

Regulated DC Power Supplies
PDS SERIES

20V / 18A, Digital meter
PDS20-18

20V / 36A, Digital meter
PDS20-36

36V / 10A, Digital meter
PDS36-10

36V / 20A, Digital meter
PDS36-20

60V / 6A, Digital meter
PDS60-6

60V / 12A, Digital meter
PDS60-12

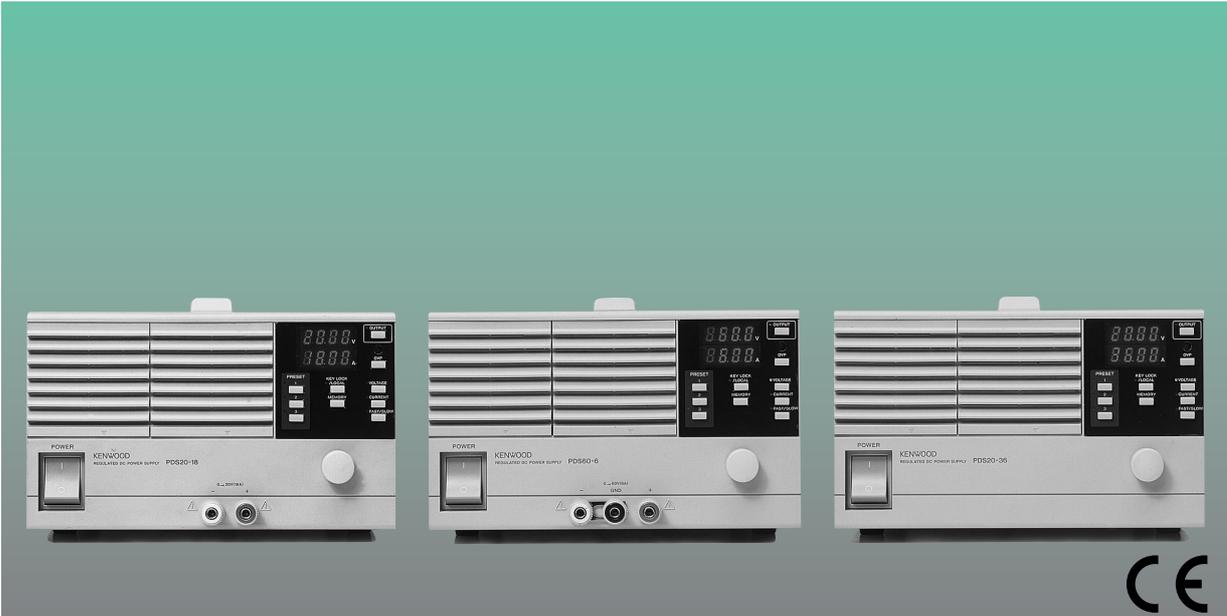
120V / 6A, Digital meter
PDS120-6

OUTLINE

The PDS Series are CE-certified Regulated DC Power Supply units which comply with Power Supply Harmonics Current Regulations IEC1000-3-2, and a power factor of 95% (typical) is cleared. These models feature high reliability and various types of protection, and can be used as a power supply for reliability tests, endurance tests, aging and other electronics parts tests.

By employing a unique switching and dropper circuit systems, the output noise is maintained at a minimized level. The input AC voltage is possible from 90 to 246 volts without any modification. Furthermore, these models are designed in a smaller size and a lighter weight compared to conventional models.

RS-232C OPTION
 OPT-10 OPTION



PDS20-18
 PDS36-10

PDS60-6
 PDS60-12
 PDS120-6

PDS20-36
 PDS36-20

FEATURES

Complies with Power Supply Harmonics Current Regulation, and a Power Factor of 95% (typical)

The PDS Series comply with Power Supply Harmonics Current Regulations (IEC1000-3-2) as well as "Home Appliance and General-Purpose Products Harmonics Suppression Control Guidelines", and never affect the AC supply due to current harmonics. Furthermore with a built-in active smoothing filter, a resulting power factor of 95% (typical) is cleared.

Satisfying CE Mark Certification Requirements

These models satisfy Low-Voltage Standards (IEC1010) and EMC Standards Requirements.

Series/Parallel Operation

When these models are connected in series, the resulting output voltage is increased. And when they are connected in parallel, the resulting output current is increased. For more convenience, when a master-slave system is used, either a series drive or a parallel drive operation can be performed by a single unit in order to control the output of all of the other units.

(A master-slave system is possible with up to 3 units in parallel mode, and up to 2 units in series mode.)

Voltage/Current Simultaneous Digital Display

The bright and easy-to-see displays with 7-segment red LEDs are designed to display the voltage and current values digitally at the same time.

Voltage/Current Preset (3 points)

The frequently used output values for voltage and current can be stored in the memory for up to 3 points for each value. The preset values can be recalled with a touch of a button, making possible the switching of the output value more quickly.

Single-Dial Control Design

Designed with easy operation in mind, the operation conditions can be set at a press of the push button switch, while all the setup values can be changed using the rotary encoder control. Especially for output voltage and current, high accuracy control is possible in 10 mV and 10 mA steps respectively. Furthermore, the variable speed of the control knob can be switched between SLOW and FAST.

Key Lock Function

A key lock function is provided to fix the setup values for inhibiting the operation on the front control panel. This is convenient when long-term energization is required. Also, it is not necessary to have to worry about mis-operation by others if you leave it on your desk while the experiment is continuing.

Compact, Lightweight Design

When compared with the conventional PD-A Series, the weight is reduced to 1/2 to 1/3. It can more easily be carried from door to door than before.

Various Protection Functions

For protection, various protection functions are provided including OVP (over-voltage protection), OHP (over-heating protection) and OCP (over-current protection). When a protection circuit is engaged, the power switch is automatically turned off.

Board-Type Options for External Control

External control is possible using optional board interface. Since a board can be mounted inside the unit, no extra mounting space is required. For external control, three types of options are available – analog (voltage/resistor), GP-IB and RS-232C.

Worldwide AC Voltage Input Design

A wide range of AC power voltages can be input between 90 V and 264 V. Each model is ready to accept worldwide power sources without switching over the voltage selector.

Optional Accessories

GP-IB Interface Card	: IF-30GP
RS-232C Interface Card	: IF-30RS
Analog Card	: IF-30AN
Rack Mount Adapter	: RK-605E (EIA size)

REGULATED DC POWER SUPPLIES

SPECIFICATIONS

Model	PDS20-18	PDS20-36
Output		
Output voltage range (V)	0 - 20	0 - 20
Output current range (A)	0 - 18	0 - 36
Rated output power (W)	360	720
Output terminal	Front & Rear	Rear
Voltage regulation characteristics		
Line regulation	0.005% +1 mV (for $\pm 10\%$ source voltage fluctuation)	
Load regulation	0.005% +2 mV (for 0 to 100% fluctuation)	
Ripple /noise, p-p (By 20MHz Scope)	30 mVp-p	
Ripple /noise, rms (5 Hz to 1 MHz)	1 mVrms	1.5 mVrms
Transient response (typ.)	100 μ sec	
Temperature coefficient (typ.)	± 100 ppm/ $^{\circ}$ C	
Rise time (typ.)	Full load / no load 100msec / 100msec	
Fall time (typ.)	Full load / no load 150msec / 1000msec	
Current regulation characteristics		
Line regulation	5mA	10mA
Load regulation	5mA	
Ripple noise, rms (5 Hz to 1 MHz)	10mA	10mA
Temperature coefficient	± 100 ppm/ $^{\circ}$ C	
Display		
Voltage display, accuracy ($23 \pm 5^{\circ}$ C)	3 1/2 digits LED, 0.1% rdg ± 2 digits, 10mV accuracy	
Current display, accuracy ($23 \pm 5^{\circ}$ C)	3 1/2 digits LED, 0.5% rdg ± 2 digits, 10mA accuracy	
In constant voltage/ current operation	CV LED on/ CC LED on	
Output signals		
Alarm signal output	Open collector, active Low Operation functions	
Operation function		
OVP key	Displays OVP circuit operating voltage on front	
KEYLOCK (LOCAL) key	Locks keys and knobs (except POWER switch).	
PRESET 1 - 3 keys	Used with MEM key to memorize three output	
MEM key	Used with PRESET keys to memorize three output	
FAST/SLOW key	Changes output voltage and current setting speed.	
ON/OFF control	Enabled with input contact signals.	
POWER switch shut-down	Enabled with input contact signals.	
Output voltage remote sensing	Compensates for 1 V voltage drop on single side.	
Protection		
Over voltage protection (OVP)	POWER switch off at setting value	
Over current protection (OCP)	POWER switch off at setting value	
Overheat protection (OHP)	POWER switch off at setting value	
Soft OVP (OVD)	Set from external controller in remote control mode.	
Environmental request		
Operating temperature / humidity range	0 to 40 $^{\circ}$ C / 30 to 80 % RH	
Stocking temperature / humidity range	-20 to 70 $^{\circ}$ C / 20 to 80 % RH	
To-GND voltage	± 250 VDC	
Cooling method	Front air intake type forced air cooling with	
Power source		
Input voltage	AC 90 to AC 264 V, 50/60 Hz without setting change.	
Power factor (typ)	95%	
Power consumption (typ)	560 W	1100 W
Power efficiency (typ)	65%	65%
Dimensions / Weight		
Dimensions (W \times H \times D) mm	210 \times 124 \times 405	
Maximum dimensions (W \times H \times D) mm	210 \times 141 \times 465.5	
Weight (approx.)	6.3 kg	7.2 kg
Options		
Analog I/O board	V/I controlled by external voltage or resistance.	
GP-IB interface board	V/I set/read, Output ON/OFF, AC shout down.	
RS-232C interfaceboard	V/I set/read, Output ON/OFF, AC shout down.	
Output capacity extension	Parallel connection control : Master-slave system,	

PDS SERIES

	PDS36-10	PDS36-20	PDS60-6	PDS60-12	PDS120-6
	0 - 36	0 - 36	0 - 60	0 - 60	0 - 120
	0 - 10	0 - 20	0 - 6	0 - 12	0 - 6
	360	720	360	720	720
	Front & Rear	Rear	Front	Front	Front
	1 mVrms				2 mVrms
	1mA	5mA	1mA	5mA	1mA
	5mA	10mA	5mA	10mA	5mA
	(5ms one pulse)				
	panel, which is variable between 10 and 110% of FS.				
	Also removes remote control.				
	voltages and currents.				
	voltages and currents.				
	POWER switch off when soft OVP is active.				
	fan motor Insulation resistance				
	520 W	1050 W	520 W	1050 W	1050 W
	70%	70%	72%	72%	72%
			210 × 124 × 405		
			210 × 141 × 217.5		
	6.3 kg	7.2 kg	6.3 kg	7.2 kg	7.2 kg
	up to 3 units / Series connection control: Master-slave system, up to 2 units				

PDS SERIES

REGULATED DC POWER SUPPLIES