

DRK Series



High Power & Versatile AC Power Supplies

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

DC : 0 to ±212V / ±424V

DRK series

- High Power of 2kVA, 4kVA is realized in a Wonder Compact Size!
- High quality output equivalent to ones of linear amplifier system.
- The models which can amplify external input signal in its electrical power as an amplifier are also available.



Versatile AC Power Supplies



Models applicable to test for the simplified instantaneous power failure are available. Please contact nearest our sales branch for detail.

Lineup

Output Wiring Connection	Max Output Power (VA)	Model		Max Output Current / Max Output Peak Current (A)			
			Total	AC		DC	
			Q'ty	Lo range (0 to 150V)	Hi range (0 to 300V)	Lo range (0 to ±212V)	Hi range (0 to ±424V)
	1.2k	DRK1.2k ^{*1}	1	12 / 48	6 / 24	5.4	2.7
	2k	DRK2k	1	20 / 80	10 / 40	9	4.5
Cingle Dhoos	4k	DRK4k ^{*1}	1	40 / 160	20 / 80		/
Single Phase	4k	DRK2k-LMsm / -LMss ^{*1 *2}	2	40 / 160	20 / 80		
	6k	DRK2k-LMsm / -LMss × 2-unit *1 *2	3	60 / 240	30 / 120		
	8k	DRK2k-LMsm / -LMss × 3-unit *1 *2	4	80 / 320	40 / 160] /	
3-Phase	6k	DRK2k-LPhu / -LPhv / -LPhw *1 *2	3	20 / 80	10 / 40		
Single Phase 3-wire	4k	DRK2k-L1p3wm / -L1p3ws *1 *2	2	20 / 80	10 / 40		

*1 : Available in the near future.

*2 : Optional models. Please refer to page 6 for details of options.



DRK series are not applicable to such application that electric power is infused externally or regeneration behavior is made. Therefore they are not suitable for such devises that "returning generated electric power to AC line" or "being connected directly to the grid-connected power system".

Please make AC output in combination with our high speed four-quadrant bipolar power supplies and such devices.

Features

New Function

Analogue Interface (at -LAmp Option)

It is able to apply them as an amplifier to amplify external input signal in its electrical power with the option for Analogue Interface.



Coming soon

Soft Remote sensing (at -LSn option)

It is possible to calculate differences between set value of output voltage and the voltage drop in the load end by resistance of output line and compensate for it. (Automatic Gain Control)

Output Voltage and Frequency in Wide Range

AC Output

Power Switch

OUTPUT

Display

To ON / OFF output.

Rotary Encoder

Prior to any actions for safety.

To display Statue, Settings, Monitor.

To switch range of output voltage.

It is able to output continuously, AC: 0 to 150V, Frequency 1 to 550Hz, in order to correspond to various AC input devices. They are applicable widely as power supplies for production line, for tests and experiments and for evaluation of equipment for aircrafts or ships and vessels.

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

DC Output

It is able to control DC output of 0 to ±212V / 0 to ±424V with the same operation of one of AC mode. They are contribute to space saving as it can be bound 2 units of traditional AC power supply and DC power supply together into one unit of them.

Double duty of AC/ DC

DC	
Voltage	0 to +212V / 0 to +424V
	0 to -212V / 0 to -424V

Refined and Simplified Operability

As it is able to call up commonly-used functions or output settings immediately, work efficiency is increased. For the application utilized in the same settings, as latest settings are memorized, it is able to eliminate troublesome re-settings.

In case that several test patters are repeated (for example, 90V→100V→110V, 50 / 60Hz), testing time is shortened very much by using the memory function.

- Front Panel of 2kVA model 6 (7) 8 9 10 **(1) (12 (13** 🚺 Key Lock To switch range of output voltage. To disable key actions. 2 Memory
- AC/DC To switch output mode (AC \leftrightarrow DC). Voltage / Frequency
- To set Voltage / Frequency. OCP / OVP / OPP To set various protections.

Switching Range

Directional Kev (9) 10-To shift digits at set values.

ENTER To use at deciding in memory function.

To register or call up settings used frequently up to 10 kinds.

Output Terminal The universal type output terminal.

Light, Compact and Space-saving

They have been considerably compact in comparison with traditional AC power supplies and power supplies which satisfy needs of factories and experiment rooms requiring space saving.

Versatile AC Power Supplies

Features

Standard Functions and Plenty of Options

External control is quipped as standard. They are applicable automation of production lines immediately as it is able to control remotely ON / OFF, voltage, frequency and ranges.

And USB, RS-232C, RS-485 and GPIB are applicable by option.

Remote Control



Various Output --- 3-Phase Output, Single Phase 3-wire Output, Master-slave

3-phase output, single phase 3-wire output and Master-slave hooking are applicable by options.

(Master-slave hooking is applicable only for 2kVA model.)

Also, they are applicable as a simple power supply by cancelation of option settings.

3-Phase Output

It is possible to test and evaluate 3-phase AC even where only single phase 200VAC or 100VAC is available

Single phase 3-wire

• L1

οN

• L2





(3-phase output is planned with 1.2kVA or 2kVA model.)

3-Phase Output

Single phase 100V to 240V

DRK

DRK

It is possible to test and evaluate single phase 3-wire even where only single phase is available. Master-slave (2kVA model only)

When larger power supply is required, maximum 8kVA is available with the master-slave hooking. (Master unit : one, slave units : 3)



Simplified Instantaneous Power Failure Test

Another Availability Please consult our sales staff for detail.

DRK series

It is able to make simplified instantaneous power failure test for AC input equipment

It is able to confirm operating conditions of equipment tested under such situation as simulating unstable aspect of power source line or aspect happened instantaneous power failure.

Dimensions inch (mm) 1.2kVA and 2kVA Models) Weight: 16kg approx. 4kVA Model Weight: 35kg approx. 17,17(436) 0.98 (25) Ш 17.17(436) 0.71 alalala alalalala 23.82 (605) 21.5 (546) 0.2(5) 0.2(5) WI 1.37 1.37 16.81(427) 16.81(427) 19(483) 19(483) 18.31(465 18.31(465 0.24x0.39 (6x10) 0.24x0.39 (6x10) 0000 0 0 N 👌 🗄 🛛 333 1.97 (50) (76.2) 3.5 6.97 (177) 10 59(15) 1.97 (50) (76.2 0 59(15)

Specifications

Input voltage 100VAC to 240VAC±10%, 50 / 60Hz, Single phase Efficiency ≥70% (at rated output) Power factor ≥ 0.9 (at rated output) Lo (100V) range : AC; 0V to 150V, DC; 0V to ±212V Output voltage setting range Hi (200V) range : AC; 0V to 300V, DC; 0V to ±424V Number of Phase Single Output frequency DC, 1Hz to 550Hz Peak current of maximum output 4 times of maximum output current (crest factor = 4) Voltage range : Lo (100V) and Hi (200V) switching with the selector switch on the front panel Output voltage control Local ----- With the rotary encoder on the front panel Remote ---With the external control voltage, Vcon-in = 0Vdc to 10Vdc Line : ±0.15% (for AC±10% input change) Voltage regulation Load : ±0.15% (at Lo range), ±0.3% (at Hi range) 0.05% / Hr Voltage Stability Temp. coefficient for voltage ±0.05%/°C Distortion factor of output waveform 0.5% at 50 / 60Hz, 80V to 150V, 160V to 300V (at power factor of load = 1) Setting of output frequency Local : with the rotary encoder on the front panel Remote : with the external control voltage, Vcon-in = 0Vdc to 10Vdc \leq 0.03% (at environmental temperature 20°C and output frequency \geq 50Hz) Setting accuracy of frequency Temp. coefficient for frequency ≤0.1Hz (at environmental variation ±10°C) Output Voltage : 0.1V resolution (RMS) (effective value display, Accuracy ±1.5% F.S. ±1 digit, at frequency ≧50Hz) Output display Output Current : 0.01A resolution (RMS) (effective value display, Accuracy ±1.5% F.S. ±1 digit, at frequency ≧50Hz) Output Power : 1VA resolution (RMS) Short-Circuit Protection, Overvoltage, Overcurrent, Overpower, Input Voltage Reduction, Protections Over-temperature Protection, Blackout Protection, Variable Limit for OCP, OPP and OVP Remote Switch for ON / OFF (TTL or external relay), Interlock (external relay), Miscellaneous functions Remote Switching Voltage Range, Remote Switching Frequency, Output of Fault Status, Preset Function (10 memories) Operation temp. 0°C to +40°C -20°C to +70°C Storage temp. 20% to 80%RH (no condensation) Storage humidity One Universal Outlet, Terminal board Output terminals Instruction Manual : 1 Accessories Cover for Remote Connector : 1

Options

-LAmp	Analogue Interface (*1) (*2)
	It is able to input analogue waveform externally with BHC input and to enhance electric power.
	It is insulated from the output. Please refer to page 3 for detail.
-LUs1	USB interface Board (*3)
	ON/OFF with the Remote Switch, Switching Voltage Range, Variable Voltage, Variable Frequency, Status, Monitor for Voltage and Current
-LGb	GPIB interface Board (*3)
	ON/OFF with the Remote Switch, Switching Voltage Range, Variable Voltage, Variable Frequency, Status, Monitor for Voltage and Current
-LGob	Optical Interface Board (*3)
	Insulation control is made with optical communication. One piece of Optical cable, 2m length, is included with this option.
	ON / OFF with the Remote Switch, Switching Voltage Range, Variable Voltage, Variable Frequency, Status, Monitor for Voltage /
	Current and various Interface
	(Please refer to catalogue for digital controller "CO series" about optical conversion for various interfaces, USB, RS-232C, RS-485 and GPIB.)
-LN	Release of Blackout Protection
	Output of the power supply is made ON / OFF interlocking AC input voltage.
-LSn	Remote sensing (coming soon)
	Please refer to P.3.
-L1p3wm	Single phase 3-wire Connection (*4)(*5)
-L1p3ws	Single phase 3-wire output mode is available.
	Each one unit optioned respectively is required.
-LPhu –	Multi-Phase connection (*4) (*5)
-LPhv	3 phase output mode is available.
-LPhw ⅃	Each one unit optioned respectively is required.
-LMsm-	Parallel Connection (*4) (*5), for 1.2kVA and 2kVA models only
-LMss 🗕	It is able to increase output power by paralleling.
	It is able to hook maximum 3 slave units per one master unit in the optional formation. (for AC mode only)
	(When the combination is changed, adjustment in our factory is required.)

The instantaneous power failure test function is available separately. Please consult our sales staff for detail.

How to Order Please suffix above optional codes in order of alphabet and AC input on the tall of Model number. (Example) DRK2k-LAmpGbMsmNSn DRK4k-LFNSnUs11p3wm

*1) -LAmp cannot be installed together with options for singe phase 3-wire connection (-L1p3wm, -L1p3ws) or options for (-LPhu, -LPhw).
*2) In case of utilizing a transformer as a load, the transformer may be saturated by offset from external signal.

*3) These options should be selected either one.

*5) These options sinclud be elected entropy of the one.
*4) (-L1p3wn, -L1p3ws), (-LPhu, -LPhw) or -LPhw) and (-LMsm or -LMss), these options are should be selected either one. An option is required for each power supply.
*5) When interface options (-LUS1, -LGb and -LGob) is applied, only the master unit (-L1p3wn, -LPhu or -LMsm) should be optioned. No option is required on slave units.

Input Cable for Single Phase AC (3 cores type) sold separately						
Model Input Voltage			Input V	'oltage		
		200V			100V	
DRK1.2k	CABLE TYPE5		Rated Voltage 250V Max. Current	CABLE TYPE5		Rated Voltage 250V Max. Current
			25A			25A
DRK2k	CABLE TYPE5		Rated Voltage 250V Max. Current 25A	CABLE TYPE11		Rated Voltage 250V Max. Current 35A
DRK4k	CABLE TYPE11		Rated Voltage 250V Max. Current 35A	CABLE TYPE12		Rated Voltage 250V Max. Current 75A

Introduce of Sequence Software (Coming soon)

Sequence Software for Power Supplies and Electronic Loads

The sequence software for power supplies and electric loads

PSS2en is the dedicated software which can actuate sequence operation to various power supplies, electronic loads and digital controller for power supplies manufactured by Matsusada Precision Inc. with simple set up. It is perfect for the endurance test for electronic parts, electric equipment and electric elements for cars or various simulation tests.

Features

- It is able to set complex sequences only by inputting voltage, current and time on the sequential sheets.
- It is able to save data log with the monitoring function.
- Package control of 1 to 32 units of our power supplies and electronic loads or individual sequence operation are possible.
- An experiment to change continuously temperature or humidity of loads by interlocking operation with thermostatic chamber by Espec is possible.
- Even if power supplies and electronic loads applied combined with PSS2en are ones of plural kinds, package control is possible in one application software.



It is able to automate the inspection process for AC input devises with its sequence function.

The energization pattern of the AC input devise is prepared with PSS2en and the energization inspection process is automated as minimum input voltage \rightarrow rated voltage \rightarrow maximum voltage and 50/60Hz.

PC Power Supply It is able to automate evaluation of AC input devises with the ramp and / or simplified instantaneous power failure function sequence function *.

It is able to quantify the evaluation of AC input devises by varying continuously voltage and/or frequency and with the simplified instantaneous power failure function *. (* Option)



Endurance tests for products or parts are possible by linking a thermostatic chamber.

At the same time of control of the power supply and the load by PSS2en, it is able to make temperature control or monitoring of the thermostatic chamber.

PSS2en can interlock the power supply, load and thermostatic chamber made by Espec.







USA/Canada : +1-888-652-8651 other countries : +81-6-6150-5089

Customer Inquiry Sheet (DRK series)

Please copy this page and above fax number after filling out form below.

	would	like
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A quotation	An explanation of product	A demonstration	To purchase
Other ()	

Give us your requirement / comment

Please fill in below.

Address:	
Company:	
company.	
Dept.:	Title:
Boptil	11101
Name:	
Tel:	Fax:
E-mail:	
E mail.	

Manufacturer warranty

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

submitted to users. Test result or test data for the products shall be available upon request with charge. Make sure you read the specification in the latest catalog before you order. Contact nearby sales office for the latest catalog. PLEASE SEE THE LINK BELOW FOR THE COMPLETE WARRANTY TERMS

http://www.matsusada.com/site/warranty.html

Matsusada Precision Inc.

For products www.matsusada.com/product For contact www.matsusada.com/contact

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