

**NEW**

High power, Versatile  
Programmable  
DC power supply

**REK/REKJ** series

Output voltage  
: 6 V to 1500 V

Output current  
: 1.2 A to 1200 A

Output power  
: 770 W to 15 kW



(available by option)



(except some models)



# REK series

“Compact” “High power” “Multi-function”  
DC programmable power supply  
with superior operability



REK series is High Power / Versatile DC programmable power supply that realizes Max. 2.5 kW by 1U (= 1.73-inch / 44 mm) height, Max. 5.5 kW by 2U (=3.5-inch / 89 mm) height, Max. 15.3 kW by 3U (= 5.24-inch / 133 mm) height.

REK series is designed to achieve excellent power factor as good as 0.99 (\*1), its high efficiency helps to reduce environmental burden. Adopting low noise switching technology, REK series has long supported laboratory, R&D, experiment works as it carries useful functions such as Delay trigger, Sequence operation (\*2), Memory function and Locking function to protect operation mistake.

REK series has standard built-in digital interface (\*3) such as LAN (Ethernet \*4) and USB, which can help to establish automatic measuring system or production machine master control system.

\*1 : In single phase input models.

\*2 : Optional

\*3 : Adaptors or options will be needed additionally.

\*4 : Ethernet is a registered trademark of Xerox corporation.



Compact and high power  
**15 kW**



Ideal for research and development with **low noise switching method.**



**PFC circuit and universal input** would not select the place of operation.



Various operations by connecting multiple power supplies, such as **master/slave**, is possible.



REK adopt **large 4-digit monitor display** for both voltage and current, which contributes to precise monitoring with better recognition.



Operability and safety are improved with new features of **key-lock function** and **acceleration rotary encoder**, which accelerate the output ramp up with the speed of rotating the encoder.

## Lineup

Voltage (V)	Output		Model	Ripple		Dim. (P.8・9)
	Current (A)	Power (kW)		(mVrms)	(mA <sub>rms</sub> )*1	
0 to 6	0 to 130	780 W	●REKJ6-130	10	260	<b>1</b>
	0 to 220	1.3	★REK6-220	10	320	<b>A</b>
	0 to 310	1.9	REK6-310	10	1500	<b>A</b>
	0 to 530	3.2	REK6-530	10	900	<b>D</b>
0 to 8	0 to 300	2.4	REK8-300	10	1200	<b>A</b>
	0 to 600	4.8	REK8-600	10	2000	<b>D</b>
	0 to 1000	8	REK8-1000*2	45	4000	<b>G</b>

Voltage (V)	Output		Model	Ripple		Dim. (P.8・9)
	Current (A)	Power (kW)		(mVrms)	(mA <sub>rms</sub> )*1	
0 to 10	0 to 80	800 W	●REKJ10-80	10	160	<b>1</b>
	0 to 150	1.5	★REK10-150	10	300	<b>A</b>
	0 to 240	2.4	★REK10-240	10	500	<b>A</b>
	0 to 340	3.4	REK10-340	10	900	<b>D</b>
	0 to 510	5.1	REK10-510	10	1000	<b>D</b>
	0 to 1000	10	REK10-1000	45	4500	<b>G</b>
	0 to 1200	12	REK10-1200	50	4500	<b>G</b>

# Lineup

Voltage (V)	Output		Model	Ripple		Dim. (P.8・9)
	Current (A)	Power (kW)		(mVrms)	(mA <sup>*1</sup> rms)	
0 to 15	0 to 54	810 W	●REKJ15-54	10	110	1
	0 to 100	1.5	★REK15-100	10	150	A
	0 to 160	2.4	★REK15-160	10	300	A
	0 to 227	3.4	REK15-227	10	500	D
	0 to 340	5.1	REK15-340	15	600	D
	0 to 800	12	REK15-800	35	3500	G
0 to 20	0 to 40	800 W	●REKJ20-40	10	80	2
	0 to 80	1.6	★REK20-80	10	160	A
	0 to 125	2.5	★REK20-125	12	250	A
	0 to 170	3.4	REK20-170	15	300	C
	0 to 260	5.2	REK20-260	15	400	C
	0 to 420	8.4	REK20-420 <sup>*2</sup>	30	2000	G
	0 to 500	10	REK20-500	30	2400	G
	0 to 600	12	REK20-600	30	2400	G
0 to 30	0 to 27	810 W	●REKJ30-27	10	60	2
	0 to 53	1.6	★REK30-53	20	100	A
	0 to 84	2.5	★REK30-84	20	160	A
	0 to 115	3.5	REK30-115	20	200	C
	0 to 180	5.4	REK30-180	20	260	C
	0 to 280	8.4	REK30-280 <sup>*2</sup>	30	700	F
	0 to 333	10	REK30-333	30	800	F
	0 to 400	12	REK30-400	30	800	F
0 to 35	0 to 45	1.6	★REK35-45	20	90	A
	0 to 72	2.5	★REK35-72	20	150	A
	0 to 100	3.5	REK35-100	30	230	C
	0 to 155	5.4	REK35-155	30	280	C
0 to 36	0 to 22	790 W	●REKJ36-22	10	60	2
0 to 40	0 to 20	800 W	●REKJ40-20	15	60	2
	0 to 210	8.4	REK40-210 <sup>*2</sup>	35	350	F
	0 to 250	10	REK40-250	35	500	F
	0 to 300	12	REK40-300	35	500	F
0 to 45	0 to 18	810 W	●REKJ45-18	15	60	2
	0 to 35	1.6	★REK45-35	20	70	A
	0 to 55	2.5	★REK45-55	30	100	A
	0 to 78	3.5	REK45-78	30	130	C
	0 to 120	5.4	REK45-120	30	180	C
0 to 60	0 to 13.5	810 W	●REKJ60-13.5	12	45	2
	0 to 26	1.6	★REK60-26	20	50	A
	0 to 42	2.5	★REK60-42	18	80	A
	0 to 60	3.6	REK60-60	30	100	C
	0 to 90	5.4	REK60-90	30	135	C
	0 to 140	8.4	REK60-140 <sup>*2</sup>	45	350	F
	0 to 170	10.2	REK60-170	45	500	F
	0 to 250	15	REK60-250	45	500	F
0 to 80	0 to 10	800 W	●REKJ80-10	30	20	2
	0 to 20	1.6	★REK80-20	20	40	A
	0 to 31	2.5	★REK80-31	20	60	A
	0 to 45	3.6	REK80-45	30	80	C
	0 to 68	5.4	REK80-68	30	100	C
	0 to 110	8.8	REK80-110 <sup>*2</sup>	80	600	F
	0 to 130	10.4	REK80-130	80	1000	F
	0 to 190	15.2	REK80-190	80	1200	F
0 to 100	0 to 16	1.6	★REK100-16	20	25	B
	0 to 25	2.5	★REK100-25	25	50	B
	0 to 36	3.6	REK100-36	30	60	E
	0 to 55	5.5	REK100-55	30	80	E
	0 to 85	8.5	REK100-85 <sup>*2</sup>	100	350	F
	0 to 100	10	REK100-100	100	800	F
	0 to 150	15	REK100-150	100	1000	F

● : Half rack type.

★ : CE marking models.

1.3 kW to 1.6 kW models correspond to Low Voltage Directive and EMC Directive.  
 2.4 kW and 2.5 kW models correspond to Low Voltage Directive. The model which has not yet acquired CE marking at present is going to acquire it in future. Please refer for the latest acquisition situation to our sales office. In addition, the model which attached -LEt option, -LMI option or -L(400V) / -L(3P) / -L(1P) option is out of CE marking acquisition object. (See P.10 about these options.)

Voltage (V)	Output		Model	Ripple		Dim. (P.8・9)
	Current (A)	Power (kW)		(mVrms)	(mA <sup>*1</sup> rms)	
0 to 120	0 to 6.6	790 W	●REKJ120-6.6	30	20	2
0 to 125	0 to 65	8.1	REK125-65 <sup>*2</sup>	125	200	F
	0 to 80	10	REK125-80	125	300	F
	0 to 120	15	REK125-120	125	300	F
0 to 150	0 to 10	1.5	★REK150-10	30	20	B
	0 to 16.6	2.5	★REK150-16.6	25	35	B
	0 to 24	3.6	REK150-24	30	40	E
	0 to 36	5.4	REK150-36	30	55	E
	0 to 55	8.3	REK150-55 <sup>*2</sup>	150	100	F
	0 to 70	10.5	REK150-70	150	200	F
	0 to 100	15	REK150-100	150	200	F
0 to 160	0 to 5	800 W	●REKJ160-5	30	10	2
0 to 200	0 to 8	1.6	★REK200-8	40	15	B
	0 to 12.5	2.5	★REK200-12.5	40	25	B
	0 to 18	3.6	REK200-18	40	30	E
	0 to 27	5.4	REK200-27	40	40	E
	0 to 42	8.4	REK200-42 <sup>*2</sup>	200	200	F
	0 to 52	10.4	REK200-52	200	380	F
	0 to 75	15	REK200-75	200	530	F
0 to 250	0 to 3.2	800 W	●REKJ250-3.2	50	10	2
	0 to 22	5.5	REK250-22	50	40	E
	0 to 34	8.5	REK250-34 <sup>*2</sup>	100	150	F
	0 to 42	10.5	REK250-42	250	280	F
0 to 300	0 to 60	15	REK250-60	250	500	F
	0 to 5.3	1.6	★REK300-5.3	50	10	B
	0 to 8.3	2.5	★REK300-8.3	50	18	B
	0 to 12	3.6	REK300-12	50	20	E
	0 to 18	5.4	REK300-18	50	30	E
	0 to 28	8.4	REK300-28 <sup>*2</sup>	150	50	H
0 to 350	0 to 35	10.5	REK300-35	150	100	H
	0 to 50	15	REK300-50	150	100	H
	0 to 2.2	770 W	●REKJ350-2.2	50	10	2
	0 to 22	8.8	REK400-22 <sup>*2</sup>	200	100	H
	0 to 26	10.4	REK400-26	200	100	H
0 to 400	0 to 38	15.2	REK400-38	200	100	H
	0 to 1.6	800 W	●REKJ500-1.6	60	5	2
	0 to 3.2	1.6	★REK500-3.2	100	5	B
0 to 500	0 to 5	2.5	★REK500-5	100	12	B
	0 to 7	3.5	REK500-7	100	15	E
	0 to 11	5.5	REK500-11	100	20	E
	0 to 17	8.5	REK500-17 <sup>*2</sup>	200	100	H
	0 to 20	10	REK500-20	200	100	H
	0 to 30	15	REK500-30	200	100	H
	0 to 2.7	1.6	★REK600-2.7	60	5	B
	0 to 4.1	2.5	★REK600-4.1	150	10	B
0 to 600	0 to 6	3.6	REK600-6	150	15	E
	0 to 9	5.4	REK600-9	150	15	E
	0 to 14	8.4	REK600-14 <sup>*2</sup>	200	100	H
	0 to 18	10.8	REK600-18	200	100	H
	0 to 25	15	REK600-25	200	100	H
	0 to 1.2	780 W	●REKJ650-1.2	150	5	2
	0 to 2.5	1.6	REK650-2.5	150	5	B
	0 to 3.8	2.5	REK650-3.8	150	10	B
0 to 650	0 to 5.5	3.6	REK650-5.5	150	15	E
	0 to 8.5	5.5	REK650-8.5	150	15	E
	0 to 13	8.5	REK650-13 <sup>*2</sup>	250	50	H
	0 to 16	10.4	REK650-16	250	50	H
	0 to 23	15	REK650-23	300	100	H
	0 to 10	8.5	REK850-10 <sup>*2</sup>	300	100	I
	0 to 12	10.2	REK850-12	300	100	I
	0 to 18	15.3	REK850-18 <sup>*2</sup>	300	100	I
0 to 850	0 to 3	4.5	REK1500-3	1500	50	I
	0 to 10	15	REK1500-10	1500	100	I

\*1 : This is the value of the rated current in 10-100 % of output voltage when connecting resistive load. Please contact our sales office about the value when connecting nonlinear load such as semiconductor of laser diode etc.

\*2 : These models are coming soon. The date of delivery is different from other models, so please contact our sales office for the details.

# Standard function

## Sink Current / Sink Current Prevention Function

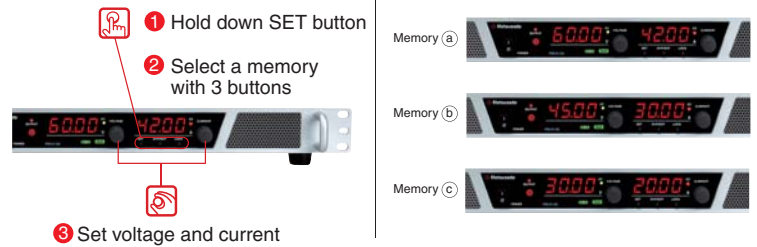
REK series features **function to sink current**, and enable to decrease the voltage quickly when turning off the output or when control the voltage down, which increase the safety of operation. In case that continuous aging test in short interval, quick voltage fall time increase the efficiency of process. On the contrary by using **sink current prevention** function, it is possible to prevent voltage drop on the load by decreasing the current flow from load to power supply when turning off the power supply or when decrease the output voltage.

<NOTE> It is not possible to stabilize the output by controlling back current. In case of load which has inverse voltage or over rated voltage, such as inductive load or regenerative motor, protect the power supply by adding dummy resistor or diode to prevent back current.



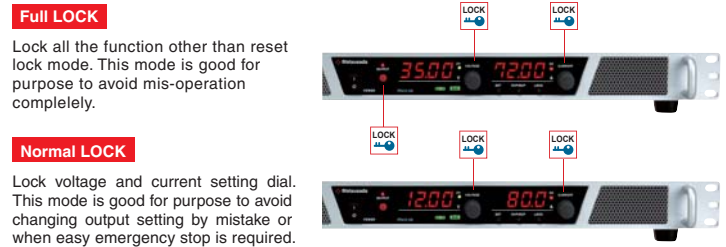
## Multi Setting Function

Function to memorize 3 different voltage and current settings in addition to standard preset function. No need to adjust the output when different setting, and convenient function for production inspection process or testing which require frequent data taking.



## Two Mode Lock Function

Function to select two different lock modes for two different purposes. "Full Lock" locks all the functions on front panel, and "Normal Lock" locks all the functions except for ON / OFF switch. "Full Lock" mode shall be good in case mis-operation have to be completely avoided, and "Normal Lock" mode shall be good in case to avoid mis-operation but secure the way for emergency stop of power supply. You can select the best mode according to your level of "Security". (In both modes, emergency stop is possible with Power Switch.)

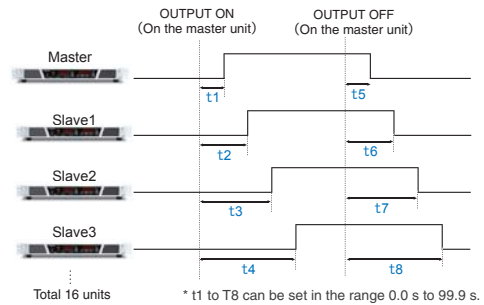


## Delay Trigger Function

In case -LU<sub>s</sub>1, -LEt or -LGob option is selected, only one unit of REK series can be used.

Function to delay the OUTPUT ON / OFF time. It is possible to use in case single unit of REK series is used, and also when connecting several Matsusada power supplies(\*1) using master-slave connection terminal(\*2) and output voltage / output current are set individually, delay trigger function can be used.(\*3)

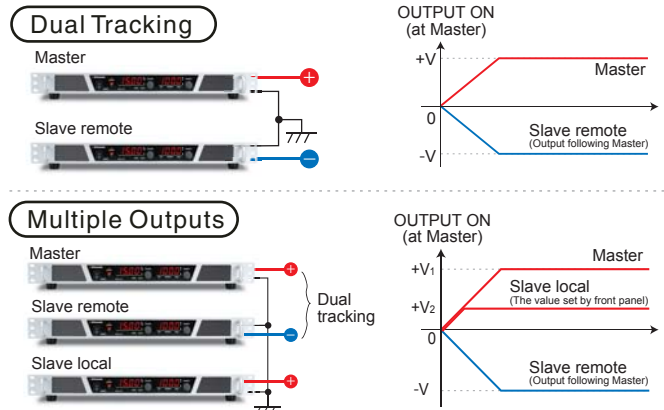
\*1 : R4K-36 series, R4K-80 series, RK-80 series, RK series, TB series and RKT series. Detail catalog for each model is available. Please contact nearby sales office.  
 \*2 : Can be connected up to 16 pcs.  
 \*3 : Only for slave-local. In case of slave remote control, exact same model of power supply need to be used. Also, in case of slave-local, each output voltage and current can be set individually. In case of slave-remote, output voltage and current can be set with one-control function which -each slave unit follows the master unit setting.



## Dual Tracking, Multiple Outputs

Dual tracking control, which enables both positive and negative outputs simultaneously in master slave operation, is possible. Multi outputs and various versatile operations are also possible by combining above dual tracking control and slave local mode. Positive and negative output(+V, -V) of dual tracking control and set output voltage of slave local mode can be output simultaneously by turning on the master unit.

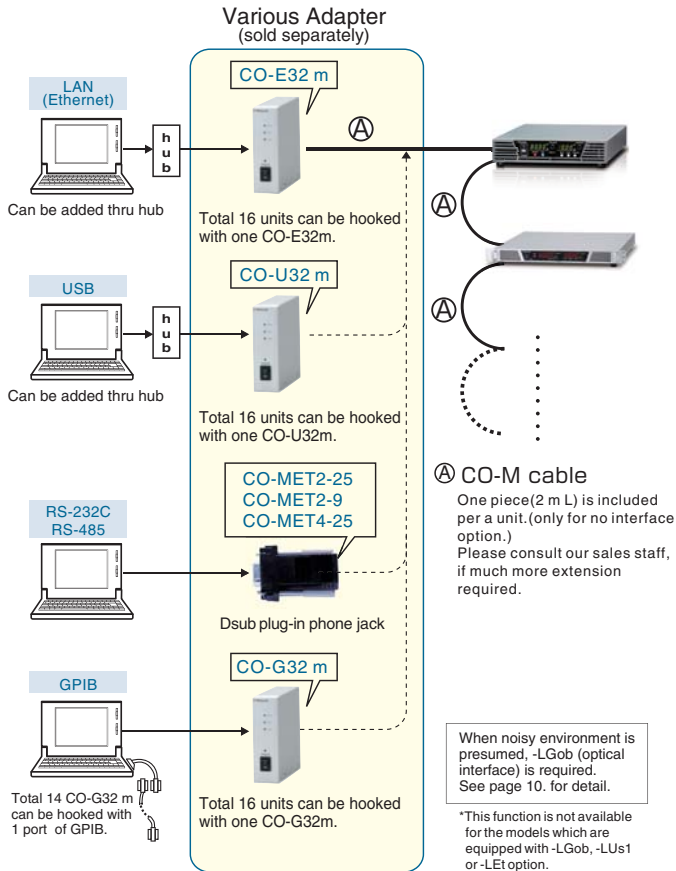
\*Please refer to P.10 for detail connection.



# Connection and Remote control

## Digital Interface

In addition to digital control with LAN (Ethernet), USB, RS-232C, RS-485 and GPIB, one control is enabled in master-slave operation.



## Master / Slave Control

One-control on local in parallel is enabled up to 16 units with master-slave operation

This is not a function for parallelly connected power supplies to give out average output current.

It has to hook with each same model in the same series in master-slave. (at Slave Remote at Delayed Trigger. see page 4 "Delayed Trigger Function")



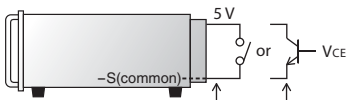
\*This function is not available for the models which are equipped with -LGob, -LUs1 or -LEt option.

## Digital Control Function

Control Function	Output ON / OFF setting Display of various Status (fault / output / OVP / OCP / OTP / ACF / reverse sense connection / interlock) Digital Control Max. 16 units (-LGob option models : Max. 32 units) Package Control Multiple Units Hooked	
	Write Function	Setting Output Voltage
Setting Output Current		Percent Mode, Voltage or Current Value Mode
Setting OVP Setting OCP		Percent Mode, Voltage or Current Value Mode
Read Function	Measured Output Voltage	Percent Mode, Voltage or Current Value Mode
	Measured Output Current	Percent Mode, Voltage or Current Value Mode
	Setting Output Voltage	Percent Mode, Voltage or Current Value Mode
	Setting Output Current	Percent Mode, Voltage or Current Value Mode
	Setting OVP	Percent Mode, Voltage or Current Value Mode
	Setting OCP	Percent Mode, Voltage or Current Value Mode

Minimum setting unit for each model is one count of the indicator.

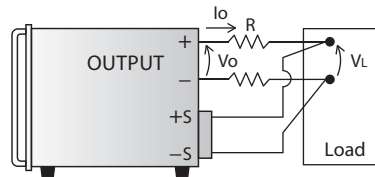
## Remote Switch ON / OFF



Output	Relay	Open collector
ON	Short	$V_{CE} \leq 0.4 \text{ V}$
OFF	Open	$V_{CE} \geq 2 \text{ V}$

·Sink current 1 mA  
·Logic of OUTPUT can be reversed

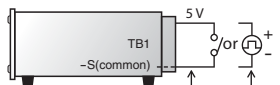
## Remote sensing



Prevents voltage drop down ( $V_o - V_L$ ) due to resistance (R) or deterioration of stability by contact resistance (Max compensation 0.5 V)

## Remote Control

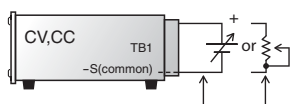
### Remote/Local change



Mode	External relay	TTL
Remote	Short	Low
Local	Open	High

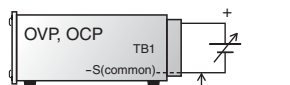
Each mode of voltage, current, OVP and OCP can be switched by relay or TTL signal.

### Output control



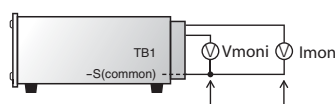
Vout · Iout	Control voltage	R *
0 to MAX	0 to 10 Vdc input imp.500 kΩ	0 to approx. 10 kΩ

★Possible to change 10 kΩ to 0 Ω for fail safe



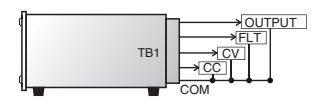
Vout · Iout	Control voltage
Max x5 to 110 %	0 to 10 Vdc input imp.20 kΩ

### Output Monitor



Output	0 to 10 Vdc Output imp.1 kΩ	0 to 10 Vdc Output imp.1 kΩ
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### Status Output



**OUTPUT** ON when OUTPUT  
**FLT** ON when fault \*  
**CV** **CC** ON when each mode

\*On when OVP, OCP, OTP, ACF, reverse connection of sensing or interlock(LD) status.

Common is floating in open collector output of common. With stand voltage 30 Vdc, sink current 5 mA or less.

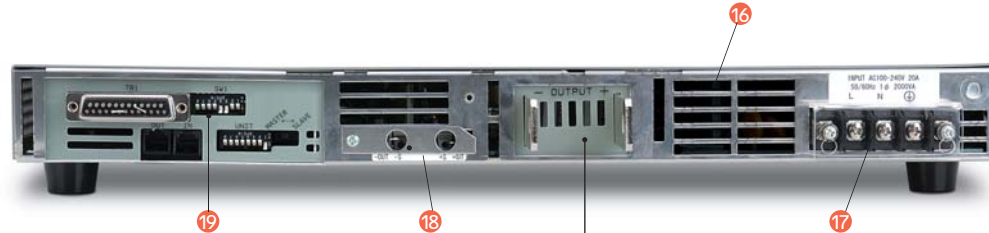
# Functions

## REK (1U model)

### Front Panel



### Rear Panel



#### Output terminal

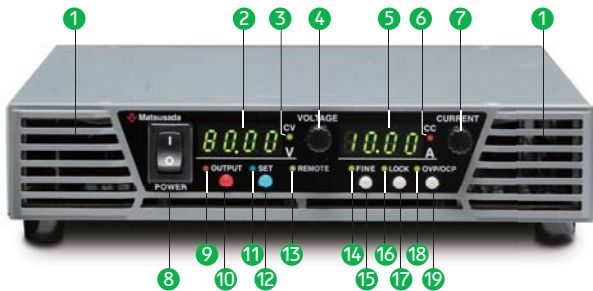
Terminal board : more than 100 V models  
Busbar : up to 80 V models

To an output terminal cover for terminal board models, two places of holes of 8 mm in diameter are arranged as standard specifications.  
A diameter bigger than 8 mm is also available, but, in that case, become out of CE mark object. Please contact our sales office for details.

- ① Air intake
- ② **OUTPUT display**  
Light on when output is ON.
- ③ **Output voltage, OVP setting display**
- ④ **Constant voltage mode display**
- ⑤ **Output voltage, OVP setting dial**
- ⑥ **Output current, OCP setting display**
- ⑦ **Constant current mode display**
- ⑧ **Output current, OCP setting dial**
- ⑨ **POWER ON / OFF switch**  
This has priority over all operations for safety reason.
- ⑩ **OUTPUT ON / OFF switch**  
To be used to turn output on/off when local mode as well resetting protection functions.
- ⑪ **Keylock display**  
Light on when key-lock condition.
- ⑫ **Remote programming display**  
Light on when voltage/current remote control.
- ⑬ **Output preset switch**
- ⑭ **OVP / OCP setting switch**
- ⑮ **Keylock setting switch**
- ⑯ **Exhaust hole**
- ⑰ **AC input terminal**
- ⑱ **Not Sink Current switch**
- ⑲ **Function setting switch(SW1)**

## REKJ

### Front Panel



### Rear Panel



- ① Air intake
- ② **Output voltage, OVP setting display**
- ③ **Constant voltage mode display**
- ④ **Output voltage, OVP setting dial**
- ⑤ **Output current, OCP setting display**
- ⑥ **Constant current mode display**
- ⑦ **Output current, OCP setting dial**
- ⑧ **POWER ON / OFF switch**  
This has priority over all operations for safety reason.
- ⑨ **OUTPUT display**  
Light on when output is ON.
- ⑩ **OUTPUT ON / OFF switch**  
To be used to turn output on/off when local mode as well resetting protection functions.
- ⑪ **Output preset display**  
Light on when preset.
- ⑫ **Output preset switch**
- ⑬ **Remote programming display**  
Light on when voltage / current remote control.
- ⑭ **FINE display**  
Light on when FINE condition.
- ⑮ **FINE setting switch**
- ⑯ **Keylock display**  
Light on when key-lock condition.
- ⑰ **Keylock setting switch**
- ⑱ **OVP / OCP display**  
Light on when OVP / OCP working.
- ⑲ **OVP / OCP setting switch**
- ⑳ **Exhaust hole**
- ㉑ **Terminal for functional earthing**
- ㉒ **Output terminal**  
6 V, 10 V, 15 V output models : Busbar  
other models : Terminal board
- ㉓ **Prevention sink current switch**
- ㉔ **AC input terminal**

# Specifications

## Input Voltage / Input Current

Output Power	Rated input voltage	Input Voltage(50/60Hz) Min to Max	Phase	Input Current *1	Power factor	Input Current Protection	Object Models	Dimensions
770 to 810 W	100 to 240 VAC	85 to 264 VAC	1	11 A @ 100 V	0.99 typ	Fuse 15 A	Standard	1 2 (Harf rack)
1.3 to 1.6 kW	100 to 240 VAC	85 to 264 VAC *2	1	20 A @ 100 V	0.99 typ	Fuse 30 A	Standard	A B (1U)
1.9 to 2.5 kW	200 to 240 VAC	180 to 264 VAC*3 180 to 264 VAC	1 3	16 A @ 200 V 10 A @ 200 V	0.99 typ 0.95 typ		Standard -L(3P) option	
3.2 to 3.6 kW	200 to 240 VAC	180 to 264 VAC 180 to 264 VAC	1 3	26 A @ 200 V 15 A @ 200 V	0.99 typ 0.95 typ	Fuse 15 A	-L(1P) option Standard	C to E (2U)
	380 to 415 VAC	342 to 460 VAC	3	8 A @ 400 V	0.95 typ		-L(400 V) option	
4.5 to 5.5 kW	200 to 240 VAC	180 to 264 VAC	3	22 A @ 200 V	0.95 typ	Fuse 30 A	Standard	F to I (3U)
	380 to 415 VAC	342 to 460 VAC	3	12 A @ 400 V	0.95 typ	Fuse 20 A	-L(400 V) option	
4.5 kW	200 to 230 VAC	180 to 253 VAC	3	22 A @ 200 V	0.88 typ	Fuse 30 A	Standard	F to I (3U)
8 to 8.8 kW	200 to 230 VAC	180 to 253 VAC	3	32 A @ 200 V	0.88 typ	Fuse 50 A	Standard	
10 to 10.8 kW	200 to 230 VAC	180 to 253 VAC	3	45 A @ 200 V	0.88 typ	Fuse 75 A	Standard	
12 to 15.3 kW	200 to 230 VAC	180 to 253 VAC	3	64 A @ 200V	0.88 typ	Fuse 100 A	Standard	

\*1 : At maximum output power \*2 : Rated input voltage range is between 100 to 240 VAC(50 / 60 Hz) while applying CE mark. \*3 : Rated input voltage range is between 200 to 240 VAC(50 / 60 Hz) while applying CE mark.

<b>Output control</b>	Local : CV, CC : rotary encoder on front panel Remote : CV, CC : external control voltage 0 Vdc to 10 Vdc or external variable resistor 0 Ω to approx. 10 kΩ
<b>Voltage regulation</b>	Line : 0.01 % of maximum output (for AC±10 % input change) Load : 0.01 %+2 mV of maximum output (for 10 % to 100 % load change)
<b>Current regulation</b>	Line : 0.01 % of maximum output (for AC±10 % input change) Load : 0.02 %+5 mA of maximum output (for 10 % to 100 % load change)
<b>Stability</b>	0.05 % / 8 Hr of maximum output voltage
<b>Temperature coefficient</b>	0.01 % / °C of maximum output voltage 0.04 % / °C of maximum output current
<b>Output display</b>	Output voltage : 4-digit meter (±0.5 %FS±1digit at 23°C±5°C) Output current : 4-digit meter (±0.5 %FS±1digit at 23°C±5°C)
<b>Monitor output</b>	Output voltage monitor : 10 V / maximum output voltage Output current monitor : 10 V / maximum output current
<b>Protection functions</b>	Over voltage protection (OVP) : Output is cut off at a set value. Over current protection (OCP) : Output is cut off at a set value. Setting range : approx. 5 % to 110 % of rated output Local setting : Rotary encoder on front panel 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) : Manual recovery by OUTPUT switch or remote switch. Input brownout(ACF)-Blackout protection : Output is cut off when input voltage decreased. Reset (when normal voltage value or recovery from blackout) ⇒ Manual recovery by OUTPUT switch or remote switch for blackout protection (re-output protection function). ⇒ Automatic recovery when blackout protection is canceled. Sense reverse connection, Interlock

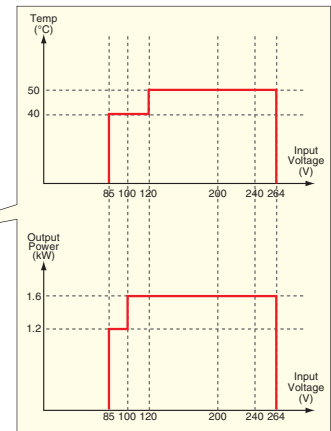
<b>Other functions</b>	<ul style="list-style-type: none"> <li>• Keylock to avoid misoperation.</li> <li>• Digital master slave operation. (up to 250 V for series operation) (Max 16 units for parallel or series connection.) (Combination of parallel and series is not possible.)</li> <li>• Setting memory function • Quiet forced air cooling • Remote sensing</li> <li>• Remote switch ON / OFF (TTL or external relay)</li> <li>• Status signal output (CV, CC, FLT, OUTPUT)</li> <li>• Delay trigger function : ON delay and OFF delay can be set individually=(0.0 to 99.9 sec)</li> <li>• Multi set function : Voltage and current memory "a", "b" and "c" can be set in addition to standard preset function.</li> </ul>
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<b>Transient response time</b>	Recovery time 1 ms (the time before returning to less than 10 % of the setting voltage for 70 % to 100 % load change at the time of CV operating)
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<b>Operation temperature</b>	Up to 1.6 kW model 0°C to +50°C (when input is 120 VAC to 264 VAC.) 0°C to +40°C (when input is 85 VAC to 120 VAC.) When the input voltage is below 100 VAC, the output power is to be derated at 1.2 kW max.
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<b>Storage temperature</b>	-20°C to +70°C
<b>Storage humidity</b>	20 % to 80 % RH (no condensation)
<b>Dielectric voltage</b>	[REK] Between input power supply and output terminal : AC2000 V 1 minute Between input power supply and chassis : AC2000 V 1 minute Between output terminal and chassis : DC1000 V 1 minute (DC 1500 V 1 minute for only output voltage 1500 V model) [REKJ] Between input power supply and output terminal : AC1500 V 1 minute Between input power supply and chassis : AC1500 V 1 minute Between output terminal and chassis : DC 500 V 1 minute

<b>Accessories</b>	<ul style="list-style-type: none"> <li>• Instruction manual (1)</li> <li>• Remote connector cover (1)</li> <li>• CO-M cable 2 m (1)</li> <li>&lt;when without interface option, except -LMi option&gt;</li> <li>• (only for REKJ) AC input cable (1)</li> </ul>
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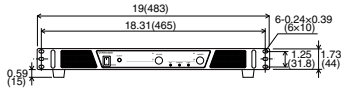
CABLE TYPE 8 (standard) for 100 V input, 3-pin plug	CABLE TYPE 3 (separate) for 200 V input, flying lead	CABLE TYPE 4 (separate) for 200 V input, 2-pin plug
125 V / 15 A 2.5 m	250 V / 10 A 2.5 m	250 V / 10 A 2.5 m

\* please use appropriate AC cable.

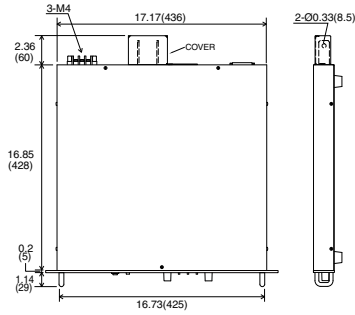
# Dimensions inch(mm)

There are exhaust holes on rear panel for forced air cooling.  
In case placed in a closed cabinet without extra room, apply additional forced cooling.

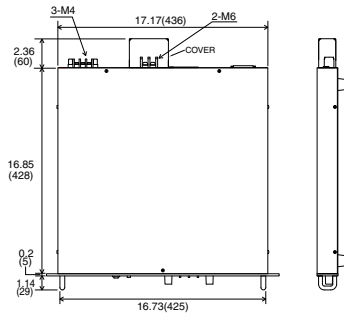
## 1.3 kW to 2.5 kW Models



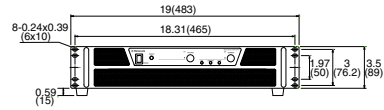
**A** Busbar output type Weight : approx. 8 kg



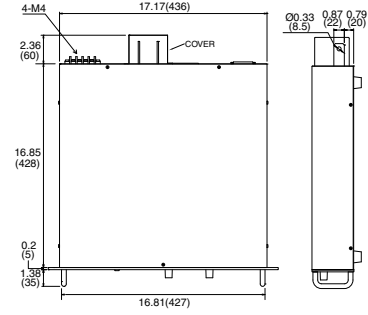
**B** Terminal board output type Weight : approx. 8 kg



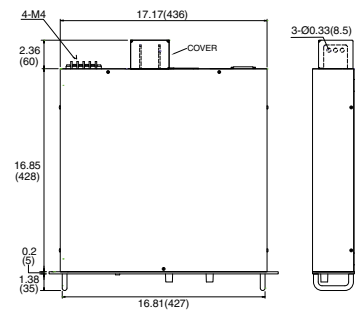
## 3.2 kW to 5.5 kW Models



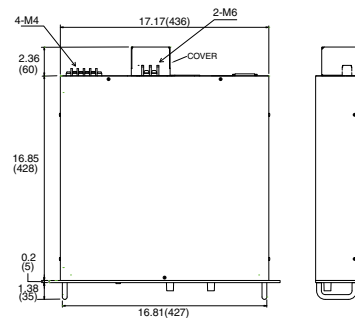
**C** Busbar output type Weight : approx. 14 kg



**D** Busbar output type Weight : approx. 14 kg



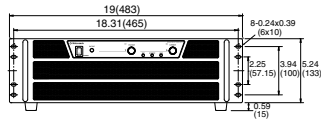
**E** Terminal board output type Weight : approx. 14 kg





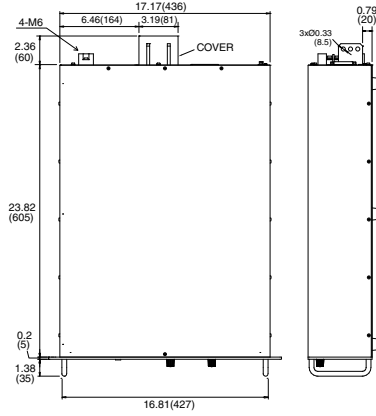
## 8 kW to 15.3 kW Models

8 kW to 8.8 kW models may change dimensions.  
Please contact our sales office for the details.



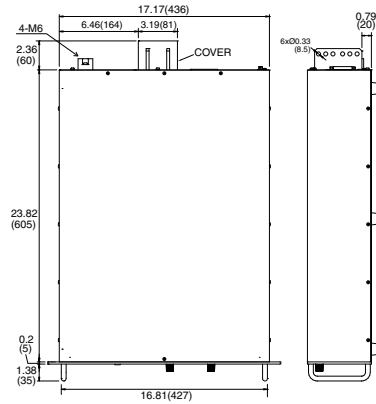
### F Busbar output type

Weight : approx. 25 kg



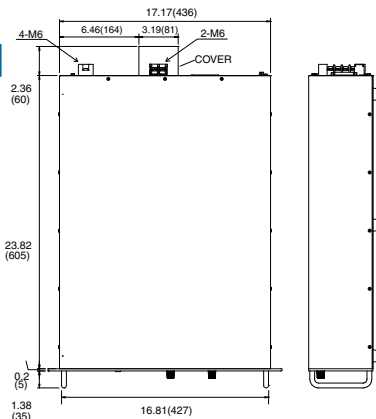
### G Large busbar output type

Weight : approx. 25 kg



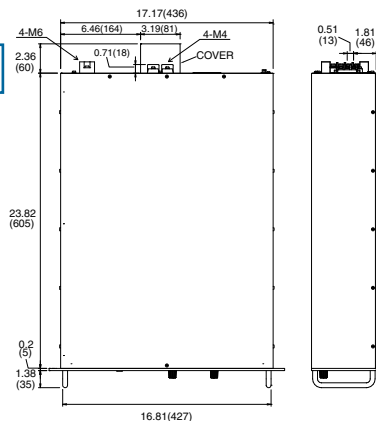
### H Terminal board output type

Weight : approx. 25 kg



### I Large Terminal board output type

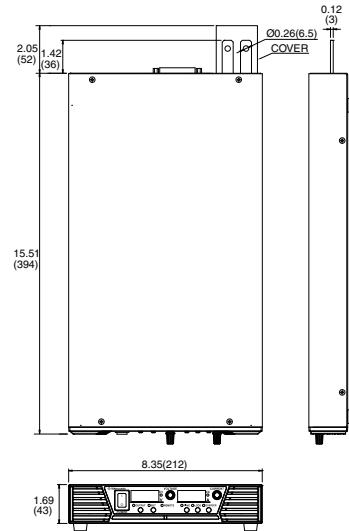
Weight : approx. 25 kg



## REKJ series

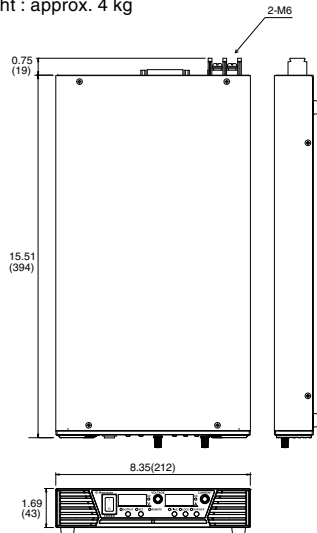
### 1 Busbar output type

Weight : approx. 4 kg



### 2 Terminal board output type

Weight : approx. 4 kg



# Options

## -LMI : Multi-digital interface \*

Digital control by LAN(Ethernet), USB (USBTMC) and RS-485(Multidrop) is available. (These simultaneous use is impossible. And, RS-485 supports only FULL DUPLEX communications.)This option includes -L(SCPI) option, and attaches IVI driver corresponding to SCPI command. It makes it easy for control program development with various programming languages such as LabView, VisualBasic and C# etc.



The model with these options does not have CE marking.

## -LUS1 : USB Interface Board \*

## -LEt : Ethernet Interface Board \*

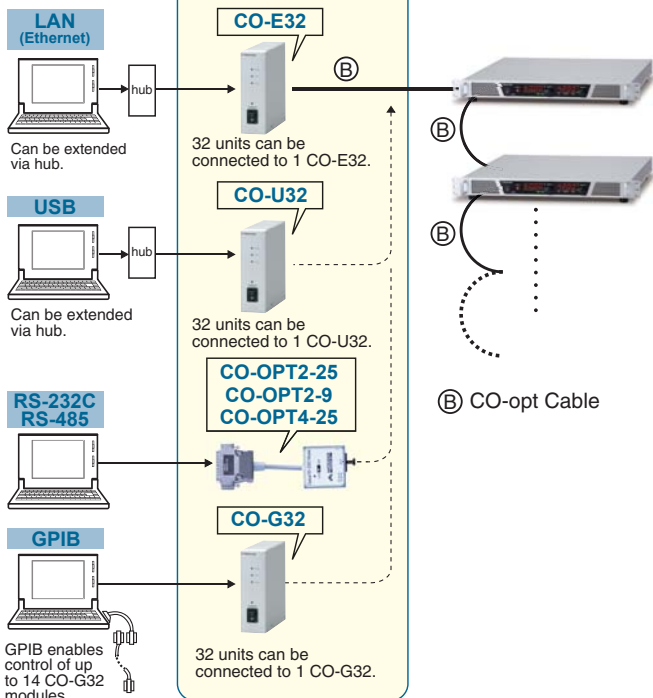
The models with USB or LAN interface integrate it with -LMI option model. But the conventional -LUS1 option and -LEt option models continue the production, too. Please refer to our sales office for details.

## -LGob : Optical Interface Board \*

- LGob : Optical interface board + optical cable 2 m
- LGob(Fc5) : Optical interface board + optical cable 5 m
- LGob(Fc10) : Optical interface board + optical cable 10 m
- LGob(Fc20) : Optical interface board + optical cable 20 m
- LGob(Fc40) : Optical interface board + optical cable 40 m

Optical communication offers insulation control. It is to prevent malfunction such as transient phenomenon by surge, lightning induction, and exogenous noise.

### Converters (need separately)



Select the -LGob option when using power supply following environmental condition

- Factories which has a lot of noise (ex.)in case of using power supplies and loads near motors and coils.
- In case using power supply with high voltage floating(more than 250 V)
- The length between power supply and controller unit(PC or PLC) is more than 2-meter

## -L(SCPI) : SCPI command

Enable control via SCPI command.

## -L(400 V), -L(3P), -L(1P) Input voltage / phase

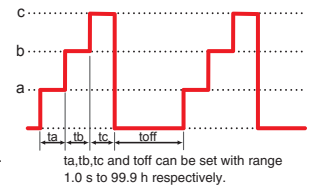
See page 7 for detail.

The model with these options does not have CE marking.

## -LDe : Pulse / Ramp sequence, Master follow function

### A. Pulse Sequence

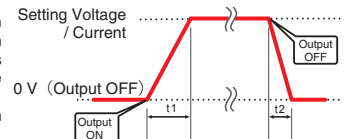
Using the stored voltage and current setting in each memory of a, b and c and multi set function, sequence operation is possible. The setting of repetition to say nothing of a continuous driving can be set. Various different operations, such as repetition of memory a and b or b ,c and off, are possible by setting the set time of memory a, b, c, and / or off to be 0.0. Thus, it makes this model suitable for evaluation test or other applications.



ta, tb, tc and toff can be set with range 1.0 s to 99.9 h respectively.

### B. Ramp

This function controls the ramping up and down the voltage and current to the set value (or from set voltage and current value to 0 V / 0 A). It is convenient to increase(decrease) the voltage and current value slowly.



\*The Ramp sequence can be selected from [both set voltage and current], [only set voltage], and [only set current].

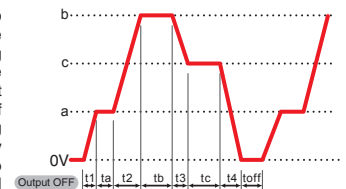
\* Master follow function cannot be used with -LGob, -LUS1, and -LEt option.

\*The Ramp sequence can be selected from [both set voltage and current], [only set voltage], and [only set current].

t1 and t2 can be set with range 0 to 999 s respectively.

### C. Combination of Pulse and Ramp Sequence

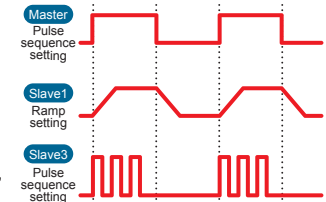
Features of pulse sequence operation and ramp sequence operation can be combined for more convenient operation. In addition, by adding multi set function, sequence operation can be operated using stored voltage and current settings in each memory. The setting of repetition to say nothing of a continuous driving can be set. For example it is possible to slowly ramp up and down the voltage and current to the three different settings, and so, it is useful on various scenes.



t1, t2, t3 and t4 can be set with range 0 to 999 s respectively. ta, tb, tc and toff can be set with range 0.0s to 99.9 h respectively.

### D. Master follow

When the pulse sequence operation and the ramp work master-slave, the output signal to the slave unit is transmitted. The slave unit can be output in an output status different from the master unit.



\* Master follow function cannot be used with -LGob, -LUS1, and -LEt option.

\* The Ramp sequence can be selected from [both set voltage and current], [only set voltage], and [only set current].

Note The operation accuracy of the timer when sequencing is 0.5 %. Be careful when you use it by the long-term running operation.

## -L(Mc0.5), -L(Mc0.15) \*

### Communication cable extension

The length of CO-M cable will be 0.5-meter long 0.15-meter long. (You can choose only either.)

### Single phase AC input cable (3-pin type) separate

25 A / 250 V single phase open terminal

Model CABLE TYPE 5 : Standard 2.5 m length

CABLE TYPE 5( ) : Extended length(1 m increment)

<e.g.> 5 m : CABLE TYPE 5(5)

\* : These options cannot be selected together. Only one of each can be selected. Also, please see the CO series catalog for detail of function of digital interface.

When ordering, suffix the above option number to the model number.

<e.g.> REKJ6-130-LDeMi(Mc0.5)

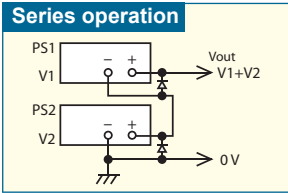
REK100-36-LDeGob(Fc20)(1P)

REK500-11-LDeMi(400 V)

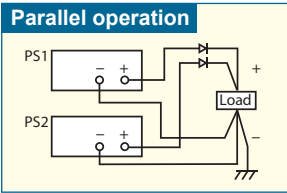
(Alphabetical, AC input numeral order)

# Operation example

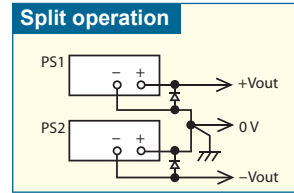
REK series of same model number can be connected in series or parallel to increase output voltage or current. In that case, local control or the control in the digital master slave is recommended. Because the common of the outside input/output control connector (TB1) is connected to the negative output, please do not connect common more than two.



Total output voltage is to be up to 250 V. Therefore for models with output voltage of over 250 V, series operation cannot be conducted. Output current is to be the smallest current of those.



Please keep all the settings of voltage the same. Output current will be the summation of each current. Please keep OVP level of power supply maximum to prevent any damage.



+output and -output are available.



## TECHNICAL NOTE

### Connection · Operation

#### ■ Connection of load

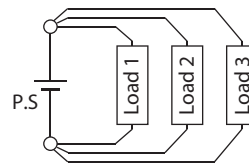
- Please use a short lead wire that is sufficiently thick for the connection.
- Please use PVC electric cable (105°C) that can fully tolerate the voltage used. It is necessary to consider current capacity, length limit of output wire by sensing (0.5 V /lead) and so on for wiring with load. Please refer to the following diagram to determine the thickness of cable.

AWG	mm <sup>2</sup>	Max 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

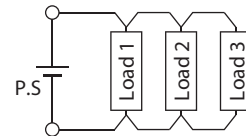
Use several cables or copper bar for model over 350 A.

#### ■ Parallel connection of load

##### ○ Good example



##### ✗ Bad example

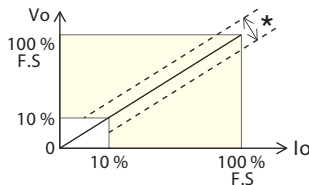


### Definition of specifications

Specifications in this catalog, except otherwise specified, refer to values when maximum rating output (full scale\*) after 2-hour warm up.

#### Applicable scope of specifications

"F.S × catalog value(\*)" is applied for ripple, stability, regulations and temperature coefficient, and "value if F.S × ±1 %(\*)" is applied for high-voltage output linearity, monitor linearity and display linearity, both in the range of 10 % to 100 % of maximum rating output.



#### Ripple

Indication is in rms that includes high-frequency noise.

#### Preset

Preset value does not show the actual output status accurately. If you need an accurate setting, conduct actual output without load and set a voltage. Also for setting current, conduct output after shorting the output terminal and gradually raise current before setting at a desired value.

## When selecting DC power supply

### ► Important Notice

Products on this catalog have been manufactured with consideration of safety as DC power supply, however please follow instruction manual for operation and make sure to ground the ground terminal for your safety.

Products on this catalog have been manufactured on the precondition that they are used in ground electric potential or within the range of the above series operation. Please contact our sales staff when using the product for floating of high electric potential, etc.

Products on this catalog are manufactured with consideration for protection against load discharge. However for specific experiment or continuous discharge such as sputtering, product may need discharge resistance between power supply and load or could not be used at all. Please consult with our sales staff in advance.

We recommend that you contact our sales staff with your requirement before choosing a product so that you can get the best product and the safety as high-voltage equipment is assured.

