

High power Variable DC power supply RE Series



Ultra Low Profile and High Power ! Programmable DC Power Supply

1<u>0V to 1000V / 750W to 15kW</u> RE series



Our original switching technology has realized high power, compact and high efficient programmable DC power supply RE series.



Minimum heat release coupled with its compactness of 1/10 the size and 1/20 the weight of conventional power supply have enabled high-density mounting. RE's low power consumption contributes to low running cost and environmental issues. Various remote control and monitor functions are standard and digital interface is available as option, which enable RE to support various systems.

The best model can be chosen for your application from wide lineup of 140 models, from 10V to 650V, and 750W to 15kW. Upgrading of up to 60kW is possible with master / slave option.

<u> </u>													
Voltage (V)	Cutput current (A)	Dutput power (kW)	Model	Ripple (mVrms)	Ripple ^{*1} (mArms)	Dimensions (Refer to P8,9)	Voltage (V)	Cutput current (A)	Dutput power (kW)	Model	Ripple (mVrms)	Ripple ^{*1} (mArms)	Dimensions (Refer to P8,9)
	75	750W	RE10-75	10	150	b		38	760W	RE20-38	10	80	а
	110	1.1	RE10-110	10	220	b		60	1.2	RE20-60	10	120	а
	200	2	RE10-200	10	400	d		100	2	RE20-100	10	200	d
	300	3	RE10-300	15	600	d		150	3	RE20-150	15	300	d
10	400	4	RE10-400	15	800	f		200	4	RE20-200	10	400	f
10	450	4.5	RE10-450	30	900	f	20	250	5	RE20-250	15	500	f
	750	7.5	RE10-750	20	2400	h*2	-	375	7.5	RE20-375	30	1200	h
	820	8.2	RE10-820	30	3600	h ^{*2}		400	8	RE20-400	20	2400	h
	1000	10	RE10-1000	30	4800	h ^{*2}		430	8.6	RE20-430	35	2400	h
	1200	12	RE10-1200	30	4800	h ^{*2}		500	10	RE20-500	35	2400	h ^{*2}
	50	750W	RE15-50	10	100	а		600	12	RE20-600	30	2400	h*2
	80	1.2	RE15-80	10	160	b		25	750W	RE30-25	10	50	а
	120	1.8	RE15-120	10	250	d		40	1.2	RE30-40	15	80	а
	200	3	RE15-200	10	400	d		65	1.95	RE30-65	20	130	d
15	250	3.75	RE15-250	15	500	f		100	3	RE30-100	20	200	d
	300	4.5	RE15-300	15	600	f	20	130	3.9	RE30-130	30	260	f
	500	7.5	RE15-500	30	2500	h	30	170	5.1	RE30-170	30	340	f
	560	8.4	RE15-560	30	2500	h		250	7.5	RE30-250	20	500	f
	700	10.5	RE15-700	35	3500	h ^{*2}		290	8.7	RE30-290	30	700	h
								350	10.5	RE30-350	30	800	h
								400	12	BE30-400	20	800	h

Lineup (UL marked model is available. Please ask to sales offices.)

Output voltage (V)	Output current (A)	Output power (kW)	Model	Ripple (mVrms)	*1 Ripple (mArms)	Dimensions (Refer to P8,9)	Output voltage (V)	Output current (A)	Output power (kW)	Model	Ripple (mVrms)	*1 (mArms)	Dimensions (Refer to P8,9)
	22	770W	RE35-22	10	50	а		3.8	760W	RE200-3.8	40	10	а
35	34	1.2	RE35-34	10	70	а		6	1.2	RE200-6	40	15	а
	60	2.1	RE35-60	20	120	d		10	2	RE200-10	40	20	С
	85	3	RE35-85	20	170	d		15	3	RE200-15	40	30	С
	115	4	RE35-115	20	230	f	000	20	4	RE200-20	200	40	е
	140	4.9	RE35-140	30	280	f	200	25	5	RE200-25	200	50	е
	215	7.5	RE35-215	35	1800	f		37	7.4	RE200-37	200	280	е
	240	8.4	RE35-240	35	2000	h		42	8.4	RE200-42	150	200	g
	300	10.5	RE35-300	35	2000	h		50	10	RE200-50	200	380	h
	340	11.9	RE35-340	35	2400	h		75	15	RE200-75	200	530	h
40	100	4	RE40-100	30	300	f	250	35	8.7	RE250-35	100	150	g
40	220	8.8	RE40-220	30	350	h		2.5	750W	RE300-2.5	50	5	а
	17	765W	RE45-17	18	40	а		4	1.2	RE300-4	50	10	а
	27	1.2	RE45-27	18	60	а		6.5	2	RE300-6.5	50	15	С
	45	2	RE45-45	30	90	С		10	3	RE300-10	50	20	С
	66	3	RE45-66	30	130	d	000	13	3.9	RE300-13	300	30	е
45	90	4	RE45-90	30	180	f	300	16	4.8	RE300-16	300	35	е
	110	5	RE45-110	45	220	f		25	7.5	RE300-25	100	50	е
	165	7.5	RE45-165	45	750	f		28	8.4	RE300-28	100	50	g
	220	9.9	RE45-220	45	1100	h		35	10.5	RE300-35	300	100	g
	260	11.7	RE45-260	45	1300	h		50	15	RE300-50	150	100	g
	12.5	750W	RE60-12.5	20	25	а		21	7.35	RE350-21	150	100	е
60	20	1.2	RE60-20	20	40	а	250	24	8.4	RE350-24	150	100	g
	35	2.1	RE60-35	15	70	С	350	28	9.8	RE350-28	150	100	g
	50	3	RE60-50	20	100	С		42	14.7	RE350-42	150	100	g
	67	4	RE60-67	20	135	f	400	18.7	7.5	RE400-18.7	200	100	g
	83	5	RE60-83	30	170	f		37.5	15	RE400-37.5	200	100	g
	125	7.5	RE60-125	30	350	f	450	16.7	7.5	RE450-16.7	200	50	g
	140	8.4	RE60-140	30	350	h	450	33.3	15	RE450-33.3	200	100	g
	170	10.2	RE60-170	35	500	h		1.5	750W	RE500-1.5	150	5	а
	200	12	RE60-200	35	500	h		2.4	1.2	RE500-2.4	150	5	а
	220	13.2	RE60-220	35	500	h		4	2	RE500-4	150	10	С
	250	15	RE60-250	25	500	h		6	3	RE500-6	150	15	С
80	110	8.8	RE80-110	80	600	h	500	8	4	RE500-8	500	20	е
	7.5	750W	RE100-7.5	20	15	а	500	10	5	RE500-10	500	20	е
	12	1.2	RE100-12	20	25	а		15	7.5	RE500-15	200	50	е
	20	2	RE100-20	20	40	с		17	8.5	RE500-17	200	50	g
	30	3	RE100-30	30	60	с		20	10	RE500-20	500	100	g
100	40	4	RE100-40	30	80	е		30	15	RE500-30	200	100	g
100	50	5	RE100-50	40	100	е	600	12.5	7.5	RE600-12.5	100	25	е
	75	7.5	RE100-75	60	300	f	000	25	15	RE600-25	100	50	g
	84	8.4	RE100-84	60	350	h		1.2	780W	RE650-1.2	200	5	а
	100	10	RE100-100	100	800	h		1.8	1.2	RE650-1.8	200	5	а
	150	15	RE100-150	100	1000	h		3	2	RE650-3	200	10	С
	5	750W	RE150-5	30	10	а		4.5	2.9	RE650-4.5	200	10	С
	8	1.2	RE150-8	30	20	а	650	6	3.9	RE650-6	200	15	е
	14	2.1	RE150-14	25	30	С	0.50	7.7	5	RE650-7.7	200	20	е
	20	3	RE150-20	30	40	с		11	7.2	RE650-11	200	50	е
150	27	4	RE150-27	30	55	е		13.5	8.8	RE650-13.5	250	50	g
150	33	5	RE150-33	60	70	е		16	10.4	RE650-16	250	50	g
	50	7.5	RE150-50	70	100	е		23	15	RE650-23	300	100	g
	56	8.4	RE150-56	70	100	g	750	10	7.5	RE750-10 ^{*3}	300	30	*4
	70	10.5	RE150-70	150	200	h	/50	20	15	RE750-20 ^{*3}	300	50	*4
	100	15	RE150-100	100	200	h	1000	7.5	7.5	RE1000-7.5 ^{*3}	300	30	*4
160	27	4.3	RE160-27	30	55	е	1000	15	15	RE1000-15 ^{*3}	300	50	*4
100	55	8.8	RE160-55	160	200	g							

*1 Rated output current when output voltage is 10% to 100% of rationg.
*2 Height and number of fixing holes of busbar are different depending on the model.See P7 for details.
*3 To be released soon.
*4 Please contact our sales office.

Specifications

Output control	Local : Constant voltage : 10-turn potentiometer on front panel Constant current : 10-turn potentiometer on front panel Remote : Constant voltage : external control voltage 0 to 10Vdc or external variable resistor 0 to 10kΩ Constant current : external control voltage 0 to 10Vdc or external variable resistor 0 to 10kΩ
Voltage regulation	Line : 0.1% of maximum output (for AC±10% input change) Load : 0.1% of maximum output (for 10% to 100% load change) (for only RE10-1000and RE10-1200, load regulation is 0.15%)
Current regulation	Input : 0.1% of maximum output (for AC±10% input change) Load : 0.1% of maximum output (for 10% to 100% load change) (for only RE500-1.5, -2.4,650-1.2, -1.8, both line and load regulation are 0.2%)
Stability	0.05% / 8Hr of maximum output voltage
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 is 1%FS±1dgt) Output current : 3-digit digital meter (accuracy is 1%FS±1dgt)
Monitor output	Output voltage monitor : 10V / maximum output voltage Output current monitor : 10V / maximum output current
Protections	Over voltage protection (OVP) Output is cut off at a set value. Setting range : 5% to 110% of output voltage Local setting : 1-turn volume on front panel Remote setting : External control voltage of 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 down to normal) : Automatic recovery or manual recovery by POWER switch (selectable)
	Input brownout(ACF) · Blackout protection Output is cut off when input decreased by 20% or more. Reset (when normal voltage value or recovery from blackout) : Manual recovery by OUTPUT switch for blackout protection (re-output protection 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 (for 70%⇔100% load change)
Operation temperature	0 to +50°C (750W to 5.1kW) 0 to +40°C (7.35kW to 15kW)
Storage temperature	-20°C to +70°C
Strage humidity	20% to 80% RH (no condensation)
Dielectric voltage	Between input power supply and power supply, and between output terminals and chassis is AC1500V : 1 minute
Accessories	• 2.5m input AC cable for single phase, 3-pin type (only models of 2.1kW or less) (1) (AC input cable for three-phase is not attached. Please contact our sales office if any cable is needed.) • Instruction manual (1) • Remote connector cover (1)

· Metal fitting to change input voltage (1) (up to 1.2kW models only)

separate	Single phase AC input cable (3-pin type)
	25A / 250V single phase flying lead

Model CABLE TYPE 5 : Standard 2.5m length CABLE TYPE 5(): Extended length(2.5m increment) <e.g.> 5m : CABLE TYPE 5(5)

Three-phase AC input cable

25A / 250V for 1.8kW to 3kW models, flying lead Model CABLE TYPE 6 75A / 250V for more than 3.75kW models, flying lead Model CABLE TYPE 7

MODEL (Output power)		Input voltage		Inp	Input current			
		(AC50 / 60Hz)	Phase	When PFC (Typ.)*1	Normal (Typ.)*1	Rush(p-p)	protection	
750W to 765W		115V	1		12A	- 60A		
		230V			8A			
1 11	k/// to 1 2k///	115V	1		19A	004	Fuse 30A	
1.11		230V			11A	90A		
1 81	$kM \neq 0.2 \pm kM$	2201/	1		17A	1004]	
1.01		2200	3		10A	TUUA		
2.9kW to 3kW		220V	3		14A	100A		
3.75kW to 4kW		220V	3	15A	19A	1004	Circuit protector	
4.5kW to 5.1kW		220V	3	16A	23A	TOUR	30A	
7.35kW	10V, 15V		3		35A	100A	Circuit protector	
to	20V to 60V	220V		25A	34A			
7.5kW	over 100V	-			33A			
8kW	10V, 15V			36A	46A		60A	
to	20V to 60V	220V	3	34A	44A	100A		
10.5kW	over 100V			32A	41A			
11.7kW to 12kW		220V	3	40A	54A	1504	Circuit protector	
	15kW	220V	3	50A	68A	130A	100A ^(*2)	

(*1) At rated input voltage (*2)-LPfc option models : 60A







0.59(15)

1.14(29)

لم



(*) Height of busbars is 3.86"(98mm),number of holes is 6 for RE10-750,RE 10-820,RE10-1000,RE10-1200,RE15-700,RE20-500 and RE20-600.

Functions





-LGob : Optical Interface Board *1

-LGob	: Optical Interface Board + 2 meters long optical cable
-LGob(Fc5)	: Optical Interface Board + 5 meters long optical cable
-LGob(Fc10)	: Optical Interface Board + 10 meters long optical cable
-LGob(Fc20)	: Optical Interface Board + 20 meters long optical cable
-LGob(Fc40)	: Optical Interface Board + 40 meters long optical cable

It is isolated by optical communication. It makes it possible to prevent malfunction caused by transient phenomenon such as surge, lightning, induction, and external noise due to perfectly isolated by optical fiber.



- In case power supply will be use following condition, make sure this options selected. • Noisy environment such as factories.
- (ex. usage of motor and coil around load or power supply)
- Usage on high voltage floating (more than 250V)
- \cdot In case the distance between power supply and controller (PC or PLC) is longer than 2-meter long.
- -LUs1 USB interface board *1
- -LEt Ethernet interface board *1
- -LGb GPIB interface board *1
- -LCp Constant power control *3 (Voltage control is eliminated.Limited at maximum rated voltage)
- -LOcp Over current protection (OCP)*4 Cut off the output at set current value.Local setting only. Setting range : 5% to 110% of maximum rated current Local setting : 1-turn volume on front panel Reset : Manual recovery by OUTPUT switch or remote swich
- *1. These options cannot be selected together. Only one of each can be selected. And, when you connect "Load", "RE series" and "PC", if you prevent the influence on the PC by the noise that occurred with load, please choose -LGob option. With that in mind, we recommends using it combining our adapter (separated item).
- *2. Ethernet is a registered trademark of Xerox Corporation.
- *3. This option cannot be chosen simultaneously with -LGob, -LUs1, -LEt, -LGb or -LIs / -LIs10. However, in being required, please contact our sales office. But, this option cannot be chosen simultaneously with -LOcp or -LMs.
- *4. This option cannot be chosen simultaneously with –LCp.
- *5. This option cannot be chosen simultaneously with –LCp.
- When –LOcp is equipped, this function becomes the setting and operation in the power supply simple substance.
- *6. -LPfc and -L(400V) cannot be chosen simultaneously.

- -Lls / -Lls10
- ...Output control signal is isolated from common(=output⊖) so that floating of control signal is not required when negative output operation or series connection
 - (isolation voltage from output⊖ is below 250V)

Output control [-LIs]

Isolated remote control *1

- CV : External control voltage 0 to 5Vdc CC : External control voltage 0 to 5Vdc
 - [-LIs10]
- [-LISTU]
 - CV : External control voltage 0 to 10Vdc CC : External control voltage 0 to 10Vdc
- CC . External control voltage
- Monitor output [-LIs]

Output voltage monitor : 5V / Maximum output voltage Output current monitor : 5V / Maximum output current [-LIs10]

- Output voltage monitor : 10V / Maximum output voltage Output current monitor : 10V / Maximum output current
- Other functions[-LIs / -LIs10] Remote switch ON / OFF, status signal output (CC, OUTPUT and Stand-by)
- -LMs Master slave control (models of less than 12kW)*5
 - Maximum of four slave power supplies can be controlled from one master power supply (within the range where total of maximum rating is less than 60kW). Master power supply can be controlled not only by standard remote control but also -LGb, - LGob, - LIs / -LIs10. It is highly recommendable for user to select –LGob option and control multiple power supplies by Matsusada controller CO-MS series, in case,
 ①additional power supply may need to connect for the sake of higher power in future ②dynamic voltage regulation is critical, for example, connecting to inductive load such as motors or coils. Master slave connection is only possible among RE series power supply of the same model only with same output voltage and current.
- -LLp 10-turn potentiometer with lock (both voltage and current) ...only for models less than 300V
- -LPfc Power factor correction circuit (Three-phase input of 3.75kW to15kW type only)*6 Size of the case will be different. Contact nearby sales office for more details for this option.
- -L(220V) Input voltage : 220VAC±10% For 750W to 1.2kW models Input current will be about 105% of typical value(→P.5).
- -L(230V) Input voltage : 230VAC±10% For 1.8kW to 15kW models Input current will be about 95% of typical value(→P.5).
- -L(240V) Input voltage : 240VAC±10% For all models [The models that original input voltage is 230V] Input current will be about 95% of typical value(→P.5). [The models that original input voltage is 220V] Input current will be about 90% of typical value(→P.5).
- -L(400V) Input voltage : 400VAC±10% For 7.5kW to 15kW models Size of the case will be different. Contact nearby sales office for more details for this option.
 - Add above -L mark to the model number when ordering <e.g> RE15-250-LGob(Fc5)LpPfc(240V) <e.g> RE100-100-LIs10LpMsOcp(400V) alphabetical, number order.

Introduction of other DC Power Supplies

We accept the consultation about the delivery date.

Customization is also available.Please contact our sales office.

Ultra slim palm-sized DC power supply



R4K-36 seriesOutput voltage0 to 36VOutput current0 to 4AOutput power0.2W to 36W

The models which set and output the current with the 0.1mA increment are available.

- High resolution D/A,A/D converter integrated.
- USB interface is also available.

Desk-top size high power DC power supply



H	K series
put voltage	0 to 650V
put current	0 to180A
nut nower	400W 800W 12kW

Low noise, multiple functions, and digital communication.

- PFC circuit and universal input wound not select the place of operation.
- The sequence function enables the user to control the supply without a laptop option.

Ultra compact low profile DC power supply



REKJ series

Output voltage0 to 650VOutput current0 to 130AOutput power800W

The compact half rack and 1U low profile design.

Ideal for research and development with low noise switching method.
 The sequence function enables the user to control the supply without a laptop option.

Low profile high power DC power supply





C E

- 2U / 3U compact unit with high power output 5.5kW / 15kW.
 Various operations by connecting multiple power supplies,
- such as master/slave, is possible.
- Operability and safety are improved with new features.

High power high voltage DC power supply



REH series

Output voltage0 to1.2kVOutput current0 to 20AOutput power1.1kW to15kW

- Ultra low profile and space-saving design with 3.5", 5.2" height.
- Extensive safety design from high voltage experience and technology.
- Well suited for solar cell characteristic evaluation and power conditioner evaluation.

High-capacity DC power supply





- The device that is also dividable for use is efficient for various different applications.
- Extendable up to 360kW, the device is suitable for cases requiring larger output.

PSS2

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.

EXAMPLES FOR OPERATION OF PSS2





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.

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.

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.



Customer Inquiry Sheet (RE series)

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

I would like

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

Give us your requirement / comment

Please fill in below.

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

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. If any Product is showed to be defective as satisfactory to us, 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 merchant-ability 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. Regarding RoHS compliance, Matsusada Precision Inc. does not intentionally use objectionable substances in the products listed within this catalog. Matsusada Precision Inc. manufactures products using components which, according to our suppliers, are "RoHS compliant parts". However, Matsusada Precision does not analyze each and every unit to confirm. Therefore, there may be some customized products which do not comply to RoHS. Please contact your nearby sales office for confirmation.

Matsusada Precision Inc.

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

Tel: +1-408-273-4573 Fax: +1-408-273-4673 New York Office : 80 Orville Drive Suite 100 Bohemia, NY 11716 Tel: +1-631-244-1407 Fax: +1-631-244-1496

San Jose Office : 2570 N. First Street Suite 200 San Jose, CA 95131 Dallas Office : 5430 LBJ Freeway, Suite 1200 Dallas, TX 75240 International Office : Osaka-City, Osaka Japan Tel: +1-972-663-9336 Fax: +81-6-6150-5088 Fax: +81-6-6150-5089 Boston Office : 859 Willard St. One Adams Place, Suite 418 Quincy, MA 02169 Headquarters : 745 Aoji-cho Kusatsu Shiga 525-0041 Japan Tel: +1-617-663-5711 Fax: +1-617-663-5331

Tel: +81-77-561-2111 Fax: +81-77-561-2112