



## Introduction

PPM series are high precision programmable DC power supply with single output, output power rated from 90W to 375W with various model numbers. PPM series are featured with low regulation 0.01%, low ripple and noise 1mVrms, automatic continuous or dynamic load change, battery charge function. MPU control, RS-232/RS-485/USB interface for PC control, the PPM series facilitates auto test and auto control. The commands of the PPM series are compliant with SCPI commands. Users can easily develop programs to facilitate different applications in auto test and auto control. Digital input fulfilled by rotary dial and keypad input, fast and accurate. Voltage and current regulations by software, avoids human error and makes the PPM series more accurate.

## Features

- ✓ 0.01% low regulation, high accuracy and high resolution
- ✓ 5 digits 4.3-inch backlit Segment LCD display
- ✓ High speed rotary dial and keypad input
- ✓ Automatic continuous or dynamic load change
- ✓ 1mVrms low ripple & noise
- ✓ Remote sense function (except PPM-3H12, PPM-5H07)
- ✓ 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
- ✓ Communication interface: RS232 at default, optional RS85 and 0-5V analog interface
- ✓ Support SCPI & ModBus-RTU commands, support Labview
- ✓ Data record software

## Product photo



(Rated Current  $\leq 10A$ )



(Rated Current  $> 10A$ )



## Selection Guide

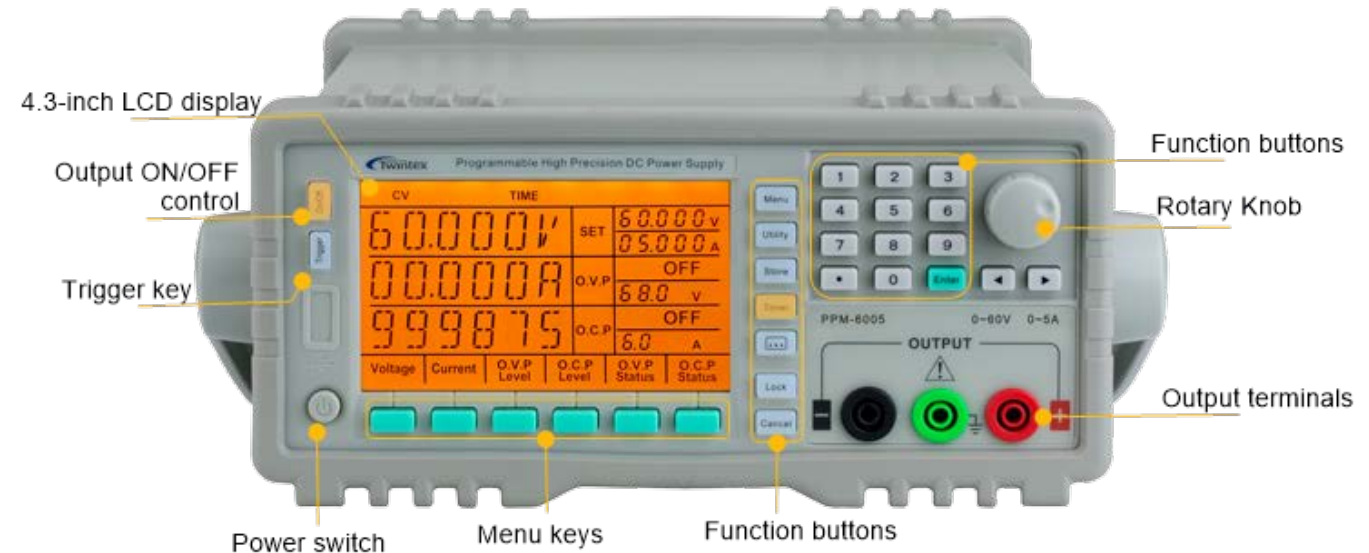
We have different series of laboratory programmable power supplies. Each of them has their own remarkable features.

	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

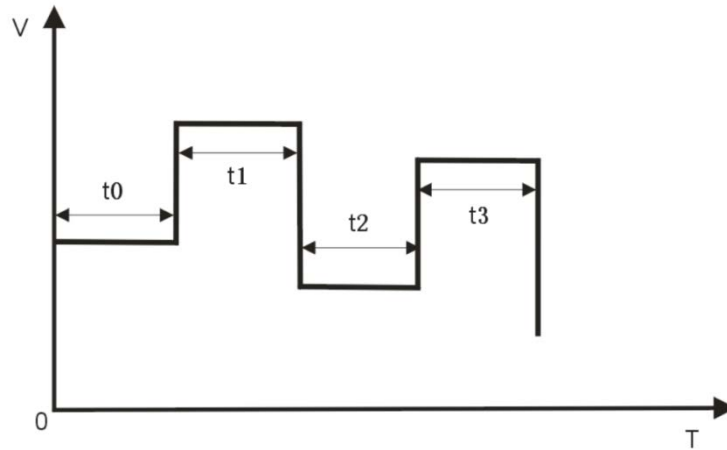
Output voltage, output current and output time can be set through digital keypad or rotary knob. Actual values of output voltage and output current can be represented in waveform display.

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



## 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.



Press "Timer" key to set timing output parameters and press "On/Off" key to start output. Max 300 groups of parameters can be set. Many groups of parameters can be set into one running cycle. 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.

The preset cycles can be set to run in different modes:

AUTO: Automatically run preset cycles.

STEP: Run a single step upon a trigger.

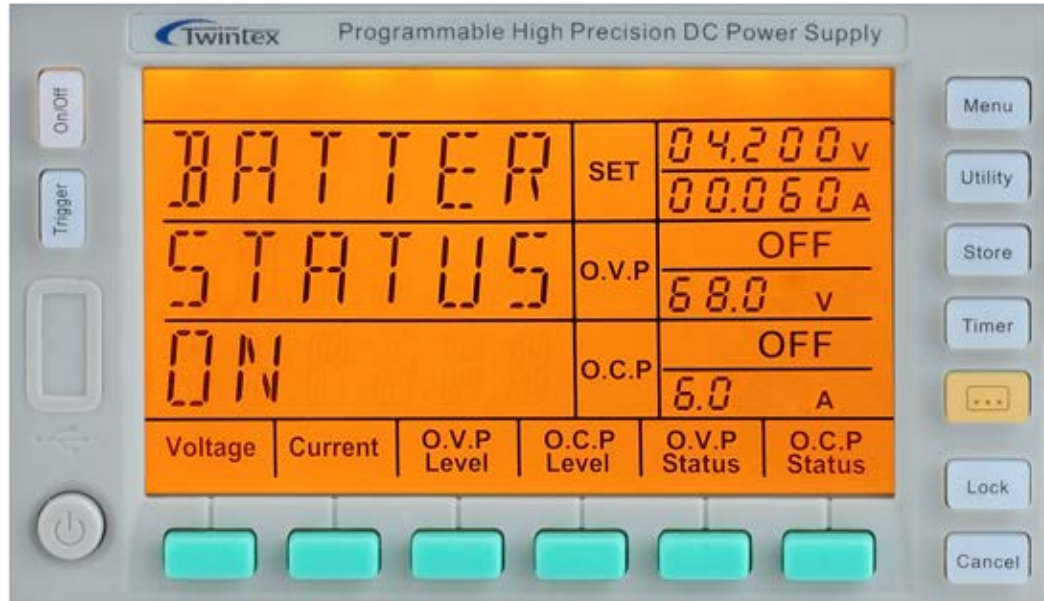
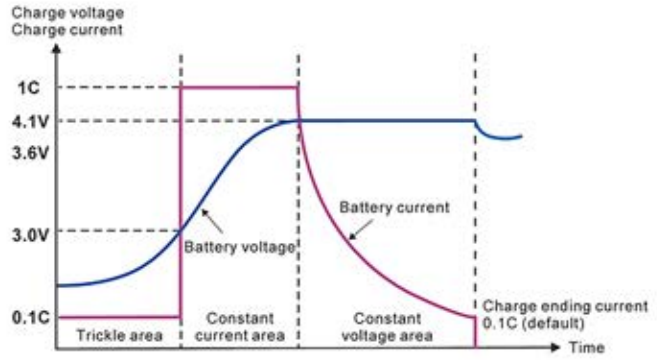


# Programmable Linear DC Power Supply



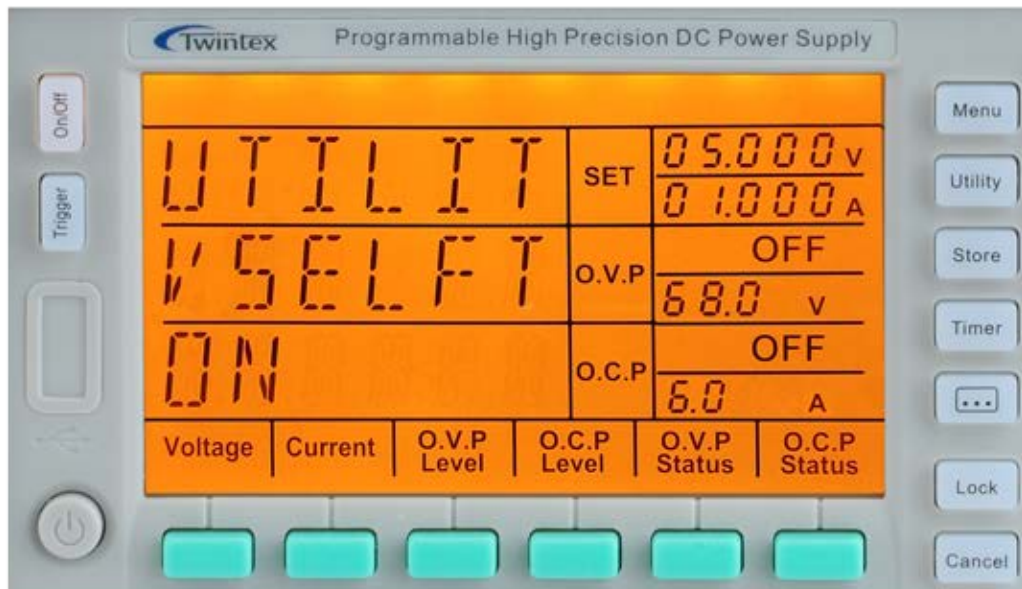
## Battery Curved Charge

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



## 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.



## Low Resistance Measurement

The power supply can measure load resistance and display it on screen.  
Press "Utility" key to choose display of load resistance or output power.

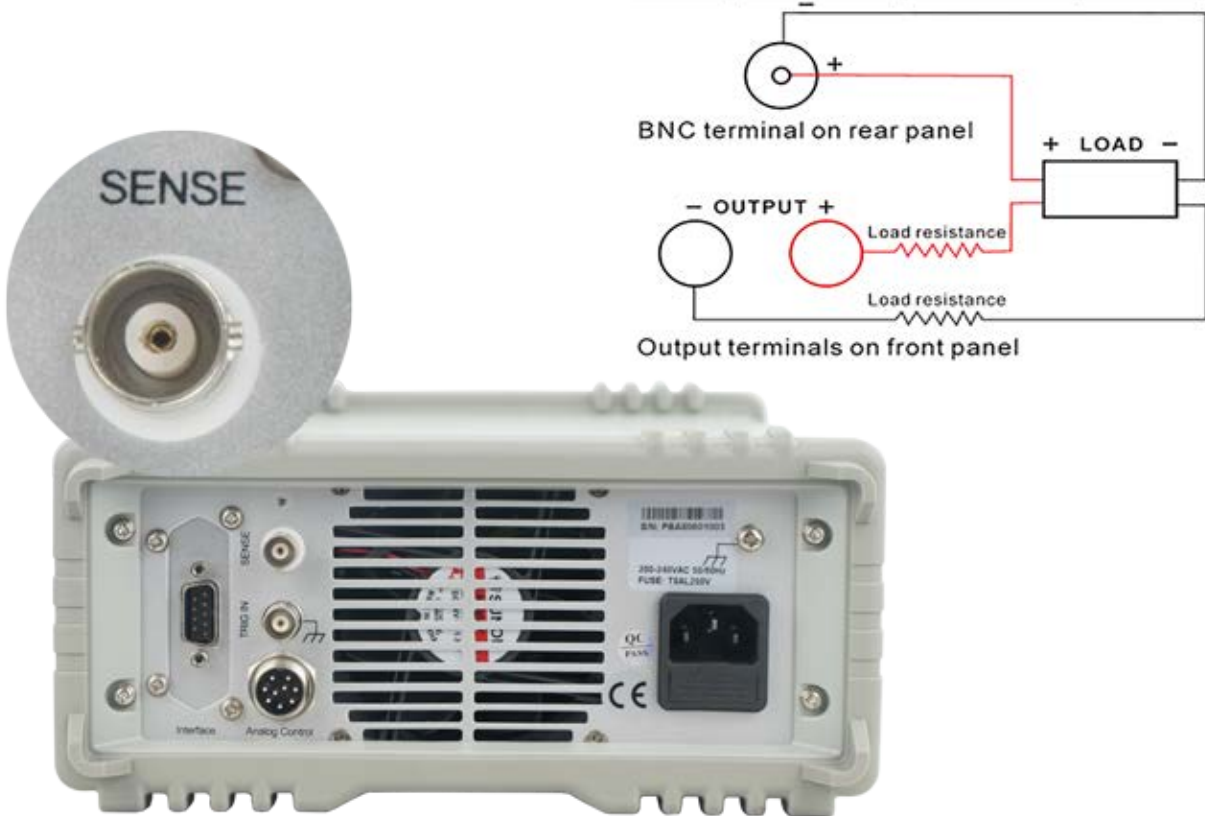


# Programmable Linear DC Power Supply



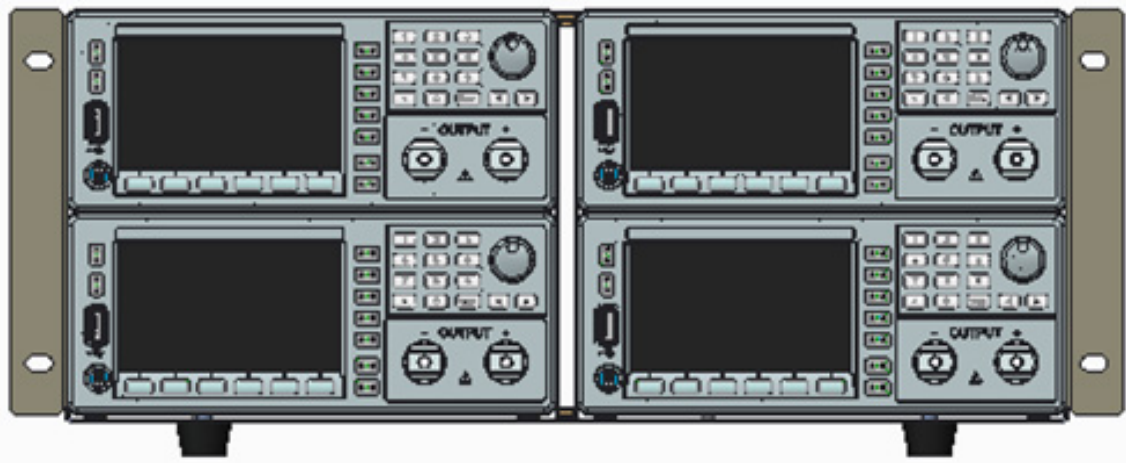
## Remote Sense

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.



## Rack Mount Compatible

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





## Specifications (90W ~ 216W)

Model	PPM-3003	PPM-3005	PPM-3603	PPM-3605	PPM-3606	PPM-6003	PPM-6005
<b>Rated output (0°C~40°C)</b>							
Voltage	0~32V	0~32V	0~40V	0~40V	0~40V	0~64V	0~64V
Current	0~3.2A	0~5.5A	0~3.2A	0~5.5A	0~6.4A	0~3.2A	0~5.5A
O.V.P	0.1~36V	0.1~36V	0.1~42V	0.1~42V	0.1~42V	0.1~68V	0.1~68V
O.C.P	0.1~3.6A	0.1~6.0A	0.1~3.6A	0.1~7.0A	0.1~6.0A	0.1~3.6A	0.1~6.0A
<b>Constant Voltage Operation</b>							
Line regulation	≤0.01%+3mV						
Load regulation	≤0.01%+3mV (I≤3A); ≤0.02%+5mV (I>3A)						
Ripple & Noise	≤1mVrms (I≤3A); ≤2mVrms (I>3A) (5Hz~1MHz)						
Recovery time	≤100us (50% load change, minimum load 0.5A)						
<b>Constant Current Operation</b>							
Line regulation	≤0.1%+3mA						
Load regulation	≤0.1%+3mA (I≤3A); ≤0.1%+5mA (I>3A)						
Ripple & Noise	≤3mArms (I≤3A), ≤6mArms (I>3A)						
<b>Display</b>							
Voltmeter	5 digits LCD display						
Ammeter	5 digits LCD display						
Setting resolution	1mV/0.1mA						
Reading resolution	1mV/0.1mA						
Setting accuracy	Voltage	±(0.03% of reading + 10mV) (25±5°C)					
	Current	±(0.1% of reading + 0.1% of FS) (25±5°C)					
Reading accuracy	Voltage	±(0.02% of reading + 5mV) (25±5°C)					
	Current	±(0.1% of reading + 0.1% of FS) (25±5°C)					
<b>General</b>							
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections						
Panel lock	Provided						
Remote sense function	Maximum compensation voltage 5% of FS						
Battery charge	Lithium battery curve charge						
Interface	RS232 interface, Support SCPI & ModBus commands Optional RS485 interface Optional RS232 to USB cable Optional 0-5V analog control						
Memory	300 sets						
Insulation	Between base and terminals: ≥20MΩ/500VDC Between base and AC power cord: ≥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	AC110V/220V±10% selectable, 50/60Hz						
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1						
Dimension	215Wx89Hx352D mm						
Weight	6.8kg	6.8kg	6.8kg	6.8kg	8kg	8kg	8kg

## Specifications (120W ~ 375W)

Model	PPM-3010	PPM-7503	PPM-7505	PPM-12001	PPM-12002	PPM-15H15
<b>Rated output (0°C~40°C)</b>						
Voltage	0~32V	0~80V	0~80V	0~128V	0~128V	0~160V
Current	0~11A	0~3.2A	0~5.5A	0~1.1A	0~2.2A	0~1.6A
O.V.P	0.1~36V	0.1~84V	0.1~84V	0.1~134V	0.1~134V	0.1~180V
O.C.P	0.1~12A	0.1~3.6A	0.1~6.0A	0.1~1.2A	0.1~2.4A	0.1~1.8A
<b>Constant Voltage Operation</b>						
Line regulation	≤0.01%+3mV					
Load regulation	≤0.01%+3mV (I≤3A); ≤0.02%+5mV (I>3A)					
Ripple & Noise	≤1mVrms (I≤3A); ≤2mVrms (I>3A); ≤3mVrms (V≥75V) (5Hz~1MHz)					
Recovery time	≤100us (50% load change, minimum load 0.5A)					
<b>Constant Current Operation</b>						
Line regulation	≤0.1%+3mA					
Load regulation	≤0.1%+3mA (I≤3A); ≤0.1%+5mA (I>3A)					
Ripple & Noise	≤3mArms (I≤3A), ≤6mArms (I>3A)					
<b>Display</b>						
Voltmeter	5 digits LCD display					
Ammeter	5 digits LCD display					
Setting resolution	1mV/1mA		2mV/0.1mA		10mV/0.1mA	
Reading resolution	1mV/1mA		1mV/0.1mA		10mV/0.1mA	
Setting accuracy	Voltage	±(0.03% of reading + 10mV) (25±5°C)				
	Current	±(0.1% of reading + 0.1% of FS) (25±5°C)				
Reading accuracy	Voltage	±(0.02% of reading + 5mV) (25±5°C)				
	Current	±(0.1% of reading + 0.1% of FS) (25±5°C)				
<b>General</b>						
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections					
Panel lock	Provided					
Remote sense function	Maximum compensation voltage 5% of FS					
Battery charge	Lithium battery curve charge					
Interface	RS232 interface, Support SCPI & ModBus commands					
	Optional RS485 interface					
	Optional RS232 to USB cable					
	Optional 0-5V analog control					
Memory	300 sets					
Insulation	Between base and terminals: ≥20MΩ/500VDC					
	Between base and AC power cord: ≥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	AC110V/220V±10% selectable, 50/60Hz					
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1					
Dimension	215Wx89Hx352D mm					
Weight	8kg	8.5kg	8kg	8kg	8.5kg	6.8kg

# Programmable Linear DC Power Supply



## Specifications (240W ~ 360W)

Model	PPM-1820		PPM-12003		PPM-3H12		PPM-5H07	
<b>Rated output (0°C~40°C)</b>								
Voltage	0~19V		0~128V		0~330V		0~500V	
Current	0~21A		0~3.2A		0~1.2A		0~0.7A	
O.V.P	0.1~21V		0.1~134V		0.1~360V		0.1~550V	
O.C.P	0.1~22A		0.1~3.6A		0.01~1.32A		0.01~0.8A	
<b>Constant Voltage Operation</b>								
Line regulation	≤0.01%+3mV							
Load regulation	≤0.01%+3mV (I≤3A); ≤0.02%+5mV (I>3A)							
Ripple & Noise (5Hz~1MHz)	≤1mVrms		≤2.5mVrms		≤10mVrms		≤10mVrms	
Recovery time	≤100us (50% load change, minimum load 0.5A)							
<b>Constant Current Operation</b>								
Line regulation	≤0.1%+3mA							
Load regulation	≤0.05%+3mA (I≤3A); ≤0.05%+5mA (I>3A)							
Ripple & Noise	≤5mAms		≤1mAms		≤1mAms		≤1mAms	
<b>Display</b>								
Voltmeter	5 digits LCD display							
Ammeter	5 digits LCD display							
Setting resolution	1mV/1mA		10mV/0.1mA		10mV/0.1mA		10mV/0.1mA	
Reading resolution	1mV/1mA		10mV/0.1mA		10mV/0.1mA		10mV/0.1mA	
Setting accuracy (25±5°C)	Voltage	±(0.03% of reading + 10mV)			±(0.03% of reading + 30mV)			
	Current	±(0.1% of reading + 0.1% of FS)						
Reading accuracy (25±5°C)	Voltage	±(0.02% of reading +5mV)			±(0.02% of reading +30mV)			
	Current	±(0.1% of reading + 0.1% of FS)						
<b>General</b>								
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections							
Panel lock	Provided							
Remote sense function	Max. compensation voltage 0.5 of FS				X		X	
Battery charge	Lithium battery curve charge							
Interface	RS232 interface, Support SCPI & ModBus commands							
	Optional RS485 interface							
	Optional RS232 to USB cable							
	Optional 0-5V analog control				X		X	
Memory	100 sets							
Insulation	Between base and terminals: ≥20MΩ/500VDC							
	Between base and AC power cord: ≥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	AC110V/220V±10% selectable, 50/60Hz							
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1							
Dimension	215Wx89Hx412D mm							
Weight	9.8kg		9.8kg		10.2kg		10.2kg	

Specifications are subject to change without prior notice.

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