# Programmable DC Power Supply

## OPPS1000 Series

- Low ripple and low noise.
- High resolution and accuracy.
- Built-in high-accuracy 5 1/2 voltmeter and milliohm meter.
- Supports high-accuracy and dynamic programming output.
- High-luminance VFD screen with two lines and four channels on the display.
- Standard SCPI protocol.
- Communication modes: RS232, RS485, USB.

| Model | OPPS1051 | OPPS1021 | OPPS1012 | OPPS1601 |
|---|---|---|---|---|
| Input Rating | 0-30 V, 0-5 A | 0-75 V, 0-2 A | 0-150 V, 0-1 A | 0-6 V, 0-60 A |
| Load Regulation | <0.01%+0.5 mV, <0.01%+0.1 mA | <0.01%+0.5 mV, <0.01%+0.1 mA | <0.01%+0.5 mV, <0.01%+0.1 mA | <0.01%+1 mV, <0.01%+0.1 mA |
| Setting Value Resolution | 0.5 mV, 0.1 mA | 1 mV, 0.05 mA | 2 mV, 0.01 mA | 0.1 mV, 1 mA |
| Readback Value Resolution | 0.1 mV, 0.01 mA | 0.1 mV, 0.01 mA | 1 mV, 0.01 mA | 0.1 mV, 0.1 mA |
| Setting Value Accuracy | 0.01%+2 mV, 0.05%+1 mA | 0.01%+5 mV, 0.05%+0.5 mA | 0.01%+10 mV, 0.05%+0.1 mA | 0.01%+1 mV, 0.05%+6 mA |
| Readback Value Accuracy | 0.02%+5 mV, 0.1%+5 mA | 0.02%+15 mV, 0.05%+2 mA | 0.02%+35 mV, 0.05%+1 mA | 0.02%+2 mV, 0.05%+45 mA |
| Ripple | 3 mVp-p, 2 mA rms | 5 mVp-p, 1 mA rms | 10 mVp-p, 0.5 mA rms | 3 mVp-p, 15 mA rms |
| Voltmeter Accuracy | 0-12 V Accuracy: 0.02%+2 mV; 0-58 V Accuracy: 0.02%+5 mV | 0-12 V Accuracy: 0.02%+2 mV : 0-58 V Accuracy: 0.02%+5 mV | 0-12 V Accuracy: 0.02%+2 mV; 0-58 V Accuracy: 0.02%+5 mV | 0-12 V Accuracy: 0.02%+2 mV; 0-58 V Accuracy: 0.02%+5 mV |
| Milliohm meter Accuracy | 10 W 0-1000 mΩ Accuracy: 0.2%+3 mΩ : 1000-10000 mΩ Accuracy: 0.2%+6 mΩ | 10 W 0-1000 mΩ Accuracy: 0.2%+3 mΩ : 1000-10000 mΩ Accuracy: 0.2%+6 mΩ | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ : 1000-10000 mΩ Accuracy: 0.2%+6 mΩ | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ : 1000-10000 mΩ Accuracy: 0.2%+6 mΩ |
| Working Condition | 0 ~ 40oC; 0 ~ 90%RH | 0 ~ 40 ˚C; 0 ~ 90%RH | 0 ~ 40 ˚C; 0 ~ 90%RH | 0 ~ 40 ˚C; 0 ~ 90%RH |
| Power Required | AC 120 V/220 V+/-10%; 50/60 Hz | AC 120 V/220 V+/-10%; 50/60 Hz | AC 120 V/220 V+/-10%; 50/60 Hz | AC 120 V/220 V+/-10%; 50/60 Hz |
| Weight | 6.5 kg | 6.5 kg | 6.5 kg | 28 kg |
| Dimension W x H x D | 214mm x 101.5 mm x 365 mm | 214mm x 101.5 mm x 365 mm | 214mm (W) x 101.5 mm (H) x 365 mm (D) | 428 mm (W) x 88 mm (H) x 453.5 mm (D) |
| Smart fan system fan will be automatically initiated according to the temperature | | | | |
| Supports remote voltage compensation and multidata storage | | | | |
| Supports external trigger input and output | | | | |
| Power-on-self-test, software calibration and standard rack mount | | | | |

| Model | OPPS1201 | OPPS1081 | OPPS1602 | OPPS1351 |
|---|---|---|---|---|
| Input Rating | 0-30 V, 0-20 A | 0-75 V, 0-8 A | 0-15 V, 0-60 A | 0-30 V, 0-35 A |
| Load Regulation | <0.01%+1 mV, <0.01%+0.1 mA | <0.01%+1 mV, <0.01%+0.1 mA | <0.01%+1 mV, <0.01%+0.1 mA | <0.01%+1 mV, <0.01%+0.1 mA |
| Setting Value Resolution | 0.5 mV, 0.5 mA | 1 mV, 0.2 mA | 0.1 mV, 1 mA | 0.5 mV, 0.5 mA |
| Readback Value Resolution | 0.1 mV, 0.1 mA | 0.1 mV, 0.1 mA | 0.1 mV, 0.1 mA | 0.1 mV, 0.1 mA |
| Setting Value Accuracy | 0.01%+5 mV, 0.05%+2 mA | 0.01%+10 mV, 0.05%+2 mA | 0.01%+1 mV, 0.05%+6 mA | 0.01%+5 mV, 0.05%+2 mA |
| Readback Value Accuracy | 0.05%+2 mV, 0.02%+5 mA | 0.02%+15 mV, 0.05%+8 mA | 0.03%+3 mV, 0.05%+45 mA | 0.03%+5 mV, 0.05%+25 mA |
| Ripple | 5 mVp-p, 7 mA rms | 7 mVp-p, 4 mA rms | 4 mVp-p, 15 mA rms | 5 mVp-p, 8 mA rms |
| Voltmeter Accuracy | 0-12 V Accuracy: 0.02%+2 mV; 0-58 V Accuracy: 0.02%+5 mV | 0-12 V Accuracy: 0.02%+2 mV; 0-58 V Accuracy: 0.02%+5 mV | 0-12 V Accuracy: 0.02%+2 mV; 0-50 V Accuracy: 0.02%+5 mV | 0-12 V Accuracy: 0.02%+2 mV; 0-58 V Accuracy: 0.02%+5 mV |
| Milliohm meter Accuracy | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ : 1000-10000 m Accuracy: 0.2%+6 mΩ | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ : 1000-10000 mΩ Accuracy: 0.2%+6 mΩ | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ : 1000-10000 mΩ Accuracy: 0.2%+6 mΩ | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ : 1000-10000 mΩ Accuracy: 0.2%+6 mΩ |
| Working Condition | 0 ~ 40 ˚C; 0 ~ 90%RH | 0 ~ 40 ˚C; 0 ~ 90%RH | 0 ~ 40 ˚C; 0 ~ 90%RH | 0 ~ 40 ˚C; 0 ~ 90%RH |
| Power Required | AC 120 V/220 V+/-10%; 50/60 Hz | AC 120 V/220 V+/-10%; 50/60 Hz | AC 125 V/220 V+/-10%; 50/60 Hz | AC 125 V/220 V+/-10%; 50/60 Hz |
| Weight | 28 kg | 28 kg | 45 kg | 45 kg |
| Dimension W x H x D | 428 mm x88 mm x 453.5 mm | 428 mm x88 mm x 453.5 mm | 482 mm x 184.5 mmx 531 mm | 482 mm x 184.5 mmx 531 mm |
| Smart fan system fan will be automatically initiated according to the temperature. | | | | |
| Supports remote voltage compensation and multidata storage | | | | |
| Supports external trigger input and output | | | | |
| Power-on-self-test, software calibration and standard rack mount | | | | |

| Model | OPPS1151 | OPPS1111 | OPPS1011 |
|---|---|---|---|
| Input Rating | 0-75 V, 0-15 A | 0-100 V, 0-11 A | 0-30 V, 0-1 A |
| Load Regulation | <0.01%+1 mV, <0.01%+0.1 mA | <0.01%+1 mV, <0.01%+0.1 mA | <0.01%+0.5 mV, <0.01%+0.1 mA |
| Setting Value Resolution | 2 mV, 0.2 mA | 2 mV, 0.2 mA | 0.5 mV, 0.01 mA |
| Readback Value Resolution | 0.1 mV, 0.1 mA | 1 mV, 0.1 mA | 0.1 mV, 0.001 mA |
| Setting Value Accuracy | 0.01%+10 mV, 0.05%+1 mA | 0.01%+15 mV, 0.05%+1 mA | 0.01%+2 mV, 0.05%+0.1 mA |
| Readback Value Accuracy | 0.03%+15 mV, 0.05%+12 mA | 0.03%+25 mV, 0.05%+10 mA | 0.02%+5 mV, 0.02%+1 mA |
| Ripple | 6 mVp-p, 3 mA rms | 8 mVp-p, 2.5 mA rms | 10 mVp-p, 0.5 mA rms |
| Voltmeter Accuracy | 0-12 V Accuracy: 0.02%+2 mV;<br>0-58 V Accuracy: 0.02%+5 mV | 0-12 V Accuracy: 0.02%+2 mV;<br>0-58 V Accuracy: 0.02%+5 mV | 0-12 V Accuracy: 0.02%+2 mV;<br>0-50 V Accuracy: 0.02%+5 mV |
| Milliohm meter Accuracy | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ<br>1000-10000 mΩ Accuracy: 0.2%+6 mΩ | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ :<br>1000-10000 mΩ Accuracy: 0.2%+6 mΩ | 10 W 0-1000 mΩ Accuracy: 0.2%+3mΩ :<br>1000-10000 mΩ Accuracy: 0.2%+6 mΩ |
| Working Condition | 0 ~ 40 ˚C; 0 ~ 90%RH | 0 ~ 40 ˚C; 0 ~ 90%RH | 0 ~ 40 ˚C; 0 ~ 90%RH |
| Power Required | AC 125 V/220 V+/-10%; 50/60 Hz | AC 125 V/220 V+/-10%; 50/60 Hz | AC 120 V/220 V+/-10%; 50/60 Hz |
| Weight | 45 kg | 45 kg | 6.5 kg |
| Dimension W x H x D | 482 mm (W) x 184.5 mm (H) x 531 mm (D) | 482 mm (W) x 184.5 mm (H) x 531 mm (D) | 214mm (W) x 108 mm (H) x 365 mm (D) |
| Smart fan system fan will be automatically initiated according to the temperature | | | |
| Supporting remote voltage compensation and multidata storage | | | |
| Supporting external trigger input and output | | | |
| Power-on-self-test, software calibration and standard rack mount | | | |

## Accessories

| | |
|---|---|
| **OPPS1000-A1** | (DB9) TTL to RS232 Interface Converter* |
| **OPPS1000-A2** | (DB9) TTL to RS485 Interface Converter* |
| **OPPS1000-A3** | (DB9) TTL to USB Interface Converter* |

### OPPS1000-A1

| **TTL to RS232** | | | |
|---|---|---|---|
| **RS232** | | **TTL** | |
| **Pin No.** | **State** | **Pin No.** | **State** |
| 1 | NC | 1 | VCC (+5 V) |
| 2 | RXD | 2 | RXD (receive) |
| 3 | TXD | 3 | TXD (send) |
| 4 | VCC1 | 4 | NC |
| 5 | GND | 5 | GND |
| 6 | NC | 6 | NC |
| 7 | VCC2 | 7 | NC |
| 8 | NC | 8 | NC |
| 9 | NC | 9 | NC |
| In RS232: | | | |

### OPPS1000-A2

| **Pin No.** | **State** | **Pin No.** | **State** |
|---|---|---|---|
| 1 | A (+) | 1 | VCC (+5 V) |
| 2 | B (-) | 2 | RXD (receive) |
| 3 | NC | 3 | TXD (send) |
| 4 | NC | 4 | NC |
| 5 | GND | 5 | GND |
| 6 | Vout (+5 V) | 6 | NC |
| | | 7 | NC |
| | | 8 | NC |
| | | 9 | NC |

### OPPS1000-A3

| **TTL to USB** | | | |
|---|---|---|---|
| **USB** | | **TTL** | |
| **Pin No.** | **State** | **Pin No.** | **State** |
| 1 | Vcc (+5 V) | 1 | VCC (+5 V) |
| 2 | -D | 2 | RXD (receive) |
| 3 | +D | 3 | TXD (send) |
| 4 | GND | 4 | NC |
| | | 5 | GND |
| | | 6 | NC |
| | | 7 | NC |
| | | 8 | NC |
| | | 9 | NC |
| In USB: The type A interface of the standard USB can be directly connected USB interface of the PC. The USB driver can | | | |