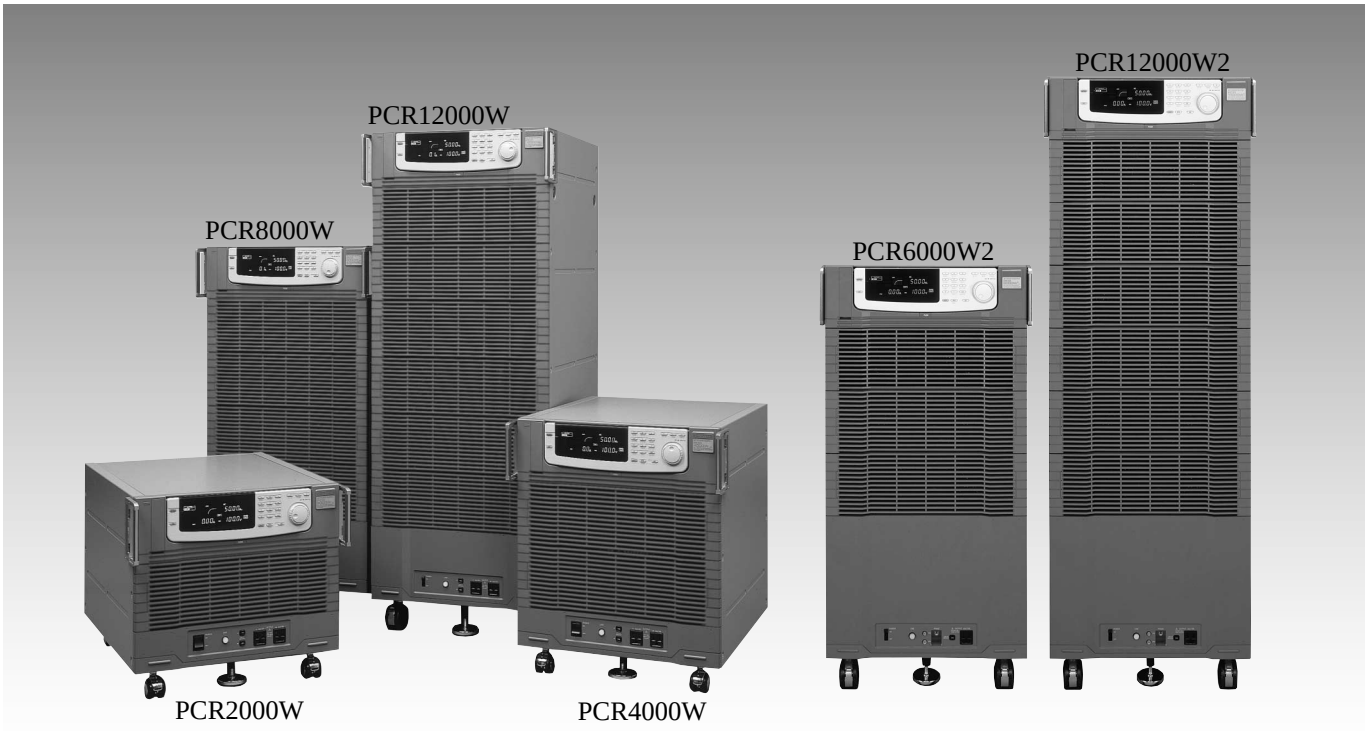
PCR-W/W2 series

HIGH EFFICIENCY AC POWER SUPPLY (CV·CF)



1 to 300 VAC, 1 to 500.0 Hz/1.4 to 424 VDC
High efficiency (approx. 75%) is realized by using PWM inverter system for the power unit.
Various measuring functions including a power measurement function are equipped as standard features.
PCR2000W:2kVA, PCR4000W:4kVA ,PCR8000W:8kVA, PCR12000W:12kVA
PCR6000W2:6kVA, PCR12000W2:12kVA

Outline

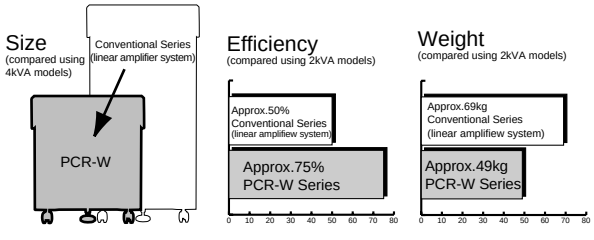
With a primary development concept of improved efficiency and low cost, the PCR-W/W2-series regulated AC power supply features a balance of performance, function, quality, and cost based on the technology and know-how established with the PCR-L series of products. Specifically, PWM inverter system was used for the power unit, providing the power supply with improved efficiency (by approximately 75 %), low-input current demand, and a considerably downsized and lightweight package design. The PCR-W/W2-series power supply features a wide input range and high-quality, powerful output (as well as a reduction in low-waveform distortion, and the provision of high response speed and low power-factor load) for worldwide application, and is equipped not only with measurement and output capabilities for AC parameters such as RMS value, peak value, power, and power factor, but also with DC output and AC+DC output modes. With these features, the capabilities of the PCR-W/W2-series power supply go beyond ordinary AC power supply, providing greater convenience.

Moreover, with one unit of the PCR-W2-series product, utilization of both single-phase and three-phase outputs of the same capacity is possible simply by changing the position of the selector switch. This enables the user to eliminate installation of individual single-phase and three-phase systems as had previously been necessary, thus enabling the budget and space to be utilized more efficiently.

Optional equipment includes a remote control unit, and GPIB and RS-232C interfaces. Because the computer remotely sets various functions of the PCR-W/W2-series power supply and reads back measurements by means of measurement functions, the power supply is suitable for applications such as automatization of production and inspection lines.

Among other features, the PCR-W/W2-series power supply can reduce running costs (electricity costs) by approximately 30 % compared to conventional products, and we therefore believe that more units used can be used in the production and inspection lines, or research and development facilities, enabling users to further benefit from the new developments.

● Comparison between
PCR-W/W2 and conventional series



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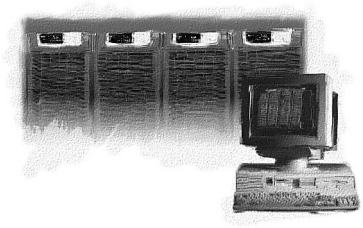
Line up

Model name	Output capacity	Dimensions (max.) W × H × D mm
PCR2000W	Single-phase,2kVA	430(450)×351(415)×550(595)
PCR4000W	Single-phase,4kVA	430(450)×484(545)×550(595)
PCR8000W	Single-phase,8kVA	430(450)×839(920)×550(595)
PCR12000W	Single-phase,12kVA	430(450)×1105(1190)×550(595)
PCR6000W2	Single-phase & three-phase,6kVA	430(450)×839(920)×550(595)
PCR12000W2	Single-phase & three-phase,12kVA	430(450)×1238(1320)×550(595)

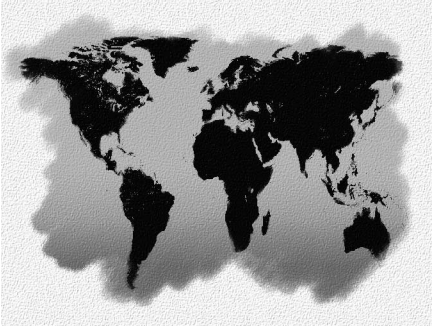
Features

■ Achieves less than 0.5% voltage waveform distortion. 60 μs of voltage response speed (the standard speed of PCR-W-series products) , and high-quality output equivalent to a linear amplifier system. And since the max. output current can be supplied to any power factor load of 0 to 1.

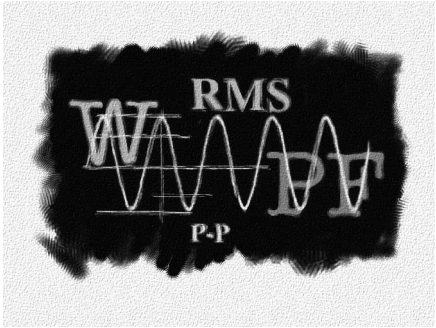
■ Applicable to GPIB or RS-232C control. The PCR-W Series can be used in automatic production and inspection lines. It is equipped with a voltage-drop sensor, and regulation adjustment functions.



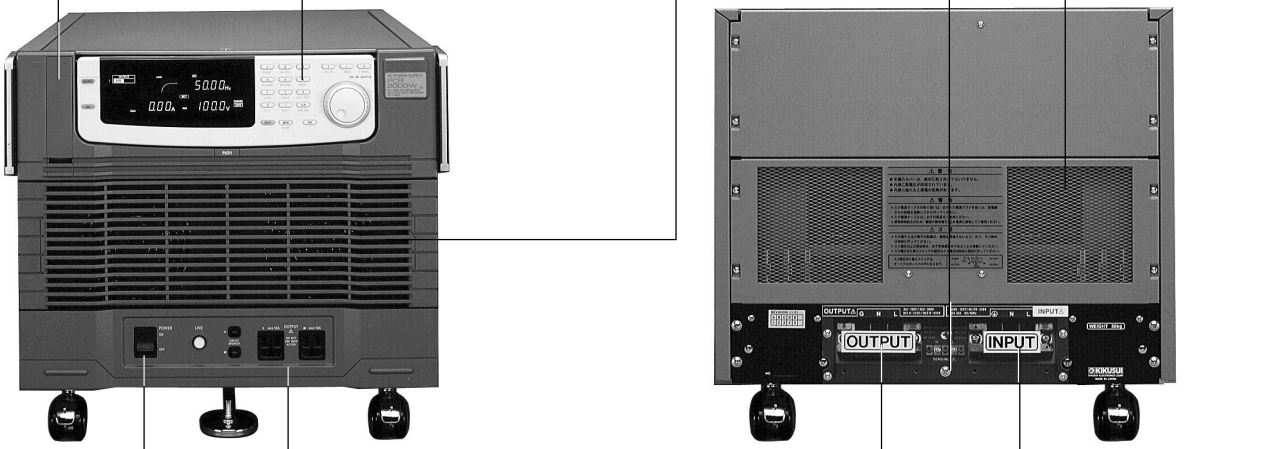
■ Provides two input ranges: 85 V to 132 V, and 170 V to 250 V (the range is selectable, but only the 170 V to 250 V range is available for PCR8000W, 12000W, 6000W2, and 12000W2) as standard specifications. This accommodates all voltages worldwide.



■ Output voltage/current real effective value, peak value, DC mean value, and electric power are displayed on the panel. Using optional accessories, power factor, VA measurement and peak hold current measurement are also possible.



Description of Panel (PCR2000W)



Optional Accessories

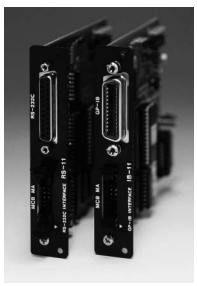
■ PCR-W/W2 Series Optional Accessories

Model name	Remark
RC02-PCR-L	Remote controller
IB11	GPIB interface card
RS11	RS-232C interface card

■ PCR-W/W2 Series Rack-mount Bracket

Model name	Remark
KRB 8	PCR2000W(for inch size rack)
KRB 11	PCR4000W(for inch size rack)
KRB 19	PCR8000W/6000W2(for inch size rack)
KRB 400	PCR2000W(for metric size rack)
KRB 500	PCR4000W(for metric size rack)
KRB 850	PCR8000W/6000W2(for metric size rack)

■ Remote controller (RC02-PCR-L), consisting of a remote control box, remote control card (to be installed in the expansion slot of the power supply unit), and remote control cable (2 m).



■ Interface cards for GPIB (IB11) and RS-232C (RS11)

PCR-W/W2 series

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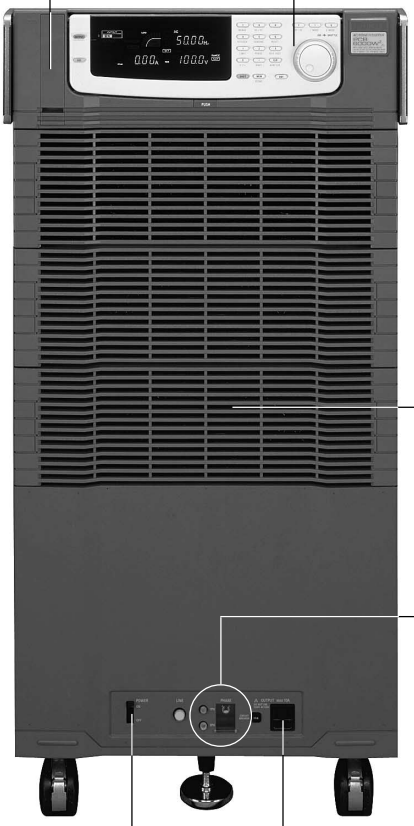
Description of Panel (PCR6000W2 Single-phase/three-phase changeover type)

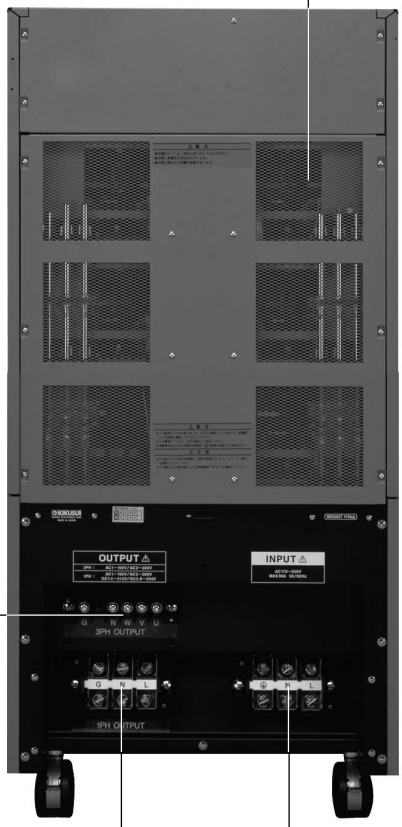
The large color fluorescent character display tubes (VFD) allow a bright and clear display. Operation is possible by using function keys, or ten keys and jog/shuttle combination. The angle of the panel surface can be changed in 2 steps.

I/O slot to install an optional expansion card.

Forced air cooling system exhaust port

Air intake port for forced air cooling, equipped with a built-in air filter.





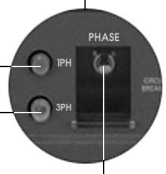
Three-phase output terminal board

Power switch

Output receptacles
* 125 VAC, 10 A max.

Single-phase output terminal board

Input terminal board, applicable to 170 to 250 V.



Single-phase/three-phase indicator

Single-phase/three-phase selector (this switch is equipped with a misoperation prevention cover)

Efficiency

■ Output Voltage & Output Frequency

The wide range of variable output voltages and frequencies makes it compatible with commercial power sources around the world, as well as with power sources of 400 Hz, which are used on airplanes and ships.

Output voltage range*	Resolution
100 V range: 1.0 to 150.0 VAC	0.1 V
200 V range: 2.0 to 300.0 VAC	0.1 V

* In the DC mode, DC output can be obtained for a range of 1.4 to 424 V.

Output frequency range	Resolution
1.00 to 99.99 Hz	0.01 Hz
100.0 to 500.0 Hz	0.1 Hz

■ Output Mode

By selecting the DC mode from AC/DC, a (1.4 to 424) VDC output can be obtained. Using the optional expansion accessories such as the RC02-PCR-L remote control and the RS11 or IB11 interface card, it is possible to superimpose AC voltage on DC.

■ Applicable to Low Power Factor Load

Since the max. output current can be supplied to any power factor load of 0 to 1, a capacitive load, for instance, can be powerfully driven.

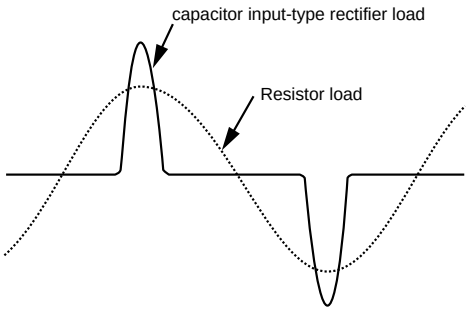
■ Chatter-free Output ON/OFF

Using an electronic switch, output can be turned on or off with a chatter-free and clean waveform. In addition, using an optional accessories, phase can freely be set when the output is ON or OFF.

■ Max. Output Peak Current

To a capacitor input-type rectifier load, it is possible to supply a max. peak current of up to 4 times the max. rated current (effective value).

* Max. output peak current = Max. rated output current (effective value) × 4. However, this is applicable in the case of "Effective value of current Rated current".



■ High Efficiency & Low Input Current

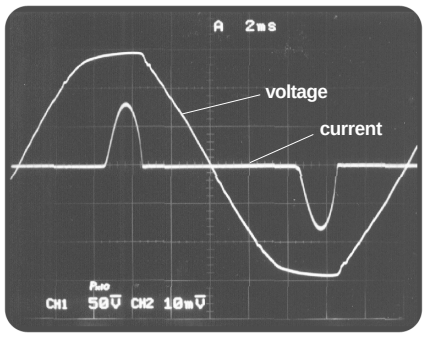
The new system employed for the PCR-W/W2 Series power unit has raised efficiency by approx. 50%, decreased power consumption in the AC power source by 66%, and decreased the input current by approx. 33% compared with the linear amplifier system. Using an active smoothing filter, the input current waveform can be made to resemble a sine wave with a power factor of 0.95 (standard value). Moreover, the high harmonic current can be reduced as well.

■ Input Voltage

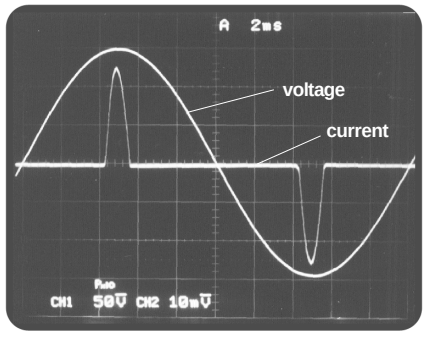
The wide range input voltage design allows the PCR-W/W2 Series with standard specifications to be used without modification in many countries around the world.

Model name	Input voltage range
PCR2000W	Single-phase, 85 to 132/170 to 250 VAC 47 to 63 Hz
PCR4000W	
PCR8000W	Single-phase, 170 to 250 VAC 47 to 63 Hz
PCR12000W	
PCR6000W2	
PCR12000W2	

● Comparison of the commercial line and the PCR-W/W2 Series connected to a capacitor input-type rectifier load:
The following figures show distinctly that the commercial line voltage waveform is significantly distorted by the pulsed current waveform output from a non-linear load, while the output from the PCR-W/W2 Series is a clean sine wave without hardly any distortion.



Commercial line output waveform (50 V/div, 5 A/div)



PCR-W/W2 Series output waveform (50 V/div, 5 A/div)

PCR-W/W2 series

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Function

The functions with marked Option are those which are available only with optional accessories.

■ Output Voltage Setting

Using the ten keys, output and limit voltages can directly be set in 0.1 V increments. To change the setting, adjust using the jog/shuttle as you would using a dial.

* Both the phase-voltage setup and line-voltage setup modes can be selected in the three-phase output mode of the PCR-W2-series power supply. However, the line-voltage setup mode is available only when all the phase voltages indicate the same value, and when all the phase differences are at 120°.

■ Output Frequency Setting

Use the ten keys to directly set an output frequency between 1.00 to 500.0 Hz without range changeover. To change the setting, adjust using the jog/shuttle as you would using a dial. The frequency can be set in 0.01 Hz increments between 1.00 to 99.99 Hz, and in 0.1 Hz increments between 100.0 to 500.0 Hz.

■ AC + DC Mode Option

A voltage waveform with AC superimposed on DC can be output.

* This function is not available in the three-phase output mode of the PCR-W2-series power supply.

■Single-phase/three-phase changeover

One unit enables utilization of the single-phase and three-phase outputs at the same output capacity by changing the position of the selector switch.

* This function is available only for the PCR-W2-series power supply.

■ Output ON/OFF Phase / Three phase difference Setting Option

The phase, when the output is ON and OFF, can be set within a range of 0 to 360 degrees in 1 degree increments. Since this function is backed up by the power supply unit, this setting remains even after the optional accessory used is removed. The three-phase system enables setup of the phase difference between U and V and between U and W, respectively.

* Three phase differences can be set only on the PCR-W2-series power supply.

■ Limit Function

Using this function, the upper and lower limits of the output voltage and frequency, as well as the upper limit of the current, can be set. This function is effective for preventing damage to the load in case of misoperation.

■ Memory Function

Nine addresses of output voltage and frequency setting values can be memorized by the power supply unit. Since the memory is backed up, written values can be called back any time.

■ Memory Expansion Option

The power supply unit has 9 memory addresses as a standard. Using an optional accessory, this can be expanded to a max. of 99 addresses.

Items to be memorized	Remark
Address No.	0 to 99 addresses
AC voltage value	AC mode*
Frequency value	AC mode*
DC voltage value	DC mode*

* Effective in the AC+DC mode.

■ Key Locking Function

To inhibit operation from the control panel by using this function is an effective way of preventing careless operations.

■ Measuring Function

Real effective value, peak value, mean value (DC mode only) of the output voltage and current, and electric power can be displayed on the panel. Using the load level meter, it is possible to get a standard value of the load factor to the limited value of output current.

Type of measurement		
Voltage	Effective value	Standard facility
	Peak value	Standard facility
	DC mean value	Standard facility
Current	Effective value	Standard facility
	Peak value	Standard facility
	DC mean value	Standard facility
	Peak hold value	Possible using an optional accessory
Electric power	Effective power	Standard facility
	Voltampere	Possible using an optional accessory
	Power factor	Possible using an optional accessory

*1 The phase voltage and line voltage can be displayed in the three-phase output made of the PCR-W2 series power supply.

*2 The phase current is displayed in the three-phase output made of the PCR-W2 series power supply.

■ Measuring Function Expansion Option

Using this optional function, it is possible to measure the power factor, VA, and peak hold current. The peak hold current measurement is a function for measuring the peak current up until the time the peak clear signal or command is accepted by the power supply unit. Simultaneously using the power ON/OFF phase-setting function combined with this measuring function makes it possible to measure the dash current at any voltage phase setting.

Function

■ Sensing Function

This function can conveniently be used to raise the stability of the effective voltage value of a sensing point of a load when the load is remote.

* This function is not available in the PCR-W2-series power supply.
* Output stability, response to drastic changes in load current, and waveform distortion rate during use of the sensing function decline compared to those of the standard specifications of the power supply unit. The sensing function may be inappropriate, depending on the intended applications.

■ Regulation Adjustment Option

It is possible to automatically adjust the output voltage according to the output current. This function is similar to the sensing function; however, in the case of the regulation adjustment function, the output voltage drop by the output current is sensed and calculated at the output terminal of the power supply unit, making it possible to compensate for the drop in output voltage. One advantage of this function is that a separate sensing signal cable is not necessary.

* This function is not available in the three-phase output mode of the PCR-W2-series power supply.
* This function is available only when the RC02-PCR-L is used. When the regulation adjustment function is used, the voltage stability accuracy, distortion rate, and response speed decline compared to those of the standard specifications of the power supply unit. This function may be unsuitable for certain applications.

■ Self-testing Function

If the power supply unit is out of order (when the overload protection function is actuated, for example), this function checks the cause of the trouble.

■ Various Protection Functions

The PCR-W/W2 Series is equipped with the following protection functions.

For internal circuit protection	Input range protection function
	Overheat protection function
	Internal circuit protection function
For protection of the load and internal circuit	Overload protection function (current-limiting function)
	Overload protection function (internal semiconductor protection)

● The angle of the display unit can be changed in two steps. Use of high luminance fluorescent character display tubes enables, a bright and clear display even in dark places.

* Note that the photograph shows all the display tubes lit up, for demonstration purpose which does not happen during ordinary use.

■ Output voltage rate - rated output current characteristic

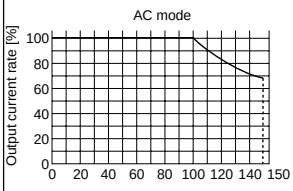

Fig. 1

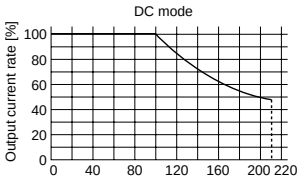

Fig. 2

■ Output frequency - rated output current characteristic

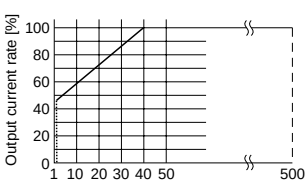

Fig. 3

* Output voltage rate: Percentage taking 100 V / 200 V (100 V / 200 V output range) as 100%.
* Output current rate: Percentage taking the max. rated output current as 100%.
* The output current rate in Fig. 1 or Fig. 3, whichever is smaller, takes priority. (Applicable only to AC mode)

PCR-W/W2 series

HIGH EFFICIENCY AC POWER SUPPLY (CV·CF)

Specifications

Model name				PCR2000W	PCR4000W	PCR8000W	PCR12000W
Input rating (AC effective value)							
	Voltage			85 to 132 V / 170 to 250 V (100 V / 200 V input range (*1)		170 to 250V	
	Phase, frequency			single-phase,47 to 63Hz			
	Voltampere			Approx. 2.8 kVA	Approx. 5.5 kVA	Approx. 11 kVA	Approx. 16.5 kVA
	Power factor			0.95 (Standard value) (*2)			
	Current (100 V / 200 V input range)			33 A/16 A or less	66 A/32 A or less	64 A or less	96 A or less
Output rating in AC mode (AC effective value)							
	Voltage			1 to 150 V / 2 to 300 V (100 V / 200 V output range (*3)			
	Max. current	(*4)		20A/10A	40A/20A	80A/40A	120A/60A
	Phase			single-phase			
	Power capacity			2kVA	4kVA	8kVA	12kVA
	Max. peak current	(*5)		4 times the max. current (effective value)			
	Load power factor			0 to 1 (advanced phase, or delayed phase) (*4)			
	Frequency			1 to 500.0Hz(*4,6)			
Output rating in DC mode							
	Voltage			1.4 to 212 V / 2.8 to 424 V (100 V / 200 V outputrange) (*3)			
	Max. current	(*4)		10A/5A	20A/10A	40A/20A	60A/30A
	Power capacity			1kVA	2kVA	4kVA	6kVA
Output voltage stability							
	Input voltage regulation	Against a change of the rated range		Within ±0.15%			
	Output current regulation	Against a change of 0 to 100% of the rated value		Within ± 0.15 V / ± 0.3 V (100 V / 200 V output range (*7)		Within ± 0.3 V (*7)	Within ± 0.5 V (*7)
	Output frequency regulation	Against a change of the rated range		Within ± 0.5% (*8)			
	Ambient temperature coefficient	Against a change of the rated range		100 ppm/ °C (standard value) (*9)			
Output frequency stability		Against any changes in the rated range		Within $\pm 5 \times 10^{-5}$, Setting accuracy: within $\pm 1 \times 10^{-4}$			
Output voltage waveform distortion		(*10)		0.5% or less (1 to 500.0Hz)			
Output voltage response speed		(*11)		60 μs (standard value)			
Efficiency		(*2)		75% or higher			
Display (fluorescent character display tube display)							
	Voltmeter (*12)	Resolution	RMS display mode	0.1V			
			PEAK,AVEdisplay mode	0.2V(0 to ±212V)/0.3V(±212 to ±424V)			
		Accuracy	RMS,AVE display mode	Within ±(1% of r.d.g. +2 d) (at 10 to 424 V, normal temperature)*13			
			PEAK display mode	Within ±(2% of r.d.g. +2 d) (at 10 to 424 V, normal temperature)*13			
	Ammeter (*12)	Resolution	RMS display mode	0.01A	0.1A	0.1A	0.1A
			PEAK,AVEdisplay mode	0.02A	0.2A	0.2A	0.2A
		Accuracy	RMS,AVE display mode	Within ±(1% of r.d.g. +2 d) (*13) (at 5 to 100% of rated max. current, normal temperature)			
			PEAK display mode	Within ±(2% of r.d.g. +4 d) (*13) (at 5% of rated max. current to rated max. peak current, normal temperature)			
	Wattmeter(*14)	Resolution		0.1W/1W			0.1W/1W/100W
		Accuracy		Within ±(1% of r.d.g. +3 d) (*13) (at 10% to 100% of the rated power capacity, power factor 1, normal temperature)			
	Frequency meter (*15)	Resolution		0.01Hz/0.1Hz			
Insulation resistance (across input - chassis, output - chassis, input - output)				500 VDC, 10 MΩ or greater			
Withstand voltage (across input - chassis, output - chassis, input - output)				1.5 kVAC, 1 minute			
Circuit system				PWM inverter system			
Operating ambient temperature / humidity				0 to +50 °C / 10 to 90% RH (no dew condensation is allowed)			
Weight				Approx. 49 kg	Approx. 69 kg	Approx. 120 kg	Approx. 160 kg
Input/output terminal board wire connection screws							
	Input terminal board			M6	M6	M6	M8
	Output terminal board			M6	M6	M6	M8
Input power cable (standard accessory)							
	Configuration			3 pcs. of a single-core cable			
	Wire diameter. (conductor cross-section area/length)			5.5mm²/3m	14mm²/3m	14mm²/3m	22mm²/3m

(*1) A 100 V or 200 V input range can be selected using the selector switch.
(*2) When an input voltage of 100 V / 200 V, rated output current, load power factor 1, and output frequency 40 to 500.0 Hz are selected.
(*3) A 100 V or 200 V range can be selected using the selector switch on the front panel. Resolution: 0.1 V.
(*4) When an output voltage of 1 to 100 V / 2 to 200 V, and load power factor 0.8 to 1 (AC mode) are selected. When an output voltage of 100 to 150 V / 200 to 300 V (AC mode) and 100 to 212V/200 to 424 V (DC mode) are selected, the output current is reduced by the output voltage. See Fig. 1 and Fig. 2 (page 6-18).
At an output frequency of 1 to 40 Hz, the output current is reduced by the output frequency (AC mode). See Fig. 3 (page 6-18).
(*5) For the condenser input-type rectifier load (however, limited by the effective value of the rated output current).
(*6) Resolution: 1) 0.01 Hz (1.00 to 99.99 Hz), 2) 0.1 Hz (100.0 to 500.0 Hz)
(*7) Value at the output terminal board when an output voltage of 80 to 150 V / 160 to 300 V, and a load power factor of 1 are selected.
(*8) Output voltage using to 200 Hz as reference value when an output voltage of 80 to 150 V / 160 to 300 V, and a load power factor of 1 are selected.
(*9) At an output voltage of 100 V / 200 V, and an output current of 0 A.
(*10) At an output voltage of 80 to 150 V / 160 to 300 V, and a load power factor of 1.
(*11) Against changes in the output current 0 A ←→ rated value at an output voltage 100 V / 200 V, and a load power factor of 1.
(*12) Real effective value display, a waveform with a crest factor of 3 or less, and 40 to 500 Hz.
(*13) Normal temperature: 23 ± 5 °C
(*14) At an output frequency of 45 to 65 Hz.
(*15) The output frequency setting value (internal reference voltage frequency) is displayed.

Specifications

Model name				PCR6000W2	PCR12000W2
Input rating (AC effective value)					
	Voltage			170 to 250V	
	Phase, frequency			single-phase,47 to 63Hz	
	Voltampere			Approx. 8.5 kVA	Approx. 16.5 kVA
	Power factor			0.95 (Standard value) (*1)	
	Current			48 A or less	96A or less
Output rating in AC mode (AC effective value)					
	Voltage			1 to 150 V / 2 to 300 V (100 V / 200 V output range (*2)	
	Max. current (1φ / 3φ)	(*3)		60A/30A·20A/10A	120A/60A·40A/20A
	Phase			single-phase/three-phase	
	Power capacity			6kVA	12kVA
	Max. peak current	(*4)		4 times the max. current (effective value)	
	Load power factor			0 to 1 (advanced phase, or delayed phase) (*3)	
	Frequency			1 to 500.0Hz(*3,5)	
Output rating in DC mode					
	Voltage			1.4 to 212 V / 2.8 to 424 V (100 V / 200 V output range) (*2)	
	Max. current	(*3)		30A/15A	60A/30A
	Power capacity			3kVA	6kVA
Output voltage stability					
	Input voltage regulation	Against a change of the rated range		Within ±0.15%	
	Output current regulation	Against a change of 0 to 100% of the rated value		Within ± 0.5 V (*6)	
	Output frequency regulation	Against a change of the rated range		Within ± 1.5% (*7)	
	Ambient temperature coefficient	Against a change of the rated range		100 ppm/°C (standard value) (*8)	
Output frequency stability		Against any changes in the rated range		Within $\pm 5 \times 10^{-5}$, Setting accuracy: within $\pm 1 \times 10^{-4}$	
Output voltage waveform distortion		(*9)		0.5% or less (1 to 500.0Hz)	
Output voltage response speed		(*10)		80 μs (standard value)	
Efficiency		(*1)		75% or higher	
Output phase voltage phasedifference		(*15)		Within 120° ±(0.4°+5μs)(*12) Within 120°±(0.4°+fo × 1.8 × 10–3°), fo:output frequency	
Display (fluorescent character display tube display)					
	Voltmeter (*11)	Resolution	RMS display mode	0.1V	
			PEAK,AVEdisplay mode	0.2V(0 to ±212V)/0.3V(±212 to ±424V)/0.5V(423.5 to 848V)	
		Accuracy	RMS,AVE display mode	Within ±(1% of r.d.g. +2 d) (at 10 to 610 V, normal temperature)*12	
			PEAK display mode	Within ±(2% of r.d.g. +2 d) (at 10 to 848 V, normal temperature)*12	
	Ammeter (*11)	Resolution	RMS display mode	0.01A	0.1A
			PEAK,AVEdisplay mode	0.02A	0.2A
		Accuracy	RMS,AVE display mode	Within ±(1% of r.d.g. +2 d) (*12) (at 5 to 100% of rated max. current, normal temperature)(*12)	
			PEAK display mode	Within ±(2% of r.d.g. +4 d) (*12) (at 5% of rated max. current to rated max. peak current, normal temperature)(*12)	
	Wattmeter(*13)	Resolution		0.1W/1W	0.1W/1W/100W
		Accuracy		Within ±(1% of r.d.g. +3 d) (*12) (at 10% to 100% of the rated power capacity, power factor 1, normal temperature)	
	Frequency meter (*14)	Resolution		0.01Hz/0.1Hz	
Insulation resistance (across input - chassis, output - chassis, input - output)				500 VDC, 10 MΩ or greater	
Withstand voltage (across input - chassis, output - chassis, input - output)				1.5 kVAC, 1 minute	
Circuit system				PWM inverter system	
Operating ambient temperature / humidity				0 to +40 °C / 10 to 90% RH (no dew condensation is allowed)	
Weight				Approx. 120 kg	Approx. 180 kg
Input/output terminal board wire connection screws					
	Input terminal board			M6	M8
	Output terminal board			M6·M6	M8·M6
Input power cable (standard accessory)					
	Configuration			3 pcs. of a single-core cable	
	Wire diameter. (conductor cross-section area/length)			14mm²/5m	22mm²/5m

(*1) When an input voltage of 100 V / 200 V, rated output current, load power factor 1, and output frequency 40 to 500.0 Hz are selected.
(*2) A 100 V or 200 V range can be selected using the selector switch on the front panel. Resolution: 0.1 V.
(*3) When an output voltage of 1 to 100 V / 2 to 200 V,
When an output voltage of 100 to 150 V / 200 to 300 V (AC mode) and 100 to 212V/200 to 424 V (DC mode) are selected, the output current is reduced by the output voltage. See Fig. 1 and Fig. 2 (page 6-18).
At an output frequency of 1 to 40 Hz, the output current is reduced by the output frequency (AC mode). See Fig. 3 (page 6-18).
(*4) For the condenser input-type rectifier load (however, limited by the effective value of the rated output current).
(*5) Resolution: 1) 0.01 Hz (1.00 to 99.99 Hz), 2) 0.1 Hz (100.0 to 500.0 Hz)
(*6) Value at the output terminal board when an output voltage of 80 to 150 V / 160 to 300 V, and a load power factor of 1 are selected.
(*7) Output voltage using to 200 Hz as reference value when an output voltage of 80 to 150 V / 160 to 300 V, and a load power factor of 1 are selected.
(*8) At an output voltage of 100 V / 200 V, and an output current of 0 A.
(*9) At an output voltage of 80 to 150 V / 160 to 300 V, and a load power factor of 1.
(*10) Against changes in the output current 0A←→ rated value at an output voltage 100 V / 200 V, and a load power factor of 1.
(*11) Real effective value display, a waveform with a crest factor of 3 or less, and 40 to 500 Hz.
(*12) Normal temperature: 23±5°C
(*13) At an output frequency of 45 to 65 Hz.
(*14) The output frequency setting value (internal reference voltage frequency) is displayed.
(*15) A phase difference among output voltages (phase voltages) when each phase voltage is counted from the neutral point in the invalidated phase-difference variation condition (i.e., each phase difference is fixed at 120).

