

**Power Supply with Quintuple Variable Range**

**NEW**

## **Multi Range DC Power Supply PWR Series**



Power supply with quintuple variable voltage/current range  
 3 models supporting maximum output powers of 400 W, 800 W, and 1600 W  
 Maximum output voltage of 80 V  
 Capable of outputting up to 160% of the rated current (extended operation area)



**JQA-EM1176**  
**JQA-1100**  
 Oscilloscopes  
 Withstanding Voltage Tester  
 Power Supply Equipment

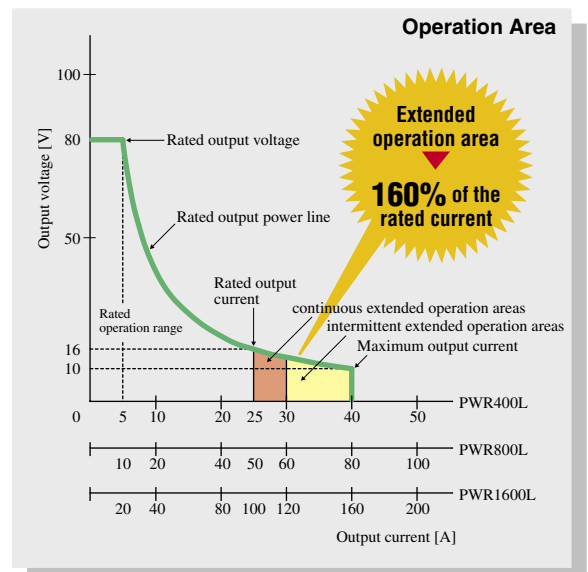
# PWR SERIES

**NEW**



Upper left: PWR800L Lower left: PWR1600L Right: PWR400L

The PWR series offers constant voltage (CV)/constant current (CC) automatic crossover DC power supplies that enable you to combine a wide range of voltages and currents within the output power rating. For example, the model that has an output power rating of 1600W (PWR1600L) provides a seamless operation range from 80 V - 20 A to 16 V - 100 A. With a single PWR series power supply alone, you can cover an extensive output range equivalent to what is provided by four or five conventional single range DC power supplies. The power supply can output up to 160% of the output current rating (in the continuous and intermittent extended operation areas). PWR1600L supports a maximum output of 10 V - 160 A.



**Note:** The ambient temperature and output time are restricted in the extended operation areas.

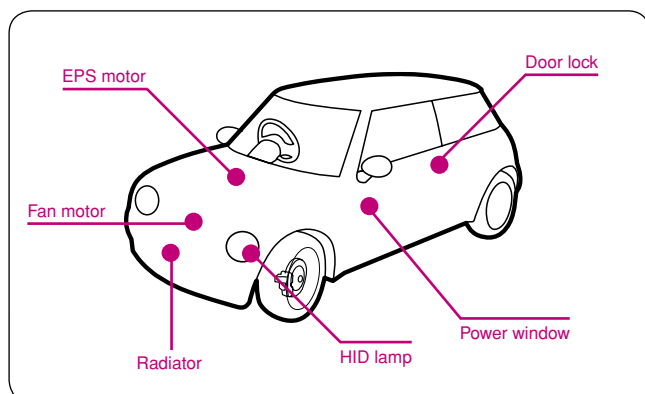
### ●Lineup

Model	Rated Power	Rated Voltage	Rated Current (Maximum Current at Extended Operation)
PWR400L	400 W	0 - 80 V	0 - 25 A (40A)
PWR800L	800 W	0 - 80 V	0 - 50 A (80A)
PWR1600L	1600 W	0 - 80 V	0 - 100A (160 A)

### ●Applications

#### Car electronics components:

EPS motor, Radiator, Fan motor, DD converter, Vehicular harness, ECU, Door lock, Power window, HID lamp, etc.

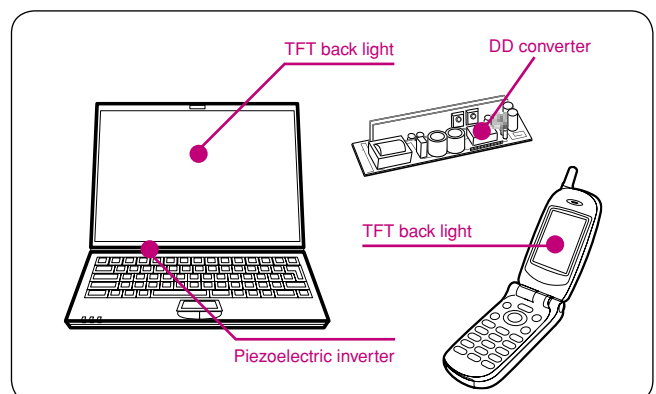


**Electronic components:** TFT back light, piezoelectric inverter, DD converter, etc.

**Batteries:** Lead battery, sealed battery, etc.

**Communication equipment:** Switches, etc.

**Tests:** Suitable for applications for which a test voltage or current is not determined



## Seamless Quintuple Variable Voltage/Current Range

A single PWR series power supply supports an extensive operation range, covering an output range equivalent to what is provided by several conventional single range DC power supplies. Also, the maximum output powers of the power supplies of this series are 400 W, 800 W, and 1600 W - slightly higher than those of their predecessors. You can conduct tests without worrying about power limits.

## Output Voltage Sufficient for Margin Tests

The maximum output voltage is 80 V. This gives you sufficient output voltages for margin tests. For example, 150% of 42 V (63 V) can be supplied for testing vehicular electrical components, or 150% of 48 V (72 V) can be supplied for testing communication equipment.

## Two Extended Operation Areas Where Up to 160% of the Output Current Rating Can Be Output

In the extended operation areas, the power supply can output up to 160% of the output current rating. This feature is convenient when testing an automobile motor or other load device that requires high current at startup time. Since the power supply can output continuous current up to 120% of the output current rating with the restricted ambient temperature range and current up to 160% of the output current rating with the restricted output time tests can be conducted with a power capacity one rank lower. This feature also helps you cut equipment costs and save floor space.

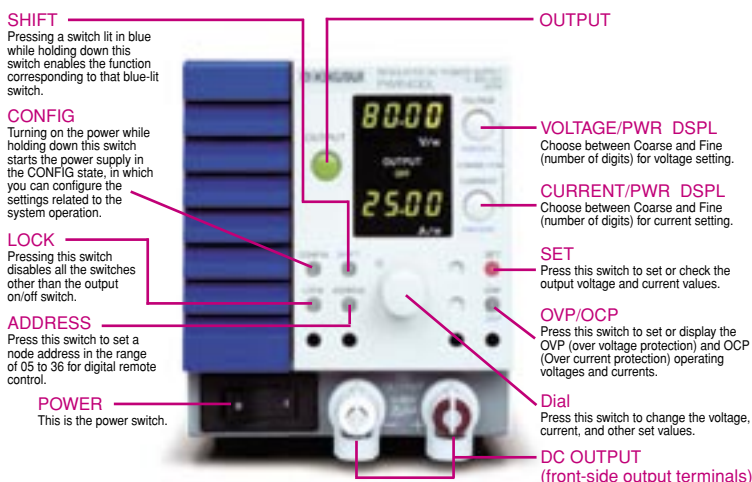
## Parallel or Serial Operation

Parallel operation enables multiple power supplies of the same model to operate in parallel, offering a large capacity of up to 8 kW (when five 1600-watt models are connected in parallel). In a serial operation, the voltage can be increased up to 160 V. (Note: Parallel and serial operations cannot be done at the same time.)

## Other Features

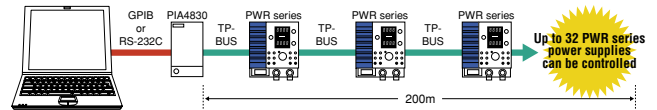
- Analog external control functions are available, providing voltage- and resistance-based output voltage and current controls.
- The power supply comes standard with the remote monitoring function. External analog monitoring can be done with respect to the output voltage, output current, and operation mode.
- A built-in power factor correction circuit (with power factor 0.98) for harmonic current suppression, as well as a highly efficient switching circuit (efficiency 70%), are featured.
- A four-digit display can display the voltage, current, and power (W). It allows you to set the voltage and current while checking on the power.
- The power supply has front-side output terminals (up to 30 A) for desktop use.
- Over voltage protection (OVP), over current protection (OCP), over power protection (OPP), and over heat protection (OHP) are provided as standard protection circuits.
- A universal AC input supports a range of voltages from 100 V to 240 V.

## Panel Description (400-Watt Type)



## Up to 32 PWR Series Power Supplies Can Be Controlled with One GPIB Address

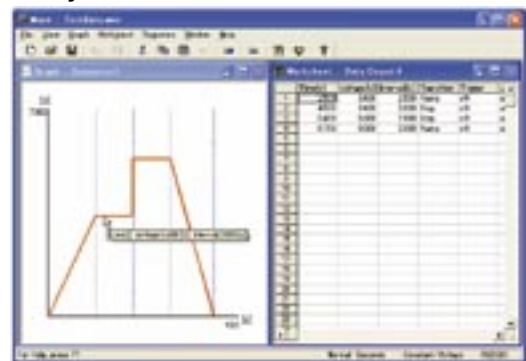
The PWR series supports a digital communication function (TP-BUS) as its standard feature. When used with a power supply controller (PIA4830) to be purchased separately, the function enables up to 32 PWR series power supplies to be controlled using the GPIB or RS-232C interface. In addition, the sequence generation software (Wavy for PWR+PIA4830), also to be purchased separately, allows even those users who have no knowledge of any programming language to exert output control over the PWR series power supplies with sequence patterns of their choice and to read resultant data through the use of a PC (Wavy for PWR+PIA4830 is due out soon).



**Note:** To control PWR series power supplies using PIA4830, you need ROM Version 2.20 or later in the PIA controller.

## Sequence generation software Wavy for PWR+PIA4830

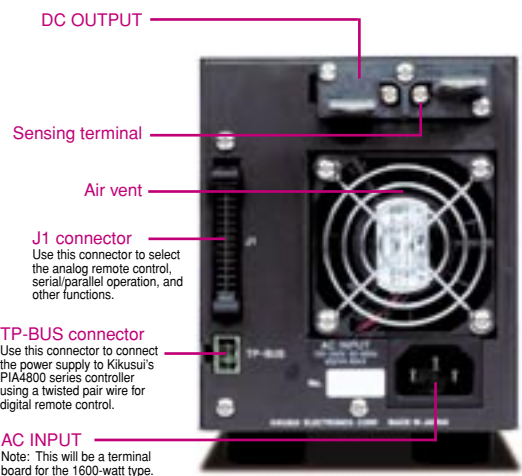
Coming Soon



Wavy's screen OS: Windows 98/Me/2000/XP

### Features/ functions

- Waveform images can be generated easily using the mouse.
- Sequences can be developed and edited with ease.
- Voltages and currents can be monitored and saved in files.
- Text files can be read freely.



# Specification

Model	PWR400L	PWR800L	PWR1600L	
Output voltage range	0 V to 80.00 V			
Output current range	0 A to 25.00 A	0 A to 50.00 A	0 A to 100.0 A	
Maximum output current (Up to 160% rated current) <sup>Note</sup>	40.00 A	80.00 A	160.0 A	
Maximum output power	400.0 W	800.0 W	1600.0 W	
Constant voltage (CV mode)	Voltage fluctuation	0.05% of rating + 3 mV		
	Load fluctuation	0.05% of rating + 5 mV		
	Ripple (rms)	10 mVrms	15 mVrms	20 mVrms
	Noise (p-p)	60 mVp-p	80 mVp-p	120 mVp-p
	Temperature coefficient	100 ppm/°C		
	Transient response time	1 ms	1.5 ms	2 ms
Constant current (CC mode)	Rise time	100 ms (standard: 50 ms) both at rated load and at no load		
	Fall time	100 ms (standard: 40 ms) at rated load, 250 ms (standard: 125 ms) at no load		
Constant current (CC mode)	Voltage fluctuation	0.1% of rating + 10 mA		
	Load fluctuation	0.1% of rating + 10 mA		
	Ripple (rms)	40 mArms	80 mArms	160 mArms
	Temperature coefficient	200 ppm/°C		
Display function	Voltage display (display error)	99.99: ±(0.2% of reading + 5 digits)		
	Current display (display error)	99.99: ±(0.5% of reading + 5 digits)		
	Wattmeter	999.9	999.9	9999
Protection function	OVP (over voltage protection), OCP (over current protection), OPP (over power protection), OHP (over heat protection)			
External analog control	CV mode	External voltage		
	CC mode	External resistance	CV external resistance control, normal and fail-safe (0 to 10 KΩ)	
		External voltage	CC external voltage control (0 to 10 V)	
	ON/OFF	External resistance		
External digital control	OUTPUT ON/OFF, SHUT DOWN (TTL level)			
Parallel operation	TP-BUS included as standard			
Serial operation	Up to 5 units including master (of same model)			
Monitor signal output	Up to 2 units including master (of same model)			
	V MON (voltage monitor): 10.00 V ±0.25 V during rated voltage output			
Status signal output	I MON (current monitor): 10.00 V ±0.25 V during rated current output			
Input voltage range	OUT ON, CV, CC, ALM, PWR OFF, PWR ON (J1 connector, photocoupler/open-collector output)			
Power interruption hold-up time (min.)	85 to 250 VAC, single-phase, 47 to 63 Hz (no switching between 100-VAC and 200-VAC systems)			
Input current	10 ms at 50% load, 5 ms at rated load			
	100-VAC input	6.5 A	13.0 A	26.0 A
Input power	200-VAC input	3.3 A	6.5 A	13.0 A
Input power factor	650 VA			
Power efficiency	1300 VA			
Inrush current	2600 VA			
Operating ambient temperature	0.98			
Operating ambient humidity	70%			
Outer dimensions (max.)	35 A in peak value			
Weight (approx.)	70 A in peak value			
	140 A in peak value			
Accessories	0 to 50 °C (derating occurs on output current at 45 °C or higher)			
	20 to 85%rh (non-condensing)			
	106.5W × 124(145)H × 400(470)D mm	214W × 124(155)H × 400(470)D mm	428.5(450)W × 128(150)H × 400(470)D mm	
	5 kg	8 kg	15 kg	
Accessories	2.4 m power supply cable with 3-pin plug		3 m power supply cable with 3-pin plug	
	Output protection cover		3 m power supply cable with no plug	
	Cable clamp, output protection cover			
Instruction manual, TP-BUS connector, output terminal screws (M4, M8)				

- Note:**
- Some of the specifications may not be satisfied in the extended operation areas.
  - Continuous extended operation area (up to 120% of the output current rating): Continuous current output is enabled. However, derating occurs at an ambient temperature of 30°C or higher.
  - Intermittent extended operation area (120 to 160% of the output current rating): Continuous current output is enabled for 10 minutes or less. However, a nonoperating period more than twice the output period must be taken.

## Options

- Power supply controller **PIA4830**  
 GPIB/RS-232C interface unit  
 Up to 32 PWR series power supplies can be controlled with one PIA4830 controller.
- Sequence generation software (Due out soon)  
**(Wavy for PWR+PIA4830)**
- Analog remote control connector kit **OP01-PAS**  
 Connect the provided connector to the J1 connector on the rear side for external control.  
 Content: 26-pin connector, semi-cover, pin (×10), and ground cable
- Carrying handle (for PWR400L) CH01-PWR
- Rack mount adapter (for PWR400L/PWR800L)  
**KRA3** (EIA-compatible inch rack)  
**KRA150** (JIS-compatible millimeter rack)
- Rack mount bracket (for PWR1600L)  
**KRB3-TOS** (EIA-compatible inch rack)  
**KRB150-TOS** (JIS-compatible millimeter rack)



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