

USER GUIDE ADDENDUM - INTERFACE AND REMOTE CONTROL FOR THE NEW S1-SERIES



Introduction

PowerDB is software used for the collection and reporting of data from maintenance and inspection activities performed on electrical equipment used in the generation, transmission, and distribution of electric power.

The software includes interfaces for many test instruments and allows for automated testing and data acquisition, as well as imports from various file formats. Result and summary reports can be easily generated.

Three editions of PowerDB are available:

- PowerDB Pro
- PowerDB Advanced
- PowerDB Lite

PowerDB provides a simple and consistent user interface to many Megger instruments including the DELTA Series Power Factor Test Sets, 3-Phase TTR units, earth testers, 5 kV and 10 kV insulation resistance testers (IRTs), and many more. PowerDB Lite is bundled with the Megger's MIT and new S1-Series.

The new S1-Series has remote control capability and a specific application to enable remote control testing of assets.

Interfacing S1-Series to PowerDB

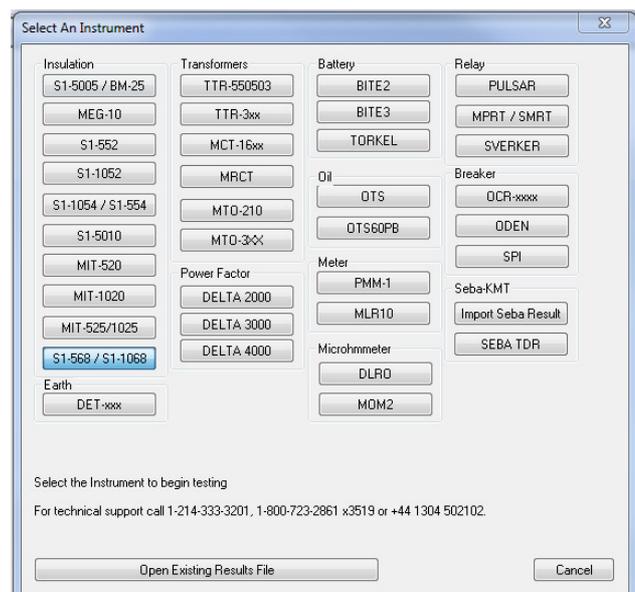
The new S1-Series has two PC interfaces; a USB device port and a Bluetooth® interface. Remote control is available only via the USB interface.

Connecting via USB cable

Connect the instrument to a PC via the USB cable provided and enable the driver for the S1-568, S1-1068 to be found via the internet or alternatively, load the version supplied on the product CD if the PC being used has no access to the internet. The instrument does not need to be powered up to respond to the driver as it is powered via the USB cable.

Load PowerDB Lite software from the product CD, this may take several minutes. Run PowerDB Lite software by clicking the PowerDB Lite icon on your desktop.

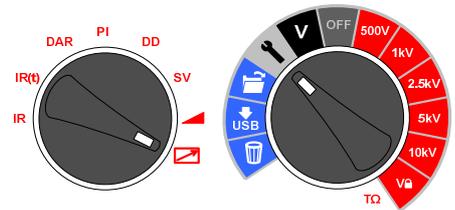
Select the **S1-568/S1-1068** soft button from the window entitled, "Select An Instrument" to get to the **Instrument Configuration** window.



Connecting via Bluetooth®

Connecting to the S1-Series via Bluetooth® is a straightforward process:

1. On the S1 instrument select the left hand test mode switch to point at the remote control icon and the central switch to the spanner icon as illustrated.
2. The Bluetooth® icon will be visible on the top right of the instrument display. If the word 'OFF' is flashing, press the up arrow once to select and 'ON' will flash. Confirm the setting by pressing OK.

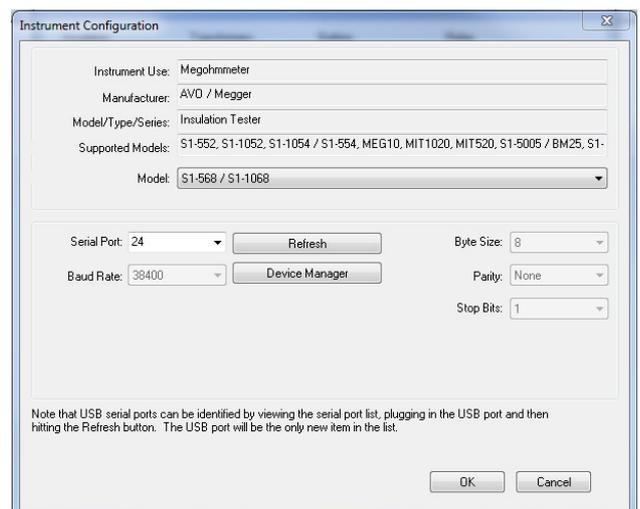


Bluetooth® is now enabled and will be detected by a PC with an activated Bluetooth® interface. The S1 product can be found by exploring devices. The S1-Series will identify itself by the model number and serial number on the PC. The **Device Manager** soft button is in Power DB, Instrument Configuration pop-up.

Click the Windows® **Device Manager** soft button and verify that a serial port has been allocated to the instrument:

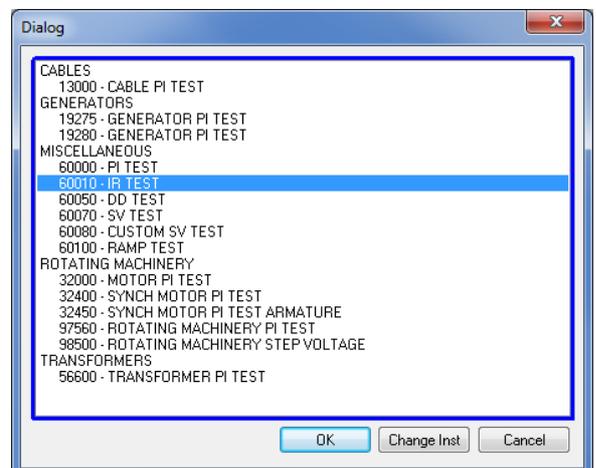
- Expand the 'Ports section in Device Manager. One serial port should be allocated to 'Megger Device (COMxx)' where xx is the port number.
- If the Bluetooth interface is to be used, expand the ports in Device Manager and ensure that a Standard Serial over Bluetooth link (COMxx) has been allocated. There will be two ports which look similar, for example one may be COM6 and the other COM7. The lower number is to be used for PowerDB Lite.

Ensure that port number xx is allocated correctly in the Instrument Configuration window, then click the OK to complete configuration.



Choosing a Form

Select the required test mode from the **Select a Form** window and click OK to continue.



After the form loads, click the 'zap' icon on the toolbar to initialise the instrument. An 'OK' confirmation appears at the top of the form if communications have been successful.



Scroll down the PowerDB form until you see a table with cyan filled headers. RIGHT CLICK once on one of the cyan coloured phases areas to activate the S1-Series remote control application. The cyan filled cells represent three phases A, B and C. Right clicking will open up the remote control application.

TEMPERATURE 20 °C TEMPERATURE CORRECTION FACTOR TO 20 °C, TCF 1.00 ← ENTER TCF

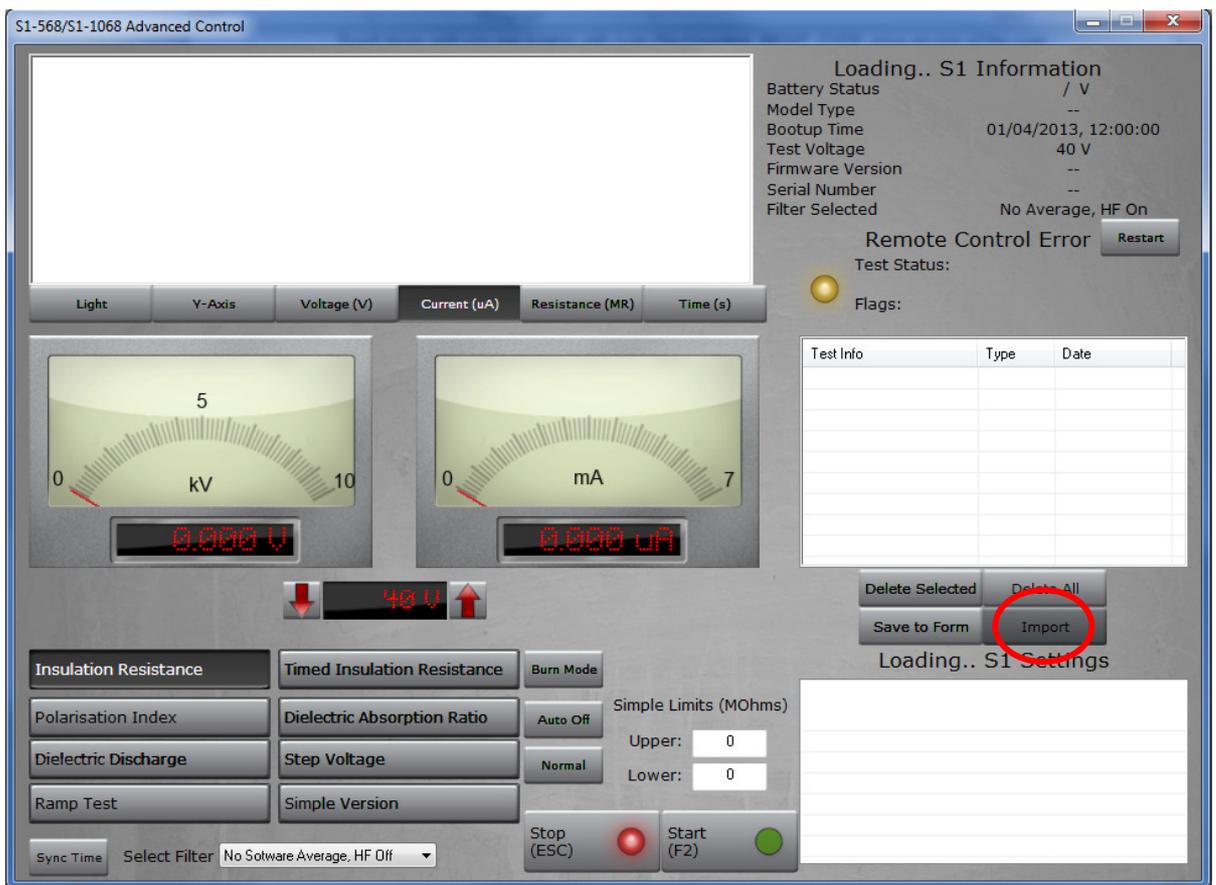
Display Every 0.1 Minutes or 0.1 %IRChange or 10 Delta uAmps

...SELECT DEVICE

A					B					C				
TIME (minutes)	Volts (kV)	READING (megohms)	TEMP CORR. (megohms)	CURRENT uA	TIME (minutes)	Volts (kV)	READING (megohms)	TEMP CORR. (megohms)	CURRENT uA	TIME (minutes)	Volts (kV)	READING (megohms)	TEMP CORR. (megohms)	CURRENT uA

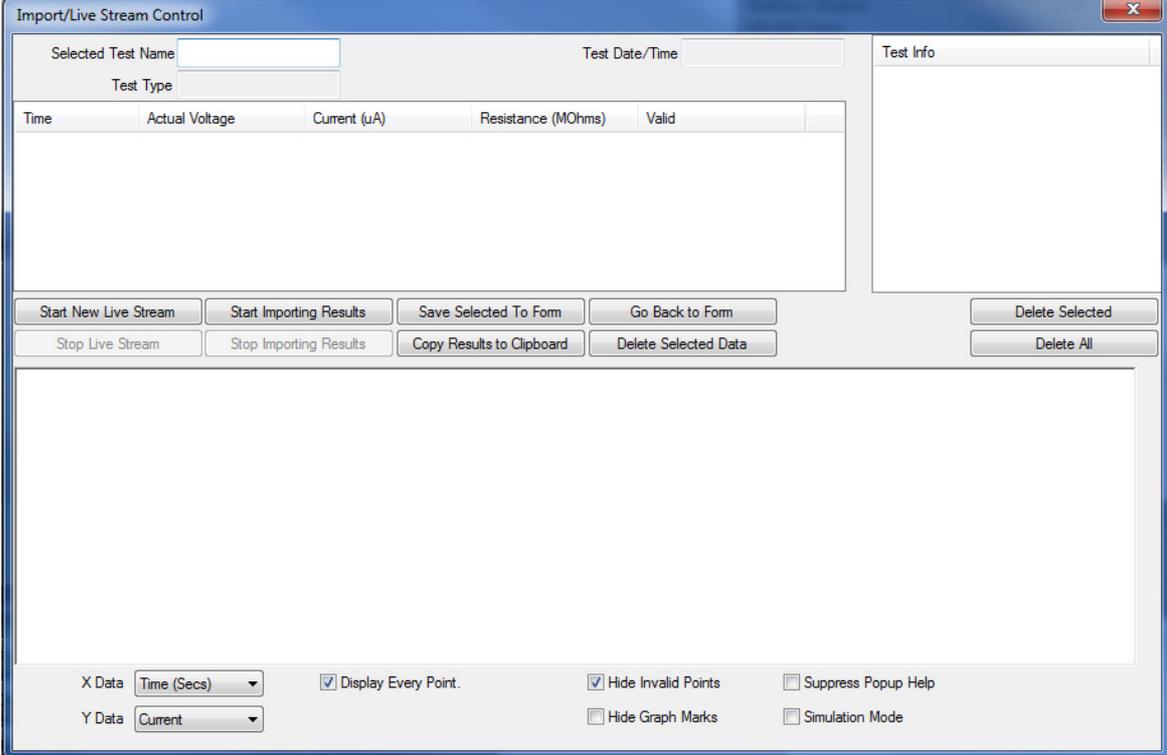
Remote Control Application

To use the remote control application the remote control safety beacon must be inserted into the 9-pin socket found adjacent to the USB port on the right side of the instrument as you look at it. All manual test functions are available in remote control as well as real-time streaming of test data and a graphical representation of resistance, voltage or current in the top left window.



To activate the Import/Live Stream Control application click the **Import** soft button (circled) in the remote control application.

Import/Live Stream Control Application



Import/Live Stream Control application enables capture of live streaming data directly by activating the **Start New Live Streaming** function. Results are recorded once a second for the duration of the test.

Other functions include:

- **Save Selected To Form** – this soft key saves a selected test result in top right hand menu to the current form in PowerDB Lite. Typically three tables are available in the PowerDB form representing three phases named A, B and C. Tests listed in the **Import/Live Stream Control** application listed under Test Info can be saved in any form by exiting the logger (**Go Back To Form**), right clicking the require phase in the form and selecting to **Save Selected To Form** from the logger
- **Copy Results to Clipboard** function facilitates a copy of all data to Excel and other popular software
- **Delete Selected Data** – removes test data from the **Test Info** section
- **Start Importing Results** – download results saved on the instrument

Sample remote control application – timed insulation resistance test result shortly before completion of a 90 s test.

The screenshot displays the 'S1-568/S1-1068 Advanced Control' software interface. At the top left, a graph plots 'Current' (0.0 to 0.5) against 'Time (Seconds)' (0 to 90). The current curve rises sharply from 0 at 0s and levels off at approximately 0.5 after 10 seconds. Below the graph are tabs for 'Light', 'Y-Axis', 'Voltage (V)', 'Current (uA)', 'Resistance (MR)', and 'Time (s)'. Two analog-style gauges are shown: the left one is labeled 'kV' with a scale from 0 to 10 and a digital display showing '5.104 kV'; the right one is labeled 'mA' with a scale from 0 to 7 and a digital display showing '0.012 mA'. A central voltage control section shows '5000 V' with up and down arrows. Below this are several test mode buttons: 'Insulation Resistance', 'Timed Insulation Resistance', 'Burn Mode', 'Polarisation Index', 'Dielectric Absorption Ratio', 'Auto Off', 'Dielectric Discharge', 'Step Voltage', 'Normal', 'Ramp Test', and 'Simple Version'. A 'Simple Limits (MOhms)' section has 'Upper: 0' and 'Lower: 0' fields. At the bottom left, there are 'Stop (ESC)' and 'Start (F2)' buttons. On the right side, 'S1-1068 Information' includes 'Battery Status: 100% / 12.05 V', 'Model Type: S1-1068', 'Bootup Time: 24/04/2013, 12:42:42', 'Test Voltage: 5000 V', 'Firmware Version: C:3.05.65 M:1.5.5', 'Serial Number: 1003012101205053', and 'Filter Selected: No Average, HF On'. Below this, 'Remote Control On' shows 'Test Status: Test Progressing Normally.' and a 'Flags:' section. A 'Test Info' table lists three streams: 'Remote Control Stream #3' (IR(t) at 14:58:10), 'Remote Control Stream #2' (IR(t) at 14:45:57), and 'Remote Control Stream #1' (Ramp at 14:44:16). At the bottom right, 'S1-1068 Settings' shows a table with 'IR(t)1 Timer' set to a 'Timer Value (Seconds)' of 90.