

## Multiple Output 180W~315W

### Introduction

The TP2000 and TP2000TK series are linear DC power supplies with 3 channels, 195W to 315W output. In constant voltage and current operations, the power supply provides high regulation and low ripple & noise. Auto series and parallel operations double output voltage and current. Heat sink and automatic cooling fan control give sufficient cooling to the power supply and minimize fan noise. The output ON/OFF control and preset voltage & current function protect the power supply and related loads from unexpected damages. The TP2000 and TP2000TK series are widely used in applications of powering operational amplifier, push pull stages, logic circuit and definition systems.

### Features

- ✓ Two independent adjustable outputs 0~30V/0~3A x2, 0~30V/0~5A x2, one fixed output 5V/3A x1
- ✓ Constant voltage and constant current operations, auto CV and CC switch
- ✓ Low ripple and noise, low temperature drift
- ✓ Auto Series and Parallel tracking operations
- ✓ Output ON/OFF control
- ✓ Preset function, setting of voltage and current with output open circuit (TP-2303TK/2305TK)
- ✓ High efficiency, high power density
- ✓ Over load and reverse polarity protections
- ✓ Dual-color four digital panel meters

### Product photo

TP-2303E



TP-2305TK



## Specifications

Constant voltage operation		
Line regulation	$\leq 0.01\% + 3\text{mV}$	
Load regulation	$\leq 0.01\% + 3\text{mV}$ ( $I \leq 3\text{A}$ ); $\leq 0.02\% + 5\text{mV}$ ( $I > 3\text{A}$ )	
Ripple & Noise (5Hz~1MHz)	$\leq 1\text{mVrms}$ ( $I \leq 3\text{A}$ ); $\leq 2\text{mVrms}$ ( $I > 3\text{A}$ )	
Constant current operation		
Line regulation	$\leq 0.2\% + 3\text{mA}$	
Load regulation	$\leq 0.2\% + 3\text{mA}$ ( $I \leq 3\text{A}$ ); $\leq 0.2\% + 5\text{mA}$ ( $I > 3\text{A}$ )	
Ripple & Noise	$\leq 3\text{mArms}$ ( $I \leq 3\text{A}$ ); $\leq 6\text{mArms}$ ( $I > 3\text{A}$ )	
Tracking operation		
Parallel	Line regulation	$\leq 0.01\% + 3\text{mV}$
	Load regulation	$\leq 0.01\% + 3\text{mV}$ ( $I \leq 3\text{A}$ ); $\leq 0.02\% + 5\text{mV}$ ( $I > 3\text{A}$ )
Series	Line regulation	$\leq 0.01\% + 5\text{mV}$
	Load regulation	$\leq 300\text{mV}$
	Tracking error	$\leq 0.5\% + 10\text{mV}$ of the master, no load (with load, add load regulation $\leq 300\text{mV}$ )
Auxiliary output (fixed)		
Output voltage	$5\text{V} \pm 0.25\text{V}$	
Output current	3A	
Load regulation	$\leq 25\text{mV}$ @110/220VAC rated input	
Ripple & noise (5Hz~1MHz)	$\leq 2\text{mVrms}$	
Display		
Voltmeter	3 digits LED display	
Ammeter	3 digits LED display	
Resolution	100mV/10mA	
Accuracy	Real voltage and current output: $\pm(1\% \text{ reading} + 2 \text{ digits})$	
	Preset voltage and current: $\pm(1\% \text{ reading} + 8 \text{ digits})$	
General		
Insulation	Between base and output terminal: $\geq 20\text{M}\Omega/500\text{VDC}$	
	Between base and AC power cord: $\geq 300\text{M}\Omega/500\text{VDC}$	
Operating environment	$0^\circ\text{C} \sim 40^\circ\text{C}$ , $\leq 80\% \text{RH}$	
Storage environment	$-10^\circ\text{C} \sim 70^\circ\text{C}$ , $\leq 70\% \text{RH}$	
Power source	AC110V/220V $\pm 10\%$ , 50/60Hz	
Accessories	Power cord x1, Operation manual x1, Test lead x1	

## Selection guide

Model	TP-2303E	TP-2305E	TP-2303K	TP-2305K	TP-2303	TP-2305	TP-2303TK	TP-2305TK
Output voltage	0~30V x2	0~30V x2	0~30V x2	0~30V x2	0~30V x2	0~30V x2	0~30V x2	0~30V x2
Output current	0~3A x2	0~5A x2	0~3A x2	0~5A x2	0~3A x2	0~5A x2	0~3A x2	0~5A x2
Fixed output			5V/3A	5V/3A	5V/3A	5V/3A	5V/3A	5V/3A
Preset V&I							√	√
Output ON/OFF			√	√	√	√	√	√
Tracking operation	√	√	√	√	√	√	√	√
Dimension (WxHxD)	255x155x330mm				255x155x370mm			
Weight	7kg	9kg	7kg	9kg	8kg	10kg	8kg	10kg

## Multiple Output 195W~325W

### Introduction

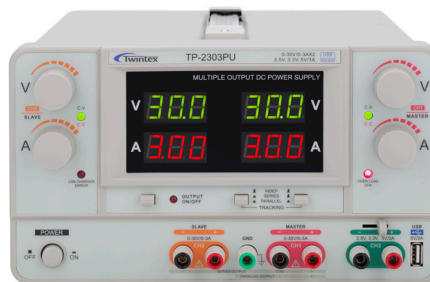
The TP2000PU series are linear DC power supplies with 3 channels, 195W to 325W output. In constant voltage and current operations, the power supply provides high regulation and low ripple & noise. Auto series and parallel operations double output voltage and current. A particular feature of the TP2000PU series is the USB output with fixed 5V/2A. The USB 5V/2A output can be used for charging various small electronic devices and for some special logic circuits. The output ON/OFF control and preset voltage & current function protect the power supply and related loads from unexpected damages. The TP2000PU series are widely used in applications of powering operational amplifier, push pull stages, logic circuit and definition systems.

### Features

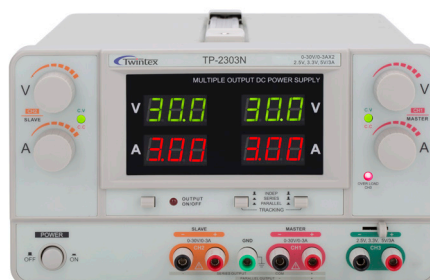
- ✓ Two independent adjustable outputs 0~30V/0~3A x2, 0~30V/5A x2, 0~50V/0~3A x2
- ✓ Fixed 2.5V/3.3V/5V/3A binding post output, and fixed 5V/2A USB output
- ✓ Constant voltage and constant current operations, auto CV and CC switch
- ✓ Low ripple and noise, low temperature drift
- ✓ Auto Series and Parallel tracking operations
- ✓ Output ON/OFF control
- ✓ Preset function, setting of voltage and current with output open circuit (TP-2303PU/2305PU/2503PU)
- ✓ High efficiency, high power density
- ✓ Over load and reverse polarity protections
- ✓ Dual-color four digital panel meters
- ✓ SMD PCB, high quality, high reliability

### Product photo

TP-2303PU



TP-2303N



## Specifications

Rated output		0~30V/0~3A	0~30V/0~5A	0~50V/0~3A
<b>Constant voltage operation</b>				
Line regulation		≤0.01%+3mV		
Load regulation		≤0.01%+3mV	≤0.02%+5mV	≤0.01%+3mV
Ripple & Noise (5Hz~1MHz)		≤1mVrms	≤2mVrms	≤1mVrms
<b>Constant current operation</b>				
Line regulation		≤0.2%+3mA		
Load regulation		≤0.2%+3mA	≤0.2%+5mA	≤0.2%+3mA
Ripple & Noise		≤3mArms	≤6mArms	≤3mArms
<b>Tracking operation</b>				
Parallel	Line regulation	≤0.01%+3mV		
	Load regulation	≤0.02%+5mV		
Series	Line regulation	≤0.01%+5mV		
	Load regulation	≤300mV		
<b>Auxiliary output (CH3)</b>				
Load regulation		≤25mV @110/220VAC rated input		
Ripple & Noise (5Hz~1MHz)		≤2mVrms		
<b>Display</b>				
Voltmeter		3 digits LED display		
Ammeter		3 digits LED display		
Resolution		100mV/10mA		
Accuracy		Real voltage and current output: ±(1% reading+2 digits)		
		Preset voltage and current: ±(1% reading+8 digits)		
<b>General</b>				
Operating environment		0°C~40°C, ≤80%RH		
Storage environment		-10°C~70°C, ≤70%RH		
Power source		AC110V/220V±10%, 50/60Hz		
Accessories		Power cord x1, Operation manual x1, Test lead x1		

## Selection guide

Model		TP-2303N	TP-2305N	TP-2503N	TP-2303PU	TP-2305PU	TP-2503PU
Output voltage		0~30V x2	0~30V x2	0~50V x2	0~30V x2	0~30V x2	0~50V x2
Output current		0~3A x2	0~5A x2	0~3A x2	0~3A x2	0~5A x2	0~3A x2
Fixed output	CH3	2.5/3.3/5V/3A	2.5/3.3/5V/3A	2.5/3.3/5V/3A	2.5/3.3/5V/3A	2.5/3.3/5V/3A	2.5/3.3/5V/3A
	USB				5V/2A	5V/2A	5V/2A
Preset V&I					√	√	√
Output ON/OFF		√	√	√	√	√	√
Tracking operation		√	√	√	√	√	√
Dimension (WxHxD)		255x155x310mm					
Weight		8kg	9.5kg	9.5kg	8.5kg	10kg	10kg

## 4CH Output 210W~330W

### Introduction

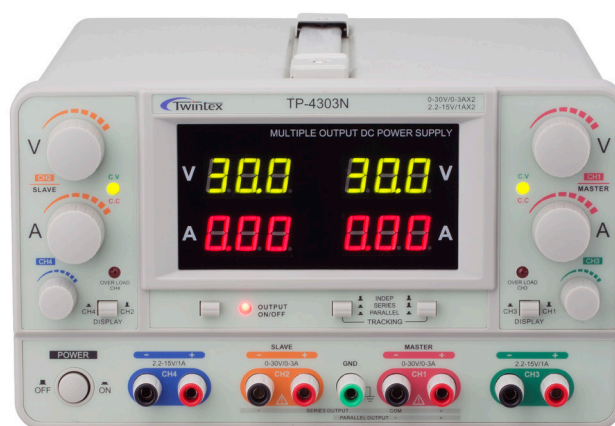
The TP4000N series are linear DC power supplies with 4 channels, two main channels with 0~30V/0~50V output and two auxiliary channels with 2.2~15V output. Auto series and parallel operations double output voltage and current in the main channels (CH1/CH2). Auxiliary channels (CH3/CH4) can also be connected through external test leads to double output voltage and current. Automatic cooling fan control give sufficient cooling to the power supply and minimize fan noise. The output ON/OFF control and preset voltage & current function protect the power supply and related loads from unexpected damages. The TP4000N series are widely used in applications of powering operational amplifier, push pull stages, logic circuit and definition systems.

### Features

- ✓ Two main channels with 0~30V/0~3A x2, 0~30V/5A x2, 0~50V/0~3A x2 output
- ✓ Two auxiliary channels with 2.2~15V/1A x2 output
- ✓ Constant voltage and constant current operations, auto CV and CC switch
- ✓ Low ripple and noise, low temperature drift
- ✓ Auto Series and Parallel tracking operations
- ✓ Output ON/OFF control
- ✓ Preset function, setting of voltage and current with output open circuit
- ✓ High efficiency, high power density
- ✓ Over load and reverse polarity protections
- ✓ Dual-color four digital panel meters
- ✓ SMD PCB, high quality, high reliability

### Product photo

TP-4303N



## Specifications

Model	TP-4303N	TP-4305N	TP-4503N
<b>Constant voltage operation</b>			
Line regulation	≤0.01%+3mV		
Load regulation	≤0.01%+3mV	≤0.02%+5mV	≤0.01%+3mV
Ripple & Noise (5Hz~1MHz)	≤1mVrms	≤2mVrms	≤1mVrms
<b>Constant current operation</b>			
Line regulation	≤0.2%+3mA		
Load regulation	≤0.2%+3mA	≤0.2%+5mA	≤0.2%+3mA
Ripple & Noise	≤3mArms	≤6mArms	≤3mArms
<b>Tracking operation</b>			
Parallel	Line regulation	≤0.01%+3mV	
	Load regulation	≤0.02%+5mV	
Series	Line regulation	≤0.01%+5mV	
	Load regulation	≤300mV	
<b>Auxiliary output (CH3/CH4)</b>			
Output voltage	2.2V~15V		
Output current	Fixed 1A		
Load regulation	≤25mV@110V/220Vac rated input		
Ripple & noise (5Hz~1MHz)	≤2mVrms		
<b>Display</b>			
Voltmeter	3 digits LED display		
Ammeter	3 digits LED display		
Resolution	100mV/10mA		
Accuracy	Real voltage and current output: ±(1% reading+2 digits)		
	Preset voltage and current: ±(1% reading+8 digits)		
<b>General</b>			
Operating environment	0°C~40°C, ≤80%RH		
Storage environment	-10°C~70°C, ≤70%RH		
Power source	AC110V/220V±10%, 50/60Hz		
Accessories	Power cord x1, Operation manual x1, Test lead x1		

## Selection guide

Model	TP-4303N	TP-4305N	TP-4503N
Output voltage	0~30V x2	0~30V x2	0~50V x2
Output current	0~3A x2	0~5A x2	0~3A x2
Auxiliary output	2.2~15V/1A x2	2.2~15V/1A x2	2.2~15V/1A x2
Preset V&I	√	√	√
Output ON/OFF	√	√	√
Tracking operation	√	√	√
Dimension (WxHxD)	255x155x310mm		

# Multiple Output Linear DC Power Supply



Weight

8.5kg

10kg

10kg

## Dual Output 600W

### Introduction

The TP600W series are linear DC power supplies with 2 channels, 600W output. In constant voltage and current operations, the power supply provides high regulation and low ripple & noise. Auto series and parallel operations double output voltage and current. Automatic cooling fan control give sufficient cooling to the power supply and minimize fan noise. The output ON/OFF control and preset voltage & current function protect the power supply and related loads from unexpected damages. The TP600W series are widely used in applications of powering operational amplifier, push pull stages, logic circuit and definition systems.

### Features

- ✓ Two independent adjustable outputs 0~30V/0~10A x2 (TP-30102), 0~60V/0~5A x2 (TP-60052)
- ✓ Constant voltage and constant current operations, auto CV and CC switch
- ✓ Low ripple and noise, low temperature drift
- ✓ Auto Series and Parallel tracking operations
- ✓ Output ON/OFF control
- ✓ Preset function, setting of voltage and current with output open circuit
- ✓ High efficiency, high power density
- ✓ Over load and reverse polarity protections
- ✓ Dual-color four digital panel meters

### Product photo



TP-30102

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## Specifications

Constant voltage operation		
Line regulation		$\leq 0.01\% + 3\text{mV}$
Load regulation		$\leq 0.01\% + 3\text{mV}$ ( $I \leq 3\text{A}$ ); $\leq 0.02\% + 5\text{mV}$ ( $I > 3\text{A}$ )
Ripple & Noise (5Hz~1MHz)		$\leq 1\text{mVrms}$ ( $I \leq 3\text{A}$ ); $\leq 2\text{mVrms}$ ( $I > 3\text{A}$ )
Constant current operation		
Line regulation		$\leq 0.2\% + 3\text{mA}$
Load regulation		$\leq 0.2\% + 3\text{mA}$ ( $I \leq 3\text{A}$ ); $\leq 0.2\% + 5\text{mA}$ ( $I > 3\text{A}$ )
Ripple & Noise		$\leq 3\text{mArms}$ ( $I \leq 3\text{A}$ ); $\leq 6\text{mArms}$ ( $I > 3\text{A}$ )
Tracking operation		
Parallel	Line regulation	$\leq 0.01\% + 3\text{mV}$
	Load regulation	$\leq 0.01\% + 3\text{mV}$ ( $I \leq 3\text{A}$ ); $\leq 0.02\% + 5\text{mV}$ ( $I > 3\text{A}$ )
Series	Line regulation	$\leq 0.01\% + 5\text{mV}$
	Load regulation	$\leq 300\text{mV}$
	Tracking error	$\leq 0.5\% + 10\text{mV}$ of the master, no load (with load, add load regulation $\leq 300\text{mV}$ )
Display		
Accuracy		Real voltage and current output: $\pm(1\% \text{ reading} + 2 \text{ digits})$
		Preset voltage and current: $\pm(1\% \text{ reading} + 8 \text{ digits})$
General		
Insulation		Between base and output terminal: $\geq 20\text{M}\Omega/500\text{VDC}$
		Between base and AC power cord: $\geq 300\text{M}\Omega/500\text{VDC}$
Operating environment		$0^\circ\text{C} \sim 40^\circ\text{C}$ , $\leq 80\% \text{RH}$
Storage environment		$-10^\circ\text{C} \sim 70^\circ\text{C}$ , $\leq 70\% \text{RH}$
Power source		AC110V/220V $\pm 10\%$ , 50/60Hz
Accessories		Power cord x1, Operation manual x1

## Selection guide

Model	TP-30102	TP-60052
Output voltage	0~30V x2	0~60V x2
Output current	0~10A x2	0~5A x2
Voltmeter	3 digits LED	3 digits LED
Ammeter	4 digits LED	3 digits LED
Resolution	100mV/10mA	100mV/10mA
Fixed output		
Preset V&I	√	√
Output ON/OFF	√	√
Tracking operation	√	√
Dimension (WxHxD)	255x155x460mm	255x155x460mm
Weight	16kg	16kg

Specifications are subject to change without prior notice.

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