PCR-L series

MULTI PURPOSE AC POWER SUPPLY (CV·CF)

Outline

Computers and electronic products are becoming an integral part of today's society. These devices equipped with microprocessors and other sophisticated components play an important role in our daily lives. However, the CPU, considered to be the heart of these devices, is extremely susceptible to fluctuations and other irregularities in power lines. As a result, not only can these irregularities cause the CPU to stop functioning or malfunction, there is also the possibility of these leading to life-threatening accidents and other serious problems that can become important concerns for society. For this reason, it is absolutely critical to conduct a wide range of power supply environment tests, including voltage fluctuations and power outage simulations, to constantly ensure a high degree of safety. The PCR-L series consists of a family of multipurpose AC power supplies able to effectively respond to these types of needs. In addition, the use of an optional remote controller allows those functions to be expanded even further. Together with being able to perform various types of power supply environment testing, including simulation of power failures and sudden voltage drops, these power supplies also allow measurement and analysis of harmonics current to be performed easily. In addition, they also realize a high level of system compatibility through the offering of both GPIB and RS-232C interfaces.

Applications (E.X.)

■ Power Supply Environment Testing

Since these power supplies are able to perform testing of power outages, voltage drops, voltage surges and voltage peak clip and so on of computers, OA equipment and other electronic devices, they can be used over the entire spectrum of R&D and quality assurance applications (upgrade options required).

■ Power Supply Harmonics Current Measurement Systems

These power supplies are able to perform measurement (and analysis) of power supply harmonics current as well as measurement of related power factor and power without requiring the use of an FFT analyzer or power meter as required in the past (upgrade options required).

■ Production Line Automated Testing Systems

The installation of a GPIB or RS-232C interface allows these power supplies to be used as FA and ATE programmable AC power supplies (upgrade options required).

■ Global Commercial Power Supplies

Since a wide range of output voltages and frequencies can be set as desired, these power supplies can be used as a diverse range of AC power supplies for commercial power supplies different for each country. In addition, output impedance can also be varied (upgrade options required).

Standard type & system

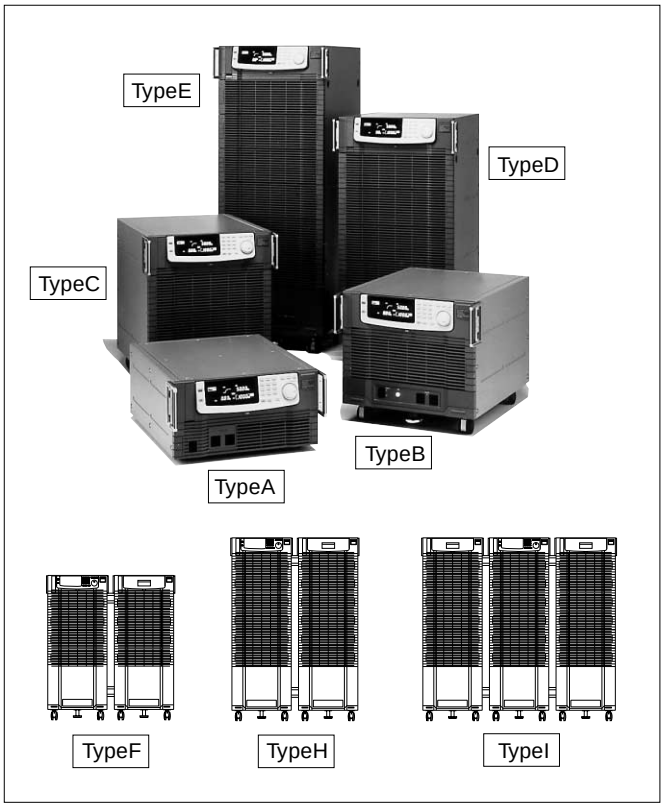
■ Single - Phase Output - Standard type

Output Rating		Model	Input Rating		Size Type
Output Capacity	Max.Current (100V/200V)		Apparent Elecrical Power	Current (100V/200V)	
500VA	5A/2.5A	PCR500L	Approx.1kVA	Max.12A/6A	A
1kVA	10A/5A	PCR1000L	Approx.2kVA	Max.24A/12A	B
2kVA	20A/10A	PCR2000L	Approx.4kVA	Max.48A/24A	C
4kVA	40A/20A	PCR4000L	Approx.8kVA	Max.96A/48A	D
6kVA	60A/30A	PCR6000L	Approx.12kVA	Max.72A	E

■ Single - Phase Output - Standard System

Output Rating		System	Input Rating		Size Type
Output Capacity	Max.Current (100V/200V)		Apparent Elecrical Power	Current (200V)	
8kVA	80A/40A	PCR8000L	Approx.16kVA	Max.96A	F
12kVA	120A/60A	PCR12000L	Approx.16kVA	Max.96A	H
18kVA	180A/90A	PCR18000L	Approx.36kVA	Max.216A	I

Notes:
- Please inquire separately regarding models having output capacities other than those of standard systems.
- The standard system layout actually requires additional space for heat radiation and wiring in the case of arranging horizontally in a row.



Ordering Information

■ PCR-L Main Units

Model	Description	
PCR500L	Regulated AC Power Supply	Single - phase 500 VA
PCR1000L	Regulated AC Power Supply	Single - phase 1k VA
PCR2000L	Regulated AC Power Supply	Single - phase 2k VA
PCR4000L	Regulated AC Power Supply	Single - phase 4k VA
PCR6000L	Regulated AC Power Supply	Single - phase 6k VA
PCR8000L	Regulated AC Power Supply	Single - phase 8k VA
PCR12000L	Regulated AC Power Supply	Single - phase 12k VA
PCR18000L	Regulated AC Power Supply	Single - phase 18k VA

■ Options

Model	Desctiption
RC02-PCR-L	Remote controller
IB11-PCR-L	GPIB interface
RS11-PCR-L	RS-232C interface
408J-101	GPIB cable 1 m
408J-102	GPIB cable 2 m
408J-104	GPIB cable 4 m
PD02M-PCR-L	Parallel operation driver (for master)
PD02S-PCR-L	Parallel operation driver (for slave)
3P02-PCR-L	Three - phase output driver

■ Rack Mounting Products

Model	Description
KRB250	PCR500L millimeter size rack mounting brackets (JIS)
KRB400	PCR1000L millimeter size rack mounting brackets (JIS)
KRB500	PCR2000L millimeter size rack mounting brackets (JIS)
KRB850	PCR4000L millimeter size rack mounting brackets (JIS)
KRB1150	PCR6000L millimeter size rack mounting brackets (JIS)
KRB5	PCR500L inch size rack mounting brackets (EIA)
KRB11	PCR2000L inch size rack mounting brackets (EIA)
KRB19	PCR4000L inch size rack mounting brackets (EIA)

PCR-L series

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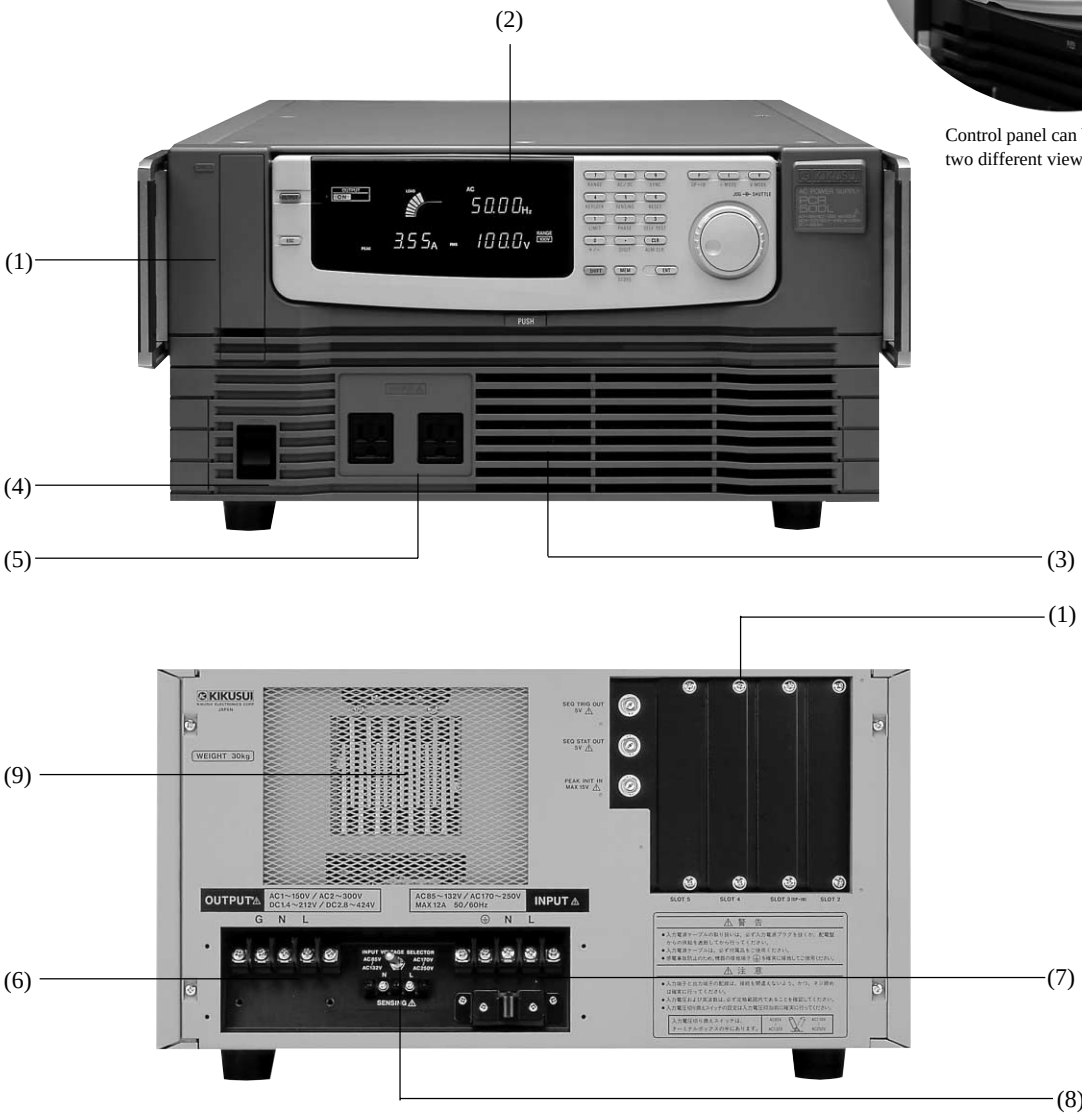
Control panel can be adjusted to two different viewing angles

Panel description

Front and Rear Panels



(1) Front and Rear slots
I/O slots for installing expansion option cards.

(2) Control Panel Display Unit
The use of a large, color fluorescent display (VFD) results in clear, easy-to-read display of characters and figures, while control can be performed using the function keys, 10-keys or jog and shuttle function.

(3) Air Intake
For cooling the inside of the equipment by forced air cooling, and provided with built-in air filters.

(4) POWER
This is the power supply's power switch.

(5) OUTPUT
These are used to obtain the output from the front panel.

(6) OUTPUT
The output terminal board.

(7) INPUT
The input terminal board. This is compatible with input power voltages of 85-250V. (Those models having an output of 6 kVA or more are compatible with voltages of 170-250V.)

(8) INPUT VOLTAGE SELECTOR
Used to select the voltage range of the input power voltage (provided on the PCR500L, PCR1000L, PCR2000L and PCR4000L).

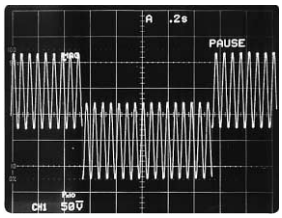
(9) Exhaust Port
Provided for forced air cooling of the inside of the equipment.

- The PCR2000L, PCR4000L and PCR6000L models are provided with connectors for centrally controlled, parallel operation.

Features

1 Output Modes

A choice of three output modes are available, consisting of an AC mode, DC mode and a combined AC + DC mode. (The use of the combined AC + DC mode is available as an option.)



AC+DC

2 Output Voltage

The output voltage is compatible of voltages throughout the world (AC 100V - 240V). Two output ranges (100V / 200V) can be selected and both upper and lower limits can be set for set values resulting in a design with the emphasis on safety to prevent danger resulting from setting errors.

Output Mode	Setting Range	Setting Resolution
AC	1 to 150 / 2 to 300V	0.1V
DC	±1.4 to ±212 / ±2.8 to ±424V	0.1V

3 Output Frequency

Output frequency can be varied over a wide setting range.

Setting Range	Setting Resolution
1 to 999.9 Hz	0.01Hz (1.00 to 99.99Hz) / 0.1Hz (100.0 to 999.9Hz)

4 Maximum Output Peak Current

A peak current is produced that is four times greater than the maximum rated output current (with respect to a capacitor input type rectified load).

*Maximum output peak current = Maximum rated output current (rms value) × 4 (however, only in case the peak value of wave height / rms value ≦ 4)

Load Power Factor	Rush Peak Current Ratio
1	200%
0.9	160%
0.8	150%
0.6	140%
0.4	120%
0.2	110%

In addition, a rush peak current can be supplied for approximately 1 second with respect to other loads (but varying according to current waveform, output voltage, output frequency and so on). Those sudden peak current values that can be supplied for an output voltage of AC 100V and output frequency of 50 Hz are indicated in the table at right. The sudden peak current ratio is the output current ratio when the maximum output current is taken to be 100%.

5 Output Stability

The use of a high-speed power amp system results in the supply of a high-purity output.

Input voltage fluctuation	Within ±0.1%
Output voltage fluctuation	Within ±0.1 / ±0.2V (100V / 200V range)
Output frequency fluctuation	Within ±0.3%
Ambient temperature fluctuation	100 ppm/°C (typical)
Output frequency stability	Within $\pm 5\times10^{-5}$
Output voltage waveform distortion	Max. 0.3%
Output voltage response speed	30μs (typical)

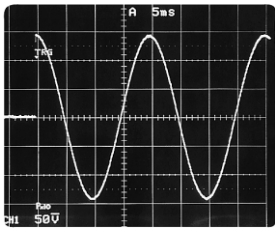
6 Input Voltage

An operating range is provided for input voltage that allows compatibility with worldwide specifications for use anywhere.

Model	Input Voltage Range
PCR500L/1000L/2000L /4000L	AC85 to 132/170 to 250V 47/63Hz
PCR6000L	AC 170 to 250V 47/63Hz

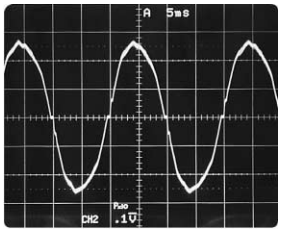
7 Output Switching Free of Chattering

Output can be switched on and off while maintaining clean waveforms free of the chattering produced when electronic switch are turned on and off. In addition, the phase can be optionally set when output is switched on and off.



8 Input Current

The use of an active filter circuit using switching control attains a power factor of 0.95 (typical value) while reducing waveform distortion of the input current. High-purity sine waves can be supplied at both lower and higher harmonics input currents while satisfying specifications for use as a harmonics current measuring power supply.



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Functions<STANDARD>

The Control display panel is mainly equipped with those functions considered to be the basic functions required by an AC power supplies. However, the panel can be given an even more professional appearance by the optional addition of various expansion functions.

Photo shows display fully lit for catalog use.

■ Limit value Setting

The setting of limit values restricts the output setting range to prevent damage to loads caused by operating errors.

Item	Function
Voltage	Set upper limit of output voltage
	Set lower limit of output voltage
Frequency	Set upper limit of output frequency
	Set lower limit of output frequency
Current	Output is interrupted when a current flows that is in excess of the limit value

■ Various Protective Functions

The PCR-L and LT series are equipped with the following protective functions.

Internal Circuit Protection	Input voltage range protective function
	Overheating protective function
	Internal circuit protective function
Load and Internal Circuit Protection	Overload protective function (current limit function)
	Overload protective function (Internal semiconductor protective function)

■ Memory Function

Nine sets of output voltage and frequency settings can be stored in memory. In addition, memory is backed up so that values that have been written into memory can later be read out. Memory can be optionally expanded to accommodate 99 settings.

■ Key-Lock Function

This function prevents key operation thorough the control panel to prevent set values from being changed by accident.

■ Measuring Functions

A full range of measuring functions contribute to greater work efficiency.

Voltage	RMS value	❍
	Peak value	❍
	Average value (DC only)	❍
Current	RMS value	❍
	Peak value	❍
	Average value (DC only)	❍
	Peak hold value	●
Harmonic current	1st to 39 th harmonic	●
Electrical Power	Effective electrical power	❍
	Apparent electrical power	●
	Power factor	●

❍: Standard functions
●: Optional functions (RC02-PCR-L / RS11-PCR-L / IB11-PCR-L)

■ Sensing Function

This function is useful when the load is located at a remote location and it is desired to improve the stability of the voltage rms value at that location (sensing point).
*Response characteristics, waveform distortion and other parameters differ from the specifications of the PCR-L main unit during use of the sensing function due to sudden changes in output stability and load current.

■ Synchronous Function

This function allows the output voltage frequency and phase to be synchronized to the frequency of the power source (50 / 60 Hz).

■ Self Test Function

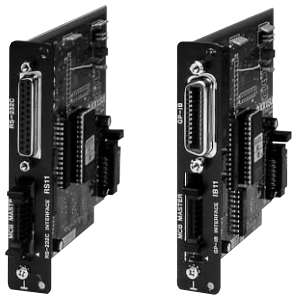
This function performs self-diagnosis of the cause of abnormalities when they occur (such as when a protective function is activated due to an overload and so on).

Functions<EXPANSION>

The function of the PCR-L series can be further expanded to include measurement and output waveform generation functions through the use of an optional remote controller and interface boards.

Note:
❑: Requires use of RC02-PCR-L remote controller
❍: Requires use of IB11-PCR-L interface board
●: Requires use of RS11-PCR-L interface board

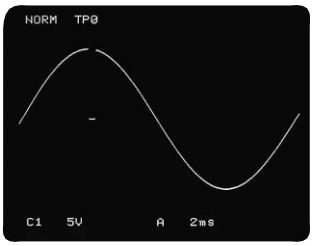
Remote Controller (RC02-PCR-L)



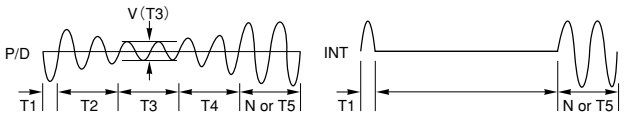
Interface Boards
(For GPIB interface : IB11-PCR-L)
(For RS-232C interface: RS11-PCR-L)

1 Power Line Irregularity Simulation Function ❑ or ❍/●

This function allows generation of sudden power failure, voltage fluctuation, pulse superposition and other waveforms simply by setting an arbitrary numerical value for the available parameters. It can be used for simulation of production line evaluation and testing of power supply irregularities in tested equipment.



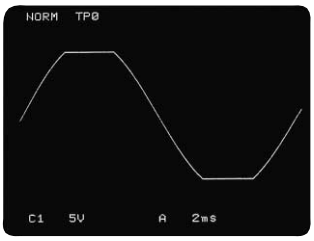
AC100V 50 Hz
T1: 90 deg (5ms)
T2: 0
T3: 0.5 ms
T4: 0
T5: 0
V (T3): 0 V



Item	Setting Range	Setting Resolution
T1:Voltage fluctuation starting time	0 to 360deg	1deg
	0 to 999.9ms	0.1ms
T2:Slope time	0ms to 9999ms	1ms
	0.00s to 99.99s	0.01s
T3:Pop/Dip time	0.0ms to 999.9ms	0.1ms
	0ms to 9999ms	1ms
T4:Slope time	0ms to 9999ms	1ms
	0.00s to 99.99s	0.01s
T5: Power restoration time	0ms to 9999ms	1ms
	0.00s to 99.99s	0.01s
	0 to 9999 cycles	1cycle
	0 to 99990 cycles	10cycle
	0 to 999900 cycles	100cycles
V(T3): Pop/Dip voltage	Within rated output voltage	0.1V
RPT	0 to 9998 times or infinity	1 time

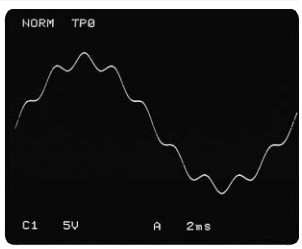
2 Special Waveform Output ❑ or ❍/●

This function allows the power supply to output waveforms for which the peak of the sine wave is suppressed. This can be set to a crest factor value of 1.10 - 1.40 (resolution : 0.01)
Crest factor value = peak value / rms value



3 User Defined Waveform Output (RS11-PCR-L / IB11-PCR-L) ❍/●

This function allows output of data after converting the numerical data from a personal computer. This allows output of arbitrary waveforms, such as distortion waveforms including harmonic components.



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Functions<EXPANSION>

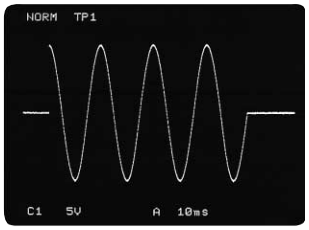
4 Sequence Operation ❑ or ❍/●

Setting the times for the sequence pattern of voltage, frequency or impedance allows that sequence pattern to be run, stopped or repeated as desired.

Setteing	Effective Mode AC	DC	AC+DC	Setting and Range
Address: ADRS	✔	✔	✔	0 to 99
Time :HOUR :MIN :SEC	✔	✔	✔	0 to 999 h 59 m 0 to 999 m 59 s 0 to 999.999s
Waveform:WAVE	✔		✔	Sine, peak clip (allows input of 14 waveforms)
Voltage (AC): Vac	✔		✔	1.0 to 300.0 VAC
Frequency: FRQ	✔		✔	1.00 to 999.9 Hz
Impedance (resistance): IMP	✔			Varies according to model
Frequency change characteristics	✔		✔	Ramp/step
Voltage (DC): Vdc		✔	✔	-424.0 to + 424.0V
Status signal: STAT	✔	✔	✔	ON/OFF
Trigger signal: TRG	✔	✔	✔	ON/OFF
Output: OUT	✔	✔	✔	ON/OFF
AC voltage change characteristics	✔		✔	Ramp/step

5 Output Phase Setting ❑ or ❍/●

The timing by which the output is switched on and off can be arbitrarily set with the phase of the voltage waveform. Combining this phase setting function with the current peak hold function greatly facilitates measurement of rush current.

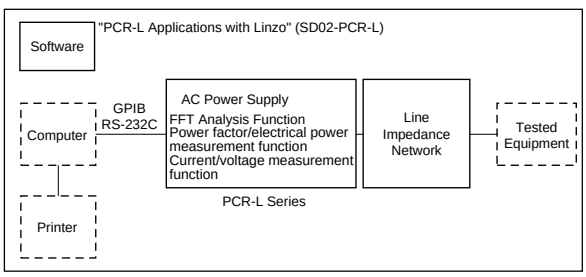


Output ON/OFF Phase Setting
Output on phase: 90 deg.
Output off phase: 0 deg

6 Harmonics Current Analysis Function ❑ or ❍/●

This function performs analysis of harmonics current for output current from the power supply. Although this measurement was conventionally measured using an FFT analyzer, the use of these power supplies eliminates the need for this device. In addition, the use of a standardized line impedance network as shown in the diagram below also allows simulation of commercial power supplies.

System Concept Drawing



For further information, contact KIKUSUI distributors.

7 Output Impedance Setting ❑ or ❍/●

The output impedance of the PCR-L series is nearly 0Ω. However, actual commercial power supplies have an impedance (resistance) on the order of several mΩ. The members of the PCR-L series therefore allow output impedance to be varied to closely match actual power supply environments.

	Variable Range	Resolution	Error
100 V Range			
PCR500L	0 to 4.0Ω	40mΩ	±(20%+80mΩ)
PCR1000L	0 to 2.0Ω	20mΩ	±(20%+40mΩ)
PCR2000L	0 to 1.0Ω	10mΩ	±(20%+20mΩ)
PCR4000L	0 to 0.5Ω	5mΩ	±(20%+10mΩ)
PCR6000L	0 to 0.333Ω	3.33mΩ	±(20%+6.67mΩ)
200V Range			
PCR5000L	0 to 16.0Ω	160mΩ	±(20%+320mΩ)
PCR1000L	0 to 8.0Ω	80mΩ	±(20%+160mΩ)
PCR2000L	0 to 4.0Ω	40mΩ	±(20%+80mΩ)
PCR4000L	0 to 2.0Ω	20mΩ	±(20%+40mΩ)
PCR6000L	0 to 1.333Ω	13.33mΩ	±(20%+26.67mΩ)

8 Power Factor, VA and Peak Hold Current Measurements ❑ or ❍/●

In addition to these power supplies being equipped with a diverse range of measuring functions, those functions can be further expanded by connecting various options. Expanded functions consist of "power factor measurement", "VA measurement" and "peak hold current measurement". Measurement of peak hold current involves measuring the peak current until the power supply receives a peak clear signal or command. This is useful for measuring rush current and so on.

9 AC+DC Mode ❑ or ❍/●

This function allows output of voltage waveforms in which AC voltage is superimposed on DC voltage. This mode allows these power supplies to be used not only for various electronic devices, but for chemical experiments and production equipment as well.

10 Memory Function Expansion ❑ or ❍/●

These power supplies allows storage of 9 sets of voltage and frequency settings as a standard feature (at memory addresses 1-9). These settings can then be read out and output as necessary. The adding of a memory expansion option allows up 99 sets of voltage and frequency settings to be stored in memory. In the AC+DC mode, AC memory values and DC memory values are output simultaneously thereby allowing memory operation in the AC+DC mode.

11 Regulation Adjustment ❑

This function is used for the same purpose as the "sensing function". The sensing function measures the voltage at a specific sensing point and then holds the voltage of that sensing point constant. In contrast, the regulation adjustment function calculates the voltage drop caused by output current and then raises the output voltage by the amount of that drop. This function is used for stabilizing the voltage at the load end when the power supply and load are located at a considerable distance from each other.

Note: When using the regulation adjustment function, the voltage stabilization accuracy, distortion factor and response speed will decrease below the level of performance of the power supply.

Options

■ Remote Controller (RC02-PCR-L)

The remote controller allows each of the functions on the control panel of members of the PCR-L/LT series to be manipulated while away from the control panel. Moreover, this remote controller is composed of options for expanding functions, including harmonics current analysis, power line irregularity simulation and sequence operation, a remote controller box a remote controller card (inserted into a slot in the main unit) and a remote controller cable (length:2m).

■ GPIB Interface(IB11-PCR-L)

The GPIB interface for the members of the PCR-L/LT series allows programmable control of the functions on the power supply control panel as well as nearly all the expansion functions available by using the RC02-PCR-L remote controller. This interface also performs readout of measured values.

■ RS-232C Interface (RS11-PCR-L)

The RS-232C interface for the PCR-L/LT series allows readout of measured values and programmable control of the functions on the power supply control panel as well as nearly all the expansion functions available by using the RC02-PCR-L remote controller.

■ Centrally Controlled Parallel Operation Driver (PD02M-PCR-L/PD02S-PCR-L)

This option card is for expanding the output capacity of members of the PCR-L series by means of parallel operation. This card is applicable to the combinations shown at right.
*Some modification may be required depending on the version of the power supply main unit.

Note: In this application, the ROM version of the PCR-L series must be Ver.2.00 or later.

■ Three-Phase Output Driver (3P02-PCR-L)

This option card is for expanding the output of members of the PCR-L series to a three-phase output. This card is applicable to the combinations shown at right.
*Some modification may be required depending on the version of the power supply main unit.

Note1: In this application, the ROM version of the PCR-L series must be Ver.2.00 or later.

Note2: The following functions are not available when the 3-Phase Driver is installed.

•Power Line Irregularity •Simulation function •Current limit value setting •Average voltage/current value measurement •Sensing function •Regulation Adjustment function •DC Mode •AC + DC Mode

Function		Power supply Only	Power Supply + RC02-PCR-L	Power Supply + IB11-PCR-L or RS11-PCR-L
AC Output		✔	✔	✔
DC Output		✔	✔	✔
AC + DC Output			✔	✔
Harmonics Current Measurement			✔	✔
Power Line Irregularities Simulation			✔	✔
Sequence Operation			✔	✔
Special Waveform Output			✔	✔
User Defined Waveform Output				✔
Output ON/OFF Phase Setting			✔	✔
Output Impedance Setting			✔	✔
Memory Size (No, of Sets of Settings)		9	99	99
Regulation Adjustment			✔	
Measurement Functions				
Output	RMS Value	✔	✔	✔
	Peak Value	✔	✔	✔
	Average Value (DC Only)	✔	✔	✔
Current	RMS Value	✔	✔	✔
	Peak Value	✔	✔	✔
	Average Value (DC Only)	✔	✔	✔
	Peak Hold Value		✔	✔
Electrical Power	Effective Electrical Power	✔	✔	✔
	Apparent Electrical Power		✔	✔
	Power Factor		✔	✔
Other Functions		✔	✔	✔

Combinations Required for Single-Phase Parallel Operation

Output Capacity	Model			Parallel Operation Drive	
	PCR2000L	PCR4000L	PCR6000L	PD02M-PCR-L	PD02S-PCR-L
4kVA	2			1	1
6kVA	3			1	2
8kVA		2		1	1
12kVA		3		1	2
12kVA			2	1	1
18kVA			3	1	2

Note:Please inquire separately regarding parallel operation using 4 or more power supplies.

Combinations Required for Three-Phase Parallel Operation

Output Capacity	Model					Three-Phase Driver	Parallel Operation Driver
	PCR500L	PCR1000L	PCR2000L	PCR4000L	PCR6000L	3P02-PCR-L	PD02M-PCR-L
1.5kVA	3					1	
3kVA		3				1	
6kVA			3			1	
12kVA				3		1	
12kVA			6			1	3
18kVA					3	1	
18kVA			9			1	3
24kVA				6		1	3
36kVA					6	1	3
36kVA				9		1	3
54kVA					9	1	3

Note:Please inquire separately regarding parallel operation using 4 or more power supplies.

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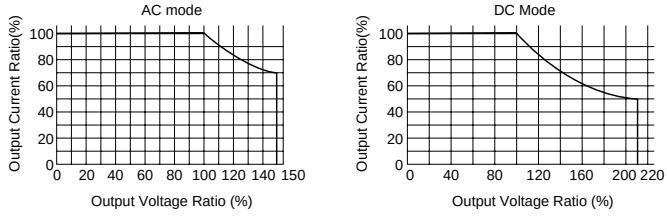
MULTI PURPOSE AC POWER SUPPLY (CV·CF)

Specifications

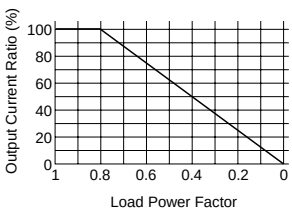
Model		PCR500L	PCR1000L	PCR2000L	PCR4000L	PCR6000L
Input Ratings (RMS Values)						
Voltage		85 to 132V / 170 to 250V (100V or 200V range) (*1)				170 to 250V
No. of phase, Frequency		1ϕ, 47 to 63Hz				
Apparent Electrical Power		Approx. 1kVA	Approx. 2kVA	Approx. 4kVA	Approx. 8kVA	Approx. 12kVA
Power Factor		0.95 typical (*2)				
Current (100V or 200V range)		12A / 6A or less	24A / 12A or less	48A/24A or less	96A/48A or less	72A less
Output Ratings - AC Mode (RMS Values)						
Voltage		1 to 150V/2 to 300V (100V or 200V range) (*3)				
Max. Current (*4)		5A/2.5A	10A/5A	20A/10A	40A/20A	60A/30A
No. of Phases		1ϕ				
Power Capacity		500VA	1kVA	2kVA	4kVA	6kVA
Max. Peak Current (*5)		4 times max. current (RMS value)				
Load Power Factor		0 to 1 (advanced or delayed phase) (*4)				
Frequency		1 to 999.9Hz(*4,6)				
Output Voltage Waveform Distortion (*7)		Max.0.3%				
Output Ratings - DC Mode						
Voltage		±1.4 to 212V/±2.8 to ±424V (*4)				
Max. Current		2.5/1.25A	5A/2.5A	10A/5A	20A/10A	30A/15A
Power Capacity		250VA	500VA	1kVA	2kVA	3kVA
Indicators (Display Mode)		Voltmeter (RMS, PEAK,AVE)				
		Ammeter (RMS, PEAK, AVE)				
		Power Meter, Frequency Meter				
Circuitry		Linear amp type				
Operating Temperature and Humidity Ranges		0 to + 50°C/10 to 90% RH (no condensation of dew)				
Dimensions						
Main Unit	(W×H×D mm)	430×217×550	430×351×550	430×484×550	430×839×550	430×1105×550
Max. Projections	(W×H×D mm)	450×245×595	450×415×595	450×545×595	450×920×595	450×1190×595
Weight		Approx. 25kg	Approx. 49kg	Approx. 69kg	Approx.120kg	Approx. 160kg
Input/Output Terminal Board Connection Screws						
Input Terminal Board		M4	M6	M6	M6	M6
Output Terminal Board		M4	M6	M6	M6	M6

(*1) Input range of 100V or 200V can be selected with a switch.
(*2) At an output voltage of 100V or 200V, output current rated value, load power factor of 1 and output frequency of 40 to 999.9 Hz.
(*3) 100V or 200V range can be selected with switch on the front panel. Setting resolution:0.1V
(*4) At an output voltage of 1 to 100V/2 to 200V and load power factor of 0.8 to 1 (AC mode).
At an output voltage of 100 to 150V or 200 to 300V (AC mode) as well as at an output voltage of 100 to 212V or 200 to 424V (DC mode), the output current is reduced in accordance with the output voltage.
At a load power factor or 0 to 0.8, the output current is reduced in accordance with the load power factor (AC mode).
At an output frequency of 1 to 40 Hz, the output current is reduced in accordance with the output frequency (AC mode).
(*5) For condenser input type rectified loads (restricted by the RMS 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 999.9 Hz)
(*7) At an output voltage of 80 to 150 V or 160 to 300V, a frequency of 10 to 999.9 Hz and a load power factor of 1.

■ Output Voltage Ratio - Rated Output Current Characteristics



■ Load Power Factor - Rated Output Current Characteristics



■ Output Frequency - Rated Output Current Characteristics