



SEAWARD ELECTRONIC LIMITED

PV Mobile App Instructions

Instrument Name	PV Mobile App Help
Project Number	389
Document Number	389A921

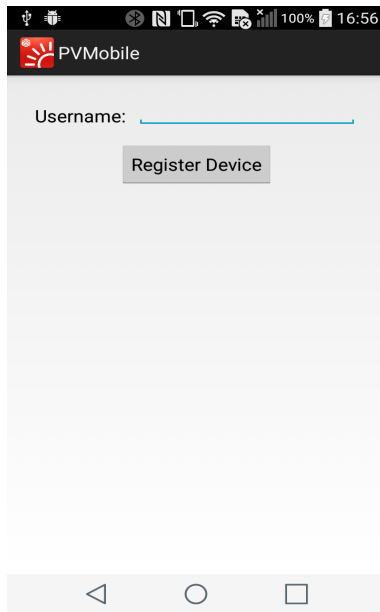
Revision Details

Rev	Details	Date	MR No
1.0	Initial draft		

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1 Registering your PV test instrument



The first time PVMobile is opened, you will be prompted to enter a Username. The name entered will be used on the PDF report to complete the “Tested by” field. If required, the Username can be changed at any point using the Settings option.

The Register your PV 200/210 button automatically opens a web browser with a link to the Seaward product registration page. Please register your Seaward PV200/210 test instrument to active your **free of charge 12 month extended warranty and unlimited customer support**.

2 Start-up Screen



The start-up screen shows a number of sample stored records that can be used to try the various features and functions within PVMobile. Saving a record will return to this record list view.

From the start up screen, you can add a new record, filter records, sort records, clear the database and go to the settings options.

Tap on an individual record to open up that record.

Tap and hold on a record to bring up a pop up box to bookmark the record or delete the individual record.

Add to Bookmarks

Delete



Add New Record – This is used to create a new record.



Filter Records – Filter records to show All, Pass, Fail or Bookmarks records.



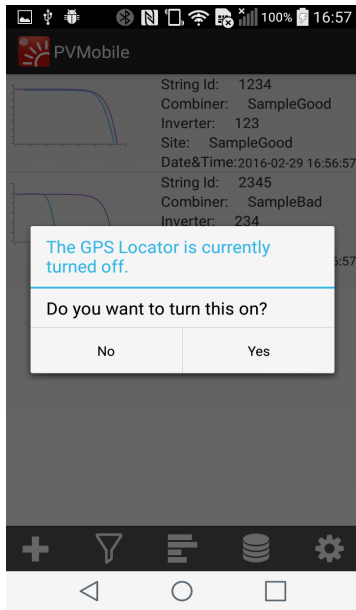
Sort Records – Sort by String ID and Site Name.



Clear all records in the database.

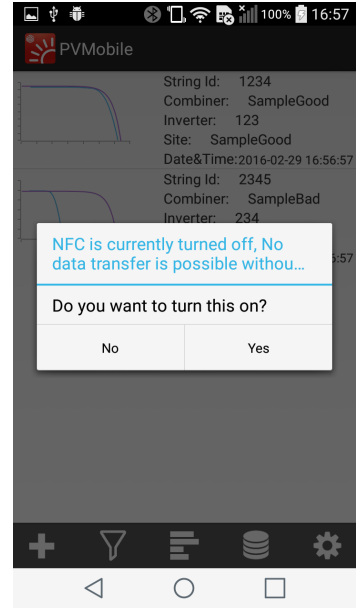


Open settings options

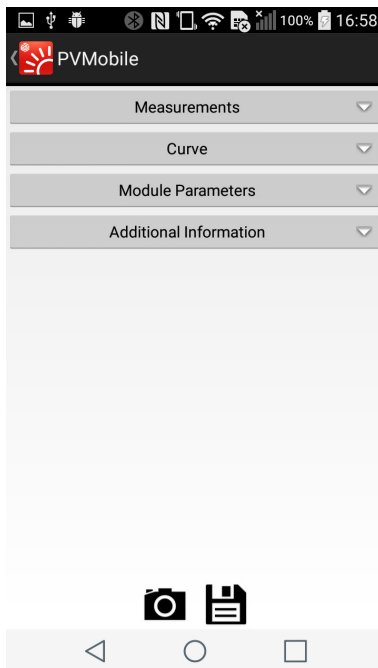


If GPS or NFC is turned OFF when the App is started, a prompt will appear asking to activate these functions.

Note:
NFC must be active to retrieve data from the PV test instrument.
GPS must be active if you which to record your location.

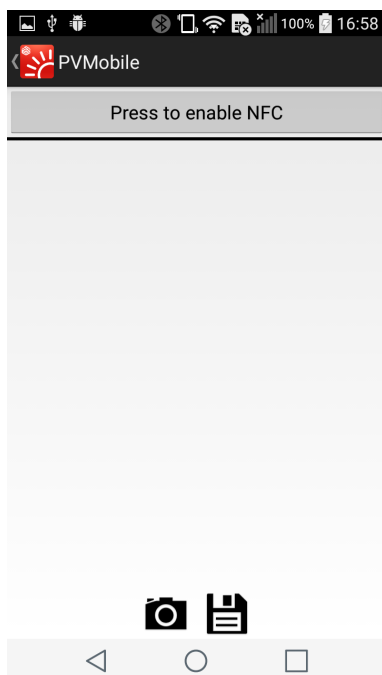



3 Adding a new records



Tapping on **+** will open the new records screen. There are four tabs that can be expanded to show more detail; Measurements, Curve, Module Parameters and Additional information. Each tab is described in detail below.

3.1 Enable NFC



If NFC is not enabled a prompt will appear when  is tapped in the start-up screen. Tap enable NFC to open the NFC Settings and confirm that NFC is active.

3.2 Measurements tab

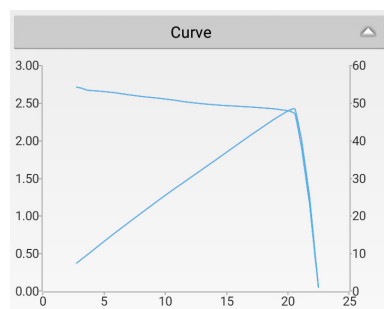
Measurements			
	Measured	STC	Nominal
Voc:	22.3V	22.3V	0.0V
Isc:	2.71A	2.71A	0.0A
Vmpp:	20.44V	20.44V	0.0V
Impp:	2.37A	2.37A	0.0A
Pmpp:	48.6W	48.55W	0.0W
Pass Criteria: 5%			
		Measured	
Irr:		0 W/m ²	
Tcell:		0°C	
Ambient Temperature:		0°C	
Fill Factor:		79.96	

Measured results are automatically converted to STC. If irradiance and temperature data is not included in the download data, PVMobile will use default values of 1000W/m² and 25°C respectively. When module parameters are selected in the Module Parameter tab, Nominal data will also appear in the measurement table.

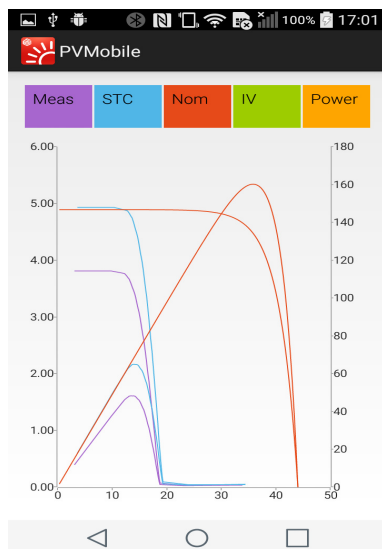
Pass Criteria is used to compare the STC data and Nominal data and highlight any readings where the difference is greater than the Pass Criteria value selected. If the difference between STC and Nominal data is less than or equal to the selected Pass Criteria the table cell is shown in Green. If the difference between STC and Nominal data is greater than the selected pass criteria the table cell is shown in Red. The Pass Criteria value is user selectable from 1% to 10%.

Irradiance and Temperatures can be modified by tapping on the corresponding numerical field.

3.3 Curve tab



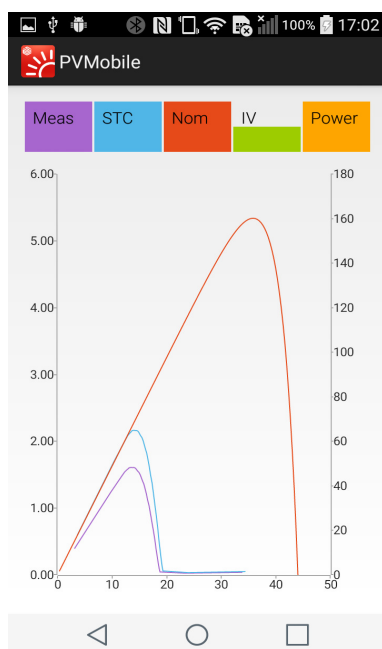
The curve tab will automatically open when data is transferred from a Seaward PV instrument. The curve tab is not accessible until data is downloaded.



Tapping anywhere on the displayed curve will open the curve viewer with an enlarged display allowing the curve to be viewed in greater detail.

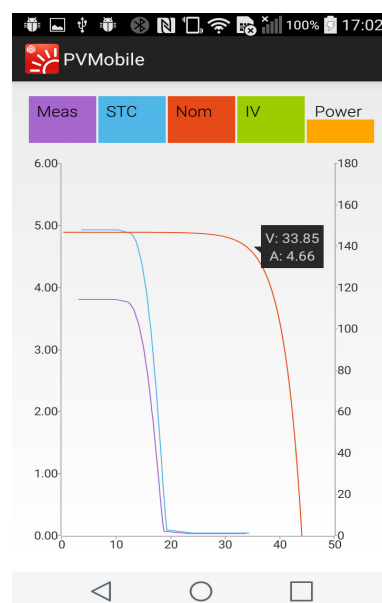
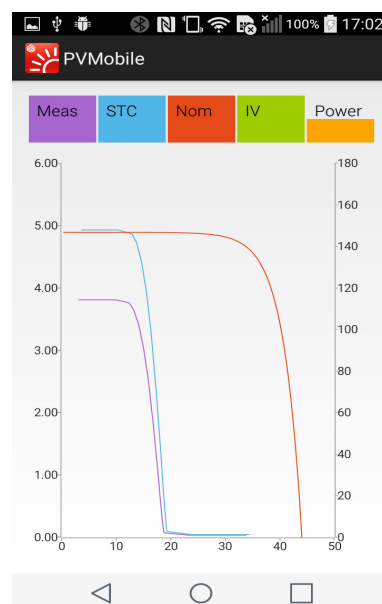
The coloured radio buttons located at the top of the graph are used to show or hide measured (Meas), STC (STC), or manufacturer's nominal curves (Nom). The colour of the curves is the same as the corresponding radio button to make identification simple.

Note: The nominal curve (shown in red) is only available after module parameters have been entered.



The coloured radio buttons are also used to show or hide all I-V curves and/or all Power curves. This can be used in combination with the Measured, STC and Nominal curve selection.

Deselecting I-V or Power will remove all currently selected Meas, STC and Nom curves from the current display.



Standard graphics features such as pinch and zoom can be used to examine any part of the curves in more detail.

To view the data for a specific point on a curve, tap on the specific point on the graph. The data for that point is then displayed.

3.4 Module parameters tab

Module Parameters

Module:

Enter module name here.

Module Information

Voc:

Isc:

Vmpp:

Imp:

Alpha:

Rs:

Number of Modules:

The PVMobile App comes complete with a database of 16,000 PV modules.

Enter any part of the manufacturer’s name or model number of the required module in the field showing Enter module name here.

Module:

st

Andalay Solar ST_165_1_DC0_0_B

Andalay Solar ST_170_1_DC0_0_B

Andalay Solar ST_175_1_DC0_0_B

Andalay Solar ST_180_1_DC0_0_B

Andalay Solar ST_185_1_DC0_0_B

Andalay Solar ST_190_1_DC0_0_B

Andalay Solar ST_195_1_DC0_0_B

Andalay Solar ST_260_1_DC0_0_B

1 2 3 4 5 6 7 8 9 0

q w e r t y u i o p

a s d f g h j k l

z x c v b n m

1# 2# 3# 4# 5# 6# 7# 8# 9# 0#

As text is entered, a drop down list will appear showing PV modules with a manufacturer’s name or model number that match the entered data.

At any point, you can scroll through the modules listed in the drop down or continue to enter more data to reduce the number of modules returned by the search.

Module Parameters

Module:

Solar STP080

Module Information

Voc: 22.0

Isc: 4.89

Vmpp: 18.3

Imp: 4.36

Alpha: 0.0

Rs: 0.0

Number of Modules:

Tap on a module to select it. This will populate the module information table with manufacturer’s data for the selected module.

Any field manually entered if the required module is not held in the current database. In this case, populate each field and enter name for the new database entry. The new module data will then be added to the existing database when the test record is saved.

Similarly, if the data shown is amended, the database record for that module name will be updated when the test record is saved.

A message will appear to warn that the module parameters have changed when saving a record.

Note: Saving the amended module data will overwrite the existing database record unless the module name is changed.

Do not forget to enter number of modules in the string to ensure the correct nominal values.

Number of Modules:

5

Do you want to use the last selected module?

Last Module was:
Solar STP080

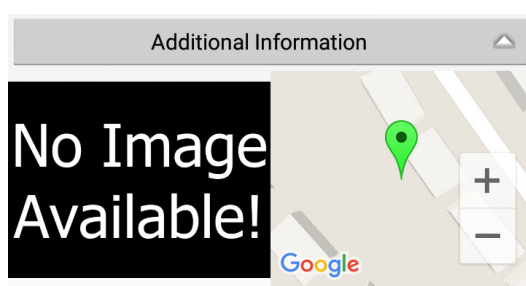
No	Yes
----	-----

When NFC data has been transferred to PVMobile you will be given an option to use the last selected Module parameters.

If the NFC transferred data relates to the same module type as the previously saved record, select yes to populate the module parameters with the previously used data.

This feature is useful when reviewing data from multiple strings using the same module type.

3.5 Additional Information Tab



If the GPS is turned on, your current location will be saved and displayed in additional information tab.



The Photo button can be used to capture an image that can be saved as additional information in the saved record. This feature can be used to record important information about the test record, for example module damage or evidence of shading.

3.6 Saving records



Tapping the save button will open a pop up box allowing you to enter information to identify the test record.

Save Result?

String Id:

Combiner:

Inverter:

Site:

Test Number:

Cancel	Save
--------	------

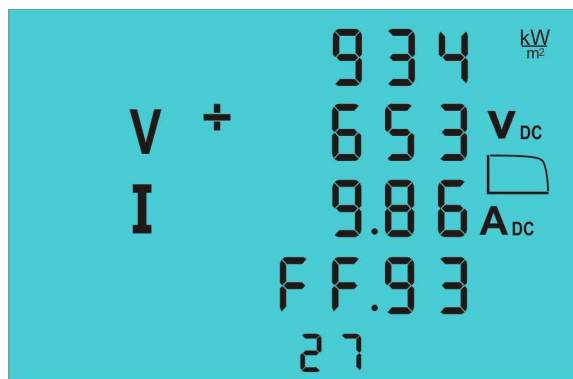
Information to identify the PV string, combiner box, inverter and test site can be recorded to help identify each saved record.

The Test Number field can be used to enter the test counter number shown on the Seaward PV200/210 display to help correlate data recorded in PVMobile with data stored on the PV200/210.

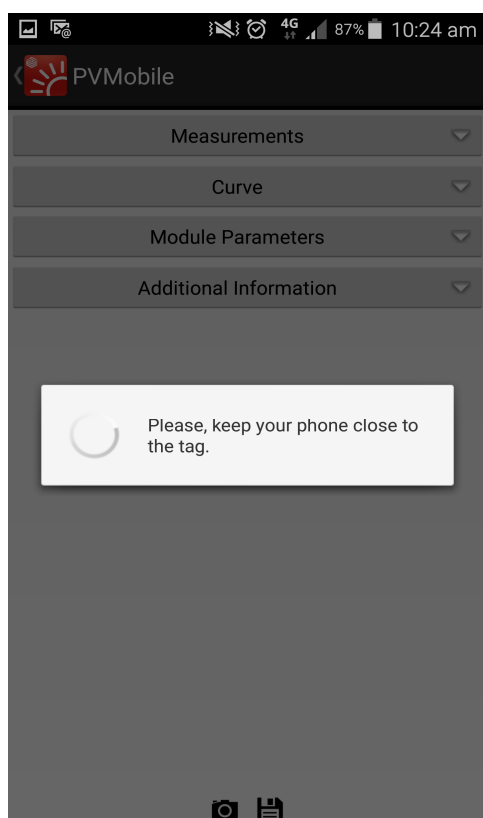
4 NFC data transfer

I-V curve data is automatically written to the PV200/210 NFC device after each measurement and the most recent measurement is then available for transfer to the PVMobile App.

In order to transfer previous I-V curve measurements, data must first be copied from the PV200/210 internal memory to the NFC device ready for transfer. This happens automatically when records are recalled from memory to the PV200/210 display.



The I-V curve data must be selected on the PV200/210 display (the screen showing the FF as illustrated left) using the **T** key in order to transfer the I-V curve data to the NFC device.



Once the Android device has established communication with the PV200/210 internal NFC device, an onscreen message will appear.

When the message appears, you must avoid moving the Android device until the data transfer is complete.

If the Android device has an NFC logo marking the location of the internal NFC reader antenna, position the Android device such that the NFC antenna is as close as possible to NFC logo on the front face on the PV200/210.

Refer to the operating instructions for the Android device to determine the position of the NFC antenna.

If you are unable to identify the position of the Android device NFC reader, you may need to experiment by moving the Android device **slowly** around the top surface of the PV200/210 until the onscreen message appears showing that the Android device has established communication with the PV200/210.

When the data transfer is complete, the curve viewer will automatically open and display the transferred curve.

Note: If the curve viewer does not open the data transfer has not been completed successfully.

4.1 Data transfer errors

There are two possible error codes when the data has not transferred correctly.

"Phone lost NFC signal during test, remove phone and then try again." This message will appear if the position of the Android device has been moved during transfer. Communication was established but the data transfer was not completed successfully. If this message is displayed, move your Android device away from the PV200/210 tester and try again.

"Unable to read data, remove phone and then try again." This message will appear if the transferred NFC data cannot be read correctly. If this message is displayed, move your Android device away from the PV200/210 tester and try again.

Please follow the link for a video tutorial for NFC:

<http://www.seawardsolar.com/videos>

Tips for IPS:







- Remove any cover on your phone, as this may interfere with the NFC connection.
- Locate your NFC antenna on your Android device. Some devices use an NFC logo to mark the position of the antenna whilst some have the NFC antenna located on the battery.
- Turn off Android Beam, Samsung Beam or any other beam. This can be done found by navigating to NFC settings on your Android device.
- If you are still having problems, please visit our website www.seaward.co.uk for the latest advice and guidance or email support@seaward.co.uk.

5 PDF reporter

Name of export file.	
<input type="text" value="20160316_102827_PV200"/>	
Cancel	Export

When a record is open, selecting PDF Report on the top toolbar will generate a PDF report containing the measured data table and curve.

A pop up will appear allowing you to enter a name for the PDF export file before this is created. Type in a name or accept the default name.

Send database to:	
	Gmail
	Bluetooth
	Drive
	E-mail
	RAR
	SmartShare Beam

The pdf file can be transferred using Gmail, Email, Google Drive, Dropbox and more.

NOTE: The options and display will depend upon the Android device.

Record of Test					
String Id: 2345			Combiner: SampleBad		
Site: SampleBad			Inverter: 234		
GPS: LAT: 55.0340488 LNG: -1.4641625			Tester: PV200		
Module: Solar STP080			Number of Modules: 2		


Test Results:

	Measured	STC	Nominal		Measured
Voc	33.9V	34.43V	44V	irr	772.9 W/m ²
Isc	3.91A	5.06A	4.89A	Tcell	45.2°C
Vmp	13.43V	13.64V	36.6V	Ambient Temperature	25.08°C
Imp	3.6A	4.66A	4.36A	Fill Factor	36.42
Pmp	48.3W	63.54W	159.58W		

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Tested by:

Printed from Seaward PV Mobile App

6 Settings

Tapping  in the mains screen will open the settings options. The following parameters can be changed in the settings.

Change Username

Change your username, this is used in PDF Report.

Register Product

Register your Seaward PV test instrument to activate your **free of charge 12 month extended warranty and unlimited customer support**.

Visit Seaward Group Website

Visit the Seaward Group website for the latest product and support information.

PV Help and Support

If you need help with your PV product, Visit PV Help and Support page for assistance.

Language

Language

English

☒

Deutsch

☐

Español

☐

Français

☐

Italiano

☐

Cancel

The app will use your Localisation settings to select a language. The default language will be English. Change this in Settings to one of the five languages available.