

**Realized Resolution of 1mV and 0.1mA**

Compact &amp; High Resolution

# Regulated DC Power Supplies

**R4Gseries**6V to 650V  
0.1A to 10A  
12W to 180W**R4GNseries**

Minus common type

6V to 120V  
0.3A to 10A  
12W to 180W

- ▶ Fine output control in 1mV, 0.1mA unit is possible
- ▶ Implement ultralow Ripple and High Speed Response by the series regulator system
- ▶ Standard Equipment of Various Function

Control via CC-Link  
is available.

# R4G series

## Realized Ultra low Noise with Series Regulator System Ultra-compact Programmable DC Power Supplies



◀ R4G6-2  
R4G18-2  
R4G36-1

R4G18-10  
R4G36-5  
R4G45-4



◀ R4G8-5  
R4G18-3  
R4G18-5  
R4G36-3  
R4G45-2  
R4G60-1.2  
R4G80-1

R4G120-0.3  
R4G120-0.6  
R4G160-0.45  
R4G250-0.3  
R4G360-0.2  
R4G650-0.1



R4G series are series regulator system high accuracy and ultralow noise DC power supplies so that enabled setting and reading out more fine output with a four digits indicator and a high resolution D/A and A/D converter adapted newly. Not only Overvoltage protection but also Overcurrent protection is included as standard equipment, and moreover digital communication function is available. They are applicable to wide range from experiment to automation line.

## - Voltage and / or Current displayed 4 digits indicator

Voltage or Current is indicated with 4 digits despite of its compact size.

It has been possible to control output in more detailed unit as [1 mV] and [0.1 mA] than ever.

## - Ultralow Ripple and High Speed Response

High Speed Response with ultralow ripple and low noise by the series regulator system.

It is best fit to application that fundamental performance is important as DC power supplies.

## - Ease of Formation of Automation Line or Measuring System

It is able to configure easily automation line or measuring system by utilizing options for analogue remote control, various status output, digital communication.

## - Standard Equipment of Various Function

Analogue Remote Control and Multi-set in addition to Overvoltage Protection, Overcurrent Protection and Key Lock are included as standard equipment.

## - Applicable to Digital Interface also

It is able to built-in digital interface despite of series regulator system.

It is not required to buy more expensive communication unit than power supply.

## - Silent Naturally-cooling System (108W Model and Smaller)

Operation sound is silent as no cooling fan. It is best fit for usage that its operation sound hinders measuring like as test of fan motor.

And it is the safety design so as not to expose the heatsink from the case.

Application as these...

■ Various Research and Development ■ As the Power Supply for System ■ For Aging ■ School Training Aid

## Lineup

Max. Output			Model	Min. Set. Unit *1		Constant Volt. Characteristic			Constant Cur. Characteristic			Power consumption [VA]	Dimensions (page.06)
Voltage [V]	Current [A]	Power [W]		Output Voltage [mV]	Output Current [mA]	Ripple [mVrms]	Input regulation [mV]*2	Load regulation [mV]*3	Ripple [mA rms]	Input regulation [mA]*2	Load regulation [mA]*3		
6	2	12	R4G6-2	1	1	0.5	1	5	1	2	10	30	A
8	5	40	R4G8-5	1	1	0.5	1	5	1	4	20	90	B
18	2	36	R4G18-2	10	1	0.5	1	2	1	2	10	90	A
	3	54	R4G18-3	10	1	0.5	1	3	1	2	15	100	B
	5	90	R4G18-5	10	1	0.5	1	5	1.5	4	20	170	B
	10	180	R4G18-10	10	10	1	2	10	3	5	25	300	C
36	1	36	R4G36-1	10	1	0.5	2	2	1	2	10	90	A
	3	108	R4G36-3	10	1	0.5	2	4	1	2	15	200	B
	5	180	R4G36-5	10	1	1	2	4	3	5	20	300	C
45	2	90	R4G45-2	10	1	1	4	4	2	2	15	170	B
	4	180	R4G45-4	10	1	1	4	4	5	5	20	300	C
60	1.2	72	R4G60-1.2	10	1	1	4	4	1	2	10	130	B
80	1	80	R4G80-1	10	1	1	4	4	1	2	10	130	B
120	0.3	36	R4G120-0.3	100	0.1	1	7	7	1	2	10	100	B
	0.6	72	R4G120-0.6	100	0.1	1	7	7	1	2	10	160	B
160	0.45	72	R4G160-0.45	100	0.1	2	10	10	1	2	10	160	B
250	0.3	75	R4G250-0.3	100	0.1	3	15	15	1	1	5	170	B
360	0.2	72	R4G360-0.2	100	0.1	3	25	25	1	1	5	160	B
650	0.1	65	R4G650-0.1	100	0.1	8	30	30	1	1	5	140	B

\*1 : Values in local control. It is possible to set more fine values for remote control by digital communication. (Refer to page 07 [Digital Control Function])

\*2 : For the AC variation  $\pm 10\%$

\*3 : For the load variation 10% to 100%

# R4GN series

Minus common type

Realized Ultra low Noise with Series Regulator System  
Ultra-compact Programmable  
DC Power Supplies



▲  
R4GN18-10  
R4GN36-5  
R4GN45-4



▲ R4GN6-2  
R4GN18-2  
R4GN36-1



R4GN8-5  
R4GN18-3  
R4GN18-5  
R4GN36-3  
R4GN45-2  
R4GN60-1.2  
R4GN80-1  
R4GN120-0.3  
R4GN120-0.6  
▼

R4GN series are series regulator system high accuracy and ultralow noise DC power supplies so that enabled setting and reading out more fine output with a four digits indicator and a high resolution D/A and A/D converter adapted newly. Like our other switching power supplies including RK series and REK series, this series can be controlled remotely with the negative common, and it allows easy sequence control of the minus common type. Not only Overvoltage protection but also Overcurrent protection is included as standard equipment, and more over digital communication function is available. They are applicable to wide range from experiment to automation line.



## - Voltage and / or Current displayed 4 digits indicator

Voltage or Current is indicated with 4 digits despite of its compact size.  
More extensive output control is available than ever before.

## - Ultralow Ripple and High Speed Response

High Speed Response with ultralow ripple and low noise by the series regulator system.  
It is best fit to application that fundamental performance is important as DC power supplies.

## - Ease of Formation of Automation Line or Measuring System

It is able to configure easily automation line or measuring system by utilizing options for analogue remote control, various status output, digital communication.

## - Standard Equipment of Various Function

Analogue Remote Control and Multi-set in addition to Overvoltage Protection, Overcurrent Protection and Key Lock are included as standard equipment.

## - Applicable to Digital Interface also

It is able to built-in digital interface despite of series regulator system.  
In addition to standard LAN, USB, and RS-232C, **CC-Link** is also available.

## - Silent Naturally-cooling System (108W Model and Smaller)

Operation sound is silent as no cooling fan. It is best fit for usage that its operation sound hinders measuring like as test of fan motor.  
And it is the safety design so as not to expose the heatsink from the case.

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## Lineup

Max. Output			Model	Min. Set. Unit *1		Constant Volt. Characteristic			Constant Cur. Characteristic			Power consumption [VA]	Dimensions (page.06)
Voltage [V]	Current [A]	Power [W]		Output Voltage [mV]	Output Current [mA]	Ripple [mVrms]	Input regulation [mV]*2	Load regulation [mV]*3	Ripple [mArms]	Input regulation [mA]*2	Load regulation [mA]*3		
6	2	12	R4GN6-2	1	1	0.5	1	5	1	2	10	30	<b>A</b>
8	5	40	R4GN8-5	1	1	0.5	1	5	1	4	20	90	<b>B</b>
18	2	36	R4GN18-2	10	1	0.5	1	2	1	2	10	90	<b>A</b>
	3	54	R4GN18-3	10	1	0.5	1	5	1	2	15	100	<b>B</b>
	5	90	R4GN18-5	10	1	0.5	1	3	1.5	4	20	170	<b>B</b>
	10	180	R4GN18-10	10	10	1	2	10	3	5	25	300	<b>C</b>
36	1	36	R4GN36-1	10	1	0.5	2	2	1	2	10	90	<b>A</b>
	3	108	R4GN36-3	10	1	0.5	2	4	1	2	15	200	<b>B</b>
	5	180	R4GN36-5	10	1	1	2	4	3	5	20	300	<b>C</b>
45	2	90	R4GN45-2	10	1	1	4	4	2	2	15	170	<b>B</b>
	4	180	R4GN45-4	10	1	1	4	4	5	5	20	300	<b>C</b>
60	1.2	72	R4GN60-1.2	10	1	1	4	4	1	2	10	130	<b>B</b>
80	1	80	R4GN80-1	10	1	1	4	4	1	2	10	130	<b>B</b>
120	0.3	36	R4GN120-0.3	100	0.1	1	7	7	1	2	10	100	<b>B</b>
	0.6	72	R4GN120-0.6	100	0.1	1	7	7	1	2	10	160	<b>B</b>

\*1 : Values in local control. It is possible to set more fine values for remote control by digital communication. (Refer to page 7 [Digital Control Function])

\*2 : For the AC variation  $\pm 10\%$

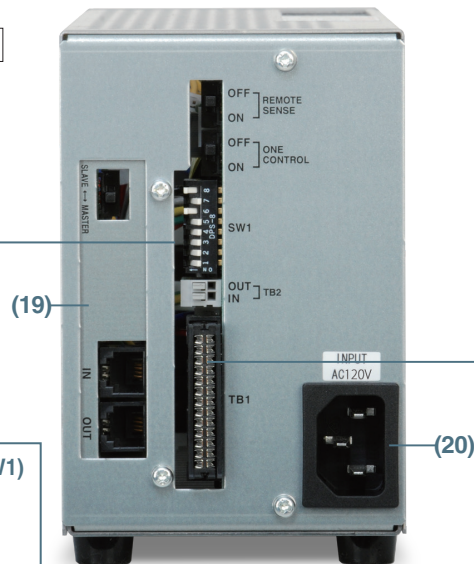
\*3 : For the load variation 10% to 100%

# Explanation for Functions

Front Panel



Rear Panel



## 26-pins Connector for Standard Functions

- output control
- output monitor
- status output
- ON/OFF, remote switch
- remote sensing

## Setting Switch for Function (SW1)

### [Voltage control]



### [Current control]



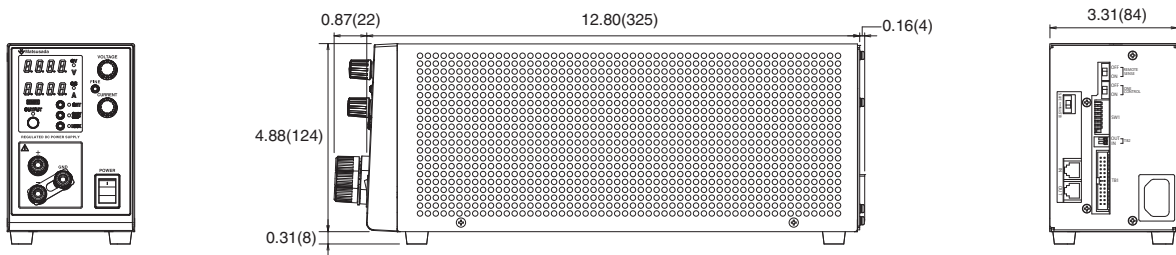
- (1) Indicate output voltage and OVP setting
- (2) Indicate output current and OCP setting
- (3) Display remote programming  
Lighten during remote control of voltage or current.
- (4) Display OUTPUT  
Lighten during output ON.
- (5) ON/OFF Switch, output  
This use for output ON/OFF at local and reset of protection functions.
- (6) Display LAN  
Only for -LMi optional model

- (7) + Output Terminal
- (8) GND Terminal
- (9) – Output Terminal
- (10) Setting Dial for output voltage/OVP
- (11) Display Voltage Mode
- (12) FINE Switch  
Changeover setting digits at setting output voltage/current.
- (13) Display Current Mode

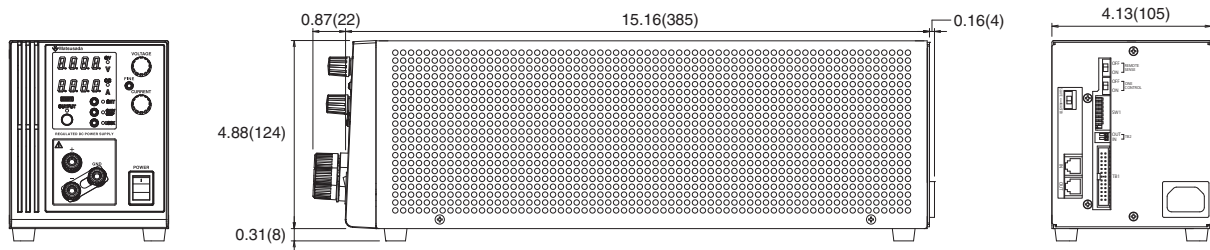
- (14) Setting Dial for output current/OCF
- (15) Preset Switch, output
- (16) Setting Switch, OVP/OCF
- (17) Setting Switch, Key Lock
- (18) ON/OFF Switch, Power
- (19) Interface Board  
Picture shows ones at optional –LGmb.
- (20) Input Terminal

# Dimensions [inch (mm)] Digital interface on the rear panel is equipped only when optional -LCK, -LEc, -LGmb, -LGob, -LUs1 or -LRs is selected.

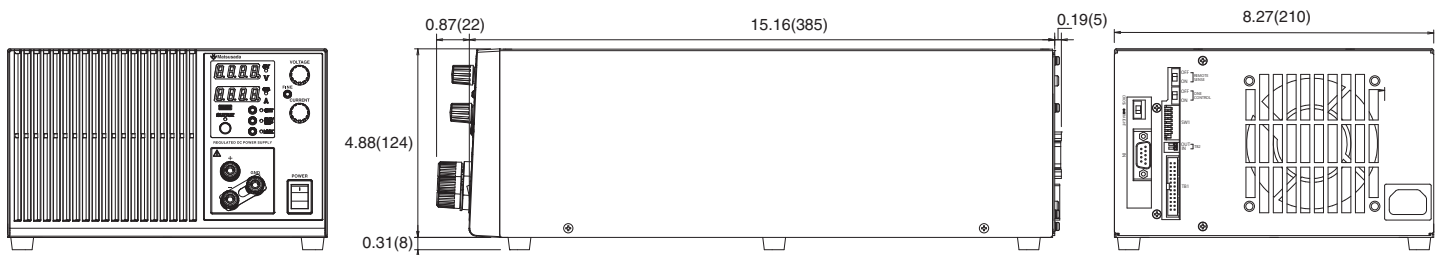
**[A]** Weight: approx. 3 kg



**[B]** Weight: approx. 6.5 kg



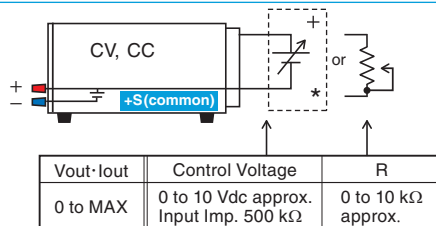
**[C]** Weight: approx. 10 kg



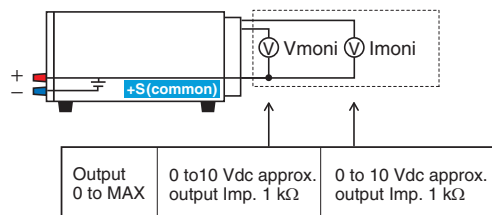
# Standard Functions (R4G series)

## Remote Control

### Output Control

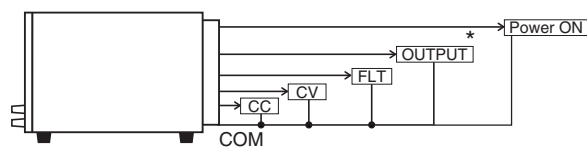


### Output Monitor



\* Output control external signal should not be grounded but floating potential. + output terminal and common become same potential. Power supply can not be controlled or could be damaged if common is grounded via way of customer's equipment. Please be aware that external control voltage signal could accidentally be connected to the ground of other equipment in case, for example, multi-channel, non-isolated PLC is in use.

### Output of Status



[Power ON] ON at Power ON status

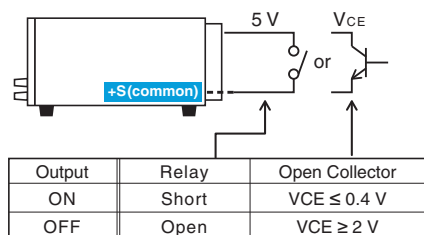
[OUTPUT] ON at OUTPUT status

[FLT] ON at abnormal status [ON for the status of OVP, OCP and Interlock (LD).]

[CV] [CC] ON at CV or CC status

COMMON is floating with the output of Open Collector for each COMMON.  
**Isolation voltage 30 Vdc, Sink Current ≤ 5 mA**

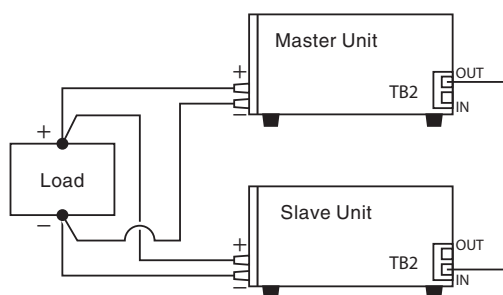
## Remote Switch ON/OFF



\* The common side and the +output terminal are set to the same potential. Please use the floating control voltage without grounding, or set the common of your equipment to the same potential. If you do not follow it, the power supply cannot be controlled properly and may cause malfunction. When using a multi-channel Programmable Logic Controller (PLC) or non-isolated PLC, note that there is a possibility of connection to other device grounds through the PLC.

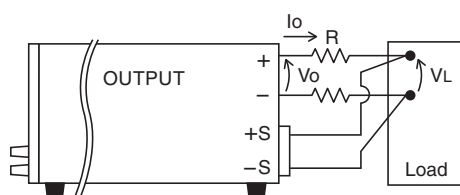
- Sink current 1 mA
- Logic of OUTPUT can be made reverse.

## Parallel Operation by One Control



One master unit can control several slave units that are parallel connected. It is possible to increase output current by connecting 2 units of the same model power supply in parallel.

## Remote Sensing



Prevent to degrade stability due to voltage drop ( $V_o - V_L$ ) by resistance (R) in output wiring or contact resistance. (up to 0.5 V)

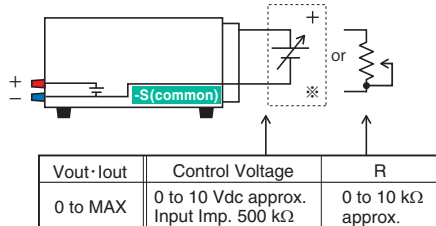
(Except for R4G360-0.2, R4G650-0.1)



# Standard Functions (R4GN series)

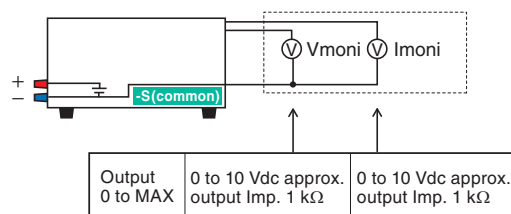
## Remote Control

### Output Control

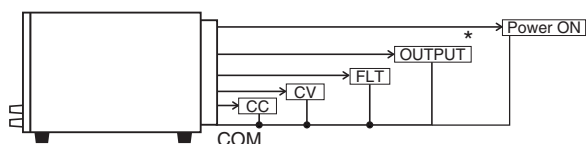


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### Output Monitor



### Output of Status



[Power ON] ON at Power ON status

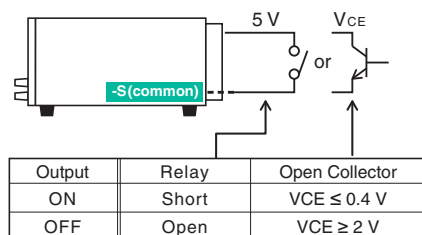
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**Isolation voltage 30 Vdc, Sink Current ≤ 5 mA**

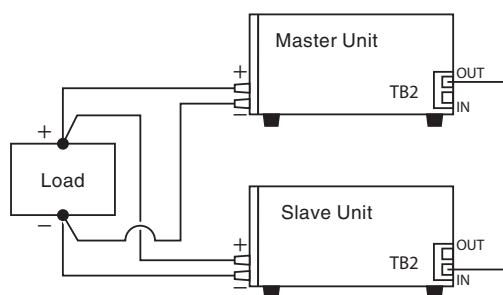
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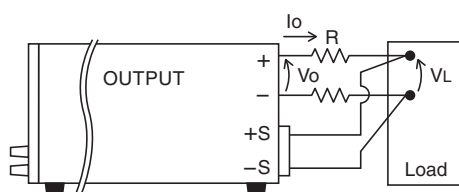
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## Parallel Operation by One Control



One master unit can control several slave units that are parallel connected. It is possible to increase output current by connecting 2 units of the same model power supply in parallel.

## Remote Sensing



Prevent to degrade stability due to voltage drop ( $V_o - V_L$ ) by resistance (R) in output wiring or contact resistance. (up to 0.5 V)

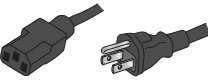
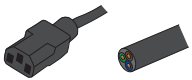
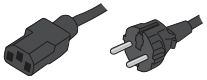
# Specifications

These specifications, unless otherwise specified, at maximum rated output after two hours of warm up, and scope of application is between 10% and 100% of maximum rated output.

<b>Input Voltage</b>	120 Vac $\pm 10\%$ , 50 Hz/60 Hz, single phase
<b>Output Control</b>	[Local] Constant Voltage: Rotary Encoder on the Front Panel Constant Current: Rotary Encoder on the Front Panel [Remote] Constant Voltage: External Control Voltage 0 to 10 Vdc or External Variable Resistor 0 to approx. 10 k $\Omega$ Constant Current: External Control Voltage 0 to 10 Vdc or External Variable Resistor 0 to approx. 10 k $\Omega$
<b>Stability</b>	0.05%/8 H of maximum output voltage
<b>Temp.Coefficient</b>	0.01%/°C typ. of maximum output voltage, 0.02%/°C typ. of maximum output current
<b>Output Display</b>	- Output Voltage: 4-digit digital indicator, accuracy $\pm (0.3\% \text{ rdg} + 2 \text{ digit})$ - Output Current: 4-digit digital Indicator, accuracy $\pm (0.5\% \text{ drg} + 3 \text{ digit})$
<b>Monitor Output</b>	- Output Voltage Monitor: 10 V/max. output voltage - Output Current Monitor: 10 V/max. output current
<b>Protection</b>	- Over Voltage Protection (OVP): Cut off the output at the set point - Over Current Protection (OCP): Cut off the output at the set point Range of set: approx. 5% to 110% of rating Setting Method: Rotary Encoder on the Front Panel Reset: Manual reset with Output Switch or Remote Switch - Power Failure Protection: Return of power supply after power failure recovery is as follow At Power Fail. Protec. (=Re-output Prevent.): Manual return with OUTPUT switch or remote switch At Power Fail. Protec. (=Re-output Prevent.) canceled: Automatic return - Interlock (LD)
<b>Miscellaneous Functions</b>	- ON/OFF with Remote Switch (TTL or External Relay), Prevention of Miss Operation by Locked Key - Last set Memory, Remote Sensing (up to 250 V models), - Signal Output for Status (CV, CC, FLT, OUTPUT, Power ON) - Delayed Trigger Function: Individual setting for ON Delay/OFF Delay (0.0 to 99.9 sec) - Multi Set Function: Memory "a" to "t" for voltage or current can be set separately with usual preset of voltage or current.
<b>Transient Response Time</b>	Recovery Time 50 $\mu\text{s}$ (at constant voltage operation, time returned to within 10% of set voltage for load change of 10% to 100%)
<b>Operation Temperature</b>	0 to +40°C *
<b>Storage Temperature</b>	-20°C to +70°C
<b>Relative Humidity</b>	20% to 80%, non condensing
<b>Strength Voltage Dielectric</b>	For 1 minute at 1000 V between the input power supply and the output terminal and between the input power supply and the chassis.
<b>Grounding Withstand Voltage</b>	- 80 V or less output models: $\pm 250 \text{ Vdc}$ (Grounding + and – terminals are possible) $\pm 500 \text{ Vdc}$ when -LH option is selected (Grounding + and – terminals are possible) - 120 V to 360 V output models: $\pm 500 \text{ Vdc}$ (Grounding + and – terminals are possible) - 650 V output model: $\pm 650 \text{ Vdc}$ (Grounding + and – terminals are possible)
<b>Accessories</b>	- Instruction Manual $\times 1$ - AC input cable, 3-pin for single phase type $\times 1$

\*: When installed on a rack, 3.94-inch (100 mm) and larger space should be made up and down, but if it is not able, make forced cooling.  
As we have a rack mounting adapter equipped forced cooling fan, please inquire our sales staff about it.  
180 W output model is of forced cooling type. Ventilation hole for forced cooling is provided on the rear panel. If installed on a cabinet so that 11.81-inch (300 mm) and larger space can not bet kept, make a measure like as forced ventilation.

## AC Input Cable

Standard	Standard For -L(200 V), -L(220 V), -L(240 V) option	Sold separately
CABLE TYPE 1	CABLE TYPE 3	CABLE TYPE 4
125 V/10 A	250 V/10 A	250 V/10 A
		

## Digital Control Function (at selected various optional digital interface)

Control Function	Output ON/OFF setting Display of various Status (Output/Input/OVP/OCP/Door Switch) Digital Control Max. 32 units Package Control Multiple Units Hooked	
Write Function	Setting Output Voltage/Current	Percent Mode <sup>*1</sup> , Voltage or Current Mode <sup>*2</sup>
	Setting OVP/OCP	Percent Mode <sup>*1</sup> , Voltage or Current Mode <sup>*2</sup>
Read Function	Measured Output Voltage/Current	Percent Mode <sup>*1</sup> , Voltage or Current Mode <sup>*2</sup>
	Setting Output Voltage/Current	Percent Mode <sup>*1</sup> , Voltage or Current Mode <sup>*2</sup>
	Setting OVP/OCP	Percent Mode <sup>*1</sup> , Voltage or Current Mode <sup>*2</sup>

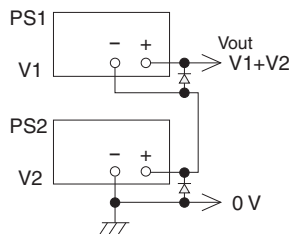
<sup>\*1</sup>: Minimum setting unit for each model is one ten-thousandth (100.00%).

<sup>\*2</sup>: Minimum setting unit for each model is one count of the indicator.

## Examples of Applied Operation

R4G series, the output voltage and the output current can be increased by connecting the same models in series or parallel operation. As to the control, the use of one control in parallel operation or digital master/slave control in -LGmb option is available. External I/O control connector (TB1) is connected to the positive output for R4G, and negative output for R4GN so do not connect more than two power supply units.

### Series Operation

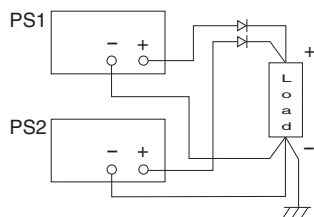


Sum total of output voltage is 250 V.

Accordingly, ones of exceeding 250 V its output voltage can not operate in series.

Output current is one of the smallest power supply.

### Parallel Operation

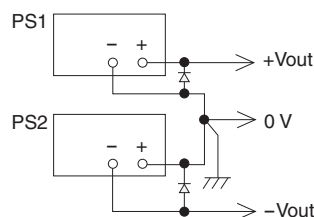


Make all setting voltage the same value.

Output current is sum total of one of each unit.

Then, make OVP level of all power supplies the maximum to prevent damage.

### Split Operation

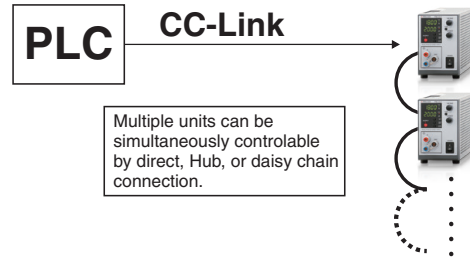


+ and - output are possible.

# Option

## -LCK: CC-Link Interface Board \*1 \*3

CC-Link master unit such as PLC can control power supplies with CC-Link compatible with CC-Link ver1.10, possible to operate as CC-Link device station. One unit occupies two stations, maximum 32 units can be controllable. Please refer to CC-Link association web for CC-Link detail.



## -LGmb: Digital Interface Board \*1 \*2

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

-LGmb: Digital interface + modular cable 2 meters length

-LGmb(Mc0.15): Digital interface + modular cable 0.15 meters length

-LGmb(Mc0.5): Digital interface + modular cable 0.5 meters length

### 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.

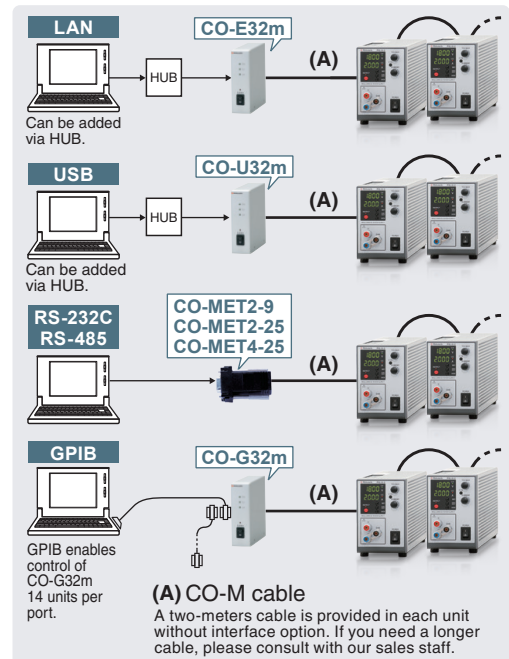
#### - CO-MET4-25: Adapter for RS-485 (25 pin)

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



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

## -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.

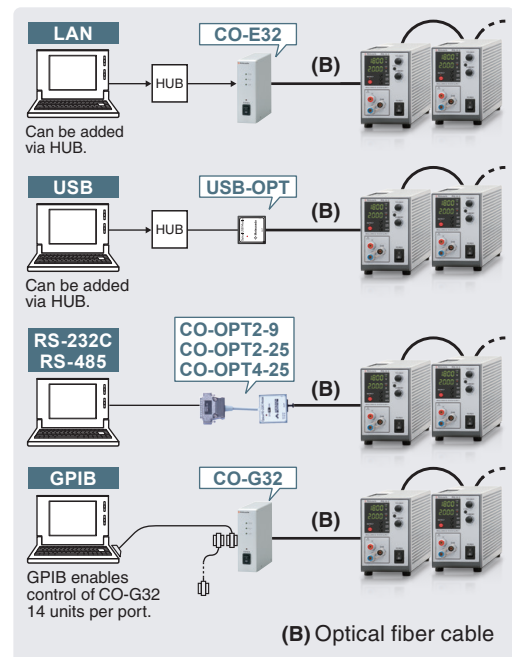


### - CO-G32: Adapter for GPIB

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



For details, refer to CO/USB series datasheet.



## -LH: Higher isolation voltage (only for up to 80 V models)

This option makes the isolation voltage to be  $\pm 500$  Vdc, enabling extended capability of series operation.

## -LMI: Multi digital interface \*1 \*3

Digital control is available with LAN, USB (USB/TMC), RS-485 (Multi-Drop). (These interfaces cannot be used simultaneously. RS-485 supports FULL DUPLEX communication only.)

Also, the option employs IVI driver corresponding to SCPI command, enabling faster development of control program using programming languages including Labview, VisualBasic, and C#.



## -LRs: RS-232C Interface Board \*1 \*2

Digital Control is available with RS-232C. It is possible to hook 1 unit per 1 COM port equipped on a personal computer.

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

Digital Control is available with USB. It is possible to hook 1 unit per 1 USB port equipped on a personal computer. If number of USB ports equipped on the PC to be used is lacking, use a USB hub. But there is a case that the hub is not operated correctly.

OS for Personal Computers: Microsoft Windows Xp/Vista/7/8/10 Both of 32 bits and 64 bits are applicable

Microsoft and Windows are registered brands of Microsoft Corp. in USA and other.

## -LZ: Handle for carrying

It is available for all the models.

• Dimension [A] and [B]: getting higher by 8 mm • Dimension [C]: getting higher by 10 mm

## -L(200V), -L(220V), -L(240V)

It is applicable to above input voltages other than standard 120 Vac.

\*1: Either one of these options is selectable.

\*2: For the detail function of optical interface, USB interface, RS-232C interface and digital interface, please refer to the datasheet of digital controller CO/USB series.

\*3: Only for models of its maximum output voltage 360 V and lower.

### How to Order

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

<Example> R4G18-2-LGob(Fc10)HNcn(200V), R4G120-0.6-LCKNcn(240V)





# TECHNICAL NOTE

## Connection and Application Operation

### ■ Connection of Loads

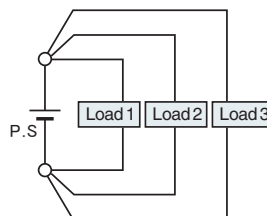
- Connect short with leads of sufficient thickness.
- Use PVC wire (105 °C) which endure enough to applied voltage. Consideration of ampacity and limitation for lead wire length by sensing (0.5 V) requires for wiring to the load.

AWG	mm <sup>2</sup>	Maximum current [A]
22	0.327	0.92
20	0.519	1.5
18	0.823	2.3
16	1.31	3.7
14	2.08	5.9
12	3.31	9.3
10	5.26	15
8	8.37	24
6	13.3	37
4	21.1	60
2	33.6	94
1	42.4	119
0	53.5	150
00	67.4	190
000	84.9	239

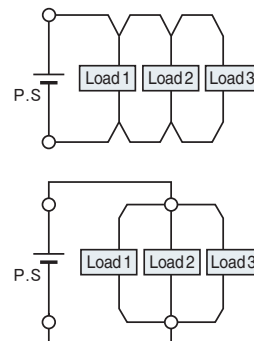
Use several cables or copper bar for model over 239 A.

### ■ Paralleling of Loads

**Good**



**Not Good**



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

## When Select Direct-Current Power Supplies

► Please Read Surely

Products on this catalogue are manufactured on consideration for safety fully as direct current power supplies, but please observe the Instruction Manual for operation and earth always grounding terminals for safety.

Products on this catalogue are manufactured under the premise that applied on ground potential or in the range of series operation. Please consult our sales staff when use them on high potential floating.

Products on this catalogue are manufactured on consideration for protection against electric discharge from loads fully, but when use them for some of continuous discharge like as spattering or for special withstand voltage test, please consult our sales staff in advance.

We recommend contact our sales staff and inform them your requirement prior to your selection in order to secure safety as power supply equipment and make your best fit selection.

# PSS2en

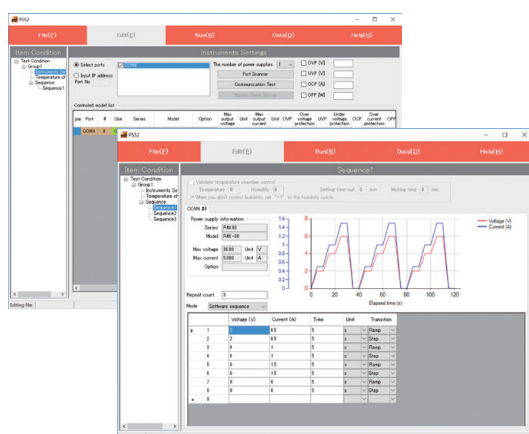
The sequence software for power supplies and electronic loads

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.

## FEATURE

- Set-up of various sequences with simple action only inputting voltage, current and time is possible.
- Logging data can be saved in real time with the monitoring function.
- Collective control or individual sequence operation of up to 512 power supplies and electric loads is possible.
- Test continuously changing environment load of temperature or humidity in coupled operation with thermostatic chamber manufactured by ESPEC Corp. is possible.
- Packaged control in one application soft is possible if power supplies or electronic loads applied in combination with PSS2 are of many different types.
- Communication is possible using LAN port, USB (TMC) port, RS-485port in addition to RS-232C port (Only for models mounted Multi digital interface option (-LMi))
- Direct control of output voltage and current value of the power supplies is possible. (Only for models included in PSS2-DCPS and PSS2-GP)

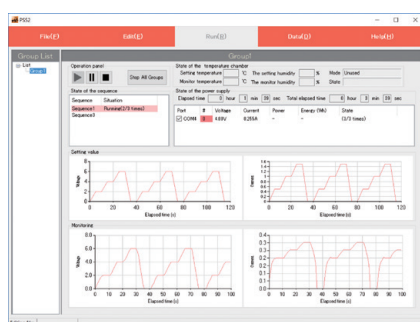
## EXAMPLES FOR OPERATION OF PSS2en



1

### Set-up test condition

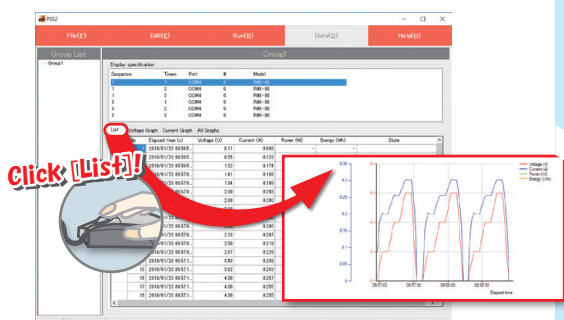
Make-up test conditions like as setting the power supplies or action sequence and so on. Number of settable sequence pattern is max.16, it is possible to set various test conditions fitted the target like as selection of the action mode and setting of any protection function, etc.



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 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 values of each sequence, the individual graph or the packaged graph. Also it is possible to output measured data with CSV style and then to sum up or analyze them with the spreadsheet software.

# 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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FAX(704)496-2643

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FAX+81-6-6150-5089

International office in Japan 9:00-17:00

### We follow-up customers from japan



**Contact Us**

<https://www.matsusada.com/>