

REGULATED DC POWER SUPPLIES

Multiple-output Regulated DC Power Supplies

PW SERIES

4-Output power supply

PW18-1.8Q

($\pm 18V \pm 1.8A$, $+8V / +2A$, $-6V / -1A$)

3-Output power supply

PW18-1T

($\pm 18V \pm 1A$, $+6V / +5A$)

2-Output power supply

PW18-2

($\pm 18V \pm 2A$)

2-Output power supply

PW36-1

($\pm 36V \pm 1A$)

OUTLINE

The PW Series Power Supplies are multi-function, dual-tracking CV/CC power supplies of the stand-alone type featuring a built-in microprocessor, excellent reliability and a wide range of uses. They provide multiple output performance and experimental and systems use that rivals the previous approach of using several single-output supplies.



FEATURES

Dual Tracking

Dual tracking is provided, enabling positive and negative voltages and currents to track from zero simultaneously when varied, providing positive and negative outputs with the same absolute value. This tracking function can be disabled for individual setting of positive and negative values.

Simultaneous Digital Display of Voltage and Current

Output voltage and current are indicated simultaneously on 7-segment red LED displays, and a switch operation can be used to display the voltage and current of any of the outputs.

Presetting of Voltage and Current Value Pairs (3 points)

Three sets of frequently used voltage and currents (V-A pairs) can be preset, thereby enabling quick setup of the power supply output. A variable adjustment enables continuous adjustment of each output. The output on/off delay time can also be preset.

One-Dial Control

To simplify operation, all condition settings are selected at the push of a button, with a single rotary-encoder dial being used to set all values. In addition, output voltage and current can be set to resolutions of 10 mV and 10 mA, respectively. Normal/fast switching is also available.

Output Protection

When the output is on, if a preset switch or variable switch is changed or the tracking switch is set to on, a protection circuit cuts off the supply output, to prevent output of unexpected voltages and currents (when the output protect switch is set to on).

Key Lock

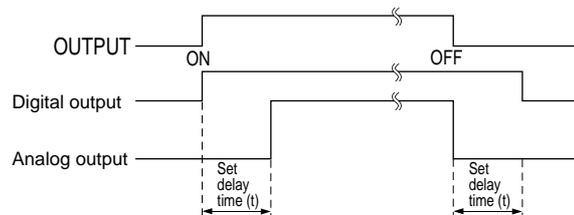
A key-lock function can be used to forcibly hold all setting values, thereby preventing the inadvertent changes of values during a power supply operation extending over long hours, or when you leave the power supply unattended during experiments.

Last-One Memory

A backup function holds setting values, so that when the power is switched on the values in effect when power was switched off are set automatically, eliminating the need to make settings once again (except for the output switch and protect switch which are not backed up.)

ON/OFF Delay Time

For a multiple-output power supply, when more than one of the outputs are switched on or off simultaneously, the experimental device or circuit being supplied may be influenced unexpectedly, running the risk of damage. To prevent this, the delay time feature enables you to turn on a given output only after a delay time, and turns this output off this same delay time before the other outputs.



Natural Cooling

Thanks to an energy-saving design minimizing the temperature rise inside the unit and to a structure with high heat exhaust efficiency, the unit does not need a ventilation fan, thereby eliminating trouble such as noise, vibration and absorption of dirt.

Rack Size Unit

Assuming the use in experimental fields and in combination with system components, the unit has a case size which complies with the rack specifications of EIA and JIS.

REGULATED DC POWER SUPPLIES

SPECIFICATIONS

Model	4-Output Power Supply			3-Output Power Supply	
	PW18-1.8Q			PW18-1T	
Output voltage					
Output voltage	0 to +18V/0 to -18V	0 to +8V	0 to -6V	0 to +18V/0 to -18V	0 to +6V
Setting resolution	10mV				
Dual tracking	0 to ±18V	—		0 to ±18V	—
Tracking error	± (1%+40mV) of rated voltage	—		± (1%+40mV) of rated voltage	—
Output current					
Output current	0 to +1.8A/0 to -1.8A	0 to +2A	0 to -1A	0 to +1A/0 to -1A	0 to +5A
Setting resolution	10mA				
Dual tracking	0 to ±1.8A	—		0 to ±1A	—
Tracking error	± (2%+40mA) of rated current	—		± (2%+40mA) of rated current	—
Voltage regulation characteristics					
Line regulation (with respect to ±10% variation in AC)	1mV			1mV	2mV
Load regulation (with respect to change from 0 to 100%)	3mV			2mV	5mV
Ripple/noise (10Hz to 1MHz)	0.5mVrms			0.5mVrms	
Ripple peak (p-p)	2.8mVp-p			2.8mVp-p	5.6mVp-p
Transient response	50µs Typ			50µs Typ	100µs Typ
Temperature coefficient	100ppm/ Typ				
Current regulation characteristics					
Line regulation (with respect to ±10% variation in AC)	2mA Typ			2mA Typ	4mA Typ
Load regulation (with respect to change from 0 to 100%)	10mA Typ			10mA Typ	20mA Typ
Ripple/noise (10Hz to 1MHz)	2mArms Typ			2mArms Typ	5mArms Typ
Ripple peak (p-p)	5.6mAp-p Typ			5.6mAp-p Typ	10mAp-p Typ
Temperature coefficient	300ppm/ Typ				
Voltmeter					
Display (3-1/2 digits, LED)	Maximum 19.99V display, fixed range, red LEDs				
Accuracy (OUT ON)	± (0.5%rdg + 2digit) at 23 ± 5 °C, 80%RH or less				
Ammeter					
Display (3 digits, LED)	Maximum 9.99A display, fixed range, red LEDs				
Accuracy (OUT ON)	± (1.0%rdg + 2digit) at 23 ± 5 °C, 80%RH or less				
Functions					
OUTPUT ON/OFF	Output on/off switch, but output cannot be switched on when MEMORY is on (red LED lights when on)				
OUTPUT PROTECT ON/OFF	Cut off the output if voltage or current setting changed. (red LED lights when on)				
PRESET (1, 2, 3)	3 sets of voltage, current, and delay time values can be preset (green LED lights when on). The setting contents of each preset can be checked.				
MEMORY	Pre-setting of voltage, current, and delay time values is possible (red LED lights when on).				
KEY LOCK	All setting functions except FIX and POWER are locked (red LED lights when on).				
DELAY TIME	Delay time on/off for ±18V and +8V/ -6V (green LED lights when on)		Delay time on/off for ±18V and +6V (green LED lights when on)		
V/A	Voltage and current settings (green LED lights when on)				
Tracking and volts/amps display section	±18V tracking, +18V, -18V, +8V, -6V		±18V tracking, +18V, -18V, +6V		
Output					
COM	±18V, +8V, -6V, COM common		±18V COM common, +6V independent		
Polarity	COM, positive, and negative				
Terminal color	+ (red), - (white), COM (blue), and GND (black)				
Groundable voltage limit	±250V DC				
Series output	0 to 36V		Each output can be connected in series		
Temperature/humidity for characteristics in spec.	0 to 40 °C, 10 to 85%RH or less				
Temperature/humidity for operation	0 to 40 °C, 10 to 85%RH or less				
Temperature/humidity for storage	-20 ~ 65 °C, 10 ~ 85%RH or less				
Cooling system	Natural draft				
Power consumption VA/W (100V AC, ±20%)	Approx. 240VA/213W		Approx. 210VA/176W		
Power requirement	100V AC ±10% 50/60Hz, 120V/220V/240V ±10% (MAX 250V AC), internally switchable				
Case dimensions/Maximum dimensions	138 (W) × 147 (H) × 372 (D) mm/143 (W) × 167 (H) × 392 (D) mm				
Weight	Approx. 8.2kg		Approx. 8.1kg		
Accessories	Instruction manual × 1, Power cable × 1				

PW SERIES

2-Output Power Supply	
PW18-2	PW36-1
0 to +18V/0 to -18V	0 to +36V/0 to -36V
0 to ±18V	0 to ±36V
± (1% + 40mV) of rated voltage	± (1% + 80mV) of rated voltage
0 to +2A/0 to -2A	0 to +1A/0 to -1A
0 to ±2A	0 to ±1A
± (2% + 40mA) of rated current	
1mV	2mV
3mV	2mV
0.5mVrms	
2.8mVp-p	
50µs Typ	
2mA Typ	
10mA Typ	
2mArms Typ	
5.6mA _{p-p} Typ	
	Max. 19.99V/99.9V display, auto range, red LEDs
	Low Range ± (0.5%rdg + 4digit) at 23 ± 5 , 80%RH or less
	High Range ± (0.5%rdg + 1digit) at 23 ± 5 , 80%RH or less
3 sets of voltage and current values can be preset (green LED lights when on). The setting contents of each preset can be checked.	
Pre-setting of voltage and current values is possible (red LED lights when on).	
± 18V tracking, +18V, -18V	± 36V tracking, +36V, -36V
± 18V COM common	± 36V COM common
0 ~ 36V	0 ~ 72V
Approx. 210VA/165W	Approx. 190VA/145W
104 (W) × 147 (H) × 330 (D) mm/109 (W) × 167 (H) × 350 (D) mm	
Approx. 6.4kg	

PW SERIES MULTIREGULATED DC POWER SUPPLIES