

**NEW**

For Power Device and Inverter Testing

# High Power High Voltage DC Programmable Power Supply

## REH series

750V to 1200V/1.1kW to 15kW



# REH series

## High Power High Voltage DC Power Supply

High Power ▶ 1.1kW to 15kW    High Voltage ▶ 750V to 1.2kV

for

Power Device  
Inverter  
Power Conditioner  
Solar Cell



### Summary

REH is high power supply with higher voltage designed with the accumulated know-how by Matsusada Precision, a leading manufacturer of high voltage programmable power supplies.

The REH's compact design makes it ideal for production lines, or test bench.

### Features

- One of the world's smallest size in its class of 1200 V, 15 kW
- Ultra low profile and space-saving design with 3.5", 5.2" height
- Well suited for solar cell characteristic evaluation and power conditioner evaluation. The REH is also ideal for testing inverters and electrical components used in hybrid and electric cars.
- Extensive safety design from high voltage experience and technology.
- More than 30 kW output is possible by using our CO-MS series digital controller to combine REH power supplies.

### Lineup

Output Voltage [V]	Output Current [A]	Output Power [kW]	MODEL		Ripple	
			Positive polarity output	Negative polarity output	[Vrms]	[Arms]
0 to 750	0 to 20	15	REH750P-20	REH750N-20	0.3	0.5
0 to 900	0 to 16	14.4	REH900P-16	REH900N-16	0.3	0.5
0 to 1000	0 to 1.1	1.1	REH1000P-1.1	REH1000N-1.1	0.3	0.1
	0 to 3	3	REH1000P-3	REH1000N-3		0.02
	0 to 6.4	6.4	REH1000P-6.4	REH1000N-6.4		0.03
	0 to 13	13	REH1000P-13	REH1000N-13		
	0 to 15	15	REH1000P-15	REH1000N-15		
0 to 1200	0 to 10	12	REH1200P-10	REH1200N-10	0.3	0.03

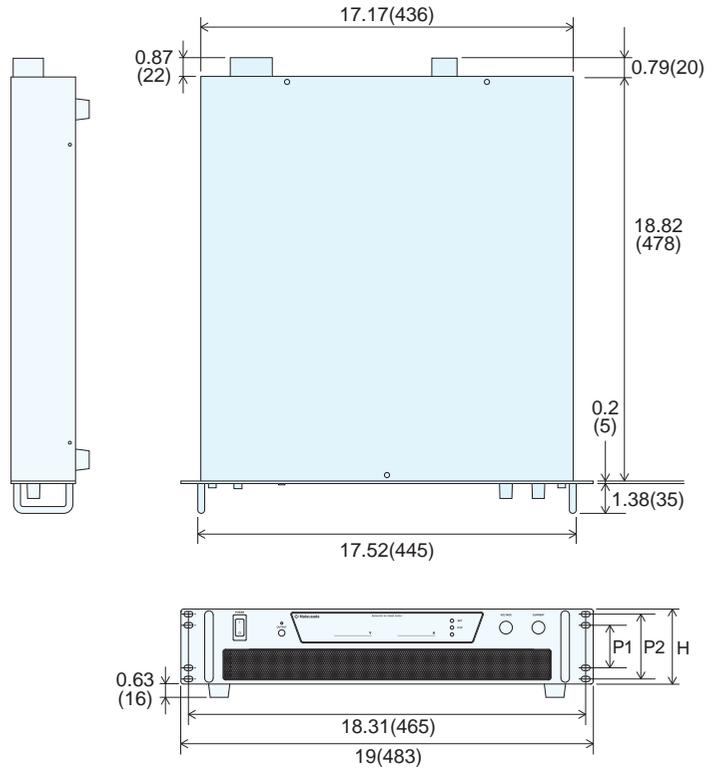
## Specifications

<b>Input voltage</b>	1.1 kW : 230 Vac $\pm$ 10% 50/60 Hz single phase 3 kW-15 kW: 220 Vac $\pm$ 10% 50/60 Hz three phase
<b>Input current</b>	1.1 kW : 11 A typ. rush current 90 Ap-p 3 kW : 14 A typ. rush current 100 Ap-p 6.4 kW : 30 A typ. rush current 100 Ap-p 12kW to 15kW: 68 A typ. rush current 150 Ap-p
<b>Input current protection</b>	1.1 kW : Fuse 15 A 3 kW : Fuse 30 A 6.4 kW : Circuit protector 60 A 12kW to 15kW: Circuit protector 100 A
<b>Output control</b>	Local : Constant voltage, 10-turn potentiometer on front panel Constant current, 10-turn potentiometer on front panel Remote: Constant voltage, external control voltage 0 Vdc to 10 Vdc or external variable resistor 0 $\Omega$ to 10 k $\Omega$ Constant current, external control voltage 0 Vdc to 10 Vdc or external variable resistor 0 $\Omega$ to 10 k $\Omega$
<b>Voltage regulation</b>	Line : 0.2% of maximum output (for AC $\pm$ 10% input change) Load: 0.2% of maximum output (for 10% to 100% load change)
<b>Current regulation</b>	Input: 0.2% of maximum output (for AC $\pm$ 10% input change) Load: 0.2% of maximum output (for 10% to 100% load change)
<b>Stability</b>	0.05%/8 Hr of maximum output voltage
<b>Temperature coefficient</b>	0.02%/ $^{\circ}$ C of maximum output voltage 0.03%/ $^{\circ}$ C of maximum output current
<b>Output display</b>	Output voltage: 3-digit digital meter ( $\pm$ 1% FS $\pm$ 1 digit) Output current: 3-digit digital meter ( $\pm$ 1% FS $\pm$ 1 digit)
<b>Monitor output</b>	Output voltage monitor: 10 V/maximum output voltage Output current monitor: 10 V/maximum output current
<b>Protections</b>	Over voltage protection (OVP) Output is cut off at a set value. Setting range : 5% to 110% of rated output Local setting : 1-turn volume on front panel Remote setting: External control voltage 0 Vdc to 10 Vdc Reset : Manual recovery by OUTPUT switch or remote switch. Over temperature protection (OTP) Output is cut off when internal part is heated abnormally. Reset (after the temperature has gone down to normal): Automatic recovery or manual recovery by POWER switch. Input brownout (ACF)-Blackout protection Output is cut off when input voltage decreased more than 20% Reset (when normal voltage value or recovery from blackout): -Manual recovery by OUTPUT switch or remote switch for blackout protection (re-output protection function) -Automatic recovery when blackout protection is canceled.
<b>Other functions</b>	Remote switch ON/OFF (TTL or external relay) Status signal output (CV, CC, FLT)
<b>Transient response time</b>	Recovery time 1 ms (at constant voltage operation, time returned to within 10% of set voltage for load change of 70% to 100%)
<b>Operation temperature</b>	0 $^{\circ}$ C to +40 $^{\circ}$ C
<b>Storage temperature</b>	-20 $^{\circ}$ C to +70 $^{\circ}$ C
<b>Relative humidity</b>	0% to 80%, non condensing
<b>Dielectric voltage</b>	Between input power supply and output terminal, and between input terminal and chassis is AC1500 V: 1 minute (GND side of output terminal and chassis are connected internally)
<b>Accessories</b>	· Instruction manual (1) · Remote connector cover (1) · HV output shielded cable 2.5-meter (If more than 7 meters cable is required, contact our sales office) *AC cable is not enclosed.

## Dimensions inch (mm)

### 1.1 kW, 3 kW models

P1: 1.97(50)  
 P2: 3(76.2)  
 H : 3.5(89)



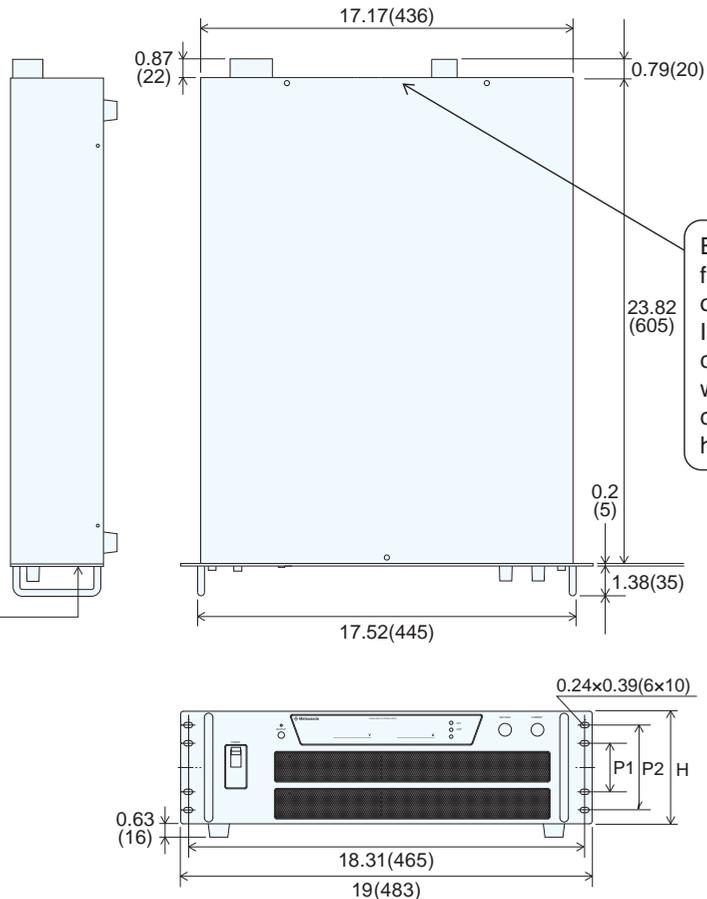
### 6.4 kW, 12 kW, 13 kW, 14.4 kW, 15 kW models

P1: 2.25(57.2)  
 P2: 3.94(100)  
 H : 5.24(133)

### 12 kW, 13 kW, 14.4 kW, 15 kW models (with -LPfc option)

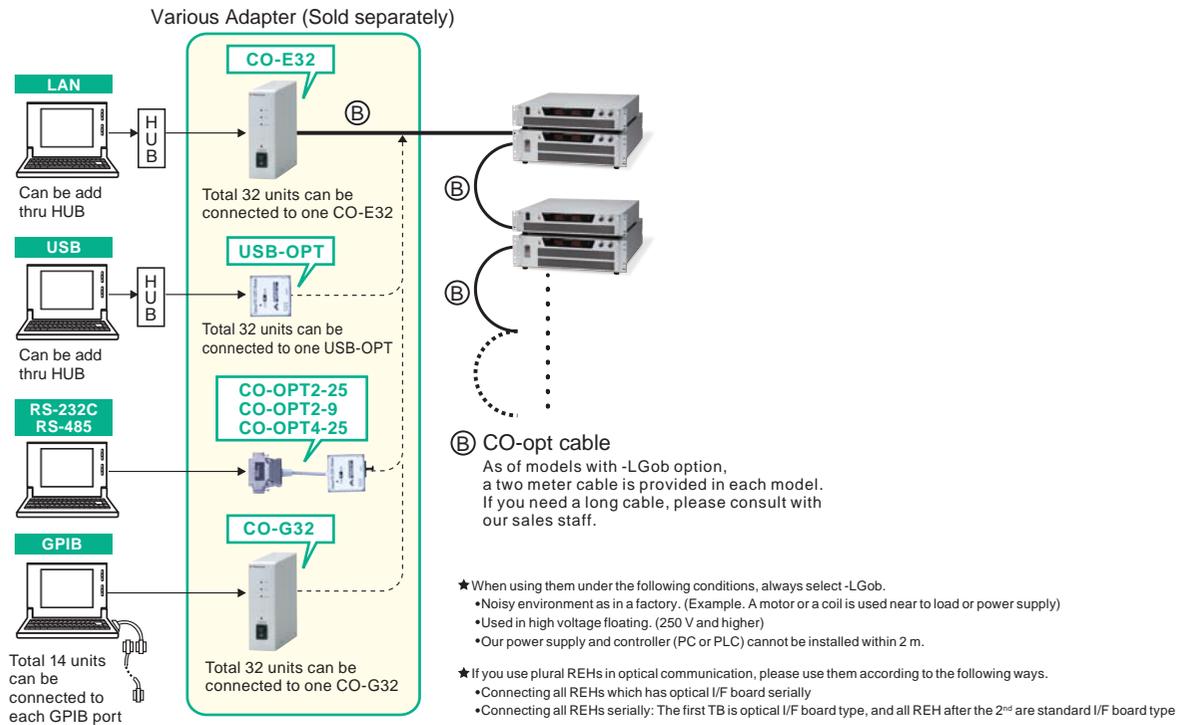
P1: 4(101.6)  
 P2: 5.91(150)  
 H : 6.97(177)

Air intake is on front panel. Secure more than 12" space.



## Options

- LF** Floating ground (withstanding voltage of 50 Vdc)  
Used when measuring minimal current in load.  
All equipments that connect to Remote Control Connector (TB1) must be on floating ground in case this feature is intended to use.  
(Cannot be used for the purpose of floating REH series.)
- LGob**
- LGob** Optical Interface board + Optical cable 2 m
  - LGob (Fc5)** Optical Interface board + Optical cable 5 m
  - LGob (Fc10)** Optical Interface board + Optical cable 10 m
  - LGob (Fc20)** Optical Interface board + Optical cable 20 m
  - LGob (Fc40)** Optical Interface board + Optical cable 40 m
- Insulation control is made with optical communication. As a perfect insulation is made by optical fiber it is able to forestall miss operation as a transient phenomenon caused by a surge, dielectric thunder or external noise, etc.



- LLc** Low-capacity capacitor for solar cell
- LOcp** Overcurrent protection: Output is cut off at a set value. (One-turn volume on front panel)
- LPfc\*** Power factor correction circuit  
[Available for greater than 6.4 kW models. Height for models greater than 10 kW is 6.97"/177 mm instead of 5.24"/133 mm]
- L(115V)** 115 Vac  $\pm 10\%$  input, Input current: 20 A typ. (for 1.1 kW model)
- L(220V)** 220 Vac  $\pm 10\%$  input, Input current: 9.9 A typ. (for 1.1 kW model)
- L(400V)\*** 400 Vac input (coming soon)
- L(3m)** } Changing the length of high voltage output shielded cable  
**-L(5m)** } Please choose the length of an electrical in 3, 5, or 7 meters.  
**-L(7m)** } Please contact nearby sales office if you want a length of more than 7 m.

\* These options cannot be chosen together.

When ordering, add Option No. to Model No. in alphabetical order followed by the input voltage and the cable length.

<Example> REH1000P-1.1-LFGobLcOcpPfc(220V)(5m)

## Accessories

### Single phase AC input cable (Three-core type)

**Model: CABLE TYPE 5** 25A/250V, single-phase system, 2.5m, untreated wire ends  
\*To order longer cables over 2.5m, add the length in parentheses to the model. (Example) 5m: CABLE TYPE5(5)

### Three-phase three-wire AC input cable (Four-core type)

- Model: CABLE TYPE 6** 25A/250V, 3kW model, three-phase three-wire system, 2.5m, untreated wire ends  
\*To order longer cables over 2.5m, add the length in parentheses to the model. (Example) 5m: CABLE TYPE6(5)
- Model: CABLE TYPE 7** 75A/250V, 6.4kW model or more, three phase three-wire system, 10m, untreated wire ends  
\*To order longer cables over 10m, add the length in parentheses to the model. (Example) 15m: CABLE TYPE7(15)

# Matsusada Lineup of Other Power Supply Series

Feel free to contact us for the details.

## Palmtop Size DC Power Supply

### R4K-36 series

R4K-36 series is a palm-sized DC power supply with a power output up to 36 W.



#### <Features>

- Ultra-compact and lightweight at only 500 g
- Four-digit meter enabling specific setting and reading
- Digital interface as standard

#### <Output>

·2 V to 40 V/0.2 W to 36 W

## Rack Mount High Power HV Power Supply

### AU series

AU series is a high power HV power supply in 1U rack mount type with a maximum output of 60kV/300W, featuring high quality performance as well as multipurpose functions that is suitable for many applications.



#### <Features>

- Its wide range of lineups
- Extensive remote function
- Ultra slim and space saving

#### <Output>

·1 kV to 120 kV/30 W to 2200 W

## Desktop High Power DC Power Supply

### RK series

RK series is a benchtop high power DC power supply with a wide range of power output at 400 W, 800 W, or 1200 W.



#### <Features>

- Low noise switching method
- Universal input
- Sink current function/Sink current prevention function

#### <Output>

·6 V to 800 V/400 W, 800 W, or 1200 W

## Desktop Low ripple High Power HV Power Supply

### ES series

ES series offers a high voltage power supply lineup with an ultra-low ripple of 5mV, featuring a high performance in such a compact body.



#### <Features>

- Compact size and benchtop type
- Ultra-low ripple, high stability
- Its wide range of lineup

#### <Output>

·1kV to 5kV/3W to 15W

## Compact Rack Mount Type DC Power Supply

### REK series

REK series is an ultra-compact DC power supply in 44 mm height panel (up to 2.5 kW model).



#### <Features>

- High power output up to 15 kW
- Low noise switching method
- Sequence operation (Option)

#### <Output>

·6 V to 1500 V/770 W to 15 kW

## Rack Mount High Power DC Turbo Power Supply

### PRT series

PRT series offers approx. three times higher voltage/current outputs than previous models with a maximum power 15kW.



#### <Features>

- Ready for expansion up to 150 kW by increasing the output current with parallel connections
- Available for sequence setting and programming without a PC
- Internal resistance variation for simulating rechargeable batteries

#### <Output>

·80 V to 150 V/5 kW, 10 kW, or 15 kW

## Desktop High Power HV Power Supply

### EPR series

EPR series is a desktop high power HV power supply with a sufficient output up to 150W. The series is widely available for aging, electron beam, and capacitor charging.



#### <Features>

- Compact size and simple operation
- Voltage/Current meters as standard
- Digital control option

#### <Output>

·1 kV to 30 kV/30 W to 150 W

## Rack Mount High Power HV Power Supply

### AK series

AK series is a high power HV power supply, featuring superior performance and high stability with a power output up to 6.4 kW. Extensive remote control functions are available in different applications.



#### <Features>

- High power and space saving body
- Auto switching for CV/CC modes
- Efficient protection circuit

#### <Output>

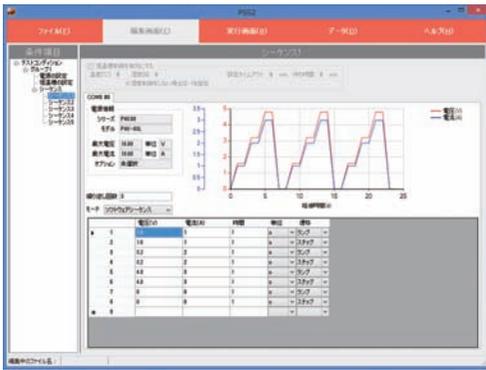
·1 kV to 120 kV/3.0 kW to 6.4 kW

# PSS2

The sequence software for power supplies and electronic loads

PSS2 is the dedicated software which can actuate various power supplies, electronic loads and digital controller for power supplies manufactured by Matsusada Precision Inc. with simple set up. It is the perfect for the aging test, the burn-in test and the withstand voltage test for electronic parts, and for the endurance test, intermittent / continuous operation test or various simulation test for electric component of automobile.

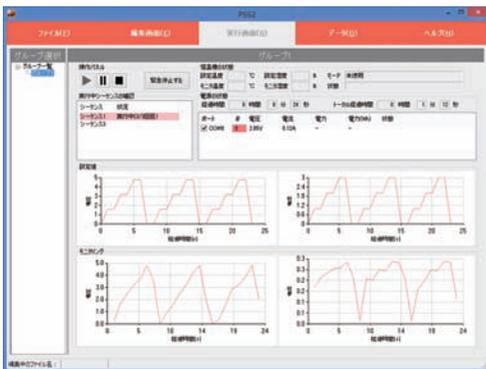
## EXAMPLES FOR OPERATION OF PSS2



# 1

### Set-up test condition

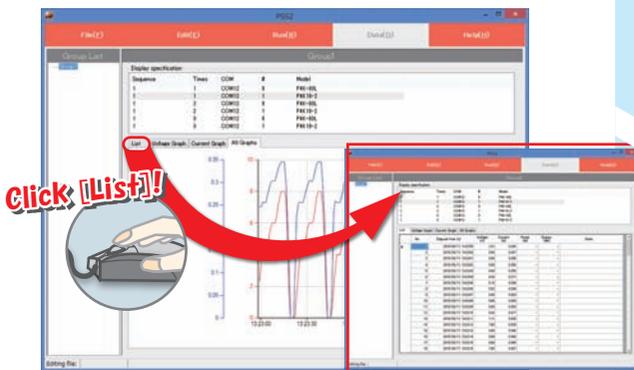
Make-up test conditions like as setting the power Supplies or action sequence and so on. Number of settable sequence pattern is max. 16, it is possible to set various test conditions fitted the target like as selection of the operating mode and setting of any protection function, etc.



# 2

### Execution of Test

It is possible to test each group setup. On the operation display, it is possible to monitor on the one screen required information like as a sequence, the status of the thermostatic chamber and the power supply, and voltage / current at testing. Also, when execute in parallel plural group, it is possible to monitor these status together.



# 3

### Confirmation of Measured Data

It is possible the test data completed. It is possible to confirm the value of each sequence, the individual graph or all items showed in one graph. Also, it is possible to output measured data with CSV style and then to sum up or analyze them with the spreadsheet software.

# Contact us for various kinds of Power supplies

As a pioneer of power supply manufacturing, Matsusada Precision offers solutions to meet various needs with its expertise through direct sales. Please visit our website and contact us for more information.

Contact Us [www.matsusada.com](http://www.matsusada.com)

## Contact with phone or fax



USA	Other country or region
North Carolina office <b>TEL(704)496-2644</b> FAX(704)496-2643	International office in Japan <b>TEL+81-6-6150-5088</b> FAX+81-6-6150-5089

### Manufacturer warranty

We warrant the specification, unless otherwise specified, at max. rated output after warm up, and scope of application is between 10% and 100% of max. rated output. We warrant that products contained in this catalog (hereinafter, the "Products") are free from defects in material and workmanship under normal use for a period of one (1) year from the date of shipment thereof. However, the warranty period for X-ray detectors and X-ray source shall be either one (1) year from the date of shipment or 1,000 hours, whichever shorter. The above warranty shall not apply to any Product which, at our sole judgment, has been: i) Repaired or altered by persons unauthorized by us; or ii) Connected, installed, adjusted or used otherwise than in accordance with the instructions furnished by us (including being used in an inappropriate installation environment, such as in corrosive gas, high temperature and humidity). We are not liable for any loss, damage or failure of the Products after the shipment thereof caused by external factors such as disasters. We will not inspect, adjust or repair any of our power supply products in the field or at any customer site. If you suspect that there has been a power supply failure in the field, please inspect your whole unit by yourself in an effort to determine that the problem is, in fact, arising out of our power supply products. If it is found that the problem is arising out of such power supply product after inspection, please contact your local sales office for additional troubleshooting. A "Return Merchandise Authorization" is required in case the power supply must be sent back to the factory in Japan for inspection and repair. We, at our sole discretion repair or replace such defective products at no cost to the purchaser. We assume no liability to the purchaser or any third party for special, incidental, consequential, or other damages resulting from a breach of the foregoing warranty. This warranty excludes any and all other warranties not set forth herein, express or implied, including without limitation the implied warranties of merchantability or fitness for a particular purpose. The Products are not designed and produced for such applications as requiring extremely high reliability and safety, or involving human lives (such as nuclear power, aerospace, social infrastructure facility, medical equipment, etc.). The use under such environment is not covered by this warranty and may require additional design and manufacturing processes. No modification or supplement of this warranty shall be binding unless in writing and signed by a duly authorized officer of Matsusada. Matsusada reserves the right to make any changes in the contents of catalogs or specifications at any time without advance notice. Due to compelling reason such as unavailability of components used, products might be un available or unable to repair. The products specified in catalogs or specifications are designed for use by the person who has enough expertise or under the control of such person, and not for general consumers. Schematics of products shall not be submitted to users. Test result or test data for the products shall be available upon request with charge. Make sure you read the specification in the latest catalog before you order. Contact nearby sales office for the latest catalog.

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