

NEW

Both AC output and DC output are available

Ultra compact size

Versatile AC power supply

AC : 0 to 150 V, 0 to 300 V / 1 to 550 Hz / 500 VA

DC : 0 to ± 212 V, 0 to ± 424 V / 330 W

DRJ series



Weight : 5 kg approx.

- ▶▶ The model which is capable of implementing momentary interruption tests on AC input devices is available.

Bench-top size AC / DC dual output power supply

DRJ series

- For experiments
- For production lines
- For evaluation or testing of AC-operating devices

AC 0 to 150 V, 0 to 300 V / 1 to 550 Hz / 500 VA

DC 0 to ±212 V, 0 to ±424 V / 330 W



DRJ Series is a ultra-compact versatile AC power supply which is able to output stable sine wave. It is a new type of AC power supply that addresses both space saving and high-quality output that are required in experiments, evaluation tests, production line and so forth. In spite of its compactness, DRJ series has adopted universal AC input, as well as having universal output terminal on the front panel, allowing users to easily operate borderlessly. In addition, it delivers simple operability in a compact size, allowing first timers to operate easily.

Now model with momentary interruption testing feature(option) is newly added to the lineup, which enable to evaluate or test the equipment with AC input under frequent interruption or unstable input environment.

Lineup

MODEL		A C		D C	
		Lo (0 V to 150 V) range	Hi (0 V to 300 V) range	Lo (0 V to ±212 V) range	Hi (0 V to ±424 V) range
DRJ500	Maximum output power	500 VA		330 W	
	Maximum output current	5.00 A	2.50 A	2.25 A	1.10 A

NOTE

DRJ series are not available to such application that electric power is infused externally or regeneration behavior is made. Therefore they are not suitable for such devices that "returning generated electric power to AC line" or "being connected directly to the commercial system". Please make AC output in combination with our high speed four-quadrant bipolar power supplies and such devices.

Features

Compact body

Since it is a bipolar power supply with switching amplifier method, its volume is extremely compact in approximately 1/6 compared with linear amplifier method. In addition, its compact design with only 140 mm(5.5 inches) width and approximately 5 kg weight allows it to be installed anywhere. The handle makes it easy to carry.

width

5.5 inches

weight

Approx. 5 kg

Wide range of output voltage and frequency

DRJ series can be used for various AC input devices. It is also capable of DC output and thus it can be used in various applications.

AC output	
Voltage	0 V to 150 V / 0 V to 300 V
Frequency	1 Hz to 550 Hz

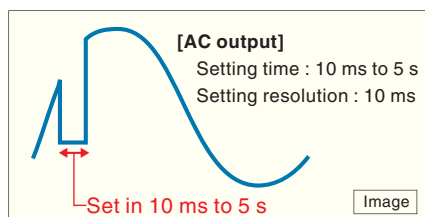
DC output	
Voltage	0 V to ±212 V / 0 V to ±424 V

Simple Momentary Power Failure Mode

It is possible to conduct momentary power failure test of the AC Input devices simply. It allows to reproduce a circumstance where AC Input line is unstable or subject to momentary power failure, thus customers AC input device can be simulated to testing under such environment.

When the momentary power failure operation is needed in three-phase output, the model which is equipped with -LPf1 option is necessary as the model to be in charge of phase U. Please refer to "Options" in page 7.

Setting time of Momentary Power Failure



When this button pressed for more than 1 sec, a display is switched over to the indication which sets the time of instantaneous power failure.

It is able to set the time of instantaneous power failure with 10 ms unit in 10 ms to 5 s by turning the rotary encoder

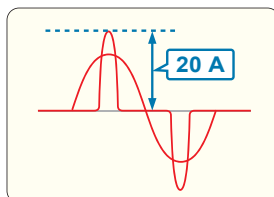
AC Output ON / OFF in accordance with the input AC supply ON / OFF

Standard equipped blackout protection function of the power supply can be unlocked with option.

This allows user to re-start the power supply output after input AC supply's recovery from stoppage, without pressing OUTPUT button on the front panel. Thus remote re-activation without touching / accessing power supply at all can be realized.

Large peak current

DRJ series addresses 20 A peak current (in Lo range). It is capable of outputting up to 4 crest factors and is ideal for capacitor input load.



Constant current output is also available when you use the load to need to limit a flowing current. Please consult our sales office for detail.

Universal type outlet

Power supply has the universal output outlet on the front panel so that various types of worldwide plugs can be used without adaptor.

This helps user's global product development and testing work ever convenient and borderless.



Various output modes

3-phase output

Single phase 3-wire output

Master-slave

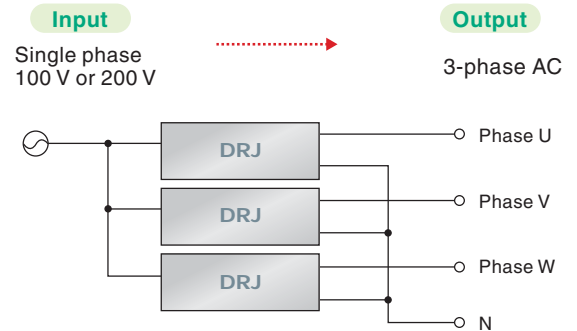
It is capable of 3-phase output, single phase 3-wire output and master-slave connection as options.

3-phase output

It allows 3-phase AC testing and evaluation even on locations where only single phase 100 V / 200 V is available. Its space saving design with $140 \text{ mm}(5.51 \text{ inch}) \times 3 = 420 \text{ mm}(16.54 \text{ inch})$ width even when 3-phase output is configured allows it to be used anywhere.

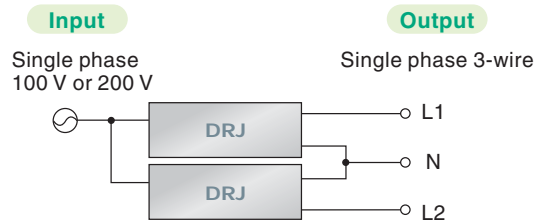


A set of 3-phase AC system can be stored in a 19-inch rack size!
(A special rack mount adapter is available.)



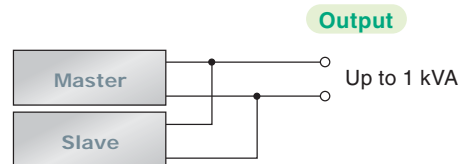
Single phase 3-wire output

It is possible to implement testing and evaluation of single phase 3-wire even in locations with only single phase power.



Master-slave

If a power supply of a larger capacity is necessary, it can be used to construct up to 1 kVA by master-slave connection.
(1 master and 1 slave)



Standard functions and various options

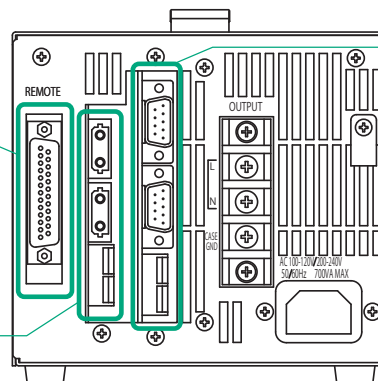
This product is equipped with external control and allows remote control on output on / off, voltage, frequency and range setting and thus it can be immediately used in automation of production lines. Furthermore, it is also possible to use GPIB, RS-232C, RS-485 and USB control as I/F option.

Standard external control

- Output on / off
- Voltage control
- Frequency control
- Range switching
- Fault output
- Door switch
- Remote/local control selection

I/F options

- GPIB
- USB
- Optical interface



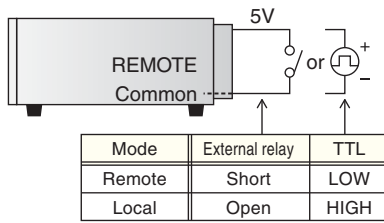
Output options

- 3-phase
- Master-slave
- Single phase 3-wire

Remote control connector (REMOTE)

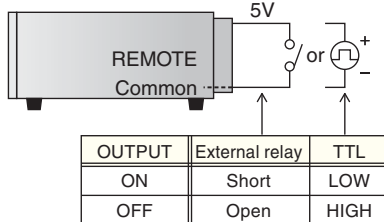
Remote / local switching

Each of voltage, frequency and range or all modes can be switched from relay or TTL signal.



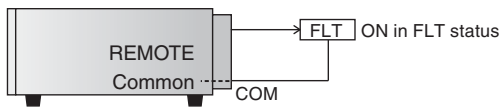
Remote switch ON/OFF

Output can be turned ON / OFF by relay or TTL signal.

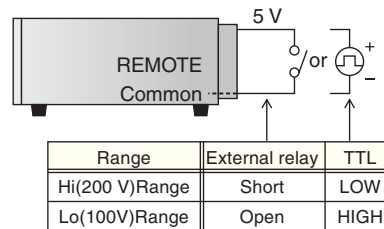
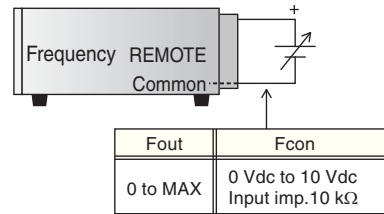
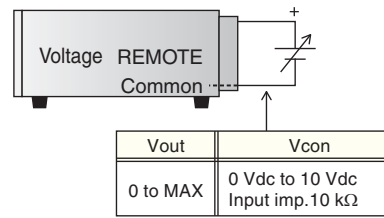


Status output

The common is floating in open collector output.
Withstand voltage 30 Vdc
Sink current 5 mA or lower



Output control

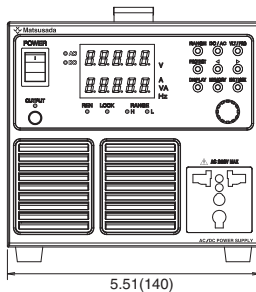


* REMOTE common and chassis are connected internally.

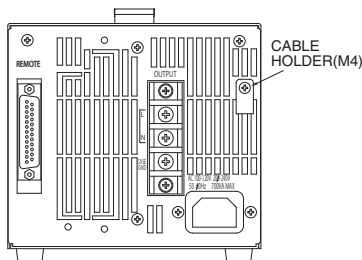
Dimensions inch(mm)

Weight : Approx. 5 kg approx.

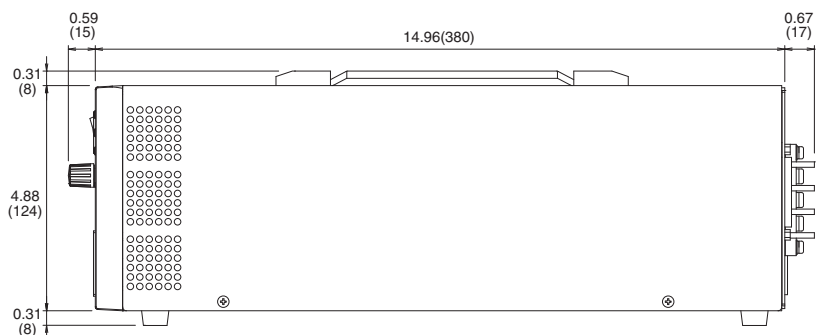
Front



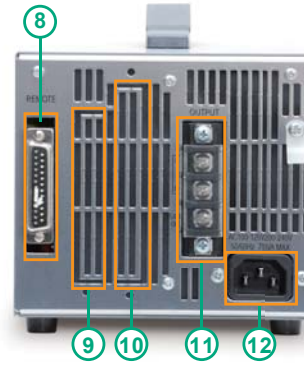
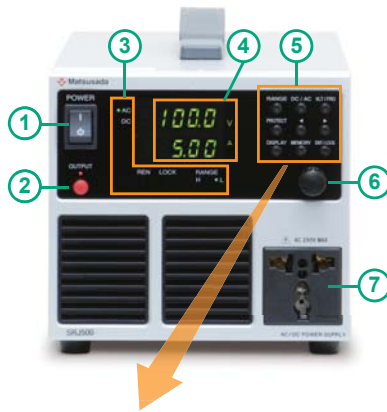
Rear



Side



Functions (These images are standard model.)



- a** Switch RANGE: Switches the output voltage range (H⇔L).
- b** DC / AC : Switches the DC / AC mode (DC⇔AC).
- c** Voltage / frequency : Switches the voltage / frequency setup mode.
- d** OCP / OVP / OPP : Switches to momentary interruption time setting mode when with -LPfI option
When -LPfI option is selected, switches the time of instantaneous power failure setup mode.
- e f** Arrow keys : Moves the digit for quick setup.
- g** Switch DISPLAY : Switches among frequency, current and power indications in order.
- h** Memory : Switches to memory reading mode or memory recording mode.
- i** ENTER / LOCK : Used as ENTER function or to determine the memory mode. It is also used to LOCK the operation system.

1 POWER switch
POWER ON / OFF switch

2 OUTPUT button
Output ON / OFF switch

3 Status display
Indicates the status of each power supply.
AC, DC : Indicates the power supply output mode (AC / DC).
REN : Lights up when standard remote control or optional USB, GPIB or optical communication control is enabled.
LOCK : Invalidates the key operations.
RANGE : Indicates the output range under each mode.

4 Display
The power supply output value is indicated as TRUE RMS.
Upper value : Indicates the voltage.
Lower value : Indicates the current, power or frequency depending on the setting. In addition, fault status are indicated in letters when protective functions are activated.

5 Control keys
Frequently used functions for the best usefulness

6 Rotary encoder
Sets up the voltage/frequency or protective memory functions.

7 Output outlet
The universal output outlet that various types of worldwide plugs can be used without adaptor.

8 Connector for remote control
As standard functions, remote switch, door switch, external voltage control, external frequency control and external range control can be used.

9 Optional slots for digital communication

USB option

Connection to the USB port of PC enable remote control via USB.

GPIB option

For GPIB connection

Optical communication option

Optical communication for isolated control, which minimize the noise or control with different electrical potential. It can be combined with USB, GPIB, RS-232C or RS-485 by using optical conversion adapters.

10 Optional slots for functional expansion

3-phase output option

3-phase AC can be output by controlling 3 units simultaneously. It is capable of outputting 0 – 259 V in Lo range and 0 – 519 V in Hi range during the 3-phase mode.

Single phase 3-wire output option

Single phase 3-wire output can be addressed by controlling 2 units simultaneously.
(0 – 300V in Lo range and 0 – 600V in Hi range)

Master-slave option

Output current can be doubled by connecting the units in parallel. It is possible to connect 1 slave to 1 master.

11 Output terminal board

12 Input inlet

The input voltage is automatically switched between 90 to 132 V and 180 to 250 V. It supports worldwide input and has built-in power factor correction circuit.

AC input cable

CABLE TYPE 1	CABLE TYPE 3	CABLE TYPE 4
125 V / 10 A (Standard)	250 V / 10 A (Option)	250 V / 10 A (Option)

Specifications

Input	Input voltage : 90 to 132 / 180 to 250 VAC, automatic switching 50 / 60 Hz, single phase Input current : 7 A typ. (at 100 VAC max output) 3.5 A typ. (at 200 VAC max output)	Output frequency setting	Local : By front panel rotary encoder Remote : External control voltage Fcon-in = 0 to 10 Vdc
Efficiency	70 % or better (under rated power output)	Frequency setting accuracy	0.03 % or smaller (in 20°C environment, output frequency ≥ 40 Hz)
Power factor	0.9 or better (under rated power output)	Temp. coef. of frequency	0.1 Hz or smaller (under ±10°C environmental change)
Output voltage setting range	Lo (100 V) range : [AC] 0 to 150 V [DC] 0 to ±212 V Hi (200 V) range : [AC] 0 to 300 V [DC] 0 to ±424 V	Output display	Voltage measurement Resolution : 0.1 V(rms) Accuracy(*1) : 1.5 %F.S±1 dgt (when DC or 40 Hz to 550 Hz) Current measurement Resolution : 0.01 A(rms) Accuracy(*2) : 1.5 %F.S±1 dgt (when DC or 40 Hz to 550 Hz) Power measurement Resolution : 1 VA
Number of output phases	Single phase	Protections	Output short-circuit protection, overvoltage, overcurrent, overpower, input voltage abnormality and overtemperature protection
Output frequency	DC, 1 Hz to 550 Hz	Other functions	Remote switch ON / OFF (TTL or external relay) Door switch (external relay), remote voltage range switching, Remote frequency switching, fault (FLT) status output, Presetting function (10 memories)
Maximum output peak current	4 times the maximum output current (crest factor= 4)	Temperature	Operating : 0 to +40°C Storage : -20°C to +70°C
Output voltage control	Voltage range : Lo (100 V) and Hi (200 V) selectable by front panel switch Voltage control : Local : By front panel rotary encoder Remote : By external control voltage Vcon-in = 0 to 10 Vdc	Storage humidity	20 % to 80 %RH (no condensation)
Voltage regulation	Line : ±0.15 % (for ±10 % change of AC) Load : ±0.15 % (for 100 V), ±0.3 % (for 200 V)	Output terminal	Universal type outlet, terminal board
Voltage stability	0.05 % / Hr	Accessories	AC input cable 3 pin type 2.5 m single phase(1) Output terminal cover(1) Remort connector cover(1) Instruction Manual(1)
Temp. coef. of voltage	±0.05 % / °C		
Output waveform distortion	0.5 % at 50 / 60 Hz 80 V to 150 V, 160 V to 300 V (when load power factor is 1)		

(*1) At AC mode / 30 V to 300 V, DC mode / 42 V to 424 V.
(*2) When the crest factor is less than 3, and output current is between 10 % and 100 % of maximum output current.

Options

-LPfi	Simple momentary power failure testing function (*1) (*5) It is able to set time of instantaneous power failure in 10 ms to 5.00 s. (Setting resolution : 10 ms)	-L1p3wm <input type="checkbox"/> -L1p3ws <input type="checkbox"/>	Single phase 3-wire connection (*3) (*4) Single phase 3-wire output mode can be used.
-LUs1	USB interface board (*2) Digital control is enabled through USB. [The item which can be controlled] Remote switch ON / OFF, switch of voltage range, voltage control, frequency control, status, voltage and current monitor OS for PC : Microsoft Windows XP / Vista / 7 / 8 (Both of 32-bit and 64-bit are applicable.) (Microsoft and Windows are registered trademark of Microsoft Corp. in USA and other.)	-LPhu <input type="checkbox"/> -LPhv <input type="checkbox"/> -LPhw <input type="checkbox"/> -LMsm <input type="checkbox"/> -LMss <input type="checkbox"/>	Multi-phase connection (*3) (*4) (*5) 3-phase output mode can be used. 1 unit of DRJ with each option will be needed. Parallel connection (*3) (*4) Output voltage can be increased by parallel connection. The optional configuration will allow connection of 1 slave unit (-LMss) to 1 master unit (-LMsm). (To change the combination, it must be adjusted in our factory.)
-LGob	Optical interface board (*2) For isolated control with optical communication Remote switch ON / OFF, voltage range switching, variable voltage, variable frequency, status, voltage and current monitor For optical conversion of various I / Fs (GPIB, RS-232C, RS-485 and USB), please see the catalog for digital controller "CO Series."	-LNh <input type="checkbox"/>	No handle The handle for carrying will not be equipped.
-LGb	GPIB interface board (*2) Remote switch ON / OFF, voltage range switching, variable voltage, variable frequency, status, voltage and current monitor		
-LN	Cancellation of blackout protection Power supply output can be activated ON / OFF in accordance with the input AC supply ON / OFF since the power supply can be chosen to re-activate output at the same time when the input AC supply recovers from blackout.		

Ordering procedures

To order, please add the above option codes to the model number.
(Ex.) DRJ500-LGbNNhPfiPhu, DRJ500-NNhPfiPhuUs1, DRJ500-LGobNNhPfi1p3wm (Add in order of alphabets and numerical.)

- *1) When the rigorous examination in accordance with a standard is required, it is necessary to use an amplifier type power supply.
- *2) These options cannot be selected together.
- *3) It is possible to choose only one from (-L1p3wm, -L1p3ws), (-LPhu, -LPhv, -LPhw) or (-LMsm, -LMss). It is necessary to equip each power supply with every options.
- *4) To use an interface option (-LUs1, -LGb or -LGob), add only to the master unit (-L1p3wm, -LPhu or -LMsm). It is not required for the slave unit.
- *5) If the momentary power failure operation is needed in three-phase output, -LPhu optional model which is also equipped with -LPfi option is necessary. -LPhv or -LPhw optional models need not necessarily be equipped with -LPfi option. However, when the momentary power failure operation is needed in single-phase output, that is, when one DRJ is used alone, -LPfi option is necessary. Therefore, when DRJ may be used alone and asked for the momentary power failure operation, it is necessary to equip each DRJ with -LPfi option.

It is also possible to install this product in a 19-inch rack by using the special rack mount adapter (model: RMOE-133H-DRJ).
For details, please contact our sales personnel.)

