



R4K-80 series

Basic Instruction Manual

1. Introduction

This manual describes the outline of the major features of R4K-80 series. The detailed instruction and precaution are separately indicated in the comprehensive instruction. This product generates high voltage and energy. In order to use the product safely and prior to using the product, please read the instruction manual to the end before use in order to use the product safely, because there is a danger of death or serious injury due to electric shock. Please use the product after fully understanding how to use the product properly. We are not responsible for any damages incurred by not observing the warnings and procedures stated in the instructions, so be forewarned.

Instruction Manual on the Web

The latest instruction manual or driver-related information is only available for download from our website. You can also access from the QR code below.

If the download is unavailable, please contact our sales representatives. Keep the instruction manual carefully so that you can view it whenever you need.



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

2. Accessory

First of all, check the following accessories besides the power supply unit before use.

<Accessory>

- ☐ Basic Instruction Manual (This)
- ☐ AC input cable (1)
- ☐ Ground plate (1)
- ☐ M4 screw (for ground plate) (1)
- ☐ CO-M cable* (1)
*excluding for LUs1, LGob, or LEt option

<Accessory as of R4K-80 binder option >

- ☐ Metal fitting (2)
- ☐ Belt (1)
- ☐ Support screw (2 × numbers of units to be connected)
- ☐ M3 screw (2 × numbers of units to be connected)

<Accessory as of LGob option>

- ☐ Opt cable 2m (1)














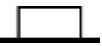


Revision History

Rev. No.	Rev. Date	Revised Contents
0.0	2020/02	First edition
3.2	2020/10	Revised Accessory

3. For Safe Use

Symbols

In order to use the product safely, the following symbols are displayed in the instruction manual and on the product. Understand the meaning of the symbols and observe each item. Depending on the product, some symbols may not be used.

 WARNING	Indicates content that could cause death or serious injury.
 CAUTION	Indicates content that could cause injury or damage to property.
	Indicates danger/warning/caution. Refer to the instruction manual when using the part with this symbol.
	Indicates where high voltage is handled. Touching it may cause electric shock and result in death or serious injury.
	This symbol means "Prohibited".
	Indicates that it must be performed in order to demonstrate the performance of the product.
	Protective earth terminal (Ground terminal for electric shock prevention)
	Ground terminal
	Frame or chassis terminal
	High temperature attention Touching it carelessly may cause burns
	Power On
	Power Off
	Power standby The product will not be completely disconnected from the power supply even if it is set to standby.
	Bistable push button switch on
	Bistable push button switch off
	Alternative Current

WARNING

Understand the risk.

This product generates high voltage and energy. An electrician or equivalent knowledge must read the instruction manual to the end and familiarize yourself with the proper use and danger of the product. If you want the product to be handled by another person, limit it to those with knowledge of electricity, and have people who are familiar with correct use and danger of the product conduct education and training before handling it, or handle the product under the supervision of those who are familiar with the proper use and danger of the product. Persons, with the exception of the above, must not handle the product.

Do not open the product case and panel.

Do not disassemble, remodel, or repair by opening the product case and panel yourself. There is a high voltage area inside, which may possibly cause electric shock and fire. Never remove the case and panel of the product, since the safety and function of the product will not be guaranteed.

It is not suitable for use in places where there is a possibility of a child being present.

The product is designed assuming that it will be used in places where there are only adults, such as factories and laboratories. Do not use it where there is a possibility of a child being present.

Ensure that the product is handled only by a limited number of people.

Only those who are familiar with the proper use and danger of the product, or those who are educated and trained by them should install the product. Any other person handling the product may cause electric shock, burns and injuries.

Ground it.

When the product has a protective ground terminal or GND terminal, connect it to the ground. If the input terminal of the product is an inlet type, connect to the power outlet with the ground using the supplied power cable or a power cable suitable for the area to be used. If it is not connected to the ground, there is a risk of electric shock and fire, which is extremely dangerous.

About power supply cable

If there is a power supply cable attached to the package or product, it cannot be used for other products. In the case of a product that does not include a power supply cable, you must purchase an optional power supply cable suitable for the operating environment and the area, or you must prepare it yourself.

About the connection of the power supply cable

Connection of the power cable should be done by an electrician or someone who has equivalent knowledge and is familiar with the correct usage and danger of the product. Refer to the page about connection of the input cable in the instruction manual and carry out work. For products that have acquired safety standards, also refer to the page that describes overvoltage categories.

About input voltage

For the input voltage of the product, refer to the page describing the input terminal of the product and the input voltage in the instruction manual. Do not supply input exceeding the specifications of the product

WARNING

About the fuse

The product contains a protective fuse. In the case of a product in which a fuse holder is arranged externally, it is possible to replace the fuse. For the replacement method, refer to the instruction manual. If the product does not have a fuse holder externally, the user cannot replace the fuse. If the fuse blows out, do not open the case or panel. Please contact our sales representative.

Do not modify or damage the cable.

It may cause electric shock and fire.

Designed for indoor use

Use the product indoors. Do not use it outdoors or indoors where there is a possibility of water leakage, flooding, or crown.

About operating temperature and humidity

Use within the range of operating temperature and humidity stated in the instruction manual.

Do not use it in a place where the ambient temperature becomes higher than the operation temperature of the product or in a narrow closed place.

Do not install in places that cause condensation.

Do not install it in places that cause condensation, where it is exposed to steam or water vapor. Insulation deteriorates, causing breakdown, electric shock, or fire.

Do not place anything on top of the product.

Falling or collapsing is dangerous.

Do not put any objects on or in the product.

Do not put any objects such as metal or liquid in the product through the inlet etc. Failure, electric shock, fire may result.

Operate the product with your right hand.

Use only your right hand to operate the product and keep your left hand away from it, which can reduce the risk of electric current flowing through the left hand to the vital organs of the body in the event of an electric shock.

Do not touch the wiring or load connected to the output terminal or output terminal during operation or immediately after output stop.

Very high voltage is applied to the terminals during normal operation and trial operation. Touching it will result in electric shock.

In addition, since a capacitor is connected to the terminal, high voltage remains on the terminal even immediately after stopping the output. To avoid electric shock, do not touch the terminals.

Turn off the power when touching the terminal.

Before touching the terminals of the product, turn off the power and check that the power has actually turned off.

There is a capacitor at the terminal, and it is particularly dangerous to touch it immediately after turning off the power supply. Be careful of the electric charge of these capacitors and connect it to earth to discharge it completely. Remove input line (AC line) during work.

CAUTION

Install horizontally.

Do not install the product in the reverse direction and the lateral direction.

Internal heat dissipation becomes insufficient, parts deteriorate, there is a risk of smoke and fire.

Do not install in the place where cool air blows directly.

There is a danger of condensation, leakage current and burnout.

Do not install the product in places around corrosive gas or liquid and places where chemicals handled.

There is a danger of parts being deteriorated, smoking and burning.

Avoid using it in a place with much dust.

If dust accumulates in the air inlet, remove it promptly.

If dust accumulates in the air inlet, cooling of the product is hindered and it may cause malfunction.

Do not block intake port and exhaust port.

Secure more than 30cm space on the front and back of the product.

If the intake port and exhaust port are blocked, the specified performance of the product cannot be demonstrated and parts are deteriorate, which may cause smoke and fire.

When work such as welding is conducted near the product, disconnect all the wires from the product.

Do not wipe with chemicals (thinner etc.) or wet cloth.

There is a danger of electric shock, electric leakage, burnout from chemicals or water entering the inside of the product.

About fan replacement

In the case of products with air-cooling fans, the fan has a lifetime part. As wear, deterioration, etc. progress with the lapse of use time, operation may become unstable. Note that the service life of the fan will vary greatly depending on the usage environment (temperature, humidity, dust). In order to use the product for a longer time, it is necessary to replace the fan periodically. For replacement, please contact our sales office (replacement require separate repair charges).

(Do not exchange fans with other users because there is a danger of electric shock, etc.)

4. Initial Inspection

Before operation, check the product for abnormality.
(Do not connect the AC cable.)

Check the panel and the chassis for obvious impact such as dents.

If an abnormality is found, contact the forwarding agent and our company.

5. Operation Procedure from POWER ON to OUTPUT

Load Connection

You can connect + monitor terminal with - monitor terminal on the front panel or + output terminal with - output terminal on the rear panel.

*In connecting to + output terminal and - output terminal on the rear panel, each terminal can accept up to 10A.

*Make sure that the power has already been turned off (with LOAD LED turning off). If connected in OUTPUT ON, the product could be damaged.

OVP/OCP Setting

Press the OVP/OCP switch, and then, turn the VOLTAGE setting dial for OVP setting or turn the CURRENT setting dial for OCP setting in order to properly set the protection limit.

*The maximum value is set at the factory default.

Setting of Voltage/Current

Press the preset switch of the output voltage and the output current, and then, turn the VOLTAGE dial or the CURRENT dial to set the voltage or current setting.

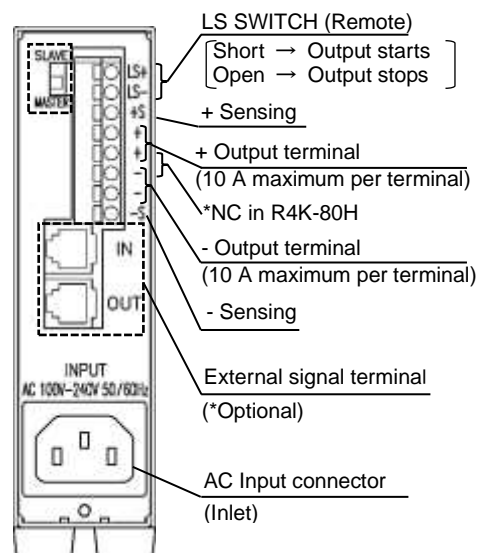
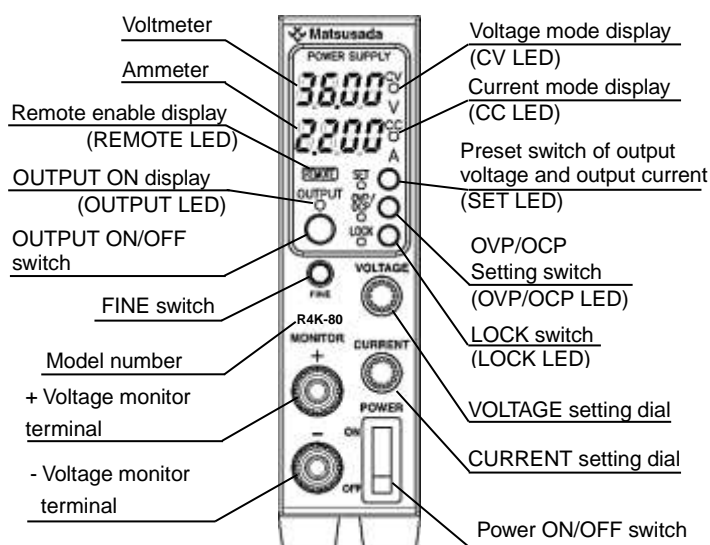
OUTPUT

Press the OUTPUT ON/OFF switch to start the output.
Individual output values are shown on the output voltage/current meter.
During output, by pressing the OUTPUT ON/OFF switch again, the output is stopped.

6. Main and Protection Features

- Power failure protection circuit switching
- LOCK function
- Output delay function
- Voltage/current memory function
- Remote sensing
- Multiple Setting
- Output shut down with external signal
- OVP (Overvoltage protection)
- OCP (Overcurrent protection)
- Overtemperature protection
- Low input voltage protection
- Sensing reverse connection protection

7. External Appearance



8. Start-Up Menu

With Start-Up Menu, the setting is carried out to use the function.

*In order to display the Start-Up Menu, press and hold the preset switch with Version displaying as the POWER ON/OFF switch is ON. Following that, "dEF" is shown on the screen.

*In order to save your setting, press and hold the LOCK switch.

Function	Display	Function description	Setting
Default	dEF	Factory default setting	-
Trigger delay	dly	At OUTPUT ON/OFF You can start or stop the output operation with some delay.	[Preset switch] ON to delay time setting mode [OVP / OCP switch] OFF to delay time setting mode [LOCK switch] Local or Remote in slave
Unit	Unt	Setting Unit number	0~31
Pulse Sequence (Available for -LDe option)	Pls	OUTPUT ON/OFF Automatically repeating OUTPUT ON/Off	[Preset switch] ON to time setting change mode [OVP / OCP switch] OFF to time setting change mode [LOCK switch] Repetition number change mode
Lamp (Available for -LDe option)	rap	Time setting for rise / fall of the output voltage or current	[Preset switch] ON to time setting change mode [OVP / OCP switch] OFF to time setting change mode [LOCK switch] Changing lamp operation
Power failure protection	nPFP	Stopping the output to recover after power failure	ON: Output on OFF: Output off
Current sink function	nSC	At OUTPUT OFF The output speedy falls for the function.	ON: Output slowly falls OFF: Output speedy falls

9. LOCK

	LOCK in normal	LOCK in full
Locking	Voltage / Current dial operation	Voltage / Current dial operation OUTPUT switch
Setting	Press and hold the LOCK switch (for about two seconds).	Press and hold the LOCK switch (for about 12 seconds).
Unlocking	Press and hold the LOCK switch. Approximately 2 seconds	

11. Error Display

Error Display	Detail
OVP / E01	Overvoltage protection
OtP / E02	Overtemperature protection
Sr / E03	Protection of sensing reverse connection
OCP / E05	Overcurrent protection
ACF / E07	Low input voltage protection

*In order to clear the error, press the OUTPUT ON/OFF switch.

10. Multiple Setting

Mode switching	Press and hold the preset switch (for about five seconds).
Mode canceling	
Memory load	Press the switch
Memory a	Preset switch
Memory b	OVP / OCP switch
Memory c	LOCK switch
Memory writing	Display with blink → Automatic writing in lighting

12. Checks for Failure

If there could be a failure of your product, turn off the POWER ON/OFF switch immediately and check the following. They are not always the fault of the power supply, so please carry out the confirmation according to the check points before requesting the repair services.

Problem	Check point
None of output or desired output value is achieved.	<ul style="list-style-type: none"><input type="checkbox"/> Are the input voltage as well as the wiring method correct?<input type="checkbox"/> Is the power failure protection enabled? *Switch ON in default setting ⇒ The power failure protection is enabled.<input type="checkbox"/> Is the LS terminal shortened?<input type="checkbox"/> Are the minimum presets of CV or CC given?<input type="checkbox"/> Is the OVP setting correct?<input type="checkbox"/> Is the OCP setting correct?<input type="checkbox"/> Is the LOCK function working?
Fuse blows or breaker trips.	<ul style="list-style-type: none"><input type="checkbox"/> Were the screws in your housing replaced? (A screw may have fallen into the power supply.)<input type="checkbox"/> Is the breaker's base capacity sufficient?
Output voltage fluctuates or gets out of control.	<ul style="list-style-type: none"><input type="checkbox"/> Is the remote sensing terminal correctly connected?<input type="checkbox"/> Is it in CC mode?<input type="checkbox"/> Is the LOCK function working?<input type="checkbox"/> Is the master / slave switch set to the slave mode?
Malfunction occurs/	<ul style="list-style-type: none"><input type="checkbox"/> Is it in multiple setting? (SET LED blinking)<input type="checkbox"/> Is the countdown displayed when the output is on or off?<input type="checkbox"/> Is it in pulse sequence? (LOCK LED blinking)

Matsusada Precision Inc.

Headquarters / Factory

745 Aoji-cho Kusatsu Shiga 525-0041 Japan

[Contact Us](#) www.matsusada.com