

PPA series (400/800/1500W)

Introduction

PPA series, a single channel Programmable DC Power Supplies with high power density design, have wide range of voltage/current combinations. Within rated power, PPA allows wider voltage and current output than a conventional power supply.

For wide range voltage and current applications, one multi-range DC power supply can be used to test the input of both low voltage/high current and high voltage/low current DUTs. PPA can be used in ATE system to replace multiple DC power suppliers, saving cost and space.

It offers powerful programming function through RS232 and RS485 interfaces, supporting SCPI and Modbus-RTU commands. And it is designed to meet both bench-top and integrated system applications. It is the most economical choice of power source to facilitate auto test and auto control.

Features

- ✓ Wide range of voltage/current combinations in constant power
- ✓ Power range 0~400W / 850W / 1500W
- ✓ Voltage ranging up to 600V
- ✓ Current ranging up to 110A
- ✓ 5 digits 4.3-inch TFT LCD display
- ✓ 300 memories for voltage, current, timer
- ✓ Remote sense function
- ✓ Load resistance measurement and display
- ✓ Curved battery charge mode
- ✓ Adjustable voltage/current rise and fall time
- ✓ CV/CC priority setup
- ✓ Current limit & Voltage limit alarm setup
- ✓ Multiple protections: OVP, OCP, OLP, OPP, OTP and reverse polarity protection
- ✓ RS232 & RS485 interfaces, support SCPI & ModBus-RTU commands, support Labview
- ✓ USB Host interface for data
- ✓ Data record function

Product photo



Selection Guide

We have different series of laboratory programmable power supplies. Each of them has their own remarkable features.

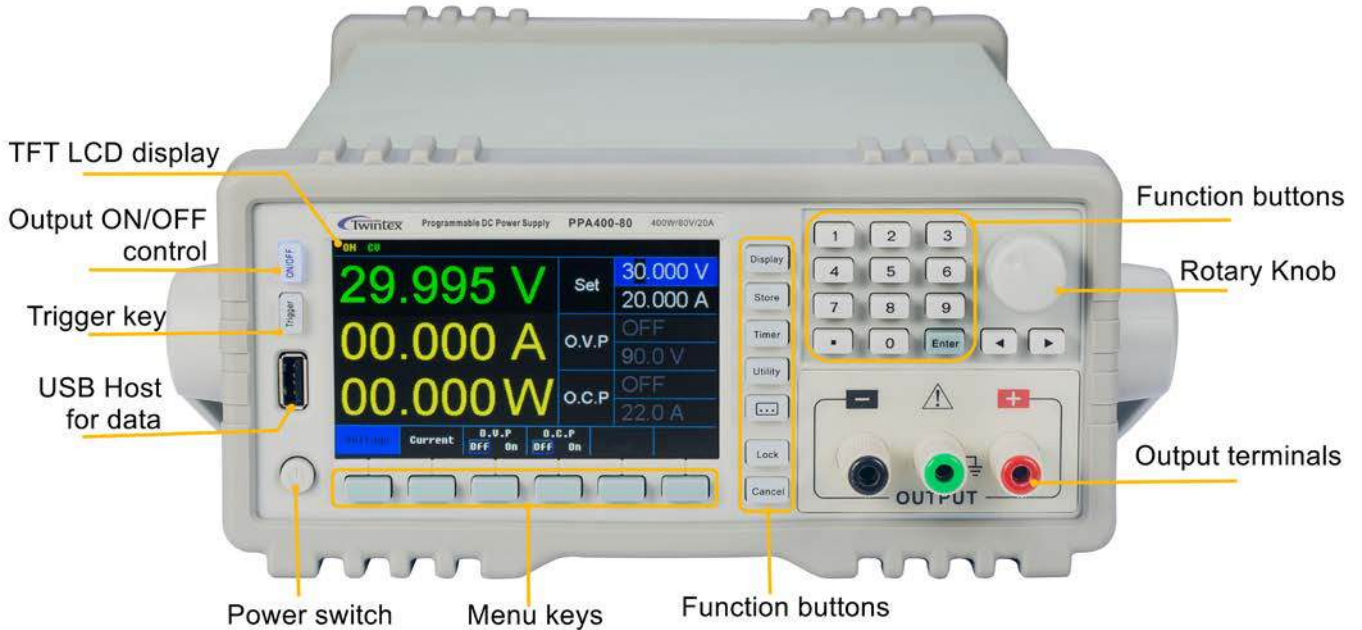
	PPA	PPH	PPS	PPW	PPM
Display	4.3-inch TFT LCD	4.3-inch TFT LCD	4.3-inch TFT LCD	4.3-inch LCD	4.3-inch LCD
Working mode	Switching	Linear	Switching	Switching	Linear
Rated Power	400W 850W 1500W	200W To 360W	300W 600W 900W	300W 600W 900W	90W To 375W
Voltage Ripple	50mVpp	1mV	30mVpp	30mVpp	1mVrms
Ramp output	✓	✓	✓	×	×
USB Host	✓	✓	✓	×	×
USB Device	×	×	×	×	×
RS232	✓	✓	✓	✓	✓
RS485	✓	✓	✓	Optional	Optional
Analog Control 0-5V	×	✓	✓	Optional	Optional
Remote Sensing	✓	✓	✓	✓	✓
Battery Charge Mode	✓	✓	✓	✓	✓
Load resistance measurement	✓	✓	✓	✓	✓
List Mode	✓	✓	✓	✓	✓
19-Inch Rack Compatible	✓	✓	✓	✓	✓
Data record software	✓	✓	✓	✓	✓

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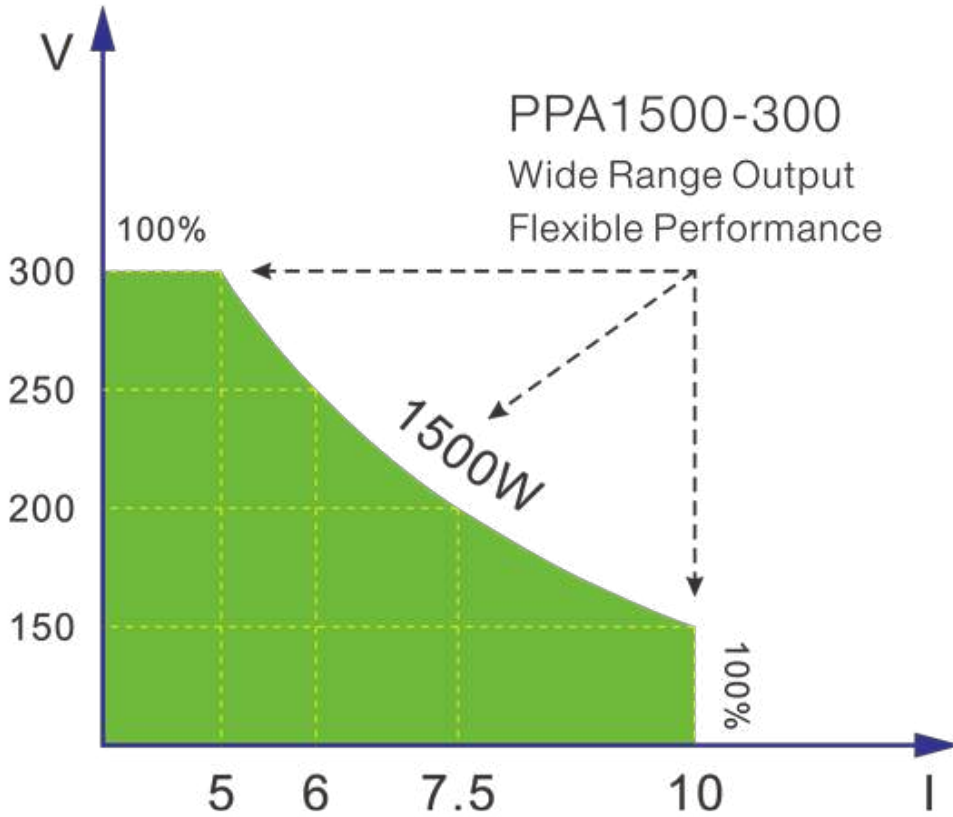
Display and Control Panel

Output voltage, output current and output time can be set through digital keypad or rotary knob. Actual values of output voltage and output current can be represented in waveform display. To prevent unintentional operations, all operation controls can be locked.



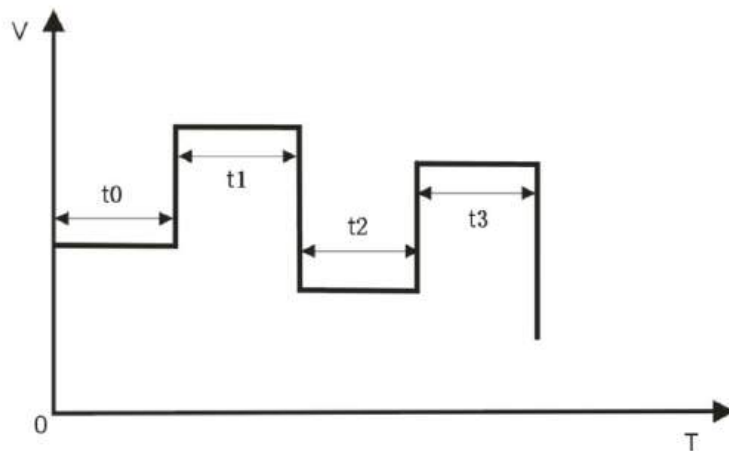
Auto Ranging Output

The output power is constant and the output voltage and current are automatically adjusted within preset output power, without reference to its load. If voltage/current/power drawn by the load exceeds adjustable range of the power supply, the output will be maintained at its max preset value.

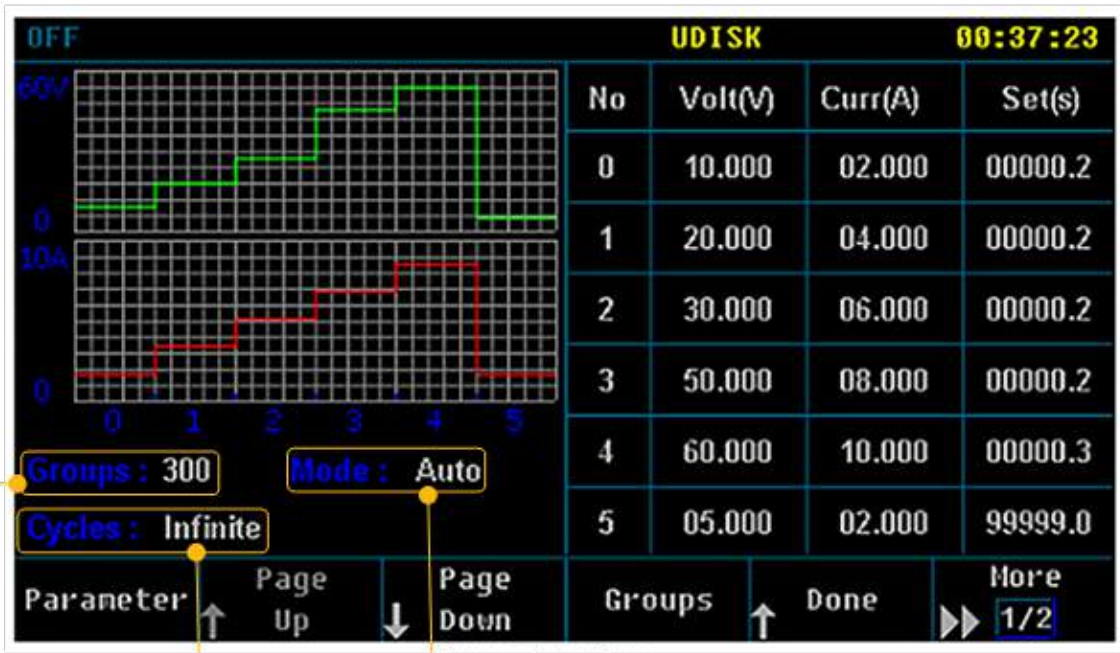


Timing Output

When the timing output is ON, the power supply outputs the preset voltage and current values (max 300 groups) to truly simulate the various kinds of running status of power supply. Output curve of timing output can be displayed in the way of waveform.



Output curve of timing output can be displayed in the way of waveform.



No	Volt(V)	Curr(A)	Set(s)
0	10.000	02.000	00000.2
1	20.000	04.000	00000.2
2	30.000	06.000	00000.2
3	50.000	08.000	00000.2
4	60.000	10.000	00000.3
5	05.000	02.000	99999.0

Groups : 300 Mode : Auto
Cycles : Infinite

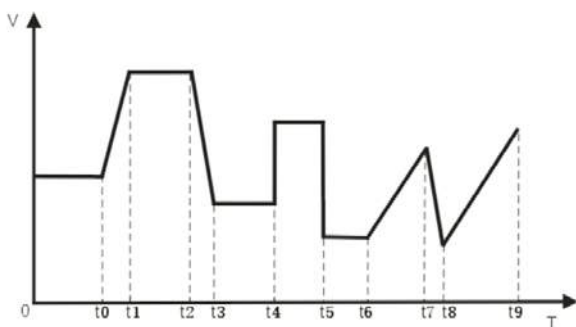
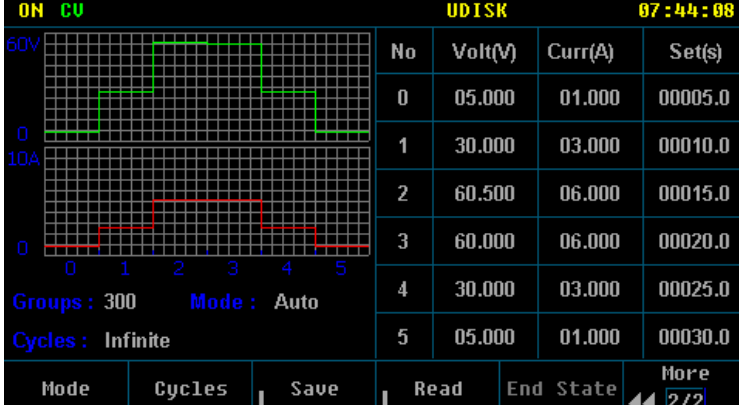
Parameter Page Up Page Down Groups Done More 1/2

Two running modes:
 AUTO: Automatically run preset cycles.
 STEP: Run a single step upon a trigger.

The power supply makes output according to preset cycles. In each cycle output voltage, output current and output time can be set differently. Numbers of cycles can be set as INFINITE or set during 1 to 99999 cycles.

Ramp Output

In Ramp Output mode, the power supply output voltage / current from low to high during preset rise time, or the power supply output voltage / current from high to low during preset fall time. After setting up output voltage, current, rise/fall time, the power supply simulates output curves of different kinds of power sources.

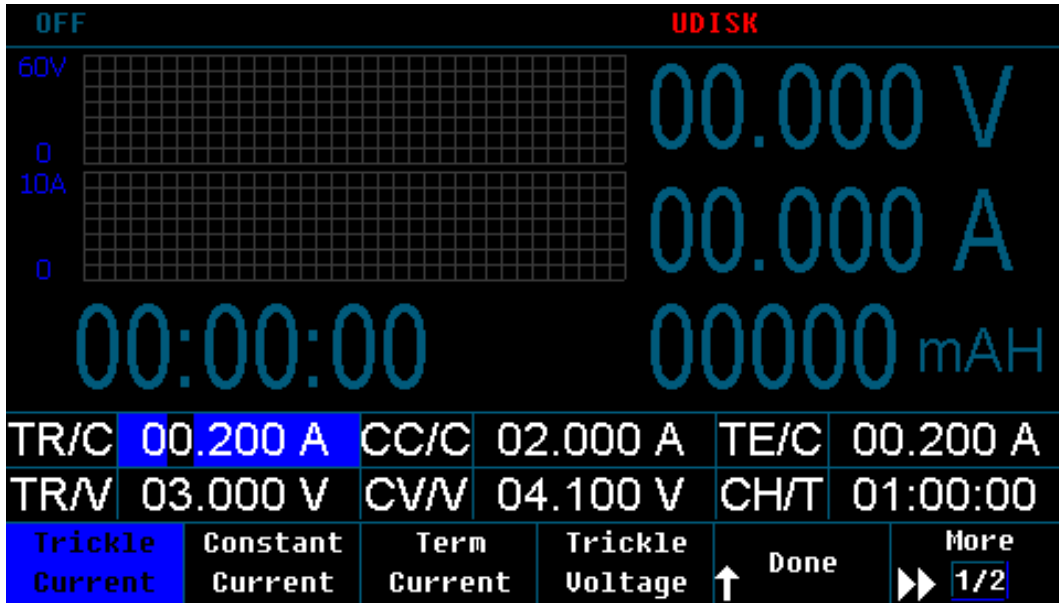
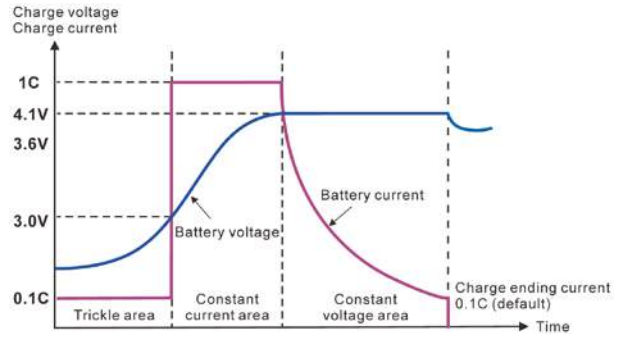
No	Volt(V)	Curr(A)	Set(s)
0	05.000	01.000	00005.0
1	30.000	03.000	00010.0
2	60.500	06.000	00015.0
3	60.000	06.000	00020.0
4	30.000	03.000	00025.0
5	05.000	01.000	00030.0

Groups : 300 Mode : Auto
Cycles : Infinite

Mode Cycles Save Read End State More 2/2

Battery Curved Charge

Instead of same charging voltage and current through out the whole charging operation, a curved charge operation can perfectly protect batteries under charge.



Low Resistance Measurement & Voltage Self Check

When output voltage self test is ON, the power supply will monitor output voltage at output terminal and adjust output voltage to minimize the error between real output value and preset output value.

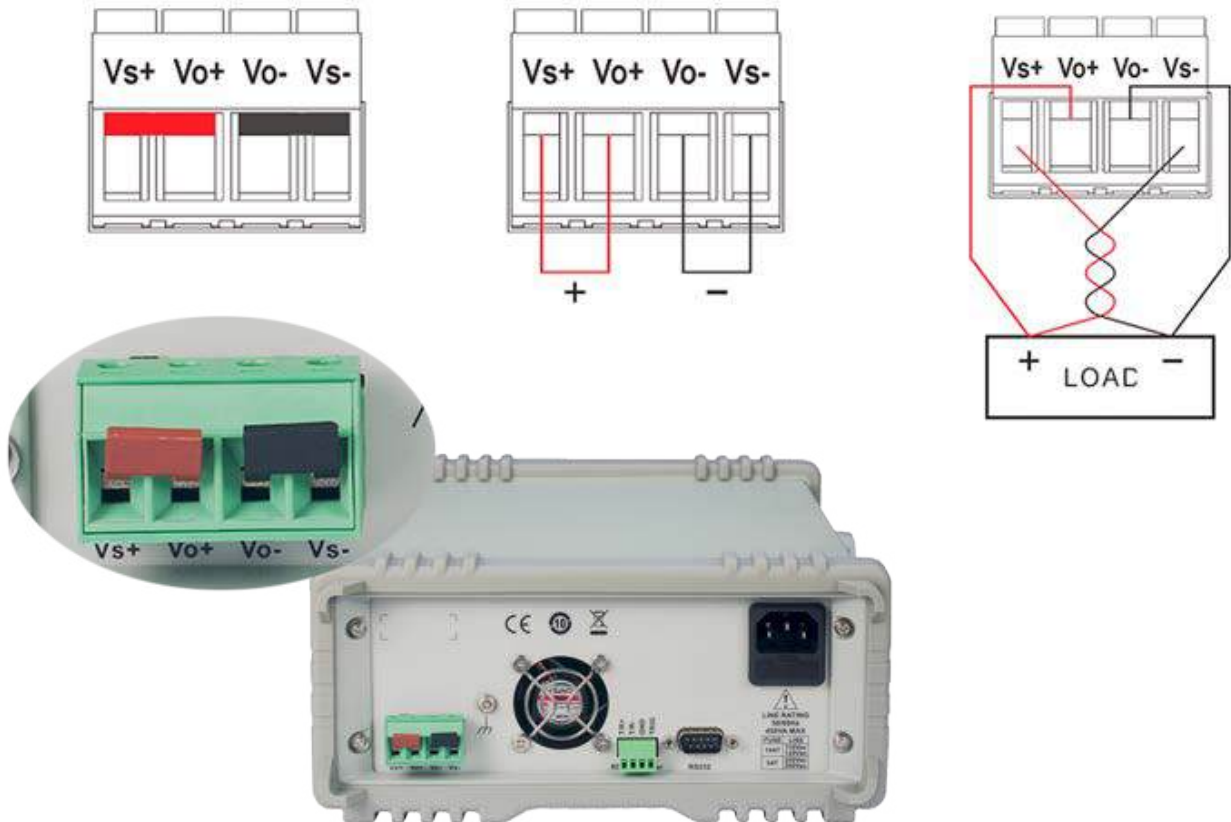
The power supply can measure load resistance and display it on screen.



Programmable Auto Range DC Power Supply

Remote Sense

The power supply can automatically compensate for the voltage drop caused by the load lead to ensure that the power supply output value set by users is consistent with the voltage acquired by the load.



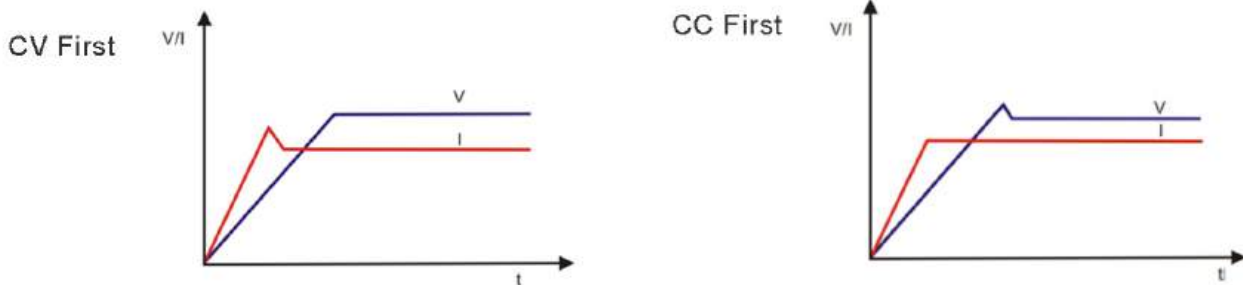
USB Host for Data

USB Host on front panel can be used for test data upload and download.



CC First

In normal operation, the power supply is in CV mode during output startup. A surge current is generated during output startup. The surge current always exceeds rated current, which may have influence to the testing devices. When “CC First” function is turned on, the surge current can be avoided and therefore the testing devices will be protected.



Rack Mount Compatible

The power supply units can be locked onto 19-inch cabinet, providing 3U rack panel or 4U rack panel.



Specifications 400W

(0°C~40°C)		PPA400-80
Rated Output	Voltage	0~80.5V
	Current	0~20.5A
	Power	0~400W
	Power ratio	4.12
Line regulation	Voltage	≤0.01%+2.5mV
	Current	≤0.1%+2.5mA
Load regulation	Voltage	≤0.01%+5mV
	Current	≤0.1%+5mA
Setting accuracy	Voltage	±(0.01% of reading + 10mV)
	Current	±(0.1% of reading + 10mA)
Setting resolution	Voltage	1mV
	Current	1mA
Reading accuracy	Voltage	±(0.01% of reading +5mV)
	Current	±(0.1% of reading + 0.1% of FS)
Reading resolution	Voltage	1mV
	Current	1mA
Ripple&Noise (20Hz-20MHz)	Voltage	≤50mVpp
	Current	≤15mArms
Rise time	Empty load	≤300ms
	Full load	≤1s
Fall time	Empty load	≤500ms
	Full load	≤300ms
Recovery time	≤5ms (50% load change)	
Temp. co-efficiency	≤100ppm	
Efficiency	80% typical	
Power factor	0.99 typical	
Protection	OVP, OCP, OLP, OPP, OTP and reverse polarity protection	
O.V.P setting range	0.1~90V	
O.C.P setting range	0.1~22A	
Remote sense function	Maximum compensation voltage 1V	
Battery charge	Lithium battery curve charge	
Interface	RS232 & RS485 interface, Support SCPI & ModBus-RTU commands	
External trigger	Through 2-pin terminal	
Memory	300 sets	
Insulation	Between base and terminals: ≥100MΩ/500VDC	
Operating environment	Indoor use	Altitude: ≤2000m Ambient temperature: 0~40°C
	Relative humidity: ≤80%	Installation category: II Pollution degree: 2
Storage environment	-10°C~70°C, ≤70%RH	
Power source	AC 176V~264V(full load), 90V~132V(half load), 47~63Hz	
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1	
Dimension	215Wx89Hx352D mm	
Weight	5kg	

Specifications 850W

(0°C~40°C)		PPA850-35	PPA850-80	PPA850-150	PPA850-300	PPA850-600
Rated output	Voltage	0~35V	0~85V	0~155V	0~305V	0~605V
	Current	0~111A	0~40.5A	0~20.5A	0~10.5A	0~5.5A
	Power	850W	850W	850W	850W	850W
	Power ratio	4.57	4.05	3.73	3.76	3.91
Line regulation	Voltage	≤0.01%+5mV	≤0.01%+10mV	≤0.01%+30mV	≤0.01%+50mV	≤0.01%+50mV
	Current	≤0.1%+10mA				
Load regulation	Voltage	≤0.01%+5mV	≤0.01%+10mV	≤0.01%+40mV	≤0.01%+100mV	≤0.01%+100mV
	Current	≤0.1%+10mA				
Setting accuracy	Voltage	±(0.01%rdg + 10mV)	±(0.01%rdg + 10mV)	±(0.03%rdg + 100mV)	±(0.03%rdg + 200mV)	±(0.03%rdg + 200mV)
	Current	±(0.1%rdg + 60mA)	±(0.1%rdg + 10mA)	±(0.1%rdg + 10mA)	±(0.1%rdg + 10mA)	±(0.1%rdg + 10mA)
Setting resolution	Voltage	1mV	1mV	10mV	10mV	10mV
	Current	10mA	1mA	1mA	1mA	1mA
Reading accuracy	Voltage	±(0.01%rdg + 5mV)	±(0.01%rdg + 5mV)	±(0.02%rdg + 50mV)	±(0.02%rdg + 100mV)	±(0.02%rdg + 100mV)
	Current	±(0.1%rdg + 40mA)	±(0.1%rdg + 0.1%FS)	±(0.1%rdg + 0.1%FS)	±(0.1%rdg + 0.1%FS)	±(0.1%rdg + 0.1%FS)
Reading resolution	Voltage	1mV	1mV	10mV	10mV	10mV
	Current	10mA	1mA	1mA	1mA	1mA
Ripple&Noise (20Hz-20MHz)	Voltage	≤100mVpp	≤100mVpp	≤150mVpp	≤250mVpp	≤300mVpp
	Current	≤150mArms	≤50mArms	≤30mArms	≤40mArms	≤30mArms
Rise time	Empty load	≤300ms	≤300ms	≤300ms	≤300ms	≤300ms
	Full load	≤500ms	≤500ms	≤1s	≤1s	≤1s
Fall time	Empty load	≤5s	≤5s	≤5s	≤5s	≤5s
	Full load	≤150ms	≤150ms	≤200ms	≤150ms	≤200ms
Recovery time	≤500us					
Temp. co-efficiency	≤100ppm					
Efficiency	84% typical					
Power factor	0.98 typical					
Protection	OVP, OCP, OLP, OPP, OTP and reverse polarity protection					
O.V.P setting range	0.1~40V	0.1~90V	0.1~160V	0.1~310V	0.1~610V	
O.C.P setting range	0.1~112A	0.1~41.5A	0.1~21.5A	0.1~11.5A	0.1~6.5A	
Remote sense function	Maximum compensation voltage 1V					
Battery charge	Lithium battery curve charge					
Interface	RS232 & RS485 interface, Support SCPI & ModBus-RTU commands					
External trigger	Through 2-pin terminal					
Memory	300 sets					
Insulation	Between base and terminals: ≥100MΩ/500VDC					
Operating environment	Indoor use	Altitude: ≤2000m		Ambient temperature: 0~40°C		
	Relative humidity: ≤80%	Installation category: II		Pollution degree: 2		
Storage environment	-10°C~70°C, ≤70%RH					
Power source	AC110V±10% or 220V±10% 47~63Hz					
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1					
Dimension	215Wx89Hx507D mm					
Weight	7.5kg					

Specifications 1500W

(0°C~40°C)		PPA1500-35	PPA1500-80	PPA1500-150	PPA1500-300	PPA1500-600
Rated output	Voltage	0~35V	0~85V	0~155V	0~305V	0~605V
	Current	0~111A	0~40.5A	0~20.5A	0~10.5A	0~5.5A
	Power	1500W	1500W	1500W	1500W	1500W
	Power ratio	2.59	2.29	2.11	2.13	2.21
Line regulation	Voltage	≤0.01%+5mV	≤0.01%+10mV	≤0.01%+30mV	≤0.01%+50mV	≤0.01%+50mV
	Current	≤0.1%+10mA				
Load regulation	Voltage	≤0.01%+5mV	≤0.01%+10mV	≤0.01%+40mV	≤0.01%+100mV	≤0.01%+100mV
	Current	≤0.1%+10mA				
Setting accuracy	Voltage	±(0.01%rdg + 10mV)	±(0.01%rdg + 10mV)	±(0.03%rdg + 100mV)	±(0.03%rdg + 200mV)	±(0.03%rdg + 200mV)
	Current	±(0.1%rdg + 60mA)	±(0.1%rdg + 10mA)	±(0.1%rdg + 10mA)	±(0.1%rdg + 10mA)	±(0.1%rdg + 10mA)
Setting resolution	Voltage	1mV	1mV	10mV	10mV	10mV
	Current	10mA	1mA	1mA	1mA	1mA
Reading accuracy	Voltage	±(0.01%rdg + 5mV)	±(0.01%rdg + 5mV)	±(0.02%rdg + 50mV)	±(0.02%rdg + 100mV)	±(0.02%rdg + 100mV)
	Current	±(0.1%rdg + 40mA)	±(0.1%rdg + 0.1%FS)	±(0.1%rdg + 0.1%FS)	±(0.1%rdg + 0.1%FS)	±(0.1%rdg + 0.1%FS)
Reading resolution	Voltage	1mV	1mV	10mV	10mV	10mV
	Current	10mA	1mA	1mA	1mA	1mA
Ripple&Noise (20Hz-20MHz)	Voltage	≤100mVpp	≤100mVpp	≤150mVpp	≤250mVpp	≤300mVpp
	Current	≤150mArms	≤50mArms	≤30mArms	≤40mArms	≤30mArms
Rise time	Empty load	≤300ms	≤300ms	≤300ms	≤300ms	≤300ms
	Full load	≤500ms	≤500ms	≤1s	≤1s	≤1s
Fall time	Empty load	≤5s	≤5s	≤5s	≤5s	≤5s
	Full load	≤150ms	≤150ms	≤200ms	≤150ms	≤200ms
Recovery time	≤500us					
Temp. co-efficiency	≤100ppm					
Efficiency	84% typical					
Power factor	0.98 typical					
Protection	OVP, OCP, OLP, OPP, OTP and reverse polarity protection					
O.V.P setting range	0.1~40V	0.1~90V	0.1~160V	0.1~310V	0.1~610V	
O.C.P setting range	0.1~112A	0.1~41.5A	0.1~21.5A	0.1~11.5A	0.1~6.5A	
Remote sense function	Maximum compensation voltage 1V					
Battery charge	Lithium battery curve charge					
Interface	RS232 & RS485 interface, Support SCPI & ModBus-RTU commands					
External trigger	Through 2-pin terminal					
Memory	300 sets					
Insulation	Between base and terminals: ≥100MΩ/500VDC					
Operating environment	Indoor use	Altitude: ≤2000m		Ambient temperature: 0~40°C		
	Relative humidity: ≤80%	Installation category: II		Pollution degree: 2		
Storage environment	-10°C~70°C, ≤70%RH					
Power source	AC110V±10% or 220V±10% 47~63Hz					
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1					
Dimension	215Wx89Hx507D mm					
Weight	7.5kg					

Specifications are subject to change without prior notice.