



High Power, Versatile Programmable DC Power Supply

REK/REKJ series

Max.Output voltage

6V to 1500V

Max.Output current

1.0A to 1200A

Max.Output power

0.77kW to 15kW



(Available only for option)



(Except for some models)



REK/REKJ series

“Compact” “High power” “Multi-function”

DC programmable power supply with superior operability



6.75 kW to 15.3 kW models
3U(5.24 inch/133 mm) size



2.7 kW to 5.5 kW models
2U(3.5 inch/89 mm) size



REKJ series (0.77 kW to 0.81 kW)
Half rack size



1.2 kW to 2.5 kW models
1U(1.73 inch/44 mm) size

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.

In addition, the series has digital interface (*2) such as LAN and USB as standard equipment and offers flexibility to easily support various automated measurements and large-scale system construction in production equipment.

We also have a lineup of REKJ series (0 to 800 V, 0.77 kW to 0.81 kW) in a half rack size of 8.35 inch/212 mm wide with the similar functions to REK series. (Optional to LXI compatible, some models to CE compatible)

*1: In single phase input models.

*2: Adaptors or options will be needed additionally.



Compact and high power
15kW



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 **two mode lock function** and **acceleration rotary encoder**, which accelerate the output ramp up with the speed of rotating the encoder.

Lineup

Output			Model	Ripple		Dimension (P.8, 9)
Voltage [V]	Current [A]	Power [kW]		[mVrms] *1	[mArms] *1 *2	
0 to 6	0 to 130	0.78	● REKJ6-130	10	260	1
	0 to 200	1.2	REK6-200	10	320	A
	0 to 220	1.3	★ REK6-220	10	320	A
	0 to 310	1.9	REK6-310	10	1500	A
	0 to 530	3.2	REK6-530	10	900	D
0 to 8	0 to 180	1.44	REK8-180	10	500	A
	0 to 300	2.4	REK8-300	10	1200	A
	0 to 600	4.8	REK8-600	10	2000	D
	0 to 1000	8	REK8-1000	45	4000	G
0 to 10	0 to 80	0.8	● REKJ10-80	10	130	1
	0 to 150	1.5	★ REK10-150	10	300	A
	0 to 200	2	REK10-200	10	500	A
	0 to 240	2.4	★ REK10-240	10	500	A
	0 to 340	3.4	REK10-340	10	900	D
	0 to 510	5.1	REK10-510	10	1000	D
	0 to 1000	10	REK10-1000	45	4500	G
	0 to 1200	12	REK10-1200	50	4500	G
0 to 15	0 to 54	0.81	● REKJ15-54	10	80	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 *3	35	3500	G
0 to 16	0 to 320	5.12	REK16-320	15	600	D
0 to 18	0 to 290	5.22	REK18-290	15	500	C
0 to 20	0 to 40	0.8	● REKJ20-40	10	60	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 200	4	REK20-200	15	400	C
	0 to 260	5.2	REK20-260	15	400	C
	0 to 420	8.4	REK20-420 *3	30	2000	G
	0 to 500	10	REK20-500	30	2400	G
	0 to 600	12	REK20-600	30	2400	G
	0 to 200	5	REK25-200	20	400	C
0 to 25	0 to 27	0.81	● REKJ30-27	8	30	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 240	7.2	REK30-240	30	700	F
	0 to 280	8.4	REK30-280 *3	30	700	F
	0 to 333	10	REK30-333	30	800	F
0 to 30	0 to 400	12	REK30-400 *3	30	800	F
	0 to 45	1.6	★ REK35-45	20	90	A
	0 to 50	1.75	REK35-50	20	150	A
	0 to 72	2.5	★ REK35-72	20	150	A
	0 to 100	3.5	REK35-100	30	230	C
0 to 35	0 to 155	5.4	REK35-155	30	280	C
	0 to 22	0.79	● REKJ36-22	8	20	2
0 to 36	0 to 20	0.8	● REKJ40-20	8	8	2
	0 to 40	1.6	REK40-40	20	80	A
	0 to 60	2.4	REK40-60	30	125	A
	0 to 75	3	REK40-75	30	130	C
	0 to 85	3.4	REK40-85	30	150	C
	0 to 210	8.4	REK40-210 *3	35	350	F
	0 to 250	10	REK40-250	35	500	F
	0 to 300	12	REK40-300	35	500	F
	0 to 18	0.81	● REKJ45-18	15	60	2
0 to 45	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 54	0 to 100	5.4	REK54-100	30	150	C
0 to 60	0 to 13.5	0.81	● REKJ60-13.5	12	10	2
	0 to 26	1.6	★ REK60-26	20	50	A
	0 to 30	1.8	REK60-30	18	80	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	35	350	F
	0 to 170	10.2	REK60-170	35	500	F
	0 to 200	12	REK60-200	35	500	F
	0 to 250	15	REK60-250	35	500	F
0 to 70	0 to 30	2.1	REK70-30	20	60	A
0 to 75	0 to 36	2.7	REK75-36	30	80	C
0 to 80	0 to 10	0.8	● 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	60	600	F
	0 to 130	10.4	REK80-130	60	1000	F
	0 to 190	15.2	REK80-190	60	1200	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.

In addition, the model which attached -LET option, -LMI option or -L(3P) option is out of CE marking acquisition object. (See P. 10, P. 11 about these options.)

This product is designed to be integrated into the customer's system and to meet the requirements of CE marking under the conditions of chassis mounting, noise suppression, proper protections, and isolation devices. It is not designed to perform alone.

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

*1: The value is applied in the usage range of rated output from 10% to 100%.

*2: The value is for connecting the resistance load. As for values in connecting the nonlinear load (including semiconductor laser diode), contact our sales representatives.

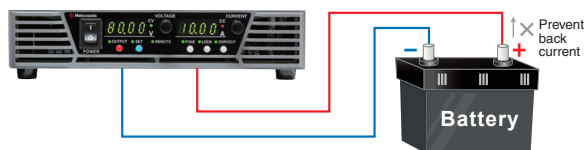
*3: These models are coming soon. The date of delivery is different from other models, so please contact our sales office for the details.

Output			Model	Ripple		Dimension (P.8, 9)
Voltage [V]	Current [A]	Power [kW]		[mVrms] *1	[mArms] *1 *2	
0 to 90	0 to 20	1.8	REK90-20	25	50	B
	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 100	0 to 85	8.5	REK100-85	100	350	F
	0 to 100	10	REK100-100	100	800	F
	0 to 150	15	REK100-150	100	1000	F
	0 to 20	2.2	REK110-20	25	50	B
	0 to 6.6	0.792	● REKJ120-6.6	20	8	2
0 to 120	0 to 13	1.56	REK120-13	30	35	B
	0 to 25	3	REK120-25	30	40	E
	0 to 65	8.1	REK125-65 *3	125	200	F
0 to 125	0 to 80	10	REK125-80	125	300	F
	0 to 120	15	REK125-120	125	300	F
	0 to 25	3.25	REK130-25	30	40	E
0 to 130	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	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	0.8	● REKJ160-5	30	10	2
	0 to 8	1.6	★ REK200-8	40	15	B
0 to 200	0 to 12.5	2.5	★ REK200-12.5	40	25	B
	0 to 18	3.6	REK200-18	40	30	E
	0 to 20	4	REK200-20	40	40	E
	0 to 27	5.4	REK200-27	40	40	E
	0 to 42	8.4	REK200-42 *3	200	200	F
	0 to 52	10.4	REK200-52	200	380	F
	0 to 75	15	REK200-75	200	530	F
	0 to 3.2	0.8	● REKJ250-3.2	40	5	2
0 to 250	0 to 22	5.5	REK250-22	50	40	E
	0 to 34	8.5	REK250-34 *3	100	150	F
	0 to 42	10.5	REK250-42	250	280	F
	0 to 60	15	REK250-60	250	500	F
	0 to 25	6.75	REK270-25	100	50	H
0 to 270	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	100	50	H
0 to 300	0 to 35	10.5	REK300-35	100	100	H
	0 to 50	15	REK300-50	100	100	H
	0 to 2.2	0.77	● REKJ350-2.2	50	10	2
	0 to 5	2	REK400-5	100	12	B
	0 to 22	8.8	REK400-22	150	100	H
0 to 350	0 to 26	10.4	REK400-26	150	100	H
	0 to 38	15.2	REK400-38	150	100	H
	0 to 1.6	0.8	● REKJ500-1.6	20	5	2
0 to 400	0 to 3.2	1.6	★ REK500-3.2	100	5	B
	0 to 5	2.5	★ REK500-5	100	12	B
	0 to 6	3	REK500-6	100	15	E
	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 *3	150	100	H
	0 to 20	10	REK500-20	150	100	H
	0 to 25	12.5	REK500-25	150	100	H
	0 to 30	15	REK500-30	150	100	H
	0 to 2.7	1.6	★ REK600-2.7	60	5	B
0 to 500	0 to 4.1	2.5	★ REK600-4.1	150	10	B
	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 *3	200	100	H
	0 to 18	10.8	REK600-18	200	100	H
0 to 600	0 to 25	15	REK600-25	200	100	H
	0 to 1.2	0.78	● 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 5.5	3.6	REK650-5.5	150	15	E
0 to 650	0 to 8.5	5.5	REK650-8.5	150	15	E
	0 to 13	8.5	REK650-13 *3	250	50	H
	0 to 16	10.4	REK650-16	250	50	H
	0 to 23	15	REK650-23	300	100	H
	0 to 1	0.8	● REKJ800-1	300	100	3
	0 to 10	8.5	REK850-10 *3	300	100	I
	0 to 12	10.2	REK850-12	300	100	I
0 to 800	0 to 18	15.3	REK850-18	300	100	I
	0 to 15	15	REK1000-15 *3	1000	100	I
0 to 1000	0 to 10	15	REK1500-10	1500	100	I

Standard function

Sink Current Suppression

When supplying power to loads with capacitors like batteries and capacitors, the sink current suppression is used to reduce the reverse current flowing from the load to the unit in order to prevent a voltage drop on the load as the output is OFF or the set voltage is lowered.



<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.)

Full LOCK

Lock all the function other than reset lock mode. This mode is good for purpose to avoid mis-operation completely.

Normal LOCK

Lock voltage and current setting dial. This mode is good for purpose to avoid changing output setting by mistake or when easy emergency stop is required.



Delay Trigger Function

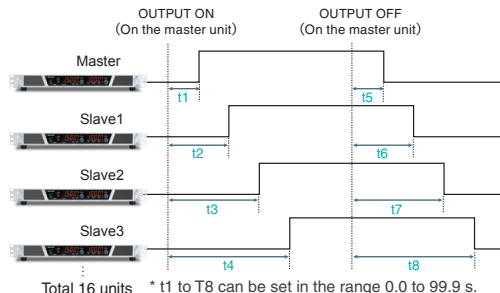
In case -LU51, -LEt or -LGob option is selected, only one unit of REK/REKJ series can be used.

Function to delay the OUTPUT ON/OFF time. It is possible to use in case single unit of REK/REKJ 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 datasheet 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

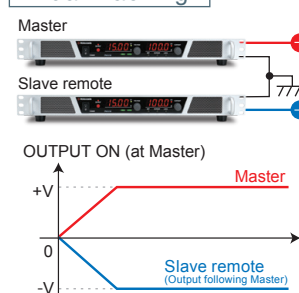
Dual tracking control, which enables both positive and negative outputs simultaneously in master/slave operation, is possible. Multi outputs and various versatile operations are also possible by combining above dual tracking control and slave local mode.

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.

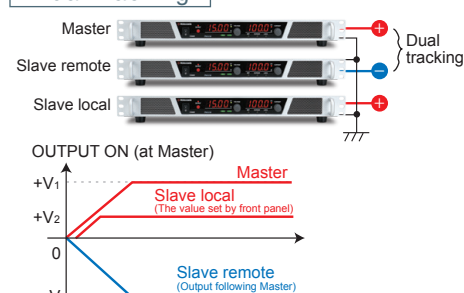
* Please refer to P.11 for Operation example.

* As for dual tracking control, models at output voltage exceeding 250 V is not available with the function.

Dual Tracking



Dual Tracking



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/Measured Output Current: Percent Mode, Voltage or Current Value Mode Setting Output Voltage/Setting Output Current: Percent Mode, Voltage or Current Value Mode Setting OVP/Setting OCP: Percent Mode, Voltage or Current Value Mode

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

Digital Interface

The digital control via LAN/USB/RS-232C/RS-485/GPIB is available.

Adapters (separately sold)

To use the digital interface, you need to prepare a digital interface adapter separately. The following interface adapters are available according to the communication method of your controller port.

- CO-E32m: Adapter for LAN

Total 16 units can be connected to one CO-E32m. LAN cable is not provided.

- CO-U32m: Adapter for USB

Total 16 units can be connected to one CO-U32m. USB cable is not provided.

- CO-MET2-9: Adapter for RS-232C (9 pin)

D-sub ⇄ Modular jack Total 16 units can be connected to each CO-MET2-9.

- CO-MET2-25: Adapter for RS-232C (25 pin)

D-sub ⇄ Modular jack Total 16 units can be connected to each CO-MET2-25.

- CO-MET4-25: Adapter for RS-485 (25 pin)

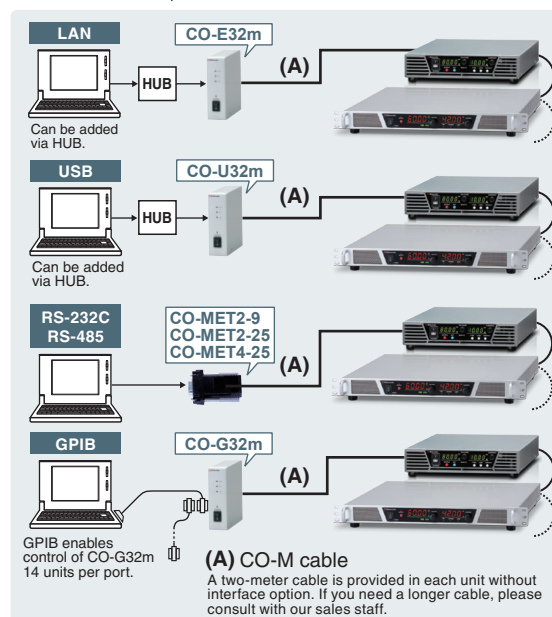
D-sub ⇄ Modular jack Total 16 units can be connected to each CO-MET4-25.

- CO-G32m: Adapter for GPIB

Total 16 units can be connected to one CO-G32m. GPIB cable is not provided.

For details, refer to CO/USB series datasheet.

As for 1U and 2U models, this function is not available when -LGob, -LUs1 or -LEt option is chosen.



Master/slave

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

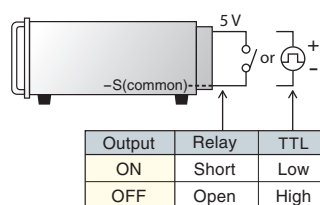
This is not a function for parallelly connected power supplies to give out average output current.



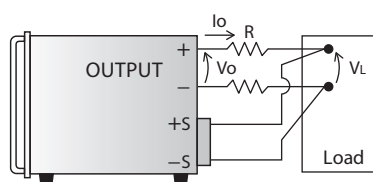
* As for 1U and 2U models, this function is not available when -LGob, -LUs1 or -LEt option is chosen.

When noisy environment is presumed, the following -LGob option (optical interface) is required.

Remote Switch ON/OFF



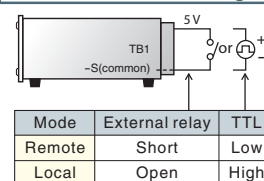
Remote sensing



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

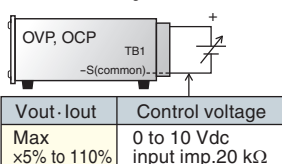
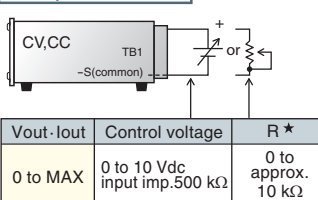
Remote Control

Remote/Local change

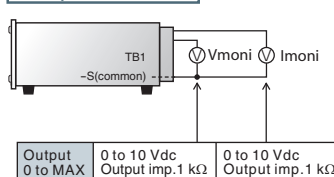


Each mode of voltage, current, OVP and OCP can be switched by relay or TTL signal.

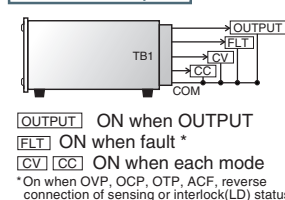
Output control



Output Monitor



Status Output



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

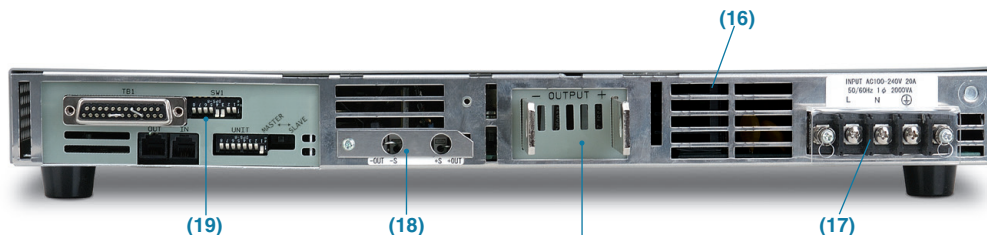
Functions

REK (1U model)

Front Panel



Rear Panel



Output terminal

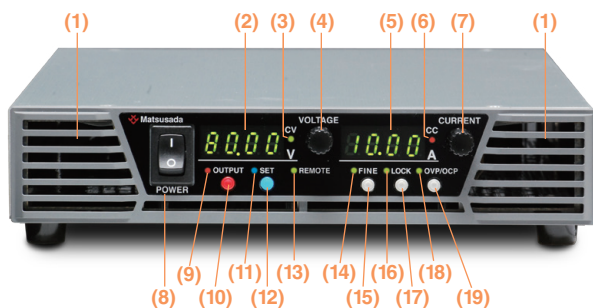
Terminal board: more than 100 V models
Busbar: up to 80 V models

To an output terminal cover for terminal board models, two places of holes of Ø0.31 inch(8 mm) in diameter are arranged as standard specifications. A diameter bigger than Ø0.31 inch(8 mm) is also available, but, in that case, become out of CE mark object. Please contact our sales office for details.

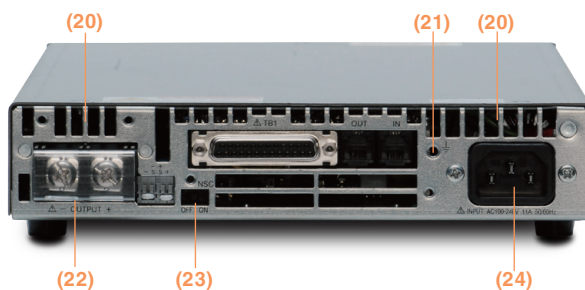
- (1) Air intake
- (2) OUTPUT display
Light on when output is ON.
- (3) Output voltage, OVP setting display
- (4) Constant voltage mode display
- (5) Output voltage, OVP setting dial
- (6) Output current, OCP setting display
- (7) Constant current mode display
- (8) Output current, OCP setting dial
- (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 setting.
- (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

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. Avoid the continuous operation under a short circuit condition in the rated output voltage less than 10%, which could activate the protection.

Input Voltage/Input Current




Output Power	Rated input voltage	Input Voltage (50 Hz/60 Hz) Min to Max	Phase	Input Current ^{*1}	Power factor	Input Current Protection	Object Models	Dimensions
0.77 kW to 0.81 kW	100 Vac to 240 Vac	85 Vac to 264 Vac	1	11 A @ 100 V	0.99 typ	Fuse 15 A	Standard	1 2 3 (Half rack)
1.2 kW to 1.6 kW	100 Vac to 240 Vac	85 Vac to 264 Vac ^{*2}	1	20 A @ 100 V	0.99 typ	Fuse 30 A	Standard	A B (1U)
1.75 kW to 2.5 kW	200 Vac to 240 Vac	180 Vac to 264 Vac ^{*3}	1	16 A @ 200 V	0.99 typ		Standard	
		180 Vac to 264 Vac	3	10 A @ 200 V	0.95 typ		-L(3P) option	
2.7 kW to 3.6 kW	200 Vac to 240 Vac	180 Vac to 264 Vac	1	25 A @ 200 V	0.99 typ		-L(1P) option	C to E (2U)
		180 Vac to 264 Vac	3	15 A @ 200 V	0.95 typ		Standard	
4 kW to 5.5 kW	380 Vac to 415 Vac	342 Vac to 460 Vac	3	8 A @ 400 V	0.95 typ	Fuse 15 A	-L(400V) option	C to E (2U)
	200 Vac to 240 Vac	180 Vac to 264 Vac	3	22 A @ 200 V	0.95 typ	Fuse 30 A	Standard	
	380 Vac to 415 Vac	342 Vac to 460 Vac	3	12 A @ 400 V	0.95 typ	Fuse 20 A	-L(400V) option	
	480 Vac	432 Vac to 528 Vac	3	10 A @ 480 V	0.95 typ	Fuse 20 A	-L(480V) option	
6.75 kW to 8.8 kW	200 Vac to 230 Vac	180 Vac to 253 Vac	3	32 A @ 200 V	0.88 typ	Fuse 50 A	Standard	F to I (3U)
	380 Vac to 400 Vac	342 Vac to 440 Vac	3	22 A @ 400 V	0.88 typ	Fuse 50 A	-L(400V) option	
10 kW to 10.8 kW	200 Vac to 230 Vac	180 Vac to 253 Vac	3	45 A @ 200 V	0.88 typ	Fuse 75 A	Standard	
	380 Vac to 400 Vac	342 Vac to 440 Vac	3	24 A @ 400 V	0.88 typ	Fuse 50 A	-L(400V) option	
12 kW to 15.3 kW	200 Vac to 230 Vac	180 Vac to 253 Vac	3	64 A @ 200 V	0.88 typ	Fuse 100 A	Standard	F to I (3U)
	380 Vac to 400 Vac	342 Vac to 440 Vac	3	When ordering -L(400) option, RE series and PRT series are supported for it. Consult us for details.				

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

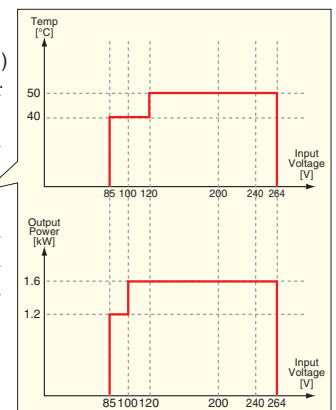
Output control	Local: CV, CC: rotary encoder on front panel Remote: CV, CC: external control voltage 0 to 10 Vdc or external variable resistor 0 to approx. 10 kΩ
Voltage regulation	Line: 0.01% of maximum output (for AC±10% input change) Load: 0.1%+2 mV of maximum output (for 10% to 100% load change)
Current regulation	Line: 0.01% of maximum output (for AC±10% input change) Load: 0.1%+5 mA of maximum output (for 10% to 100% load change)
Stability	0.05%/8 Hr of maximum output voltage
Temperature coefficient	0.01%/°C of maximum output voltage, 0.04%/°C of maximum output current
Output display	Output voltage: 4-digit meter (±0.5%FS ±1digit at 23°C ±5°C, 10% to 100% of rated output voltage) Output current: 4-digit meter (±0.5%FS ±1digit at 23°C ±5°C, 10% to 100% of rated output current)
Monitor output	Output voltage monitor: 10 V/maximum output voltage Output current monitor: 10 V/maximum output current
Protection functions	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, Keylock to avoid misoperation
Other functions	- 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.) - Setting memory function - Quiet forced air cooling - Remote sensing - Remote switch ON/OFF (TTL or external relay) - Status signal output (CV, CC, FLT, OUTPUT) - Delay trigger function: ON delay and OFF delay can be set individually = (0.0 to 99.9 sec) - Multi set function: Voltage and current memory "a", "b", and "c" can be set in addition to standard preset function.
Transient response time	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)
Operation temperature	Up to 1.6 kW model 0 to +50°C (Input voltage 120 Vac to 264 Vac) 0 to +40°C (Input voltage 85 Vac to 120 Vac) (When the input voltage is 100 Vac or lower, derating of the output power 1.2 kW or lower is required.)
Storage temperature	1.75 kW to 15 kW model 0 to +50°C
Relative humidity	-20°C to +70°C
Dielectric voltage	20% to 80%, non condensing [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: DC500 V 1 minute

Accessories

- Instruction manual × 1
- Remote connector cover × 1
- Dsub-25pin male connector × 1 (It is already attached to the main unit of REK series in 1.2 kW to 5.5 kW.)
- CO-M cable 2 meter × 1
As for 1U and 2U models, the cable is attached to the one without the interface option.
- (only for REKJ)
- AC input cable × 1
- Output terminal cover × 1 * only included in REKJ800-1

Standard	Sold separately	Sold separately
CABLE TYPE 8	CABLE TYPE 3	CABLE TYPE 4
for 100 V input, 3-pin plug 125 V/15 A 2.5 meter	for 200 V input, flying lead 250 V/10 A 2.5 meter	for 200 V input, 2-pin plug 250 V/10 A 2.5 meter
		

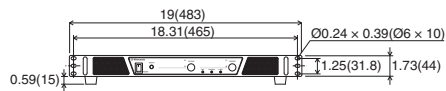
* please use appropriate AC cable.



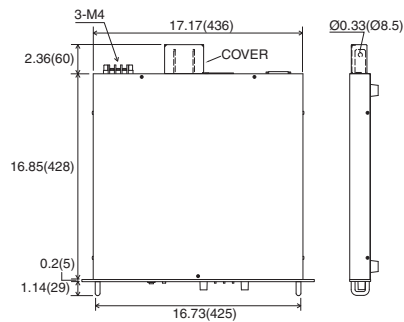
Dimensions [inch (mm)]

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.

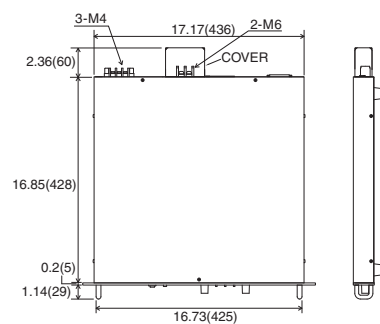
1.2 kW to 2.5 kW Models



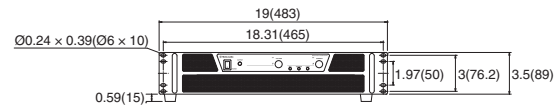
A Busbar output type Weight: approx. 8 kg



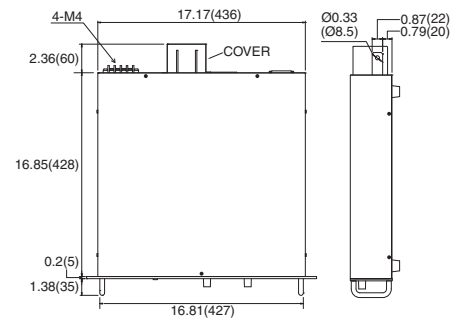
B Terminal board output type Weight: approx. 8 kg



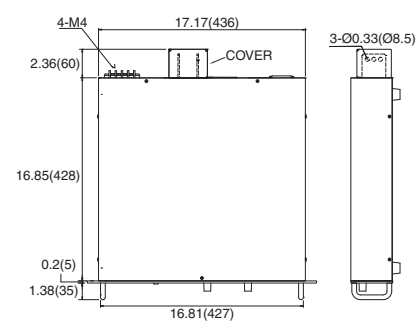
2.7 kW to 5.5 kW Models



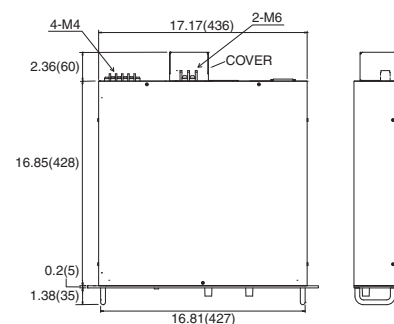
C Busbar output type Weight: approx. 14 kg



D Busbar output type Weight: approx. 14 kg



E Terminal board output type Weight: approx. 14 kg

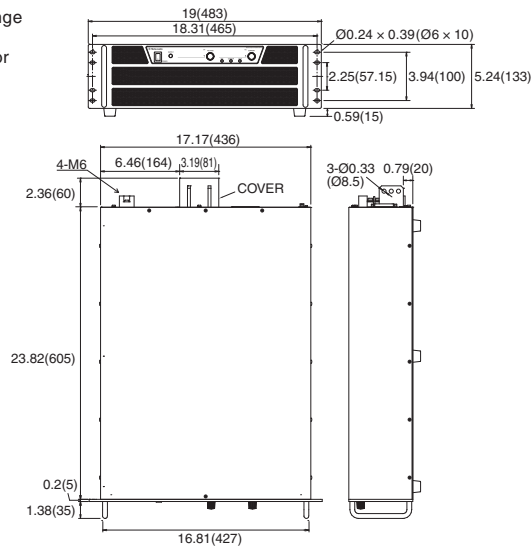


6.75 kW to 15.3 kW Models

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

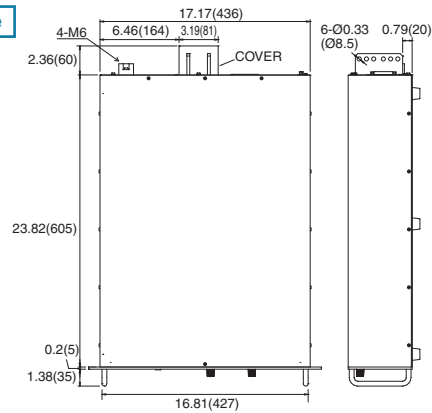
F Busbar output type

Weight: approx. 25 kg



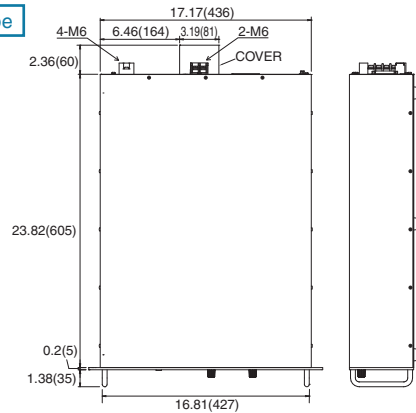
G Large busbar output type

Weight: approx. 31 kg



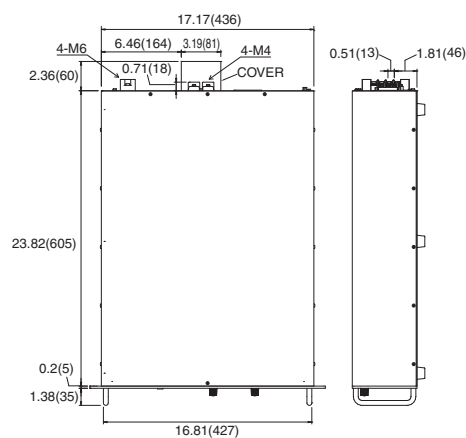
H Terminal board output type

Weight: approx. 25 kg



I Large Terminal board output type

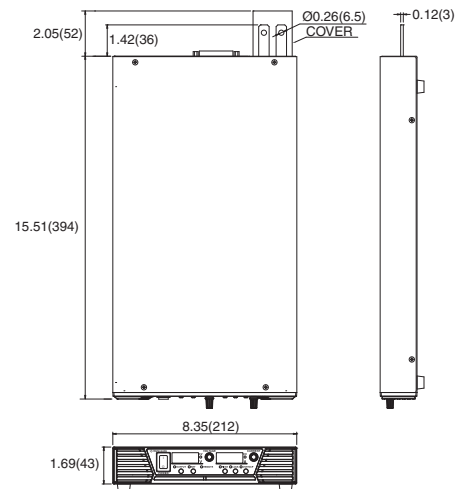
Weight: approx. 25 kg



REKJ series (0.77 kW to 0.81 kW)

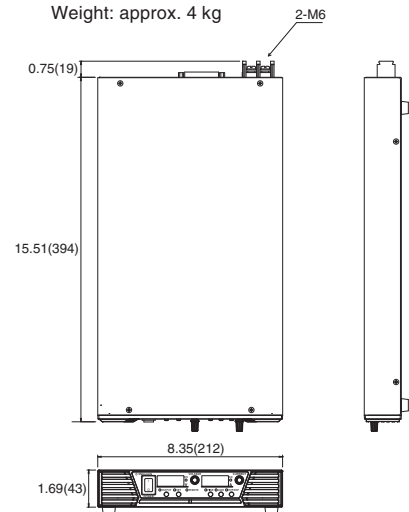
1 Busbar output type

Weight: approx. 4 kg



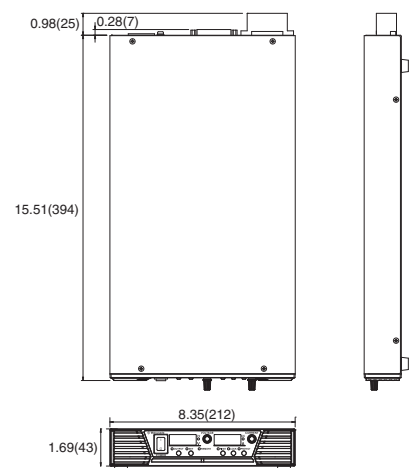
2 Terminal board output type

Weight: approx. 4 kg



3 Connecton output type

Weight: approx. 4 kg



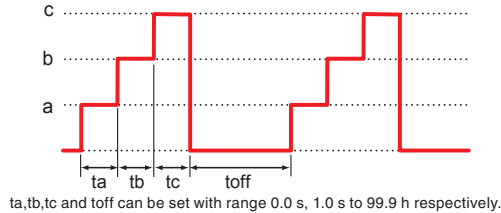
Options

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

-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.



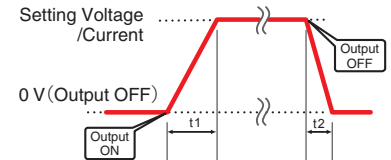
B Ramp

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].

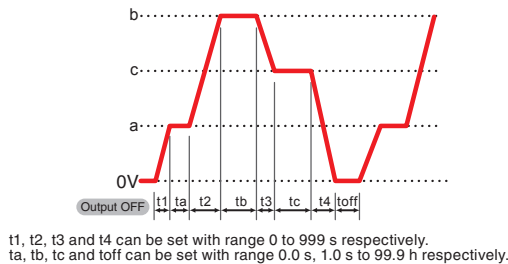
* Master follow function cannot be used with -LGob, -LUst, and -LEt option.

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



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.

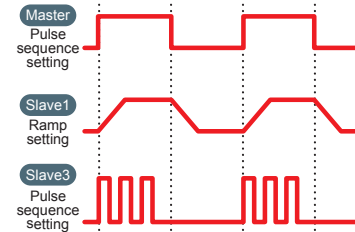


D Master follow

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.

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

* The master follow function is only available with the standard interface.



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

-LEt: LAN Interface Board *

-LEt optional models do not have CE marking.

The option is included in the -LMi option although it can be manufactured. For more information about this option, feel free to contact us.

-LGob: Optical Interface Board *

With optical communication, isolation control is performed. As complete isolation is performed by means of optical fiber, this enables advance prevention of erroneous operation involved with transient phenomenon caused by surges, inductive lightning, external noise, etc.

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

Select the optional optical interface board (-LGob) when using this DC power supply under the following conditions.

- Noisy environment including factories (Example: Motors or coils are used near power supplies and loads).
- Using with high voltage floating (more than 250 V).
- Installation distance of 2 meters or more between the DC power supply and a controller such as a computer, laptop, or Programmable Logic Controller (PLC).

Adapters (separately sold)

To use the optical interface, you need to prepare an optical interface adapter separately. The following interface adapters are available according to the communication method of your controller port.

- CO-E32: Adapter for LAN

Total 32 units can be connected to one CO-E32. LAN cable is not provided.

- USB-OPT: Adapter for USB

Total 32 units can be connected to one USB-OPT. USB cable is not provided.

- CO-OPT2-9: Adapter for RS-232C (9 pin)

Total 32 units can be connected to each CO-OPT2-9.

- CO-OPT2-25: Adapter for RS-232C (25 pin)

Total 32 units can be connected to each CO-OPT2-25.

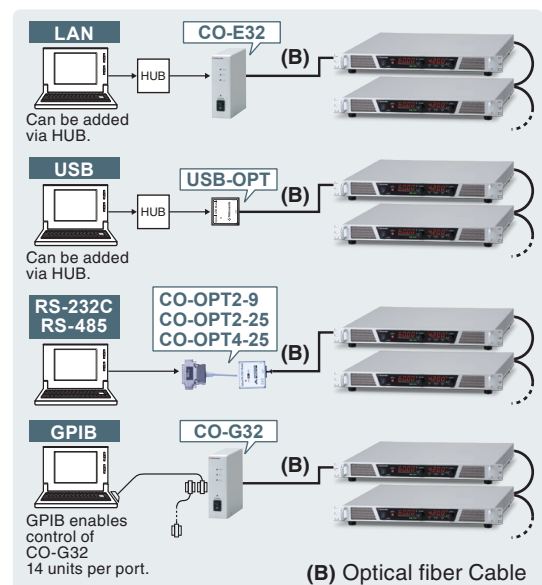
- CO-OPT4-25: Adapter for RS-485 (25 pin)

Total 32 units can be connected to each CO-OPT4-25.

- CO-G32: Adapter for GPIB

Total 32 units can be connected to one CO-G32. GPIB cable is not provided.

For details, refer to CO/USB series datasheet.



-LMi: Multi-digital interface *

-LMi optional models do not have CE marking.

Digital control by LAN, USB (TMC) 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.

-LUs1: USB Interface Board *

The option is included in the -LMi option although it can be manufactured. For more information about this option, feel free to contact us.

-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.)

-L(SCPI): SCPI command




Enable control via SCPI command.

-L(400V), -L(480V), -L(3P), -L(1P): Input voltage/phase

See page 7 for detail.

These optional models do not have CE marking.

How to order When ordering, add Option No. in the following order by alphabet, and input voltage to Model No.
<Example> REKJ6-130-LDeMi(Mc0.5), REK100-36-LDeGob(Fc20)(1P), REK500-11-LDeMi(400V)

Sold separately	Sold separately	Sold separately
CABLE TYPE 5	CABLE TYPE 6	CABLE TYPE 7
1.2 kW to 2.5 kW model 2.7 kW to 3.6 kW single phase input model 300 V/25 A, 2.5 meters	1.75 kW to 2.5 kW three-phase input model 2.7 kW to 5.5 kW model 600 V/25 A, 2.5 meters	6.75 kW to 15.3 kW model 600 V/75 A, 10 meters
		

* Use an AC cable that is suitable for your usage environment and region.

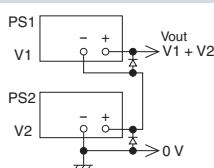
* To order 2.5 meters or longer, add the length (meters) to the model No.
<Example> 5 m: CABLE TYPE 5 (5)

Example for Applied Actions

With TB series of the same model, output voltage and current can be increased by connecting power supplies in series or parallel. Control must be set on each individual unit. Do not connect together COMMON of 2 units or more as the COMMON of connector for remote control (TB1) is connected with output.

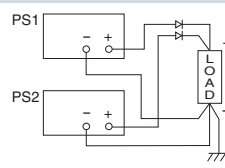
Series Operation

Sum of output is up to 250 V.
It is impossible to series operation for one exceeds 250 V in output volt.
Output current is of the min. one of power supply among them.



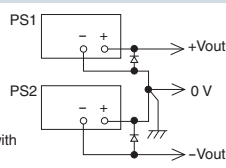
Parallel Operation

Make all setting voltage same value. Output current is sum of each current. In addition, make OVP level for all power supplies maximum to prevent damage.



Split Operation

Possible to output on positive (+) or negative (-).
As for split operation, models at output voltage exceeding 250 V is not available with the function.



TECHNICAL NOTE

Connection and Application Operation

■ Connection of loads

- 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.

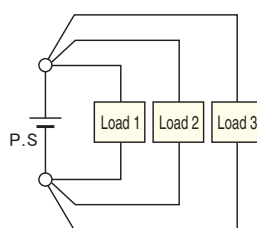
AWG	mm ²	Max.current [A]
18	0.823	2.3
16	1.31	3.7
14	2.08	5.9
12	3.31	9.3
10	5.26	15
8	8.37	24
6	13.3	37

AWG	mm ²	Max.current [A]
4	21.1	60
2	33.6	94
1	42.4	119
0	53.5	150
00	67.4	190
000	85.0	239
0000	107	302

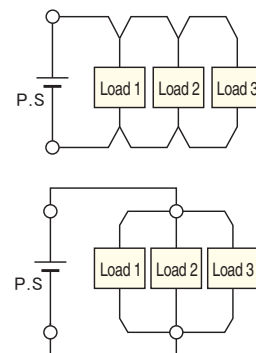
In case of exceeding 302 A, please use multiple wires or connect with busbar.

■ Parallel connection of load

Good



Not Good



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

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.

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



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We follow-up customers from japan



Contact Us

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