



ASR-L70D

LF RFID Reader

User's Manual

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Preface

Thank you for purchasing the AsReader ASR-L70D.

This manual describes precautions for handling AsReader ASR-L70D correctly.

Please read the manual carefully before use.

※ In some sections of this manual, we may refer to "AsReader ASR-L70D" as "the device", "this product", "the product", or "the AsReader".

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

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★ The copyright of this manual belongs to our company, and it is prohibited to translate into other languages, copy, reprint, or modify part or all of this manual without our consent.

★ The images shown in this manual are for illustrative purposes only and may differ from the actual product.

★ In order not to endanger your life and property, please read this manual carefully before using this product. 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 earthquakes, lightning, winds, floods, fire outside our responsibility, third party behavior, other accidents, intentional or negligent abuse or other improper use.



★ If damage is caused by dropping or smashing, as determined by our company, if repairable, a fee would be charged for repairs, even within the warranty period. Abuse and drops are not covered by the Limited Warranty.

★ We 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 items 1) to 4).

- 1) If used in combination with components, products, devices, data processing systems or software outside our company.
- 2) If our products are used in unexpected ways.
- 3) If our products are modified by any person or company other than our company.
- 4) If used in countries other than where purchased.

Safety Instructions

In order to avoid personal injury, device failure, fire or other undesirable circumstances, please make sure to read the following information about warnings and cautions below:

 Warnings
Do not attempt to disassemble, modify or repair the device yourself, otherwise it may cause malfunction, fire or electric shock. We are not responsible for any malfunction of this product or mobile device caused by modification.
If you notice any abnormalities such as smoke, abnormal odors, or strange noises coming from the product during use, stop using it immediately. Continued use may cause fire or electric shock.
Do not drop or throw the product or subject it to any strong impact. Doing so may cause damage, fire, electric shock, or malfunction. If the product is damaged by being dropped and the inside of the device is exposed, do not touch the exposed parts with your hands, because there is a risk of electric shock or injury from the damaged parts.
Do not charge the battery in wet environments. Otherwise, it may result in electric shock, short circuits, fire, or burns.
Do not use if the magnetic charging port is damaged or broken. It may cause fire or electric shock.
If charging is not completed within the specified charging time, stop charging the device. It may cause liquid leakage, generate heat, fire, or failure.
Please do not use, store or place the product in high temperature places (such as near fire, heating appliances, places in direct sunlight, in cars under the hot sun, etc.). Otherwise, these may cause explosion, malfunction, fire or personal injury.
Do not throw the product into fire or heat. It may burst or cause a fire.
This product is an RFID reader, emitting low frequency electromagnetic waves, in line with the electromagnetic induction communication device standards. Depending on what it's used for and where it's used, it can have an impact on implanted medical equipment. To minimize this impact, ensure that the antenna portion of this product is at least 22 cm (9 inches) away from any implanted medical equipment.
If you want to use this product overseas, you need to abide by the relevant laws and regulations of that country. Please consult in advance.
 Cautions
For charging, please use the Magconn magnetic charging cable. Please use this cable with your own wall-adaptor that provides an output of 5V/1A (not included with the ASR-L70D). Using different cables or different output chargers may result in failed charges.
Please refer to local regulations when you recycle this device.
Please contact your local place of purchase immediately if any defects occur.
Continuous use of this product in water or in rain may cause damage to the attached mobile device. If it gets wet, please wipe it off immediately with a clean, dry cloth.
The magnetic charging port of the product and its charging cable have built-in magnets, which may erase the data on magnetic cards such as credit cards. To protect your data, please keep magnetic cards, such as credit cards, more than 10 cm (4 inches) away from these magnets.

How to Care for the Device

Please use this device in a clean environment. Adhesive chemicals or oils may cause the resin shell to break.

- Chemicals include cosmetics, detergents, pesticides, thinners, gasoline, etc.
- Oils include tallow and other animal oils, hand creams, etc.

Please keep the device clean. If the device becomes dirty, wipe it with a soft, dry cloth. Using strong solvents or cleaners may cause color changes and performance problems.

1 Assembly of Products and Accessories

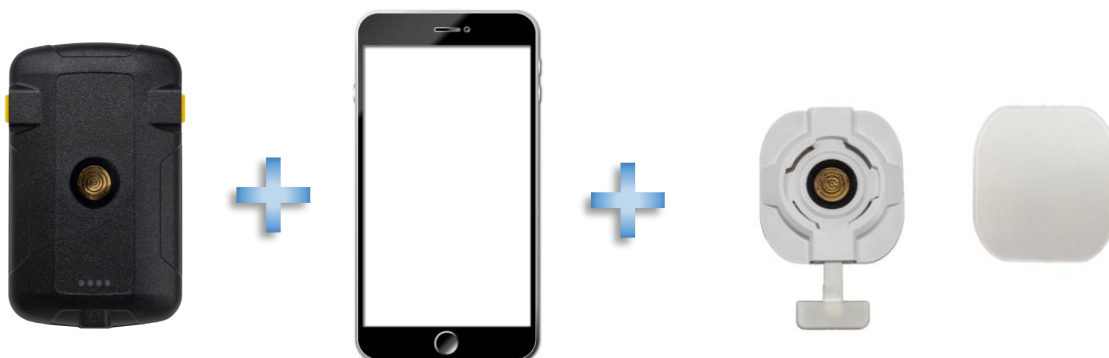
1.1 Assembly of Products and Accessories

This product is a LF RFID reader used together with an Apple phone, The product needs to be used with the separately sold AsLOCK accessory and the corresponding iOS application.

You can download the SDK from our official website, royalty-free, to develop iOS applications (please refer to the SDK development manual and sample code for details).

Official website link: <https://asreader.com/products/asr-l70d>

- AsReader ASR-L70D
- Apple phone
- ASA-103C AsLOCK adapter & double-stick-gel

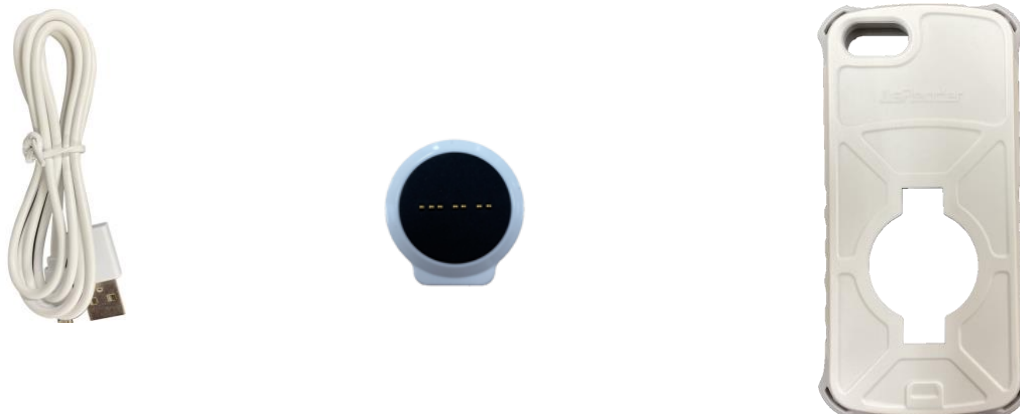


1.2 Accessories:

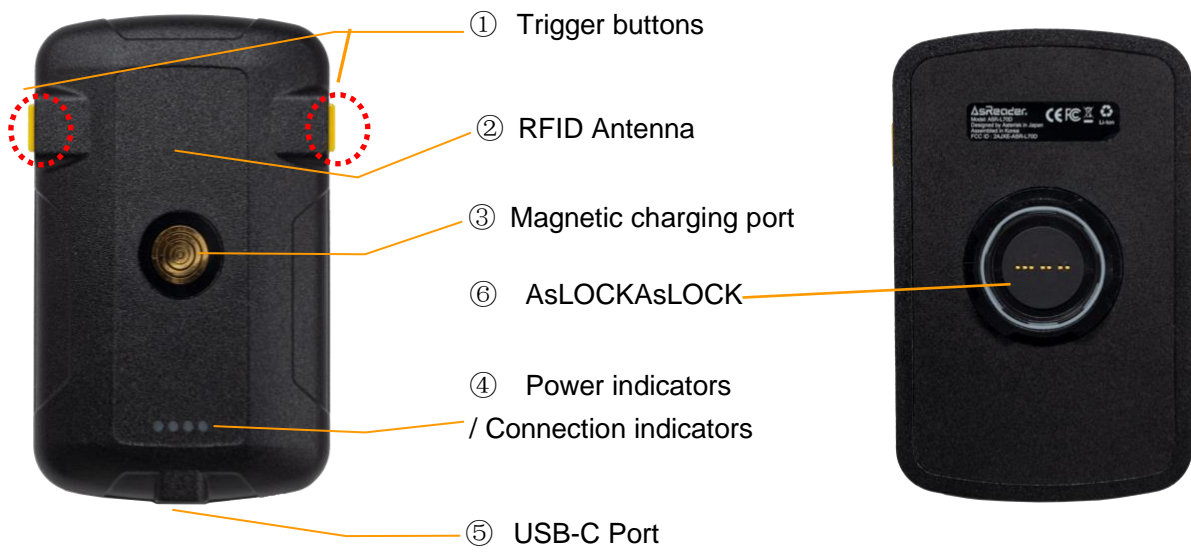
The ASA-103C AsLOCK adapter (shown above) is required to use AsReader. This is not included in the standard package of the AsReader ASR-L70D. Please confirm whether all necessary accessories are ready before you use the product. If any items are missing or damaged, please contact the company from whom you purchased the product immediately.

Optional Accessories:

- microUSB cable
- ASA-018C AsLOCK-microUSB “Charging Gender” adapter
- AsReader AsLOCK Case (Check for compatible sizes)



2 Name of Each Part of the AsReader



3 Functions and Operations

① Trigger buttons

- By pressing the trigger buttons (left, right, or both), the device will start reading tags. Reading can also be triggered within an application using a “soft trigger” on the screen.
- The tag reading can be performed as long as at least one of the trigger buttons of the AsReader is pressed.
- The battery level of the AsReader can be viewed by long-pressing the both triggers at one time for several seconds and viewing the “Power indicator” lights on the back of the device.

② RFID Antenna

- Face the antenna towards the low frequency RF tag to read it.
- It will beep when reading tags. You can set whether beeping is turned on or not within the application and parameter settings. The default is on.
- It will vibrate when reading tags. You can set whether vibrator is turned on or not within the application and parameter settings. The default is on.

③ Magnetic charging port

- Connect the separately sold ASA-018C “Gender” adapter and microUSB cable to the magnetic charging port to charge the device and/or your iPhone when connected.

(Also see ⑤ for information about using the USB-C port as a charging alternative.)

④ Power indicators/Connection indicators

When the app is closed or in the background, or the RF module is turned off, the LED indicators in the rear side of the AsReader can display the battery level of the AsReader when one or both of the trigger buttons are held down. While, if the app is connected to the reader, the rightmost LED indicator will light in green.

Running status	LED status
When connecting to the app in the Apple device	The indicator LED at the right is green and on
Long-press both or one of the trigger buttons when RF module is off	The blue LEDs will be on according to the battery capacity.
When charging	The indicator LED at the right is red and on
Fully charged	LED off

⑤ USB-C port

- This USB-C port is for connecting external accessories.
This USB-C port can also be used for charging. (USB-C cable not included with AsReader.)

⑥ AsLOCK interface

- This is the interface to AsLOCK.

4 Preparation Before Use

Before using the product, it is necessary to assemble the product with the Apple device. The assembly method is as follows:

- ① Attach the Double-stick gel to the AsReader ASA-103C adapter and then attach the AsReader to the back of the mobile device. If you are using an AsLOCK case, you do not have to use the double-stick-gel, just attach the AsReader to the back of the mobile phone and then insert the set into the AsLOCK case.



※If using an AsLOCK case:



- ② Insert the protruding edges of this product's AsLOCK interface into the AsLOCK slot (① in figure below) at a 45° angle and then rotate the AsReader to the right until it cannot be rotated any further.



※If using an AsLOCK case:



5 How to Inventory

When prepared, as described in [Chapter 4](#) above, make sure the battery is fully charged.

Next, start the application. Press the both triggers at the same time to boot/power-up the product.

Check the connection status between the application and the product.

Press any of the triggers and point the antenna at the RF tags to inventory (You can also inventory by using a “soft trigger” within the application and tap the screen instead of using the hardware triggers). Then, the tag data inventoried will be displayed in the application.

- ※ Demo application download link:
<https://apps.apple.com/us/app/asreader-scan/id1022740041>

6 How to Charge It

Please charge the ASR-L70D by using the ASA-018C “Gender” adapter and a microUSB cable, sold separately. As shown in the figure below, connect the Gender and the microUSB cable. Put the magnetic terminal of the magnetic charging cable onto the product's magnetic charging port as shown in the following picture. It's recommended that you use a power adapter of 5V/1A or above (not included with the product).



If an Apple phone is connected while this product is being charged, both this product and the Apple phone will be charged simultaneously.

When charging, the indicator LED at the rightmost is red and on; when fully charged, it turns off.

- ※ It takes about 2 hours for this product to be fully charged from “empty.”
- ※ When using the device for the first time, or if it has been left unused for a long period of time, please fully charge the battery of this device before use.

7 Troubleshooting

If you think that there is a failure in the product, please check the following list before contacting your distributor.

- When the product cannot connect to Apple phones:
 - Please check whether the battery of the ASR-L70D product has been fully charged.
 - Check whether the product has been booted/turned-on (press the trigger buttons on both sides of the product to confirm).
 - Please re-plug the AsLOCK.
 - Please restart the application.
 - Please restart the Apple phone.

- When this product and the Apple phone cannot be charged simultaneously (common for HID mode and Serial mode)
 - Please try a power adapter with higher power output (above 5V1A).
 - Please re-plug the AsLOCK.

- Cannot read RF tags.
 - Please check whether the physical connection status is normal.
 - Please check whether the battery is fully charged.
 - Please restart the app.
 - Please check whether the read distance is appropriate. (The reading distance varies depending on the type of tags and the environment)

Appendix-Specifications

Model	ASR-L70D	
RFID	Spec	ISO 11784/11785, FDX-B
	Bandwidth	134.2 kHz
	Reading distance	~10cm (~4 inches) ※1
	Functions	Read
Power source	Battery capacity	Rechargeable lithium-ion battery, 700mAh
	Uninterrupted reading times	Appr. 60,000 times ※2
	Charging method	Magnetic charging cable ※3
	Charging time	Approx. 2hrs (built-in battery) ※4
Key input	2 Trigger keys	
Port	USB-C port for accessories	
Communication	Interface	MFi on Lightning ※5
Appearance	Dimensions (W)x(D)x(H)	68 x 12.5 x 108 mm (2.68 x 0.49 x 4.25 inches) ※6
	Weight (with battery)	Appr. 70g (2.5oz)
	Material	PC (Polycarbonate)
	Case color	Black
	Display LED	Battery level; Charging
Environment	Working environment	-10~45°C (14~113°F), 20~85 % RH. Charging requires 0°C~40°C (32~104°F)
	Storage environment	-20~60°C (-4~140°F), 10~95 % RH (for 1 month)
	IP Rating	IP67 compliant when AsLOCK is locked
	Drop-tested	To six-sides and four-corners, once each, from 1.5m (5 feet) ※7
Certifications	TELEC / Apple MFi / FCC / CE / RoHS	

※1 Varies depending on the type of RF tags, environment and operating circumstances.

※2 Number of times by using our Demo app with the beeping sound and vibration set to ON.

※3 Standard iPhone® 5V/1A charger is recommended for use with the magnetic charging cable.

※4 iOS device and AsReader battery will be recharged simultaneously if the iOS device is connected to the AsReader and take more time to charge both.

※5 A royalty-free, specialized SDK for communication via the lightning port (AsLOCK) is available for download from <https://asreader.com/products/asr-l70d/?SDK>

※6 Excluding protrusions

※7 The iOS device's screen may break depending on the drop angle.

**AsReader ASR-L70D
LF RIFD Reader**

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