



Wired BOX-Type User Manual

ASR-053W

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Revision History

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About ASR-053W

1.1. Introduction

Thank you for purchasing Wired BOX-Type ASR-053W.

This manual describes the considerations for using Wired BOX-Type ASR-053W (hereinafter referred to as ASR-053W or the AsReader). Please read the manual carefully and keep it as long as you have the device.

The ASR-053W can be powered by PoE hub or PoE injector. In addition, the ASR-053W can read UHF RFID tags. It can also be connected to multiple external USB devices (barcode scanners, and printers, etc.), and these functions can be controlled with iOS/Android/Windows/Linux devices.

The ASR-053W supports the MQTT protocol, making the RFID reader more convenient to use and easier to integrate into a wide variety of systems by publishing and subscribing topics on MQTT servers.

If you have any comments or questions about this manual, please contact us:

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★The copyright of this manual belongs to the company. Without the permission of the company, no reproduction, reprinting, modification or translation into other languages is allowed.

★The contents of this manual are subject to change without prior notice. In addition, the images in this manual are all reference images and may be different from the actual product.

★In order not to damage your property and life safety, please read this manual carefully before using this device. We will not be responsible for any loss caused by non-compliance with this manual.

★We are not responsible for any damage caused by natural disasters, such as earthquake, lightning, wind, flood, fire outside our responsibility, third party behavior, other accidents, intentional or negligent, abuse or other improper use.

★If the damage is caused by falling or collision as determined by our company, the maintenance fee will be charged even within the warranty period.

★We will take appropriate measures to ensure that our products do not infringe other patents, but we are not responsible for any patent infringement caused by any of the following (1) to (4).

(1) Used in combination with components, products, equipment, data processing systems or software outside our company.

(2) Our products are used in unexpected ways.

(3) Modification of our products by any person or company other than our company.

(4) Use outside of the country where the products are purchased.

1.2. Safety Instructions (Please be sure to comply)

Please read the following instructions carefully to prevent injury, malfunction, fire, etc.

 Warning
Do not attempt to disassemble, modify or repair the AsReader yourself, otherwise it may cause malfunction, fire or electric shock. We will not be held responsible for any problems that may occur with the AsReader, PC, smart devices, etc. due to modifications.
If you notice any abnormalities such as smoke, abnormal odor, or strange noise coming from the AsReader during use, stop using it immediately. Continued use may cause fire or electric shock.
Do not drop or throw the AsReader and subject it to strong impact. It may cause damage, fire, electric shock, or malfunction. It may also cause injury. If the AsReader is damaged by dropping and the inside of the AsReader is exposed, do not touch the exposed part with your hands, because there is a risk of electric shock or injury on the damaged part.
Do not allow metal or other objects to come into contact with the terminals of each connector. Doing so may cause a large current to flow, resulting in overheating, fire, or damage to the device.
Do not get the AsReader wet with water. Doing so may result in fire or electric shock. If foreign matter or water should get inside the AsReader, unplug the power cable immediately.
Do not use the AsReader with the power supply voltage other than the specified. Doing so may result in damage to the equipment or an accidental fire.
When constructing a system that may affect human life, such as the management of chemicals using the AsReader, please pay close attention to redundancy and safety design so that even if the data is incorrect, there is no possibility of affecting human life.
The AsReader is an RFID reader that uses UHF radio waves with an output power of 1W. Therefore, depending on the application and location of use, it may affect medical equipment. In order to minimize this effect, the following must be strictly observed during operation. 1.The AsReader operators should keep the AsReader no closer than 35cm from the site where the implantable medical device will be installed. 2.The person wearing the implantable medical device should not come within 35cm of the AsReader. When taking the AsReader overseas, please consult with us in advance, as it is necessary to comply with the laws and regulations of each country and region.
 Caution

Since each country or region has different regulations regarding radio waves, it is necessary to comply with the respective regulations. Modification of the AsReader is prohibited, and violations may result in penalties according to the regulations of each country or region.

Use the PoE hub/injector specified in this manual when connecting the AsReader. Use of non-standard PoE hub/injector may cause the AsReader failure or malfunction.

Please refer to local regulations when you recycle this device.

If you notice any abnormalities, please discontinue use and contact your distributor immediately.

Do not use, store, or leave the AsReader in hot places (eg. by the fire, near a heater, in direct sunlight, in a car in hot weather). It may cause rupture, malfunction, fire or injury.

Do not place the AsReader on an unstable surface such as a wobbly table or a tilted place. It may fall and cause damage to the device or injury.

How to Care for the Device

Always keep your AsReader clean. If the AsReader gets dirty, wipe it with a soft, dry cloth.

Use of volatile solvents such as thinner or benzene may cause deterioration or

discoloration of the AsReader.

1.3. Product Pictures

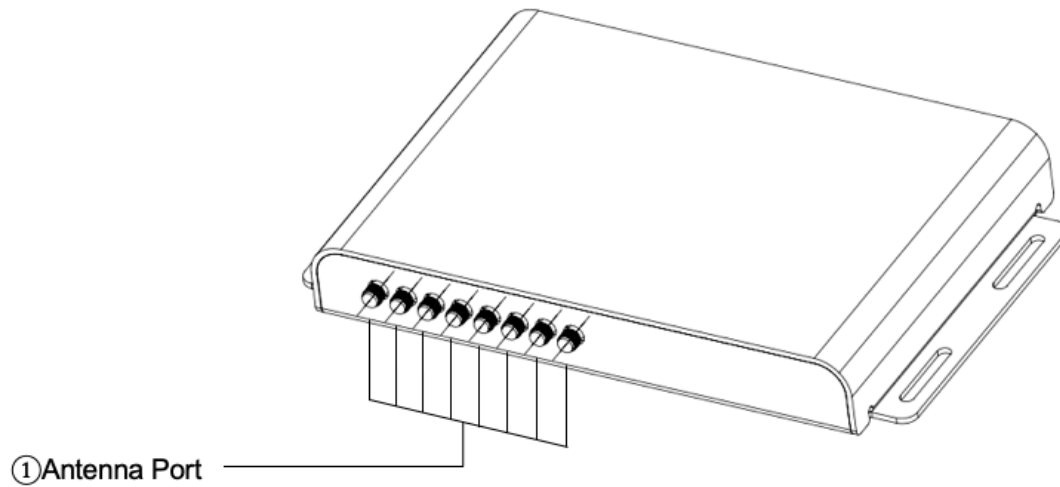


FIG. 1-3-1 Product appearance (front)

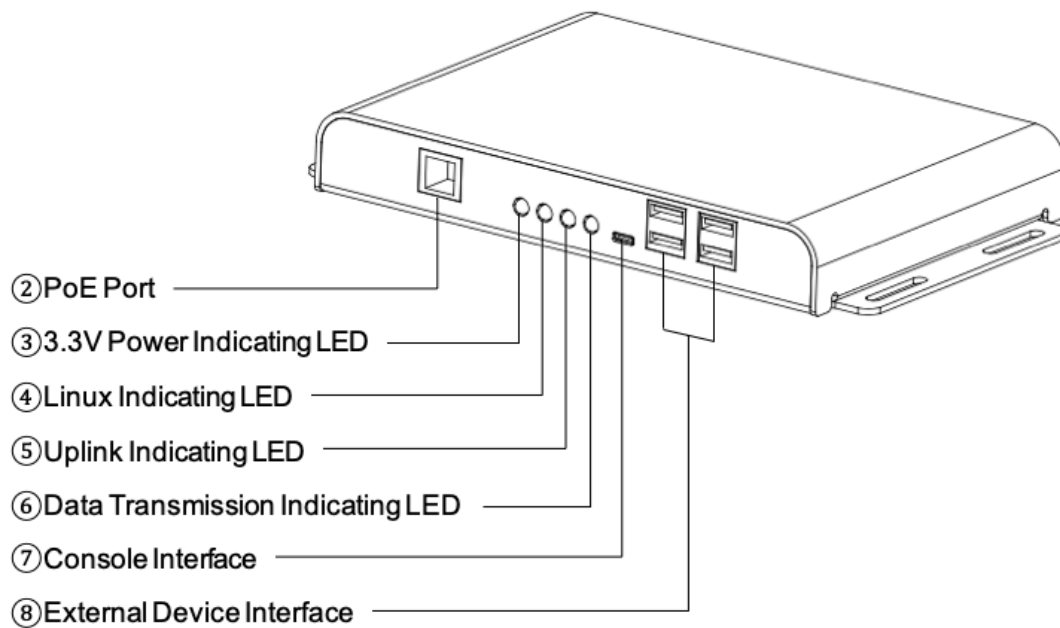


FIG. 1-3-2 Product appearance (back)

1.4. System Configuration

To build a system using the ASR-053W, the following hardware is required in addition to the ASR-053W itself.

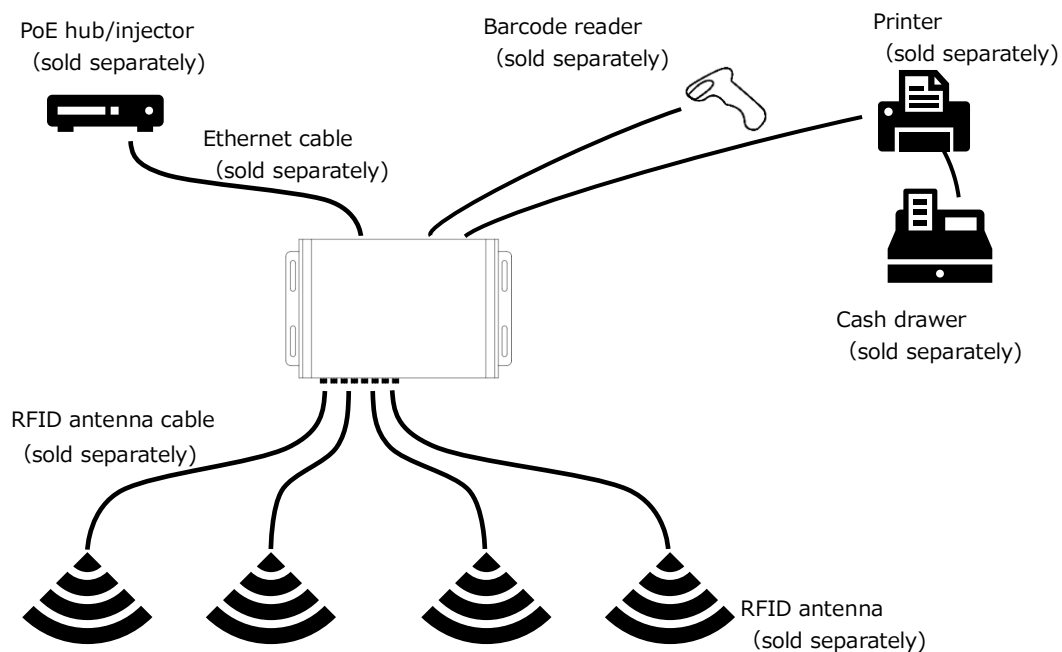


Fig. 1-4-1 Connection Image

1.5. Product specifications

Model		ASR-053W
RFID	Spec	ISO/IEC 18000-63 (Former 18000-6C) / EPCglobal Class 1 Gen 2
	Radio Frequency	North America: 902.75MHz ~ 927.25MHz
	Output	Max 30dBm (1W)
	Antenna Port	SMA male ×8 Output can be set for each port.
	Functions	Inventory/Read/Write/Lock/Kill
Power Source	Input	·RJ45 ×1 PoE (IEEE802.3at compliant) * Be sure to use the following specifications for the PoE hub/injector and Ethernet cable to be used. Ethernet cable: Category 5e or higher PoE hub/injector: IEEE802.3at compliant
	Output	·USB 2.0 Type-A ×4: 2500mW (4 ports in total) *In case of connecting a device that requires more than the specified input, connect it via a self-powered USB hub.
Communication Interface	Ethernet	RJ45
	USB 2.0 Type-A ×4	To connect HID communication devices such as barcode scanners and ESC/POS compatible printers.
	Console	Port for maintenance (not available for customer use).
Appearance	Dimensions (W)×(D)×(H)	220 × 141 × 29 mm
	Weight	Approx. 550g
	Material	Aluminum
	Color	Black
	LED Indicator	Power LED – Red System LED – Orange Network LED – Green Data transmitting LED - Green
Environment	Operation Temp.	-10~45 °C, 20~85 % RH
	Storage Temp.	-20~60 °C, 10~95 % RH
Certifications		TBD

The specifications of this product are subject to change without notice.

2 Connect Devices

2.1. Connect Antennas

Please connect the RF cable of the antenna to the antenna port of ASR-053W (See [FIG. 1-3-1①](#)). It can connect up to 8 antennas. Tighten the screw of the connector without loosening it. If the connector is loose, reading performance will be degraded.

The RFID antenna and the antenna cable are sold separately.

Please contact your local distributor for the RFID antennas and antenna cables that can be connected. Connecting RFID antennas and cables other than those specified for our products is a violation of the Radio Law and will be punished by law.

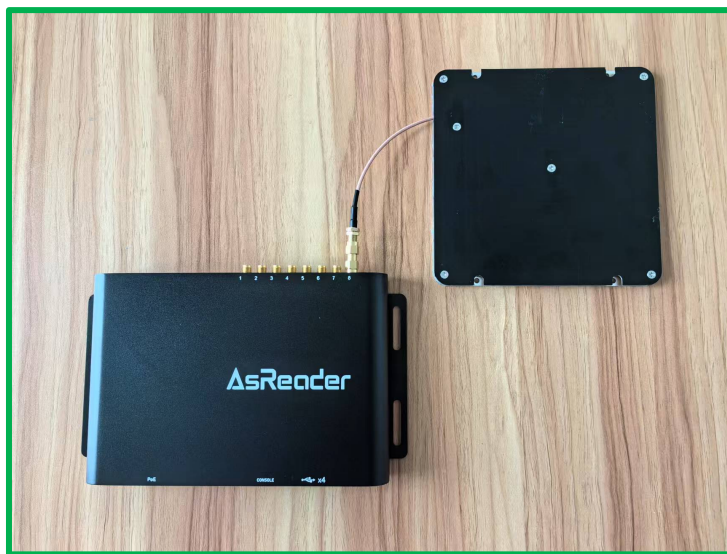


FIG. 2-1-1 Connect antennas

2.2. Connect HID Device

Please connect the HID device via USB Type-A interface to ASR-053W (see [FIG. 1-3-2⑧](#)), such as barcode scanner. The total power output from the four USB ports of the ASR-053W is 2500mW(5V/500mA). If you wish to connect a device that requires more power than this, please connect the ASR-053W and the relevant device via a self-powered USB hub.



FIG.2-2-1 Connect barcode scanner

2.3. Connect Printer

Please connect the printer to ASR-053W via USB Type-A interface (see [FIG. 1-3-2⑧](#)) and connect the printer to power supply. The printer needs to be compatible with ESC/POS.



FIG. 2-3-1 Connect printer

2.4. Connect Cash Drawer

After you connect the printer to the ASR-053W, please connect the cash drawer to the printer. The cash drawer is controlled through the printer.



FIG. 2-4-1 Connect cash drawer

2.5. Connect PoE Hub/Injector

1. Please connect the PoE hub/injector and ASR-053W with an Ethernet cable (RJ45 interface, see [FIG. 1-3-2\(2\)](#)).
2. Please connect the PoE hub/injector and the router with an Ethernet cable (RJ45 interface).

Please use an IEEE 802.3at PoE hub/injector.

Use a UTP cable of category 5e or higher for the Ethernet cable to be connected.



FIG. 2-5-1 Connect PoE hub/injector

2.6. Power On/Power Off

Power on method: Power on the PoE hub/injector after device connection is completed. Once all four LEDs on the ASR-053W are turned on, it means the device has been turned on successfully.



FIG. 2-6-1 ASR-053W power on

Power off method: Power off the PoE hub/injector. Or disconnect the ASR-053W from the PoE hub/injector.

3 Troubleshooting

3.1. Troubleshooting

Before contacting your distributor, please make sure of the following;

① **Cannot read RFID tags**

- Make sure that the connection connectors of the RFID antennas and RFID antenna cables are securely connected. If the connection connectors are loose, the RFID tags may not be read.
- Make sure that the RFID antenna cable is correctly connected to the antenna connection terminal of the ASR-053W specified in the application.

② **Cannot read barcodes with the barcode scanner connected**

- Barcode scanners with high power consumption may not work only by power supply from the ASR-053W. (The ASR-053W's USB output is 2500mW for all four ports.)

Please connect a self-powered USB hub to the ASR-053W before connecting the barcode scanner.

AsReader Wired BOX-Type

(ASR-053W)

User Manual

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FCC Warning:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 35cm between the radiator and your body.

ISED Statement

- English: This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

- French: Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux CNR exempts de licence d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes :

(1) Cet appareil ne doit pas causer d'interférences.

(2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 35cm between the radiator & your body.

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé.

Cet équipement doit être installé et utilisé avec une distance minimale de 35 cm entre le radiateur et votre corps.