

# RFID Reader/Writer Unit

Model: ME-KS01M48-A

## Hardware Manual

REV 1.00

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# PREFACE

This manual explains how to operate the RFID Reader/Writer Unit hardware (hereafter RW). Read this manual to learn how to connect the RW to personal computer (hereafter PC), how to operate it, how to clean it up and important cautions.

- (1) Specifications are subject to change without notice. For this reason, specifications may be different from the contents of this manual.
- (2) We accept no responsibilities whatsoever for accidents and damages arising from results that user does not obey instructions and cautions that this manual explains.
- (3) We accept no responsibilities whatsoever for effects of operational results.

This product wins type approval of radio-frequency identification based on Japanese Radio Law.

Type:                      Number:

Because of using radio wave, it may cause interference depending on places of use. Especially, please take notice that it has effect on units such as medical equipment that hands weak radio wave.

When the RW is customized, the RW loses the efficacy of hardware that has won type approval. Never customize it.

## FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the

user is encouraged to try to correct the interference by one or more of the following measures:






- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

# SAFETY

For safety reasons, obey the contents of this manual.  
Before using this RW, carefully read this manual and use this RW correctly.

## Labels

The meaning of each label is as follows.

Label	Meaning
	<p>Misoperation may cause serious accident. Fatal accident or serious injury is assumed if misoperation is not evaded.</p>
	<p>Misoperation may cause injury or property damage. Injury or property damage is assumed if misoperation is not evaded.</p>
	<p>This part explains recommendations for safe use. If not performed, these may cause injury or property damage.</p>
	<p>This part explains notice for safe use. If performed, these may cause injury or property damage.</p>
	<p>This part explains attentions and restrictions on the operation or notice to avoid the wear and tear of RW and breakdown. Carefully read this part to avoid misoperation.</p>

For safety reasons, read this manual before using the RW.

## CAUTION

The safety of this RW is taken into full consideration, but if you feel danger, turn the power off immediately and contact your maintenance service company.

- Use the RW within specifications and use environment.
- Establish a ground for AC power cable to avoid an electric shock.
- Remove trash and dust from the power plug and insert AC power cable into the RW and an electric outlet securely.
- Use the RW in a room.
- Store the RW in environments within specifications.



- Don't place goods except specified rack and microtube on the RW.
- Don't put one's weight on the RW.
- Don't give a high shock to the RW.
- Don't dismantle and customize the RW.
- Don't wet the RW. It may cause an electric shock and a fire.
- Don't touch the RW with wet hands. It may cause an electric shock.
- Don't unplug AC power cable and USB cable while turning the power on.
- Don't move the RW while turning the power on.
- Don't short out the AC power cable and USB cable.
- Don't lengthen the AC power cable and USB cable.
- Don't break the AC power cable and plug.
- Don't close the RW vents. It may cause an electric shock and a fire.
- If unusual smell, smoke, ignition or unusual sound is present, unplug AC power cable from an electric outlet and the RW immediately and don't use it.



## Advice

**Advice** Clean the RW!

- **Always clean the RW.**  
Dust on the antenna of RW may cause read error and write error.
- **When cleaning the RW, turn the power off to avoid an electric shock.**
- **Don't wipe the RW with moistened dustcloth or solvent such as a thinner.**  
It may cause an electric shock.

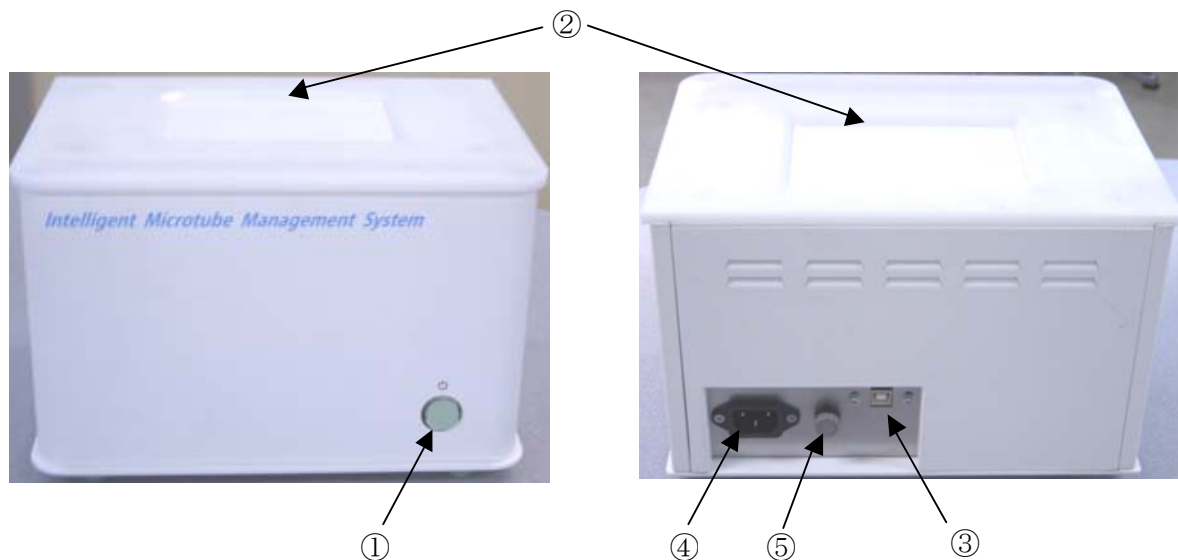
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# 1. Introduction

This manual explains how to use this RW. Before placing and using this RW, carefully read this manual. Regarding how to operate an application, carefully read an application manual.

## 2. Exterior features



### • Body

Item	Function
① Power	Turn the power on or off.
② Antenna	Reads and writes the data by setting a rack for the Intelligent Microtube.
③ USB connector	Connect the RW to the PC. USB connector: Type B
④ Outlet of power cable	Insert the power cable.
⑤ Fuse	T1.6A time lag fuse is inserted.

### • Accessories

Item	Function
⑥ AC power cable	Plug it into the electric outlet. *1
⑦ USB cable	USB cable to connect a PC.
⑧ CD-ROM	CD for the installation of application software and device driver.
⑨ Manual	For the RW and the application.

\*1 Cables are not included in the CE declaration of this R/W. Please prepare a AC power cable that matches the specifications of your country.

### 3. Connecting instructions

Place the RW following the instructions, and then connect the RW to a PC.

#### **CAUTION**



**TURN THE POWER OF RW OFF WHEN PLACING THE RW AND CONNECTING CABLES.**

- 1) Place the RW on a flat and solidly-built table.

#### **CAUTION**

**PLACE THE RW NOT TO CLOSING RW VENTS.**



#### **Advice**

**Do not place the RW in a location subject to:**

- **Direct sunlight**
- **Misture or rain**
- **Excessive dust**
- **Ambient temperature of more than 50°C or less than -10°C**
- **High humidity**
- **Mechanical vibration or shock**



- 2) Connect the RW to a PC.



- 3) Confirm that the power is in the "off" position and then plug the AC power cable into the outlet of RW.

#### **CAUTION**

**INSERT THE AC POWER CABLE INTO THE RW AND THE ELECTRICAL OUTLET SECURELY.**



- 4) Plug the AC power cable into the electric outlet.



 **CAUTION**

- **USE POWER WITHIN THIS SPECIFICATIONS (AC 100V – 240V).**
- **PLUG THE AC POWER CABLE INTO AN ELECTRIC OUTLET THAT IS PROPERLY GROUNDED.**
- **USE AN ELECTRIC OUTLET THAT IS EASILY UNPLUGED.**
- **UNPLUG THE AC POWER CABLE FROM THE ELECTRIC OUTLET WHEN NOT IN USE.**



## 4. Operating instructions

This section explains the operation of the RW. Install a device driver and an application before using the RW. Regarding how to install and how to operate an application, read an application manual.

- 1) Turn the power on. When turning the power on, the switch of power shines in green.
- 2) Launch an application after confirming that the PC has recognized a device driver.
- 3) Set a rack including microtubes on the antenna of RW.

### Advice

**Don't push the antenna of RW. It may cause a breakdown.**



- 4) Transfers data between microtube and RW to by operating an application.

### Advice

**Don't bring a device emitting a strong electric wave such as the cellular phone nearer to the RW. It may cause a communication error.**



- 5) After the completion of operation, turn the power off. When turning the power off, the switch of power turns off the lights. When not in use, unplug the power cable from the electric outlet.

## 5. Care and Maintenance

This section explains the care and maintenance of the RW. Please clean the RW following the instructions before starting an operation.

### CAUTION

**ALWAYS TURN THE POWER OF RW OFF WHEN CLEANING.**



- 1) Unplug the AC power cable from the electrical outlet after flipping the power switch off.
- 2) Wipe the antenna of RW with a dry cloth to remove trash and dust from it.

### **Advice**

- **Trash and dust on the antenna of RW may cause a communication error. Please clean the antenna of RW at regular time intervals.**
- **Don't push the antenna of RW. It may cause a breakdown.**



- 3) Wipe the antenna of RW with a cloth dampened with volatile alcohol when the dirt is stubborn.  
\* Volatile alcohol: IPA, ethanol, etc

### **Advice**

- **Don't use the benzene and the solvent.**
- **Don't put a large amount of volatile alcohol on the RW. It may cause a breakdown.**



## 6. Troubleshooting

Go through this section if you experience difficulty in operating the RW.

Symptoms	Causes	Actions
The RW does not turn on.	Check that the AC power cable is securely inserted into the RW and the electrical outlet.	Insert the AC power cable into the RW and the electrical outlet securely.
	Check the specification of power supply.	Insert the AC power cable into the electrical outlet that matches the RW's specification of power supply.
	Check a fuse.	Contact maintenance services for assistance.
The RW does not work.	Check that the USB cable is securely inserted into the RW and the PC.	Insert the USB cable into the RW and the PC securely.
	Check that the PC recognizes USB devices normally.	Restart an application after turning off the power of RW and closing an application.
		Install the device driver six times.
The RW cannot read or write the data.	Check that microtubes and a rack are set exactly.	Set microtubes and a rack exactly.
	Check that the RW reads or writes the data of other microtubes.	Change microtubes.
	Check dust on the antenna of RW.	Clean the antenna of RW.

### CAUTION

**DON'T DISMANTLE AND CUSTOMIZE THE RW TO AVOID AN ELECTRIC SHOCK AND A BREAKDOWN.**



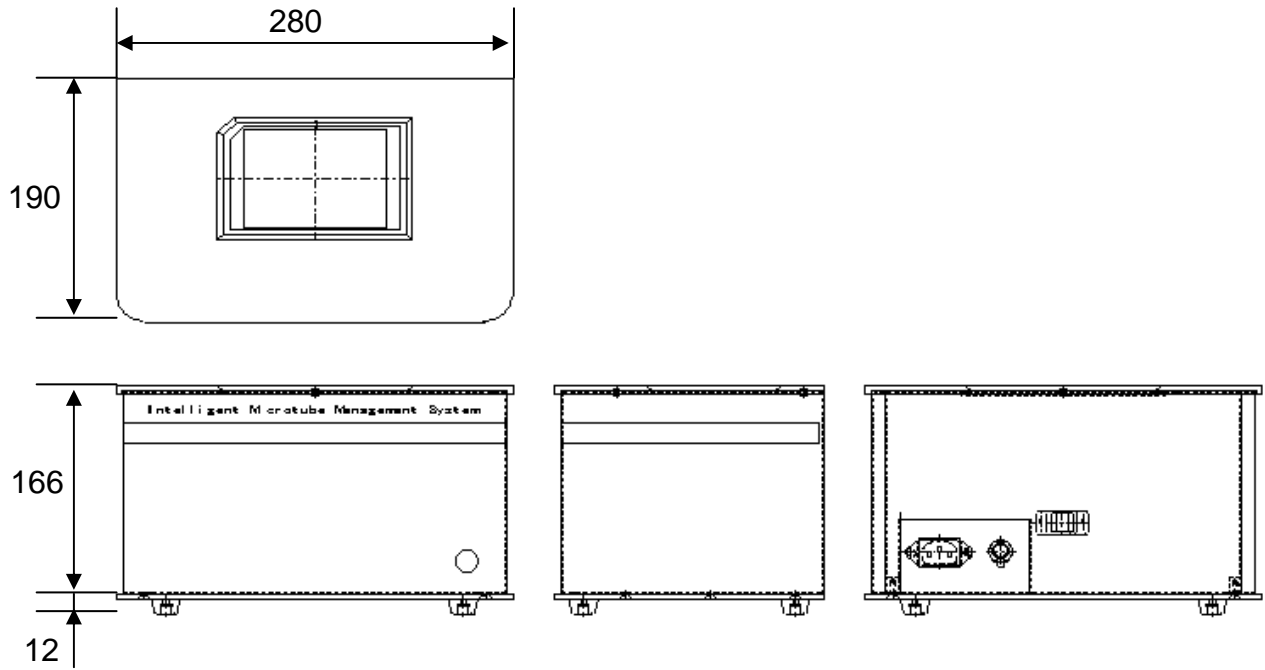
## 7. Specifications

1. Power supply voltage  
AC100V – 240V  
50/60Hz
2. Power consumption  
15W
3. Dimensions (RW)  
280(W) x 190(D) x 166(H) mm
4. Weight (RW)  
Approx. 3.2kg (except cables)
5. Operating conditions
  - 1) Ambient temperature : 0 to 40°C
  - 2) Relative humidity : 35 to 80%RH (no dew condensation)
6. Non-operating conditions
  - 1) Ambient temperature : -10 to 50°C
  - 2) Relative humidity : 30 to 85%RH (no dew condensation)
7. Use environment  
Interior of room  
\* Avoid direct sunlight, rain and dew.
8. Ground  
Ground resistance: Under 100ohms

## 8. Dimensions

### 1. RW

Unit: mm



### 2. Rack

Unit: mm

