Matsusada Precision

Programmable DC Turbo Power Supplies

RKT Series

NEW

Variable Range Output

DC Turbo Power Supplies

Output : 400W, 800W, 1600W / 80 to 650V / 5 to100A

"Turbo Function" is installed so that it can output widely in compact size

RKT series

www.matsusada.com

RKT series

DC power supplies which output in variable range

Wide range output is possible with “turbo function” installed.

RKT series power supply is programmable DC power supply with distinctive turbo function which realises 4-5 times wider coverage of output voltage and current in comparison to conventional DC power supply of equivalent output power. You can apply to wide usage with only one unit but no need to apply power supplies with extra margin for output voltage and current because each unit can output voltage and current flexibly within the range of 400W, 800W and 1600W. We have honed thoroughly there fundamental performance by adoption of the power factor correction circuit which contributes reduction of CO2 emission, individual 4 digits indicator for voltage and current, rotary encoder so that it is possible to set and read speedy and accurately, and so on. Also, for 400W models, it have been enabled to set speedy by providing FINE switch so that it is possible to set the specified digits on the indicator at setting output. Moreover, they are applicable to various automatic measurement and production facility as LAN (Ethernet *1), USB, RS-485 and GPIB are selectable as a function for digital communication (*2).

(*1) Ethernet is the registered brand of Xerox Co., Ltd.

(*2) A conversion adapter or additional option is required separately.

Following Applications, for Example

Evaluation of electrics elements for automobile
Covered from 12V to Higher Volt. by this One Unit.

Evaluation of Communication Equipment
To various Tests for Servers and Rooter.

Evaluation of Power Conditioners
For simulation of Solar Battery and Fuel Battery.

Evaluation of Power Devise
When you like to impress various voltage.

Evaluation of Inverter
Applied to multiple systems as 100V or 200V system with One Unit.

Features

It realizes Wide Range Output by installed Turbo Function.

Best fit to Research and Development by the Low Noise Switching System.

Free to Service Space with the Power Factor Correction Circuit and Worldwide Input System.

Simplified Simulation of Secondary Battery, Solar Battery and Fuel Battery is possible with the variable internal resistance.

Usage for High Speed Response and Usage to Keep Voltage is applicable by Switching Function for Sink/Anti-Sink.

It is possible to use in various combination like as multi-connection and master-slave.

Lineup

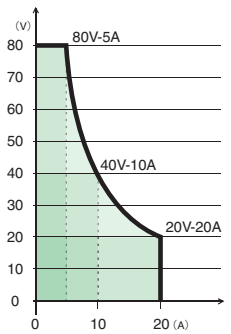
Model	Maximum Output			Ripple	
	Volt	Current	Power	(mVrms)	(mArms) *1
RKT80-20(400W)	80V	20A	400W	15	15
RKT80-50(800W)		50A	800W	30	110
RKT80-100(1600W)		100A	1600W	50	200
RKT330-13.5(800W)	330V	13.5A	800W	50	45
RKT330-25(1600W)		25A	1600W	80	80
RKT650-5(800W)*2	650V	5A	800W	100	15
RKT650-8(1600W)		8A	1600W	150	15

*1 : Those are value at the rated current when output voltage is 10% to 100% of rating.
*2 : There is no terminal for output monitor on the front panel. Please requisition separately if required.

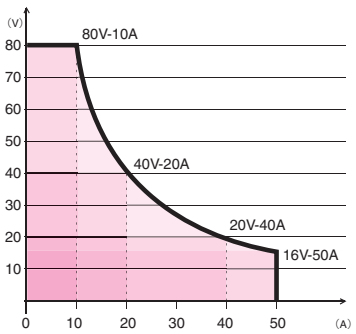
Images of Output Range

Possible to output wide range volt. and current compared with traditional DC power supplies by the turbo function.

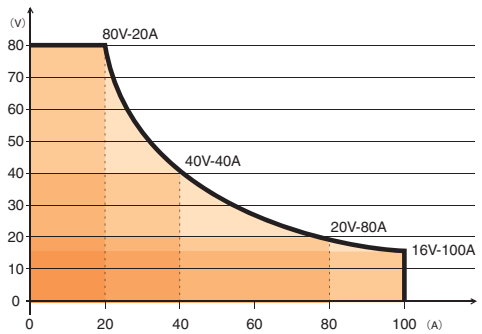
RKT80-20(400W-)



RKT80-50(800W)



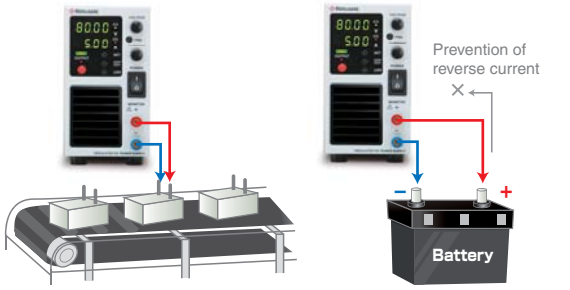
RKT80-100(1600W)



Principal Functions

Switching function of Sink / Anti-Sink

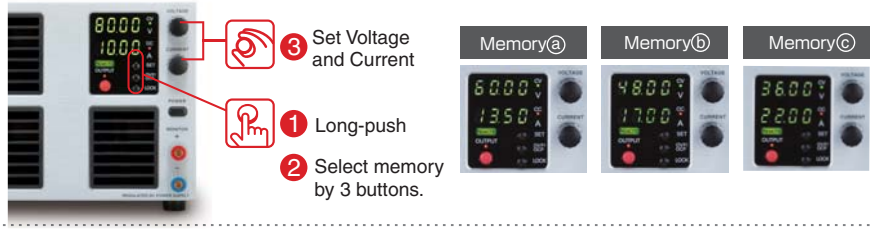
Sink Function is built in power supplies, it is safe as able to lower voltage quickly at cut-off output or even when lower voltage from high voltage setting point. And, when make continuously burn-in with short interval, it is possible to disconnect and change work quickly after cut-off operation of output.
Conversely, when supply power to battery, condenser and so on which is capacious load, it decrease reverse current from the load to power supplies and avoids voltage depression by using Anti-Sink Function at cut-off output or when lower setting voltage.



Note : It is impossible to stabilize by reverse current control. If the load is what reverse voltage becomes higher than rated voltage (induced load, regenerative motor, etc.), please protect the power supply by connecting dummy resister, reverse current protection diode and so on.

Function for Multi-setting

3 values for voltage and current are memorized in addition to usual ones of preset. It is very useful for experiment to collect repeatedly data and inspection of products.



2 Modes for Lock

Either of 2 Modes can be selected and set, “Full Lock” that locks all operation from the front panel or “Normal Lock” that locks only output ON / OFF.
“Full Lock” is for the case that you like to prevent securely any miss-operation, or “Normal Lock” is for the case that you like to prevent any miss-operation but can easily stop in emergency. It is the useful function to secure “Safe” you want.

(It is possible to emergency stop with the power switch in every mode.)

Full Lock

All switches are locked except the unlock-switch. It is useful for the purpose to prevent miss-stop at remote control or to prevent miss-operation completely.

Normal Lock

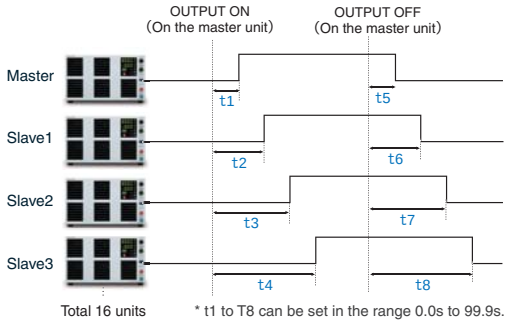
Knob to set output volt/current is locked. It is useful for the purpose to prevent to change output value by mistake at local control to make emergency stop easily.

Delayed Trigger Function

In case -LUs1,-LEt or -LGob option is selected, only one unit of RKT series can be used.

Function to delay the OUTPUT ON / OFF time. It is possible to use in case single unit of RKT 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 REK series. Detail catalog for each model is available. Please contact nearby sales office.
*2 : Can be connected up to 16pcs.
*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.

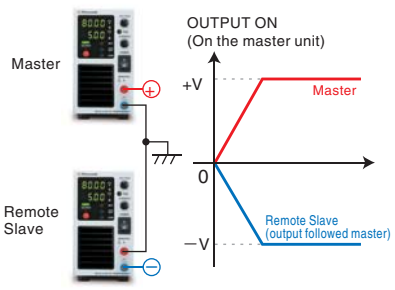


Dual Tracking and Multi-Output

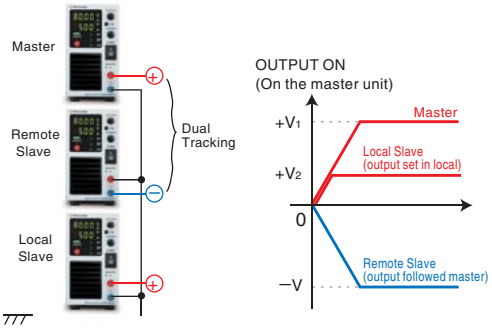
Dual tracking control, so that output of plus and minus are controlled at the same time, is possible by connecting the power supply so as to be able to become plus and minus output at master-slave.
Multi-output can be configured in combination with actions of local mode and of dual tracking.
Plus and minus output voltage and optional output voltage set on a local slave are outputted in synchronizing with ON of the master unit.

* As for connection, please refer to “examples for operation applied” on Page 10.

Dual Tracking



Multi Output



Useful New Functions

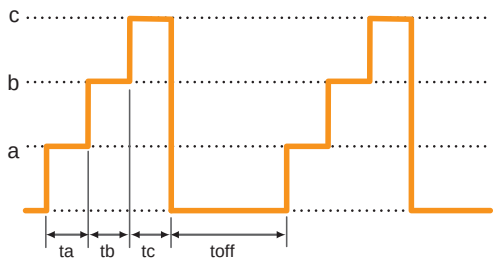
These are applicable to wide range of usages as various methods of use is possible by adding -LDe option.

■ Function for Pulse & Ramp Sequence and Master Follow (-LDe Option)

Output control as Next A to D are possible.

A. Pulse Sequence

Sequential operation is possible by using voltage and current set on each memory a, b and c in combination with multi-set function. Not only continuous operation, but also it is possible to specify the times.
It is best fit to evaluation tests for products as various operations, like as repeat of a and b only or repeat of b, c and off only, are enabled by setting time of memory a, b, c and off to 0.0.

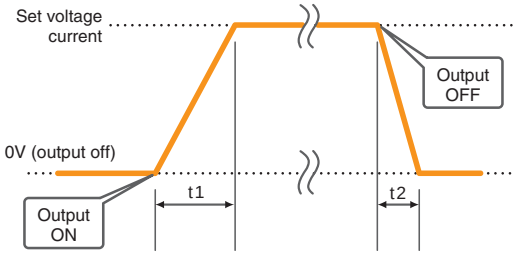


ta, tb, tc and toff can be set to 0.0s, 1.0s to 99.9h, respectively

B. Ramp

It enables to make ramp action up to set voltage or current (or from the set voltage or current to 0V or 0A). It is useful to like to rise (reduce) voltage or current slowly.

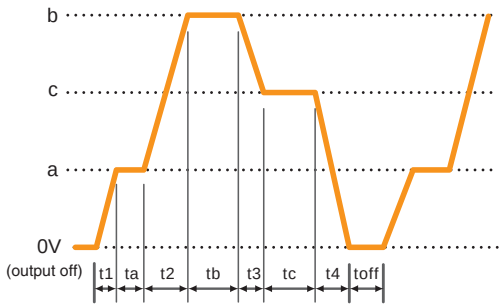
* For ramp action, it is possible to select “both of set voltage and current”, “only set voltage” or “only set current”.



t1 and t2 can be set to 0s to 999s, respectively

C. Pulse Sequence + Ramp

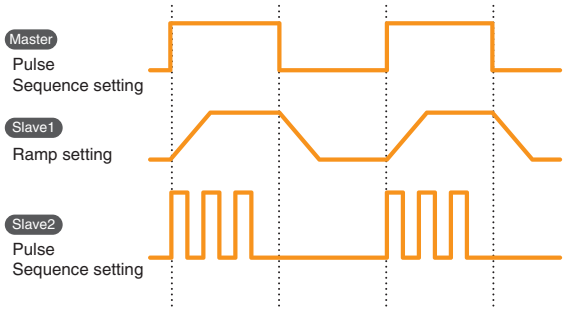
It is also possible to use pulse sequence combined with ramp action.
If multi-set function is combined with the too, it is able to make sequence action by using voltage or current set on memory a, b and c. Not only continuous operation, but also it is possible to specify the times.
It is useful in various aspects as it is possible to rise (reduce) voltage or current slowly up to 3 set value.



Range of 0 to 999s for t1 to t4 and range of 0.0s, 1.0s to 99.9h for ta to tc and toff can be set respectively.

D. Master Follow

Pulse sequence actions at master-slave and output signal to slave units at ramp action are transmitted. By this function, it is possible to make slave units to output on different output condition from the master unit.

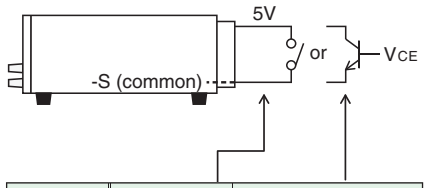


Note : Accuracy of the timer at sequence action ±0.5%. Please take care usage at long running.

Standard Functions

Remote Switch ON / OFF

Output is made ON / OFF with an external relay or open collector.



Output	Relay	Open Collector
ON	Short	VCE≦0.4V
OFF	Open	VCE≧2V

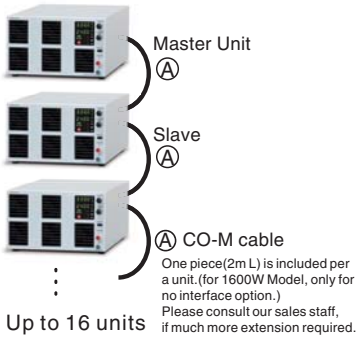
- Sink current 1mA
- Logic of OUTPUT can be made reverse.

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")

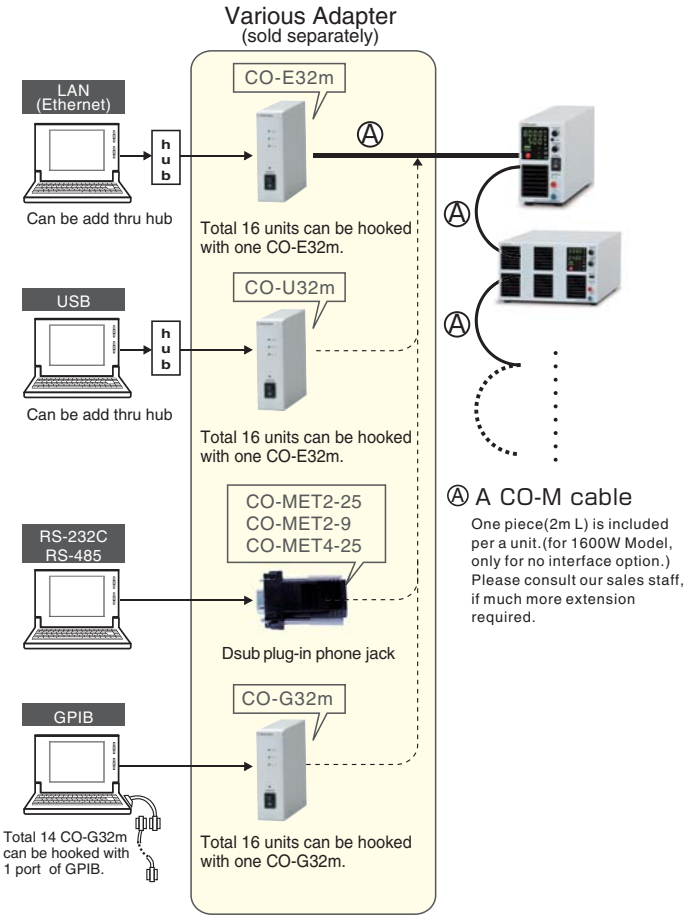


Function of Variable Internal Resistance

It is possible to simulate simply second battery, solar battery or fuel battery by making voltage depression from current loaded by setting internal resistance to 0.00 to 32.00Ω in CV (Constant Voltage) mode operation.

Digital Interface

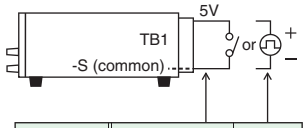
In addition to digital control with LAN (Ethernet), USB, RS-232C, RS-485 and GPIB, one control is enabled in master-slave operation.



When noisy environment is presumed, -Gob (optical interface) is required.
See page 10. for detail.

Remote Control

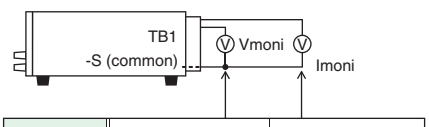
Switching Remote / Local



Mode	External Relay	TTL
remote	short	LOW
local	open	HIGH

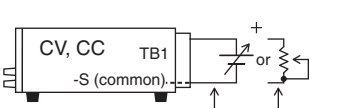
Each mode for Voltage, Current, OVP, OVP can be switched with relay or TTL signal.

Output Monitor

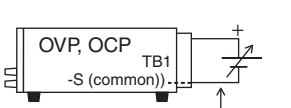


Output	0 to 10Vdc Output imp. 1kΩ	0 to 10Vdc Output imp. 1kΩ
0 to MAX		

Output Control



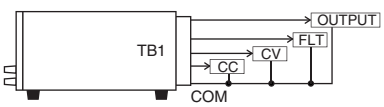
Vout-Iout	Cont Volt	R★
0 to MAX	0 to 10Vdc Input Imp. 500kΩ	0 to 10kΩ



Vout-Iout	Cont Volt.
0 to Max X5 to 110%	0 to 10Vdc Input Imp. 20kΩ

★Possible to switch 10kΩ to 0kΩ for Fail-Safe

Output of Status



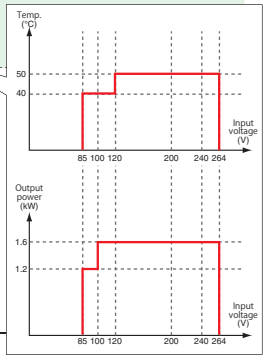
ON at OUTPUT status
ON at abnormal status★
ON at CV or CC status

★ ON for the status of OVP, OCP, OTP, reverse sense connection and interlock (LD).

COMMON is floating with the output of Open Collector for each COMMON.
Voltage Resistance 30Vdc, Sink Current 5mA

Specifications

Input Voltage	85 to 264VAC, 50 / 60Hz Single Phase Power Factor at 100VAC input and max. output : 0.99typ.
Input Current	6Amax(400W Model), 13Amax(800W Model), 20Amax(1600W Model) at 100VAC input
Output Control	Local : Constant Voltage Rotary Encoder on the Front Panel *if output power is set beyond max. output volt., output current is lowered automatically. Constant Current Rotary Encoder on the Front Panel *if output power is set beyond max. output current, output volt. is lowered automatically. (Max. power : 420.2W for 400W Model, 840.5W for 800W Model, 1680W for 1600W Model) Remote : Constant Voltage External Control Voltage 0Vdc to 10Vdc or External Variable Resistor 0Ω to approx. 10kΩ Constant Current External Control Voltage 0Vdc to 10Vdc or External Variable Resistor 0Ω to approx. 10kΩ
Voltage Regulation	For Input : 0.05% of maximum output (to ±10% of AC change) For Load : 0.1% of maximum output (to 10% to 100% of load change)
Current Regulation	For Input : 0.05% of maximum output (to ±10% of AC change) For Load : 0.1% of maximum output (to 10% to 100% of load change)
Stability	0.05% / 8H of maximum output voltage
Temp. Coefficient	0.01% / ºC of maximum output voltage 0.04% / ºC of maximum output current
Output Display	Output Voltage : 4-digit for digital indicator (±0.5%F.S±1-digit, at 23ºC±5ºC) Output Current : 4-digit for digital indicator (±0.5%F.S±1-digit, at 23ºC±5ºC)
Monitor Output	Output Voltage Monitor : 10V / max. output voltage Output Current Monitor : 10V / max. output current
Protection	● Overvoltage Protection (OVP) : Cut off the output at the set point ● Overcurrent Protection (OCP) : Cut off the output at the set point Range of set : approx. 5% to 110% of Rating Setting Method : Rotary Encoder on the front Panel or External Control Voltage 0Vdc to 10Vdc ● Over Power Protection (OPP) : Cut off the output at the set point 420.2W for 400W Model, 840.5W for 800W Model, 1680W for 1600W Model Reset : Manual return with OUTPUT switch or remote switch ● Over Temp. Protection (OTP) : Cut off the output at abnormal internal heating Reset : Manual return with OUTPUT switch or remote switch(after lowered to normal temp.) ● Input Voltage Drop , Blackout Protection : Cut off the output at input voltage drop Reset (after returned to normal voltage or from blackout) at Power Fail. Protec. (=Re-output Prevent.)...Manual return with OUTPUT switch or remote switch at Power Fail. Protec. (=Re-output Prevent.) canceled...Automatic return ● Remote Sense Connected in Reverse ● Interlock (LD)
Miscellaneous Functions	● Prevention of Miss Operation by Locked Key ● Digital Master-Slave Operation (only either of series or parallel. Combination with series and parallel is impossible. 16 units can be hooked in series or parallel. But, total output voltage hooked in series should be 250V and smaller.) ● Last set Memory ● Noise Control for Forced Cooling ● Remote Sensing ● ON / OFF with Remote Switch (TTL or External Relay) ● Signal Output for Status (CV, FLT, OUTPUT) ● Delayed Trigger Function : Separated setting for ON Delay / OFF Delay (0.0 to 99.9sec) ● Multi Set Function : Memory "a", "b" and "c" for voltage or current can be set separately with usual voltage or current.
Transient Response Time	Recovery Time 1ms (at constant voltage operation, time returned to within 10% of set voltage for load change of 70% to 100%)
Operation Temperature	800W Model and Smaller : 0ºC to +50ºC (Derating of 5% per 1 is required at +40ºC and over.) 1600W Model : 0ºC to +50ºC (When input voltage is 120 to 240VAC.) 0ºC to +40ºC (When input voltage is 100 to 120VAC, but if input voltage is 100V and lower, derating of 1.2kW and smaller on output power is required.)
Storage Temperature	−20ºC to +70ºC
Humidity	20% to 80% RH (no condensation)
Dielectric Strength Voltage	For 1minute at 1000V between the input power supply and the output terminal and between the input power supply and the chassis.
Grounding Withstand Volt.	±250V-DC (Grounding positive or negative terminals are possible)
Accessories	●Instruction Manual (1) ●Cover for remote connector (1) ●CO-M cable, 2m length (1) (For 1600W Model, only for no interface option) ●AC input cable, 3cores for single phase type (1) (not attached for 1600W Model)



A lot of Digital Control Functions

Control Functions	●Output ON / OFF set ●Digital Control for 16 units(-LGob models : 32units) ●Package Control for Multi-hooked Units ●Display of Various Status (Error Display / Status of Output / OVP / OCP / OPP / OTP / ACF / Reverse Connection of sense / Door Switch)	
Writing Function	Setting for Output Volt. / Output Current	Percent Mode (100.00%), * Volt. / Current mode (Max. Rated Value for Volt. / Current)
	Setting for OVP / OCP	Percent Mode (100.0%), Volt. / Current mode (Max. Protection Value to Overvoltage / Overcurrent)
Read Function	Measuring for Output Volt. / Output Current	Percent Mode (100.00%), * Volt. / Current mode (Max. Rated Value for Volt. / Current)
	Set Values of Output Volt. / Output Current	Percent Mode (100.0%), * Volt. / Current mode (Max. Rated Value for Volt. / Current)
	Setting of OVP / OCP	Percent Mode (100.0%), Volt. / Current mode (Max. Protection Value to Overvoltage / Overcurrent)

* Minimum value for each model is the same with the minimum displayed digit the indicator on the front panel.

External Specifications

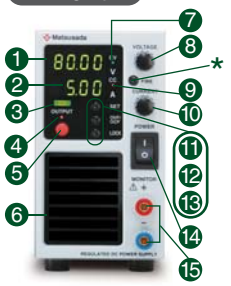
1. Display Output Voltage and OVP setting
2. Display Output Current and OCP setting
3. Display Remote Programming
   lighted during remote control of Voltage / Current.
4. Display OUTPUT lighted during output.
5. ON / OFF Switch for Output
   used for ON / OFF for output at remote and reset of Protections.
6. Air inlet a temperature-sensitive fan is used.
7. Display Constant Voltage Operation Mode
8. Setting Knob for Output Voltage(shared OVP Setting)
9. Display Constant Current Operation Mode

* FINE Switch (only for 400W Model)
change over set digit at setting output voltage and current.

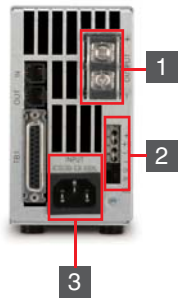
10. Setting Knob for Output Current(shared OCP Setting)
11. Preset Switch for Output
12. Setting Switch OVP / OCP
13. Setting Switch Key Lock
14. ON / OFF Power Switch it has priority over all actions for safety.
15. Terminals for a Monitor (up to 20A),
    not equipped on rack type models and 650V output models.
16. Ventilation Hole
17. Digital Interface used for master-slave too.
18. Change over Switch, Sink / Anti-sink

400W Model

Front

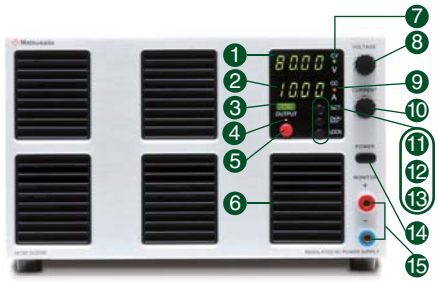


Rear

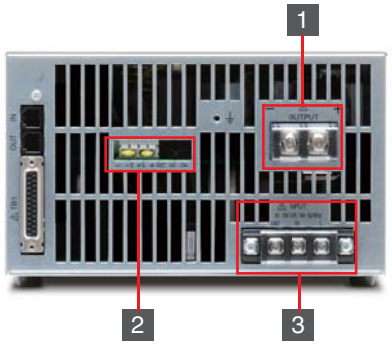


800W Model

Front

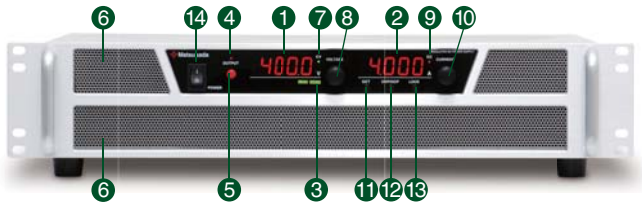


Rear

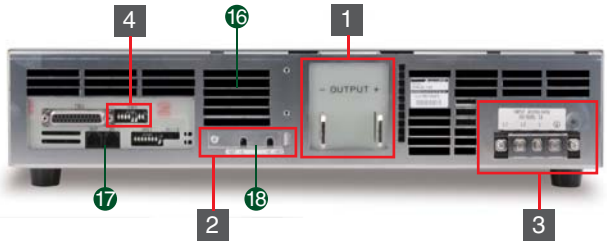


1600W Model

Front



Rear

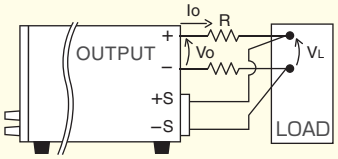


1 Output Terminal

400W, 800W Model
Terminal board

1600W Model
80V type…Busbar
330V, 650V type… Terminal board

2 Remote Sensing



Prevent to degrade stability due to volt. drop (Vo-VL) by resistance(R) of output wiring or contact resistance. (up to max. 0.5V)

3 Input Terminal

400W Model
AC inlet

800W, 1600W Model
Terminal board

4 Set Switch for Functions (SW1)*

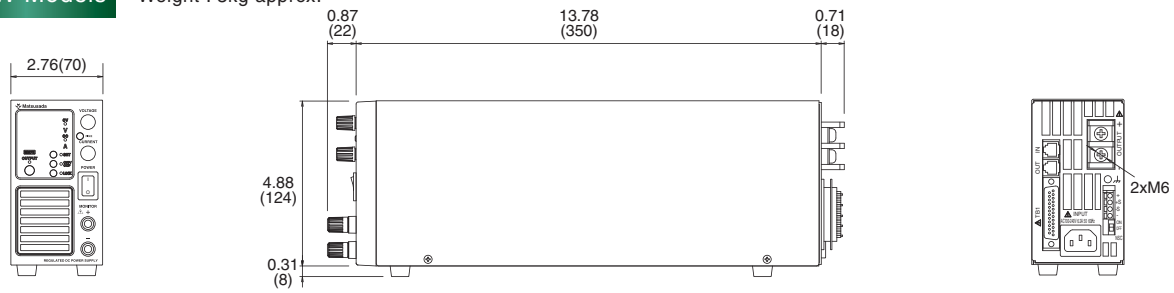
[Voltage Control]		[Blackout Protection]	
0V to 10V Local	0Ω to10kΩ approx.	OFF	ON
[Current Control]		[Fail Safe]	
0V to 10V Local	0Ω to10kΩ approx.	OFF	ON

* : For 400W and 800W models, no set switch for functions (SW1) but enable to set with star-up menu.

Dimensions inch (mm)

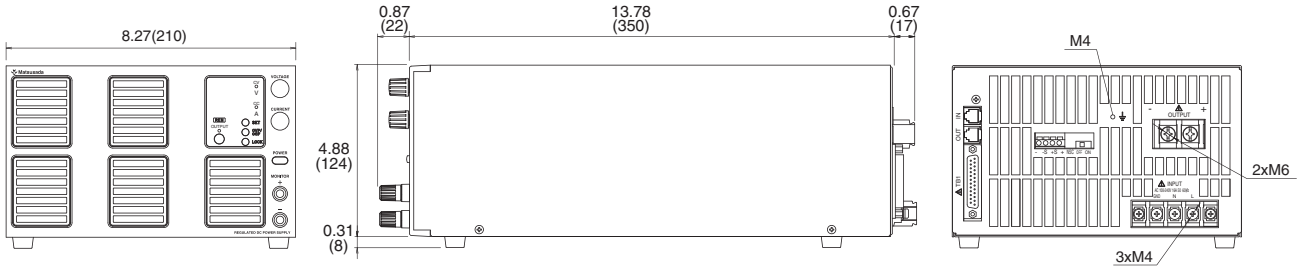
400W Models

Weight : 3kg approx.



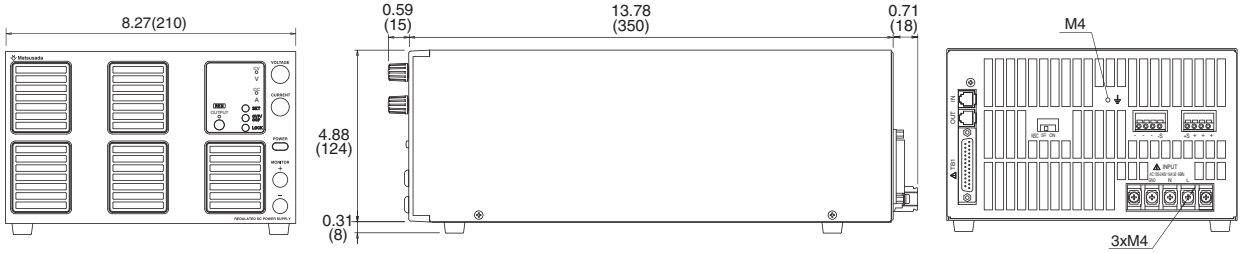
800W Models, except RKT650-5(800W)

Weight : 6kg approx.



RKT650-5(800W)

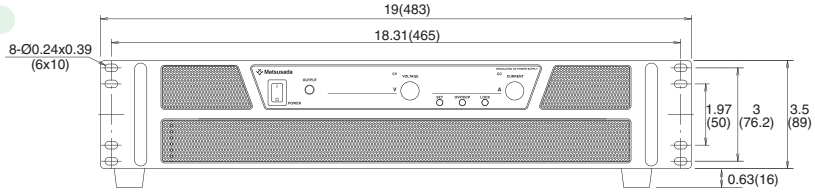
Weight : 6kg approx.



1600W Models

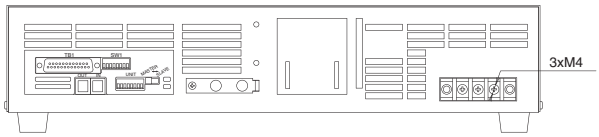
Weight : 14kg approx.

Front

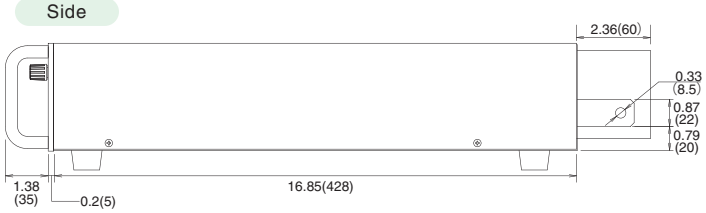


RKT80-100(1600W)

Rear

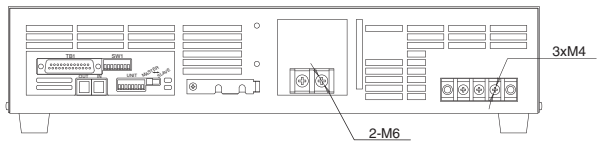


Side

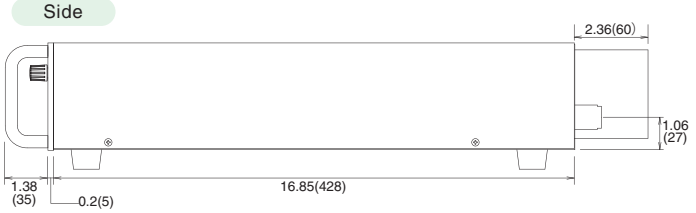


RKT330-25(1600W)
RKT650-8(1600W)

Rear



Side

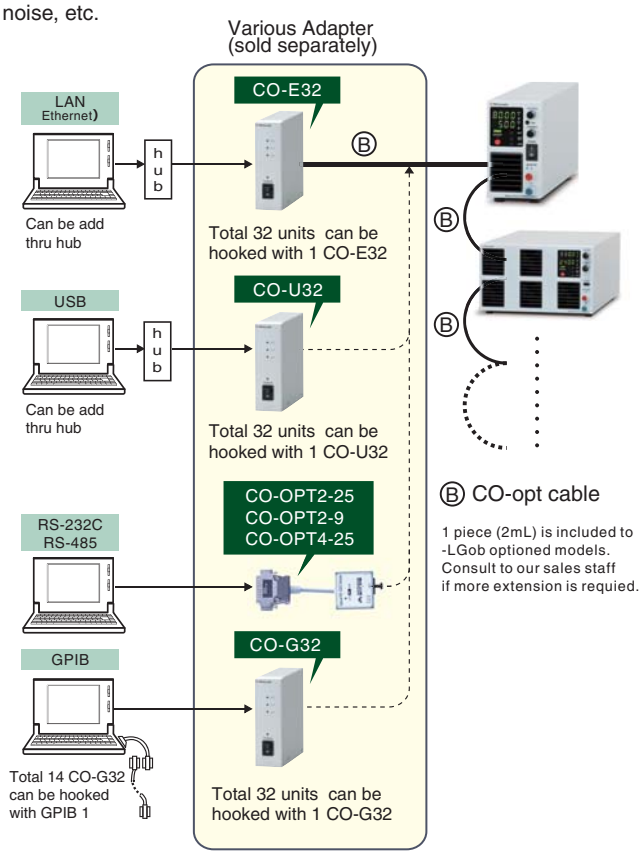


Options

-LGob : Optical interface Board *1 *2 *3

-LGob	Optical Interface board + Optical cable 2mL
-LGob(Fc5)	Optical Interface board + Optical cable 5mL
-LGob(Fc10)	Optical Interface board + Optical cable 10mL
-LGob(Fc20)	Optical Interface board + Optical cable 20mL
-LGob(Fc40)	Optical Interface board + Optical cable 40mL

Insulation control is made with optical communication.As perfect insulation is made by optical fiber it is able to forestall miss operation as transient phenomenon caused by surge, dielectric thunder or foreign noise, etc.



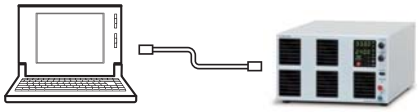
★When use them under following conditions, select -LGob always.
- •Noisy environment as in a factory. (Ex. A motor or a coil is used near to load or power supply)
- •Used in high voltage floating. (250V and higher)
- •Our power supply and controller (PC or PLC) can not be installed within 2m.

-LDe : Pulse and Ramp Sequence

Please refer to page 5 for detail.

-LUs1 : USB Interface Board *1 *2 *3

Digital control is enabled through USB.

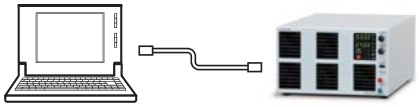


USB hub needs between PC and RKT if control plural RKT.

OS for Personal Computers : Microsoft Windows Xp / Vista / 7 / 8
Both of 32 bits and 64 bits are applicable
(Microsoft and Windows are registered trademark of Microsoft Corp. in USA and other.)

-LEt : LAN(Ethernet) Interface Board *1 *2 *3

Digital control is enabled thru LAN (Ethernet).



Hub needs between PC and RKT if control RKT thru Ethernet.

-L(Mc0.5), -L(Mc0.15) : Change Communication Cable Length

Length of CO-M cable is to be 0.5m and 0.15m, respectively.
(only either one is selectable.)

-LZ : Handle for carrying *4

Handle for carriage is attached on the top board.

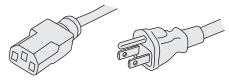
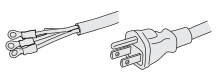
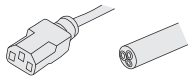
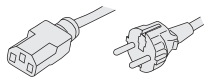
*1 : These options can not be selected together.
*2 : If these options is selected for 1600W model, standard digital interface and master-slave function are not equipped. Please refer to the catalog of digital controller for power supplies "CO series" for the detail of digital interface function.
*3 : -L(Mc0.5) or -L(Mc0.15) option cannnot be selected with -LGob, -LUs1 or -LEt option. (for 1600W models)
*4 : Rack Mount Type is not covered.

How to Order

Please suffix above optional codes on the tall of Model NO.
[Example] RKT80-50(800W)-LDeGob(Mc0.5)Z
RKT650-5(800W)-LDeEt(Mc0.15)Z
RKT650-8(1600W)-LDeUs1 (alphabetical)

AC Input Cable

Please consult our sales staff about AC cable for 1600W Models.

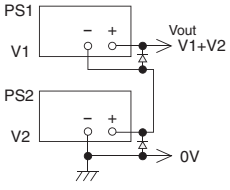
CABLE TYPE 1 (Standard Attach. of 400W Models)	CABLE TYPE 2 (Standard Attach. of 800W Models)	CABLE TYPE 3 (Applicable 400W Models)	CABLE TYPE 4 (Applicable 400W Models)
125V / 10A	125V / 15A	250V / 10A	250V / 10A
			

Example for Applied Actions

With RKT series of the same model, output voltage and current can be increased by connecting power supplies in series or parallel.
We recommend local control or master-slave control. Do not connect together COMMON of 2 units or more as the COMMON of connector for external input and output control (TB1) is connected with output.

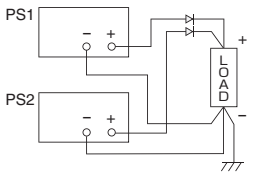
Series Operation

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



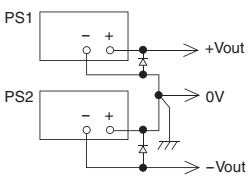
Parallel Operation

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

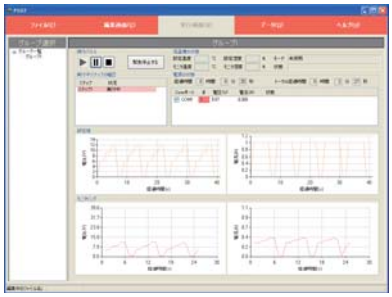
Possible to output on positive(+) or negative (-).



Introduce of Our Sequence Software for Power Supplies「**PSS2**」

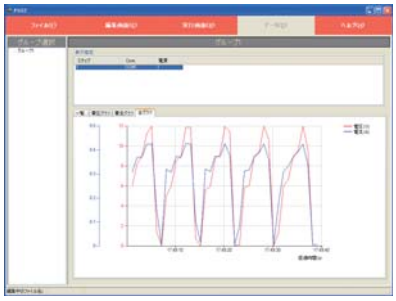
PSS2 is the dedicated software which can actuate various power supplies, electronic loads and digital controller for power supplies manufactured by Matsusada Precision Inc. with simple set up. It is the perfect for the endurance test for electronic parts, electronic equipment and electric component of automobile or various simulation test

Execution of Test



It is possible to monitor required information like as status of sequence, thermostatic chamber and the power supply, voltage and or current at testing with one display.

Confirmation of Measured Data



It is possible to confirm finished test data. Measured data can output in CSV format.

Technical Notes

Connection and Application Operation

■Connection of Loads

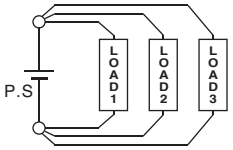
- Connect short with leads of sufficient thickness.
- Use PVC wire (105ºC) which endure enough to applied voltage. Consideration of ampacity and limitation for lead wire length by sensing (0.5V) requires for wiring to the load.

AWG	mm²	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

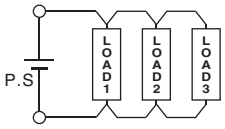
In case of 350A and higher, use multi-cables or a copper bar.

■Paralleling of Loads

Good Connection



Wrong Connection

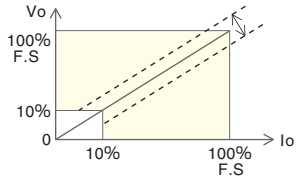


Conception of Specification

Unless other wise specified, specifications on this catalogue are of values at max. rated output (full scale*) after 2 hours warming-up.

Applied range of specifications

Ripple, Stability, Variations and Temp. coefficient are applied “F.S x Catalogue Value” and Linearity of output, Linearity of monitor, Linearity of indications are applied “F.S x value of ±0.5% (*)” at the applied range of 10% to 100% of maximum rated output.



Ripple

Indication is in rms including high-frequency noise.

Preset

Preset value does not indicate exactly actual output state. If require exact setting, set voltage value by making actually output in no-load.
For current, set current value by making gradually current rise in shorted terminals of output.

▶ Please Read Surely

When Select Direct-Current Power Supplies

- Products on this catalogue are manufactured on consideration for safety fully as direct current power supplies, but please observe the Instruction Manual for operation and earth always grounding terminals for safety.
- Products on this catalogue are manufactured under the premise that applied on ground potential or in the range of series operation. Please consult our sales staff when use them on high potential floating.
- Products on this catalogue are manufactured on consideration for protection against electric discharge from loads fully, but when use them for some of continuous discharge like as spattering or for special withstand voltage test, please consult our sales staff in advance.
- We recommend contact our sales staff and inform them your requirement prior to your selection in order to secure safety as power supply equipment and make your best fit selection.

FAX

USA/canada : +1-888-652-8651

other countries : +81-6-6150-5089

Customer Inquiry Sheet (RKT 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:	

Warranty

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. Regarding RoHS compliance, Matsusada Precision Inc. does not intentionally use objectionable substances in the products listed within this catalog. Matsusada Precision Inc. manufactures products using components which, according to our suppliers, are “RoHS compliant parts”. However, Matsusada Precision does not analyze each and every unit to confirm. Therefore, there may be some customized products which do not comply to RoHS. Please contact your nearby sales office for confirmation.

Matsusada Precision Inc.

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

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