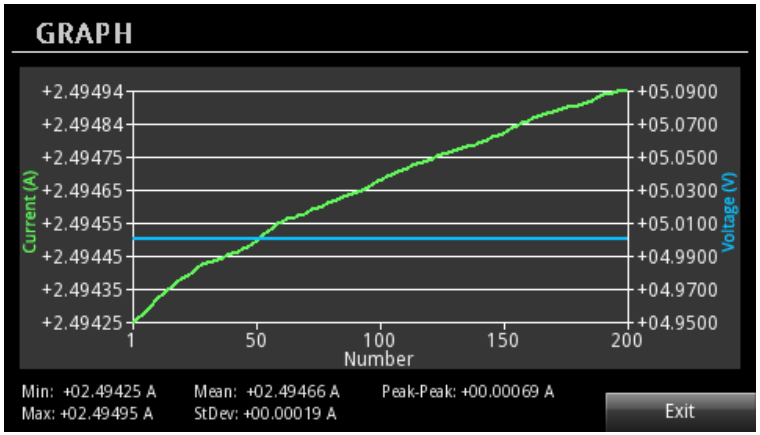
# **Series 2280S Feature Spotlight:** Graphical Icon-based Display Saves Time and Effort Monitoring Circuit Stability

Circuit design reliability tests typically involve stressing sample circuits for long periods of time and monitoring the drift or changes that result from these stressed conditions. To determine the stability of the circuit, designers usually set up parameters and run the test for a long time interval to see the trend.

Keithley Series 2280S Precision Measurement, Low Noise, Programmable DC Power Supplies feature a high resolution graphical icon-based display that enables users to easily navigate through the menus and quickly set up all the parameters needed to perform the testing. The instrument can take measurements quickly and store up to 2,500 data points within its internal buffer. Data can be displayed as trend plots or in tabular format on screen and can easily be saved as a .csv file on a flash drive plugged into the front panel USB port .

In addition to displaying voltage, current, or both waveforms, the Series 2280S can compute statistics on the stored data. Statistical measures include average, maximum, minimum, peak-to-peak, and standard deviation. With the built in plotting capability in Keithley's Model 2280S power supply, engineers can easily perform data collection without the need to develop software to control the supply and acquire data.




Use the Series 2280S' built-in graphing capability to monitor load current. Up to 2,500 data points can be stored, and statistics on the data can be automatically displayed on the graph for a quick and easy analysis of the results.



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# **Series 2280S Feature Spotlight:** Built-in List Mode Function Simplifies Verifying Performance Over a Device's Operating Range

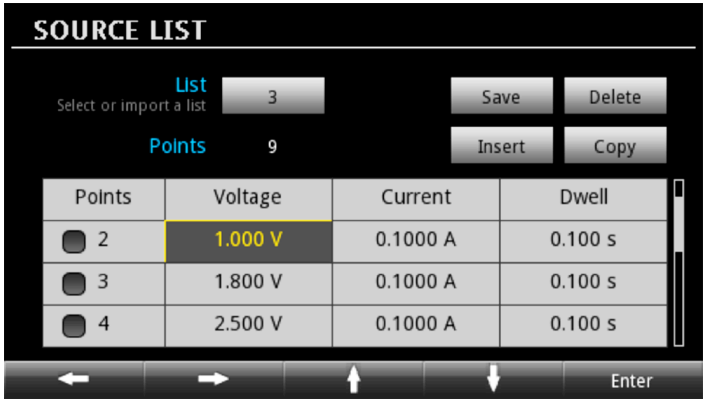
Engineers need to test their designs over the entire operating voltage range or study how their designs respond to voltage changes. However, this type of testing can require complex waveform setup to stimulate the device with levels that are within or beyond the device's operation range, so performing these tests can be difficult with conventional power supplies.

**Keithley Series 2280S Precision Measurement, Low Noise, Programmable DC Power Supplies feature a built–in list mode function that simplifies the process of automating a test:**

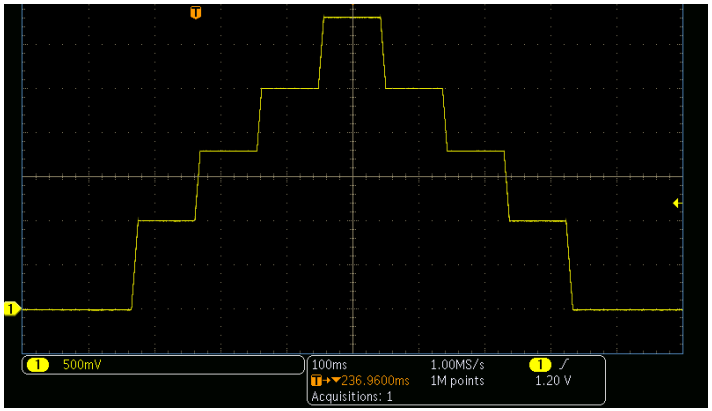
- Create a set of sequenced voltage levels that can be as many as 99 distinct voltages
- Set the current limit at each point in the list
- Set the time duration at each point in the list (as short as 1ms and as long as 60s)
- Save up to nine sequence lists within the instrument's non-volatile internal memory
- Create simple linear ramps or any custom configuration from either the front panel or an interface bus
- One trigger automatically executes the list one time or multiple times
- Make single or multiple current measurements at each voltage level

**With the list mode, these tests can be performed easily:**

- Device behavior at some percentage above its maximum voltage
- Device behavior at some percentage below its minimum voltage
- Characterization when operating a device over its specified range
- Variation in performance over the operating range when the device is in different states
- Device response to large voltage swings




Create a test consisting of a number of output voltage levels using the Series 22280S' **List Mode** setup screen. Alternatively, download a list using a USB flash drive.




**List Mode** automatically steps the voltage through the programmed steps. With the Series 2280S supplies, the output can be displayed using the internal graphing capability.



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# Series 2280S Precision Measurement DC Power Supplies - Much More than Just Sources of Clean Power


**Keithley's Series 2280S Precision Measurement, Low Noise, Programmable DC Power Supplies** can source stable, low noise voltages as well as monitor load currents over a wide dynamic range from amps to 100 nanoamps. The Model 2280S-32-6 can output up to 32V at up to 6A; the Model 2280S-60-3 can output up to 60V at up to 3.2A.

These precision measurement power supplies combine a high resolution color screen display with soft-key buttons and a navigation wheel to provide an easy-to-navigate user interface that speeds instrument setup and operation. Built-in plotting functions allow monitoring trends such as drift. Series 2280S power supplies provide the flexibility required for both benchtop and automated test system applications and even provide a list mode, triggers, and other speed optimization functions to minimize test time in automated testing applications.

| Features | | 2280S-32-6 | 2280S-60-3 |
|---|---|---|---|
| **Max Voltage** | | 32V | 60V |
| **Max Current** | | 6A | 3.2A |
| **Max Power** | | 192W | 192W |
| **Voltage Setting Accuracy** | | ± (0.02% + 3 mV) | ± (0.02% + 6 mV) |
| **Voltage Setting Resolution** | | 1 mV | 1 mV |
| **Voltage Measurement Accuracy** | | ± (0.02% + 2 mV) | ± (0.02% + 4 mV) |
| **Voltage Measurement Resolution** | | 0.1 mV | 0.1 mV |
| **Output Ripple and Noise (Bandwidth 20Hz-20MHz)** | | < $1mV_{RMS}$ | < $2mV_{RMS}$ |
| **Current Limit Setting Accuracy** | | ±(0.05% + 5 mA) | ±(0.05% + 5 mA) |
| **Current Limit Setting Resolution** | | 0.1 mA | 0.1 mA |
| **Current Measurement** | | | |
| **Range** | **Resolution** | | |
| 10 mA | 10 nA | ±(0.05% + 10 µA) | ±(0.05% + 10 µA) |
| 100 mA | 100 nA | ±(0.05% + 10 µA) | ±(0.05% + 10 µA) |
| 1 A | 1 µA | ±(0.05% + 250 µA) | ±(0.05% + 250 µA) |
| 10 A | 10 µA | ±(0.05% + 250 µA) | ±(0.05% + 250 µA) |
| **Minimum load Current Measurement Pulse Width (1A and 10A range)** | | 140µs | 140µs |
| **Interfaces** | | GPIB, USB, LAN LXI | |
| **Front/Rear Output Connections:** | | Front – 2 wire, Rear – 4 wire | |
| **Digital I/O:** | | 6 input/out pins | |



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