

SPARK-E-MATE BLUETOOTH® LOGGING



PRODUCT: Spark-e-mate 493BTLi (DRWG PC-5157-2)

MOBILE DEVICES: Android Devices and iOS Devices

CUSTOMER: Schneider Electric

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1.0 BLUETOOTH® LOGGING OPTION 493BTLi

(AS/NZS 3000:2007 Clause 8.4)

1.1 Introduction

Spark-e-mate 493BTLi (for Android and iPhone) units can log test results on a Bluetooth enabled Android device or Apple iOS device using the free Spark-e-log App. Test reports for each installation can be printed and stored as a Verification Record. Existing 493 units can be retrofitted with the 493BTLi module at a nominal charge.

Only Spark-e-mates that carry this symbol are Bluetooth enabled.



Android and iPhone 4S (and newer) devices which have **Bluetooth Smart V4.0 (Bluetooth Low Energy (BLE))** can work with Spark-e-Log.

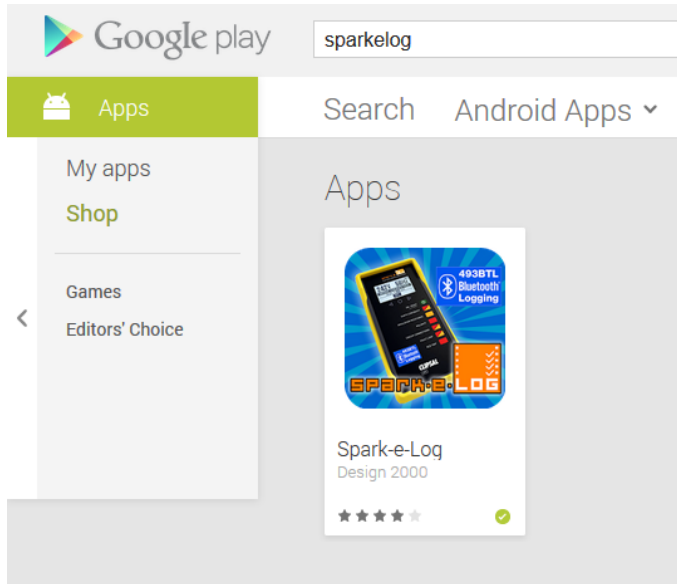
In this handbook we cover Logging to Android devices and iOS devices.



2.0 BLUETOOTH® LOGGING TO AN ANDROID DEVICE

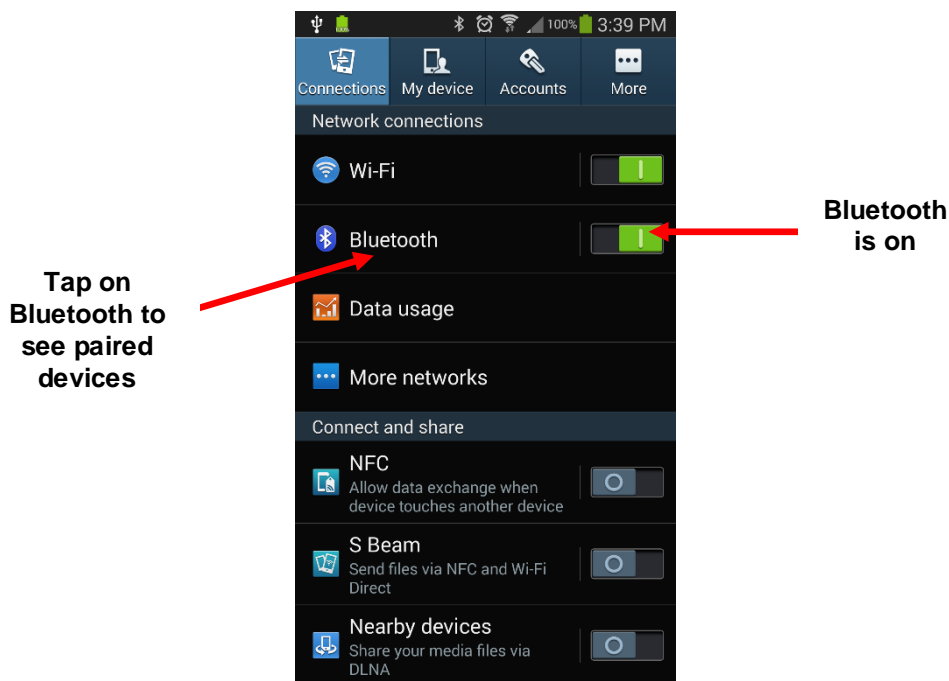
2.1 Spark-e-log Android App (493BTLi)

First you'll need to install the free Spark-e-mate Logging System App from the Google Play store by searching for "sparkemate" or "sparkelog":

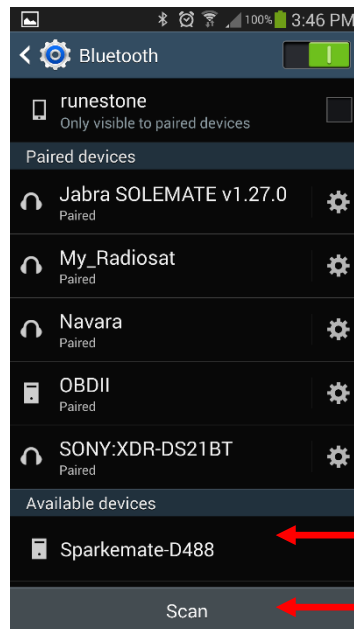


2.2 Pairing your Spark-e-mate with your Android Device

1. Go into the settings screen on your Android device and make sure Bluetooth is turned ON:



2. Tap on the word "Bluetooth" in the above settings menu and you will see all of your currently paired Bluetooth devices (*shown on the next page*):



Spark-e-mate is available for pairing

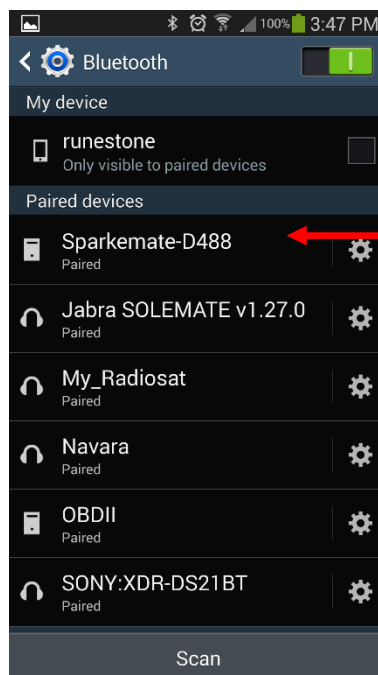
Scan to find Spark-e-mate

3. Turn on Spark-e-mate then press “Scan” in the above screen to find your Spark-e-mate listed under “Available devices”.
4. Press the Spark-e-mate entry in “Available devices” and the pairing process will begin.

If a system message appears asking you to approve the pairing request, tap OK.

If Spark-e-mate does not appear under “Available Devices” or an error is displayed and your Spark-e-mate fails to pair, make sure your Spark-e-mate is turned ON then try briefly turning OFF the Bluetooth in your mobile device then turning it back ON again. You might need to tap “Scan” to force your device to search for Spark-e-mate.

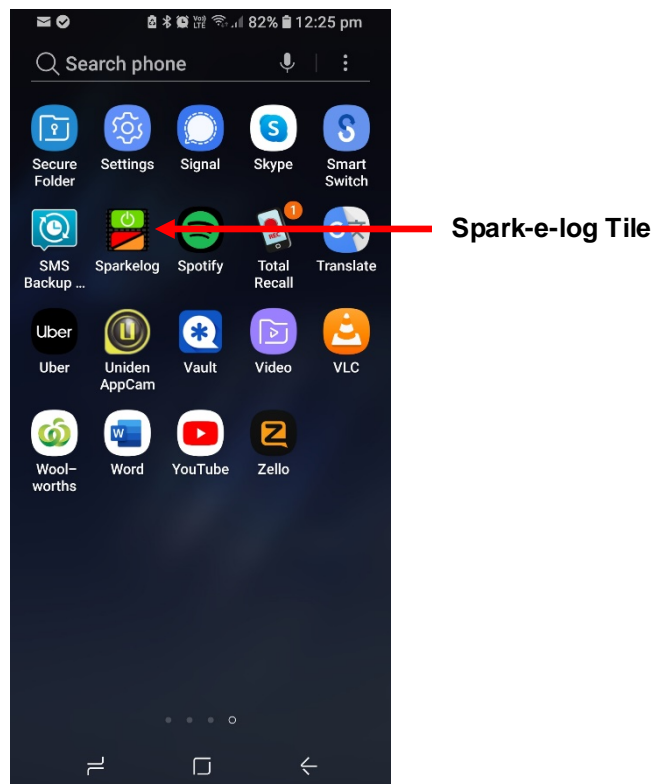
5. Your Spark-e-mate will then be shown in the list of paired devices:



Spark-e-mate is paired with the Android phone
1 2 3 4

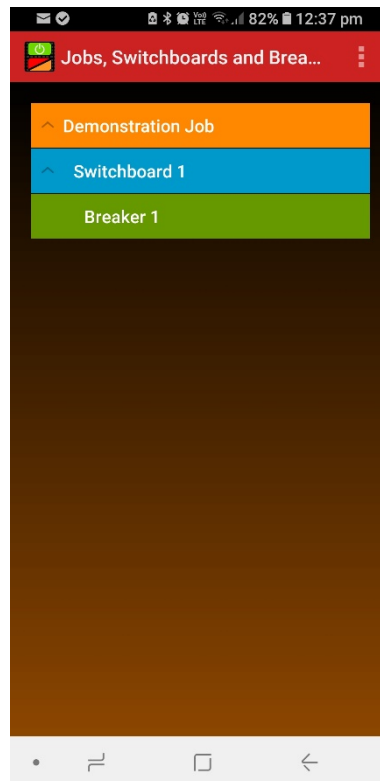
2.3 Establishing a Bluetooth Connection

1. Find the Spark-e-log Tile within your installed Apps and tap it:



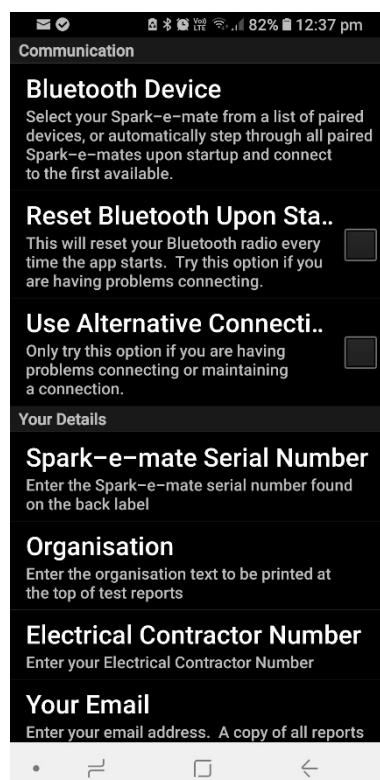
2.4 Settings Screen

1. Spark-e-log will then start.
The very first time you start the App you'll need to set up a few things in the Settings screen before you can begin logging results:



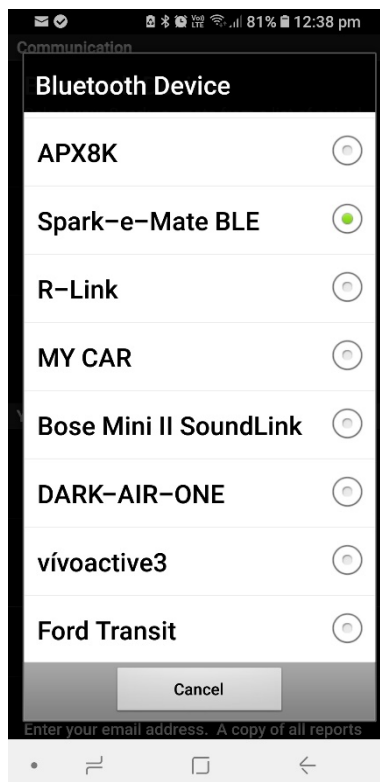
Press the menu button to bring up the Settings screen

The Settings screen allows you to configure many aspects of the App. The first thing you'll need to do is to tell the App how to connect to your Spark-e-mate by selecting it from a list of paired Bluetooth devices.



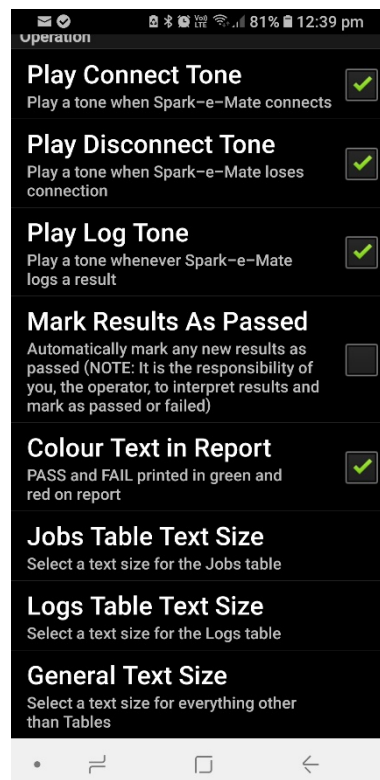
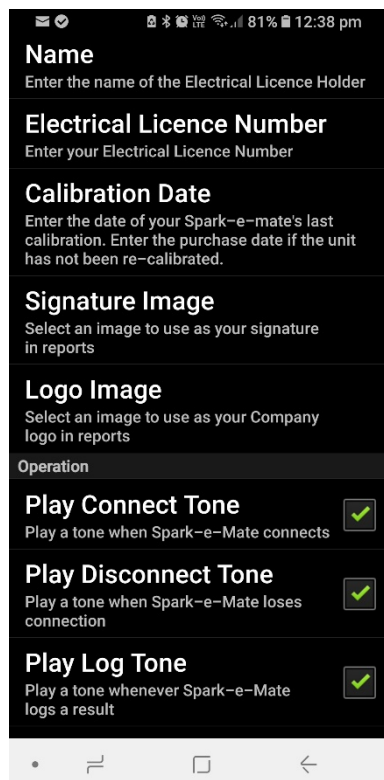
Press to bring up the Bluetooth Device list

In the Bluetooth Devices list you need to select your paired Spark-e-mate:

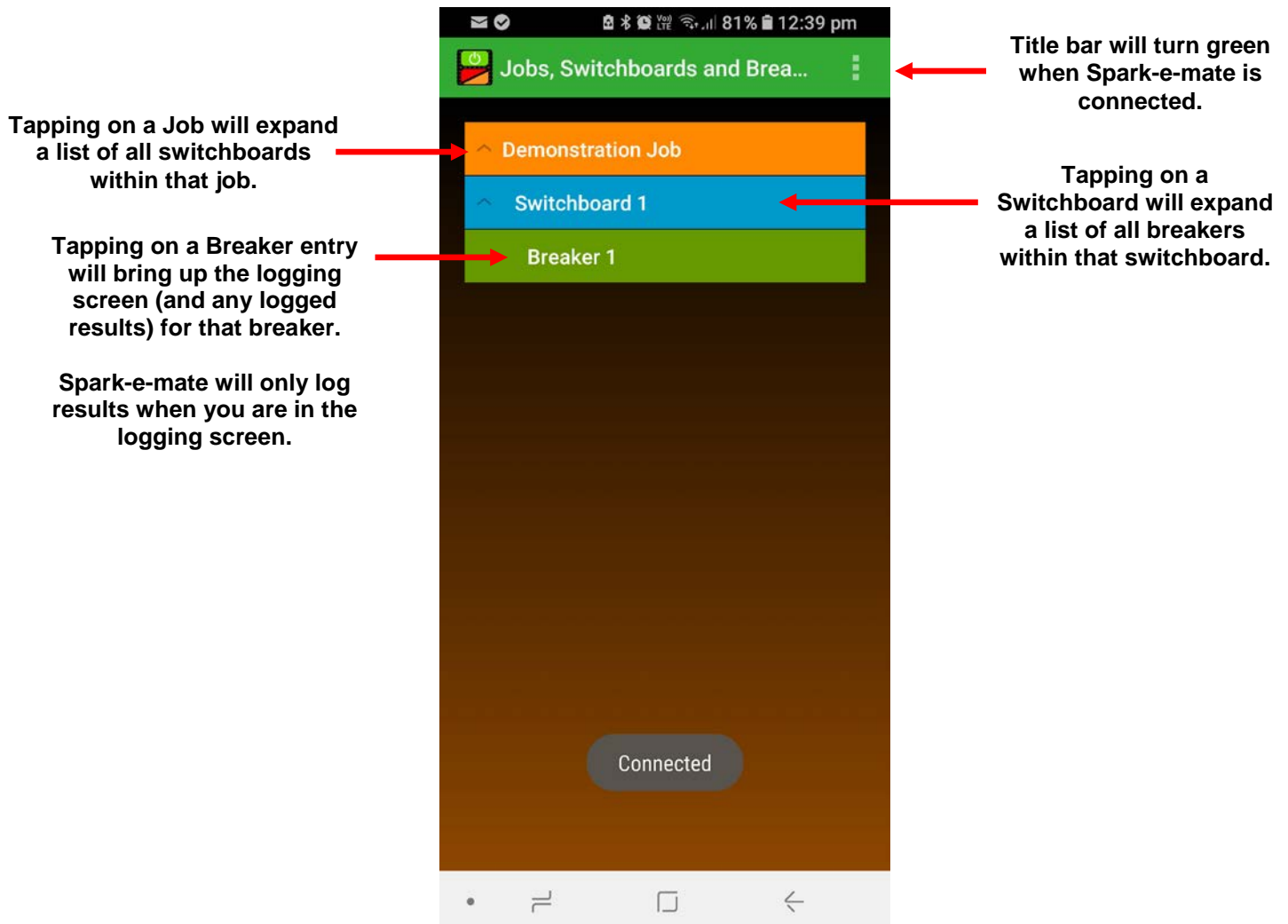


Once this done, the App will automatically find and connect to your Spark-e-mate every time it starts up.

Continue through the Settings to set all options as required, such as your organisation, name, Spark-e-mate serial number, last calibration date and Electrical Licence Number. You can also add an image of your signature and Company Logo which will appear on reports.



Pressing your device's BACK button will save any changes made in the Settings screen and bring you back to the main Jobs screen. Make sure your Spark-e-mate is turned on so the App can connect to it. You will briefly see the "Connected" message and the title bar will turn from red to green. A connect tone will also be heard (if you have enabled it in the Settings).



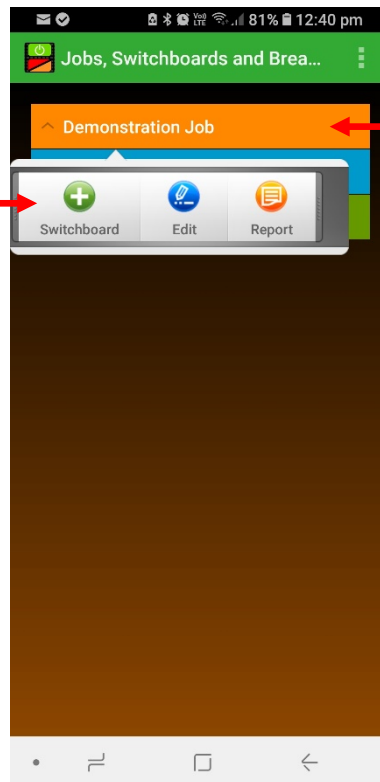
2.5 Editing Existing Jobs, Creating New Jobs or Deleting Jobs

1. To edit an existing job, add a new Switchboard under a Job, or produce a job test report, push and hold the required job entry. A pop-up action menu will appear:

Tap the Edit button to edit the job.

Tap Report to generate and email a job test report.

Tap Switchboard (with a green plus [+] symbol) to add a new switchboard under that job.



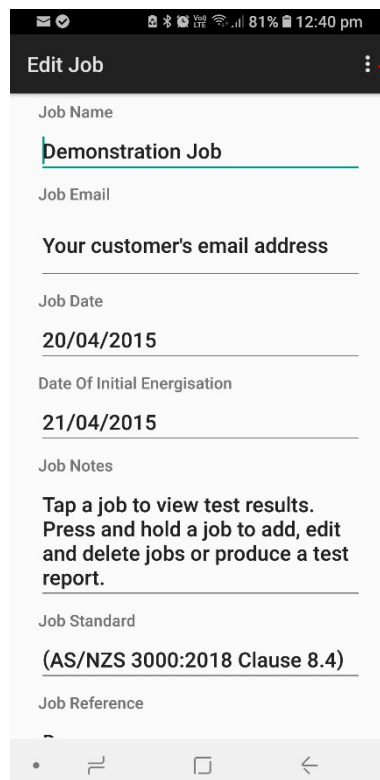
Push and hold (long press) a job, switchboard or breaker entry to pop-up the action menu.

NOTE: There must always be at least one job entry. You can edit the Demonstration Job but you can't delete it (or any other job) until you have a total of at least two jobs in the system.

Once you have more than one job entered the **Delete** button will appear in the pop-up action menu:



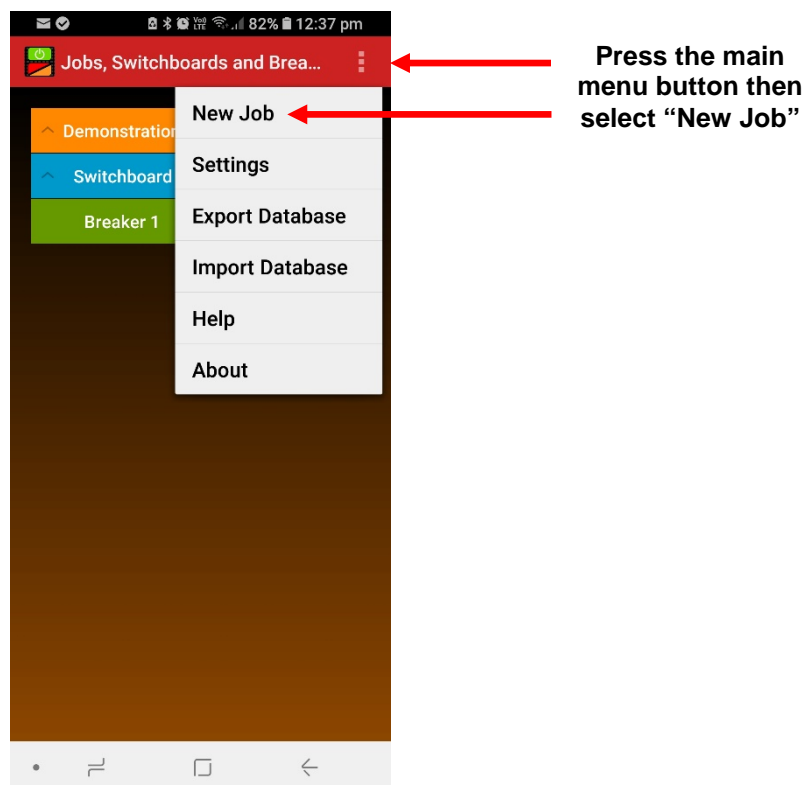
2. To edit the job tap on "Edit" in the pop-up action menu:



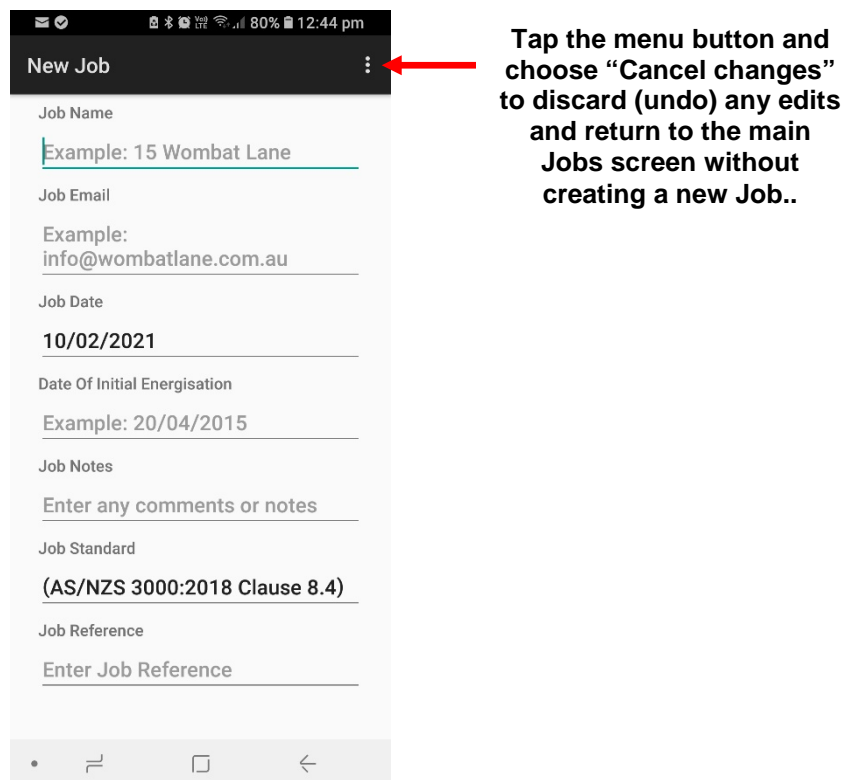
Tap the menu button and choose "Cancel changes" to discard (undo) any edits and return to the main Jobs screen.

3. To save any changes, simply press your device's BACK button to return to the main Jobs screen.

4. To create a new job tap on “New Job” from the main menu:



5. You will then be prompted to fill out the new job details:



6. To save any changes, simply press your device's BACK button to return to the main Jobs screen.

2.6 Editing Switchboards and Breakers, Creating New Switchboards and Breakers or Deleting Switchboards and Breakers

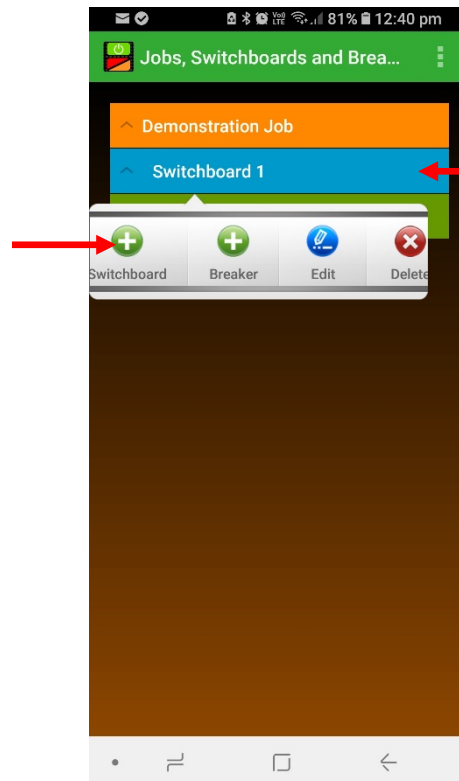
1. Editing, adding and deleting Switchboards or Breakers is done in exactly the same way as Jobs are edited, created or deleted (explained in **section 2.5** of this manual). Push and hold an entry to make the pop-up action menu appear:

Tap the Edit button to edit the Switchboard.

Tap Delete to delete the Switchboard.

Tap Switchboard (with a green plus [+] symbol) to add a new Switchboard under the current job.

Tap Breaker (with a green plus [+] symbol) to add a new Breaker under the current Switchboard.

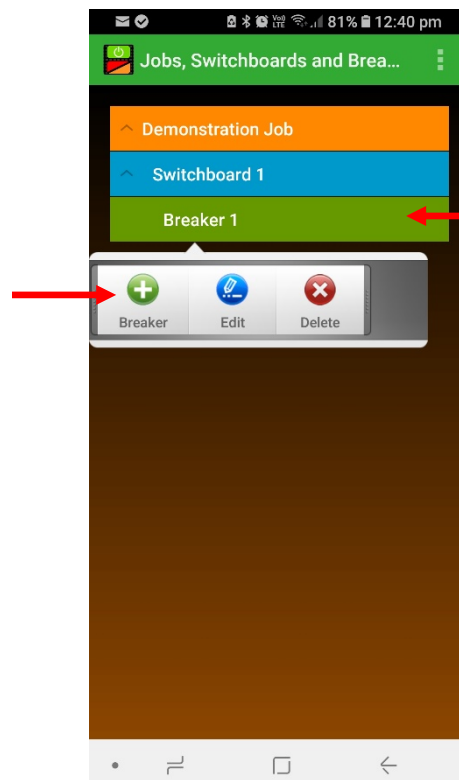


Push and hold (long press) a switchboard to pop-up the action menu.

Tap the Edit button to edit the Breaker.

Tap Delete to delete the Breaker.

Tap Breaker (with a green plus [+] symbol) to add a new Breaker under the current Switchboard.



Push and hold (long press) a breaker entry to pop-up the action menu.

2.7 Logging your Test Results

Tapping on a Breaker entry brings up the Log screen and a list of all tests logged under that breaker.

You must be in the log screen before you start logging results from your Spark-e-mate so that log entries are added under the correct job, switchboard and breaker.

You can tell that Spark-e-mate is connected to your Android device and is ready to log when you see the Bluetooth symbol in the bottom-right corner of the Spark-e-mate display:



Whenever the **LOG** button appears on the Spark-e-mate display, you can press the **LOG** button to send the displayed test result to your Android device and store it against the currently selected breaker. Both Spark-e-mate and your Android device will beep to indicate successful data transfer. The test result appears and is saved in the Spark-e-log System.

A screenshot of the Spark-e-log app interface. It shows a list of logs with columns: Date/Time, Test, Measurement, Notes, and Pass?. The first entry is dated 10/02/2021 at 12:42:15pm, with the test 'Circuit Connections', measurement 'OK', and a green checkmark in the 'Pass?' column.

Logs				
Date/Time	Test	Measurement	Notes	Pass?
10/02/2021 12:42:15pm	Circuit Connections	OK		<input checked="" type="checkbox"/>

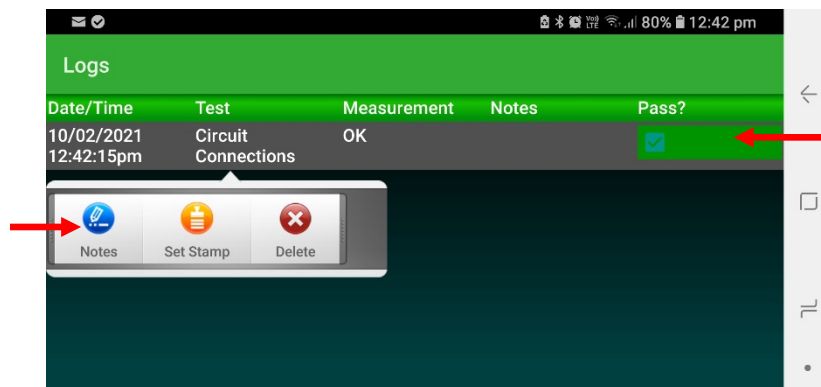
Please note that if you log the mains voltage and then perform a fault loop test, Spark-e-Log will automatically calculate and log the Prospective Short Circuit Current (PSC).

To edit or delete a logged test, push and hold a log entry and choose the required action from the pop-up action menu:

Tap the Notes button to add/edit notes for that log.

Tap Set Stamp to make that log entry's note be automatically entered against all future logs.

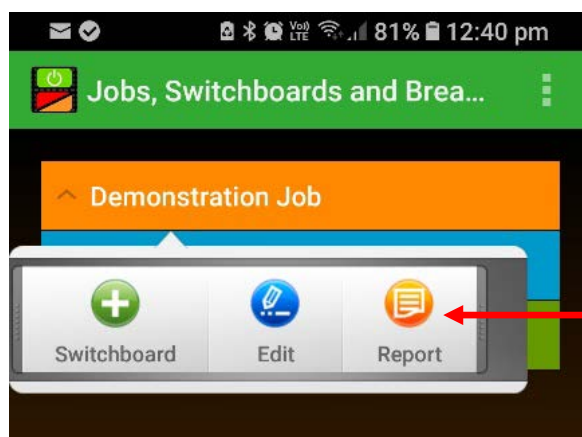
Tap Delete to delete the log entry.



Tap the "Pass?" column tick box to mark the log entry as PASSED (green) or FAILED (red).

2.8 Emailing and Printing your Test Results

1. Make sure you are back in the main Job screen, then Push and hold the required job entry to pop-up the action menu:




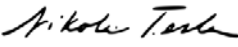
Tap on the Report button to email the test report to both yourself and your customer.

Your own email address is set in the Settings screen (see section 2.4)

Your customer's email address is set when you create or edit the job (see section 2.5)

2. You are then prompted to email the report using your preferred email App..
Note: Reports are generated in PDF format and are stored on your Android device in the "Sparkelog" directory (you should back-up and delete these reports occasionally to free up storage space).

Example report output:

Energisation or Verification of an Electrical Installation (AS/NZS 3000:2018 Clause 8.4)		 www.design2000.com.au 9-11 Rose St., Upper Ferntree Gully, Victoria 3156 Ph (03) 9758 5933 Fax (03) 9758 5560		
Date of energisation and original verification details are to be recorded and available on site in this accessible record. This also facilitates the process of re-verification at a later date.				
SITE / PROJECT Demonstration Job		Date of Initial Energisation 10/02/2021		
Test Organisation or Department Design 2000		Electrical Contractor Number 12345678		
Name of Electrical Licence Holder Design 2000		Electrical Licence Number ABC123	Signature 	
Test Equipment Spark-e-mate	Manufacturer Design 2000 Pty Ltd	Model Number Clipsal Cat. No. 493BTL	Serial Number A0123456	Last Calibration 20/04/2020
Job Date 10/02/2021	Result PASS	Job Notes Tap a job to view test results. Press and hold a job to add, edit and delete jobs or produce a test report.		
FILE: 2021_02_17_16_57_38_sparkelog.pdf IMPORTANT: REFER TO THE APPLICABLE AS/NZS STANDARD WHEN INTERPRETING ANY RESULT				
Switchboard 1				
Notes: This is a switchboard note.				
Breaker 1				
Notes: This is a breaker note.				
Test Date and Time	Test	Measurement	Notes	Result
10/02/2021 12:42:15pm	Circuit Connections	OK		Pass

You can customize the Company logo and signature graphic shown in the report by specifying each image in the Settings screen (Please refer to section 2.4).

The Spark-e-log App will automatically make copies of the images and resize them to ensure they fit within the bounds of the report.

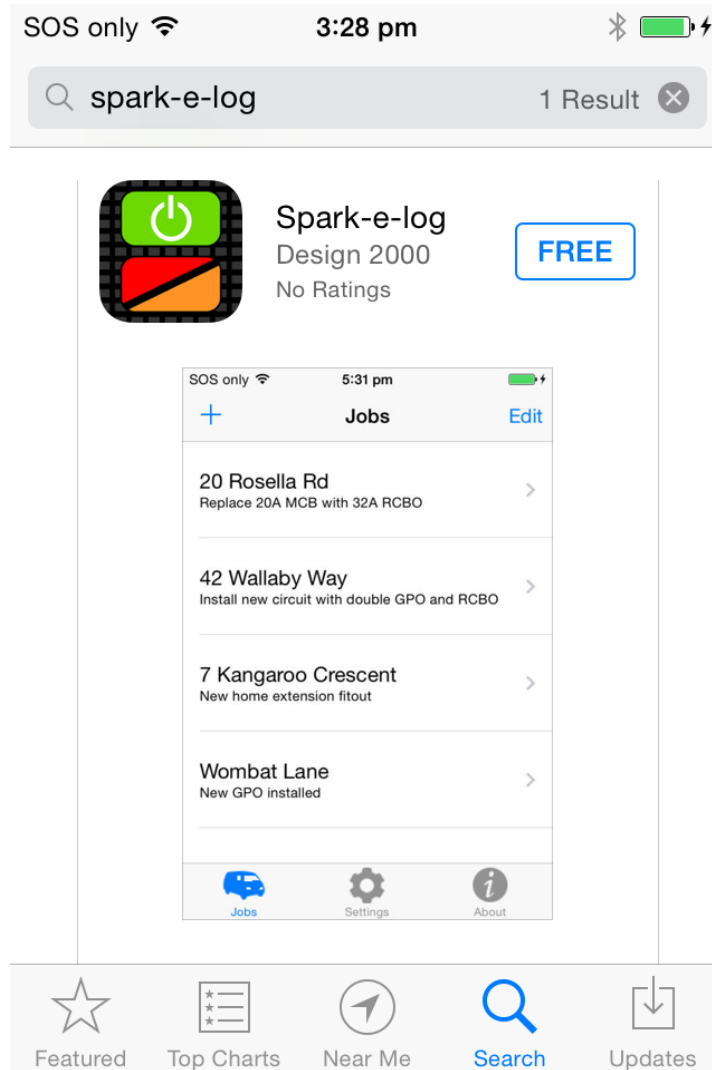
3.0 BLUETOOTH® LOGGING TO AN iOS DEVICE



For logging test results to an Apple iOS device, your Spark-e-mate must have the Bluetooth Smart module fitted, indicated by this symbol

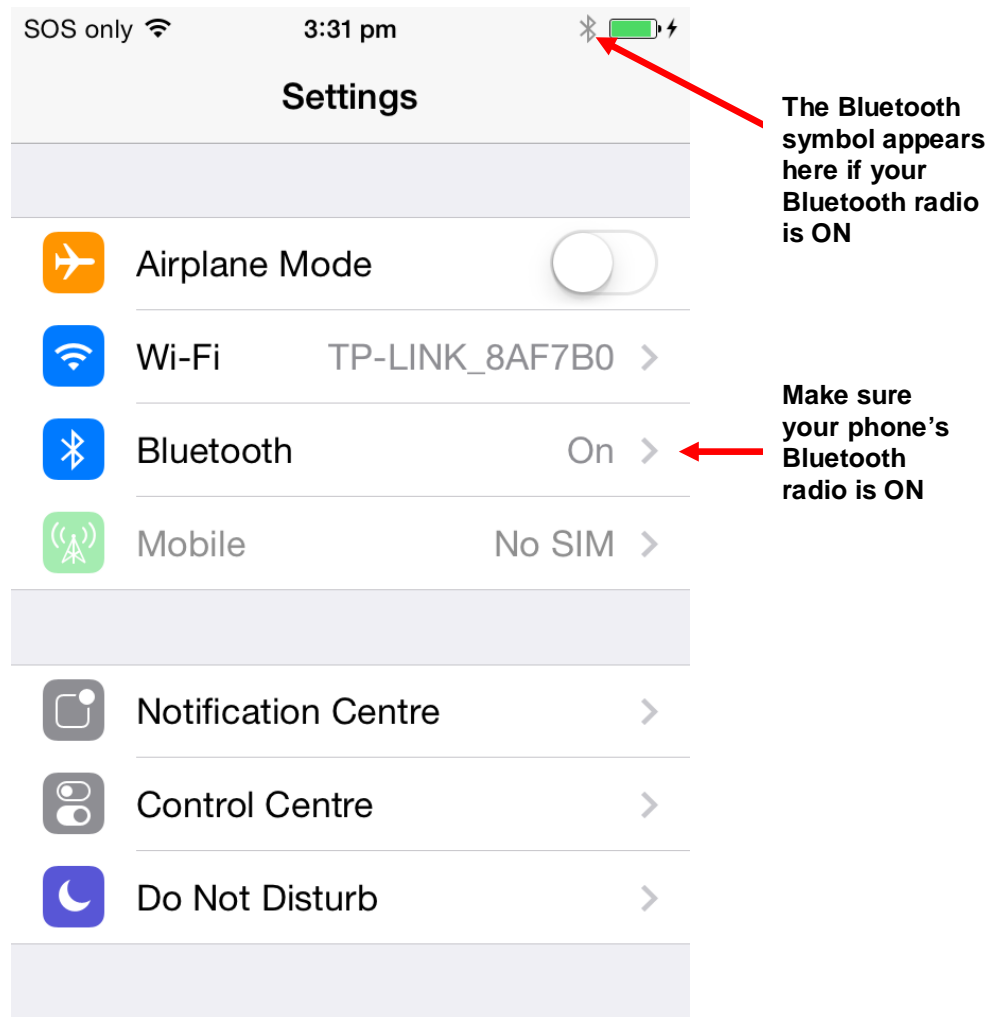
3.1 Spark-e-log iPhone App (493BTLi)

First you'll need to install the free Spark-e-mate Logging System App from the Apple App Store by searching for "sparkemate" or "sparkelog":

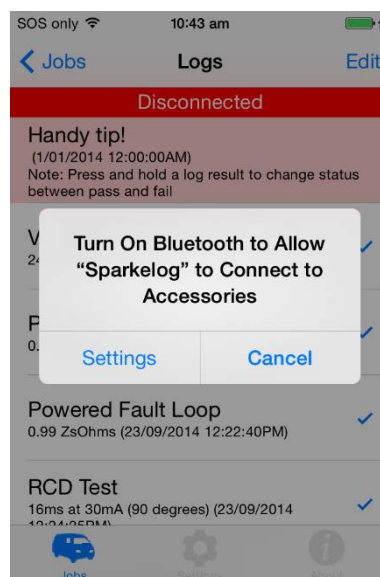


3.2 Getting ready to connect Spark-e-mate with your iOS Device

1. Go into the settings screen on your iPhone and make sure Bluetooth is turned on:

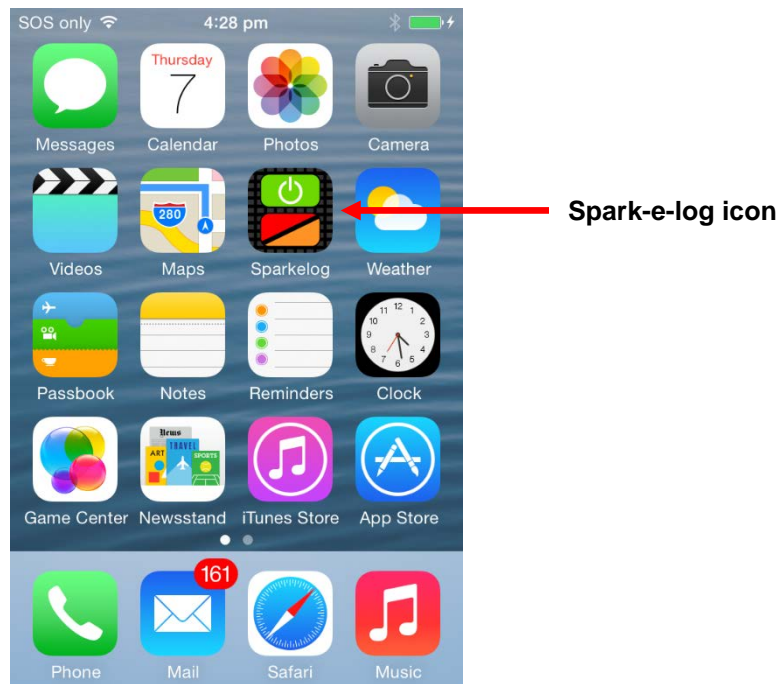


If your phone's Bluetooth radio is OFF when you start the Spark-e-log App, it will let you know and guide you to the Settings screen.



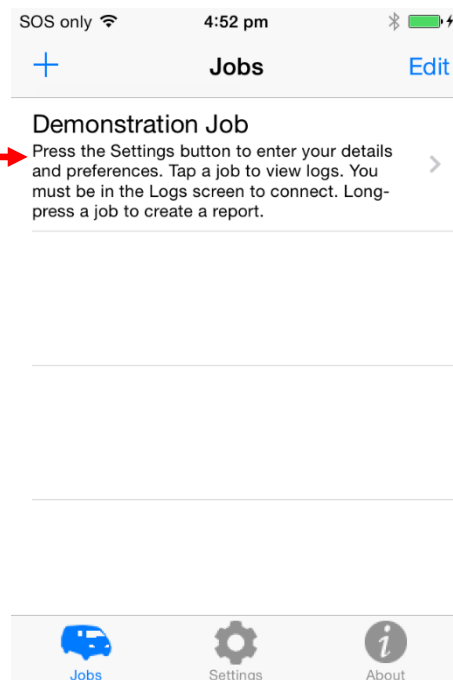
3.3 Establishing a Bluetooth Connection

1. Find the Spark-e-log App icon on your installed Apps screen and press it:



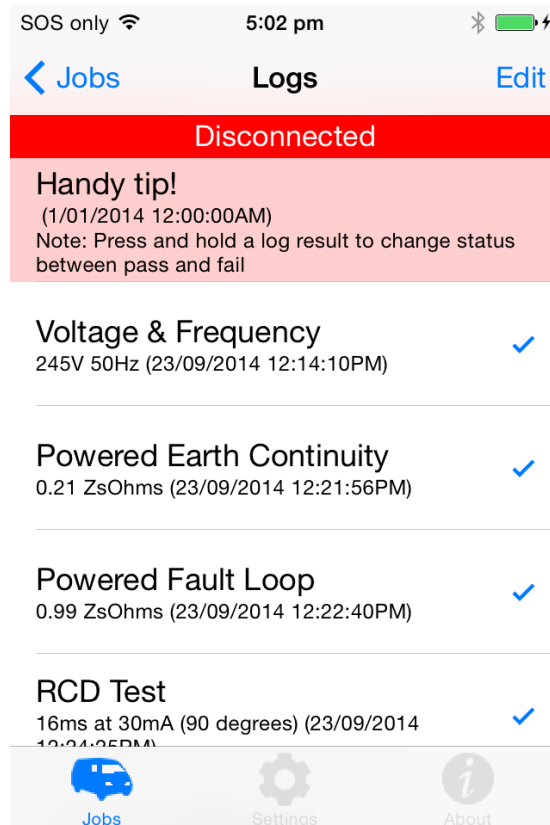
2. Spark-e-log will then start. Make sure your Spark-e-mate is turned on.

Tap on a job to show the test results logged for that job



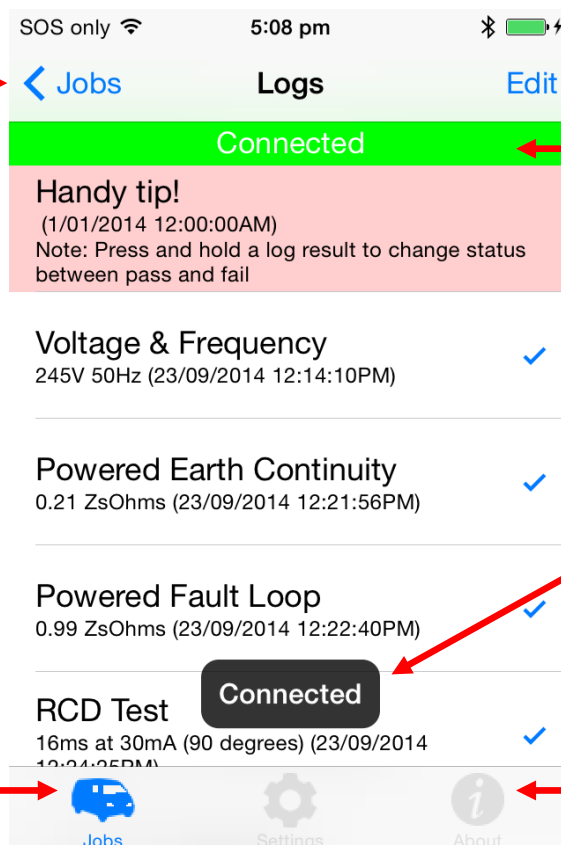
When first installed, the Spark-e-log App comes with a single demonstration job entered into its database as shown above.

Let's quickly test the Bluetooth connection. Press the demonstration job to bring up a list of example logs (test results) under that job:



After a few seconds your Spark-e-mate will connect to your iPhone and you will hear a sound with the "Connected" message displayed:

Press here to
navigate back to
the Jobs screen



The status line at the
top of the Logs list will
change from a red
"Disconnected" to a
green "Connected"
message

A pop-up
message will
appear whenever
Spark-e-mate
connects or
disconnects

You can also
press here to
navigate back to
the Jobs screen

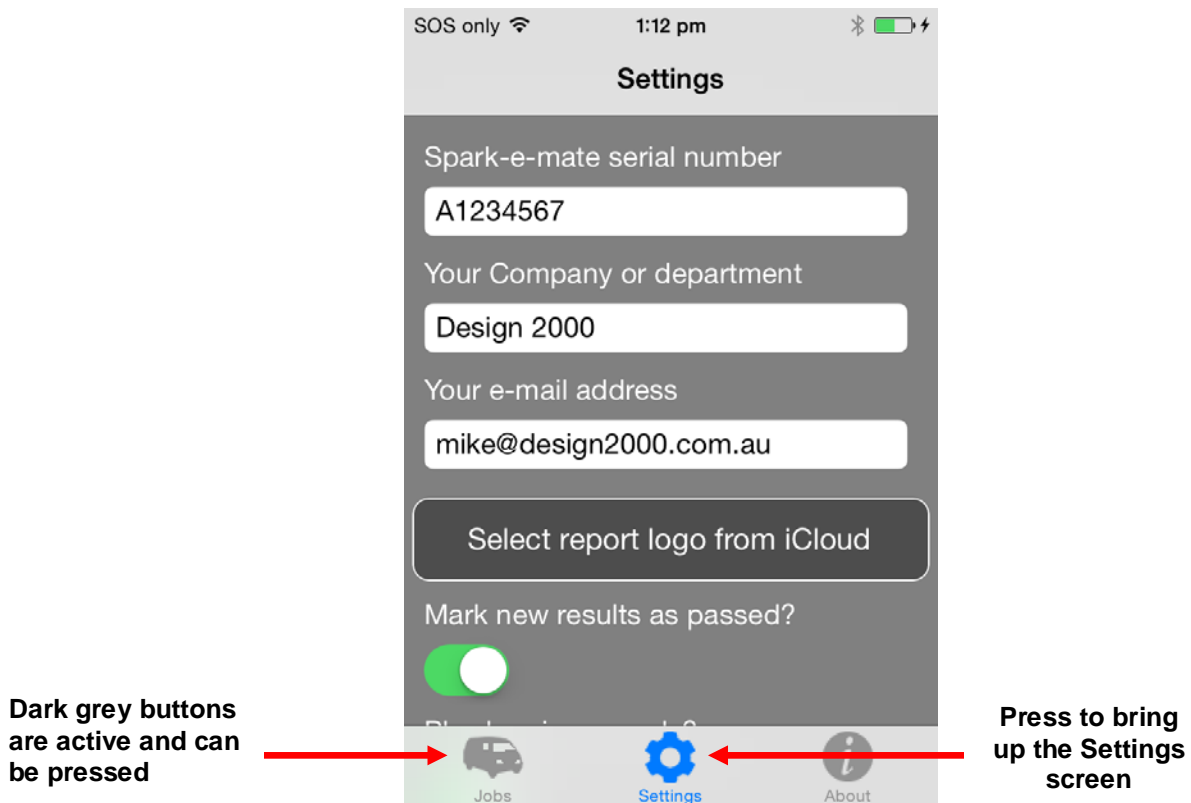
If a button is
shaded light grey
it is disabled and
can't be pressed.

It's important to remember that **you must select a job and be in the Logs screen before Spark-e-mate will connect.** If you navigate away from the Logs screen Spark-e-mate will disconnect.

3.4 Settings Menu

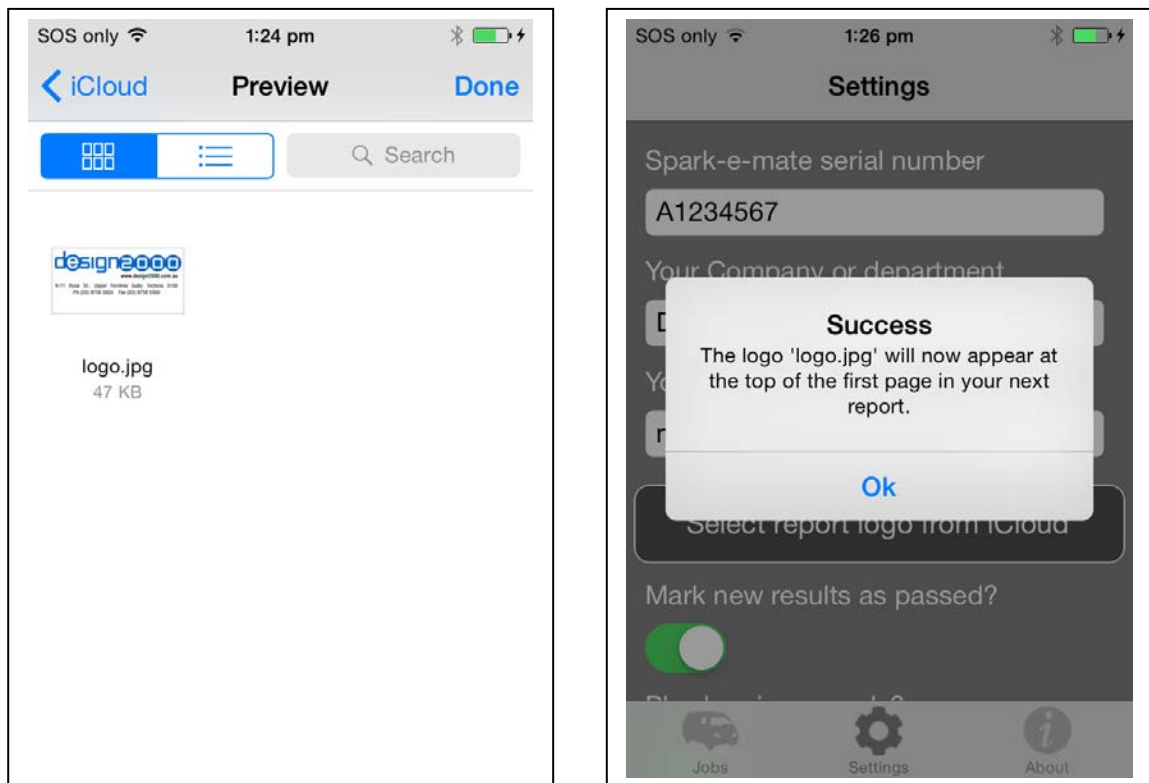
Before we start logging and reporting, it's time to let Spark-e-log know about yourself and your Spark-e-mate.

Navigate back to the Jobs screen, then press the “Settings” button to enter a few basic things such as your email address, Company details, Spark-e-mate serial number and last calibration/purchase date:



- Your serial number can be found on a sticker on the back of Spark-e-mate.

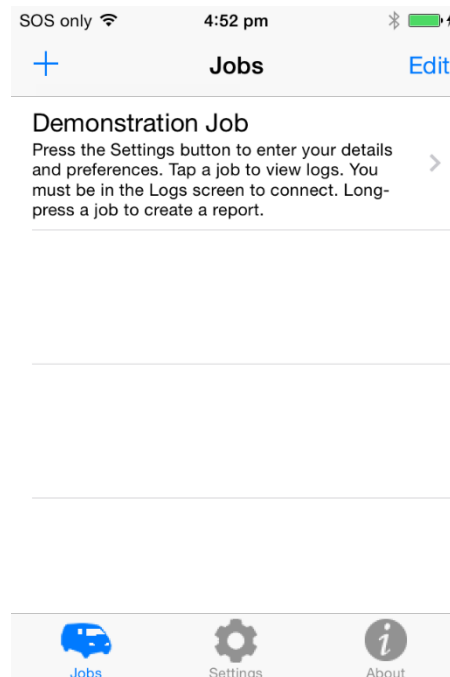
- To select a logo to appear on the first page of the PDF report, place the image (in any file type and resolution) on your iCloud drive and press the "Select report logo from iCloud" button. The contents of your iCloud drive will then be shown from which you can select the image by tapping it. A "Success" message will be displayed once the image has been imported and converted.



- To use Spark-e-log without sounds, slide the "Play Sounds" option across so that it is no longer green.
- If the "Mark All New Logs As Passed" option is enabled (green) then all new tests you log will be automatically marked as "Passed" and you must manually change them to
- "Failed" if needed, otherwise they will always be marked as "Failed" and you will have to manually set each result to "Passed" as required. Note that Spark-e-log will always mark simple GO/NO GO tests such as "Circuit Connections" as passed even if this option is disabled. **It is always your responsibility, not Spark-e-log's, to interpret any result and mark it as passed or failed after consulting with current AS/NZS 3000 Standards.**
- If your Spark-e-mate is new, enter the date of purchase as the last calibration date.
- Any changes you make to the settings are automatically saved when you leave the screen.

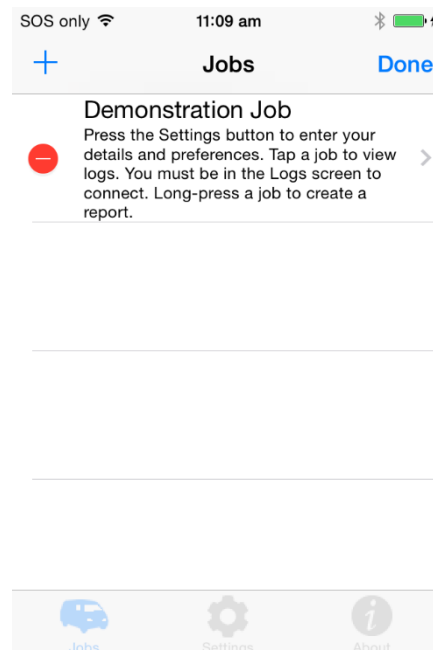
3.5 Editing or Deleting Jobs and Creating New Jobs

1. Go back to the Jobs screen and press the “Edit” button:

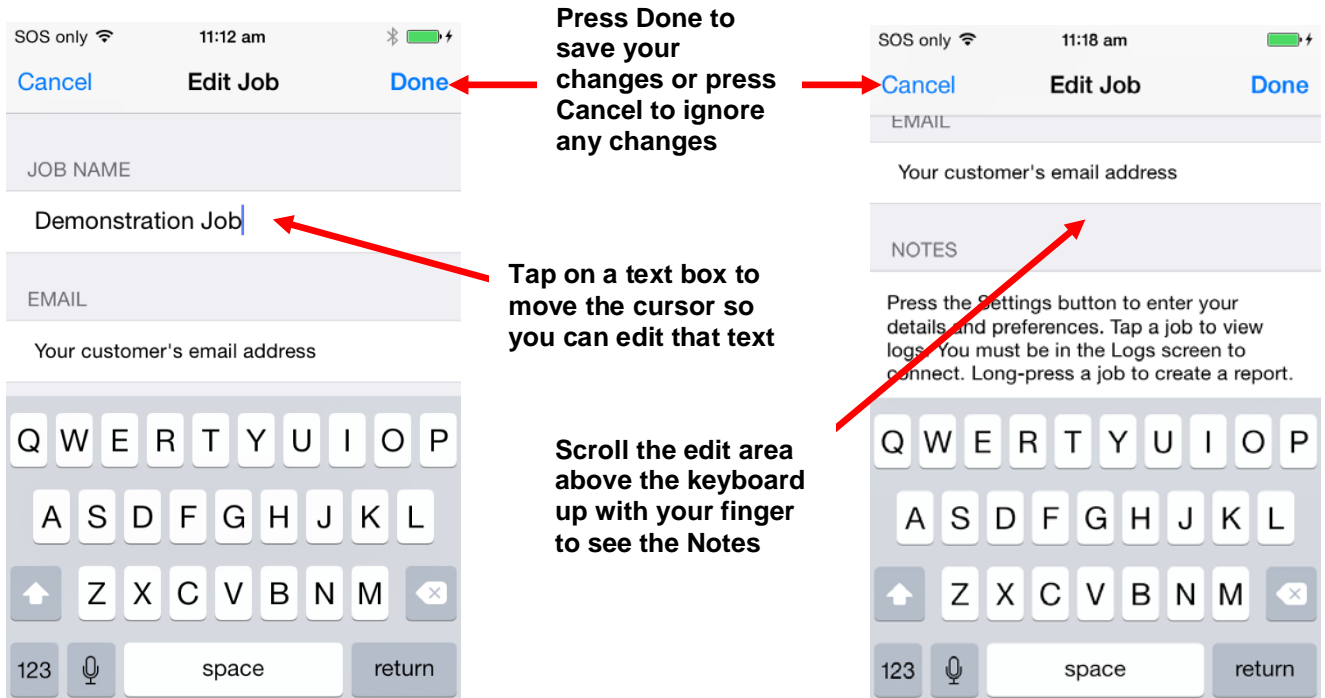


Press the Edit button to make changes to job entries

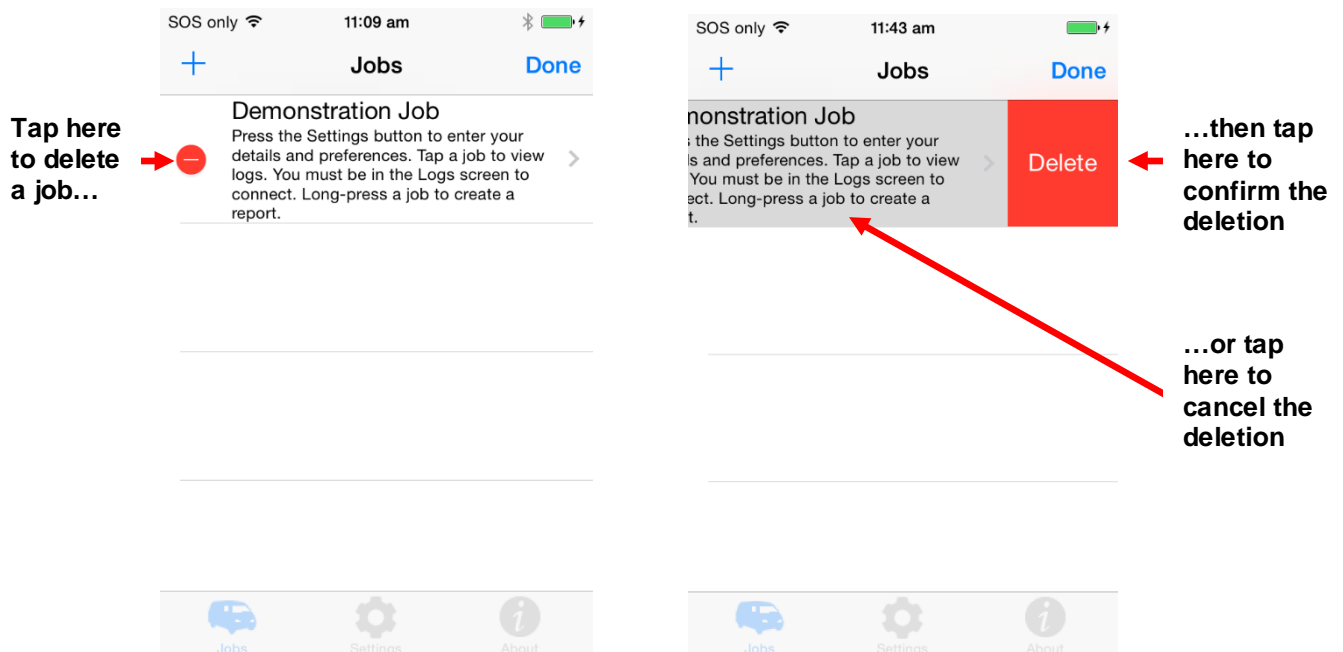
2. The Edit screen will appear:



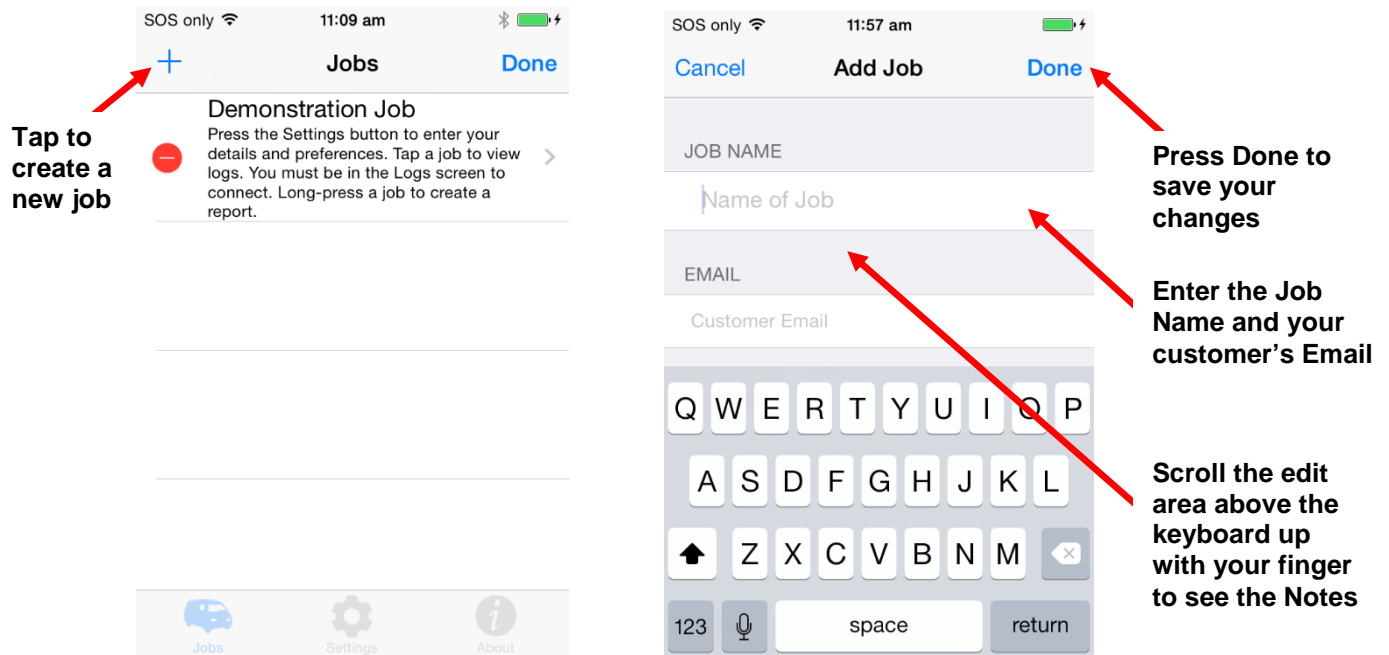
3. To edit the job simply tap the job entry and you'll be able to change the Job Name and your customer's Email Address. You can also add or edit any optional notes associated with that job:



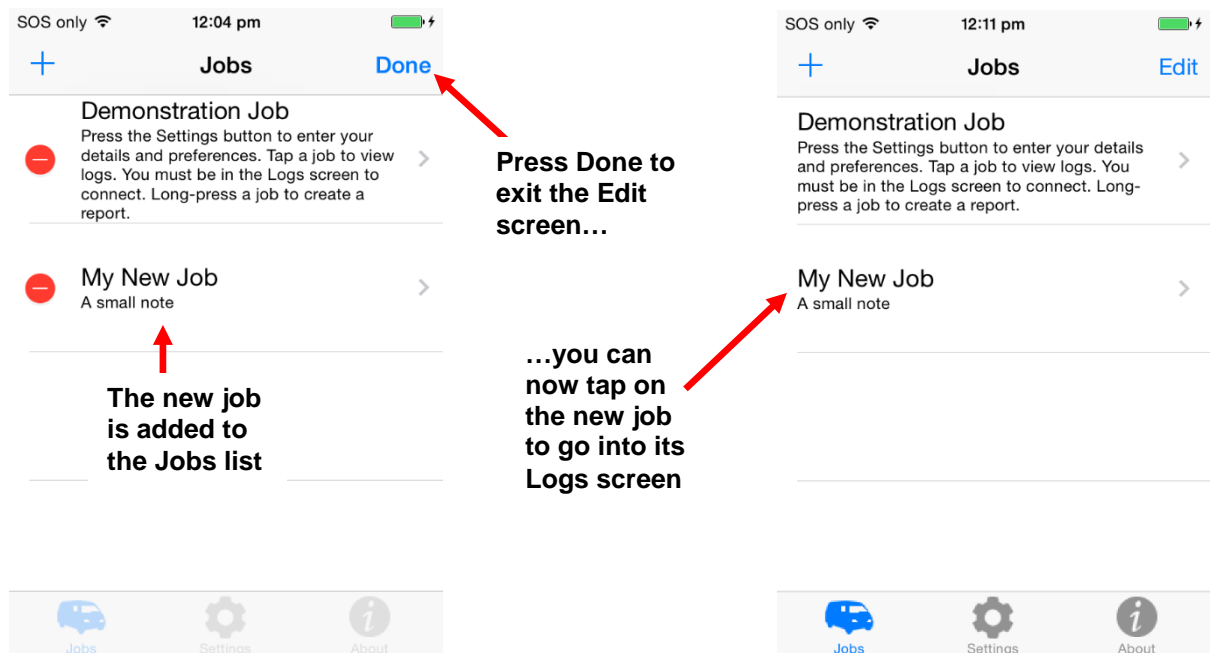
4. To delete a job tap on the red “-” circle in the edit screen:



5. To add a new job tap the “+” button:



6. After pressing “Done” the new job will appear in the Jobs list. Press “Done” again to exit the Edit screen:

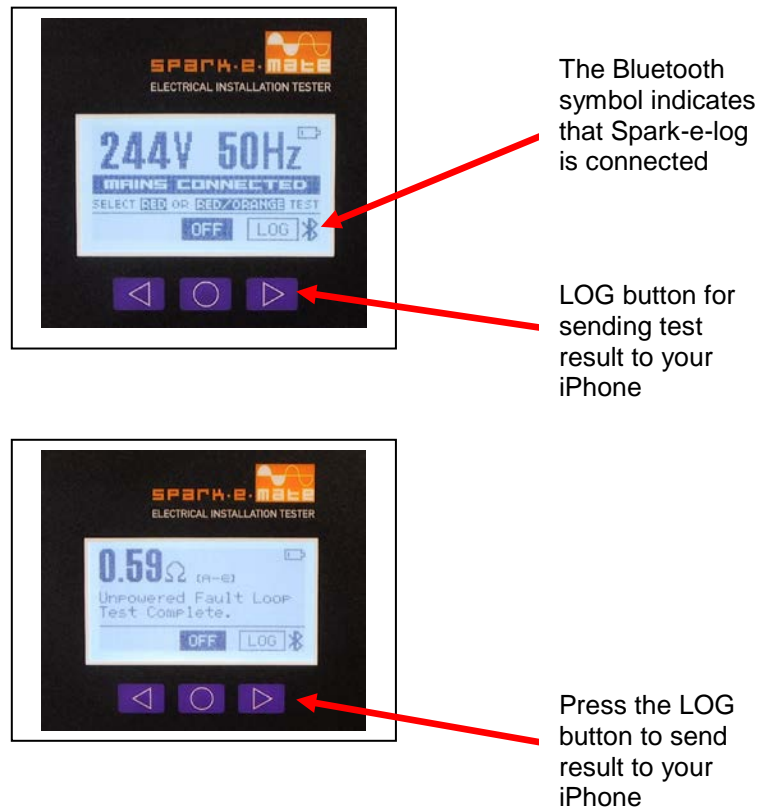


3.6 Logging your Test Results

Tapping on a job entry brings up a list of all tests logged under that job. If no tests have yet been logged for that job, such as when a new job has just been created, the log screen will be empty. You must be in the log screen before you start logging results from your Spark-e-mate so that log entries are added under the correct job.

You can tell that Spark-e-mate is connected to your iPhone and is ready to log when you see the Bluetooth symbol in the bottom-right corner of the Spark-e-mate display.

Whenever the LOG button appears on the Spark-e-mate display, you can press the LOG button to send the displayed test result to your iPhone and store it against the currently selected job.



Both Spark-e-mate and your iPhone will beep to indicate successful data transfer. The test result appears in the Logs screen and is saved in Spark-e-log's database.

Please note that if you log the mains voltage and then perform a fault loop test, Spark-e-Log will automatically calculate and log the Prospective Short Circuit Current (PSC).

To edit or delete a logged test, press the “Edit” button. The editing process is exactly the same as when we edited a job:

In the Edit Log screen you can add notes to that test result and also mark it as Passed or Failed.

The actual test result cannot be changed.

If a result is not wanted, you should delete it, take another test, then log a new result.

SOS only 12:22 pm

Cancel Edit Log Done

DETAILS

23/09/2014 12:22:40PM

Powered Fault Loop

0.99 ZsOhms

PASS / FAIL

Passed ☒

NOTES

Tip: A quick way to mark a log result as Passed or Failed is to push and hold a log entry for one second.

Push and hold a Log entry for one second to toggle it between Passed and Failed.

Passed results have a tick next to them.

Failed results have a red background.

SOS only 12:31 pm

< Jobs Logs Edit

Voltage & Frequency
245V 50Hz (23/09/2014 12:14:10PM) ✓

Powered Earth Continuity
0.21 ZsOhms (23/09/2014 12:21:56PM) ✓

Powered Fault Loop
0.99 ZsOhms (23/09/2014 12:22:40PM) ✓

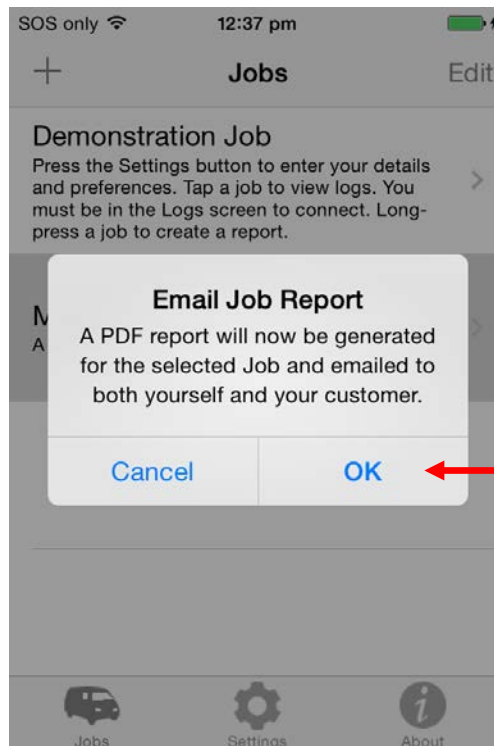
RCD Test
16ms at 30mA (90 degrees) (23/09/2014 12:24:25PM)

Circuit Connections
OK (26/06/2014 12:10:43PM) ✓

Jobs Settings About

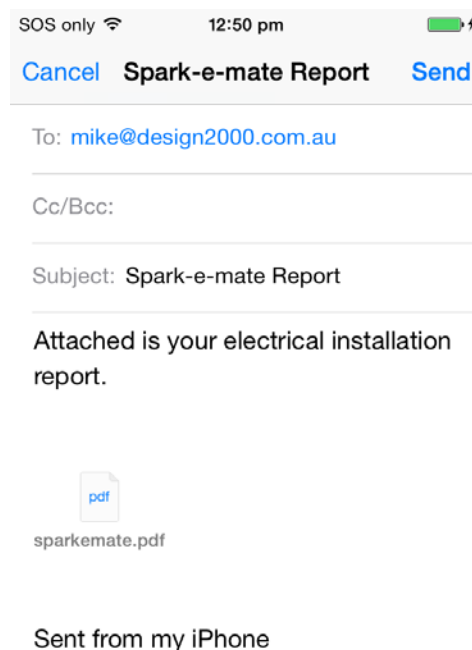
3.7 Emailing and Printing your Test Results

1. Push and hold the required job entry for one second to generate a report:



Press OK to generate and email the test report to yourself and your customer

- Spark-e-log generates the report in PDF format and attaches it to an email. It will send a copy to yourself using the email address you entered into the Settings screen (see 4.4 *Settings Menu*) and another copy to your customer using the email address you entered for that job (see 4.5 *Editing or Deleting Jobs and Creating New Jobs*):



Make any required changes to the email subject or message text then press Send

Example report output:

Energisation or Verification of an Electrical Installation (AS/NZS 3000:2018 Clause 8.4)

Date of energisation and original verification details are to be recorded and available on site in this accessible record. This also facilitates the process of re-verification at a later date.



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SITE / PROJECT Demonstration Job		Date of Initial Energisation 10/02/2021		
Test Organisation or Department Design 2000		Electrical Contractor Number 12345678		
Name of Electrical Licence Holder Design 2000		Electrical Licence Number ABC123	Signature <i>Nikola Tesla</i>	
Test Equipment Spark-e-mate	Manufacturer Design 2000 Pty Ltd	Model Number Clipsal Cat. No. 493BTL	Serial Number A0123456	Last Calibration 20/04/2020
Job Date 10/02/2021	Result PASS	Job Notes Tap a job to view test results. Press and hold a job to add, edit and delete jobs or produce a test report.		

FILE: 2021_02_17_16_57_38_sparkelog.pdf

IMPORTANT: REFER TO THE APPLICABLE AS/NZS STANDARD WHEN INTERPRETING ANY RESULT

Switchboard 1				
Notes: This is a switchboard note.				
Breaker 1				
Notes: This is a breaker note.				
Test Date and Time	Test	Measurement	Notes	Result
10/02/2021 12:42:15pm	Circuit Connections	OK		Pass

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*** End of Document T14221 ***