

Achieves space savings with
the narrow width of just 490mm !

NEW

High Capacity DC Power Supply

REKM series

Output voltage: 650V max
Output current: 1200A max
Output power : 120kW max

Space-saving 19-inch rack with 19.3" width

Capable of large 120kW maximum output
in one rack

Contributes to downsizing distribution equipment
with an excellent power factor of 0.88



MADE IN
JAPAN



High Capacity DC Power Supply REKM series

Achieves High Power up to
120kW in a Single Smart Rack



The REKM series are high-capacity DC power supplies capable of safely outputting a maximum of 120 kW of power.

Equipped as standard with a summary display of output current and fully protected circuits, they provide powerful R&D support for customers requiring high current and high power.

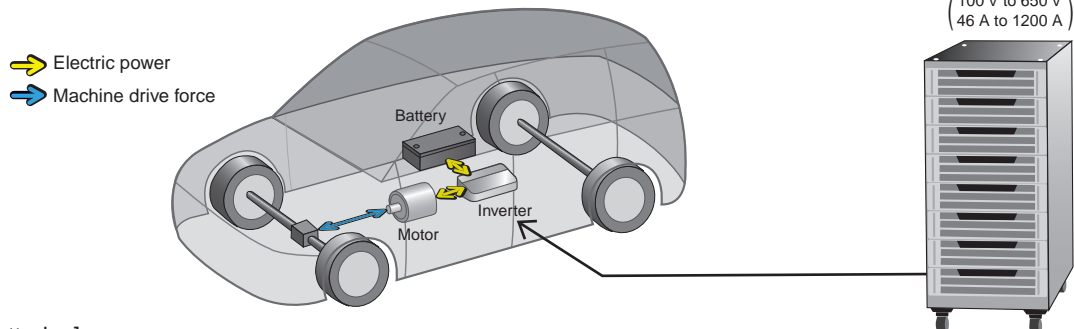
Main Applications

[Chemistry]

- Various types of electrolysis and electrolytic synthesis including hydrogen generation

[Electric Vehicles (EV), Hybrid Vehicles (HEV), and Vehicle-mounted Equipment]

- Evaluation testing of inverters, DC/DC converters, DC motors, relays, harnesses, etc.



[Various Batteries]

- Charge testing of various batteries such as lithium ion, nickel metal hydride, and lead-acid batteries

[Photovoltaic Cells]

- Evaluation testing of power conditioners, junction boxes, etc.

Additionally, evaluation testing of electrical parts and electrical products such as fuses, connectors and lamps

Lineup

Models with output bands in addition to those shown in the table below are also available. Please feel free to consult with a sales representative.

Maximum output voltage (V)	Maximum output current (A)	Maximum output power (kW)*1	Model	Power supplies installed (units)	Ripple*2 (rms)		Input current*3 (A)
					mV	mA	
100	300	30	REKM100-300	2	120	2000	128
	450	45	REKM100-450	3	150	3000	192
	600	60	REKM100-600	4	180	4000	256
	750	75	REKM100-750	5	200	5000	320
	900	90	REKM100-900	6	250	6000	384
	1050	105	REKM100-1050	7	250	7000	448
	1200	120	REKM100-1200	8	250	8000	512
150	200	30	REKM150-200	2	180	400	128
	300	45	REKM150-300	3	225	600	192
	400	60	REKM150-400	4	270	800	256
	500	75	REKM150-500	5	300	1000	320
	600	90	REKM150-600	6	375	1200	384
	700	105	REKM150-700	7	375	1400	448
	800	120	REKM150-800	8	375	1600	512
200	150	30	REKM200-150	2	240	1060	128
	225	45	REKM200-225	3	300	1600	192
	300	60	REKM200-300	4	360	2120	256
	375	75	REKM200-375	5	400	2650	320
	450	90	REKM200-450	6	500	3200	384
	525	105	REKM200-525	7	500	3700	448
	600	120	REKM200-600	8	500	4250	512
250	120	30	REKM250-120	2	300	1000	128
	180	45	REKM250-180	3	375	1500	192
	240	60	REKM250-240	4	450	2000	256
	300	75	REKM250-300	5	500	2500	320
	360	90	REKM250-360	6	625	3000	384
	420	105	REKM250-420	7	625	3500	448
	480	120	REKM250-480	8	625	4000	512
300	100	30	REKM300-100	2	180	200	128
	150	45	REKM300-150	3	225	300	192
	200	60	REKM300-200	4	270	400	256
	250	75	REKM300-250	5	300	500	320
	300	90	REKM300-300	6	375	600	384
	350	105	REKM300-350	7	375	700	448
	400	120	REKM300-400	8	375	800	512
400	76	30	REKM400-76	2	240	200	128
	114	45	REKM400-114	3	300	300	192
	152	60	REKM400-152	4	360	400	256
	190	75	REKM400-190	5	400	500	320
	228	90	REKM400-228	6	500	600	384
	266	105	REKM400-266	7	500	700	448
	304	120	REKM400-304	8	500	800	512
500	60	30	REKM500-60	2	240	200	128
	90	45	REKM500-90	3	300	300	192
	120	60	REKM500-120	4	360	400	256
	150	75	REKM500-150	5	400	500	320
	180	90	REKM500-180	6	500	600	384
	210	105	REKM500-210	7	500	700	448
	240	120	REKM500-240	8	500	800	512
600	50	30	REKM600-50	2	240	200	128
	75	45	REKM600-75	3	300	300	192
	100	60	REKM600-100	4	360	400	256
	125	75	REKM600-125	5	400	500	320
	150	90	REKM600-150	6	500	600	384
	175	105	REKM600-175	7	500	700	448
	200	120	REKM600-200	8	500	800	512
650	46	30	REKM650-46	2	360	200	128
	69	45	REKM650-69	3	450	300	192
	92	60	REKM650-92	4	540	400	256
	115	75	REKM650-115	5	600	500	320
	138	90	REKM650-138	6	750	600	384
	161	105	REKM650-161	7	750	700	448
	184	120	REKM650-184	8	750	800	512

*1 : Operational checks are performed only for each power supply individually. Rated-output operational checks are not performed after integration.

*2 : Predicted value. *3 : Typical value.

Specifications

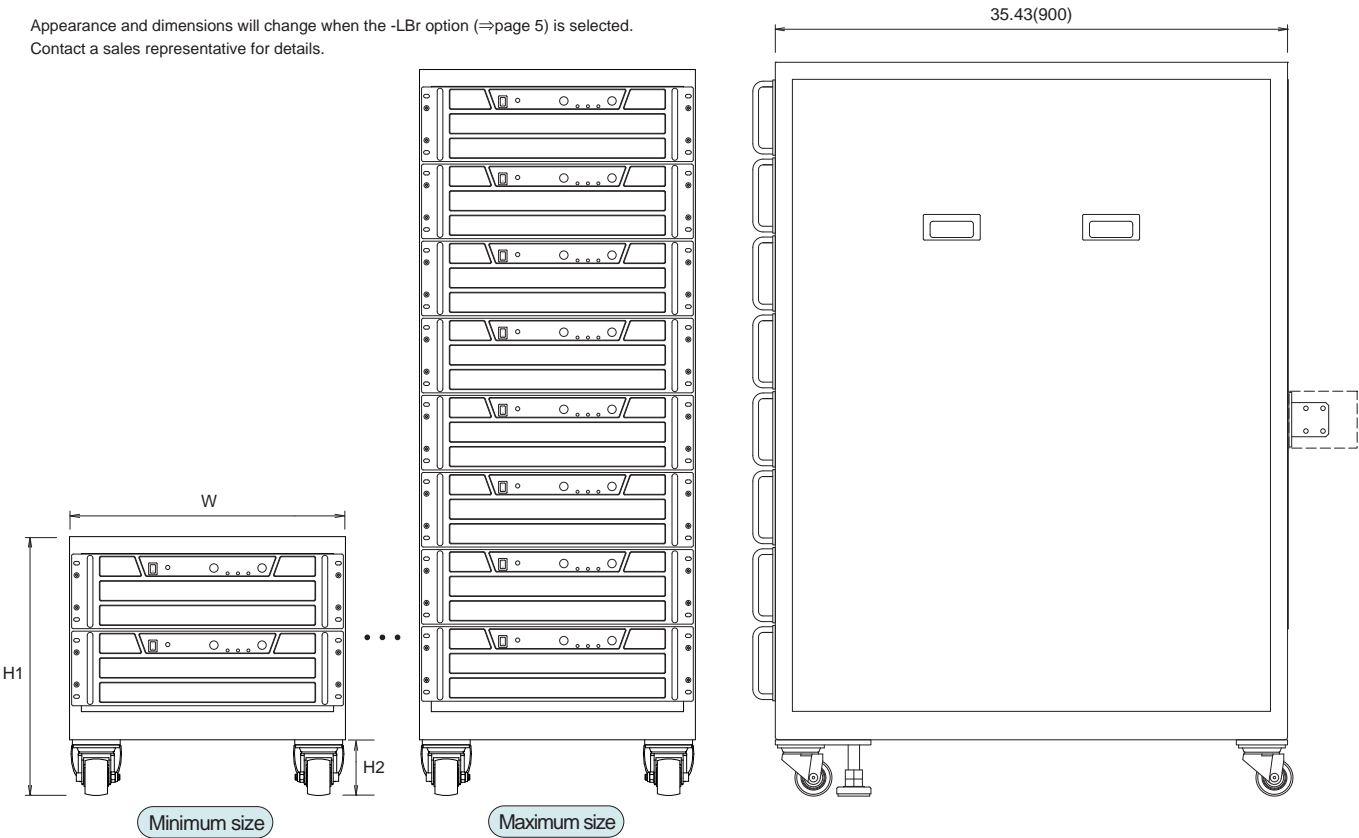
Input voltage	200 Vac to 230 Vac $\pm 10\%$, 50/60 Hz, three phase
Power factor	0.88 typ.
Efficiency	80% or higher
Output control	Local - constant voltage: front panel rotary encoder constant current: front panel rotary encoder Remote - constant voltage: external control voltage 0 Vdc to 10 Vdc or external variable resistance 0 Ω to approx. 10 k Ω constant current: external control voltage 0 Vdc to 10 Vdc or external variable resistance 0 Ω to approx. 10 k Ω
Voltage regulation	Line: 0.1% of maximum output (for $\pm 10\%$ AC fluctuation)/Load: 0.2% of maximum output (for 10% to 100% load fluctuation)
Current regulation	Line: 0.1% of maximum output (for $\pm 10\%$ AC fluctuation)/Load: 0.2% of maximum output (for 10% to 100% load fluctuation)
Stability	0.05% of maximum output voltage/8 Hr
Temperature coefficient	0.01% maximum output voltage/ $^{\circ}\text{C}$, 0.04% of maximum output current/ $^{\circ}\text{C}$
Output display	Output voltage: 4-digit digital meter ($\pm 1\%$ of full scale ± 1 digit, at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$, 10% to 100% of rated output voltage) Output current: 4-digit digital meter ($\pm 1\%$ of full scale ± 1 digit, at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$, 10% to 100% of rated output current)
Monitor output	Output voltage monitor: 10 Vdc/maximum output voltage, Output current monitor: 10 Vdc/maximum output current
Protection features	Overvoltage protection (OVP): Cuts off output at set value Overcurrent protection (OCP): Cuts off output at set value Overtemperature protection (OTP): Cuts off output at the time of internal anomalous heating Reset (after decreasing to normal temperature): Manual recovery by OUTPUT switch or remote switch AC fail (ACF)/power failure protection Cuts off output with an AC fail Reset (at normal voltage value or after recovery from power failure) : At the time of power failure protection (re-output protection function), manual recovery by OUTPUT switch or remote switch : Automatic recovery when power failure protection is canceled Interlock (LD)
Other functions	Prevention of erroneous operation by key lock, last setting memory, remote switch ON / OFF (TTL or external relay), and status signal output (CV, CC, FLT, and OUTPUT) Multi-set function: Voltage/current memories "a," "b," and "c" can be set separately from voltage/current normal presets
Operating temp.	0°C to $+50^{\circ}\text{C}$
Storage temp.	-20°C to $+70^{\circ}\text{C}$
Storage humidity	20% to 80%, non condensing
Withstand voltage	Between input power supply and output terminal: 2,000 Vac for 1 minute Between input power supply and chassis : 2,000 Vac for 1 minute Between output terminal and chassis : 1,000 Vdc for 1 minute
Accessories	Instruction manual x 1 Remote connector cover x 1 CO-M cable, 2 m length x 1

* The specifications show the values at the rated output after two hours of warm up unless specifically indicated.

Dimensions inch (mm)

When ordered without the -LBr option (protective breaker)

Appearance and dimensions will change when the -LBr option (⇒page 5) is selected.
Contact a sales representative for details.



Model (Example)	Number of power supply units equipped	W	H1	H2	Weight (kg, approx.)
REKM100-300	2	19.29 (490)	18.11(460)	3.54 (90)	110
REKM100-450	3		23.62(600)		140
REKM100-600	4		29.13(740)		180
REKM100-750	5		34.65(880)		210
REKM100-900	6		40.16(1020)		250
REKM100-1050	7		45.28(1150)		280
REKM100-1200	8		50.79(1290)		310

- [Note]
- Always ensure a space of at least 30 cm at the front and rear of the system rack, as forced-air cooling is used for all models.
 - Screws for the input section are as follows: ⇒M10 for input current of 240 A or less, M12 for 245 A- to 385 A, and M16 for 390 A or higher
 - Input section screws may change depending upon specifications. Contact a sales representative for details.
 - It is also possible to use eye bolts (optional) to fix these devices to walls as a measure to prevent toppling. However, no warranty is provided for toppling prevention. Please determine the necessity of measures to prevent toppling of the devices and the method by which you will implement those measures.

Options

- LEb Eye bolts** : A total of four attached to the top surface enables movement with a crane, etc.
- LBr Protective breaker***: One protective breaker per rack is installed.

*The overall dimensions and weight of the unit will differ from that shown on page 4. Contact a sales representative for details.

Note for ordering When ordering, please add the above option codes after the model number.
(Example) REKM100-1200-LBrEb (alphanumeric order)



Technical Notes

Connection/Applied Operation

■ Connection of Load

- Connect short lead wires of adequate gauge.
- Use PVC cable (105°C) that can withstand the working voltage.

Wiring to the load requires consideration of factors including the current capacity of the cable and the output cable length limitations due to sensing (0.5 V/lead). Please refer to the table below to determine the gauge of the cable.

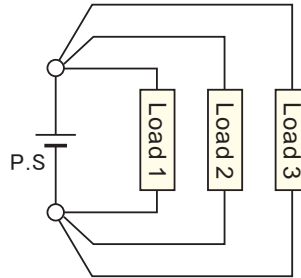
AWG	mm ²	Maximum current (A)
18	1.1	2
16	1.3	7
14	2.1	11
12	3.3	18
10	5.3	23
8	8.4	39
6	13	67
4	21	106
2	33	170
1	42	209
1/0	53	270
2/0	67	330
3/0	85	350

When 350 A or higher, use multiple cables or a copper bar.

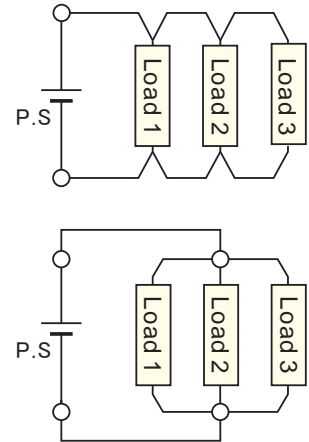
■ Parallel Connection of Load



Good example



Bad example



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

Selecting a DC Power Supply

▶ Please be sure to read.

Although the products described in this catalog are manufactured with full consideration for safety on the basis of DC power supply, follow the instruction manual for operation, and use them with the ground terminal grounded for safety.

The products described in this catalog are manufactured on the assumption that they will be used with ground potential or within the scope of serial operation. Please consult with a sales representative when using them with high potential floating, etc.

Please consult with a sales representative in advance, as although the products described in this catalog are manufactured with full consideration for protection against load discharge, there may be cases where discharge resistance is required or cannot be used between the power supply and load when used for partially continuous discharge, such as sputtering, or special pressure tests.

We recommend that you contact your sales representative with your request prior to making a selection, so that you can ensure the safety of the power supply device and select the ideal product.

Associated Series Variations

All of our product brochures are available according to the series.
Feel free to contact us for the details.

High Power DC Power Supply **PRT series**

Achieving approx. three times wider voltage/current outputs than previous models with a maximum power 15 kW



Maximum output voltage	Maximum output current	Maximum output power
80 V to 1500 V	30 A to 510 A	5 kW, 10 kW and 15 kW

Features

- DC power supply offering about three times wider voltage/current outputs than previous models with a maximum power 15 kW
- Capacity expansion up to 150 kW with parallel connections, no extra options
- Sequence setting and programming without a PC
- Constant power control along with constant voltage/constant current controls

Applications

- Evaluation of EV/HEV inverter and motors
- Charge testing of lead-acid batteries and lithium-ion batteries
- Evaluation of automotive inverter devices (including converters, power devices, inductors)
- Evaluation of automotive heaters

Multifunction DC Electronic Load **EZD series**

Maximum 650V input, standard sequence function



Operating voltage	Maximum current	Maximum capacity
4.5 V to 650 V	16.5 A and 50 A	330 W and 1000 W

Features

- Seven load modes including Constant Current (CC) mode and Constant Resistance (CR) mode
- Two sequence modes designed for various testing
- Capacity expansion up to 9 kW brought by boosters

Applications

- Evaluation of charge/discharge devices
- Charge/discharge testing of batteries and capacitors
- Surge absorption of motors

Regenerative DC Power Supply **PBR series**

Next-generation model with high power and wide output range up to 15 kW in a 19-inch, 3U rack



Power running/Regeneration at maximum		
Maximum output voltage	Maximum output current	Maximum output power
80 V to 1500 V	100 A to 360 A	5 kW, 10 kW and 15 kW

Features

- DC Power supply and DC electronic load offering bidirectional as well as regenerative functions
- Front panel operation of sequence setting and collecting log
- Ready for high power with parallel connections

Applications

- Evaluation of automotive inverters, converters (PCU, ECU, etc.)
- Evaluation of motors/generators
- Charge/discharge testing of rechargeable batteries and capacitors (option)

Four Quadrant High Speed Bipolar Power Supply **DOPF series**

Next-generation model with high power and wide output range up to 15 kW in a 19-inch, 3U rack



Maximum output voltage	Maximum output current	Maximum output power
± 5 V to ± 300 V	± 1 A to ± 200 A	150 W to 2 kW

Features

- Handling not only power supply (source) but absorption (sink) with four quadrant operation
- Best for transient response testing with the response time of DC to 30 kHz or 20 kHz
- Available for expanding to 6kW with master/slave connection

Applications

- Voltage fluctuation testing of ECU, etc.
- Ripple testing of automotive capacitors
- Absorbing the back electromotive force of electric power steering
- Evaluation of current sensors and shunt resistors

Contact us for various kinds of Power supplies

As a pioneer of power supply manufacturing,
Matsusada Precision offers solutions to meet various
needs with its expertise through direct sales.
Please visit our website and contact us for more information.

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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 Merchandise 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 specifications 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 catalogs or 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

<https://www.matsusada.com/site/warranty.html>

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