

**NEW**

# Ultra Slim DC Power Supply

Width: Only 1.38 inches/Output Power: 80W

- ▶ Available for 80 W output with ultra slim only 1.38 inches wide
- ▶ Various lineups for output current control at 0.1mA increment
- ▶ Excellent quietness with natural air-cooling system

## R4K-80 series

Max. output voltage: 16V to 320V

Max. output current: 0.5A to 10A

Max. output Power: 80W



# Ultra Slim DC Power Supply

## R4K-80 series



## Ultra Slim Sophisticated Benchtop Power Supply

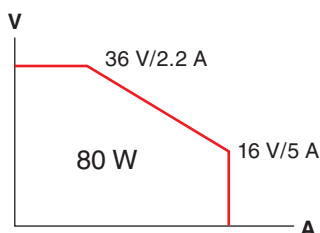
R4K-80 series is a higher performance DC variable power supply.

The 4-digit digital meter and high resolution D/A, A/D converters are added newly for more precise setting and reading.

Needless to say, the innovative compact size, variable range feature, and high operability are remaining same as conventional RK-80 series. The series is the best DC power supply for a variety of applications from laboratory experiments to automated line productions.

### New user-friendly functions

- Useful new feature of variable setting range



Set voltage/current value within 80 W, then turn on output

\*Not automatic range change which can output 80 W all the time. Resetting is required.







New and useful functions and stylish front panel design !

#### Quick access to functions needed

- No.1 Preset setting is automatically displayed when output is off.
- No.2 OCP is added for more safety operation.
- No.3 Quick lock with one touch action. Two selectable lock options.

# R4K-80 series

## More useful !

 <p>Compact and light-weight space-saving design</p>	 <p>Very quiet due to the adopting naturally-cooled system without cooling fan</p>	 <p>Wide output range R4K-80L: 16 V/10 A R4K-80: 36 V/5 A R4K-80M: 110 V/1.3 A R4K-80H: 320 V/0.5 A</p>
 <p>Unique low noise power conversion technology for research application</p>	 <p>Power factor correction and universal input</p>	 <p>Multiple units operation with master/slave and digital interface (option)</p>

## Useful NEW Five Additional Functions

- ✓ **4-digit digital meter** (output voltage and current)
- ✓ **High resolution D/A, A/D converter integrated**  
As one click of rotary encoder is one count, fine setting is possible
- ✓ **Digital interface as standard function**  
Digital interface shall make the data logging and automatic measurement easier.  
\* Conversion adapters suitable for RS-232C, RS-485 or GPIB is separately required.
- ✓ **Various waveform with pulse and ramp sequence function at will**  
With pulse/ramp sequence function (optional) various test pattern can be set without personal computer.
- ✓ **Output voltage and output current can be set speedily.**  
When setting output voltage and output current by rotary encoder on the front panel, every time fine switch is pressed, setting digit on digital display will be switched. In case, setting small output value or change setting values widely, setting can be done speedily.  
(Fine switch cannot be used when output value is set by remotely.)

## Lineup

MODEL	Output voltage [V]	Output current [A]	Output Power [W]	Ripple <sup>*1</sup>		Minimum setting unit <sup>*2</sup>		AC Input			Weight (approx.)	
				[mVrms]	[mA rms]	Output voltage	Output current	Input voltage	Input current [typ.] 100 V    240 V	Power factor [typ.]		
R4K-80L	0 to 16	0 to 10	80	5	10	10 mV	10 mA	85 Vac to 264 Vac 50 Hz to 60 Hz Single phase	1.1 A	0.5 A	0.99 <sup>*3</sup>	1 kg
R4K-80	0 to 36	0 to 5		5	4		1 mA					
R4K-80M	0 to 110	0 to 1.3		10	2	100 mV	1 mA					
R4K-80H	0 to 320	0 to 0.5		20	1		0.1 mA					

\*1: The ripple applies from 10% to 100% of the rated output.

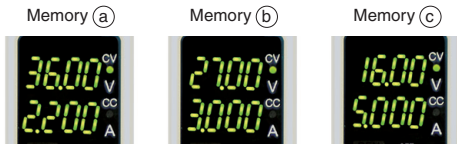
\*2: The value at local control. More precise setting can be available with remote digital control. Please see page 05 "Various Digital Control Functions".

\*3: Maximum output @115 Vac input

# Function

## Three position preset memory function

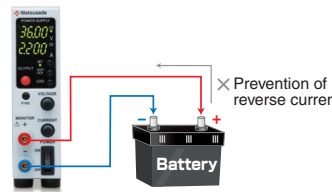
Memorize three voltage and current settings in addition to the standard preset values. There is no need to adjust the output when different setting, and convenient function for production inspection process or testing which require frequent data taking.



- ① Press down SET
- ② Select a memory with three buttons
- ③ Set voltage and current

## Sink Current Suppression

When supplying power to loads with capacities like batteries and capacitors, the sink current suppression is used to reduce the reverse current flowing from the load to the unit in order to prevent a voltage drop on the load as the output is OFF or the set voltage is lowered.



Note:  
Reverse current cannot be controlled and stabilized. Connect a dummy resistor or reverse current prevention diode when load of the reverse voltage is equal to or higher than the rated voltage (inductive loads, regenerative motors, etc.)

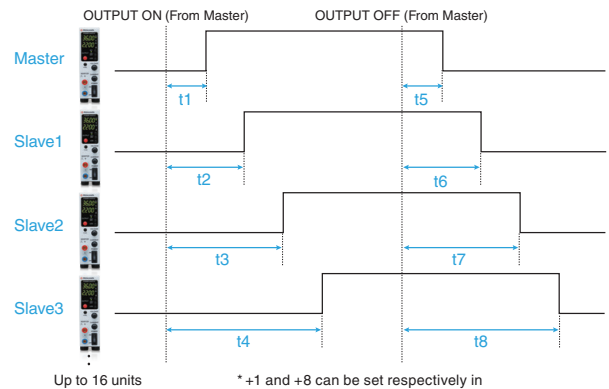
## Delay Trigger Function

Only one R4K-80 is available when -LUs1,-LGob, or -LEt option is selected.

When turning OUTPUT ON/OFF, you can start or stop the output operation with some delay. The function is available not only for a single power supply but also for multiple units of Matsusada DC power supplies in the digital interface \*1 which are individually set values of output voltage/current in addition to a single power supply. \*2

\*1: R4K-36 series, RK-80 series, RK series, and REK series  
For details, contact our sales office. They can be connected up to 16 units.

\*2: Only for slave-local  
In case of slave remote control, exact same model of power supply need to be used. Also, in case of slave-local, each output voltage and current can be set individually. In case of slave-remote, output voltage and current can be set with one-control function which each slave unit follows the master unit setting.



Up to 16 units \* +1 and +8 can be set respectively in

## Two-level Lock Function

Two-level lock is selectable: "Full Lock" for locking all the switch operations and "Standard lock" for locking except for the output ON/OFF.

"Full lock" is used to prevent all erroneous operations, and "Standard lock" is for readily applying the emergency stop along with the misoperation prevention, which can ensure "safe" operation.

(Emergency stop by the power switch is available in both the two lockings.)

### Full LOCK

Locks all the switch operations except canceling the lock function. It is especially suited to prevent misoperations in remote control.

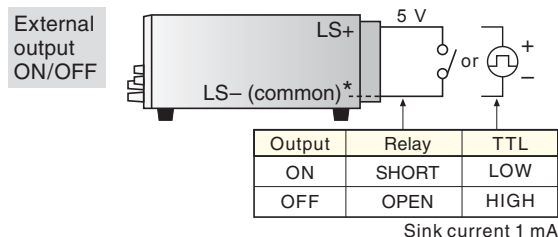


### Standard LOCK

Locks the voltage/current setting switches. It can prevent mistakenly changing the output setting in local control, and immediately apply emergency stop.

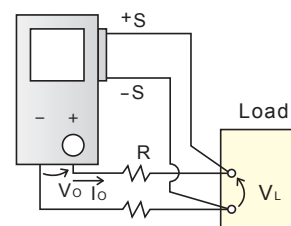


## Remote Functions



\*+S is common. So external control voltage shall be input with +S as reference. Otherwise it can cause failure.

### Remote sensing



The function ensures the prevention of stability deterioration which could be caused by the voltage drop ( $V_o - V_L$ ) due to resistance (R) of the output wire or contact resistance.

## Digital Interface

Enable digit control via LAN/USB/RS-232C/RS-485/GPIB as well as one control with Master/Slave.

### Adapters (separately sold)

To use the digital interface, you need to prepare an digital interface adapter separately. The following interface adapters are available according to the communication method of your controller port.

#### - CO-E32m: Adapter for LAN

Total 16 units can be connected to one CO-E32m. LAN cable is not provided.



#### - CO-U32m: Adapter for USB

Total 16 units can be connected to one CO-U32m. USB cable is not provided.



#### - CO-MET2-9: Adapter for RS-232C (9 pin)

D-sub ⇄ Modular jack Total 16 units can be connected to each CO-MET2-9.



#### - CO-MET2-25: Adapter for RS-232C (25 pin)

D-sub ⇄ Modular jack Total 16 units can be connected to each CO-MET2-25.



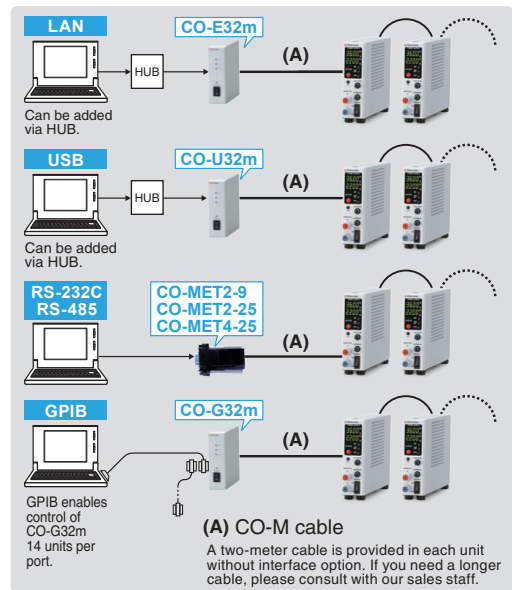
#### - CO-MET4-25: Adapter for RS-485 (25 pin)

D-sub ⇄ Modular jack Total 16 units can be connected to each CO-MET4-25.



#### - CO-G32m: Adapter for GPIB

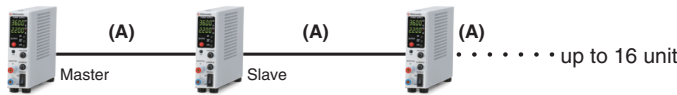
Total 16 units can be connected to one CO-G32m. GPIB cable is not provided.



For details, refer to CO/USB series datasheet.

### Master/slave

Master unit can control multiple units connected as slave. (The function is not allowed to output the average current from each power supply connected in parallel.)



This is not a function for parallelly connected power supplies to give out average output current.

When noisy environment is presumed, the following -LGlob option (optical interface) is required.

## Various Digital Control Functions

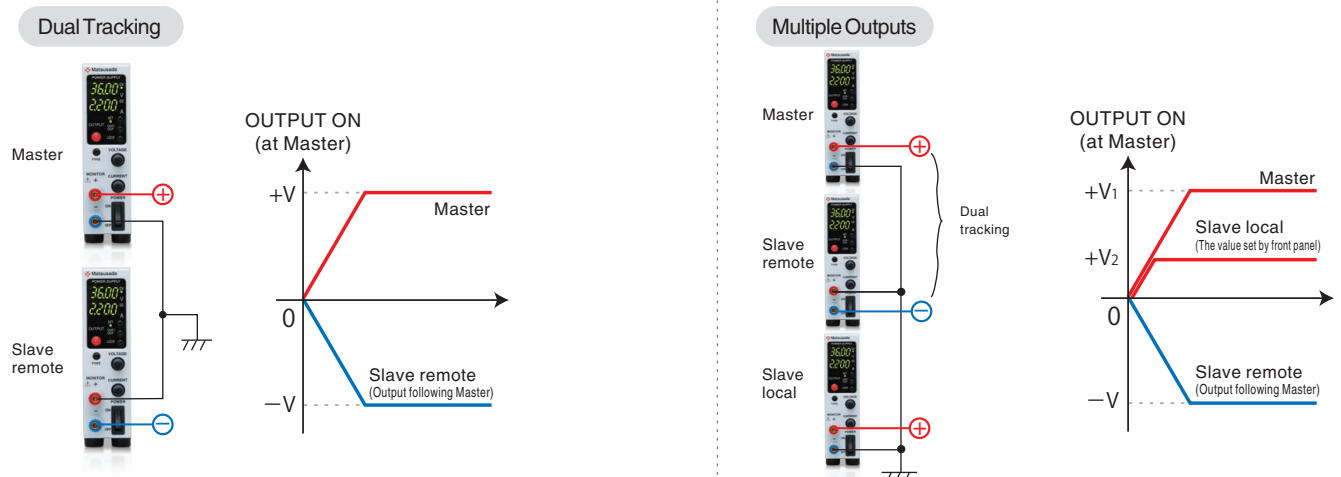
<b>Control function</b>	- Output ON/OFF setting - Status output (Fault/Output/OVP/OCP/OTP/ACF/Reversible sense connection/Interlock) - Maximum 16 units (-LGlob option models: 32 units) digital control - One control function for multiple units
<b>Write function</b>	Output voltage setting/Output current setting Percent mode (100.00%) *voltage current value mode (maximum rated voltage and current value) COVP setting/OCP setting Percent mode (100.0%) voltage current value mode (maximum over voltage/over current protection value)
<b>Reading function</b>	Output voltage reading/Output current reading Percent mode (100.00%) *voltage current value mode (maximum rated voltage and current value) Output voltage setting/Output current setting Percent mode (100.00%) *voltage current value mode (maximum rated voltage and current value) OVP setting/OCP setting Percent mode (100.0%) voltage current value mode (maximum over voltage/over current protection value)

\*Minimum value of each model is same as minimum display of front panel meter.

## Dual Tracking, Multiple Outputs

Dual tracking control enables both positive and negative outputs simultaneously in master/slave control. In addition, using the slave local mode, the dual tracking operation can consist of multiple outputs. The positive and negative output voltages (+V and -V) in dual output will output in synchronization with turning on the power of the master machine.

\*Please refer to page 10 as for connection details.





# Useful New Functions

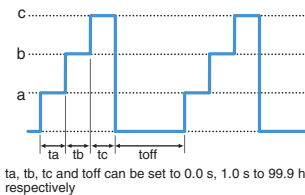
## Two Features in -LDe Option

### (1) Function for Pulse & Ramp and Master Follow

Output control as Next A to D are possible.

#### A. Pulse

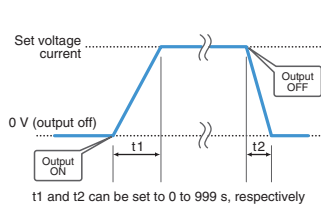
Sequential operation is possible by using voltage and current set on each memory a, b and c in combination with multi-set function. Not only continuous operation, but also it is possible to specify the times. It is best fit for evaluation tests for products as various operations, like as repeat of a and b only or repeat of b, c and off only, are enabled by setting time of memory a, b, c and off to 0.0.



#### B. Ramp

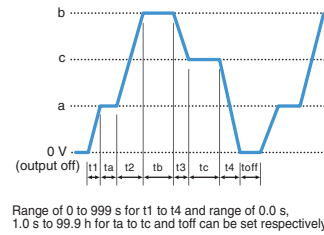
It enables to make ramp action up to set voltage or current (or from the set voltage or current to 0 V or 0 A). It is useful to like to rise (reduce) voltage or current slowly.

\* As for ramp operation, you can select "Doth of set voltage and current", "Voltage setting only", or "current setting only".



#### C. Pulse + Ramp

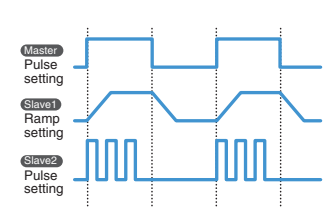
It is also possible to use pulse combined with ramp action. If multi-set function is combined with the too, it is able to make pulse action by using voltage or current set on memory a, b and c. Not only continuous operation, but also it is possible to specify the times. It is useful in various aspects as it is possible to rise (reduce) voltage or current slowly up to 3 set value.



#### D. Master Follow

Pulse sequence actions at master-slave and output signal to slave units at ramp action are transmitted. By this function, it is possible to make slave units to output on different output condition from the master unit.

\* The master follow function is only available with the standard interface.



Note: Accuracy of the timer at sequence action  $\pm 0.5\%$ . Please take care usage at long running.

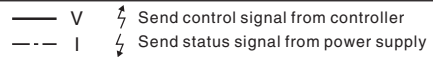
### (2) Sweep Control Programming Easy programming of sweep operation !

With -LDe option, the available sweep commands are adapted by setting the arrival time and arrival conditions (voltage/current). Since there is no need to set commands that are repeated step by step, it is easier to create new programs and change conditions, saving a great deal of operation time. It also contributes to securing time for development, research, etc.

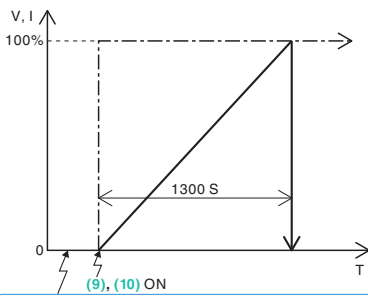
#### Usage example

#### Operation image

\* Drawing has the figures for resistive load.  
Output rise and fall time is prioritized by power supply's performance.

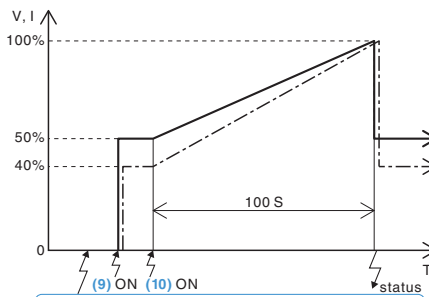


#### Example of usage only constant voltage



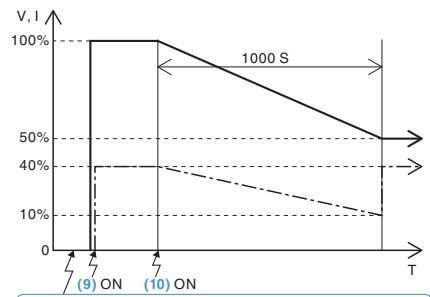
- (1) Don't send (2) 100.00% (3) 100.00% (4) 100.00%
- (5) 1300.0 S (6) 0 V or value before sweep (7) Don't send

#### Example of usage that sweeps from constant value to undo it after attainment



- (1) 50.00% (2) 40.00% (3) 100.00%
- (4) 100.00% (5) 100.0 S
- (6), (7) Value before sweep (8) Status signal is output

#### Example of usage lowering output value by sweeps



- (1) 100.00% (2) 40.00% (3) 50.00% (4) 10.00%
- (5) 1000.0 S (6) Don't send (7) Value before sweep

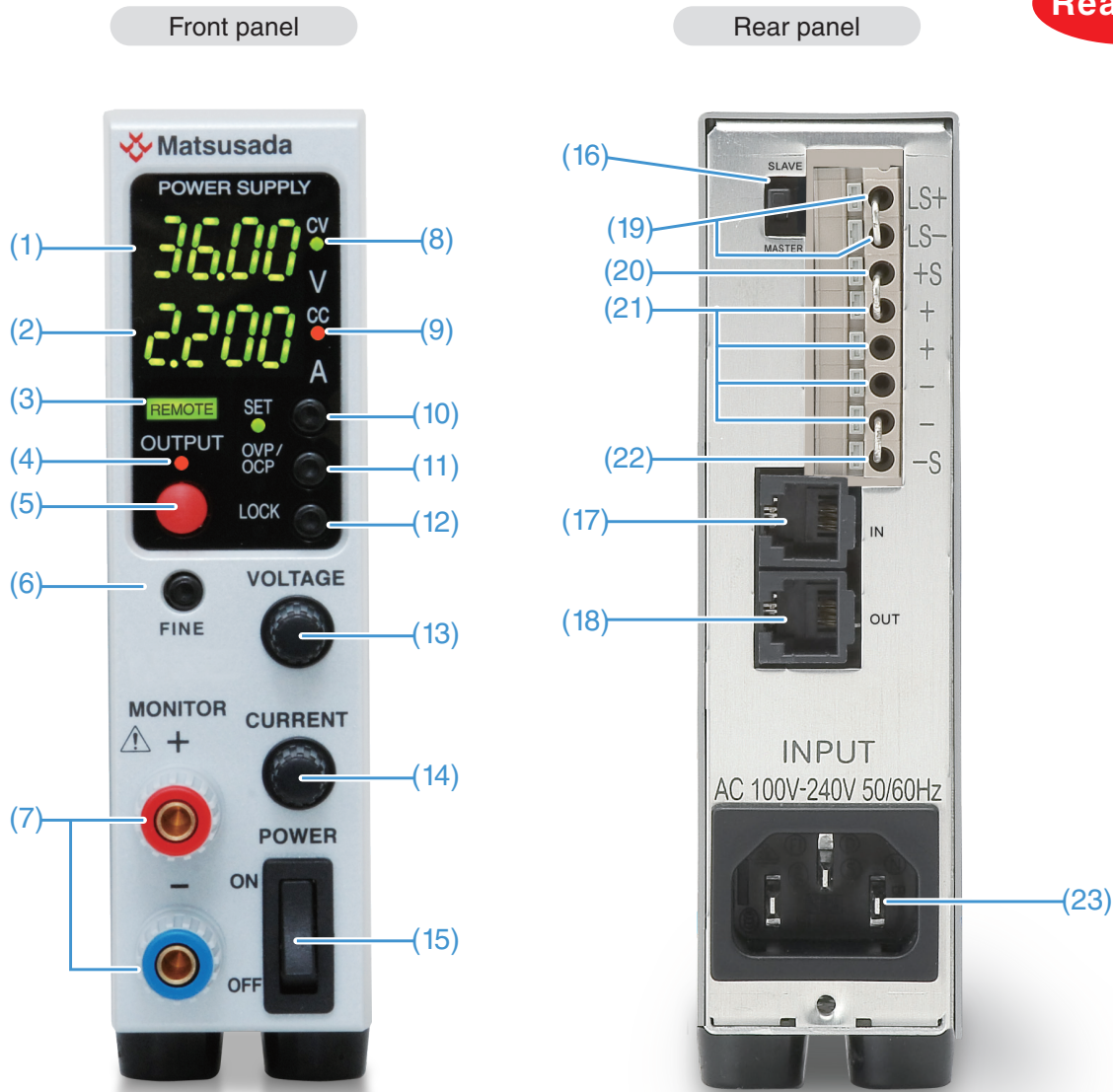
- (1) Output voltage value setting
- (2) Output current value setting
- (3) Attained voltage value setting that can be set below value lower than (1).
- (4) Attained current value setting that can be set below value lower than (2).
- (5) Attained time setting
- (6) Output voltage setting after attainment that is selected from 0 V, remain, or value before sweep
- (7) Output current setting after attainment that is selected from 0 V, remain, or value before sweep
- (8) Choose whether output status signal will be output or not
- (9) Output ON
- (10) Sweep ON

#### Specifications

- Setting range** Voltage: 0 to maximum output voltage 16-bit or percentage (0.01% unit)  
Current: 0 to maximum output current 16-bit or percentage (0.01% unit)  
Time: 0 to 1,300 sec; min. step 0.1 sec (Accuracy:  $\pm 0.3\%$ )
- Time resolution** 20 ms fixed
- Voltage/Current resolution** Based on present value, attainment value, attainment time  
Calculation:  $1/(\text{attained time}/20 \text{ ms}) \times (\text{attained value} - \text{present value})$   
Minimum value: 1/65535 of rated maximum output  
Maximum value: 1/5 of the maximum rated output (Based on the above formula and the minimum arrival time value of 0.1 sec.)
- Output after attainment** Hold at 0 or attained value, or value before sweep (selectable for voltage and current, respectively).
- Status after attainment** Can be set to send status signals or not (unit number notification)

# Appearance

Real size



- (1) Output voltage and OVP setting display
- (2) Output current and OCP setting display  
(R4K-80H: mA display)
- (3) Remote programming display  
ON: Remote controlling voltage/current
- (4) Output display ON: OUTPUT ON
- (5) OUTPUT ON/OFF switch  
Using OUTPUT ON/OFF and resetting the protection functions
- (6) FINE switch  
To shift the digit of a setting value of output voltage/current
- (7) Monitor terminal (M6)
- (8) Constant voltage operation mode display
- (9) Constant current operation mode display
- (10) PRESET switch
- (11) OVP/OCP switch
- (12) LOCK switch

- (13) OUTPUT voltage and OVP setting dial
- (14) OUTPUT current and OCP setting dial
- (15) Power ON/OFF switch  
This has priority overall operations for safety reason.
- (16) Master/Slave change switch
- (17) Digital interface IN also available for Master/Slave operation
- (18) Digital interface OUT also available for Master/Slave operation
- (19) External output ON/OFF terminal
- (20) +Sense
- (21) OUTPUT terminal
- (22) -Sense
- (23) AC inlet

# Specifications

The specifications show the values at the rated output after two hours of warm up unless specifically indicated.

**Output Control** CV mode: Rotary encoder on the front panel  
CC mode: Rotary encoder on the front panel

**Output Function** Wide range of output capabilities, limited to 80 W voltage and current settings.  
At setting the voltage, when the power value exceeds 84.05 W, the current value will be lower to set the voltage.  
At setting the current, when the power value exceeds 84.05 W, the voltage value will be lower to set the current.

**Lock Function** Lock function locks the output voltage and current setting

**Output Display** Voltage: 4-digit digital meter (Accuracy is  $\pm 0.2\%$ rdg  $\pm 4$  digits), Accuracy of preset setting is  $\pm 0.2\%$ Setting  $\pm 40$  mV  
Current: 4-digit digital meter (Accuracy is  $\pm 0.4\%$ rdg  $\pm 5$  digits), Accuracy of preset setting is  $\pm 0.4\%$ Setting  $\pm 5$  mA  
The value is applied in the usage range of rated output from 1% to 100%.  
The accuracy of the preset value varies according to rated output value of each product. Refer to the following table.

Rated output voltage	Model	Accuracy of preset value	Rated output current	Model	Accuracy of preset value
99 V or less	R4K-80L, R4K-80	$\pm 0.2\%$ setting $\pm 40$ mV	999 mA or less	R4K-80H	$\pm 0.4\%$ setting $\pm 0.5$ mA
100 V or more	R4K-80M, R4K-80H	$\pm 0.2\%$ setting $\pm 400$ mV	1 A to 9 A	R4K-80, R4K-80M	$\pm 0.4\%$ setting $\pm 5$ mA
			10 A or more	R4K-80L	$\pm 0.4\%$ setting $\pm 50$ mA

**Temp. coefficient** CV mode:  $\pm 0.01\%/^{\circ}\text{C}$ , CC mode:  $\pm 0.02\%/^{\circ}\text{C}$  The value is applied in the usage range of rated output from 10% to 100%.

**Protections**

- Overvoltage protection (OVP): Cuts off the output at set value  
Setting Range: approx. 5% to 110% of rating  
Setting Method: Rotary encoder on the front panel  
Reset: manual reset via OUTPUT switch or External output ON/OFF
- Overcurrent protection (OCP): Cuts off the output at set value  
Setting Range: approx. 5% to 110% of rating  
Setting Method: Rotary encoder on the front panel  
Reset: manual reset via OUTPUT switch or External output ON/OFF
- Overtemperature protection (OTP): Cuts off the output when rising the internal temperature abnormally  
Reset (at normal temperature): Manual reset using the OUTPUT switch or External output ON/OFF
- Input voltage drop and power failure protection: Cuts off output with an AC fail  
Reset (at normal voltage value or after recovery from power failure):
  - a. The power failure protection (re-output prevention function) is active: Manual reset using the OUTPUT switch or External output ON/OFF
  - b. The power failure protection (re-output prevention function) is canceled: Automatic recovery
- Sense reverse connection

**Other Functions**

- External output ON/OFF (TTL or external relay)
- Remote sensing
- Delay trigger: Individual setting of ON delay and OFF delay (0.0 to 99.9 sec)
- Multi setting function: Voltage and current memory "a", "b", and "c" setting in addition to standard one

**Operation Temp.** 0 to  $+40^{\circ}\text{C}$

**Storage Temp.**  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$

**Relative humidity** 20% to 80%, non condensing

**Isolation voltage** 16 V, 36 V output models:  $\pm 250$  Vdc (Positive or Negative terminal grounding)  
110 V, 320 V output models:  $\pm 500$  Vdc (Positive or Negative terminal grounding)

**Leakage current** 0.5 mA/1 mA typ. (ACIN: 100 V/200 V, 60 Hz)

**Dielectric voltage** Between input power supply and output terminal: 1500 Vac per minute.  
Between input power supply and chassis: 1500 Vac per minute.  
Between output terminal and chassis: 500 Vdc per minute.

**Accessories**

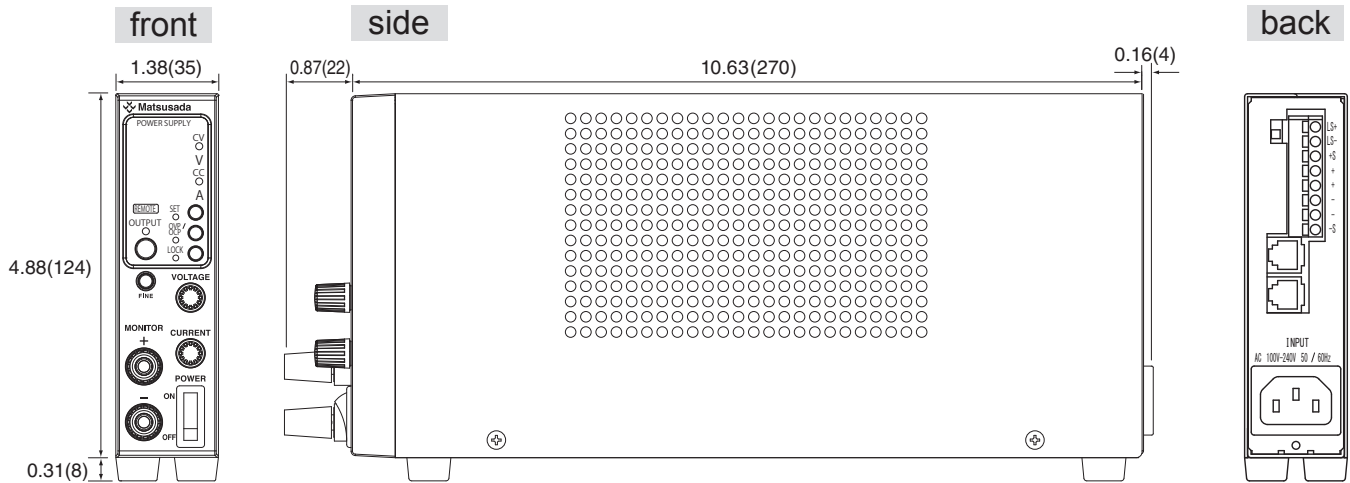
- AC Input cable 2.5 meters single phase 3-pin type  $\times 1$
- Instruction manual  $\times 1$
- Ground plate  $\times 1$



For safe operation, connect ground plate and output terminal.



# Dimensions [inch (mm)]



## Options

### -LDe: Pulse Ramp Sequence

See page 6 for details.

### -LEt: LAN Interface Board \*1 \*2 \*4

Enable digital control via LAN.

HUB shall be required between R4K-80 and PC when control multiple R4K-80.



### -LGoB: Optical Interface Board \*1 \*2

With optical communication, isolation control is performed. As complete isolation is performed by means of optical fiber, this enables advance prevention of erroneous operation involved with transient phenomenon caused by surges, inductive lightning, external noise, etc.

- LGoB: Optical interface board + optical cable 2 meters
- LGoB(Fc5): Optical interface board + optical cable 5 meters
- LGoB(Fc10): Optical interface board + optical cable 10 meters
- LGoB(Fc20): Optical interface board + optical cable 20 meters
- LGoB(Fc40): Optical interface board + optical cable 40 meters

Select the optional optical interface board (-LGoB) when using this DC power supply under the following conditions.

- Noisy environment including factories (Example: Motors or coils are used near power supplies and loads).
- Using with high voltage floating (more than 250 V).
- Installation distance of 2 meters or more between the DC power supply and a controller such as a computer, laptop, or Programmable Logic Controller (PLC).

### Adapters (separately sold)

To use the optical interface, you need to prepare an optical interface adapter separately. The following interface adapters are available according to the communication method of your controller port.

#### - CO-E32: Adapter for LAN

Total 32 units can be connected to one CO-E32. LAN cable is not provided.



#### - USB-OPT: Adapter for USB

Total 32 units can be connected to one USB-OPT. USB cable is not provided.



#### - CO-OPT2-9: Adapter for RS-232C (9 pin)

Total 32 units can be connected to each CO-OPT2-9.



#### - CO-OPT2-25: Adapter for RS-232C (25 pin)

Total 32 units can be connected to each CO-OPT2-25.



#### - CO-OPT4-25: Adapter for RS-485 (25 pin)

Total 32 units can be connected to each CO-OPT4-25.

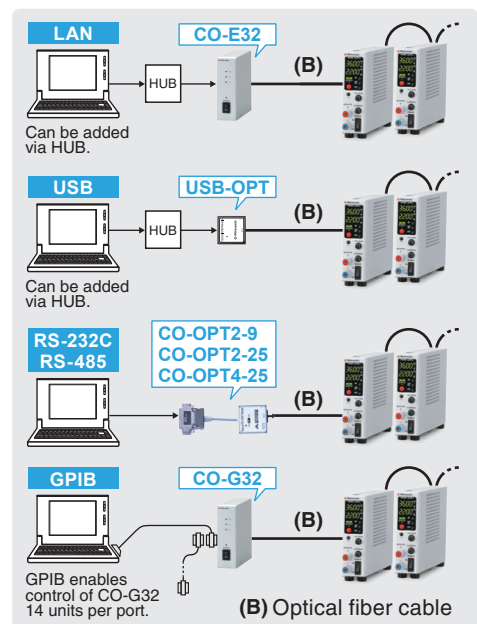


#### - CO-G32: Adapter for GPIB

Total 32 units can be connected to one CO-G32. GPIB cable is not provided.



For details, refer to CO/USB series datasheet.



## -LH: High isolation voltage

With isolation voltage by  $\pm 1\text{kV}$ , more R4K-80 series power supplies are available in series connection.

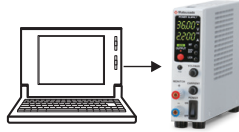
## -Llc: Output current accumulation function \*3

This option accumulates the output current and display the value (up to 100 Ah). The accumulated value is stored even when output is off. You can set in advance the maximum accumulated output current to stop the output. It is very suitable for applications such as controlling plating solution.

## -LU1: USB Interface Board \*1 \*2 \*4

Enable digital control via USB.

When controlling several R4K-80 power supplies via USB, a USB HUB will be required between the PC and R4K-80 power supplies.



## -L(Mc0.15) ,-L(Mc0.5): Changing of communications cable \*1

The CO-M cable length can be selected from 0.15 meters or 0.5 meters. Select one of the two types above.

- \*1: Selecting each individual option simultaneously in -LEt, -LGob, -LU1, and -L(Mc0.5) or -L(Mc0.15)  
 \*2: As for the option, digital interface is not attached. For more information on the digital interface, refer to CO/USB series datasheet.  
 \*3: Please consider the location of usage. High humidity environment can be the cause of failure and corrosion.  
 \*4: Master/slave function is unavailable.

**How to order** When ordering, add Option No. to Model No. in alphabetical order followed by the input voltage. <Example> R4K-80-LDeGobHlc, R4K-80L-LDeHlcUs1

## AC Input Cable

Standard	Sold separately	Sold separately	Sold separately
CABLE TYPE 1	CABLE TYPE 3	CABLE TYPE 4	CABLE TYPE 13
125V/10A	250V/10A	250V/10A	250V/15A

## Accessory Kit

Various accessories are available for convenient use of the unit.

### ■ Stand

The stand is useful to use as single unit.



### ■ Binder

For the applications which require two to six units combination. Dual, triple and quad multiple operation is possible.

\*Cooling fan is needed for more than three units combination.



### ■ Rack mount holder

[RMO series]

- 10 Units/one rack holder, and can be placed in a cabinet. Easy to take one unit out.
- Best for a system operation
- With fan unit (100Vac) \*Contact our sales representatives.
- The rack holder enable consolidate to one



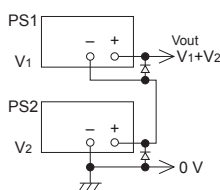
\*Power supply is not included in the accessories.

## Example of Connection and Operation

Using the same multiple units of R4K-80 series, the output voltage and output current can be increased by connecting the outputs in series or parallel. The local control or digital master/slave control is recommended for control.

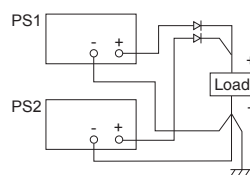
The external output ON/OFF terminal LS- is connected to the + output, so do not connect it to the commons of other power supplies.

### Series connection



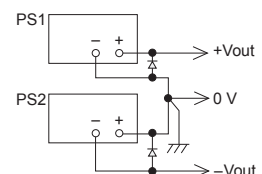
The total output voltage is up to 250 V.  
 The output voltage exceeding 250 V is unavailable in series connection.  
 The output current will be the smallest value.

### Parallel connection



Use the same value for voltage setting in parallel connection.  
 The output current is the sum of each current.  
 In order to prevent damage, set the OVP level of all the power supplies to the maximum.

### Split connection



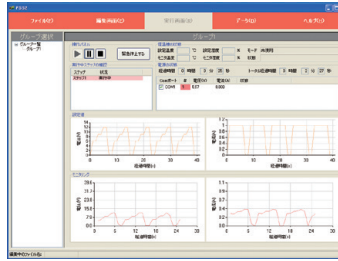
+output and -output are available.

# PSS2 sequence software for our power supplies



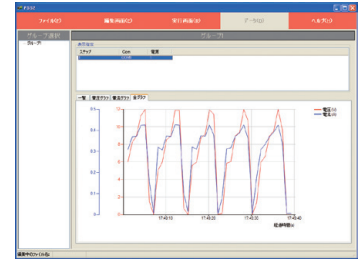
PSS2 is a dedicated software that allows for sequential operation with simple settings as of various types of power supplies, electronic loads, and power supply digital controllers manufactured by Matsusada Precision. It is ideal for durability testing of electronic parts, electrical equipment, and automotive electrical equipment, and for all types of simulation testing.

## Executing of test



The software provides an operation display on the single screen to monitor necessary information including sequence, thermostatic chamber, the status of the power supply, the voltage or current at testing.

## Checking measurement data



You can confirm the result data of measurement. If necessary, the measurement data is outputted in CSV format.



## TECHNICAL NOTE

### Connection and Operation

#### ■ Connection of load

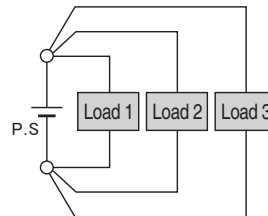
- Connect a short wire of sufficient thickness for the maximum current.
- Use an electric wire that can withstand the working voltage.
- The following table is a guide for a single wire. The maximum current varies greatly depending on the ambient temperature, arrangement, number of strands, and method of installation.
- Please check the specifications of the electric wire before use.

AWG	mm <sup>2</sup>	Maxcurrent [A]	AWG	mm <sup>2</sup>	Maxcurrent [A]
18	0.823	2.3	4	21.1	60
16	1.31	3.7	2	33.6	94
14	2.08	5.9	1	42.4	119
12	3.31	9.3	0	53.5	150
10	5.26	15	00	67.4	190
8	8.37	24	000	85.0	239
6	13.3	37	0000	107	302

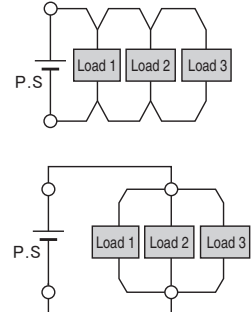
In case of exceeding 302 A, please use multiple wires or connect with busbar.

#### ■ Parallel connection of load

**Good**



**Not Good**



A power supply has no direct branching, but the load is branched using cables.

## When selecting DC power supply

### ▶ Important Notice

Products on this catalog have been manufactured with consideration of safety as DC power supply, however please follow instruction manual for operation and make sure to ground the ground terminal for your safety.

Products on this catalog have been manufactured on the precondition that they are used in ground electric potential or within the range of the above series operation. Please contact our sales staff when using the product for floating of high electric potential, etc.

Products on this catalog are manufactured with consideration for protection against load discharge. However for specific experiment or continuous discharge such as sputtering, product may need discharge resistance between power supply and load or could not be used at all. Please consult with our sales staff in advance.

We recommend that you contact our sales staff with your requirement before choosing a product so that you can get the best product and the safety as high-voltage equipment is assured.

# Who We Are

Matsusada Precision Inc. has manufactured High voltage power supplies for more than 50 years in Japan. Recognized by Japanese customers who demand high-quality levels, we have become a high voltage power supply manufacturer which has the highest market share in Japan. Currently, we are developing products not only for high-voltage power supplies, but also for DC power supplies, AC power supplies, electronic loads, high-voltage amplifiers, bipolar power supplies, and X-ray inspection equipment.

We have contributed to customers in various industries such as Semiconductor Production Equipment, Photomultiplier, IGBT, Electrostatic Chuck, Electron Beam, Electrospinning, Plasma, Motor for Electric vehicles, etc.

In addition, we have a direct sales system to respond promptly to customers. Our technical support team with many years of experience will respond promptly from Japan.

Our mission is to deliver products that meet Japan's strict quality standards to customers all over the world. We believe that if you contact us, you will surely find the power supply you need

Matsusada Precision



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### We follow-up customers from japan



**Contact Us**

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