmware update to apply.

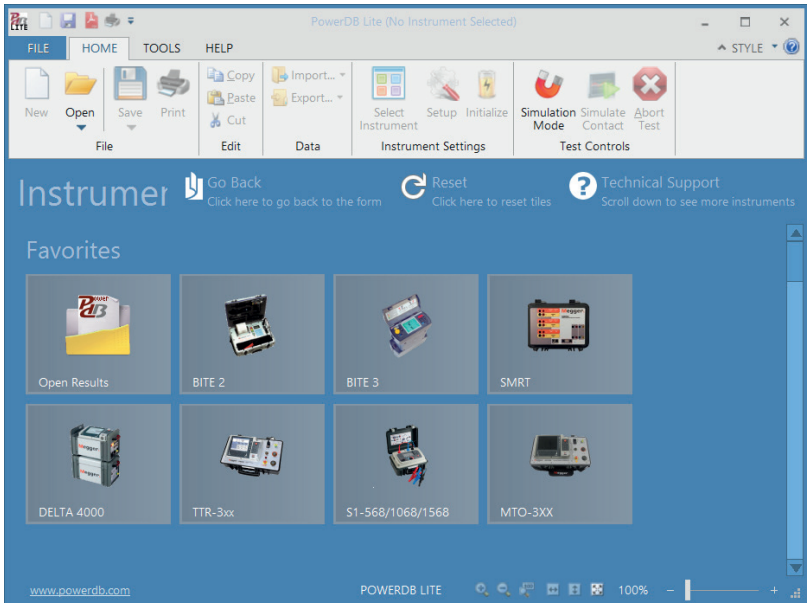


After the query has finished, select the firmware version from the left side of the dialog. The "UPDATE" button in the bottom right will become active if the firmware update is valid. When the "UPDATE" button is active, click it and allow the update to complete.

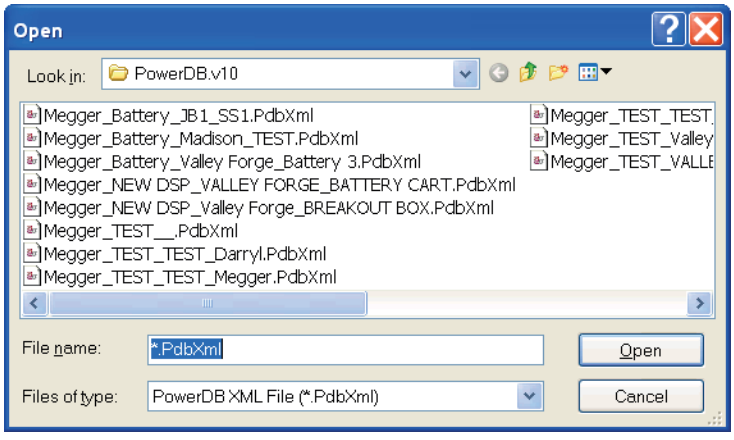


Importing a ProActive Database

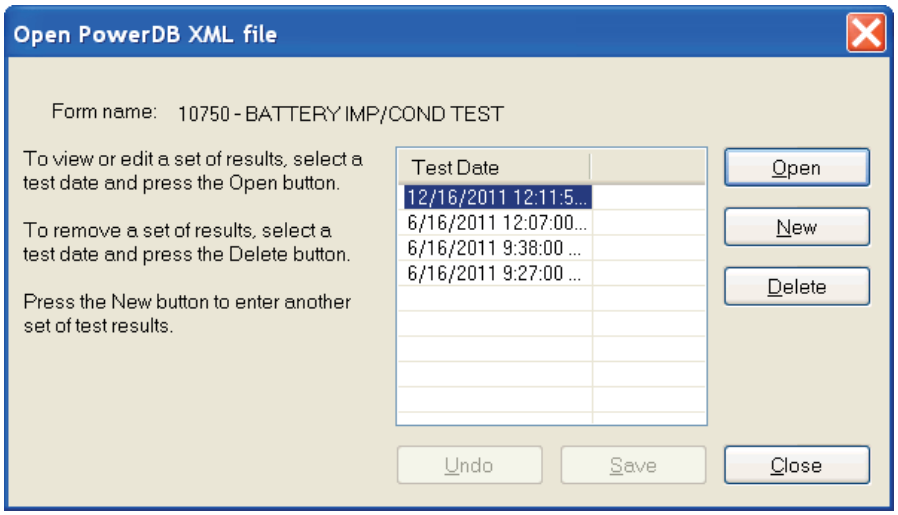
First open a report either click on either the “Open” folder or the picture “Open Results”.



The following window will open.



Select the desired file to open then click on OPEN. The following screen will open.



Select the desired test to open then click on OPEN. The report will now open, as shown in the example below.

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BATTERY TEST

Megger

DATE 12/14/2015 PAGE 1
AMBIENT TEMP. 0 °F JOB # 0001
SUBSTATION AVO String HUMIDITY % ASSET ID
POSITION Rack Number 3 TEST STATUS
EQUIPMENT LOCATION

STRING

STRING NAME:	VRLA String	BATTERY TYPE:	VRLA	NUMBER OF JARS:	6
NSTALLATION DATE:	01-23-2013	DUTY CYCLE:	Amps	NUMBER OF CELLS:	6
	HYDROMETER. START/SKIP CELLS: 1 / 0	for	Minutes	NUMBER OF CELLS / JAR:	1
	VOLTS PER CELL: NOMINAL:	to	VPC	NUMBER OF STRAPS:	6

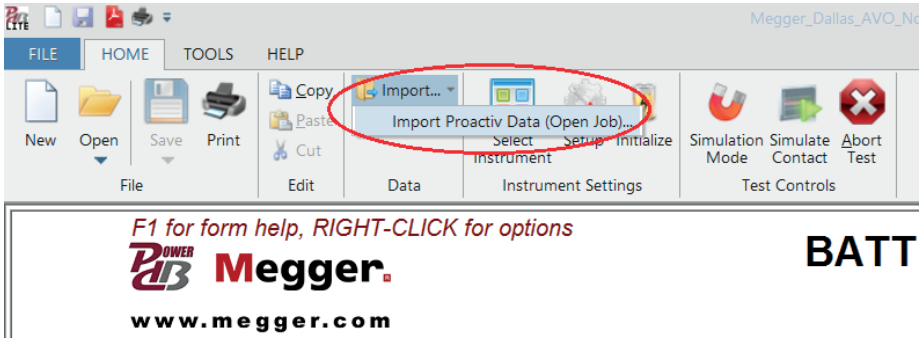
CHARGER

MANUFACTURER:	Vannel	BATTERY FLOAT CURRENT:		CHARGER CURRENT:	Amps
MODEL:	CBC	BATTERY RIPPLE CURRENT:	0	CHARGER VOLTAGE: 12.47	Volts
		TEST AC CURRENT:		EQUALIZATION VOLTAGE:	Volts

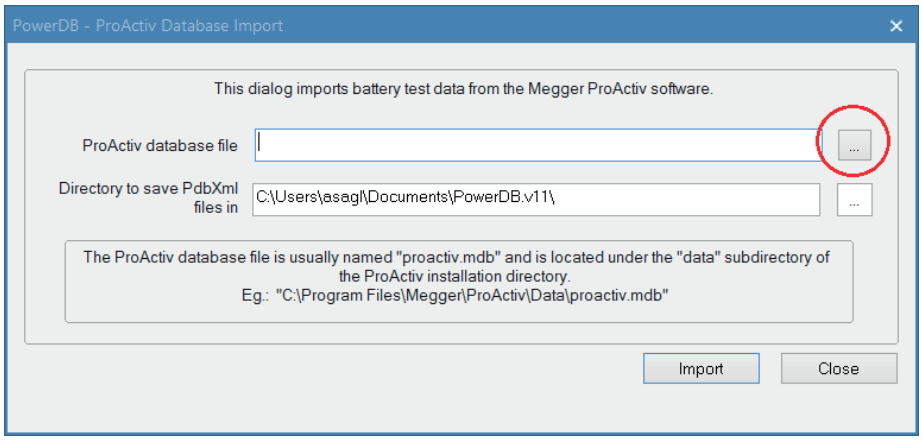
LIMITS

LOW VOLTAGE LIMIT (V): 2	HIGH VOLTAGE LIMIT (V): 2.1	VARIATION WARNING (%): 20.0	VARIATION ALARM (%): 30.0
DEVIATION WARNING (%): 30.0	DEVIATION ALARM (%): 50.0	CHANGE WARNING (%): 5.0	CHANGE ALARM (%): 10.0
STRAP WARNING (%): 10.0	STRAP ALARM (%): 20.0		

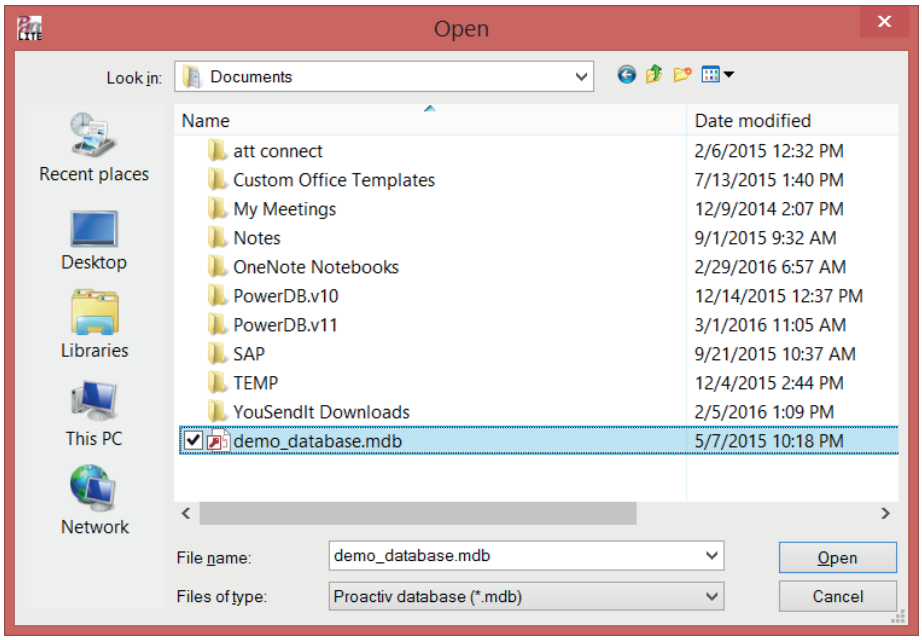
Click on IMPORT / IMPORT PROACTIV DATA



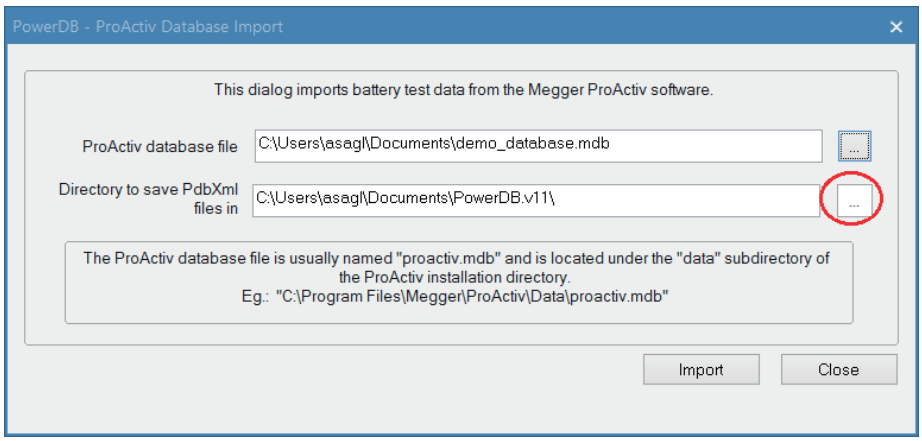
The following screen will open. Click on the ProActiv Database File BROWSE button as shown.



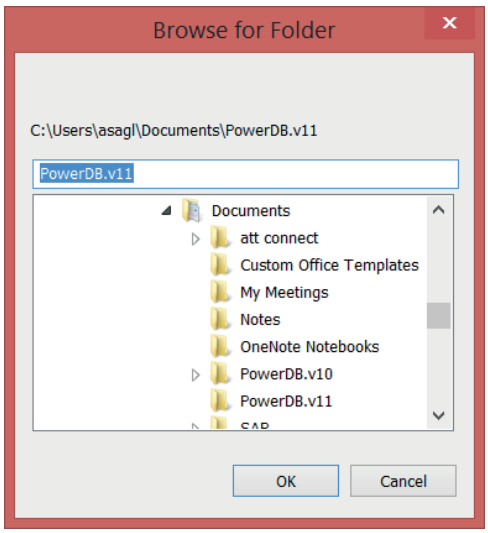
The following screen will open. Navigate to your database location and then select your desired database. When complete click on OPEN.



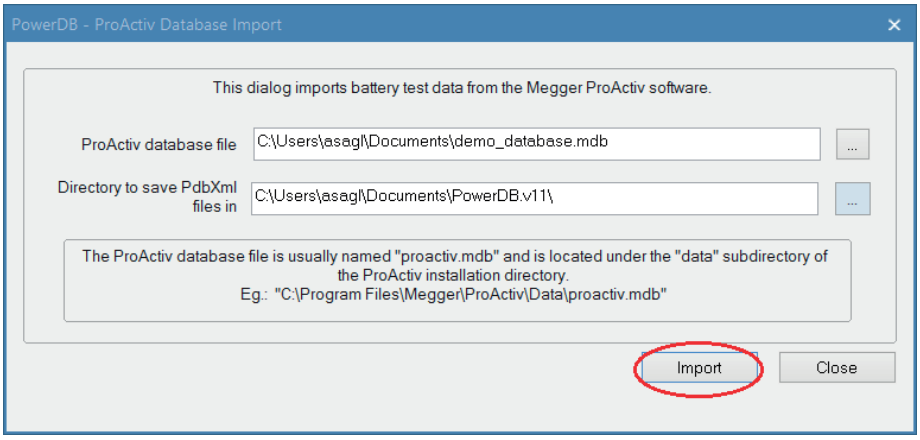
The following screen will open. Click on the PowerDB Database BROWSE button as shown.



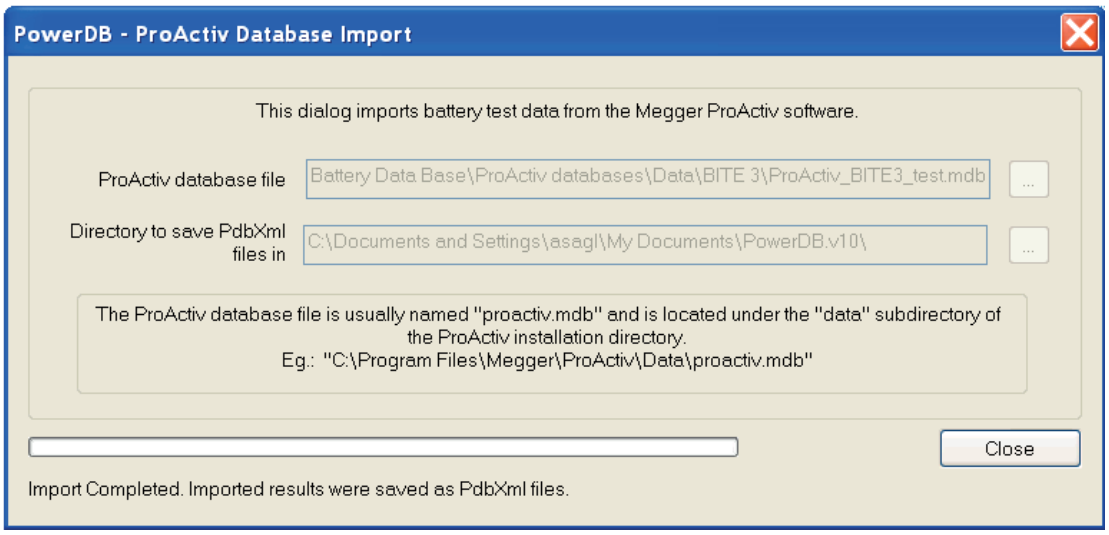
The following screen will open. Navigate to the folder you wish to copy the database to. (The default folder is MY DOCUMENTS / POWERDB) When complete click on the OK button.



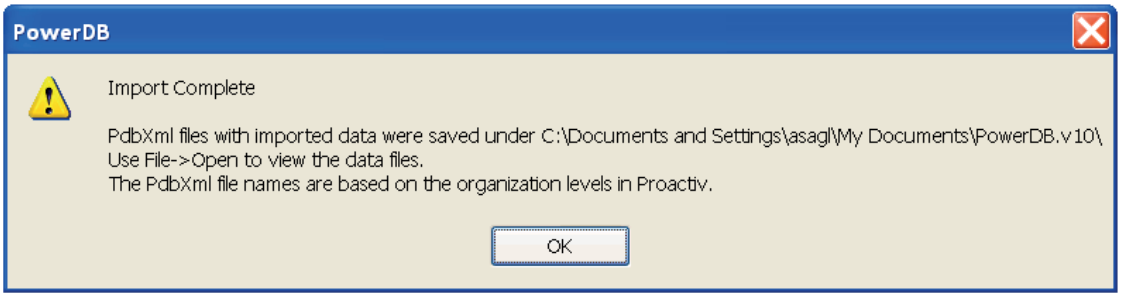
The following screen will open. Click on the IMPORT button to start the import.



The following screen will open, showing the import status in the lower left. When it reads ***Import Complete***, click on the CLOSE button.

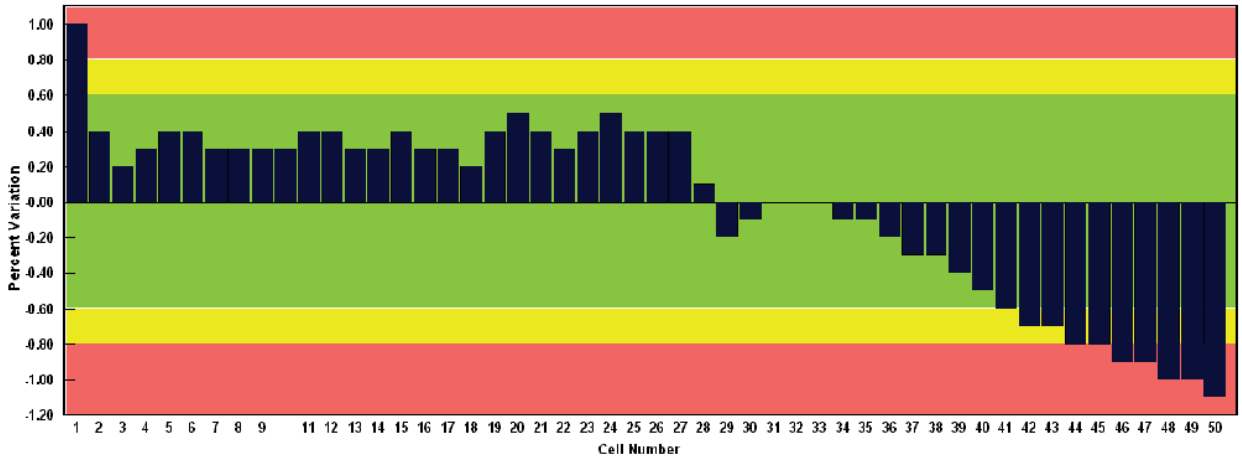


The following message will be displayed. Click on OK.



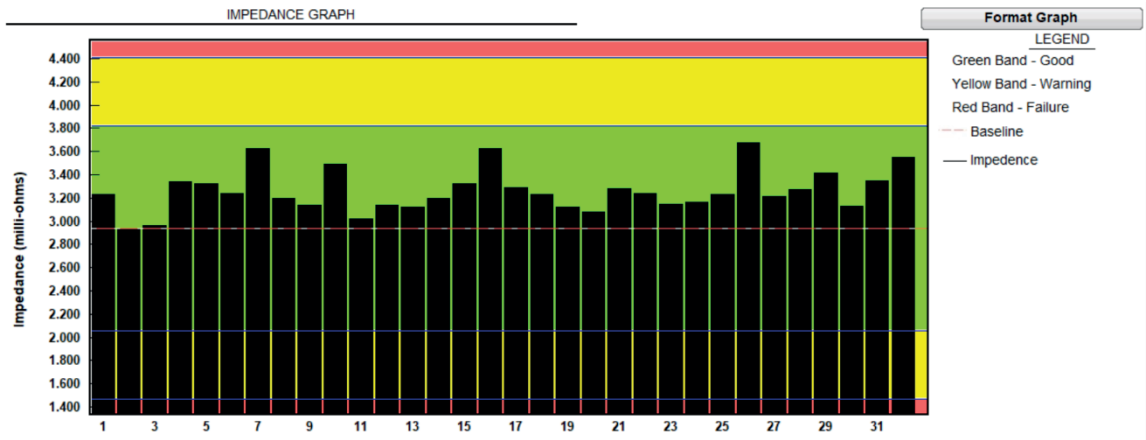
Show Limits

When this selection is enabled for the associated charts, it will display warning limits and alarm limits in the chart. (NOTE: These limit values in the report are the ones used by the charts.)

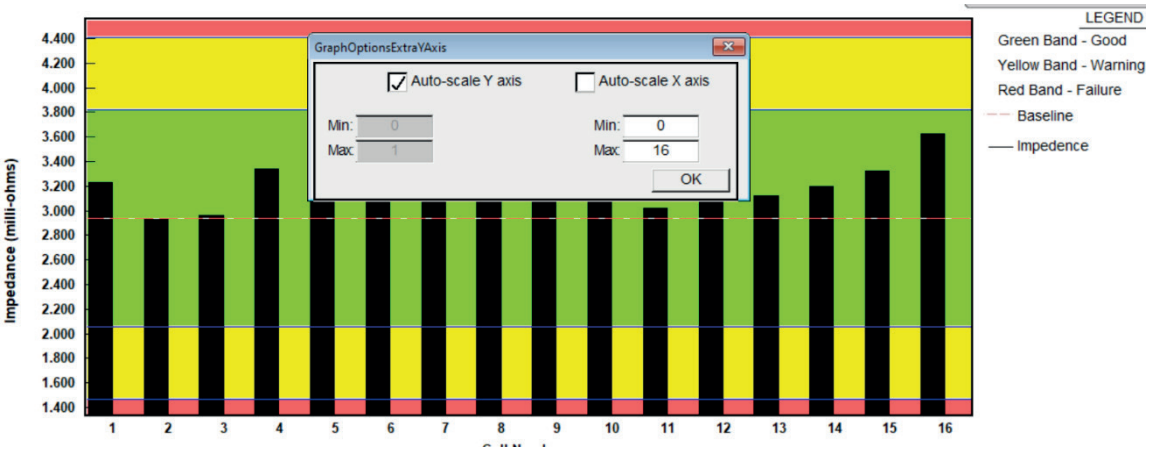


Selecting only partial cells

Click on "Format Graph" button.



Uncheck "Auto scale X axis". Select the range of cells you wish to view. Then click OK.



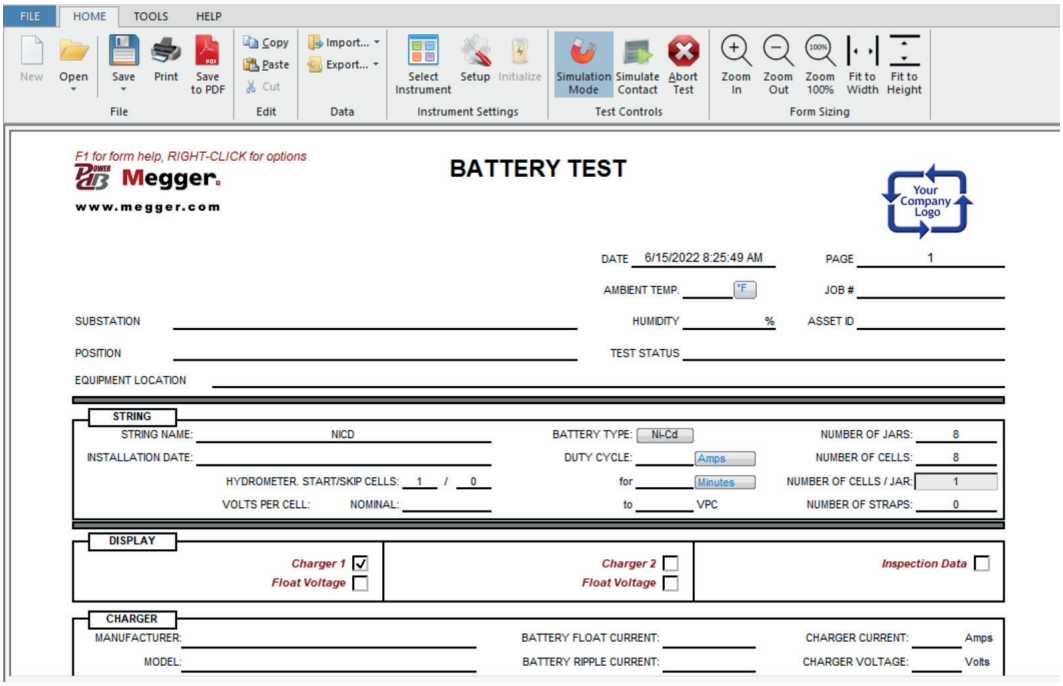
Only 1 of any particular type of chart can be created at a time. So they would need to scan through the cells on the chart.

Creating Chart Selections

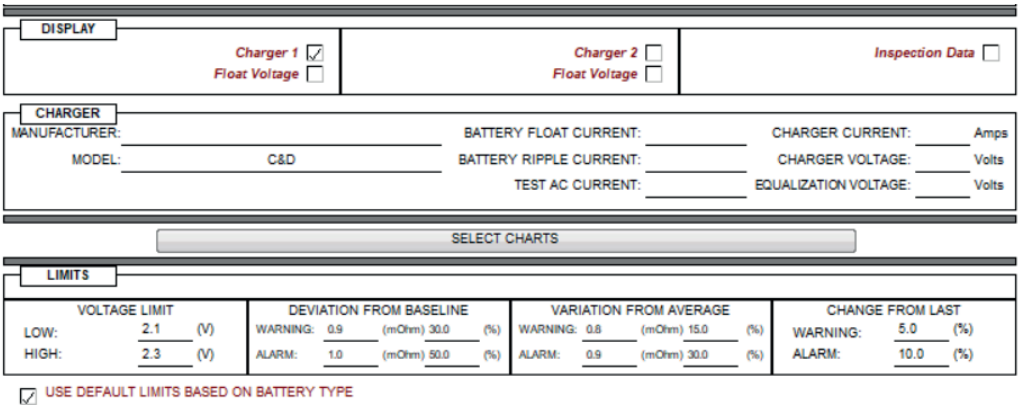
Power DB allows the operator to select the desired section of the created reports. This section of the manual will illustrate what can be selected and how it can be performed, for both the impedance report and the discharge report.

Impedance Report

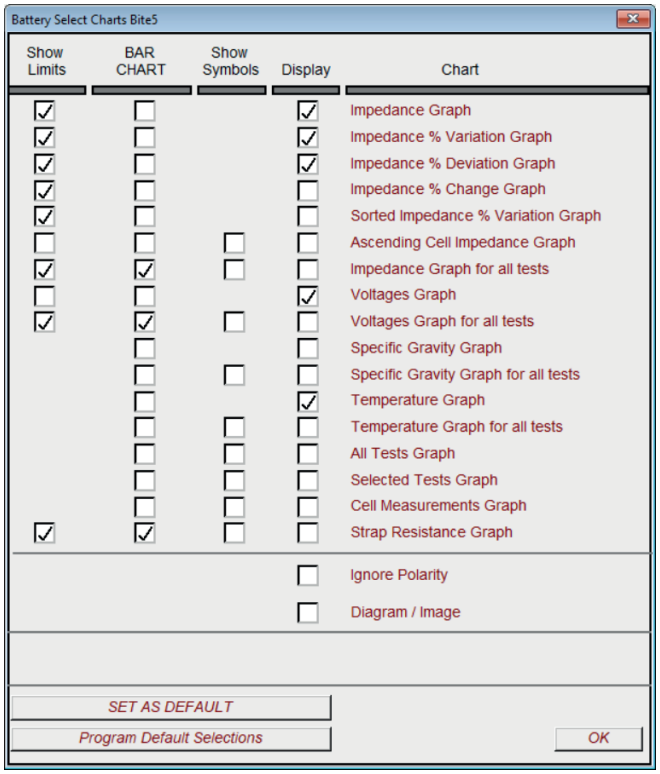
Open the desired BITE5 impedance report.



Either right click on the background of the report to open the special functions window and select "Select Charts" or click on the button in the report ""Select Charts".

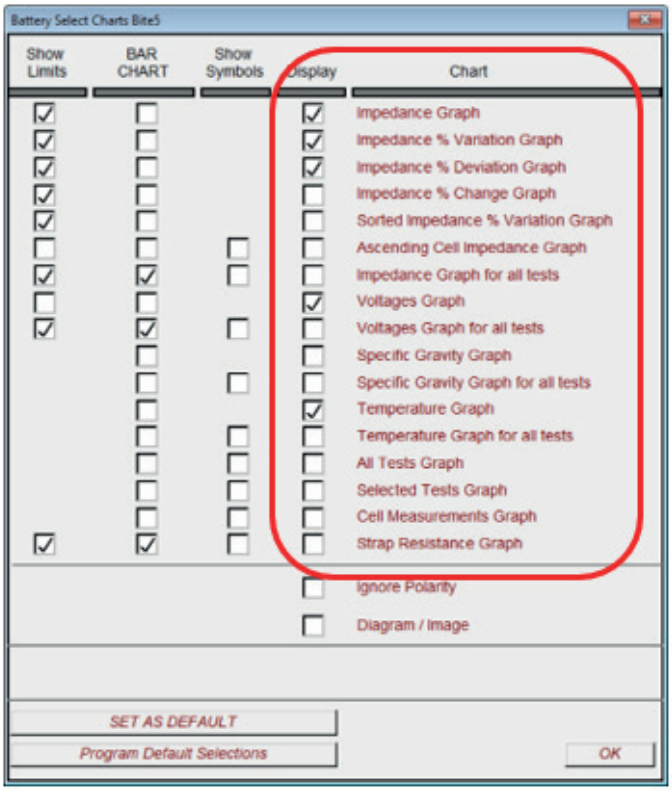


The chart selection screen will open.

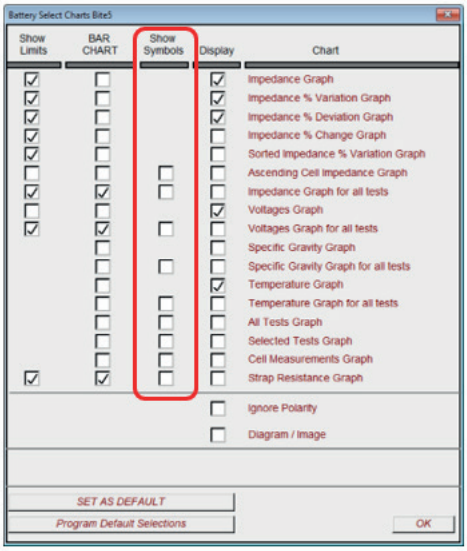


From this screen the following selections can be enabled or disabled.

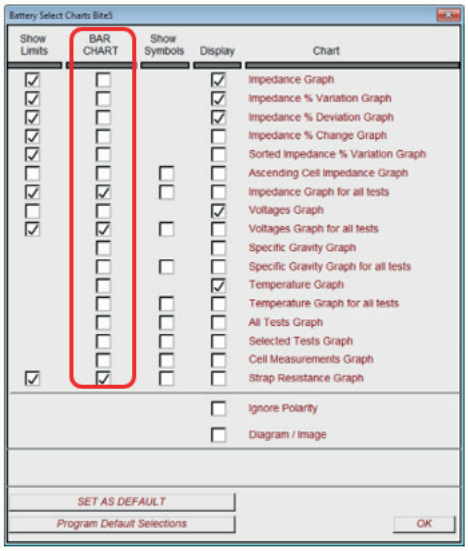
Enable or disable desired charts.



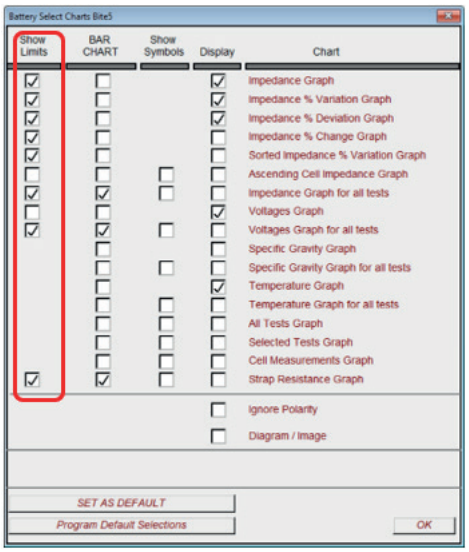
Enable or disable symbols on each point of a trended chart.



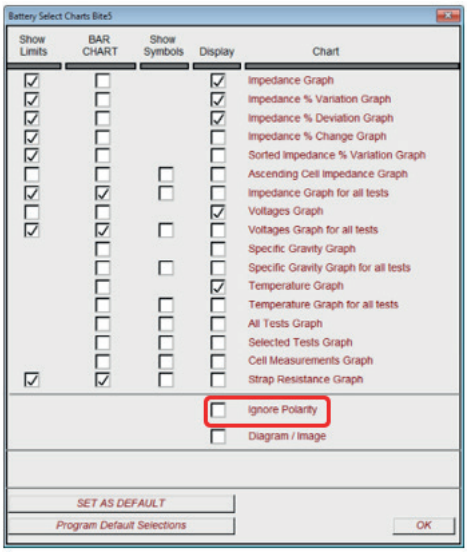
Choose to view the chart as either a bard chart or a trended line.



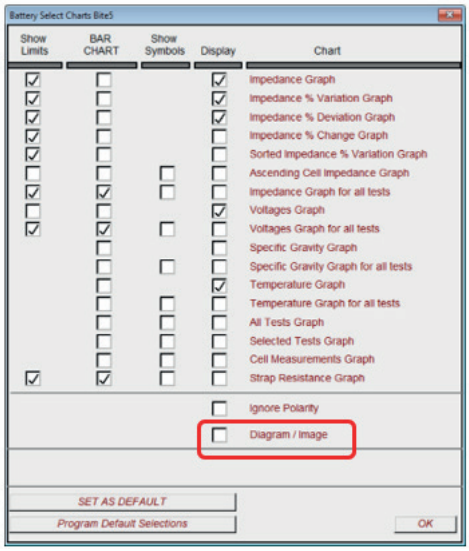
Choose to have the pass, warning and fail limits viewable on chart,



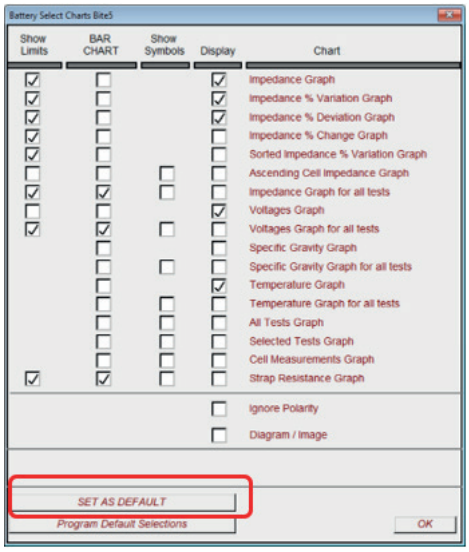
Enable of disable polarity. If some voltages are backwards, due to measurement errors during testing, this feature will remove the negative sign.



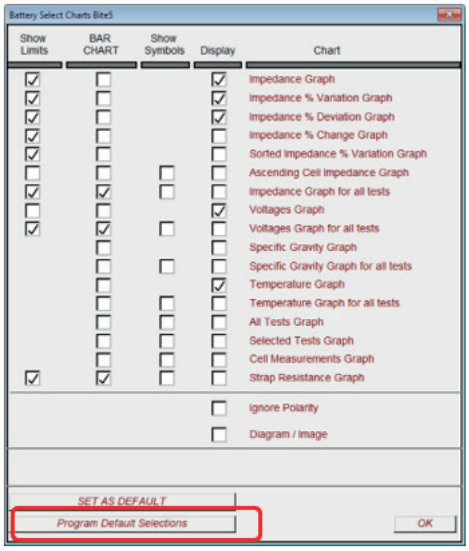
Enable a section in the report that will allow an image file to be copy and pasted.



Set the chosen settings as default setting for this report.



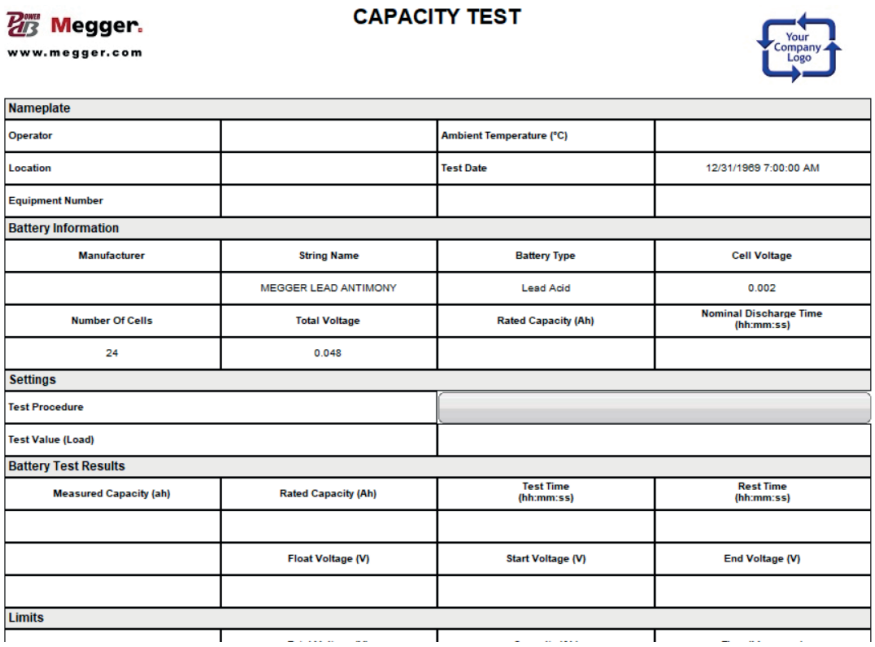
Set the setting as default settings for ALL reports.



When selections are complete click "OK" button to save selections.

Discharge Report

Open the desired BITE5 discharge report.



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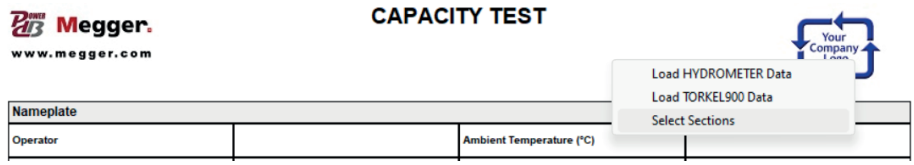
CAPACITY TEST

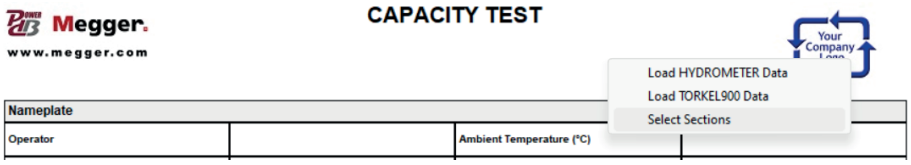
Your Company Logo

Nameplate			
Operator		Ambient Temperature (°C)	
Location		Test Date	12/31/1969 7:00:00 AM
Equipment Number			
Battery Information			
Manufacturer	String Name	Battery Type	Cell Voltage
	MEGGER LEAD ANTIMONY	Lead Acid	0.002
Number Of Cells	Total Voltage	Rated Capacity (Ah)	Nominal Discharge Time (hh:mm:ss)
24	0.048		
Settings			
Test Procedure			
Test Value (Load)			
Battery Test Results			
Measured Capacity (ah)	Rated Capacity (Ah)	Test Time (hh:mm:ss)	Rest Time (hh:mm:ss)
	Float Voltage (V)	Start Voltage (V)	End Voltage (V)
Limits			

Right click on the background of the report to open the special functions window and select "Select Sections".

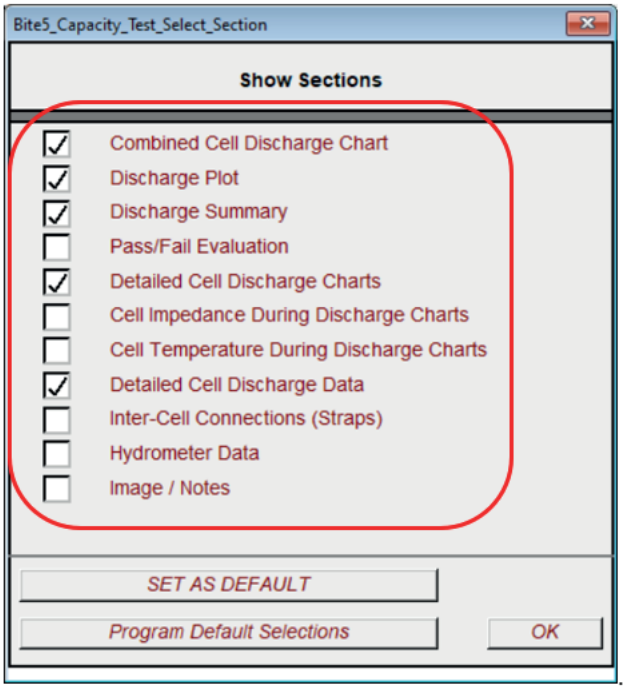


The chart selection screen will open.

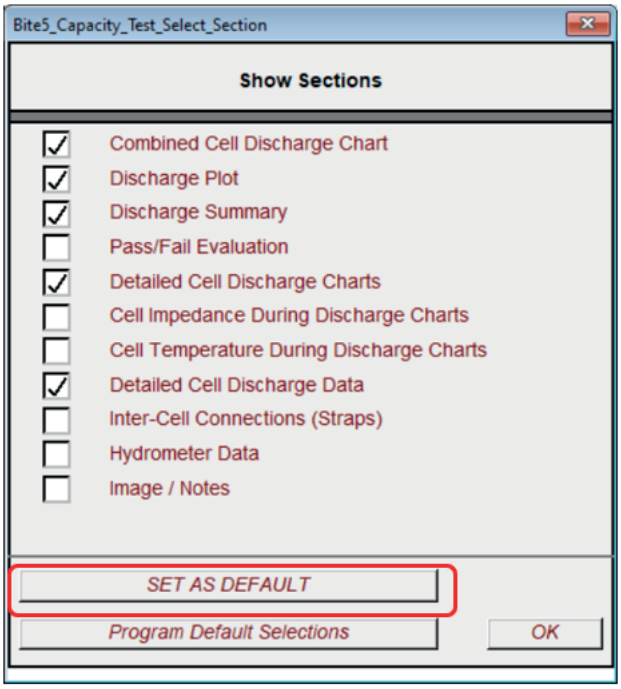


From this screen the following selections can be enabled or disabled.

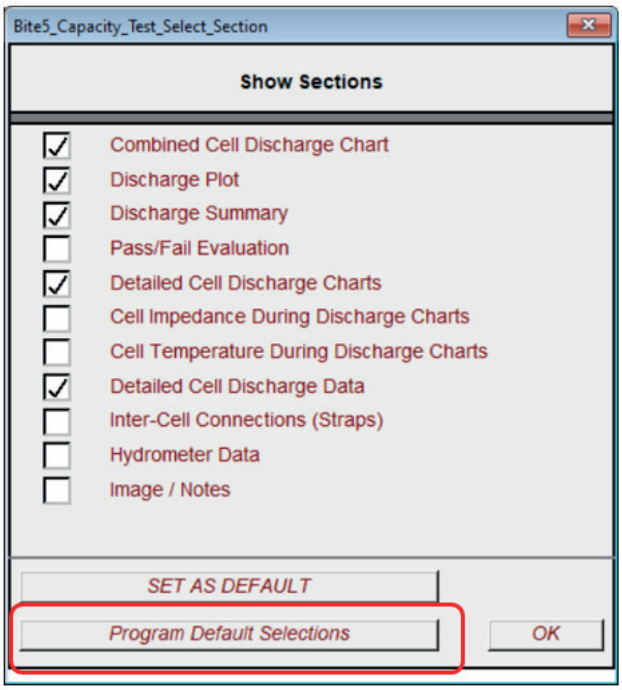
Enable or disable desired charts



Set the chosen settings as default setting for this report.



Set the setting as default settings for ALL reports.



When selection are complete click “OK” button to save selections.

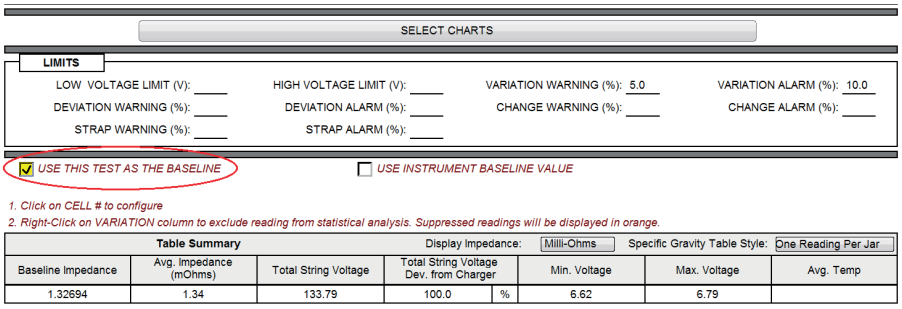
Calculating Baseline Data

Power DB allows you to establish baseline values in three different manners.

If you need to establish a baseline value for a battery string Power DB will calculate the baseline value with the data from the first test. (It is recommended to use data from a new string that has completed formation to use as a baseline value.)

To establish a new baseline value first create a report

Click on USE THIS TEST AS THE BASELINE.



SELECT CHARTS

LIMITS

LOW VOLTAGE LIMIT (V): ____ HIGH VOLTAGE LIMIT (V): ____ VARIATION WARNING (%): 5.0 VARIATION ALARM (%): 10.0

DEVIATION WARNING (%): ____ DEVIATION ALARM (%): ____ CHANGE WARNING (%): ____ CHANGE ALARM (%): ____

STRAP WARNING (%): ____ STRAP ALARM (%): ____

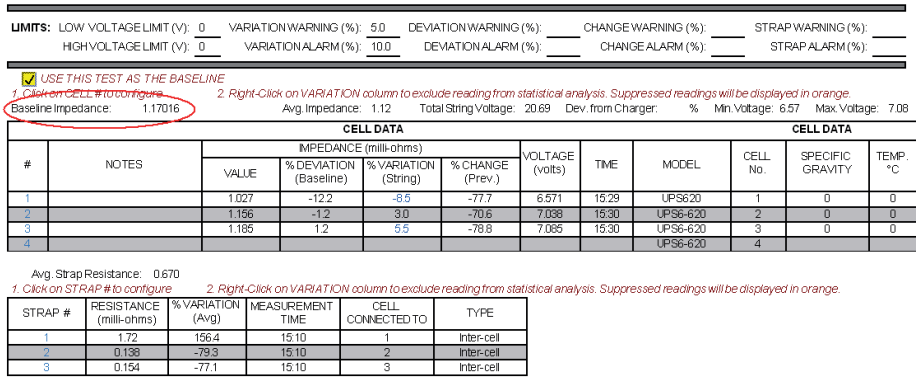
☑ USE THIS TEST AS THE BASELINE ☐ USE INSTRUMENT BASELINE VALUE

1. Click on CELL # to configure
2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Table Summary — Display Impedance: Milli-Ohms — Specific Gravity Table Style: One Reading Per Jar

Baseline Impedance	Avg. Impedance (mOhms)	Total String Voltage	Total String Voltage Dev. from Charger		Min. Voltage	Max. Voltage	Avg. Temp
1.32694	1.34	133.79	100.0	%	6.62	6.79	

The new baseline value will be displayed. (This value is calculated by averaging all the cells together then discarding any cells values that are more that 5% from the average. Then the average is recalculated. This process id continued until all the cell values used are within 5% of the calculated average. This value is now the baseline value.)



LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): ____ CHANGE WARNING (%): ____ STRAP WARNING (%): ____

HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): ____ CHANGE ALARM (%): ____ STRAP ALARM (%): ____

☑ USE THIS TEST AS THE BASELINE

1. Click on CELL # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Baseline Impedance: 1.17016 Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

#	NOTES	CELL DATA — IMPEDANCE (milli-ohms) VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)	VOLTAGE (volts)	TIME	MODEL	CELL No.	SPECIFIC GRAVITY	TEMP. °C
1		1.027	-12.2	-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156	-1.2	3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185	1.2	5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

Avg. Strap Resistance: 0.670

1. Click on STRAP # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

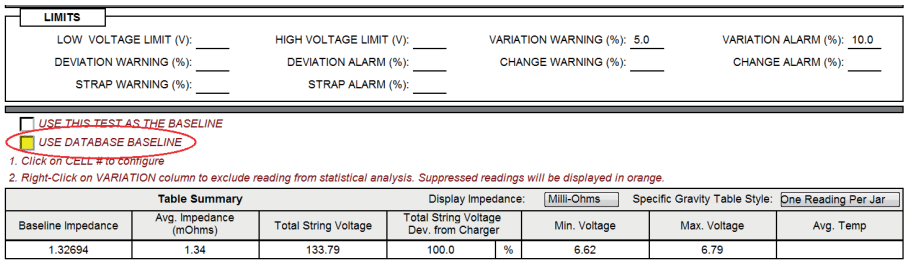
Inputting a New Battery Baseline Value

If you already established baseline values these can be either entered manually or downloaded from the instrument used to test the battery string.

Enter a baseline manually.

Create a battery report.

Select USE DATABASE BASELINE



LIMITS

LOW VOLTAGE LIMIT (V): ____ HIGH VOLTAGE LIMIT (V): ____ VARIATION WARNING (%): 5.0 VARIATION ALARM (%): 10.0

DEVIATION WARNING (%): ____ DEVIATION ALARM (%): ____ CHANGE WARNING (%): ____ CHANGE ALARM (%): ____

STRAP WARNING (%): ____ STRAP ALARM (%): ____

☐ USE THIS TEST AS THE BASELINE

☐ USE DATABASE BASELINE

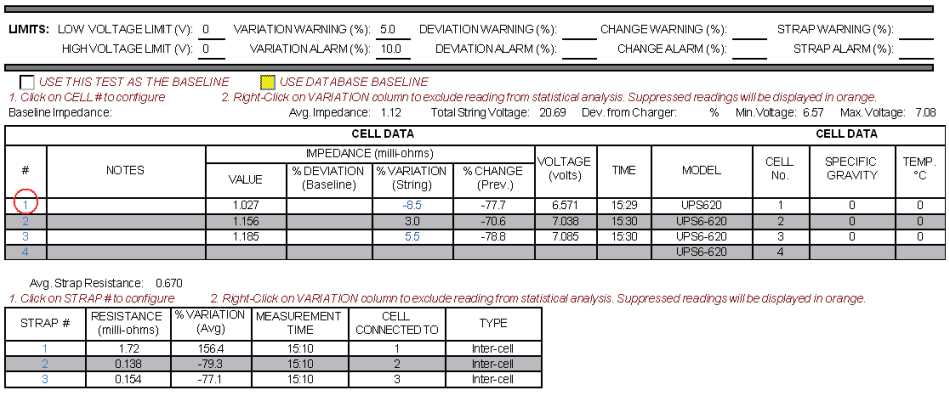
1. Click on CELL # to configure

2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Table Summary — Display Impedance: Milli-Ohms — Specific Gravity Table Style: One Reading Per Jar

Baseline Impedance	Avg. Impedance (mOhms)	Total String Voltage	Total String Voltage Dev. from Charger		Min. Voltage	Max. Voltage	Avg. Temp
1.32694	1.34	133.79	100.0	%	6.62	6.79	

Click cell "1". (The Cell Information Window will now open)



LIMITS: LOW VOLTAGE LIMIT (V): 0 VARIATION WARNING (%): 5.0 DEVIATION WARNING (%): ____ CHANGE WARNING (%): ____ STRAP WARNING (%): ____

HIGH VOLTAGE LIMIT (V): 0 VARIATION ALARM (%): 10.0 DEVIATION ALARM (%): ____ CHANGE ALARM (%): ____ STRAP ALARM (%): ____

☐ USE THIS TEST AS THE BASELINE ☐ USE DATABASE BASELINE

1. Click on CELL # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

Baseline Impedance: Avg. Impedance: 1.12 Total String Voltage: 20.69 Dev. from Charger: % Min. Voltage: 6.57 Max. Voltage: 7.08

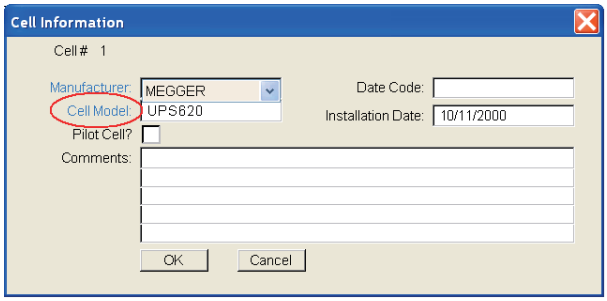
#	NOTES	CELL DATA: IMPEDANCE (milli-ohms) VALUE	% DEVIATION (Baseline)	% VARIATION (String)	% CHANGE (Prev.)	VOLTAGE (volts)	TIME	MODEL	CELL No.	CELL DATA: SPECIFIC GRAVITY	TEMP. °C
1		1.027		-8.5	-77.7	6.571	15:29	UPS620	1	0	0
2		1.156		3.0	-70.6	7.038	15:30	UPS6-620	2	0	0
3		1.185		5.5	-78.8	7.085	15:30	UPS6-620	3	0	0
4								UPS6-620	4		

Avg. Strap Resistance: 0.670

1. Click on STRAP # to configure 2. Right-Click on VARIATION column to exclude reading from statistical analysis. Suppressed readings will be displayed in orange.

STRAP #	RESISTANCE (milli-ohms)	% VARIATION (Avg)	MEASUREMENT TIME	CELL CONNECTED TO	TYPE
1	1.72	156.4	15:10	1	Inter-cell
2	0.138	-79.3	15:10	2	Inter-cell
3	0.154	-77.1	15:10	3	Inter-cell

Click on CELL MODEL. (The Battery Model Window will now open.)



Cell Information

Cell # 1

Manufacturer: MEGGER Date Code: ____

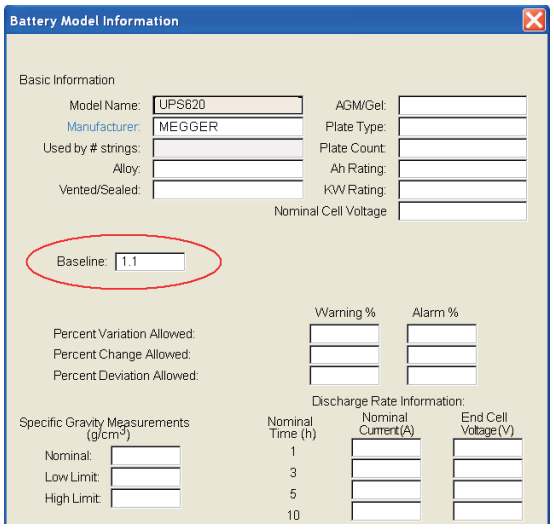
Cell Model: UPS620 Installation Date: 10/11/2000

Pilot Cell? ☐

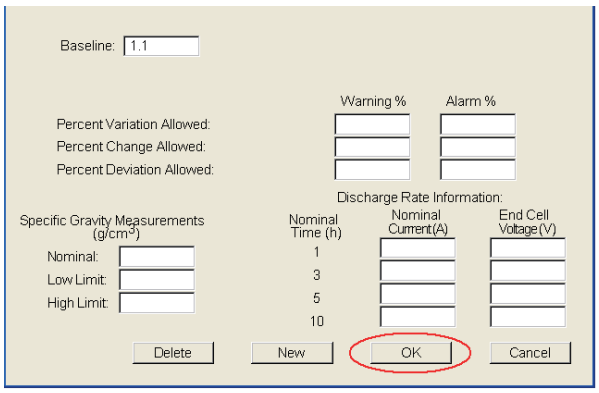
Comments: ____

OK Cancel

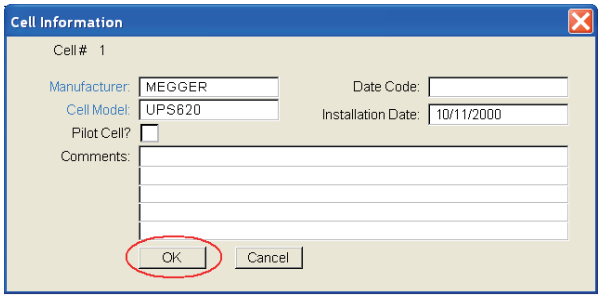
Enter the new baseline value.



Click OK to close the Battery Model Window



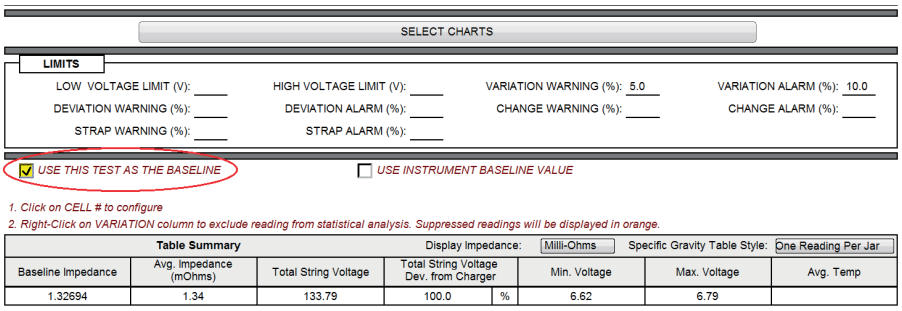
Click OK to close the Battery Cell Information Window



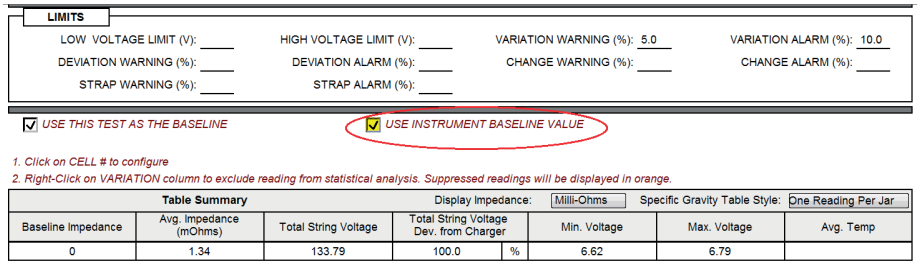
Downloading the Baseline from the BITE

If you already have establish a baseline values programmed into the BITE unit, this value can be loaded into the report.

Click on USE THIS TEST AS THE BASELINE. (This should be done on the first test performed on the battery string under test.)



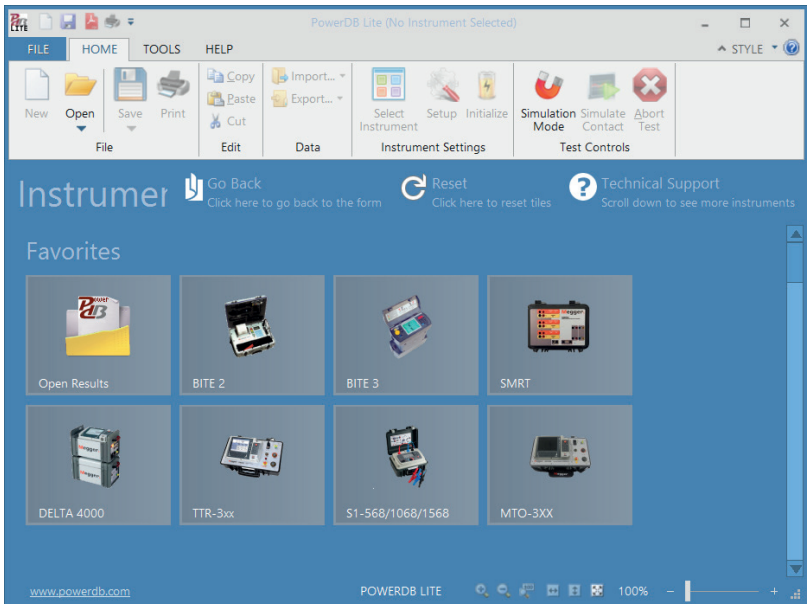
Click on USE INSTRUMENT BASELINE VALUE.



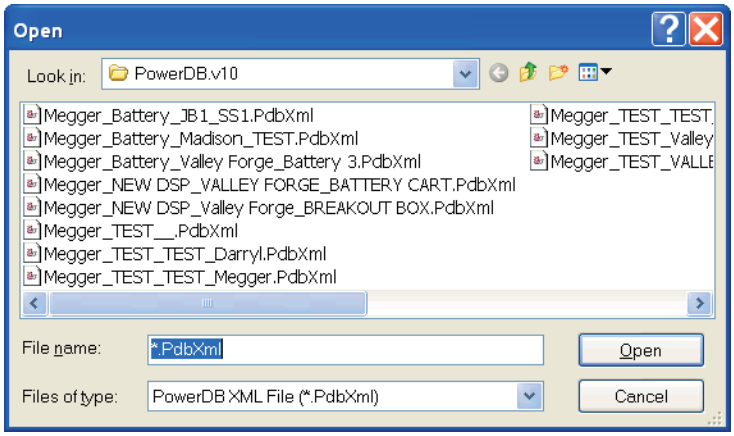
The Power DB report will now use the baseline value programmed in the BITE instrument as the reference value for this string.

Importing a ProActive Database

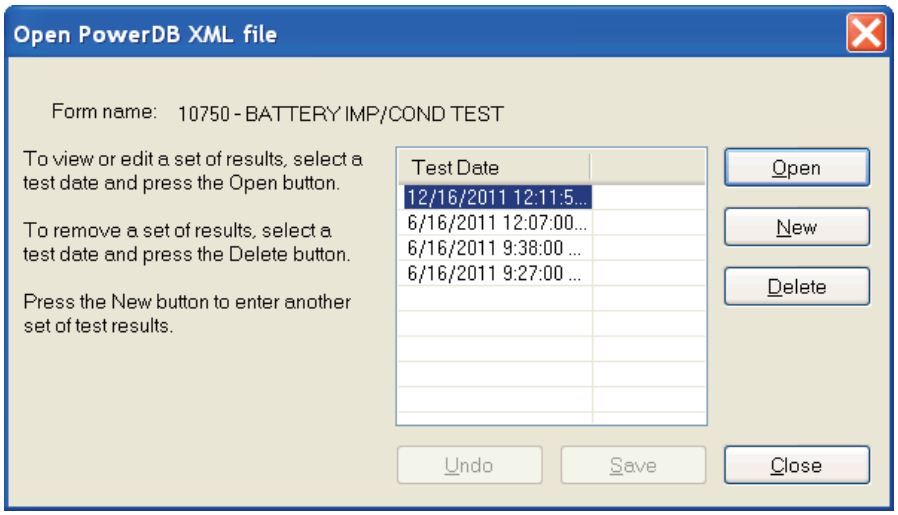
First open a report either click on either the "Open" folder or the picture "Open Results".



The following window will open.

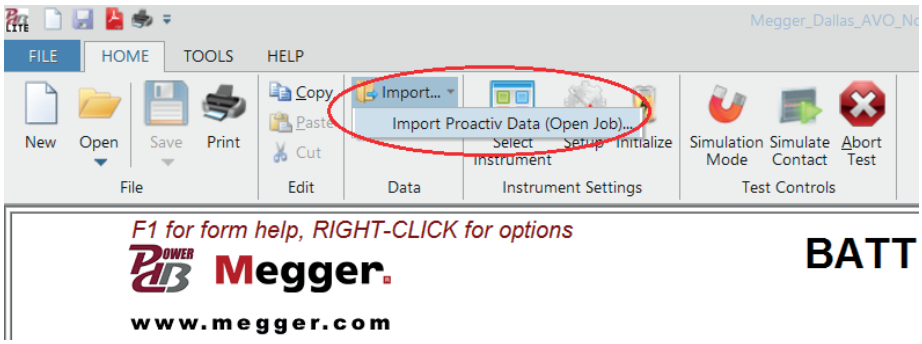


Select the desired file to open then click on OPEN. The following screen will open.

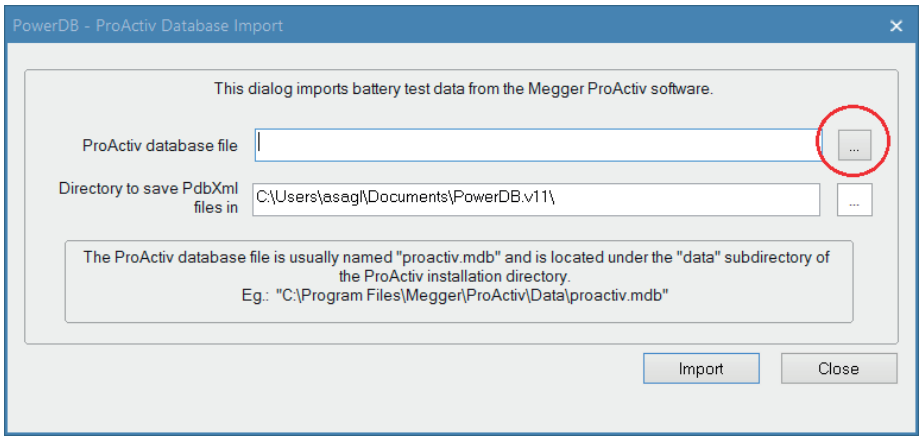


Select the desired test to open then click on OPEN. The report will now open, as shown in the example below.

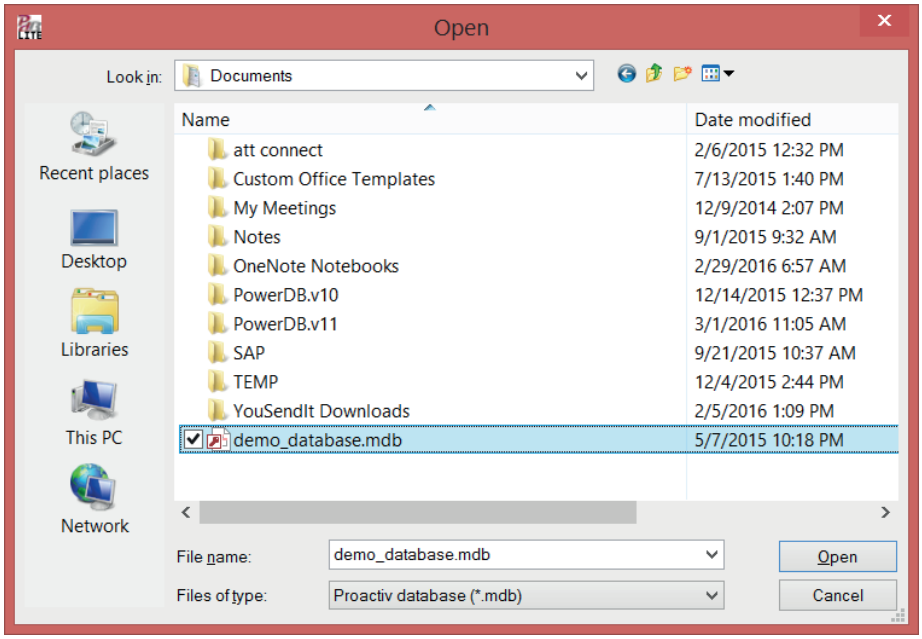
Click on IMPORT / IMPORT PROACTIV DATA



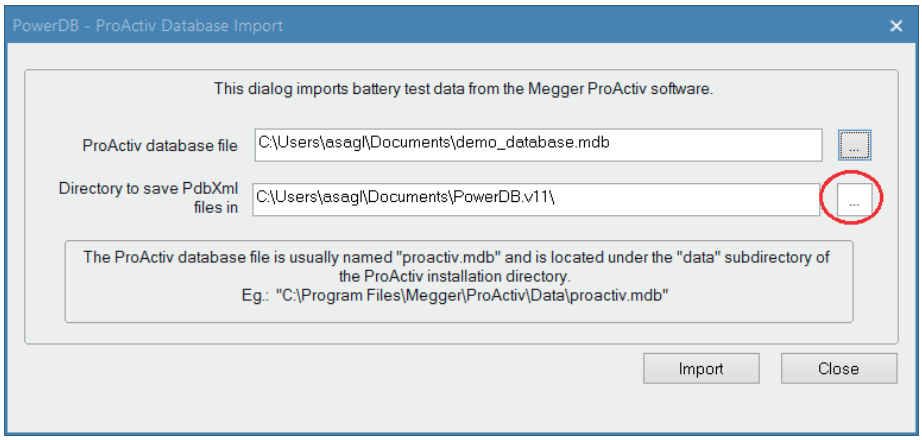
The following screen will open. Click on the ProActiv Database File BROWSE button as shown.



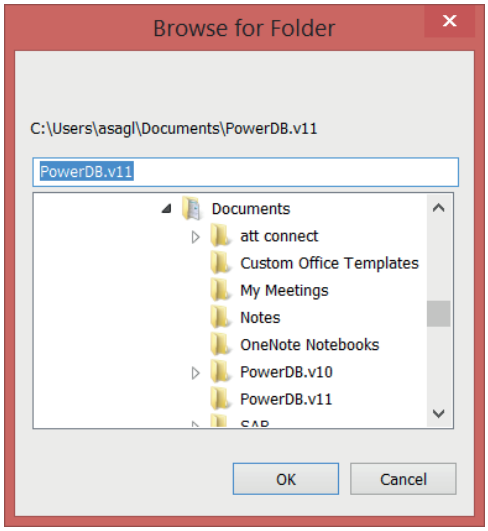
The following screen will open. Navigate to your database location and then select your desired database. When complete click on OPEN.



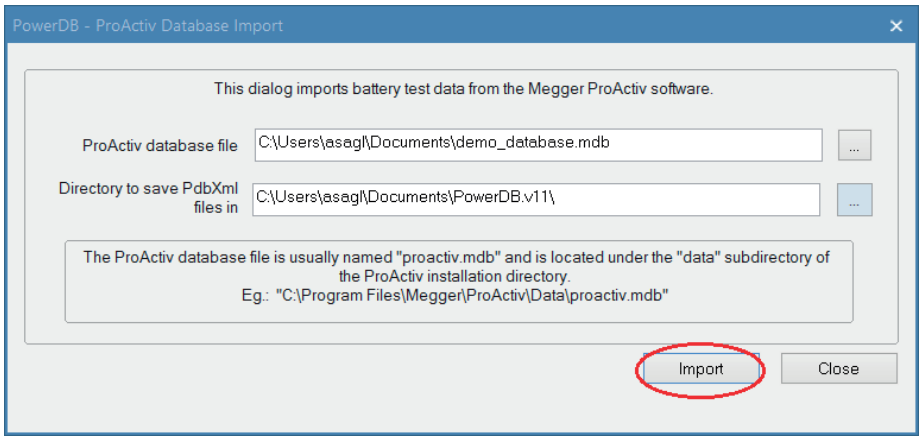
The following screen will open. Click on the PowerDB Database BROWSE button as shown.



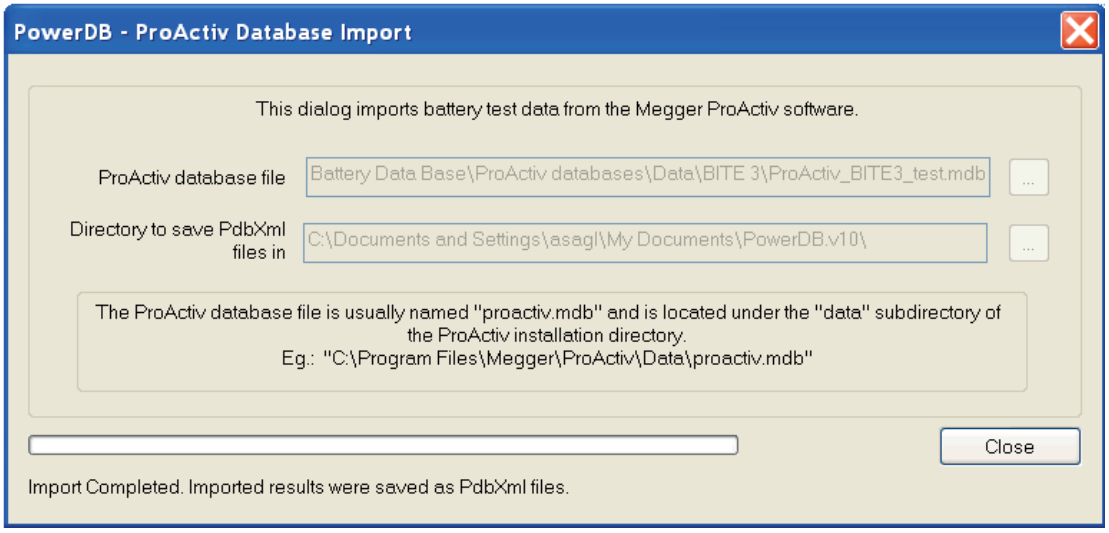
The following screen will open. Navigate to the folder you wish to copy the database to. (The default folder is MY DOCUMENTS / POWERDB) When complete click on the OK button.



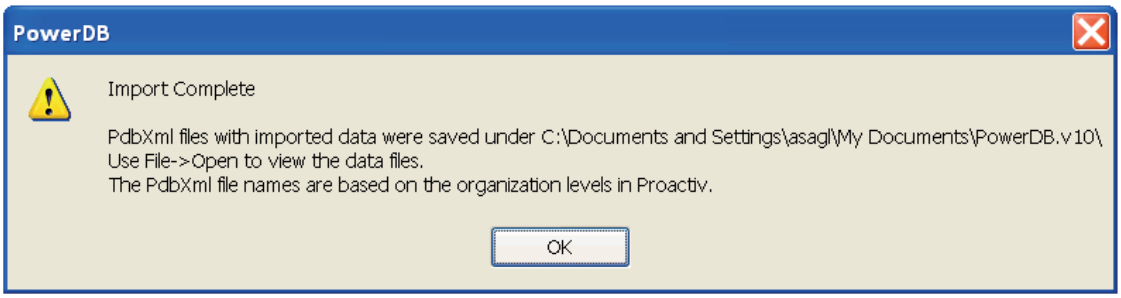
The following screen will open. Click on the IMPORT button to start the import.



The following screen will open, showing the import status in the lower left. When it reads ***Import Complete***, click on the CLOSE button.



The following message will be displayed. Click on OK.



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