

NEW

Ultra Low Profile and High Power ! Programmable DC Power Supply

10V to 650V / 750W to 15kW

RE series



Compact

Low noise

Wide Lineup



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

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

The best model can be chosen for your application from wide lineup of 140 models, from 10V to 650V, and 750W to 15kW.

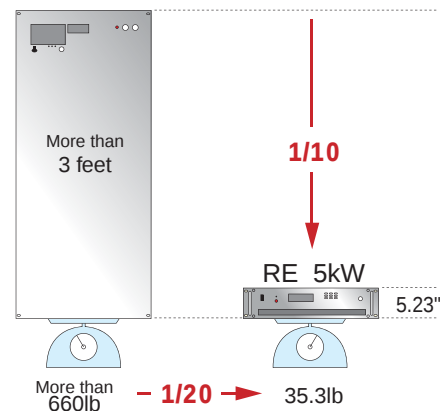
Upgrading of up to 60kW is possible with master / slave option.

Ultra compact · Ultra slim · Ultra light

The height of models up to 1.2kW is as thin as 1.73". Even 15kW type it is only 5.23" height, making it possible to be stored in rack cabinet.

Introducing power supplies is often costly with changing layout or need additional space. Ultra compact RE will keep unnecessary cost to the minimum.

It can be located any corner of lab and also can be shared among engineers to bring it anytime, anywhere when needed.



Typical applications



For aging of electrical parts

For testing and aging of semiconductor, capacitors, motor, DC/DC converter, inverter, backlight



For automobile electrical parts

For evaluation of motor, electrical device, switch, relay, solenoid, harness and lamp of electrical vehicles.



For display devices

For evaluation of display device, communication device or electromagnet.



Research, development and other applications

Suitable for various applications such as magnet coils, motor drives and heating.

Lineup

● UL marked model is available. Please ask to sales offices.

Output voltage (V)	Output current (A)	Output power (kW)	Model	Ripple (mVrms)	Ripple (mA rms)*1	Dimensions (Refer to P6,7)
10	75	750W	RE10-75	10	150	b
	110	1.1	RE10-110	10	220	b
	200	2	RE10-200	10	400	d
	300	3	RE10-300	15	600	d
	400	4	RE10-400	15	800	f
	450	4.5	RE10-450	30	900	f
	750	7.5	RE10-750	20	2400	h*2
	820	8.2	RE10-820	30	3600	h*2
	1000	10	RE10-1000	30	4800	h*2
	1200	12	RE10-1200	30	4800	h*2
15	50	750W	RE15-50	10	100	a
	80	1.2	RE15-80	10	160	b
	120	1.8	RE15-120	10	250	d
	200	3	RE15-200	10	400	d
	250	3.75	RE15-250	15	500	f
	300	4.5	RE15-300	15	600	f
	500	7.5	RE15-500	30	2500	h
	560	8.4	RE15-560	30	2500	h
20	700	10.5	RE15-700	35	3500	h*2
	38	750W	RE20-38	10	80	a
	60	1.2	RE20-60	10	120	a
	100	2	RE20-100	10	200	d
	150	3	RE20-150	15	300	d
	200	4	RE20-200	10	400	f
	250	5	RE20-250	15	500	f
	375	7.5	RE20-375	30	1200	h
	400	8	RE20-400	20	2400	h
	430	8.6	RE20-430	35	2400	h
30	500	10	RE20-500	35	3800	h*2
	600	12	RE20-600	30	2400	h*2
	25	750W	RE30-25	10	50	a
	40	1.2	RE30-40	15	80	a
	65	1.95	RE30-65	20	130	d
	100	3	RE30-100	20	200	d
	130	3.9	RE30-130	30	260	f
	170	5.1	RE30-170	30	340	f
	250	7.5	RE30-250	20	500	f
	290	8.7	RE30-290	30	700	h
35	350	10.5	RE30-350	30	1800	h
	400	12	RE30-400	20	800	h
	22	750W	RE35-22	10	50	a
	34	1.2	RE35-34	10	70	a
	60	2.1	RE35-60	20	120	d
	85	3	RE35-85	20	170	d
	115	4	RE35-115	20	230	f
	140	4.9	RE35-140	30	280	f
	215	7.5	RE35-215	35	1800	f
	240	8.4	RE35-240	35	2000	h
40	300	10.5	RE35-300	35	2000	h
	340	12	RE35-340	35	2400	h
	100	4	RE40-100	30	300	f
	220	8.8	RE40-220	30	350	h
45	17	765W	RE45-17	18	40	a
	27	1.2	RE45-27	18	60	a
	45	2	RE45-45	30	90	c
	66	3	RE45-66	30	130	d
	90	4	RE45-90	30	180	f
	110	5	RE45-110	45	220	f
	165	7.5	RE45-165	45	750	f
	220	9.9	RE45-220	45	1100	h
	260	11.7	RE45-260	45	1300	h
60	12.5	750W	RE60-12.5	20	25	a
	20	1.2	RE60-20	20	40	a
	35	2.1	RE60-35	15	70	c
	50	3	RE60-50	20	100	c
	67	4	RE60-67	20	135	f
	83	5	RE60-83	30	170	f
	125	7.5	RE60-125	30	350	f
	140	8.4	RE60-140	30	350	h
	170	10.2	RE60-170	35	600	h
	200	12	RE60-200	35	600	h
220	220	13.2	RE60-220	35	600	h
80	110	8.8	RE80-110	80	600	h
	7.5	750W	RE100-7.5	20	15	a
	12	1.2	RE100-12	20	25	a
	20	2	RE100-20	20	40	c
	30	3	RE100-30	30	60	c
	40	4	RE100-40	30	80	e
	50	5	RE100-50	40	100	e
	75	7.5	RE100-75	60	600	f
	84	8.4	RE100-84	60	350	h
	100	10	RE100-100	100	800	h
100	150	15	RE100-150	100	1000	h
	5	750W	RE150-5	30	10	a
	8	1.2	RE150-8	30	20	a
	14	2.1	RE150-14	25	30	c
	20	3	RE150-20	30	40	c
	27	4	RE150-27	30	55	e
	33	5	RE150-33	60	70	e
	50	7.5	RE150-50	70	100	e
	56	8.4	RE150-56	70	100	g
	70	10.5	RE150-70	150	500	h
150	100	15	RE150-100	100	200	h
	27	4.3	RE160-27	30	55	e
	55	8.8	RE160-55	160	200	g
	3.8	750W	RE200-3.8	40	10	a
	6	1.1	RE200-6	40	15	a
	10	2	RE200-10	40	20	c
	15	3	RE200-15	40	30	c
	20	4	RE200-20	200	40	e
	25	5	RE200-25	200	50	e
	37	7.5	RE200-37	200	280	e
200	42	8.4	RE200-42	150	200	g
	50	10	RE200-50	200	380	h
	75	15	RE200-75	200	530	h
	2.5	750W	RE300-2.5	50	5	a
	4	1.2	RE300-4	50	10	a
	6.5	2	RE300-6.5	50	15	c
	10	3	RE300-10	50	20	c
	13	3.9	RE300-13	300	30	e
	16	4.8	RE300-16	300	35	e
	25	7.5	RE300-25	100	50	e
300	28	8.4	RE300-28	100	50	g
	35	10.5	RE300-35	300	250	g
	50	15	RE300-50	150	100	g
	21	7.35	RE350-21	150	100	e
	24	8.4	RE350-24	150	100	g
	28	9.8	RE350-28	150	100	g
	42	14.7	RE350-42	150	100	g
	1.5	750W	RE500-1.5	150	5	a
	2.4	1.2	RE500-2.4	150	5	a
	4	2	RE500-4	150	10	c
350	6	3	RE500-6	150	15	c
	8	4	RE500-8	500	20	e
	10	5	RE500-10	500	20	e
	15	7.5	RE500-15	200	50	e
	17	8.5	RE500-17	200	50	g
	20	10	RE500-20	500	160	g
	30	15	RE500-30	200	100	g
	12.5	7.5	RE600-12.5	100	25	e
	25	15	RE600-25	100	50	g
	1.2	750W	RE650-1.2	200	5	a
500	1.8	1.2	RE650-1.8	200	5	a
	3	2	RE650-3	200	10	c
	4.5	2.9	RE650-4.5	200	10	c
	6	3.9	RE650-6	200	15	e
	7.7	5	RE650-7.7	200	20	e
	11	7.5	RE650-11	200	50	e
	13.5	8.8	RE650-13.5	250	50	g
	16	10.4	RE650-16	250	50	g
	23	15	RE650-23	300	100	g
	650	15	RE650-650	650	150	g

*1 Rated output current when output voltage is 10% to 100% of rating.
 *2 Height and number of fixing holes are different depending on the model. See P7 for details.

Specifications

Output control	Local: Constant voltage: 10-turn potentiometer on front panel Constant current: 10-turn potentiometer on front panel Remote: Constant voltage: external control voltage 0 to 10Vdc or external variable resistor 0 to 10kΩ Constant current: external control voltage 0 to 10Vdc or external variable resistor 0 to 10kΩ
Voltage regulation	Line: 0.1% of maximum output (for AC±10% input change) Load: 0.1% of maximum output (for 0 to 100% load change) (for only RE10-1000 and RE10-1200, load regulation is 0.15%)
Current regulation	Input: 0.1% of maximum output (for AC±10% input change) Load: 0.1% of maximum output (for 0 to 100% load change) (for only RE500-1.5, -2.4, 650-1.2, -1.8, both line and load regulation are 0.2%)
Stability	0.05%/8Hr of maximum output voltage
Temperature coefficient	200ppm / °C of maximum output voltage 300ppm / °C of maximum output current
Output display	Output voltage: 3-digit digital meter (accuracy is 1%FS±1dgt) Output current: 3-digit digital meter (accuracy is 1%FS±1dgt)
Monitor output	Output voltage monitor: 10V / maximum output voltage Output current monitor: 10V / maximum output current
Protections	Over voltage protection (OVP) Output is cut off at a set value. Setting range: 5% to 110% of output voltage Local setting: 1-turn volume on front panel Remote setting: External control voltage of 0 to 10Vdc Reset: Manual recovery by OUTPUT switch or remote switch. Over temperature protection (OTP) Output is cut off when internal part is heated abnormally. Reset (after the temperature has gone down to normal): Automatic recovery or manual recovery by POWER switch (selectable). Input brownout (ACF) - Blackout protection Output is cut off when input decreased by 20% or more. Reset (when normal voltage value or recovery from blackout): Manual recovery by OUTPUT switch for blackout protection (re-output protection function). : Automatic recovery when blackout protection is canceled.
Other functions	Remote sensing Remote switch ON/OFF (TTL or external relay) Status signal output (CV, CC, FLT)
Transient response time	Recovery time 1ms (for 70%↔100% load change)
Operation temperature	0 to +50°C (750W to 5.1kW) 0 to +40°C (7.35kW to 15kW)
Storage temperature	-40°C to +85°C
Strage humidity	0 to 80% RH (no condensation)
Dielectric voltage	Between input power supply and power supply, and between output terminals and chassis is AC1500V:1 minute
Accessories	·2.5m input AC cable for 1Ø, 3-conductor type (model of 2.1kW or less) (1) ·Instruction manual (1) ·Output terminal cover (1) ·Remote connector cover (1) * Please ask sales offices for 3Ø input AC cable.

Options

-LCp	Constant power control*1 (Voltage control is eliminated. Limited at maximum rated voltage)
-LOcp	Over current protection (OCP)*2 Cut off the output at set current value. Local setting only. Setting range : 5% to 110% of maximum rated current Local setting : 1-turn volume on front panel Reset : Manual recovery by OUTPUT switch or remote switch
-LGb	GPiB interface board *3*4
-LGob	Optical interface board *3*4 ...Isolated control with optical communication. See catalog of digital control for optical conversion of each interface. (USB/RS-232C/RS-485/GPiB)
-LU1	USB interface board *3*4

-LIs	Isolated remote control *3 ...Output control signal is isolated from common (=output ⊕) so that floating of control signal is not required when negative output operation or series connection (isolation voltage from output ⊕ is below 250V)
-LMs	Master slave control (models of less than 12kW)*5 ...Maximum of four slave machines can be controlled from one master machine (within the range where total of maximum rating is less than 60kW). Master machine can be controlled not only by standard remote control but also -LGb, -LGob, -LIs.
-LLp	10-turn potentiometer with lock (both voltage and current) ...only for models less than 300V
-LPfc	Power factor correction circuit (3Ø input of 3.75kW to 15kW type only)*6 Size of the case will be different. Contact nearby sales office for more details for this option.
-L(200V)	115V of below INPUT VOLTAGE / CURRENT table to be 100V, 230V / 220V to be 200V. Input current to be 115% for 44h model and 110% for other models of the table.
-L(220V)	115V of below INPUT VOLTAGE / CURRENT table to be 110V and 230V to be 220V. Input current is about 105% of Input current.
-L(240V)	115V of below INPUT VOLTAGE / CURRENT table to be 120V, 230V / 220V to be 220V. Input current to be 95% for 44h model and 90% for other models of the table.
-L(400V)	400VAC±10% input. (only for models 7.5kW and up)*6 Size of the case will be different. Contact nearby sales office for more details for this option.

INPUT CABLE (separate item)

CABLE TYPE 5 Input cable for AC 1^φ (3-conductor type) 2.5m standard 25A / 250V single phase flying lead

CABLE TYPE 6 Input cable for AC 3^φ (3-conductor type) 10m standard 25A / 250V for RE 1.8kW to 3kW three phase flying lead

CABLE TYPE 7 Input cable for AC 3^φ (3-conductor type) 10m standard 75A / 250V for RE 3.75kW and up three phase flying lead

In case longer cable is needed, suffix length to the part number.
Increment of meter. <e.g> 5m: CABLE TYPE5(5)

*1 Not with -LOcp or -LMs option

*2 Not with -LCp option

*3 Either -LGb, -LGob, -LU1 or -LIs can be selected

*4 See separate catalog for more details.

*5 Not with -LCp option.

When -LOcp option is equipped, OCP can be set and functioned as single unit only.

*6 -LPfc and -L(400V) cannot be selected together.

Add above -L mark to the model number when ordering
(e.g) RE10-750-LCpGbLpPfc(240V)
(e.g) RE100-100-LGbLpMsOcp(400V) alphabetical, number order.

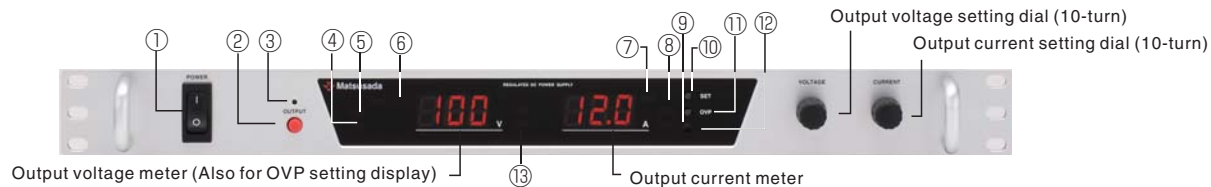
Input Voltage / Current

MODEL (Output power)	Input voltage ($\pm 10\%$ AC50/60Hz)	Phase	Input current			Input current protection	
			When PFC (Typ.)	Normal (Typ.)	Rush (p-p)		
750W to 765W	115V	1	—	12A	60A	Fuse 30A	
	230V			8A			
1.1kW to 1.2kW	115V	1	—	19A	90A		
	230V			11A			
1.8kW to 2.1kW	220V	1	—	17A	100A		
		3		10A			
2.9kW to 3kW	220V	1	—	25A	100A		
		3		14A			
3.75kW to 4kW	220V	3	15A	19A	100A	Circuit protector 30A	
4.5kW to 5.1kW	220V	3	16A	23A			
7.35kW to 7.5kW	10V, 15V	220V	3	25A (^(*) 1)	35A	Circuit protector 60A	
	20V to 60V				34A		
	over 100V				33A		
8kW to 10.5kW	10V, 15V	220V	3		36A		100A
	20V to 60V				46A		
	over 100V				34A		
11.7kW to 12kW	220V	3	40A (^(*) 2)	54A	150A	Circuit protector 100A	
15kW	220V	3	50A (^(*) 2)	68A			

(*)1 Circuit protector 30A

(*)2 Circuit protector 60A

Front



- ① **POWER ON/OFF switch**: This has priority over all operations for safety reasons.
- ② **OUTPUT ON/OFF switch**: This is used for urgent OFF or resume output in remote mode as well as output ON/OFF in local mode. Also used for resetting protection function.
- ③ **OUTPUT ON display LED**
- ④ **Remote programming display**: This lights up during remote control of voltage or current.
- ⑤ **External switch OFF display**
- ⑥ **Fault display (FLT)**: This lights up when OVP, OTP or ACF has occurred.
- ⑦ **Remote enable display**: This lights up when controlling by built-in interface board.
- ⑧ **Operation mode** (constant voltage or constant current)
- ⑨ **Output preset switch**: This is pressed down when output is being set by digital meter and output setting knob, then OUTPUT switch is turned ON to output.
- ⑩ **OVP setting switch**
- ⑪ **OVP setting volume**: This volume sets OVP setting value that is displayed on voltmeter when is pressed down.
- ⑫ **Communication status display** (only when interface board is built in)
- ⑬ **Output voltage meter** (Also for OVP setting display)
- ⑭ **Output current meter**
- ⑮ **Output voltage setting dial** (10-turn)
- ⑯ **Output current setting dial** (10-turn)
- ⑰ **Only when option**
 - USB/RS-232C/RS-485/GPIB interface board
 - Isolate remote program board
- ⑱ **Exhaust hole**
- ⑲ **AC input connector (M4)**: M6 type for model over 3.75kW
- ⑳ **GND terminal (M4)**

Rear

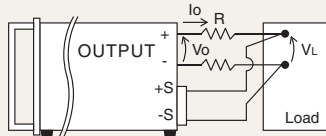


Function setting switch (SW1)

- **Voltage control**
0V to 10V Local ↔ 0Ω to 10kΩ
- **Current control**
0V to 10V Local ↔ 0Ω to 10kΩ
- **Over temperature protection**
Manual reset ↔ Auto reset
- **Blackout protection**
ON ↔ OFF (ON/OFF by AC)

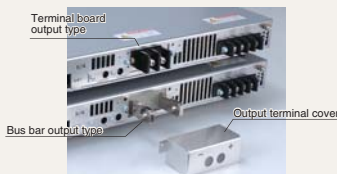
Remote sensing

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



Output terminal

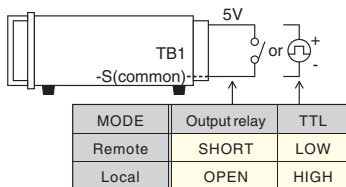
The form differs depending on the MODEL. Please check which form in Dimension.



Remote control connector (TB1)

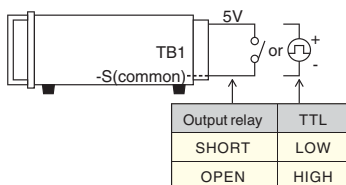
Remote/Local change

Each of voltage, current, OVP or all the modes can be switched by relay or TTL signal

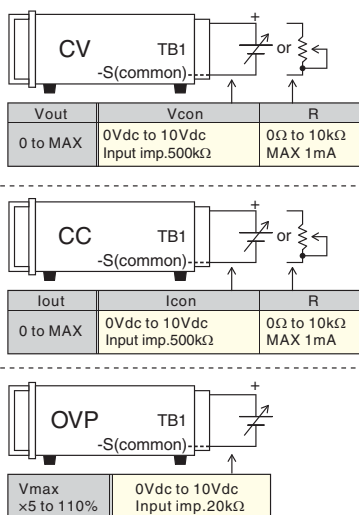


Remote switch ON/OFF

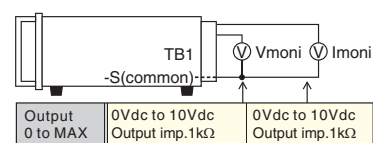
Output can be turned ON/OFF by relay or TTL signal. Logic of signal can be selected by entering 5V.



Output terminal

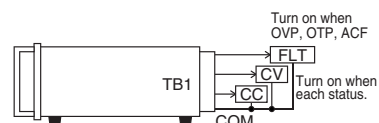


Output monitor



Status output

Common is floating in open collector output of common that is common to each. Withstanding voltage 30Vdc sink current 5mA or less.

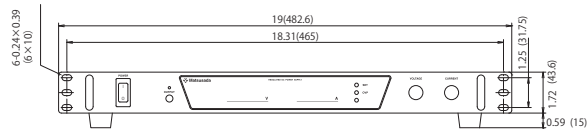


* Please use TB1 in floating as TB1 and minus output is connected in the internal part.

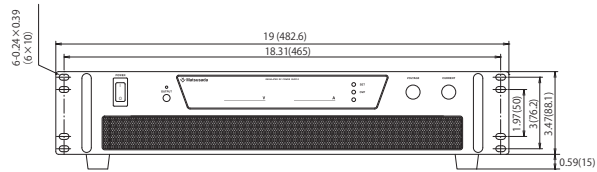
Dimensions inch (mm)

All models have exhaust hole for forced air cooling on rear panel.
When mounting on a cabinet where a space of 1.18”(300mm) or more cannot be secured, please arrange a measure such as forced draft vent.

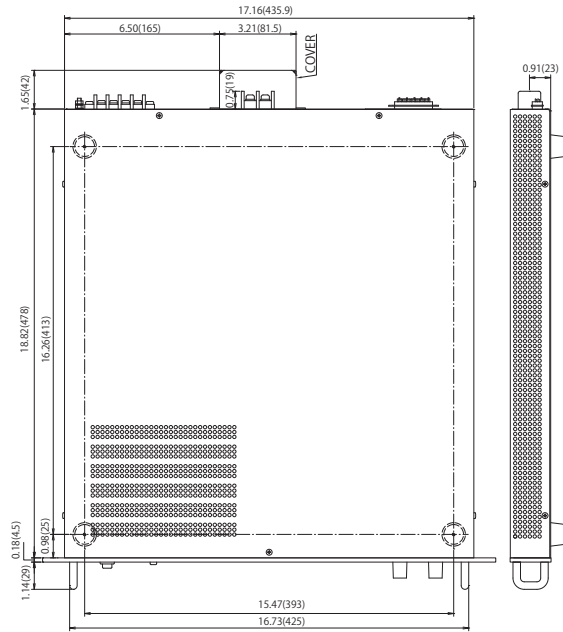
[1U size] Inhaling hole is on side of unit.
Secure more than 4”(100mm) of space.



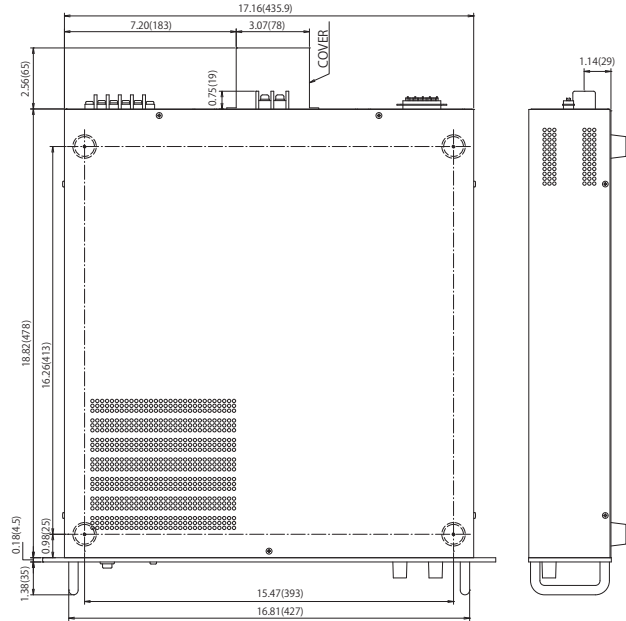
[2U size] Inhaling hole is on front panel.
Secure more than 11.8”(300mm) of space.



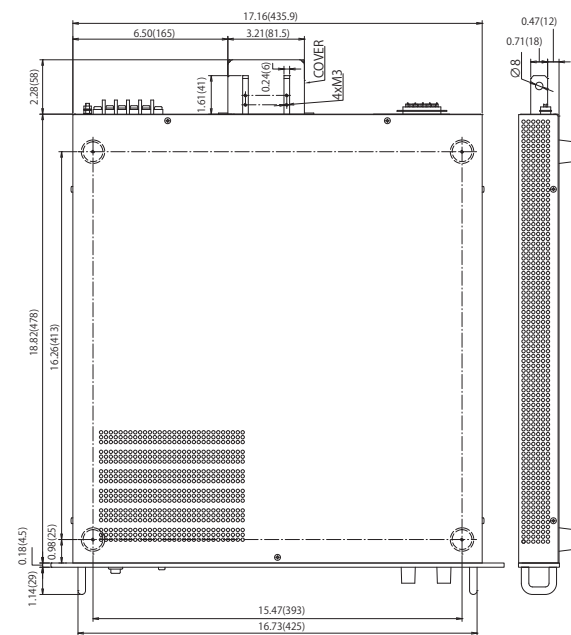
a. Terminal board type



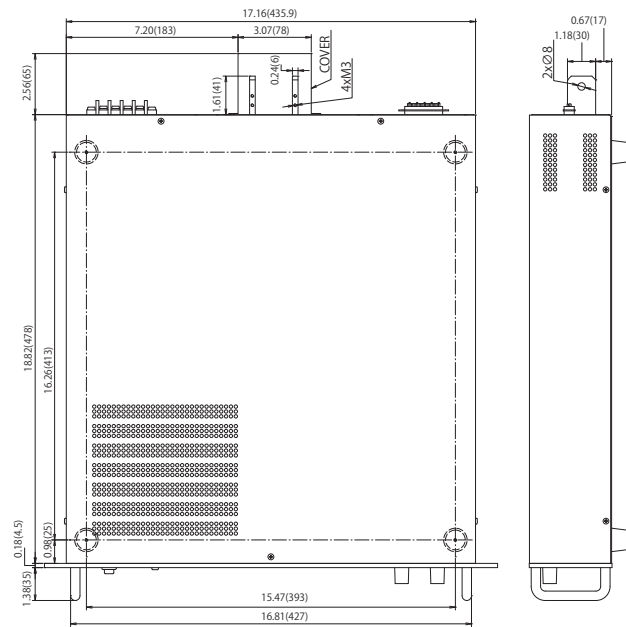
c. Terminal board type



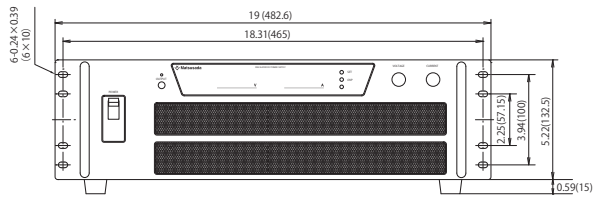
b. Bus bar type



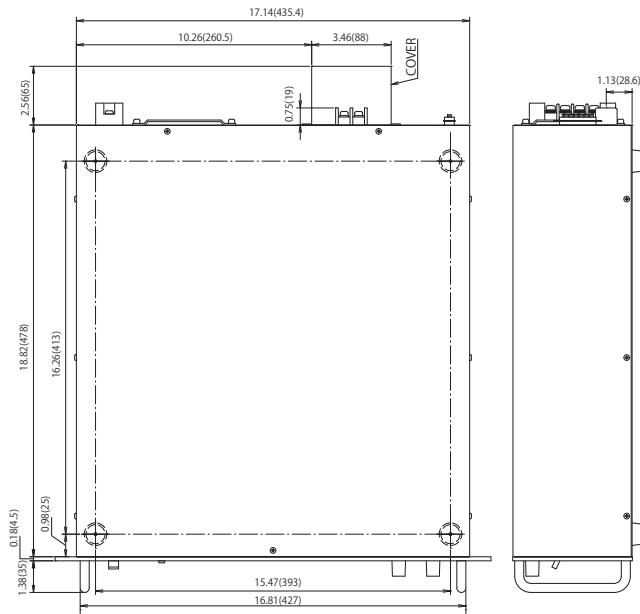
d. Bus bar type



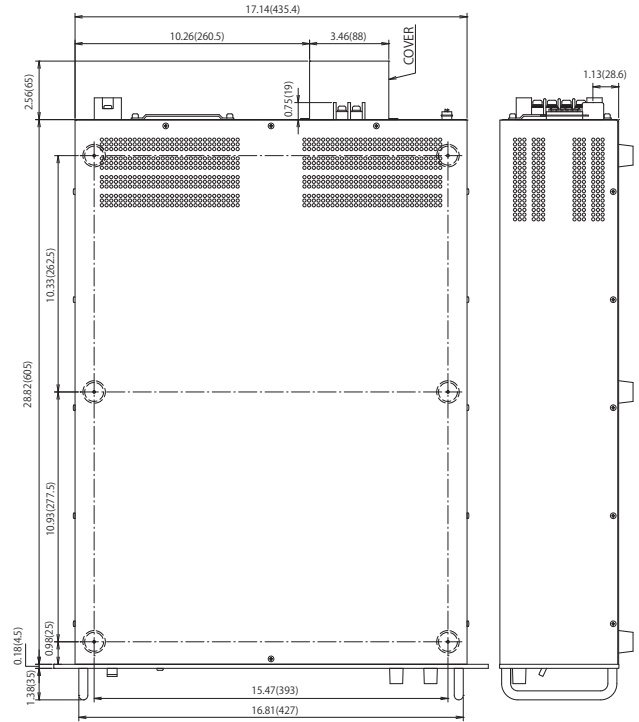
[3U size] Inhaling hole is on front panel.
Secure more than 11.8"(300mm) of space.



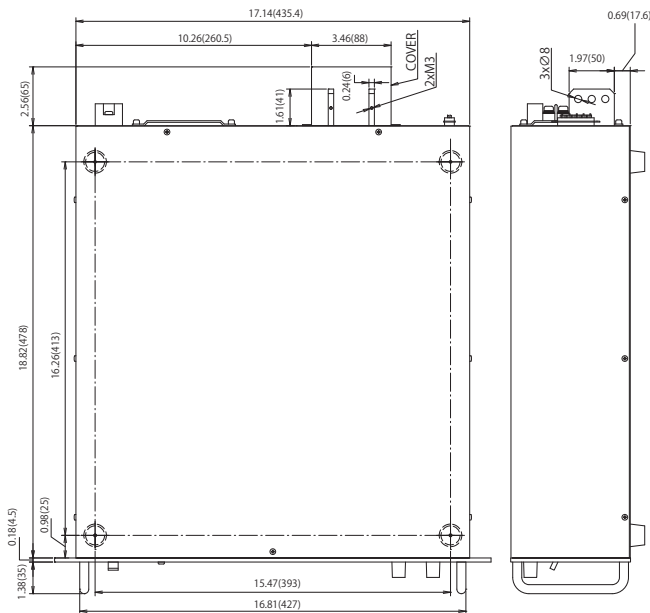
e. Terminal board type



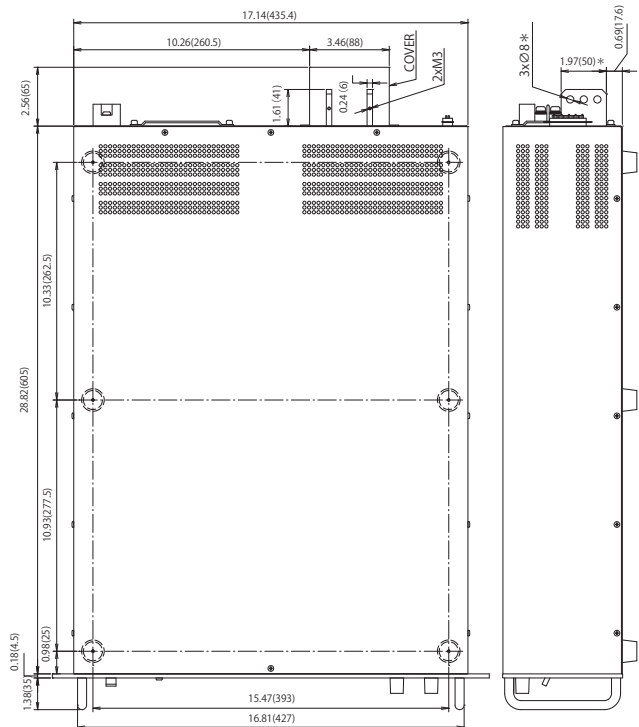
g. Terminal board type



f. Bus bar type



h. Bus bar type



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



USA/canada : +1-888-652-8651
other countries : +81-6-6150-5089

Customer Inquiry Sheet (RE Series)

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

☐ I would like

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

■ Give us your requirement / comment

■ Please fill in below.

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

We warrant that products contained in this catalog (hereinafter, the "Products") are free from defects in material and workmanship under normal use for a period of one (1) year from the date of shipment thereof. However, the warranty period for X-ray detectors and X-ray source shall be either one (1) year from the date of shipment or 1,000 hours, whichever shorter. The above warranty shall not apply to any Product which, at our sole judgment, has been: i) Repaired or altered by persons unauthorized by us; or ii) Connected, installed, adjusted or used otherwise than in accordance with the instructions furnished by us (including being used in an inappropriate installation environment, such as in corrosive gas, high temperature and humidity). We are not liable for any loss, damage or failure of the Products after the shipment thereof caused by external factors such as disasters. If any Product is showed to be defective as satisfactory to us, we, at our sole discretion, repair or replace such defective Products at no cost to the purchaser. We assume no liability to the purchaser or any third party for special, incidental, consequential, or other damages resulting from a breach of the foregoing warranty. This warranty excludes any and all other warranties not set forth herein, express or implied, including without limitation the implied warranties of merchantability or fitness for a particular purpose. The Products are not designed and produced for such applications as requiring extremely high reliability and safety, or involving human lives (such as nuclear power, aerospace, social infrastructure facility, medical equipment, etc.). The use under such environment is not covered by this warranty and may require additional design and manufacturing processes.



Matsusada Precision Inc.

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

San Jose Office : 2570 N.First Street Suite 200 San Jose, CA 95131
Tel: +1-408-273-4573 Fax: +1-408-273-4673
New York Office : 80 Orville Drive Suite 100 Bohemia, NY 11716
Tel: +1-631-244-1407 Fax: +1-631-244-1496

Dallas Office : 5430 LBJ Freeway, Suite 1200 Dallas, TX 75240
Tel: +1-972-663-9336 Fax: +1-972-663-9337

Boston Office: 275 Grove Street, Suite 2-400 Newton, MA 02466
Tel: +1-617-663-5711 Fax: +1-617-663-5331

International Office : Osaka-City, Osaka Japan
Tel: +81-6-6150-5088 Fax: +81-6-6150-5089
Headquarters : 745 Aoji-cho Kusatsu Shiga 525-0041 Japan
Tel: +81-77-561-2111 Fax: +81-77-561-2112

01.158.01 0C