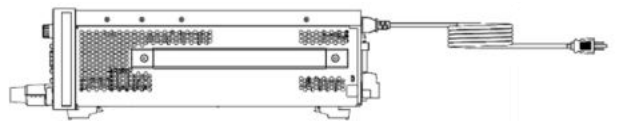


E36731A Battery Emulator

Quick Start Guide

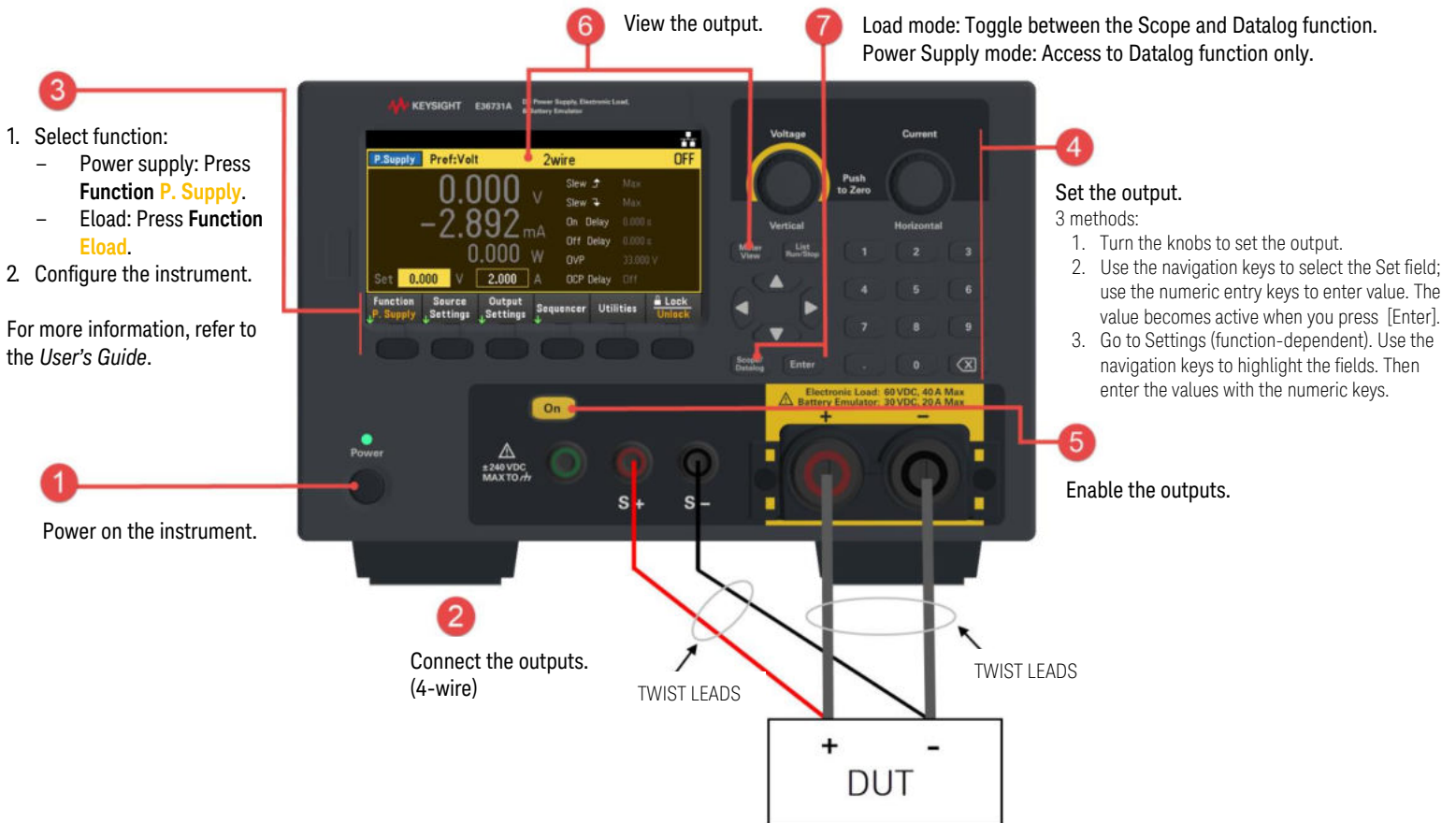
Setup the Instrument

Place the instrument's feet on a flat, smooth horizontal surface. Connect output to the front panel, being careful not to short the leads together. Attach the power cable to the rear panel, then plug it into main power. Connect GPIB, LAN or USB cables as desired.



Using the Power Supply and Eload Function

NOTE: When E36731A is used as an electronic load, the input terminals are referred to as "outputs" throughout this document.



1 Power on the instrument.

2 Connect the outputs. (4-wire)

3 Select function:
- Power supply: Press **Function P. Supply**.
- Eload: Press **Function Eload**.

4 Set the output.
3 methods:
1. Turn the knobs to set the output.
2. Use the navigation keys to select the Set field; use the numeric entry keys to enter value. The value becomes active when you press [Enter].
3. Go to Settings (function-dependent). Use the navigation keys to highlight the fields. Then enter the values with the numeric keys.

5 Enable the outputs.

6 View the output.

7 Load mode: Toggle between the Scope and Datalog function. Power Supply mode: Access to Datalog function only.

For more information, refer to the *User's Guide*.

Electronic Load: 90 VDC, 40 A Max
Battery Emulator: 30 VDC, 20 A Max

±300 VDC MAX TO /_o

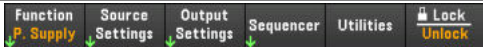

On

S+ S-

TWIST LEADS TWIST LEADS

DUT

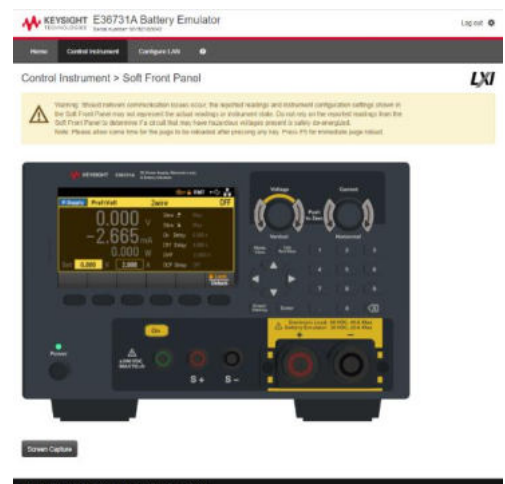
Menu at a Glance

Menu heading	Description
Function	Switches the instrument function to Power Supply mode (P.Supply) or Load mode (Load).
<i>When function is set to Power Supply mode:</i>	
	
Source Settings >	
Sense	Configures the output sense to 2-wire or 4-wire.
Out Pref	Configures the preferred mode for output on/off transitions.
Protection >	Configures the protection settings for the output.
Voltage Slew >	Configures the voltage slew rate.
<i>When function is set to Load mode:</i>	
	
Load Settings >	
Mode >	Configures the operating mode to CC, CV, CR, or CP.
Sense	Configures the input sense to 2-wire or 4-wire.
Protection >	Configures the protection setting for the load input.
Range >	Configures the measurement range for the load input.
Short	Enable or disable the input short.
<i>Common menu for both Power Supply and Load mode</i>	
Output Settings > or Input Settings >	
On/Off Coupling >	Enables or disables the output coupling or synchronization between multiple input/output channels.
Output Inhibit >	Configures the inhibit input mode and Digital IO Pin 3.
Utilities >	
Store/Recall >	Saves and recalls instrument states.
I/O Config >	Displays and configures the I/O parameters for remote operations over the USB, LAN, GPIB, or digital IO interface.
Test/Setup >	Accesses the self-test, calibration, and help function as well as configures the user preferences, and sets date and time.
Error >	Displays the instrument's error queue. Errors will be cleared after viewing or instrument reset.
Manage Files >	Creates, copies, deletes, and renames files and folders on the USB drive attached to the front panel. Also allows you to capture the current screen to either a bitmap (*.bmp) or portable network graphics (*.png) file.
Unlock Lock	Locks and unlocks the display.

Software Control and Visualization

You can monitor and control the instrument from a Web browser by using the instrument's Web interface. To connect, simply enter the instrument's IP address or hostname in your browser's address bar and press Enter.

To remotely control the instrument, click the Control Instrument tab and enter the password (default is *keysight*).



For detailed operating information, refer to the *E36731A User's Guide*.

Battery Profiling, Emulation, and Cyclers Function

The E36731A works with Keysight BV9211B Pathwave BenchVue Advanced Battery Test and Emulation application software. This software allows you to easily run battery tests, generate battery models and perform battery emulation.

Download the BV9211B at: www.keysight.com/find/BV9211B.

Overview of BV9211B application software

1 Instrument connection area
Lets you connect up to four instruments.

- Select **Search and Connect** to Instruments to search for all instruments on the network and VISA resources.
- For manual configuration, select **New Manual Configure**.

2 Instrument connection area
Lets you operate the instrument using the controls on this display.

3 Battery Emulator - Settings area
Lets you configure the settings of the selected output and operation. The available modes are Emulate, Profiler, Discharge/Charge, Cyclers, and No Operation.

4 Battery Viewer
Displays the datalog information when the specified operation was run.

5 Display area
Displays the battery chart information for selected operating mode.

6 Opens the Help file

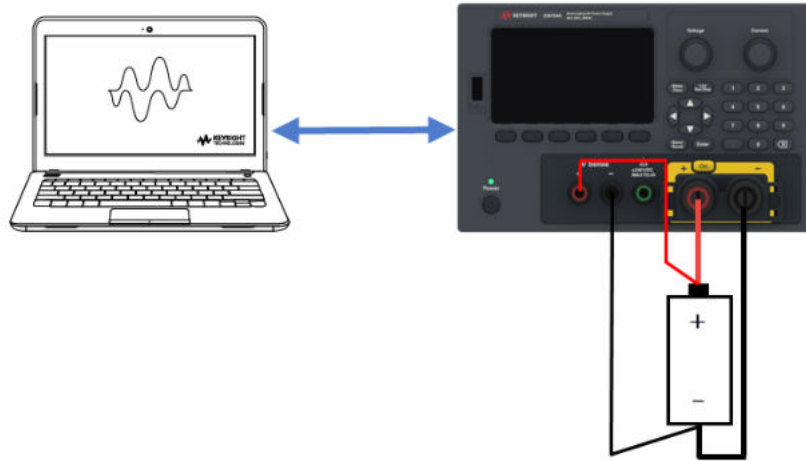
7 Application controls
Lets you configure settings. Save instrument states and export measurement data.

8 Operation Icons
Only displayed at start-up. Let you select an operation.

9 Start button
Lets you start the operation of the selected output, or all operations when multiple outputs are configured.

NOTE: Before running the BenchVue Advanced Battery Test and Emulation application, you must have installed and connected the Keysight E36731A to a computer with the appropriate interface cable.

Instrument setup

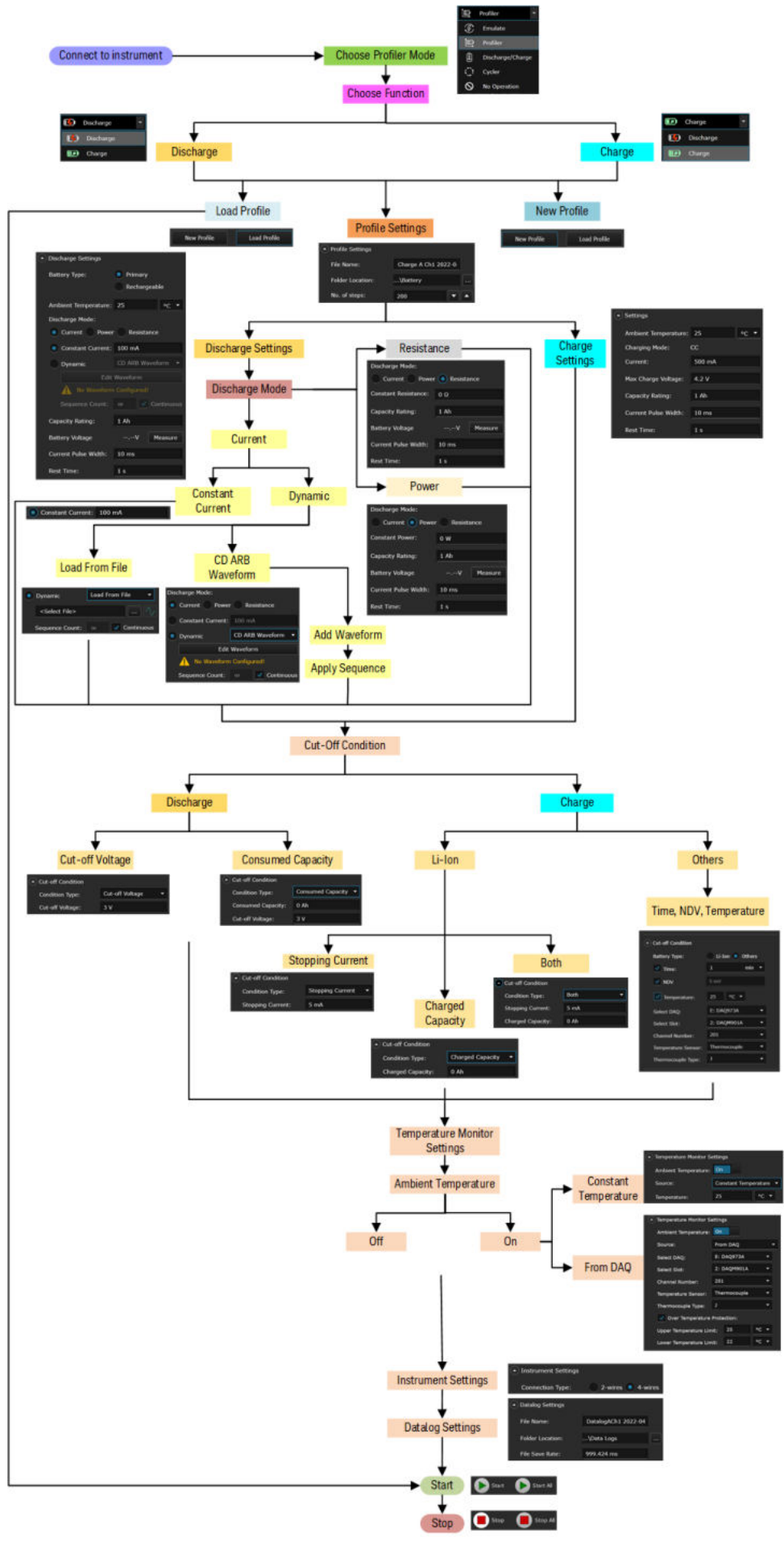


Refer to the help file for more information on how to use the Keysight BV9211B Pathwave BenchVue Advanced Battery Test and Emulation application software.

Generate battery profile

Generating a battery profile ensures that you are getting the most accurate models for battery life emulations used in your devices and working scenarios. The Pathwave BenchVue Advanced Battery Test and Emulation application creates the battery profile by discharging or charging a physical battery with either a static current condition or a previously created dynamic loading profile. The battery that you want to emulate must be new or fully charged.

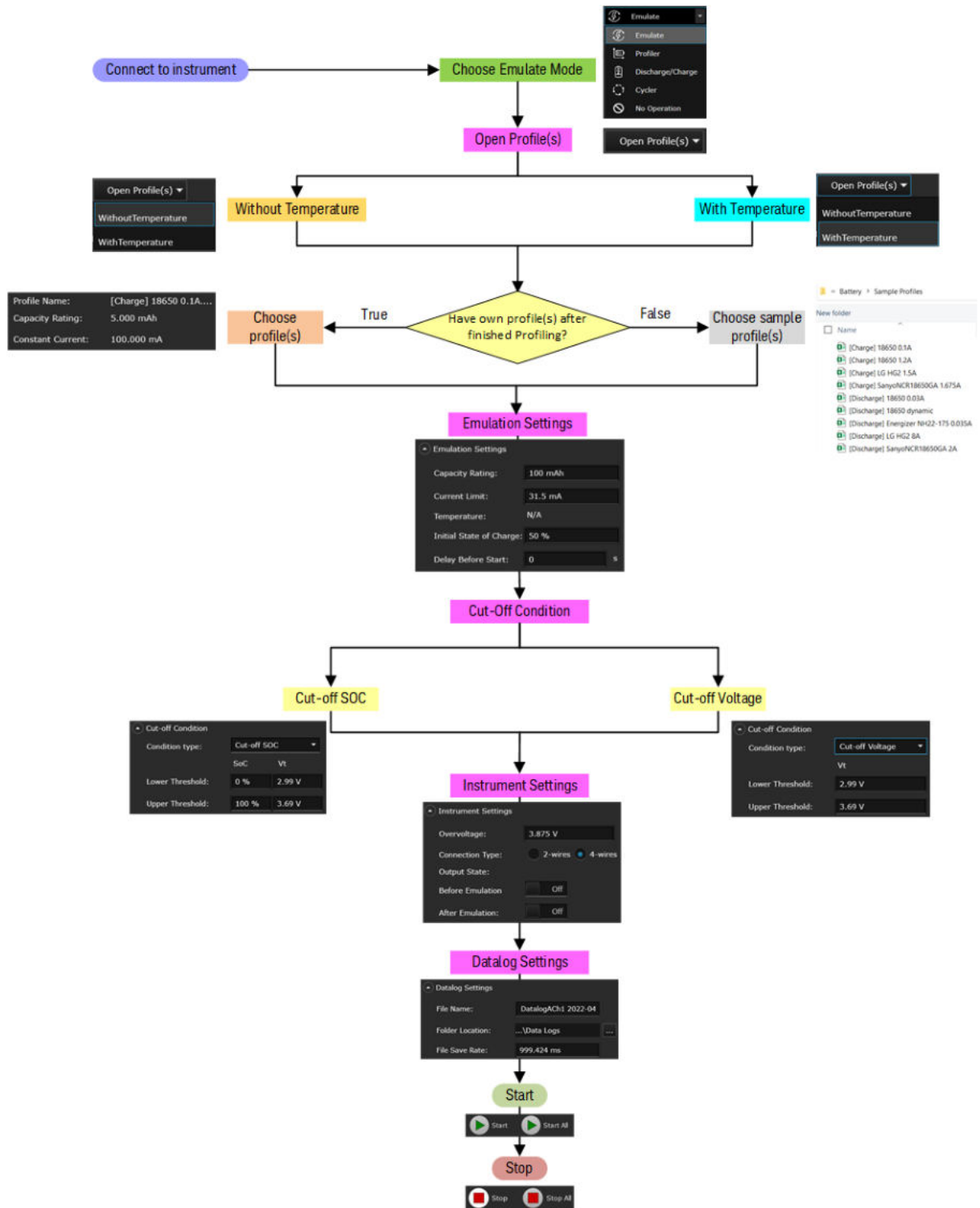
As shown in the following flowchart, there are several steps required to generate a profile.



Perform battery emulation

The Pathwave BenchVue Advanced Battery Test and Emulation application follows the battery model in real-time and emulates the battery behavior. Two methods are available for battery emulation – open profiles generated by the software, or importing previously created external battery models. For simplicity, you will only need to enter four parameters to emulate a battery – capacity rating, current limit, initial SoC, and a cut-off condition.

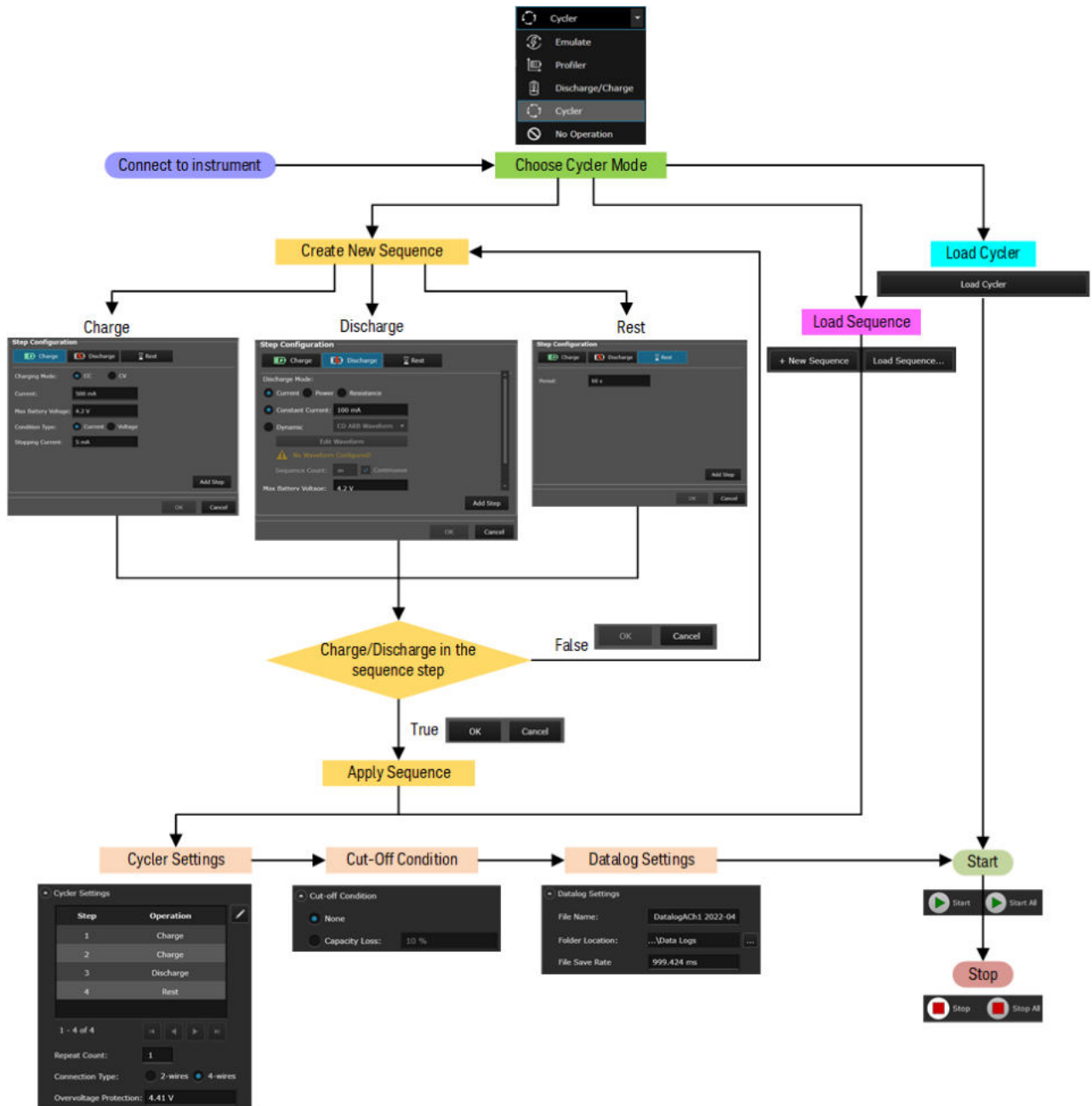
As shown in the following flowchart, there are several steps required to emulate a battery.



Perform battery cycler

The Pathwave BenchVue Advanced Battery Test and Emulation application's cycler function lets you create a custom sequence of charging, resting, and discharging a battery at various test conditions. The application allows up to 1000 cycle operations on the battery to determine the battery's age effect and reliability under sequence test conditions.

As shown in the following flowchart, there are several steps required to cycle a battery.



Product Safety

For important safety information, see the For Your Safety leaflet that comes with the instrument and the Keysight E36731A User's Guide.

Latest Information

To get the latest firmware, software, manuals, and support information, go to www.keysight.com/find/E36731A.

This information is subject to change without notice.

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