

**Best-fitting Electronic Load for Your Test  
Single Channel? Multiple Channels?**

Dear Madam/Sir,

Electronic loads are often simulated as the characteristics (constant resistance, constant voltage or constant current) of the DUTs to test whether the output capability of the battery, power supply, solar cell, or power supply unit meets user's requirements. Unlike using general resistive components to test batteries and power supplies, electronic loads can dynamically switch simulated resistors, voltages or currents, customize the rise and fall times of current sink, and even edit a complex and continuous load change.

※ The basic applications of the single-channel DC electronic load PEL-3000 series  
**Current Sensor Evaluation**

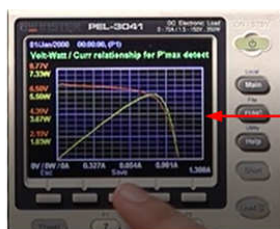
The PEL-3000 series provides three current levels: high, medium and low. The minimum current resolution of 0.01 mA can be selected based upon the test requirements. If a PEL-3000 collocating with a DC power supply, a high-precision constant current power supply can be formed to evaluate the current sensor.



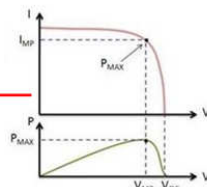
Current Sensor Evaluation

**Solar Panel I-V Curve Display& MPPT Measurement**

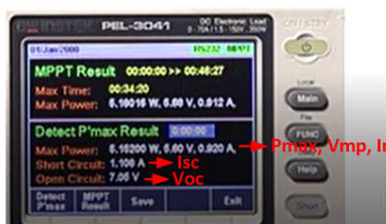
The MPPT Function can be done by the PEL-3000 series to simulate the operating current of the solar panel ranging from zero to the maximum current value, and at the same time measuring the output voltage and power of the solar panel to obtain the solar panel output voltage/current/power curve. The MPPT Function of the PEL-3000 series not only provides users with the Pmax, Vmp, Imp, Isc, Voc values of the solar panel, but also tracks the maximum power point of the solar panel in different shade conditions.



I-V Curve of The Solar Panel



Connections Between PEL-3041 and Solar Panel



Measurements for MPPT

Remark: Pmax → Maximum Power Point

V<sub>MP</sub> → Voltage at Maximum Power

I<sub>MP</sub> → Current at maximum power

Voc → Open Circuit Voltage

Isc → Short Circuit Current

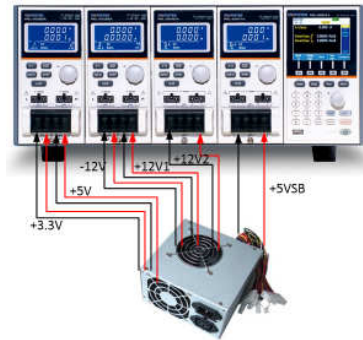
If users need to measure multiple sets of batteries or power supply units at a time, or evaluate multi-channel power output in the circuit, the multi-channel DC electronic load PEL-2000A will be the best measurement solution. PEL-2000A can evaluate the simultaneous power output capability of multiple power supplies, or test the output current of multiple power supplies by sequentially loading each output current according to the time interval defined by each output.

※ The basic applications of the multi-channel DC electronic load PEL-2000A series  
**The Output Test of PC Power Supply**

Power supply output devices with small-power, multi-group and different specifications such as the ATX power supply for PCs can use PEL-2000A to evaluate the synchronous power output of multiple power supplies. A typical ATX power supply has 6 outputs. In order to ensure that the ATX power supply can provide sufficient power output when the 6 channels output simultaneously, the PEL-2000A can perform dynamic mode and load regulation tests on six outputs at the same time, or users can edit the Program mode to customize the severe test conditions to automatically determine the Pass or Fail of the ATX power supply.

ATX Power Supply Typ. Spec.

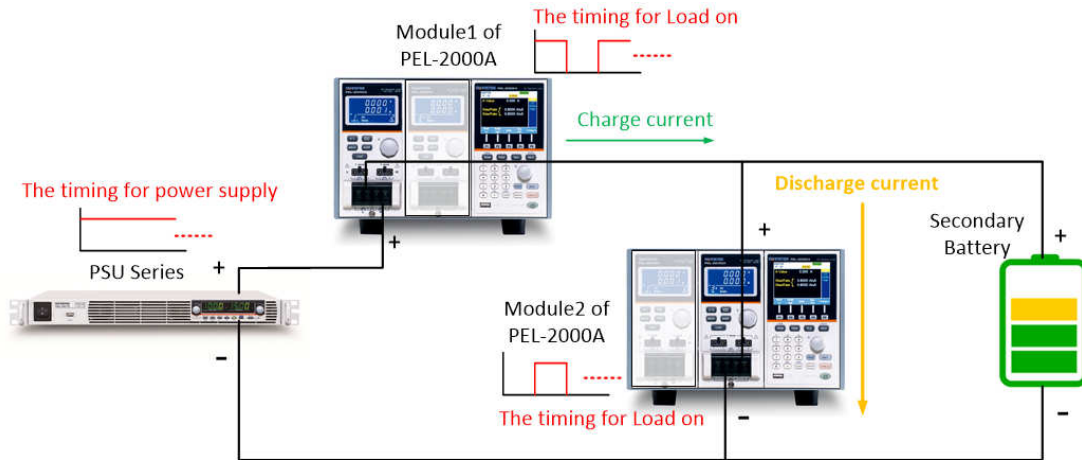
Total Power : 596.1W		Modules	Channels
+3.3V : 20A	→	PEL-2020A	PEL-2020L
+5V : 20A			PEL-2020R
-12V : 0.8A	→	PEL-2030A	PEL-2020L
+12V1 : 17A			PEL-2020R
+12V2 : 17A	→	PEL-2040A	PEL-2040
+5VSB : 2.5A		PEL-2041A	PEL-2041



Test Diagram for ATX Power Supply

**Battery Evaluation Test**

Automated testing of high-speed battery charge and high-speed discharge can be achieved by using the PEL-2000A electronic load module in series and parallel with the power supply. The automated switching operation between the module and the module of the PEL-2000A can greatly shorten the test time and increase the reliability during the measurement process while comparing with the manual operation.



Automated Charge/ Discharge Test with PEL-2000A

※ For detailed application contents, please contact Good Will Instrument Co., Ltd.

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