

High Power Programmable DC Power Supply UPW Series

Introduction

Programmable switching DC power supply UPW series cover large range of outputs, rated power from 1.2kW to 100kW, rated voltage up to 5000V, rated current up to 10000A.

IGBT module adjustment and PWM modulation facilitate UPW series with high efficiency, high accuracy and high stability. High gain amplifier circuit design makes UPW series with fast response. Improvement on circuits brings stronger anti-interference performance. Active air duct design and optimized cooling channels effectively reduce temperature rise.

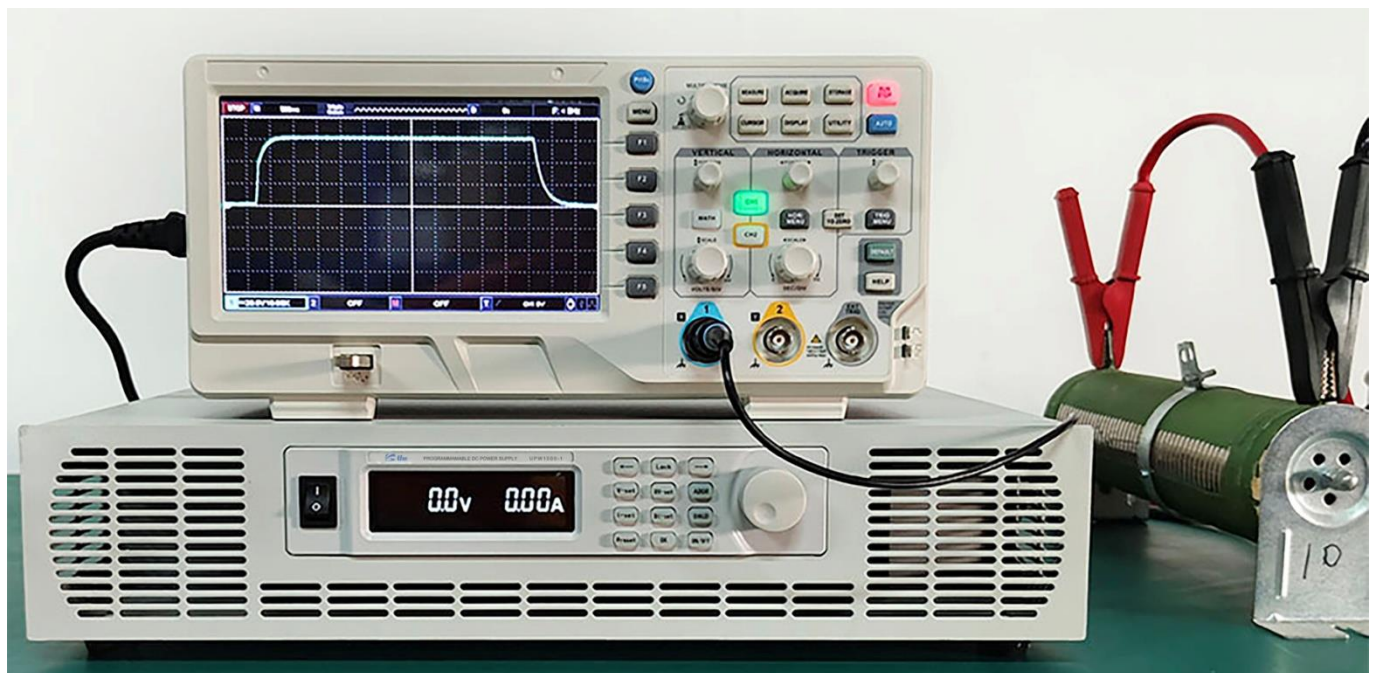
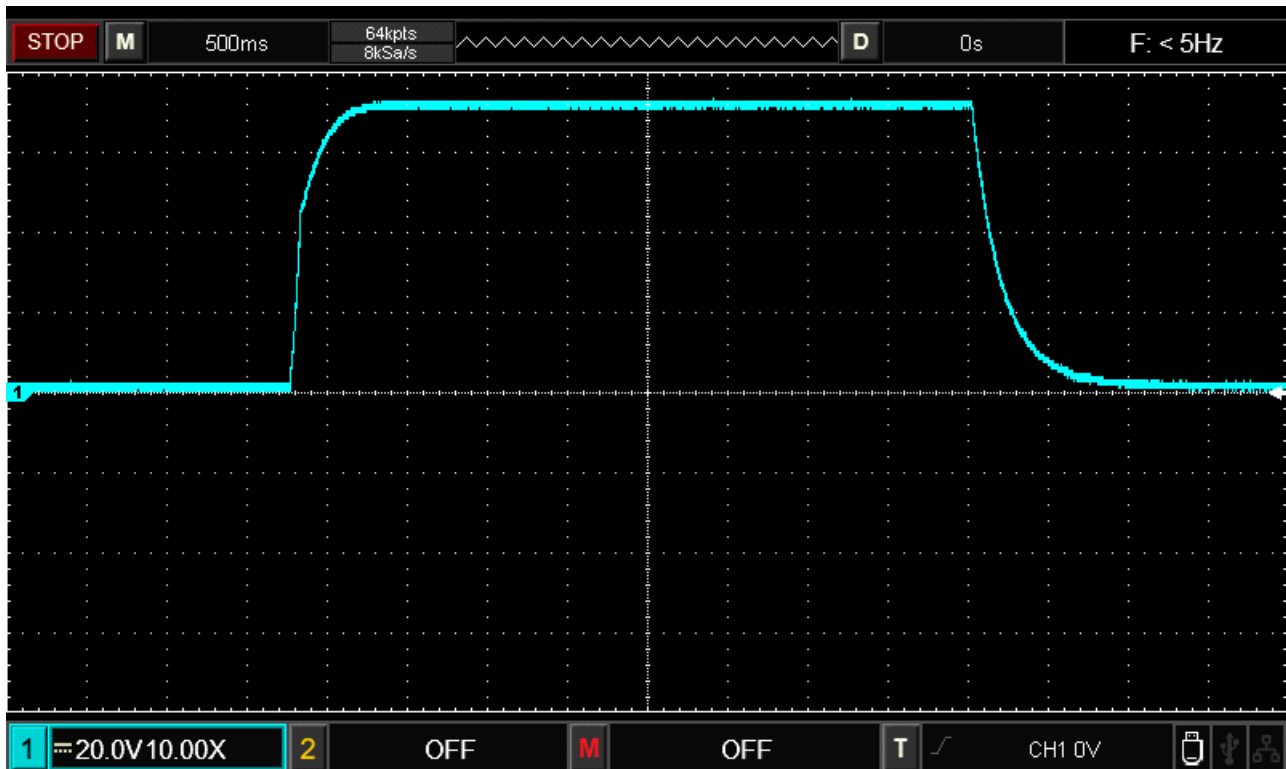
Over Voltage Protection, Over Current Protection and Over Temperature Protection keep the UPW series and their load safe from unexpected conditions. For more complicated applications, the UPW series are available with many optional functions: remote ON/OFF control, PV curve output, etc.

UPW series can be made to customer order. Please contact us for more details.

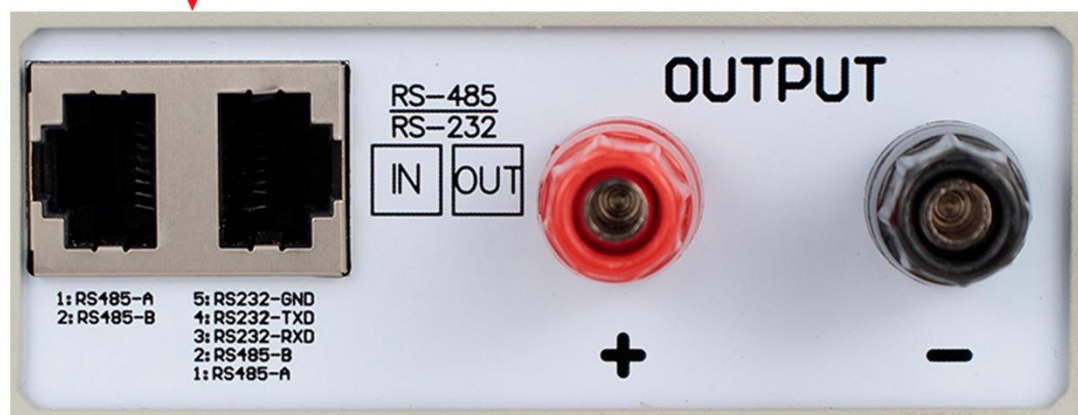
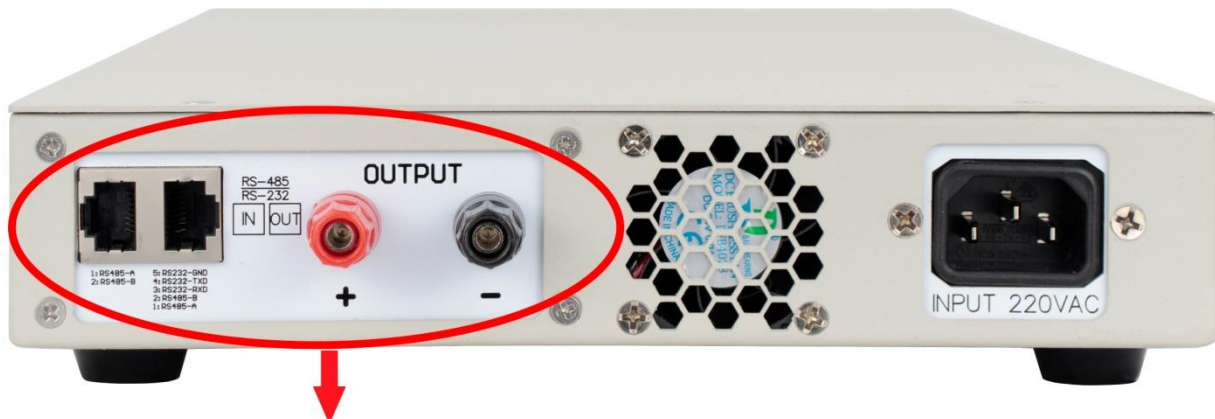
Features

- ✓ Max. output voltage 5000V, Max. output current 10000A
- ✓ Applying IGBT module and 19-inch standard size
- ✓ **4 digits LCD display for voltage and current**
- ✓ Constant voltage and constant current operations, auto CV/CC switch
- ✓ Front panel operation: preset voltage and current, output ON/OFF
- ✓ Multiple protections: OVP, OCP, OTP and OLP
- ✓ Transient response time 5ms
- ✓ **No overshoot during startup**
- ✓ **Communication: RS232, RS485 and LAN interface** (LAN not available for 1.2kW & 1.8kW models)
- ✓ Remote Sensing function: compensate the voltage drop (only for models $\leq 300V$)
- ✓ Optional function
 - **Parallel functions, max 8 units in parallel**
 - Remote control: 0-5V, 0-10V or 4-20mA signal to control output voltage and current
 - Remote ON/OFF control: Interlock loop or 12V input control
 - Reverse current protection: to protect power supply from damage by reverse current from EUT
 - Reverse polarity switch: to allow change of positive and negative output polarity in reverse direction
 - PV curve output for solar panel tests
 - System Bus interface
- ✓ Customized specifications and functions acceptable

No overshoot during startup



Photos (1.2kW & 1.8kW, cabinet size 1U half-width)



Photos (3.6kW, 6kW & 7.5kW, cabinet size 2U)



Photos (12kW & 15kW, cabinet size 3U)



Specifications

Model	DC Output		Line Regulation		Load Regulation		Ripple & Noise		Setting/Readback Accuracy		Resolution	
	Voltage	Current	CV	CC	CV	CC	CV (rms)	CC (rms)	CV	CC	V	A
Power 1kW to 1.8kW, 1U half-width frame, Dimensions 218W*44H*435D mm, Weight approx 4.5kg, Input 1ϕ2W, 220V\pm10% 50Hz/60Hz												
UPW30-40	0~30V	0~40A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.3\%$ FS+50mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+30mA	0.01V	0.01A
UPW60-20	0~60V	0~20A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+50mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+30mA	0.01V	0.01A
UPW100-12	0~100V	0~12A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+10mA	0.1V	0.01A
UPW300-4	0~300V	0~4A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.001A
UPW600-2	0~600V	0~2A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.001A
UPW30-60	0~30V	0~60A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.3\%$ FS+50mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+30mA	0.01V	0.01A
UPW60-30	0~60V	0~30A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+50mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+30mA	0.01V	0.01A
UPW100-18	0~100V	0~18A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+10mA	0.1V	0.01A
UPW150-10	0~150V	0~10A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.001A
UPW300-6	0~300V	0~6A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.001A
UPW600-3	0~600V	0~3A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.001A
UPW1000-1	0~1000V	0~1A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	1V	0.001A
Power 3.6kW, 2U frame, Dimensions 482W*88H*520D mm, Weight approx 14kg, Input 1ϕ2W, 220V\pm10% 50Hz/60Hz												
UPW30-120	0~30V	0~120A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.3\%$ FS+50mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+50mA	0.01V	0.1A
UPW60-60	0~60V	0~60A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+50mA	0.01V	0.01A
UPW100-36	0~100V	0~36A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+30mA	0.1V	0.01A
UPW200-18	0~200V	0~18A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.01A
UPW300-12	0~300V	0~12A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.01A
UPW600-6	0~600V	0~6A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.001A
UPW1000-3	0~1000V	0~3A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.2\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	1V	0.001A
UPW2000-1	0~2000V	0~1A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.2\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	1V	0.001A
Power 6kW, 2U frame, Dimensions 482W*88H*520D mm, Weight approx 15kg, Input 1ϕ2W, 220V\pm10% 50Hz/60Hz												
UPW20-300	0~20V	0~300A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.5\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.5\%$ FS+100mA	0.01V	0.1A
UPW30-200	0~30V	0~200A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.5\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.5\%$ FS+100mA	0.01V	0.1A
UPW60-100	0~60V	0~100A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+100mA	0.01V	0.1A
UPW100-60	0~100V	0~60A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+20mV	$\leq 0.3\%$ FS+100mA	0.1V	0.01A
UPW200-30	0~200V	0~30A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.01A
UPW300-20	0~300V	0~20A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.01A
UPW600-10	0~600V	0~10A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.1\%$ FS	$\leq 0.1\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	$\leq 0.1\%$ FS+100mV	$\leq 0.3\%$ FS+10mA	0.1V	0.01A
UPW1000-6	0~1000V	0~6A	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.2\%$ FS	$\leq 0.3\%$ FS+100mV	$\leq 0.3\%$ FS+10Ma	$\leq 0.2\%$ FS+100Mv	$\leq 0.3\%$ FS+10Ma	1V	0.001A

Model	DC Output		Line Regulation		Load Regulation		Ripple & Noise		Setting/Readback Accuracy		Resolution	
	Voltage	Current	CV	CC	CV	CC	CV (rms)	CC (rms)	CV	CC	V	A
UPW30-250	0~30V	0~250A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.5%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.5%FS+100mA	0.01V	0.1A
UPW60-125	0~60V	0~125A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.5%FS+100mA	0.01V	0.1A
UPW150-50	0~150V	0~50A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.5%FS+30mA	0.1V	0.01A
UPW100-75	0~100V	0~75A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.5%FS+30mA	0.1V	0.01A
UPW300-25	0~300V	0~25A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+10mA	0.1V	0.01A
UPW600-12	0~600V	0~12A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+10mA	0.1V	0.01A
UPW1000-8	0~1000V	0~8A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.2%FS+100mV	≤0.3%FS+10mA	1V	0.001A
Power 12kW, 3U frame, Dimensions 482W*132H*570D mm, Weight approx 25kg, Input 3φ4W, 380V±10% 50Hz/60Hz												
UPW10-500	0~10V	0~500A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤1%FS+100mV	≤0.3%FS+10mA	≤0.1%F+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW10-1000	0~10V	0~1000A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤1%FS+100mV	≤0.3%FS+10mA	≤0.1%F+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW20-600	0~20V	0~600A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤1%FS+100mV	≤0.3%FS+10mA	≤0.1%F+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW30-400	0~30V	0~400A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤1%FS+100mV	≤0.3%FS+10mA	≤0.1%F+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW60-200	0~60V	0~200A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.5%FS+100mV	≤0.3%FS+10mA	≤0.1%F+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW100-120	0~100V	0~120A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+100mA	0.1V	0.1A
UPW200-60	0~200V	0~60A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+100mA	0.1V	0.1A
UPW300-40	0~300V	0~40A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+30mA	0.1V	0.01A
UPW400-30	0~400V	0~30A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.2%FS+100mV	≤0.3%FS+10mA	0.1V	0.01A
UPW600-20	0~600V	0~20A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.2%FS+100mV	≤0.3%FS+10mA	0.1V	0.01A
UPW800-15	0~800V	0~15A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.2%FS+100mV	≤0.3%FS+10mA	0.1V	0.01A
UPW1000-12	0~1000V	0~12A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.2%FS+100mV	≤0.3%FS+10mA	1V	0.01A
Power 15kW, 3U frame, Dimensions 482W*132H*570D mm, Weight approx 25kg, Input 3φ4W, 380V±10% 50Hz/60Hz												
UPW30-500	0~30V	0~500A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤1%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW50-300	0~50V	0~300A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤1%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW60-250	0~60V	0~250A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤1%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW100-150	0~100V	0~150A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.5%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.5%FS+200mA	0.01V	0.1A
UPW150-100	0~150V	0~100A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.5%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+20mV	≤0.3%FS 100mA	0.1V	0.1A
UPW200-75	0~200V	0~75A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+30mA	0.1V	0.01A
UPW300-50	0~300V	0~50A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+30mA	0.1V	0.01A
UPW500-30	0~500V	0~30A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+30mA	0.1V	0.01A
UPW600-25	0~600V	0~25A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.1%FS+100mV	≤0.3%FS+30mA	0.1V	0.01A
UPW800-18	0~800V	0~18A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.2%FS+100mV	≤0.3%FS+10mA	0.1V	0.01A
UPW1000-15	0~1000V	0~15A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.2%FS+100mV	≤0.3%FS+10mA	1V	0.01A
UPW1500-10	0~1500V	0~10A	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.2%FS	≤0.3%FS+100mV	≤0.3%FS+10mA	≤0.2%FS+100mV	≤0.3%FS+10mA	1V	0.01A

High Power DC Power Supply



Time drift: Voltage $\leq 0.5\%FS$ rms / Current $\leq 1\%FS$ rms
Temperature drift: Voltage $\leq 0.1\%FS$ rms/ $^{\circ}C$ / Current $\leq 0.3\%FS$ rms/ $^{\circ}C$
Transient response time: $\leq 5ms$ (10% ~ 90% load change)
Remote sensing: Max compensation voltage 5V
Protection: OVP, OCP, OTP and short circuit protection
OVP setting range: 0.1V to 110% of rated voltage
OCP setting range: 0.1A to 110% of rated current

Digital interface: RS232, RS485 and LAN, support ModBus-RTU commands
Analog interface (optional): 0-5V, 0-10V or 4-20mA interface for voltage/current control and feedback
Cooling method: Forced air cool
Operating environment: $0^{\circ}C \sim 40^{\circ}C$, 10%~80%RH
Storage environment: $-20^{\circ}C \sim 70^{\circ}C$, 10%~90%RH
Accessories: Operation manual x1, RS232 cable x1

**The above models are listed for reference only. Customer specifications are welcome.
Specifications are subject to change without prior notice.**