

Achieves space savings with  
the narrow width of just 19.29inches (490mm) !

**NEW**

# High Power DC Power Supply

## REKM series

Output voltage: 650V max  
Output current: 6000A max  
Output power : 120kW max

- ▶ Space-saving 19inches rack with 19.3inches (490mm) width
- ▶ High power up to 120kW in one rack
- ▶ Contributes to downsizing distribution equipment with an excellent power factor of 0.88

MADE IN  
JAPAN

High Power  
DC Power Supply

# REKM series

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

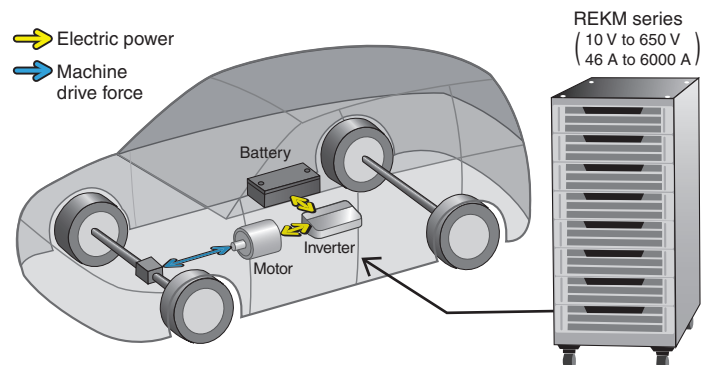


REKM series is a **high power DC power supply features safety output up to 120 kW.**

The DC power supply employs a total output current display and also provides elaborated protections as standard equipment. Accordingly, it provides strong supports especially for customers' research and development requiring large current and high power.

## Main Applications

- [Chemistry]  
Various types of electrolysis and electrolytic synthesis such as hydrogen generation
- [Electric Vehicles(EV), Hybrid Vehicles(HEV), and Vehicle-mounted Equipment]  
Evaluation testing of inverters, DC/DC converters, DC motors, relays, harnesses, etc.
- [Secondary Batteries]  
Charge/discharge testing of secondary batteries such as lithium ion, nickel metal hydride, and lead-acid batteries
- [Photovoltaic Cells]  
Evaluation testing of power conditioners, junction boxes, etc.  
The series is also applied for evaluation testing of electrical parts and electrical products such as fuses, connectors and lamps



PRTM series is strongly recommended for providing advanced control systems and suppressing overshooting with LD load.

# Lineup

We offer more models other than the models with the output bands below, so feel free to consult with our sales representative for details.

Maximum output voltage [V]	Maximum output current [A]	Maximum output power *1 [kW]	Model	Power supplies installed (units)	Ripple *2 [rms]		*3 Input current [A]
					mV	mA	
10	2400	24	REKM10-2400	2	60	9000	128
	3600	36	REKM10-3600	3	75	13500	192
	4800	48	REKM10-4800	4	90	18000	256
	6000	60	REKM10-6000	5	100	22500	320
15	1600	24	REKM15-1600	2	42	7000	128
	2400	36	REKM15-2400	3	53	10500	192
	3200	48	REKM15-3200	4	63	14000	256
	4000	60	REKM15-4000	5	70	17500	320
	4800	72	REKM15-4800	6	88	21000	384
	5600	84	REKM15-5600	7	88	24500	448
20	1200	24	REKM20-1200	2	36	4800	128
	1800	36	REKM20-1800	3	45	7200	192
	2400	48	REKM20-2400	4	54	9600	256
	3000	60	REKM20-3000	5	60	12000	320
	3600	72	REKM20-3600	6	75	14400	384
	4200	84	REKM20-4200	7	75	16800	448
30	4800	96	REKM20-4800	8	75	19200	512
	800	24	REKM30-800	2	36	1600	128
	1200	36	REKM30-1200	3	45	2400	192
	1600	48	REKM30-1600	4	54	3200	256
	2000	60	REKM30-2000	5	60	4000	320
	2400	72	REKM30-2400	6	75	4800	384
	2800	84	REKM30-2800	7	75	5600	448
	3200	96	REKM30-3200	8	75	6400	512
40	600	24	REKM40-600	2	42	1000	128
	900	36	REKM40-900	3	53	1500	192
	1200	48	REKM40-1200	4	63	2000	256
	1500	60	REKM40-1500	5	70	2500	320
	1800	72	REKM40-1800	6	88	3000	384
	2100	84	REKM40-2100	7	88	3500	448
	2400	96	REKM40-2400	8	88	4000	512
60	500	30	REKM60-500	2	42	1000	128
	750	45	REKM60-750	3	53	1500	192
	1000	60	REKM60-1000	4	63	2000	256
	1250	75	REKM60-1250	5	70	2500	320
	1500	90	REKM60-1500	6	88	3000	384
	1750	105	REKM60-1750	7	88	3500	448
	2000	120	REKM60-2000	8	88	4000	512
80	380	30.4	REKM80-380	2	72	2400	128
	570	45.6	REKM80-570	3	90	3600	192
	760	60.8	REKM80-760	4	108	4800	256
	950	76	REKM80-950	5	120	6000	320
	1140	91.2	REKM80-1140	6	150	7200	384
	1330	106.4	REKM80-1330	7	150	8400	448
100	1520	121.6	REKM80-1520	8	150	9600	512
	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
125	1200	120	REKM100-1200	8	250	8000	512
	240	30	REKM125-240	2	150	600	128
	360	45	REKM125-360	3	180	900	192
	480	60	REKM125-480	4	216	1200	256
	600	75	REKM125-600	5	240	1500	320
	720	90	REKM125-720	6	300	1800	384
	840	105	REKM125-840	7	300	2100	448
150	960	120	REKM125-960	8	300	2400	512
200	200	30	REKM200-200	2	180	400	128
	300	45	REKM200-300	3	225	600	192
	400	60	REKM200-400	4	270	800	256
	500	75	REKM200-500	5	300	1000	320
	600	90	REKM200-600	6	375	1200	384
	700	105	REKM200-700	7	375	1400	448
250	800	120	REKM200-800	8	375	1600	512
	150	30	REKM250-150	2	240	1060	128
	225	45	REKM250-225	3	300	1600	192
	300	60	REKM250-300	4	360	2120	256
	375	75	REKM250-375	5	400	2650	320
300	450	90	REKM250-450	6	500	3200	384
	525	105	REKM250-525	7	500	3700	448
	600	120	REKM250-600	8	500	4250	512
	120	30	REKM250-120	2	300	1000	128
	180	45	REKM250-180	3	375	1500	192
400	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
500	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
600	350	105	REKM300-350	7	375	700	448
	400	120	REKM300-400	8	375	800	512
	76	30	PRKM400-76	2	240	200	128
	114	45	REKM400-114	3	300	300	192
	152	60	REKM400-152	4	360	400	256
700	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
	60	30	REKM500-60	2	240	200	128
800	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
900	240	120	REKM500-240	8	500	800	512
	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
1000	150	90	REKM600-150	6	500	600	384
	175	105	REKM600-175	7	500	700	448
	200	120	REKM600-200	8	500	800	512
	46	30	REKM650-46	2	360	200	128
	69	45	REKM650-69	3	450	300	192
1100	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: We evaluate each REK series incorporated into REKM series.

We DO NOT evaluate the rated output of REKM itself.

\*2: Predicted value

\*3: Typical value



## Specifications

These specifications, unless otherwise specified, at maximum rated output after two hours of warm up, and scope of application is between 10% and 100% of maximum rated output.

<b>Input voltage</b>	200 Vac to 230 Vac $\pm 10\%$ , 50 Hz/60 Hz, three phase
<b>Power factor</b>	0.88 typ.
<b>Efficiency</b>	80% or higher
<b>Output control</b>	[Local] constant voltage: front panel rotary encoder constant current: front panel rotary encoder
<b>Voltage regulation</b>	Line: 0.1% of maximum output (for $\pm 10\%$ AC fluctuation) Load: 0.2% of maximum output (for 10% to 100% load fluctuation)
<b>Current regulation</b>	Line: 0.1% of maximum output (for $\pm 10\%$ AC fluctuation) Load: 0.2% of maximum output (for 10% to 100% load fluctuation)
<b>Stability</b>	0.05% of maximum output voltage/8 Hr
<b>Temperature coefficient</b>	0.01% maximum output voltage/ $^{\circ}\text{C}$ 0.04% of maximum output current/ $^{\circ}\text{C}$
<b>Output display</b>	Output voltage: 4-digit digital meter ( $\pm 1\%$ of full scale $\pm 1$ 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 $\pm 1$ digit, at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , 10% to 100% of rated output current)
<b>Protection features</b>	<ul style="list-style-type: none"> <li>- Overvoltage protection (OVP): Cuts off the output at set value Setting range: Approx. 5% to 110% of rating Setting method: Front panel rotary encoder Reset: Manual reset using the OUTPUT switch or remote switch</li> <li>- Overcurrent protection (OCP): Cuts off the output at set value Setting range: Approx. 5% to 110% of rating Setting method: Front panel rotary encoder Reset: Manual reset using the OUTPUT switch or remote switch</li> <li>- Overtemperature protection (OTP): Cuts off the output when rising the internal temperature abnormally Reset (at normal temperature): Manual reset using the OUTPUT switch or remote switch</li> <li>- Input voltage drop and power failure protection: Cuts off the output with an AC fail Reset (at normal voltage value or after recovery from power failure): <ul style="list-style-type: none"> <li>a. The power failure protection (re-output prevention function) is active: Manual reset using the OUTPUT switch or remote switch</li> <li>b. The power failure protection (re-output prevention function) is canceled: Automatic recovery</li> </ul> </li> <li>- Interlock (LD)</li> </ul>
<b>Other functions</b>	<ul style="list-style-type: none"> <li>- Prevention of erroneous operation by key lock</li> <li>- Last setting memory</li> <li>- Remote switch ON/OFF (TTL or external relay)</li> <li>- Status signal output (CV, CC, FLT, and OUTPUT)</li> <li>- Multi-set function: Setting for another voltage/current memories "a", "b", and "c" except for standard one.</li> </ul>
<b>Operating temp.</b>	0 to $+50^{\circ}\text{C}$
<b>Storage temp.</b>	$-20^{\circ}\text{C}$ to $+70^{\circ}\text{C}$
<b>Relative humidity</b>	20% to 80%, non condensing
<b>Withstand voltage</b>	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
<b>Accessories</b>	<ul style="list-style-type: none"> <li>- Instruction manual <math>\times 1</math></li> <li>- Remote connector cover <math>\times 1</math></li> <li>- CO-M cable, 2 meters length <math>\times 1</math></li> </ul>

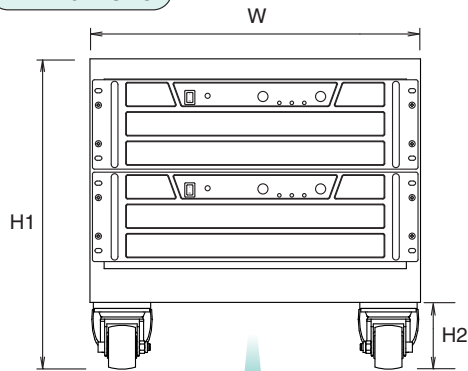
PRTM series is strongly recommended for controlling remotely or monitoring.

# Dimensions [inch (mm)]

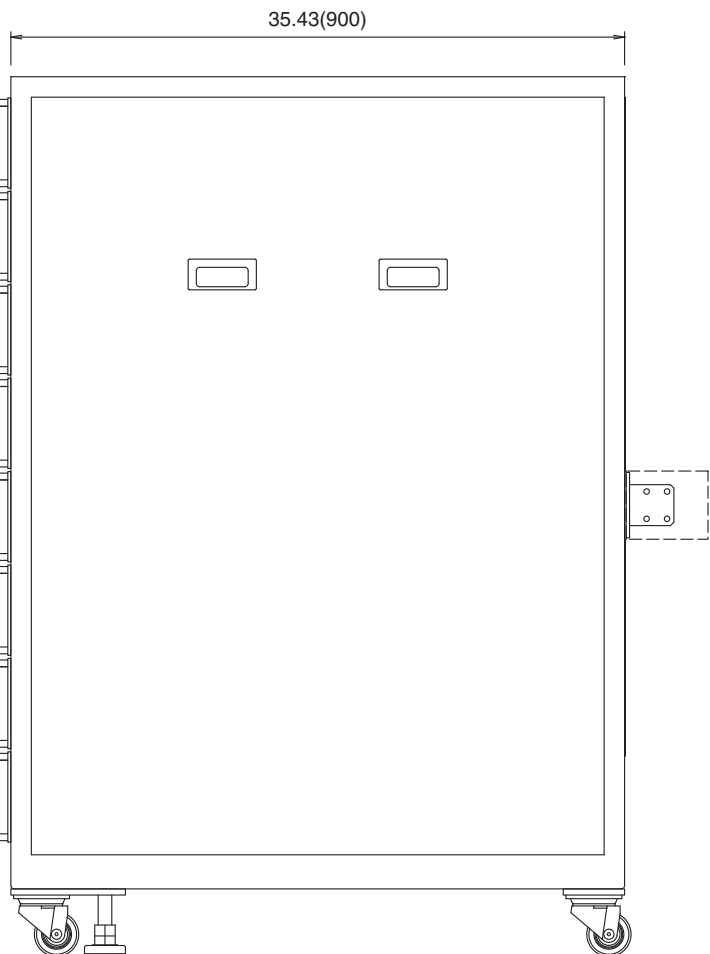
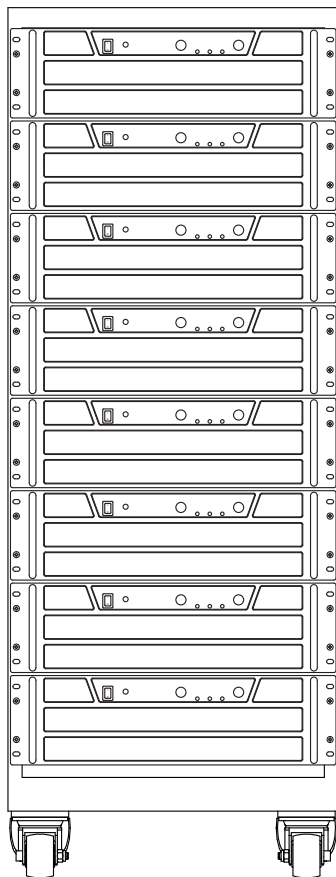
When ordered without the -LBr option (protective breaker)

The appearance and dimensions will change when the -LBr option (refer to page 06) is attached. Contact a sales representative for details.

Minimum size



Maximum size



Model No. (Example)	Power supply units installed	W [inch (mm)]	H1 [inch (mm)]	H2 [inch (mm)]	Weight [approx. kg]
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]

- All models have the forced air cooling system, so be sure to secure a space at least 11.81 inches(0.3 meters) in front and back of the system rack.
- The screw types of the input part are as follows.  
M10: 240 A or less, M12: 245 A to 385 A, M16: 390 A or more.
- The screws of the output part varies depending on to the specification: Contact a sales representative for details.
- Eye bolts (optional) can be used to fix the unit to a wall or other object in order to prevent it from falling. However, the measure does not guarantee proper fall prevention. It is your responsibility to determine whether or not you take measures to prevent the unit from falling over and to deal with.

## Options

**-LBr: Protective breaker** \* One protective breaker is installed for each rack.  
However, models with more than seven power supplies cannot be selected it.

**-LEb: Eye bolt** Four eyebolts mounted to the top side allow you to move the product using cranes.

\* The dimensions and weight of the unit will differ as that shown on page 05. Contact a sales representative for details.

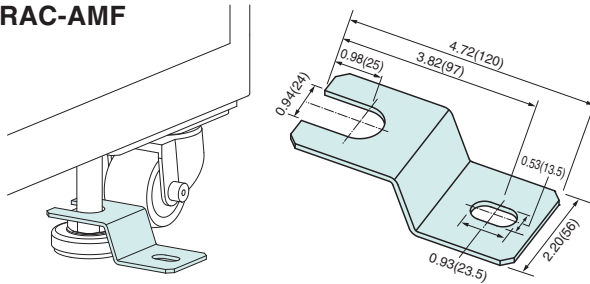
**How to order** When ordering, add Option No. to Model No. in alphabetical order followed by numerical order. <Example> REKM100-1200-LBrEb

## Sold separately

► **Anchors: Material** Stainless steel plates, 2 pcs/set

**Model number: RAC-AMF**

[Unit: inch (mm)]



Rack width	Numbers to be used
19.29(490)	2 pcs (pair)
21.65(550)	4 pcs (2-pair)

## Technical Notes

### Connection/Application

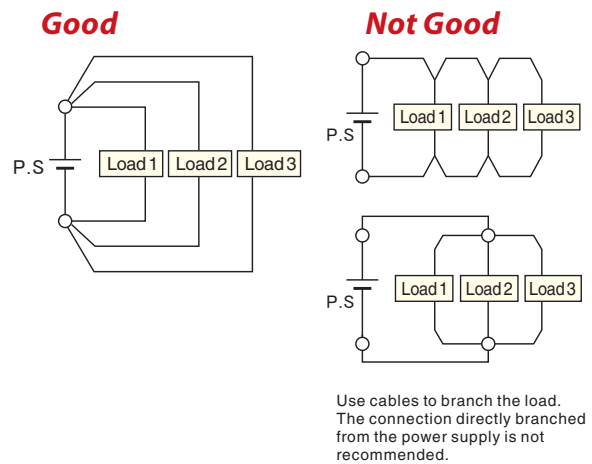
#### ■ Connection of Load

- Connect a short wire of sufficient thickness for the maximum current.
- Use an electric wire that can withstand the working voltage.
- The following table is a guide for a single wire. The maximum current varies greatly depending on the ambient temperature, arrangement, number of strands, and method of installation.
- Please check the specifications of the electric wire before use.

AWG	mm <sup>2</sup>	Max current [A]	AWG	mm <sup>2</sup>	Max current [A]
18	0.823	2.3	4	21.1	60
16	1.31	3.7	2	33.6	94
14	2.08	5.9	1	42.4	119
12	3.31	9.3	0	53.5	150
10	5.26	15	00	67.4	190
8	8.37	24	000	85.0	239
6	13.3	37	0000	107	302

In case of exceeding 302 A, please use multiple wires or connect with busbar.

#### ■ Parallel Connection of Load



## 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.  
Feel free to contact us for details.

## High Power DC Power Supply PRT/PRTM 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 4080 A	5 kW to 120 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, and 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/PBRM series

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



Power running/Regeneration at maximum		
Maximum output voltage	Maximum output current	Maximum output power
80 V and 1500 V	20 A to 3600 A	5 kW to 150 kW

### Features

- DC Power supply and DC electronic load offering bidirectional as well as regenerative functions
- Front panel operation of sequence setting and operating 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

More user-friendly and convenient



Maximum output voltage	Maximum output current	Maximum output power
±5 V to ±300 V	±1 A to ±200 A	0.15 kW 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
- With the maximum output voltage from ±5 V to ±300 V, detailed lineups over 40 models are available for your application

### 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

# Who We Are

Matsusada Precision Inc. has manufactured High voltage power supplies for more than 50 years in Japan. Recognized by Japanese customers who demand high-quality levels, we have become a high voltage power supply manufacturer which has the highest market share in Japan. Currently, we are developing products not only for high-voltage power supplies, but also for DC power supplies, AC power supplies, electronic loads, high-voltage amplifiers, bipolar power supplies, and X-ray inspection equipment.

We have contributed to customers in various industries such as Semiconductor Production Equipment, Photomultiplier, IGBT, Electrostatic Chuck, Electron Beam, Electrospinning, Plasma, Motor for Electric vehicles, etc.

In addition, we have a direct sales system to respond promptly to customers. Our technical support team with many years of experience will respond promptly from Japan.

Our mission is to deliver products that meet Japan's strict quality standards to customers all over the world. We believe that if you contact us, you will surely find the power supply you need

Matsusada Precision



## Matsusada Precision Inc.

### Sales office

#### USA

North Carolina office

**TEL(704)496-2644**

FAX(704)496-2643

North Carolina office 9:00-17:00

#### Other country or region

International office in Japan

**TEL+81-6-6150-5088**

FAX+81-6-6150-5089

International office in Japan 9:00-17:00

### We follow-up customers from japan



**Contact Us**

<https://www.matsusada.com/>