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Data Sheet

UDP5000 Multi-Channel Series Programmable DC Power Supplies

REV0

December 2025

Product Overview

Rated Output Voltage: 40 V, 80 V, 160 V, 250 V, 800 V

Total Models: 10

UDP5000 multi-channel series is a dual-output and triple-output programmable switched DC power supply. Each output channel is rated at 400 W. The series includes five rated output voltages (40 V, 80 V, 160 V, 250 V, 800 V) across two configurations (dual-output and triple-output), forming a total of 10 models. UDP5000 multi-channel series features an output delay of less than 0.1 ms between channels of the same voltage, adjustable output power-on/off sequencing, and independent or simultaneous control of each channel, combined with a compact design, high performance, versatile functionality, a wide output range, user-friendly operation, and application flexibility..

Each model is equipped with:

- USB and LAN communication interfaces
- Output terminals on both the front and rear panels (maximum front panel output current: 10 A)
- Internal variable resistance function
- Discharge circuit control function
- CC/CV mode
- Various protection functions

● Product Specifications

Model	Voltage Output	Current Output	Rated Voltage in Series Connection	Rated Current in Parallel Connection	Single-Channel Rated Power	Total Rated Power
Dual-Channel Model						
UDP5044	40 V	40 A	80 V	80 A	400 W	800 W
UDP5088	80 V	20 A	160 V	40 A	400 W	800 W
UDP5011	160 V	8 A	320 V	16 A	400 W	800 W
UDP5022	250 V	6 A	500 V	12 A	400 W	800 W

UDP5088H	800 V	2 A	Not Series-Connectable	4 A	400 W	800 W
Tripe-Channel Model						
UDP5444	40 V	40 A	80 V	120 A	400 W	1200 W
UDP5888	80 V	20 A	160 V	60 A	400 W	1200 W
UDP5111	160 V	8 A	320 V	24 A	400 W	1200 W
UDP5222	250 V	6 A	500 V	18 A	400 W	1200 W
UDP5888H	800 V	2 A	Not Series-Connectable	6 A	400 W	1200 W

1 . Features and Advantages

- **Low Output Delay**
Output delay between channels of the same voltage is less than 0.1 ms.
- **Multi-Channel Coordinated Mode**
Multiple channels can be controlled to output simultaneously.
- **Adjustable Output Power-On/Off Sequencing**
In coordinated mode, the output delay or shutdown delay of each channel can be individually controlled.
- **Multi-Unit Series/Parallel Operation**
Allows multiple units to be used together externally to increase output power.
Internal series/parallel operation eliminates the need for external communication cables, simplifying operation.
- **TFT-LCD Screen**
Provides a richer display with high visibility.
- **Wide-Range Output**
A broad variable range of output voltage and current enables various voltage/current combinations.
- **Discharge Load Function**
The discharge load state can be configured within the power supply according to the application requirements.
- **List Mode**
Enables presetting multiple sets of output voltages and currents for automatic output.
- **Output Terminals on Front and Rear Panels**
Supports output from both the front and rear panels (maximum front panel output current: 10 A).
- **Internal Variable Resistance Function**
Allows users to set the internal resistance to simulate a power supply with internal resistance.
- **External Analog Voltage Control**
Enables power supply output control using an external circuit.
- **USB and LAN (SCPI) Interfaces**
Support communication and remote control with external devices.

2 . Design Highlights

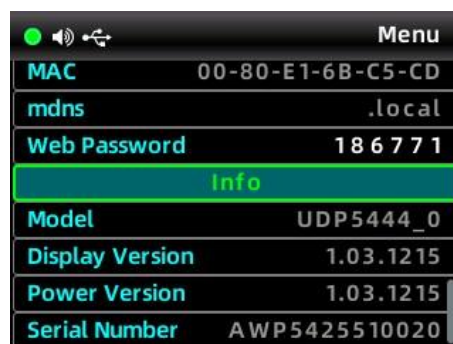
2.1 TFT-LCD, Multifunction Buttons



2.4-inch TFT-LCD screen delivers a vibrant color display, offering a comfortable visual experience.

Intuitive multifunction buttons enhance usability, making operation more convenient.

2.2 Intuitive Setting Interface



Press the **Menu** button to configure the output, system, and network settings, or to view product information.

3 Function Highlights

■ Multiple Operating Modes

Operating modes include Normal, Parallel Master, Parallel Slave, Series Master, Series Slave, Coordinated Master, Coordinated Slave, and External Voltage Control.

■ Slope Mode Setting

To prevent overshoot when output is enabled:

Constant voltage (CV) mode: Prioritizes voltage control.

Constant current (CC) mode: Prioritizes current control.

Slope Mode	Description
CV High-Speed Priority (VHS)	Default to high-speed rise and fall rates
CC High-Speed Priority (IHS)	
CV Slope Priority (VSR)	Rise and fall rates can be set as needed
CC Slope Priority (ISR)	

■ OVP/OCP Settings

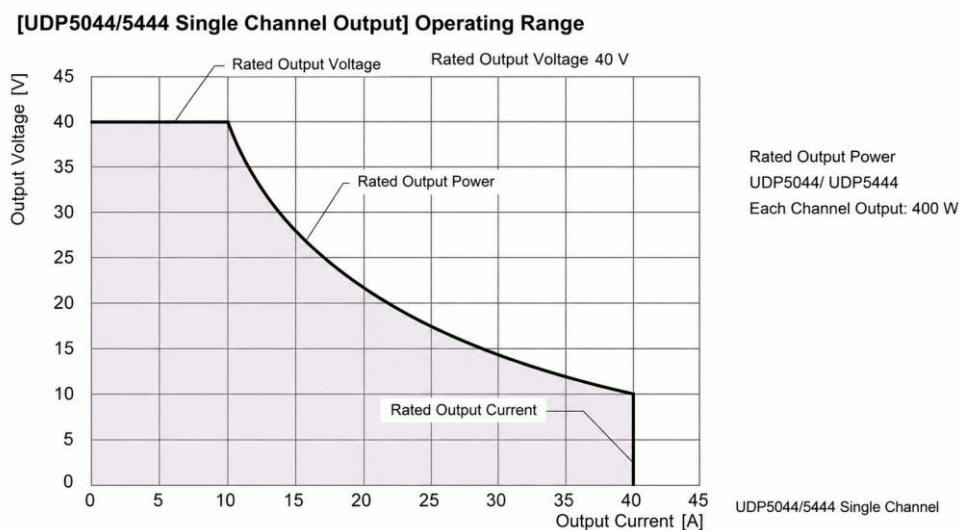
Set upper limits for output voltage and current.

The output set value cannot exceed 95% of the protection value.

The protection value must be at least 105% of the output set value. Configure a delay time for protection activation, adjustable between 10 ms and 10,000 ms.

■ Auto Range Function

UDP5000 multi-channel series limits output voltage and current based on the rated power. As a result, voltage and current automatically adjust proportionally.



■ List Mode

Users can configure 128 groups of output voltage, current, and output time data combinations.

Additionally, the number of cycles and stop status can be configured.

Up to 32 data sets can be stored in the power supply's local memory or exported to external devices.

■ Discharge Load Function

In the UDP5000 multi-channel power supplies, a capacitor is connected to the output terminal, and the power supply is equipped with an internal discharge load that discharges the capacitor when the output is turned off. When the discharge load is disabled, a residual voltage that decreases slowly will remain on the output terminals after the output stops. Conversely, when the discharge load is enabled, the residual voltage will disappear rapidly.

Discharge Load	Remark
ON	Discharge load is always enabled.
OFF	Discharge load is always disabled.

3.1 Coordinated Operation

Coordinated operation is a function that enables centralized control of other slave channels through the master channel on a single multi-channel power supply. Any one channel can be set as the master, with the other channels connected as slaves.

UDP5000 multi-channel series power supplies features high-precision time-sequence coordination, with output delay between channels of the same voltage less than 0.1 ms.

In multi-channel independent output mode, each channel not only provides electrically isolated independent output, but also supports independent programming of output turn-on delay and turn-off delay between channels.

3.1.1 Synchronized Multi-Channel Output Sequencing

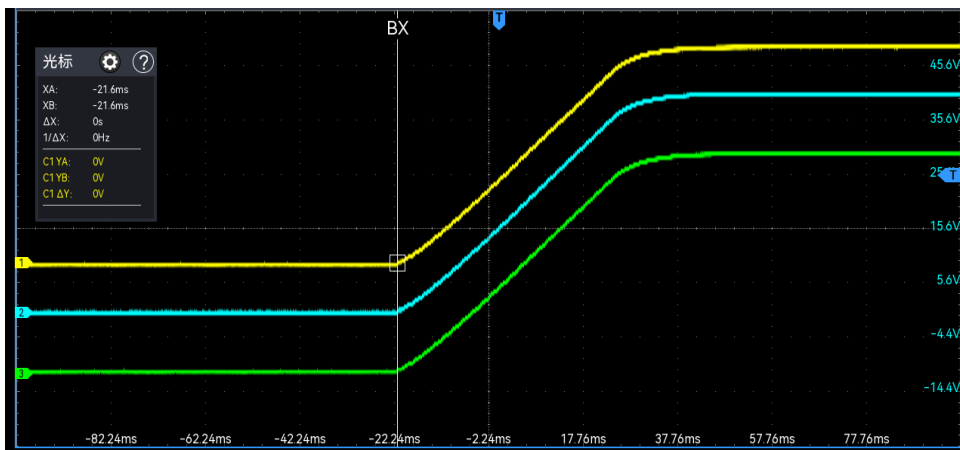
Multi-Load Synchronized Power Supply (ATE Test Systems) – Programmable synchronization, ideal for production line automation.

- Typical Applications: Automated Test Equipment (ATE), burn-in testing, multi-DUT parallel testing.
- Core Value: In ATE systems, unsynchronized DUT power supply can cause test result deviations. This power supply eliminates the need for complex synchronization coding, removes test errors introduced by inter-channel timing differences, and improves test repeatability and yield.

Synchronized Dual Power Supply

- Typical Applications: Op-amp dual power supply (+Vcc/-Vee), audio codec power supply, ADC/DAC analog front-end.
- Core Value: Ensures simultaneous power-up of positive and negative supplies for dual-supply ICs, preventing latch-up and damage to the chip and downstream circuits caused by abnormal power-on sequencing.

Output delay between channels of the same voltage is less than 0.1 ms.



CH1
ON Delay 0ms

CH2
ON Delay 0ms

CH3
ON Delay 0ms

3.1.2 Programmable Output Sequencing

Battery Management System (BMS) Testing

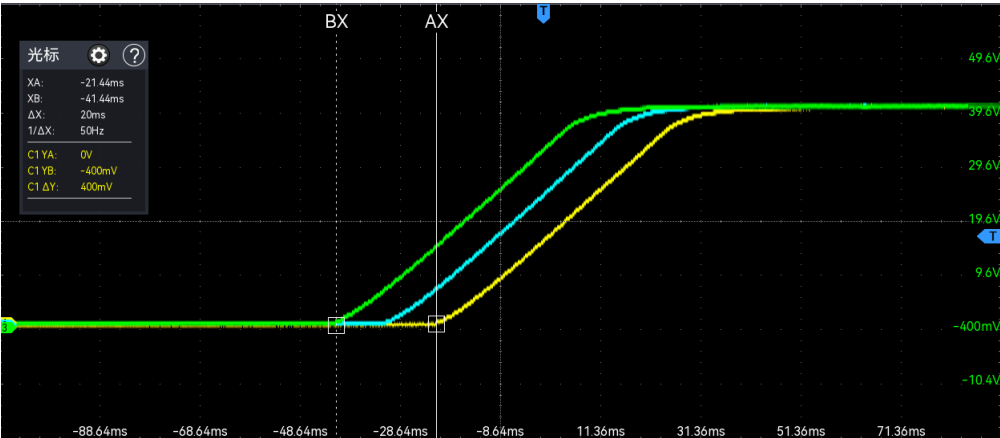
- Typical Applications: BMS functional testing, pre-charge circuit verification, surge suppression testing.
- Core Value: In BMS testing, the time-sequence control of the pre-charge circuit and main relay directly affects surge suppression performance. Our power supply's multi-channel independent delay can precisely simulate the pre-charge → main power timing sequence, verifying the reliability of the BMS protection logic.

Electronic Product Development and Testing

- Typical Applications: Processor/FPGA/SoC design and testing.
- Core Value: FPGA or processor power supply requirements have specific time-sequence demands, such as powering the core before the I/O. This power supply fully meets the timing requirements of chip manufacturers, eliminating the need for an external timing controller and simplifying PCB design.

Each channel can be set with delayed output turn-on or delayed turn-off in

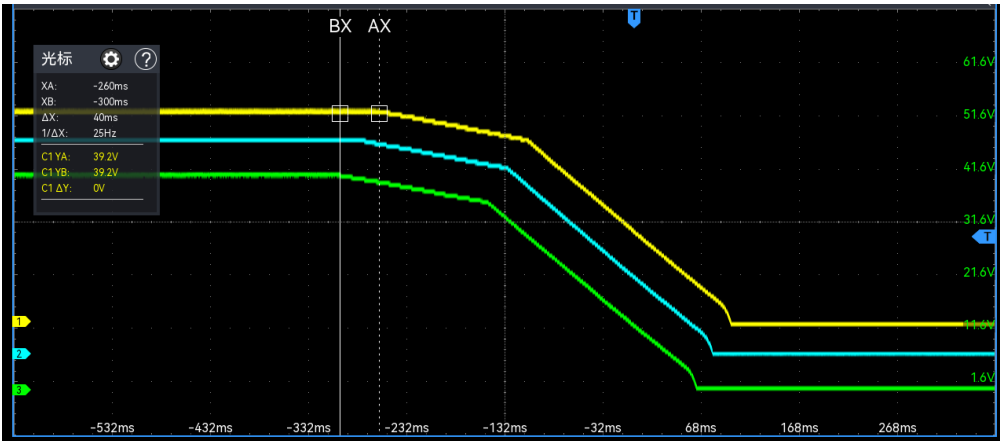
coordinated mode.



CH1 ON Delay
0ms

CH2 ON
Delay 10ms

CH3 ON Delay
20ms



CH1 OFF
Delay 0ms

CH2 OFF
Delay 20ms

CH3 OFF
Delay 40ms

Supports both internal and external coordinated operation.
External coordinated operation requires the corresponding ribbon cable to connect the analog interfaces.
The master and slave units must be of the same model.

3.2 Internal Variable Resistance

The internal variable resistance function can adjust the power supply’s internal resistance, simulating real power sources such as secondary batteries, solar cells, and fuel cells.
The internal variable resistance can only be set in constant voltage mode.

Power Internal Resistance Settings

Model	Vrtg[V]	Irtg[A]	Rint[Ω]	Resolution
UDP5044/5444	40	40	0.000 to 1.00	0.001

UDP5088/5888	80	20	0.000 to 4.00	0.001
UDP5011/5111	160	8	0.000 to 15.00	0.001
UDP5022/5222	250	6	0.000 to 31.25	0.001

Vrtg[V]: Rated voltage $0 < R_{int}[\min] \leq R_{int}[\max]$

Irtg[A]: Rated current 5044/5444 Model, 5088/5888 Model: $R_{int}[\Omega] = V_{rtg}[V] / I_{rtg}[A]$

Rint[Ω]: Internal resistance 5011/5111 Model, 5022/5222 Model: $R_{int}[\Omega] = V_{rtg}[V] / I_{rtg}[A] * 0.75$

*1. Setting resolution for the power supply's internal resistance.

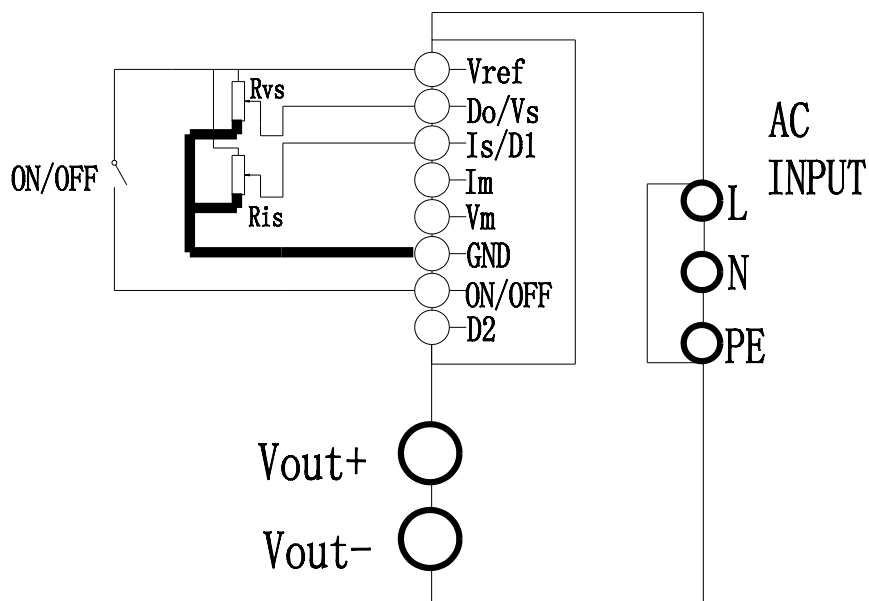
3.3 External Voltage Control

The UDP5000 multi-channel series models support external analog control and multi-unit combined operation. When using the external analog interface, ensure that the appropriate cable is used for wiring.

For external voltage control, the power supply's operation mode must be set to **External Voltage Control**.

For detailed instructions, refer to the *UDP5000 Multi-Channel Series Programmable DC Power Supplies*.





Circuit Connection Schematic Diagram

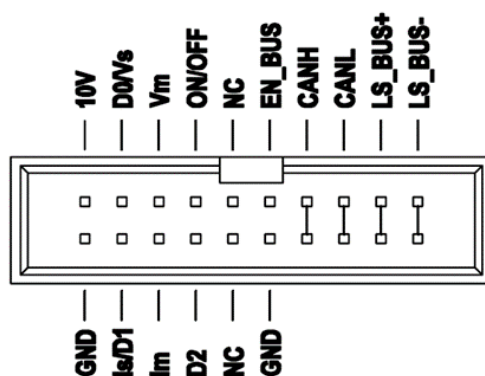
Using an external switch to control power output ON/OFF

By adjusting the ON/OFF state, the power supply output is regulated accordingly.

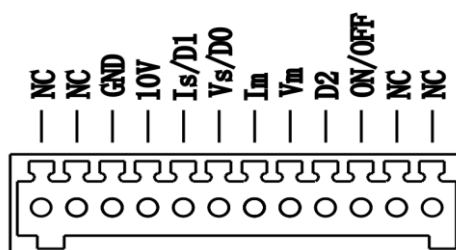
Adjust an external potentiometer to control the output voltage/current

Adjust R_{vs} and R_{is} to regulate the output voltage and current levels.

Rear Panel Analog Interface (CH 1)



Rear Panel Analog Interface (CH 2/3)



Interface	Definition
GND	Ground terminal
VREF_V	The power supply internally provides a 10 V reference voltage for external voltage control output.
Vs/D0	Voltage analog control: Analog voltage setting (0-10 V) corresponds to 0-VoutMax.
Is/D1	Current analog control: Current voltage setting (0-10 V) corresponds to 0-IoutMax.
D2	External digital control
ON/OFF	External Digital/Analog Control for Power Output ON/OFF High level: Enables the output Low level: Disables the output
Vm	Voltage output analog channel (0-10 V) corresponds to 0-VoutMax.
Im	Current output analog channel (0-10 V) corresponds to 0-IoutMax.
NC	Not connected (not in use)
EN_BUS	Coordinates and synchronizes start/stop, protection, and operation modes in multi-unit series/parallel operation, ensuring stable and reliable collaboration between units. Connects to RS485-B (-).
CANH	Enables CAN communication between power supplies, providing a stable and reliable communication foundation for multi-unit operation.
CANL	
LS_BUS+	Facilitates synchronized control of multiple units during series/parallel operation, allowing centralized adjustment and output balancing across all power supplies.
LS_BUS-	

3.3 Series/Parallel Operation

UDP5000 multi-channel series power supplies support external multi-unit combined operation with identical models to increase output power. This includes internal multi-channel parallel, internal multi-channel series, external multi-unit parallel, and external multi-unit series.

Before use, select and configure a master unit and slave units, then connect the analog interfaces using the appropriate cables.

Internal multi-channel series/parallel operation does not require connecting the ribbon cable to the analog interface.

Single-control operation refers to setting one instrument as the master unit, while other identical models function as slave units. The entire system can then be controlled through operations on the master unit.

3.3.1 Single-Control Parallel Operation

Single-control parallel operation increases the output current.

Maximum output current (I_{outMax}) = Rated output current of power supply x Number of parallel-connected unit.

For example, by paralleling the three internal channels of one UDP5444, the maximum output current can reach $40\text{ A} \times 3 = 120\text{ A}$.

For single-control parallel operation, the maximum number of identical models that can be paralleled are four. The difference in output current between the master unit and slave units must remain within approximately 5% of the rated value.

3.3.2 Single-Control Series Operation

Single-control series operation increases the output voltage.

Maximum output voltage (V_{outmax}) = Rated output voltage of power supply x Number of series-connected unit.

For example, by connecting the internal channels of one UDP5444 in series, the maximum output voltage can reach $250\text{ V} \times 2 = 500\text{ V}$.

Maximum Series-Connected Units: 2

The voltage setting accuracy is equivalent to the single-unit accuracy of the master unit. The difference in output voltage between the master unit and slave units must remain within approximately 5% of the rated value.

Note: UDP5088H/UDP5888H does not support series connection.

4 . Technical Specifications

Unless otherwise specified, the technical specifications are based on the following settings and conditions (applicable to all models).

- Load Type: Purely resistive load
- Warm-up Time: 30 minutes
- After warm-up, the product must be properly calibrated in an environment of $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ following the appropriate calibration procedure.

Technical Terminology

- Typical value (Typ.): These represent typical values when the product operates at an ambient temperature of 23°C (73.4°F). These values do not guarantee the product's performance.
- Rated value: The specified nominal value.
- Reading: The measured value displayed.
- Rated load and no-load:

Constant voltage mode (when the output current is set to $\geq$ the maximum output current at the rated output voltage):

Rated load: Using a purely resistive load, the output current reaches 95% to 100% of the maximum output current when the rated output voltage is applied.

No-load: No output current flows through the load (i.e., an open-circuit state).

Constant current mode (when the output voltage is set to $\geq$ the maximum output voltage at the rated output current)

Rated load: Using a purely resistive load, the output voltage drops to 95% to 100% of the maximum output voltage when the rated output current is applied. Including the voltage drop in the load cable, the UDP5000 multi-channel series power supply output voltage must not exceed the maximum output voltage at the rated output current.

No-load: Using a purely resistive load, the output voltage drops to 10% of the maximum output voltage or 1 V (whichever is higher) when the rated output current is applied.

- Rise time: The time taken for the output voltage or current to increase from 10% to 90% of the rated value when the power supply output is turned on.
- Fall time: The time taken for the output voltage or current to decrease from 90% to 10% of the rated value when the power supply output is turned off.

- UDP5000 series multi-channel power supplies operates within the rated output power range for both voltage and current. However, the available current at the rated output voltage and the available voltage at the rated output current are limited by the rated output power.

The current available at rated output voltage and the voltage available at rated output current are as follows:

- Maximum output current at the rated output voltage = Rated output power ÷ Rated output voltage
- Maximum output voltage at the rated output current = Rated output power ÷ Rated output current

4.1 Specifications

This chapter provides the specifications for each individual channel of the UDP5000 multi-channel series, including input/output specifications, voltage and current ratings, output characteristics, noise and ripple, and display characteristics.

Dual-Channel AC Input Characteristics

Specification/Model		UDP5044、UDP5088、UDP5011、UDP5022、UDP5088H
AC Input		
Nominal Input Voltage		100 Vac to 240 Vac, 50 Hz to 60 Hz, Single-Phase
Input Voltage Range		85 Vac to 265 Vac
Input Voltage Frequency Range		47 Hz to 63 Hz
Current (Typ.)* ¹	100 Vac	11.2 A
	200 Vac	5.6 A
Surge Current (MAX)* ²		Below 50 Apeak
Power (MAX)* ³		1120 W
Power Factor (Typ.)* ¹		0.99 (Input voltage: 100 V), 0.97 (Input voltage: 200 V)
Efficiency (MIN)* ¹		75% (Typ.)
Output Hold Time (MIN)* ³		Above 20 ms

*1. Rated output current at output rated power.

*2. After the power switch is turned on (within approximately 1 ms), the charge current component that flows through the internal EMC filter circuit capacitor is not included.

*3. At output rated power.

Triple-Channel AC Input Characteristics

Specification/Model		UDP5444、UDP5888、UDP5111、UDP5222、UDP5888H
AC Input		
Nominal Input Voltage		100 Vac to 240 Vac、50 Hz to 60 Hz、Single-Phase
Input Voltage Range		85 Vac to 265 Vac
Input Voltage Frequency Range		47 Hz to 63 Hz
Current (Typ.)* ¹	100 Vac	16.8 A
	200 Vac	8.4 A
Surge Current (MAX)* ²		Below 75 A _{peak}
Power (MAX)* ³		1680 W
Power Factor (Typ.)* ¹		0.99 (Input voltage: 100 V), 0.97 (Input voltage: 200 V)
Efficiency (MIN)* ¹		75% (Typ.)
Output Hold Time (MIN)* ³		Above 20 ms

*1. Rated output current at output rated power.

*2. After the power switch is turned on (within approximately 1 ms), the charge current component that flows through the internal EMC filter circuit capacitor is not included.

*3. At output rated power.

Output Characteristics

Specification/Model		UDP5044/ UDP5444	UDP5088/ UDP5888	UDP5011/ UDP5111	UDP5022/ UDP5222	UDP5088H/ UDP5888H
Output						
Rated Value	Output Voltage* ¹	40 V	80 V	160 V	250 V	800 V
	Output Current* ¹	40 A	20 A	8 A	6 A	2 A
	Output Power	400 W				
Voltage	Maximum Adjustable Voltage* ²	42 V	84 V	168 V	262.5 V	840 V
	Output Accuracy* ³	±(0.05% of the set value + 0.05% of the rated value)				
	Setting Resolution	1 mV	1 mV	10 mV	10 mV	10 mV
	Display Resolution	1 mV	1 mV	1 mV (<100 V)	1 mV (<100 V)	1 mV (<100 V)

					10 mV (≥100 V)	10 mV (≥100 V)	10 mV (≥100 V)
	Power Regulation ^{*4}		±6 mV	±10 mV	±12.2 mV	±26 mV	±403 mV
	Load Regulation ^{*5}		±6 mV	±10 mV	±12.2 mV	±26 mV	±405 mV
	Ripple and Noise ^{*6}	p-p ^{*7}	50 mV		100 mV		200 mV
		rms ^{*7}	5 mV		12 mV	20 mV	50 mV
	Rise Time	Rated Load	Below 50 ms		Below 100 ms		Below 250 ms
		No Load	Below 50 ms		Below 100 ms		Below 150 ms
	Fall Time	Rated Load	Below 50 ms		150 ms	250 ms	150 ms
		No Load	Below 500 ms		1200 ms	2000 ms	2000 ms
Maximum Remote Sense Compensation Voltage (MAX)			1.5 V	4 V	5 V	5 V	5 V
Temperature Coefficient ^{*8}			100 ppm/°C				
Current	Maximum Adjustable Current ^{*2}		42 A	21 A	8.4 A	6.3 A	2.1 A
	Output Accuracy ^{*9}		±(0.5% of the set value + 0.1% of the rated value)				
	Setting Resolution		1 mA	1 mA	1 mA	1 mA	1 mA
	Display Resolution		1 mA	1 mA	1 mA	1 mA	1 mA
	Power Regulation ^{*4}		±6 mA	±4 mA	±3 mA	±2.5 mA	±6.44 mA
	Load Regulation		±13 mA	±9 mA	±7 mA	±6 mA	±6.44 mA
	Ripple and Noise ^{*6}	rms ^{*7}	80 mA	40 mA	30 mA	12 mA	6 mA
	Rise Time (Typ.)	Rated Load	50 ms		100 ms		
	Fall Time (Typ.)	Rated Load	50 ms		100 ms		
	Temperature Coefficient ^{*8}			100 ppm/°C			
Maximum Adjustable Internal Resistance			1.000 Ω	4.000 Ω	15 Ω	31.25 Ω	300 Ω

*1. The maximum output voltage and maximum output current are constrained by the maximum output power.

*2. OVP and OCP limits are set at approximately 95%.

*3. Applies to a 1% to 100% range of the rated voltage.

*4. For input voltages of 90 VAC to 121 VAC or 198 VAC to 242 VAC under constant load.

- *5. When the power supply outputs the rated voltage and operates from no-load to rated load (i.e., outputs the rated current), voltage regulation is calculated as: $\text{Output Voltage Regulation} = (\text{Load Voltage at No-Load Current} - \text{Load Voltage at Rated Load Current}) \div \text{Load Voltage at Full Load Current} \times 100\%$
- *6. In constant voltage mode, with the power supply delivering the rated current at rated power, measure the ripple and noise at the output using an oscilloscope
- *7. Measurement bandwidth: 20 MHz.
- *8. Ambient temperature range: 0°C to 50°C.
- *9. Applies to a 1% to 100% range of the rated current. For 0% to 1%, values are typical (Typ.)

4.2 Common Specifications

This chapter introduces the common specifications of the UDP5000 multi-channel Series, including display characteristics, protection functions, signal input/output, control functions, other functions, operation display, interfaces, and general characteristics.

Display Characteristics

Specification/Model		UDP5044/ UDP5444	UDP5088/ UDP5888	UDP5011/ UDP5111	UDP5022/ UDP5222	UDP5088H/ UDP5888H
Voltage Display	Maximum Display	99.999	99.999	999.99	999.99	999.99
	Minimum Display ^{*1}	0.100	0.100	0.50	0.50	0.50
	Display Accuracy	1 mV	1 mV	1 mV (<100 V) 10 mV (≥ 100 V)	1 mV (<100 V) 10 mV (≥ 100 V)	1 mV (<100 V) 10 mV (≥ 100 V)
Current Display	Maximum Display	99.999	99.999	9.999	9.999	9.999
	Display Accuracy	1 mA	1 mA	1 mA	1 mA	1 mA
Power Display	Maximum Display	999.99				
	Display Accuracy	1 mW (<100 W)/10 mW (≥ 100 W)				

*1. For the 5444 and 5888 models, the output voltage is 0.1 V, while for the 5111 and 5222 models, the output voltage is 0.5 V.

Protection Function

Specification/Model	Dual-Channel 800 W Model	Triple-Channel 1200 W Model
Protection Function		

Over-Voltage Protection (OVP)		Automatically turns off ^{*1} when triggered, and a window display: "OVP is triggered, the output will be turned off."
	Setting Range	0% to 105% of the rated output voltage.
	Setting Accuracy	1 mV (for single-unit rated values < 100 V) 10 mV (for single-unit rated values ≥ 100 V)
Over-Current Protection (OCP) ^{*2}		Automatically turns off ^{*1} when triggered, and a window display: "OCP is triggered, the output will be turned off."
	Adjustable Range	0% to 105% of the rated output current.
	Adjustable Accuracy	1 mV (for single-unit rated values < 100 A) 10 mV (for single-unit rated values ≥ 100 A)
Front Output Terminal Over-Current Protection (FOCP) ^{*3}		Automatically turns off ^{*1} when triggered, and a window display: "FOCP is triggered, the output will be turned off."
	Value (fixed)	> 10A (Typ.)
Over-Temperature Protection (OTP)		Automatically turns off ^{*1} when triggered, and a window display: "OTP is triggered, the output will be turned off."
Shutdown (SD)		Turn off the power supply
Power Limit		Automatically turns off ^{*1} when triggered, and a window display: "Power limit is triggered, the output will be turned off."
	Value (fixed)	Close to 105% of the rated output power.
Communication Monitoring (Watchdog)		Restarts automatically, and a window display: "The watchdog failed. It will automatically restart."
Single-Control Series/Parallel Operation Protection (PRL ALM)		Automatically turns off the output, and a window display: "Master/slave failed, the output will be turned off."

*1. For 2000 W models, this may result in output disconnection or circuit breaker tripping.

*2. This does not prevent peak discharge currents in the internal capacitors of the UDP5000 triple-channel series power supply's output section during sudden load changes.

*3. The front-panel output current is limited to a maximum of 10 A. Values exceeding 10 A will trigger protection. If the OCP (Over-Current Protection) threshold is lower than the FOCP (Fast Over-Current Protection) threshold, OCP takes precedence.

Signal Input/Output

Specification/Model		Dual-Channel 800 W Model	Triple-Channel 1200 W Model
Signal Input/Output			
Monitoring	Voltage Monitor (VMON)	Voltage Monitor Range: 0 V to 10 V	
Signal Output	Current Monitor (IMON) ^{*1}	Voltage Monitor Range: 0 V to 10 V	
State Output	Output State	This function is enabled when the power supply output is active.	

	CV Mode	This function is enabled when the power supply operates in constant voltage (CV) mode.
	CC Mode	This function is enabled when the power supply operates in constant current (CC) mode.
	Alarm State	This function is enabled when an alarm is triggered.
	Power State	Power State: The power is on when the switch is turned on.
Trigger Signal	Input (Trigger Input)	Logic: Low level (0 V to 1.5 V), high level (3.5 V to 5 V) Input resistance: 10 k Ω (Typ.)
	Output (Trigger Output)	Logic: Low level (0 V to 0.6 V), high level (4.2 V to 5 V) Pulse Width: 100 μ s (Typ.)

*1. Control the voltage on the current sampling path to regulate the output current.

Control Function

Specification/Model		Dual-Channel 800 W Model	Triple-Channel 1200 W Model
Control Function			
External Voltage Control	Output Voltage Control (VPGM)	0 % to 100 % of the rated output voltage Voltage Control Range: 0 V to 10 V	
		Accuracy	$\pm 5\%$
	Output Current Control (IPGM)	0 % to 100 % of the rated output voltage Voltage Control Range: 0 V to 10 V	
		Accuracy	$\pm 5\%$
	Output ON/OFF Control	When the switch is closed, a high-level signal enables the output. When the switch is open, a low-level signal disables the output.	

Other Functions

Specification/Model		Dual-Channel 800 W Model	Triple-Channel 1200 W Model
Other Functions			
Output ON/OFF Delayer		Setting Range: 0.1 s to 9999.9 s ^{*1} Resolution: 1 s, 1 s, 10 s, 100 s, 1000 s, 10000 s	
OVP/OCP Enable Delayer ^{*2}		Setting Range: 10 ms to 10000 ms Resolution: 10 ms, 100 ms	
Preset Value		Group Number: 32*3 groups	
Keypad Lock		Unlocks all keys except the Output key	
List Mode		Setting Group: 0 to 128 groups Cycle Count: 1 to 9,999, infinite ^{*3} Step Time: 0.1 s to 99,999.9 s	
Synchronous Operation Mode		Synchronizes voltage and current settings, recovery steps, and sequence execution in a P-sequence program.	
Multi-Unit External Parallel Operation Mode ^{*4}		Supports up to four parallel-connected units (same model), including the master unit.	Supports up to two parallel-connected units (same model), including the master unit.
Multi-Unit External Series Mode		Supports up to two series-connected units (same model).	
Multi-Communication (VMCB)	Master Connects to PC	Ethernet, USB	
	Master Connects to Slave	CAN	

*1. Factory default setting is 0.1 s.

*2. Factory default setting is 10 ms.

*3. Set it to 0 for infinite loop.

*4. The difference between the master and slave is 5% (Typ.)

Operation Display

Specification/Model	Dual-Channel 800 W Model	Triple-Channel 1200 W Model
Operation Display		
Output ON/OFF	The Output button lights up green when the output is active.	
CV Operation	The display shows "CV" in green when in constant voltage mode.	
CC Operation	The display shows "CV" in green when in constant voltage mode.	
Alarm	When a protective function is activated, a window displays detailed error information and automatically turns off the output	
Key Lock	The Lock button lights up green when locked.	
Remote Control	The operation mode is displayed as "External Control."	

Interface

Specification/Model	Dual-Channel 800 W Model	Triple-Channel 1200 W Model
Interface		
General Specification	Software Protocol	IEEE Std 488.2-1992
	Command	SCPI Specification 1999.0
USB	Hardware	USB 2.0 Data Rate: 480 Mbps (high speed)
		B-type outlet
	Program Message Terminator	Receiving: The program message terminator is LF (Line Feed) or EOM. Sending: The program message terminator is LF and +EOM.
	Device Category	USBTMC-USB48
LAN	Hardware	IEEE 802.3 100Base-TX/ 10Base-T LXI 2011 Ver.1.4 LXI HiSLIP Rev.1.01
		IPv4, RJ-45 connector
	Communication Protocol	VXI-11, SCPI-RAW, HiSLIP
	Program Message Terminator	For VXI-11 and HiSLIP: When receiving, the message terminator can be LF or END. For SCPI-RAW: When receiving, the terminator is a low-level signal. When transmitting, the terminator is also a low-level signal.

General Specifications

		800 W Model	1200 W Model
Weight (Main Unit Only)		Approx. 5.5 kg	Approx. 7.5 kg
Dimensions		Refer to the outline dimension drawing.	
Environmental Conditions	Operating Environment	Indoor use, Overvoltage Category II	
	Operating Temperature	0°C to +50°C	
	Operating Humidity	20% R.H to 85% R.H (non-condensing)	
	Storage Temperature	-20°C to +60°C	
	Storage Humidity	90% R.H or below (non-condensing)	
	Altitude	Below 2000 meters	
Cooling Method		Fan-forced air cooling	
Grounding Polarity		Both positive ground and negative ground	
Grounding Voltage		Applicable models: UDP5044, UDP5088, UDP5011, UDP5022, UDP5444, UDP5888, UDP5111 and UDP5222 Maximum: ± 500 V _{max}	
Voltage Withstand	Through Main Circuit and Chassis	1500 VAC applied for 1 minute with no abnormalities.	
	Through Main Circuit and Secondary Circuit	UDP5044, UDP5088, UDP5011, UDP5022, UDP5444, UDP5888, UDP5111, and UDP5222 models: 1650 VAC applied for 1 minute with no abnormalities. UDP5088 and UDP5888 models: 1900 VAC applied for 1 minute with no abnormalities.	
Insulation Resistance	Through Main Circuit and Chassis	100 M Ω or more (at $\leq 70\%$ R.H), measured at 500 VDC.	
	Through Main Circuit and Secondary Circuit	UDP5044, UDP5088, UDP5011, UDP5022, UDP5444, UDP5888, UDP5111, and UDP5222 models: 100 M Ω or more (at $\leq 70\%$ R.H), measured at 500 VDC. UDP5088H and UDP5888H models: 100 M Ω or more (at $\leq 70\%$ R.H), measured at 1000 VDC.	
	Across Secondary Circuit and Chassis	UDP5044, UDP5088, UDP5011, UDP5022, UDP5444, UDP5888, UDP5111 and UDP5222 models: 40 M Ω or more (at $\leq 70\%$ R.H), measured at 500 VDC. UDP5088 and UDP5888H models: 40 M Ω or more (at $\leq 70\%$ R.H), measured at 1000 VDC.	

Electro Magnetic Compatibility (EMC) ^{*1*2}	EMC 2014/30/EU EN61326-1 (Class A ^{*3}) EN55011 (Class A ^{*3} , Group I) EN61000-3-2 EN61000-3-3 Applicable Conditions: Cables and wires connected to this product must be ≤ 3 meters in length.
Safety ^{*1}	Low Voltage Directive 2014/35/EU ^{*2} EN61010-1 (Class I ^{*4} , Pollution degree 2 ^{*5})

*1. Not applicable to customized or modified products.

*2. Applies only to products with the CE marking.

*3. Class A device: Designed for industrial environments. Operation in residential areas may cause interference. To prevent radio/TV signal disruption, users should implement measures to reduce electromagnetic emissions if necessary.

*4. Class I device: Requires proper grounding of the protective earth terminal. Proper grounding is essential for safety compliance.

*5. Pollution Degree 2: Defined as non-conductive pollution (e.g., dust, oil mist) that may temporarily become conductive due to condensation, reducing insulation withstand capacity and surface resistivity.

Limited Warranty and Liability

UNI-T guarantees that the Instrument product is free from any defect in material and workmanship within three years from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination, or improper handling. If you need a warranty service within the warranty period, please contact your seller directly. UNI-T will not be responsible for any special, indirect, incidental, or subsequent damage or loss caused by using this device. For the probes and accessories, the warranty period is one year. Visit instrument.uni-trend.com for full warranty information.



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