



Introduction

PPS series are high accuracy programmable DC power supply with single output. Using MPU control, RS-232/RS-485/USB interface for PC control, the PPS series facilitates auto test and auto control. The commands of the PPS series are compliant with SCPI commands. Users can easily develop programs to facilitate different applications in auto test and auto control. Users can also store or recall data via the USB host on front panel.

The 4.3-inch TFT LCD display gives full display for parameters and output waveforms. Digital input fulfilled by rotary dial and keypad input makes input fast and accurate. Voltage and current regulations by software, avoids human error and makes the PPS series more accurate.

Features

- ✓ High accuracy, high resolution
- ✓ 5 digits 4.3-inch TFT LCD display
- ✓ High speed rotary dial and keypad input
- ✓ Ram output
- ✓ CV/CC priority setup
- ✓ Current limit and voltage limit alarm
- ✓ Remote sense function
- ✓ Load resistance measurement
- ✓ Battery curved charge mode
- ✓ Multiple protections: OVP, OCP, OLP, OTP and reverse polarity protections
- ✓ List mode function, 300 sets save & recall for voltage, current and time setups
- ✓ USB host interface for data storage and recall from external USB flash driver
- ✓ Communication interface: RS232, RS85 and 0-5V analog interface
- ✓ Support SCPI & ModBus-RTU commands, support Labview
- ✓ Data record software



Selection Guide

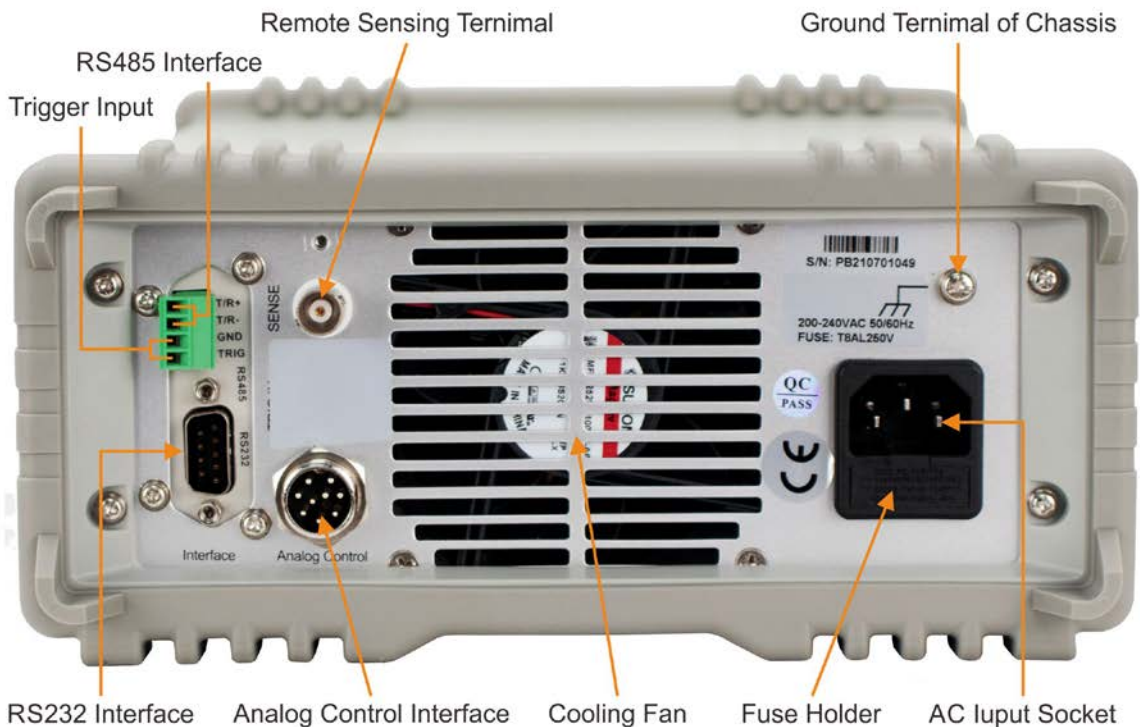
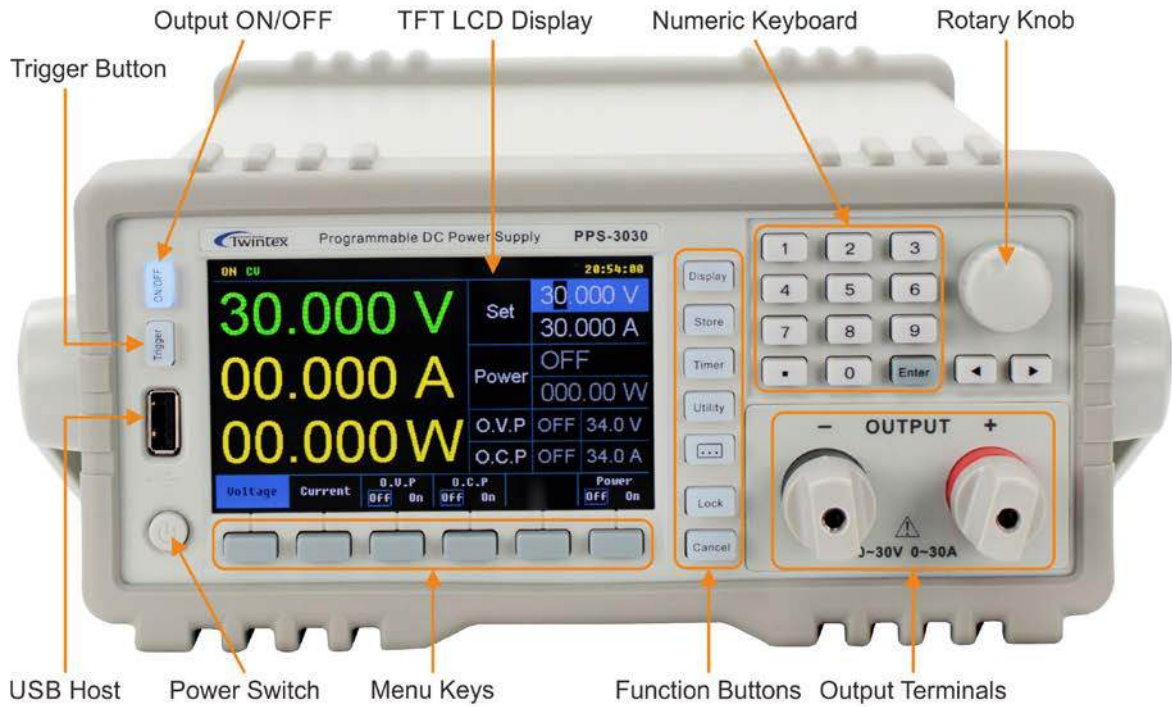
We have different series of laboratory programmable power supplies. Each of them has their own remarkable features.

	PPA	PPA	PPS	PPW	PPH	PPM
Display	4 digits LCD	4.3-inch TFT LCD	4.3-inch TFT LCD	4.3-inch LCD	4.3-inch TFT LCD	4.3-inch LCD
Rated Power	100W 180W	400W 850W 1500W	300W 600W 900W	300W 600W 900W	300W to 360W	90W To 375W
Working Mode	Switching	Switching	Switching	Switching	Linear	Linear
Voltage Ripple	5mVrms	50mVpp	30mVpp	30mVpp	1mVrms	1mVrms
Constant Power (CP) Mode	✓	✓	×	×	×	×
Ramp Output	×	✓	✓	×	✓	×
CV/CC Priority Set	×	✓	✓	✓	×	×
V-limit & I-limit alarm	×	✓	✓	×	✓	×
USB Host	×	✓	✓	×	✓	×
USB Device	Optional	×	×	×	×	×
RS232	✓	✓	✓	✓	✓	✓
RS485	✓	✓	✓	Optional	✓	Optional
Analog Control 0-5V	×	×	✓	Optional	✓	Optional
Remote Sensing	✓	✓	✓	✓	✓	✓
Lithium Battery Charge Mode	×	✓	✓	✓	✓	✓
Load Resistance Measurement	×	✓	✓	✓	✓	✓
List Mode	✓	✓	✓	✓	✓	✓
19" Rack Compatible	✓	✓	✓	✓	✓	✓
Data record software	✓	✓	✓	✓	✓	✓

Display and Control Panel

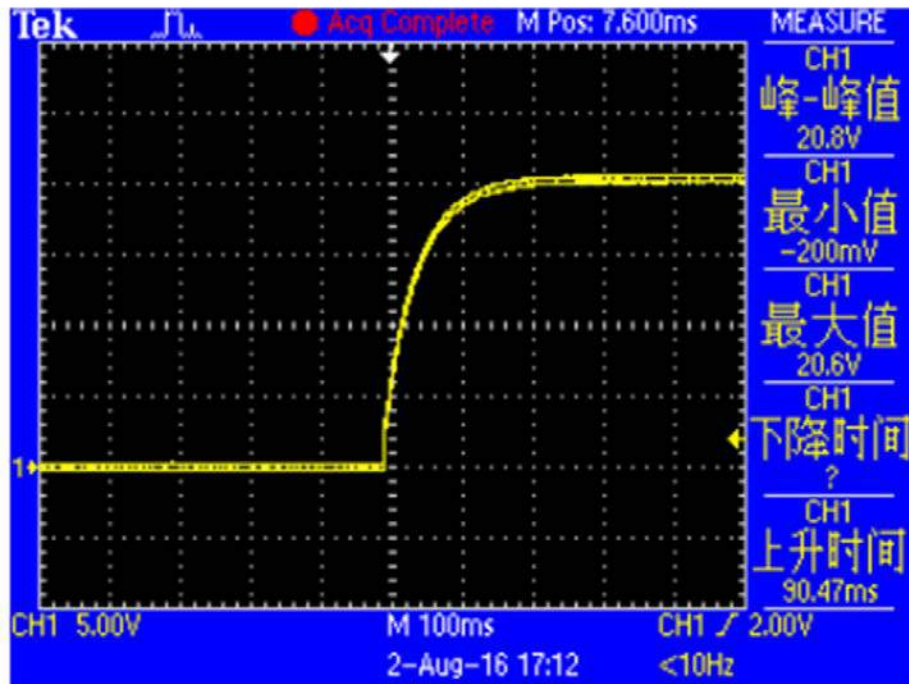
Output voltage, output current and output time can be set through digital keypad or rotary knob. Actual values of output voltage and output current can be represented in waveform display.

To prevent unintentional operations, all operation controls can be locked.



No Overshoot

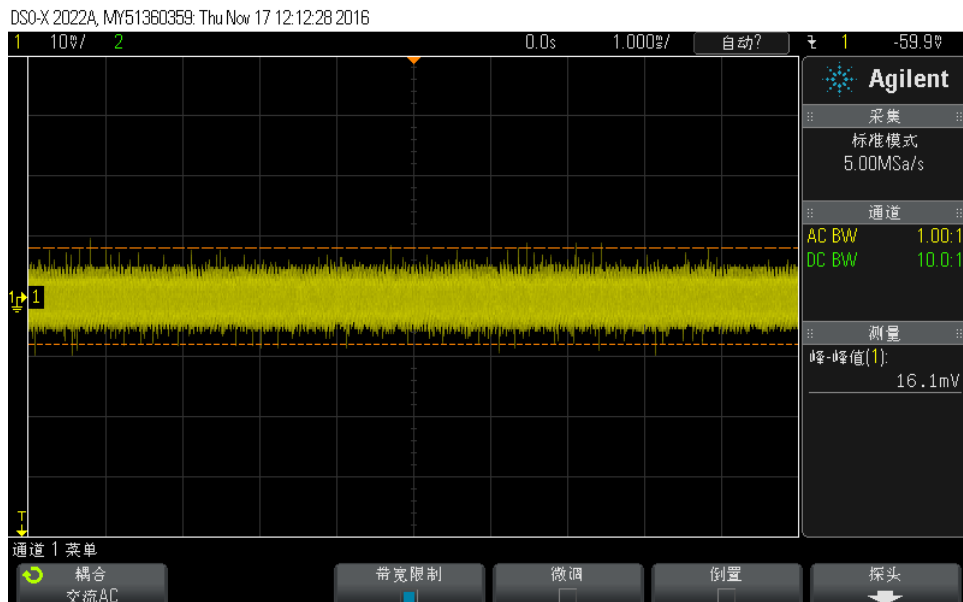
This power supply has no overshoot during voltage output, giving very stable output. Stable output is key to protect devices under test (DUT).



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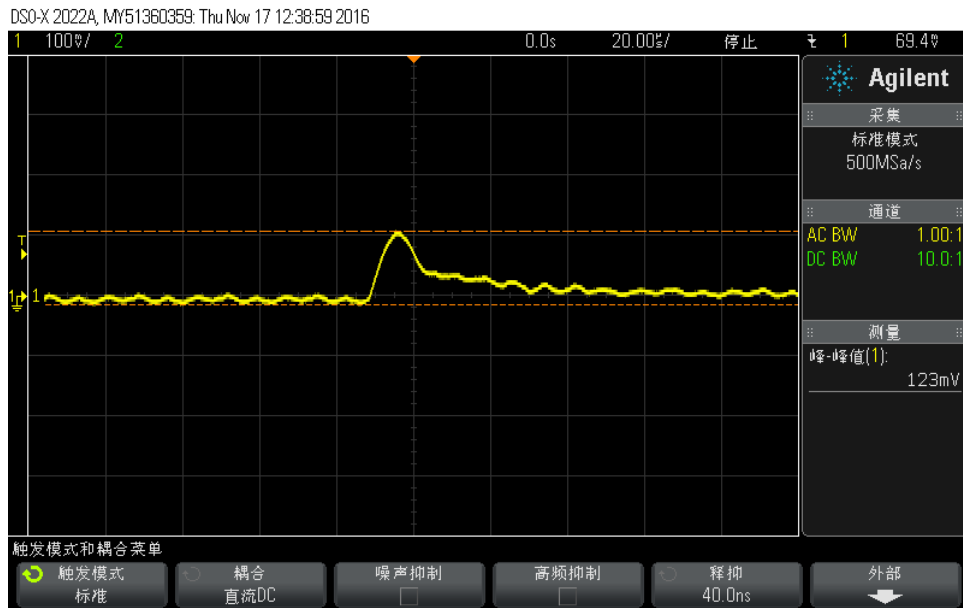
Low Ripple, Pure Output

Voltage ripple <30mVpp (load 1Ω, 30V)



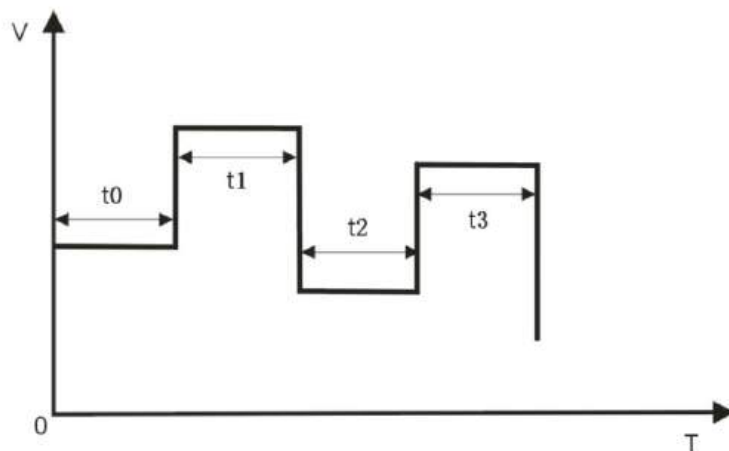
Fast Transient Response Time

This power supply has fast transient response time, <math><50\mu s</math> when 25% to 75% load change. When there is transient change on load current, the output voltage can recover to its setting value very fast, so as to ensure stable and high quality output. Some DUT, such as cell phones, WIFI, wireless sensors, its fast change is far over transient response speed of the power supply. When testing such DUT, the power supply is not able to make output as per its setting values, and more over may cause shut down or repeating restart on the DUT. With fast transient response time, our power supply ensures high quality output.



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.

The screenshot shows the power supply's control interface. On the left, there are two waveforms: a green one for voltage (0-60V) and a red one for current (0-10A), both showing step changes over time (0-5s). Below the waveforms, the settings are: **Groups: 300**, **Mode: Auto**, and **Cycles: Infinite**. A label 'Max 300 groups' points to the 'Groups' setting. The right side of the interface displays a table of preset cycles.

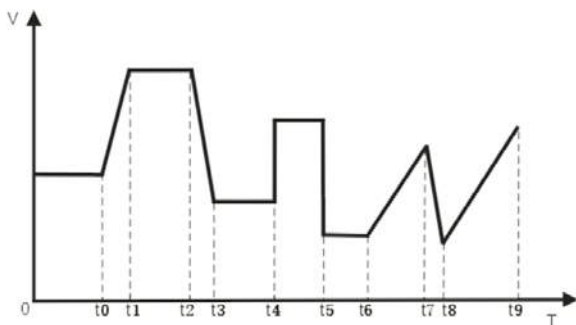
No	Volt(V)	Curr(A)	Set(s)
0	10.000	02.000	00000.2
1	20.000	04.000	00000.2
2	30.000	06.000	00000.2
3	50.000	08.000	00000.2
4	60.000	10.000	00000.3
5	05.000	02.000	99999.0

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.



The screenshot shows the power supply's control interface in Ramp Output mode. It features two waveforms: a green one for voltage (0-60V) and a red one for current (0-10A), showing ramping behavior. Below the waveforms, the settings are: **Groups: 300**, **Mode: Auto**, and **Cycles: Infinite**. The right side displays a table of preset cycles.

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

Mode: Cycles Save Read End State More 2/2

Low Resistance Measurement & Voltage Self Check

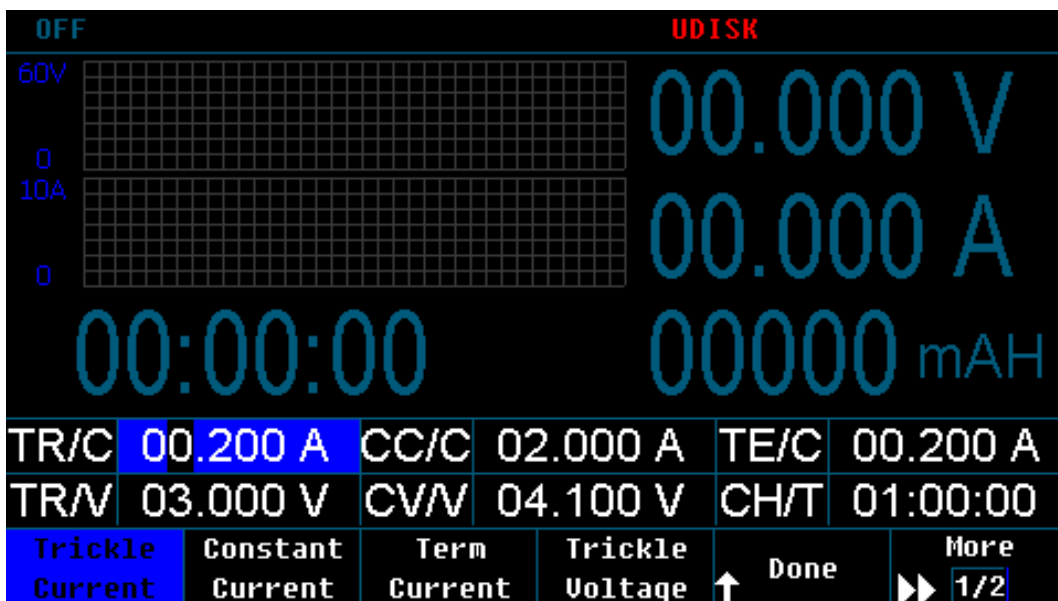
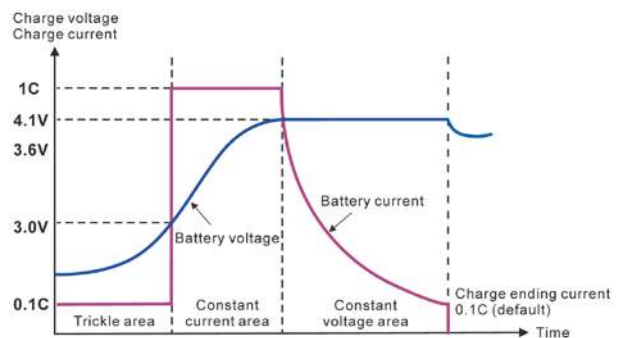
When output voltage self test is ON, the power supply will monitor output voltage at output terminal and adjust output voltage to minimize the error between real output value and preset output value.

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



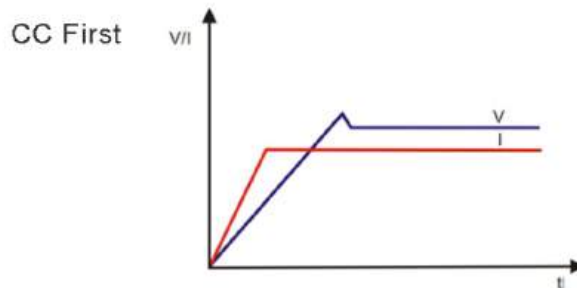
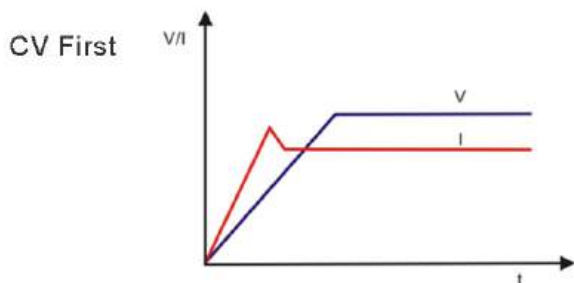
Battery Curved Charge

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



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.



Programmable Switching DC Power Supply



Specifications (300W/600W)

(0°C~40°C)		PPS-3010	PPS-2030	PPS-3020	PPS-6010	PPS-8008
Rated Output	Voltage	0~31V	0~20.5V	0~31V	0~60.5V	0~80.5V
	Current	0~10.5A	0~30.5A	0~21A	0~10.5A	0~8.0A
Line regulation	Voltage	≤0.01%+4mV				
	Current	≤0.1%+3mA				
Load regulation	Voltage	≤0.1%+5mV				
	Current	≤0.1%+5mA				
Setting accuracy	Voltage	±(0.03% of reading + 10mV)				
	Current	±(0.1% of reading + 0.1% of FS)				
Setting resolution	Voltage	1mV				
	Current	1mA				
Reading accuracy	Voltage	±(0.02% of reading +5mV)				
	Current	±(0.1% of reading + 0.1% of FS)				
Reading resolution	Voltage	1mV				
	Current	1mA				
Ripple&Noise (20Hz~20MHz)	Voltage	≤2mVrms, 30mVpp				
	Current	≤10mArms				
Rise time	Empty load	≤500ms				
	Full load	≤1s				
Fall time	Empty load	≤1.5s	≤1.5s	≤1.5s	≤3s	≤4s
	Full load	≤3ms	≤2ms	≤3ms	≤8ms	≤10ms
Recovery time	≤1.5ms (50% load change)					
Temperature Coefficient	≤100ppm/°C					
Efficiency	80% typical					
Power factor	0.98					
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections					
O.V.P setting range	0.1~34V	0.1~24V	0.1~34V	0.1~64V	0.1~88V	
O.C.P setting range	0.1~24A	0.1~34A	0.1~24A	0.1~12A	0.1~8.8A	
Remote sense function	Maximum compensation voltage 5% of FS					
Battery charge	Lithium battery curve charge					
Digital interface	RS232 & RS485 interface, Support SCPI & ModBus commands					
Analog interface	0-5V analog control for output ON/OFF, voltage & current control & monitor					
Memory	300 sets internal save, support save to USB flash driver					
Insulation	Between base and terminals: ≥20MΩ/500VDC					
	Between base and AC line: ≥30MΩ/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	AC220V±10%, 50/60Hz					
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1					
Dimension (WxHxD)	215x89x352mm					
Weight	4.5kg					

Specifications (900W)

(0°C~40°C)		PPS-1560	PPS-2045	PPS-3030	PPS-3625	PPS-4520
Rated output	Voltage	0~15.5V	0~20.5V	0~31V	0~36.5V	0~45.5V
	Current	0~60.5A	0~45.5A	0~31A	0~25.5A	0~20.5A
Line regulation	Voltage	≤0.01%+4mV				
	Current	≤0.1%+3mA				
Load regulation	Voltage	≤0.1%+5mV				
	Current	≤0.1%+5mA				
Setting accuracy	Voltage	±(0.03% of reading + 10mV)				
	Current	±(0.1% of reading + 0.1% of FS)				
Setting resolution	Voltage	1mV				
	Current	1mA				
Reading accuracy	Voltage	±(0.02% of reading +5mV)				
	Current	±(0.1% of reading + 0.1% of FS)				
Reading resolution	Voltage	1mV				
	Current	1mA				
Ripple&Noise (20Hz~20MHz)	Voltage	≤2mVrms, 30mVpp				
	Current	≤10mArms				
Rise time	Empty load	≤200ms	≤300ms	≤500ms	≤500ms	≤500ms
	Full load	≤300ms	≤1s	≤1s	≤1s	≤1s
Fall time	Empty load	≤2s	≤2s	≤2s	≤3s	≤3s
	Full load	≤2ms	≤2ms	≤2ms	≤3ms	≤3ms
Recovery time	≤1.5ms (50% load change)					
Temperature Coefficient	≤100ppm/°C					
Efficiency	80% typical					
Power factor	0.98					
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections					
O.V.P setting range	0.1~18V	0.1~24V	0.1~34V	0.1~40V	0.1~55V	
O.C.P setting range	0.1~62 A	0.1~50A	0.1~34A	0.1~27.5A	0.1~22A	
Remote sense function	Maximum compensation voltage 5% of FS					
Battery charge	Lithium battery curve charge					
Digital interface	RS232 & RS485 interface, Support SCPI & ModBus commands					
Analog interface	0-5V analog control for output ON/OFF, voltage & current control & monitor					
Memory	300 sets internal save, support save to USB flash driver					
Insulation	Between base and terminals: ≥20MΩ/500VDC					
	Between base and AC line: ≥30MΩ/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	AC220V±10%, 50/60Hz					
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1					
Dimension (WxHxD)	215x89x412mm					
Weight	5.5kg					

Specifications (900W)

(0°C~40°C)		PPS-6015	PPS-8011	PPS-12H75	PPS-15H60
Rated output	Voltage	0~60.5V	0~80.5V	0~121V	0~151V
	Current	0~15.5A	0~11.5A	0~7.6A	0~6.1A
Line regulation	Voltage	≤0.01%+4mV			
	Current	≤0.1%+3mA			
Load regulation	Voltage	≤0.1%+5mV			
	Current	≤0.1%+5mA			
Setting accuracy	Voltage	±(0.03% of reading + 10mV)			
	Current	±(0.1% of reading + 0.1% of FS)			
Setting resolution	Voltage	1mV	1mV	10mV	10mV
	Current	1mA			
Reading accuracy	Voltage	±(0.02% of reading +5mV)			
	Current	±(0.1% of reading + 0.1% of FS)			
Reading resolution	Voltage	1mV	1mV	10mV	10mV
	Current	1mA			
Ripple&Noise (20Hz~20MHz)	Voltage	≤2mVrms, 30mVpp		≤5mVrms, ≤50mVpp	
	Current	≤10mArms			
Rise time	Empty load	≤1s	≤1s	≤1.5s	≤1.5s
	Full load	≤1.5s	≤1.5s	≤2s	≤2s
Fall time	Empty load	≤3s	≤3s	≤8s	≤8s
	Full load	≤3ms	≤4ms	≤9ms	≤12ms
Recovery time	≤1.5ms (50% load change)				
Temperature Coefficient	≤100ppm/°C				
Efficiency	80% typical				
Power factor	0.98				
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections				
O.V.P setting range	0.1~64V	0.1~88V	0.1~132V	0.1~160V	
O.C.P setting range	0.1~17A	0.1~12A	0.1~8A	0.1~6.6A	
Remote sense function	Maximum compensation voltage 5% of FS				
Battery charge	Lithium battery curve charge				
Digital interface	RS232 & RS485 interface, Support SCPI & ModBus commands				
Analog interface	0-5V analog control for output ON/OFF, voltage & current control & monitor				
Memory	300 sets internal save, support save to USB flash driver				
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	Relative humidity: ≤80%	Installation category: II	Pollution degree: 2		
Storage environment	-10°C~70°C, ≤70%RH				
Power source	AC220V±10%, 50/60Hz				
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1				
Dimension (WxHxD)	215x89x412mm				
Weight	5.5kg				

Specifications are subject to change without prior notice.