Further power-up!!
Ultra compact high-power DC power supply.

[RF series] Ultra low noise · Compact Desktop

6V to 650V, 350W to 1.2kW GPIB RS-232C RS-485 USB

**RF series is a desktop DC power supply well designed for easy operation.
Ideal unit for quick and precise testing on bench.**

RF series, which is 1/3 of the size and 1/5 the weight of conventional power supplies, has been receiving good reputation from market. Output voltage range is as high as 650V type to meet users' diverse requirements.

RF series is a ideal power supply for users who expect the demand of more power in the future or not satisfy with the present output range, or who expect better performance with less cost.

For aging of electrical parts
For testing and aging of semiconductor, capacitors, motor,DC/DC converter, inverter, backlight

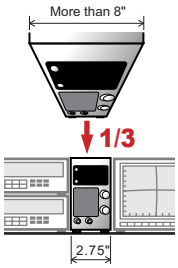
For automobile electrical parts
For evaluation of motor, electrical device, switch, relay, solenoid,harness and lamp of electrical vehicles.

For display devices
For evaluation of display device, communication device or electromagnet.

Research, development and other applications
This model does not take much space. In the limited space like laboratory this supply saves space.

Ultra compact· Space saving

Footprint is reduced down to 1/3 of the series regulator supply that used to be the main stream of high-power power supply. This will be a merit at laboratory or production line where various testing machines are. Also it is easy to carry as a shared power supply. No need to struggle anymore to keep a place for power supplies even when many of supplies are required.



POWER UP! 400W output

Output of RF series has been upgraded from 350W to 400W without sacrificing dimension or cost. Power supply facilities often need to be upgraded to bigger power soon after introduction because today's speed of development of electrical parts or display devices is so fast. RF series, with 10% allowance, is the best selection that eliminates the worry of having to introduce new power supplies in the near future.

Wide range of lineups

RF series has wide output range up to 650V even though this is a switching power supply, and good for such applications such as display device or capacitors, which require higher voltage. 49 models from 6V to 650V and from 200W to 1200W are in the lineup so you can select the best model for you purpose.

Complete protection circuit!

RF series can be used for diverse applications from automatic line to experimental device for educational purpose because of the safe design that include over voltage protection (OVP), over temperature protection (OTP), input brownout (ACF), blackout protection and other various protection circuit.

- Over voltage protection (OVP)
- Over temperature protection (OTP)
- Input brownout (ACF)
- Complete protection circuit!

Fully equipped with remote function!

They are equipped with status signal output that shows status of supply such as monitor for output voltage/current, operation mode of CV/CC, over voltage, over temperature, AC brownout etc. as well as remote ON/OFF, output voltage/current control and OVP setting being able to be controlled externally.
Also computer control is possible by building in interface of GPIB, RS-232C, RS-485 and USB. (option) A system with integrated measuring instrument and control device can also be constructed, making it possible to speed up testing and development. It is also easy to set up a system in combination with high-voltage power supply (maximum 150kV) of Matsusada Precision.

LINE UP

Output Voltage (V)	Output Current (A)	Output power (W)	MODEL	Ripple (mVrms)	Ripple (mArms)
0 to 6	0 to 130	780	RF6-130	10	260
	0 to 180	1080	RF6-180	15	360
0 to 10	0 to 80	800	RF10-80	10	160
	0 to 120	1200	RF10-120	10	240
0 to 15	0 to 40	600	RF15-40	10	80
	0 to 54	810	RF15-54	10	110
	0 to 80	1200	RF15-80	10	160
0 to 20	0 to 40	800	RF20-40	10	80
	0 to 60	1200	RF20-60	15	120
0 to 30	0 to 20	600	RF30-20	10	40
	0 to 27	810	RF30-27	10	60
	0 to 40	1200	RF30-40	15	80
0 to 36	0 to 22	800	RF36-22	10	60
	0 to 33	1200	RF36-33	15	80
0 to 45	0 to 14	630	RF45-14	12	30
	0 to 18	810	RF45-18	15	60
	0 to 27	1215	RF45-27	18	80
0 to 60	0 to 13.5	810	RF60-13.5	12	45
	0 to 20	1200	RF60-20	18	60
0 to 120	0 to 3.3	400	RF120-3.3	30	10
	0 to 6.6	800	RF120-6.6	30	20
	0 to 10	1200	RF120-10	30	25
0 to 160	0 to 2.5	400	RF160-2.5	30	5
	0 to 5	800	RF160-5	30	10
	0 to 7.5	1200	RF160-7.5	30	20
0 to 250	0 to 1.5	375	RF250-1.5	40	5
	0 to 3	750	RF250-3	50	10
	0 to 4.5	1125	RF250-4.5	50	15
0 to 350	0 to 1	350	RF350-1	35	5
	0 to 2	700	RF350-2	40	5
	0 to 3.2	1120	RF350-3.2	50	10
0 to 500*	0 to 0.8	400	RF500-0.8	20	5
	0 to 1.6	800	RF500-1.6	30	5
	0 to 2.4	1200	RF500-2.4	40	10
0 to 650*	0 to 0.6	390	RF650-0.6	50	5
	0 to 1.2	780	RF650-1.2	80	5
	0 to 1.8	1170	RF650-1.8	100	5

* Models with no monitor output terminal on front panel.

OPTION

-LGob	Optical interface board *1 ··· Insulation control with optical communication. See catalog of digital control for optical conversion of each interface. (GPIB/RS-232C/RS-485/USB)
-LUs1	USB interface board *1
-L(200V)	200VAC±10% 1Ø input ··· Input current is 115% of maximum value of 230V input model.
-L(220V)	220VAC±10% 1Ø input ··· Input current is 105% of maximum value of 230V input model.
-L(230V)	230VAC±10% 1Ø input ··· Refer to the above table for input current.
Input cable for AC1Ø (3-conductor type)	2.5 meters standard. Extension with 1 meter increment is possible.
Handle	Carrying handle (600W to 1215W type only)

Add above L mark to the model number when ordering
{e.g} RF6-130-LGob(200V) Handle alphabetical, numerical order

*1. Either -LGob or -LUs1 can be chosen

SPECIFICATION

Output control	Local: Constant voltage: Front panel 10-turn potentiometer Constant current: Front panel 10-turn potentiometer Remote: Constant voltage: External control voltage 0Vdc to 10Vdc or external variable resistor 0Ω to 10kΩ Constant current: External control voltage 0Vdc to 10Vdc or external variable resistor 0Ω to 10kΩ
Voltage regulation	Line: 0.1% of maximum output (for AC±10% input change) Load: 0.1% of maximum output (for 0% to 100% load change)
Current regulation	Line: 0.1% of maximum output (for AC±10% change) Load: 0.1% of maximum output (for 0% to 100% change) (0.2% for RF500V, RF650V)
Stability	0.05%/8H of maximum output
Temperature coefficient	0.02%/°C of maximum output voltage 0.03%/°C of maximum output current
Output display	Output voltage: 3 digit digital meter (accuracy 1%FS±1dgt) Output current: 3 digit digital meter (accuracy 1%FS±1dgt)
Monitor output	Output voltage monitor: 10V / maximum output voltage Output current monitor: 10V / maximum output current
Protection circuit	Over voltage protection (OVP) Output is cut off at a set value. Setting range: 5% to 110% of output voltage Local setting: Front panel 1-turn volume Remote setting: External control voltage 0 to 10Vdc 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 back to normal): Automatic recovery or manual recovery by POWER switch (selectable) Input brownout (ACF) · Blackout protection Output is cut off when decreased by 20% or more. Reset (normal voltage value or after recovery from black out): Manual recovery by OUTPUT switch for blackout protection (re-output prevention function) ; Automatic recovery when blackout protection is canceled.
Other functions	Remote sensing Remote switch ON/OFF (TTL or external relay) Status signal output (CV, CC, FLT)
Transient response time	Recovery time 1ms (when load change of 70%⇔100%)
Operation temperature	0°C to +50°C
Storage temperature	-40°C to +85°C
Storage humidity	0% to 80% RH (no condensation)
Dielectric voltage	· Between input power supply and output terminal, input power supply and chassis AC1500V · Models output voltage less than 350V, between output terminal and chassis DC500V · Models output voltage more than 500V or more, between output terminal and chassis DC650V (for 1 minute each)
Accessories	2.5m input AC cable for 1Ø, 3-conductor type (1) Instruction manual (1) Output terminal cover (1) Remote connector cover (1)

NEW PRODUCT INFO

New model, RK-400 which features 4-digit meter, PFC has released. See RK-400 catalog for details.

::: LINE UP :::

RK6-65, RK10-40, RK15-28, RK20-20, RK30-13, RK36-11, RK45-9, RK60-6.6, RK80-5

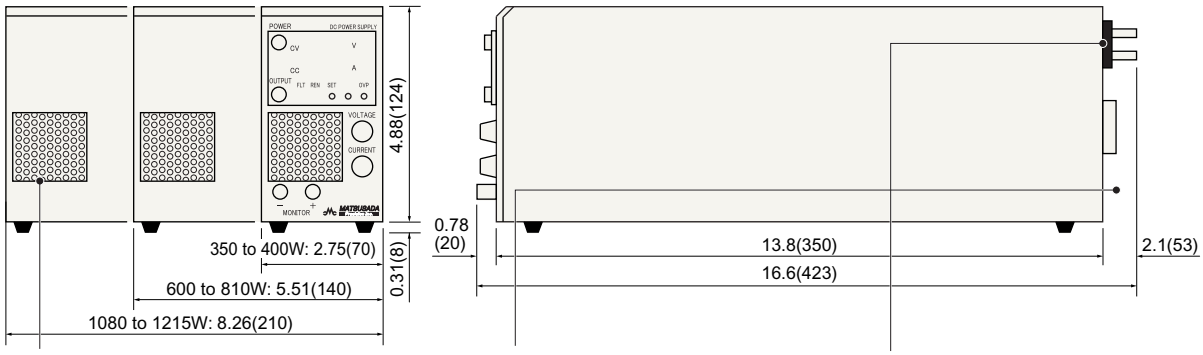
INPUT VOLTAGE / CURRENT

50/60Hz 1Ø input for all models

MODEL / Output power	Input voltage (230V optional)	Input current (Max) *	Rush current (p-p)	Input curr.protection (Fuse)
350W to 400W	115V±10%	8A	45A	10A
	230V±10%	5A	45A	10A
600W to 810W	115V±10%	14A	65A	30A
	230V±10%	9A	65A	30A
1080W to 1215W	115V±10%	23A	100A	30A
	230V±10%	15A	100A	30A

*When rated input voltage.

DIMENSIONS inch(mm)



Exhaust hole

Forced air cooling inside by inhaling the air from front panel.
Please secure a space of 4" or more from panel.

Exhaust hole

There is an exhaust hole on rear panel. When mounting on a cabinet where a space of 12" or more cannot be secured, please arrange a measure such as forced ventilation.

Output bus bar

Fitting screw with output bus bar output wire is M7. Model over 350W equipped with terminal.

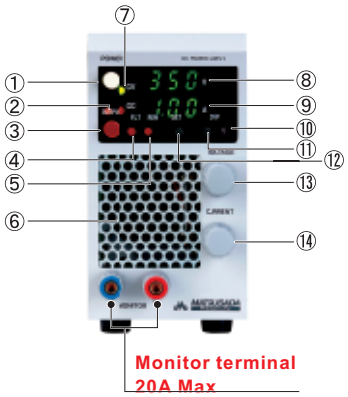
MODEL	Weight (typ)
350 to 400W	6.6lb (3kg)
600 to 810W	12.1lb (5.5kg)
1080 to 1215W	15.4lb (7kg)

Rack mount adapter (separate item)

6 of RF series (400W) can be placed in a 19" rack.
Please ask sales staff for details.

FUNCTION

<Front panel>



① **POWER ON/OFF switch**: This has priority over all operations for safety reasons.

② **OUTPUT ON display LED**

③ **OUTPUT ON/OFF switch**: This is used for urgent OFF or resume output when remote mode as well as output ON/OFF when local mode. Also used for reset of protection functions.

④ **Fault display (FLT)**: This lights up when OVP, OTP or ACF has occurred.

⑤ **Remote programming display**: This lights up when remotely controll in the output voltage and current.

⑥ **Inhaling holes**

⑦ **Operation mode**:
(constant voltage or constant current)

⑧ **Output voltage meter**:
(also for OVP setting display)

⑨ **Output current meter**

⑩ **OVP setting volume**: This sets OVP setting value which is displayed when is pressed down.

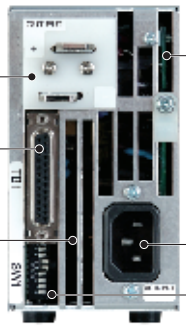
⑪ **OVP setting switch**

⑫ **Output preset switch**: This is pushed down when output is set by digital meter and dial ⑬⑭ then output is done by turning OUTPUT switch ON.

⑬ **Output voltage setting potentiometer**
(10 turns)

⑭ **Output current setting potentiometer**
(10 turns)

<Rear panel>



Output bus bar

Exhaust hole

GPIB / RS-232C / RS-485 /
USB Interface board (option)

AC Inlet
Terminal board input for models over 600W. Fixing screw M4.

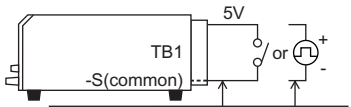
Function setting switch (SW1)

- **Voltage control**
  0V to 10V Local ↔ 0Ω to 10kΩ
- **Current control**
  0V to 10V Local ↔ 0Ω to 10kΩ
- **Over temperature protection**
  Manual reset ↔ Auto reset
- **Blackout protection**
  ON ↔ OFF(ON/OFF by AC)

Remote control connector (TB1)

Remote/Local change

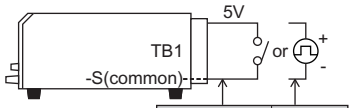
Each of voltage, current, OVP or all the modes can be switched by relay or TTL signal.



MODE	Output relay	TTL
Remote	SHORT	LOW
Local	OPEN	HIGH

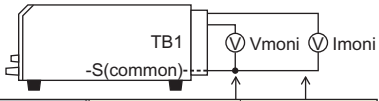
Remote switch ON/OFF

Output can be turned ON/OFF by relay or TTL signal. Logic of signal can be selected by entering 5V.



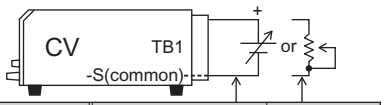
Output relay	TTL
SHORT	LOW
OPEN	HIGH

Output monitor

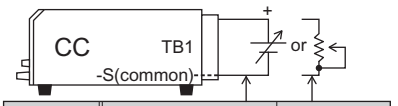


Output 0 to MAX	0Vdc to 10Vdc Output imp.1kΩ	0Vdc to 10Vdc Output imp.1kΩ

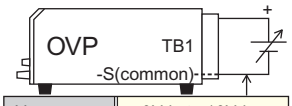
Output control



Vout	Vcon	R
0 to MAX	0Vdc to 10Vdc Input imp.500kΩ	0Ω to 10kΩ MAX 1mA



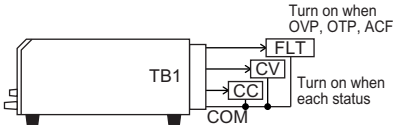
Iout	Icon	R
0 to MAX	0Vdc to 10Vdc Input imp.500kΩ	0Ω to 10kΩ MAX 1mA



Vmax ×5 to 110%	0Vdc to 10Vdc Input imp.200kΩ

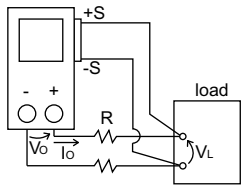
Status output

Common is floating in open collector output of common that is common to each.
Withstanding voltage 30Vdc. Sink current 5mA or less.



Remote sensing

Prevents deterioration of stability by voltage drop (VO-VL) or contact resistance caused by resistance (R) of output wire (up to maximum of 0.5V)



*Please use TB1 in floating as TB1 and minus output is connected inside.

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