

**DC
output
available!**

**Weight
only 6 kg
easy to
carry!**

**Standard
RS-232C**

(GPIB, analog I/F, and
USB 2.0 are optional)

**Various
measurement
features!**

**500 VA
(AC mode)
with this size!**
(214W x 124H x 350D mm)

Oh! It's
Small!!
Good size for getting started!



Compact AC Power Supply **PCR500M**

Compact AC power supply using the PWM inverter method

AC output: 1 V to 135 V/2 V to 270 V at 40 Hz to 500 Hz

DC output: ± 1.4 V to 190 V/2.8 V to 380 V

The maximum peak current triples the rated current (RMS value).

Equipped with measurement features and various communication interface options.

Introducing a Compact AC Power Supply That is Ready to Use

The PCR500M is a small-size AC power supply with the ease of a slidac (variable transformer) or an automatic voltage regulator (AVR) and the usefulness of a multifunctional AC power supply. As the PWM inverter method is employed for the power unit, the PCR500M is much smaller and lighter than the predecessors while enabling high-quality and highly-efficient (about 70%) operation. This power supply comes with measurement features, memory feature, protection features and various communication interface options, and it is even possible to provide DC power. When you incorporate an optional analog interface board (EX04-PCR-M), the PCR500M can also be used as a booster for any signal generator. This small and versatile unit can provide you with more work styles than you can imagine. You can't do without it once you use it!

Oh! It's
Small!!



Compact design

Small enough to fit on your work desk!
Only 214W × 124H × 350D mm!
Weighs only 6 kg and easy to carry!



Neatly fits on your desk!
(Picture) Left: PCR500M Right: Electronic Load PLZ164W



Easy remote control with attached software!



Small and light. Only **6 kg**

Easy to carry with only one hand

Versatile output modes

Three modes (AC, DC, AC+DC) are available. *1
The frequency range is up to 500 Hz.

Memory feature

You can store and recall three combinations of settings for voltage and frequency on the main unit. By calling the memory during output, you can test the sudden changes of voltage or frequency. *2

Measurement features

You can measure the voltage, current and power of AC and DC output, apparent power, reactive power, power factor, crest factor and current peak hold. *3

Various communication interface options

RS-232C is provided as standard.
GPIB and USB are optional.

Analog interface

By incorporating an optional analog interface (EX04-PCR-M), output can be controlled by using external analog signals. Input DC signals can be used to change output AC voltage and boost input waveform.

PCR500M

Compact AC Power Supply (500 VA)

- *1 The AC+DC mode is available under remote control when one of the optional interface board (IB21, US21, or EX04-PCR-M) is installed.
- *2 The number of combinations of settings to be stored in the memory increases to 10 when one of the optional interface board (IB21, US21, or EX04-PCR-M) is installed. To set or call the extended memory addresses (4 to 10), use remote control.
- *3 The measurement of apparent power (VA), reactive power (VAR), power factor (PF), crest factor (CF) and current peak hold is available via a communication interface.



NEW

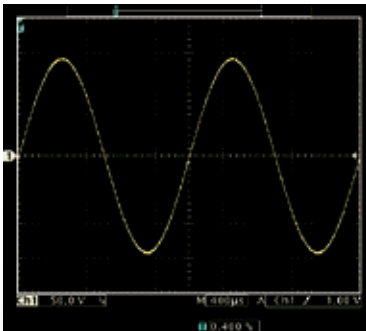
Performance and Features

Compact design

The PCR500M is one fifth in volume and one quarter in weight of the AC power supply with linear amplifiers (when compared to our products). The PCR500M is easy to handle on the desk and easy to carry.

Output characteristics: AC mode

The output voltage varies between 1 V and 135 V or 2 V and 270 V (two ranges). You can switch ranges manually or automatically. The maximum current is 5 A (in the 135-V range) or 2.5 A (in the 270-V range). The peak current can triple the rated maximum current for the rectifier load of the capacitor input type. The frequency varies between 40 Hz and 500 Hz, which is why the PCR500M is suitable as a power supply for aircrafts and ships that require 400 Hz and for driving actuators that require 250 Hz.



High-quality output waveform (distortion rate of output waveform is 0.5% or less)

Output characteristics: DC mode

The output voltage varies between 1.4 V and 190 V or 2.8 V and 380 V (two ranges). You can switch ranges manually or automatically. The maximum current is 4 A (in the 135-V range) or 2 A (in the 270-V range). The maximum instantaneous carrying current can be 12 A (in the 135-V range) or 6 A (in the 270-V range). When an optional interface board is installed, the direct current can be superposed on the alternating current (AC + DC mode). *1

Input characteristics

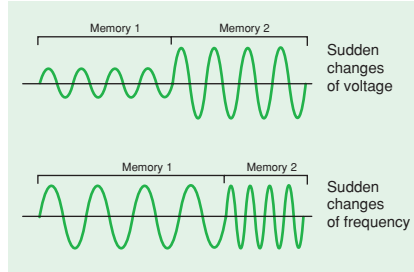
The input power supply is 100 V AC to 120 V AC or 200 V AC to 240 V AC at 50 Hz/60 Hz (single phase). The voltage is automatically determined when the power supply is turned on. The active filter enables the power factor to be 0.9 (TYP value) to reduce the input current and the radio-frequency current.

Measurement function

The PCR500M can measure the voltage, current, and power of AC and DC output. The device can display the true value and the average (DC) for the output voltage, and the true value, the peak value and the average (DC) for the output current. When a communication interface is used, the PCR500M can measure the apparent power (VA), the reactive power (VAR), the power factor (PF), the crest factor (CF), and the peak hold current.

Memory function

The PCR500M can store three settings and three limits for the output voltage and the frequency in the memory. By manually changing the preset memory during output, the test for sudden changes of voltage and frequency is also possible. When an optional interface board (IB21, US21 or EX04-PCR-M) is installed, the memory can store up to 10 settings and 10 limits. *2



Protection

The following protection features are available:

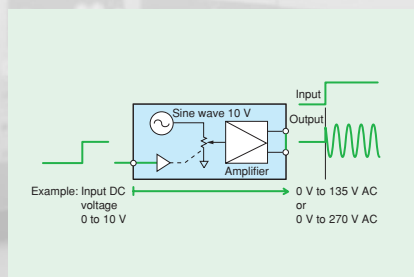
- Protection against non-rated input voltage
- Protection against overheat (OHP)
- Protection against overload:
 - Current limit (OCP)/monitoring for exceeded power (OPP)/monitoring for exceeded peak current
- Detection of voltage abnormalities
 - Increased voltage (OVP)/decreased voltage (LVP)

Analog interface

By using an optional analog interface board (EX04-PCR-M), you can allow external analog signals to control the output.

EXT-AC mode

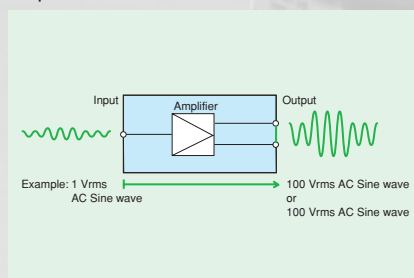
The voltage of the output alternating current can be changed based on the level input DC signal.



Voltage amplification rate: 13.5-fold or 27-fold

EXT-DC mode

The input waveform is directly amplified and output.



Voltage amplification rate: 100-times or 200-times

Control using a PC

You can control the PCR500M through the standard RS-232C interface, the optional GPIB interface, or the optional USB interface.*1 By using the control software (Easy Controller for PCR-M) comes with the PCR500M, you can easily set the parameters of the PCR500M and log the output measured values.



Operating environment for Easy Controller for PCR-M

- OS: Windows XP/2000/Me/98
- CPU: Pentium 233 MHz or greater
- Memory: At least 128 MB
- Driver: VISA library corresponding to VISA COM
- Interface: RS-232C, GPIB, or USB

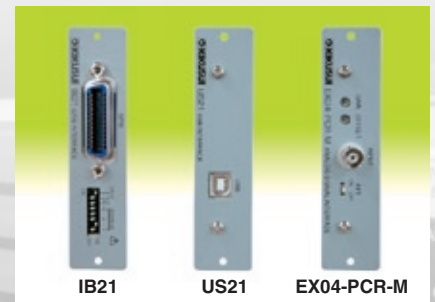
*1 A measurement drivers for Microsoft Visual Basic, Microsoft Office VBA, Microsoft Visual C++, LabVIEW, or LabWindows/CVI are also included in the disc.

Options

GPIB interface board: IB21

USB interface board: US21

Analog interface board: EX04-PCR-M



Note: Only one interface board can be installed.

Rack mount adapters

KRA150 (for millimeter specifications)

KRA3 (for inch specifications)

Rear panel



Specifications

■ Specifications of the main unit

Note: "TYP value" indicates a typical value and does not guarantee the performance. "rdng" indicates a reading on the device.

Input voltage	Nominal rated input	100 to 120 V AC or 200 to 240 V AC, 50/60 Hz, single phase
	Input voltage range	90 to 132 V AC or 180 to 250 V AC (automatically determined when the power is turned on), 47 to 63 Hz, single phase
Input current	9 A/4.5 A	
Input power factor*1	0.9 (TYP value)	
Efficiency	At least 70%	
Output voltage	1 to 135 V AC or 0 to 270 V AC (135 V or 270 V range)	
	1.4 to 190 V DC or 2.8 to 380 V DC (135 V or 270 V range)	
Setting Resolution	0.1 V	
Output capacity	AC mode: 500 VA at maximum	
	DC mode: 400 W at maximum	
Maximum current	AC mode: 5 A or 2.5 A*2	
	DC mode: 4 A or 2.0 A*3	
Output frequency	Range: 40 to 500 Hz, set resolving power: 0.1 Hz, accuracy: ±0.02%	
Output waveform distortion rate	0.5% or less (at 50 V to 135 V or 100 V to 270V at load power factor 1)	
Accuracy of voltmeter	±(0.5% of rdng + 0.3 V or 0.6 V) (Output voltage greater than 13.5 V or 27 V and output frequency 45 Hz to 65 Hz or DC at 23 ± 5°C)	
Accuracy of ammeter (RMS)	±(0.5% of Rdg + 0.02 A or 0.01 A) (5% to 100% of the maximum output current and output frequency 45 Hz to 65 Hz or DC at 23 ± 5°C)	
Dimensions (maximum)	214W × 124 (150)H × 350 (395)D mm	
Weight	Approximately 6 kg	
Operating temperature and humidity range	0 to 40°C, 20%rh to 90%rh (non-condensing)	
Storage temperature and humidity range	-10°C to 60°C, 90%rh or less (non-condensing)	

*1 When the output voltage is 100 V or 200 V (in the 135 V or 270 V range), the current is maximum, and the load power factor is 1.

*2 When the output voltage is 1 V to 100 V or 2 V to 200 V. Depends on the electric energy when the output voltage is 100 V to 135 V or 200 V to 270 V.

*3 When the output voltage is 1.4 V to 100 V or 2.8 V to 200 V. Depends on the electric energy when the output voltage is 100 V to 190 V or 200 V to 380 V.

■ Specifications of the communication interface

RS-232C	Conforms to EIA232D specifications. D-SUB9 pin connector. Baud rate: 1200, 2400, 4800, 9600, 19200 bps Data length: 8 bits, stop bit: 1 bit, no parity bit, X-Flow control
GPIB (IB21: optional)	Conforms to IEEE STD.488.1-1978 specifications. SH1, AH1, T6, L4, SR1, RL1, PRO, DC1, DT1, CO, E1
USB (US21: optional)	Conforms to USB 2.0 specifications. Conforms to USBTMC-USB488 device class specifications. Communication speed: 12 Mbps (full speed)
Common	Software protocol: IEEE 488.2 STD 1992 Command language: SCPI Specification 1999.0

■ Analog interface specifications (EX04-PCR-M: optional)

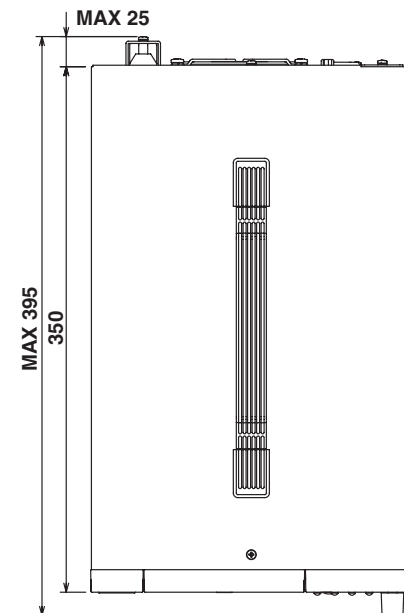
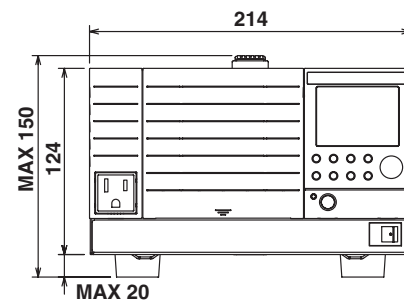
Input terminal	Maximum permitted input voltage	±15 V	
	Form	BNC	
	Input impedance	10 kΩ ± 5% (not balanced)	
	Grounding voltage	±100 Vmax	
EXT-AC mode*1	Input voltage range	0 V to ±10 V (direct current)	
	Voltage amplification rate (135 V or 270 V range)	13.5-fold or 27-fold	
	Frequency setting range	40 Hz to 500 Hz	
EXT-DC mode	Input voltage range	ATT off	0 V to 1.90 Vpeak (0 to 1.35 Vrms sine wave)
		ATT on	0 V to 10 V (direct current)
	Input frequency range	ATT off*2	DC: 500 Hz (sine wave) or DC: 100 Hz (square wave)
	Frequency characteristics	ATT off	500 Hz - 0.3 dB (TYP value), 55 Hz as standard
	Voltage amplification rate (135 V or 270 V range)	ATT off	100-fold or 200-fold
ATT on		19-fold or 38-fold	
Output voltage distortion rate*3	Main unit specifications + 0.5% or less		

*1 ATT is always set to on.

*2 The voltage, the current, and the power can be measured for direct current between 40 Hz and 500 Hz. The frequency is set based on the input waveform cycle.

*3 In the EXT-AC mode, when direct current is input. In the EXT-DC mode, when a sine wave with 0.1% or less distortion rate is input.

■ Dimensions (units: mm)



KIKUSUI ELECTRONICS CORP.

1-1-3, HIGASHIYAMATA, TSUZUKI-KU, YOKOHAMA, 224-0023, JAPAN
TEL: (+81)45-593-7570, Fax: (+81)45-593-7571, <http://www.kikusui.co.jp/>

● Affiliate companies:



KIKUSUI AMERICA, INC.

780 Montague Expressway, Suite 504 San Jose, CA 95131
Phone: (408) 546-0680 Facsimile: (408) 546-0684
Toll Free: (1-800-KIKUSUI) <http://www.kikusui.us>



Shanghai Representative Office of KIKUSUI Electronic Corp.

Room A-02, 9F, Yonghua Bldg., No.138, Pudong Road,
Pudong New District, Shanghai City
Phone: 021-5887-9067 Facsimile: 021-5887-9069

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