

## 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

### Selection guide

| Model              | TP-2303E<br>TP-2305E | TP-2303C<br>TP-2305C | TP-2303K<br>TP-2305K | TP-2303<br>TP-2305 | TP-2303TK<br>TP-2305TK |
|--------------------|----------------------|----------------------|----------------------|--------------------|------------------------|
| Output voltage     | 0~30V x2             | 0~30V x2             | 0~30V x2             | 0~30V x2           | 0~30V x2               |
| Output current     | 0~3A x2<br>0~5A x2   | 0~3A x2<br>0~5A x2   | 0~3A x2<br>0~5A x2   | 0~3A x2<br>0~5A x2 | 0~3A x2<br>0~5A x2     |
| Fixed output       |                      | 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              | 7kg/9kg              | 8kg/10kg           | 8kg/10kg               |

## Product photo

TP-2303E



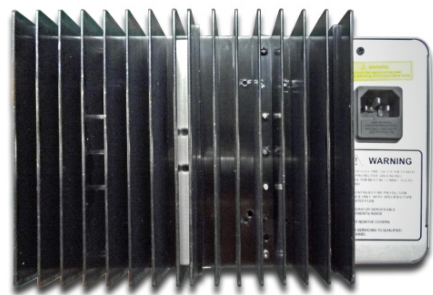
TP-2303C



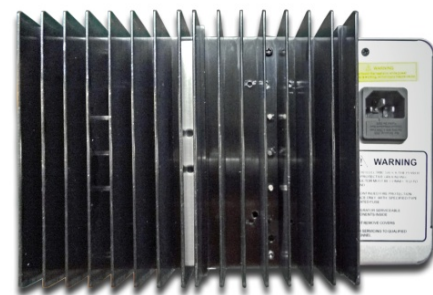
TP-2303K



TP-2303



TP-2305TK



## Specifications

| <b>Constant voltage operation</b> |                                                                                                   |                                                                                                         |
|-----------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 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)         | $\leq 1\text{mVrms}$ ( $I \leq 3\text{A}$ ); $\leq 2\text{mVrms}$ ( $I > 3\text{A}$ )             |                                                                                                         |
| <b>Constant current operation</b> |                                                                                                   |                                                                                                         |
| 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                    | $\leq 3\text{mArms}$ ( $I \leq 3\text{A}$ ); $\leq 6\text{mArms}$ ( $I > 3\text{A}$ )             |                                                                                                         |
| <b>Tracking operation</b>         |                                                                                                   |                                                                                                         |
| 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 $\leq 300\text{mV}$ ) |
| <b>Auxiliary output (fixed)</b>   |                                                                                                   |                                                                                                         |
| 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)         | $\leq 2\text{mVrms}$                                                                              |                                                                                                         |
| <b>Display</b>                    |                                                                                                   |                                                                                                         |
| 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: $\pm(1\% \text{ reading} + 8 \text{ digits})$                         |                                                                                                         |
| <b>General</b>                    |                                                                                                   |                                                                                                         |
| 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                                                                |                                                                                                         |

## 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                      |            |            |

## 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                      |            |            |

## 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               | AC $110\text{V}/220\text{V} \pm 10\%$ , 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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