

FONGWAH U1-CU-71

FONGWAH UHF RFID Reader/Writer Model U1-CU-71 Instruction Manual

Model: U1-CU-71 | Brand: FONGWAH

1. INTRODUCTION

This manual provides comprehensive instructions for the FONGWAH UHF RFID Reader/Writer, Model U1-CU-71. This device is designed for efficient reading and writing of UHF RFID tags, supporting both keyboard emulation and advanced read-write integration modes. It is compliant with ISO18000-6C and EPC C1 Gen 2 protocols, making it suitable for various applications such as inventory management, asset tracking, and access control.



Figure 1: Basic operation diagram of the FONGWAH UHF RFID Reader/Writer.

2. PRODUCT FEATURES

- **Plug-and-Play Keyboard Emulation:** Automatically recognized by Windows and Linux as a Human Interface Device (HID), allowing direct data input into applications like Excel or Notepad without driver installation.
- **Exceptional 50cm Long-Range Reading:** Equipped with a high-gain antenna for a reading distance of up to 50cm (approximately 20 inches).
- **Flexible Modes & Software Support:** Easily switch between Keyboard Emulator and Read-Write Integration modes using the provided configuration tool. Technical libraries and SDK are available for developers.
- **Adjustable Power for Precision:** Output power is adjustable from 0 to 20dBm with 1dB accuracy, enabling fine-tuning of detection range to prevent interference.
- **Wide Protocol Support:** Fully compatible with ISO18000-6C and EPC Gen2 (C1G2) protocols, supporting reading and writing of various UHF tags.



Figure 2: The FONGWAH UHF RFID Reader/Writer demonstrating its 50cm reading distance.

3. SETUP INSTRUCTIONS

3.1 Package Contents

Before proceeding, ensure all components are present:

- FONGWAH UHF RFID Reader/Writer (Model U1-CU-71)
- USB Cable (integrated)
- Sample UHF RFID Tags (typically 2)
- Mini CD with Configuration Tool and Drivers (or download link)

3.2 Connecting the Device

1. Connect the USB cable from the U1-CU-71 reader to an available USB port on your computer (Windows or Linux).
2. The operating system should automatically detect the device and install necessary drivers for keyboard emulation mode. No manual driver installation is typically required for this mode.
3. For advanced features or Read-Write Integration mode, install the provided configuration tool and SDK from the mini CD or the manufacturer's website.



Figure 3: FONGWAH UHF RFID Reader/Writer connected via USB.

4. OPERATING INSTRUCTIONS

4.1 Keyboard Emulation Mode (Default)

In this mode, the reader acts like a keyboard, inputting the RFID tag's data directly into any active text field.

1. Ensure the reader is connected to your computer.
2. Open any text-editing application (e.g., Notepad, Microsoft Excel, Word).
3. Place an RFID tag within the reading range (up to 50cm) of the device. The tag's data will automatically appear in the active text field.

Your browser does not support the video tag.

Video 1: Demonstration of the Fongwah UHF Reader U1-CU-71 in keyboard emulation mode, showing RFID tag data being entered into an Excel spreadsheet.

4.2 Read-Write Integration Mode

For advanced operations like writing data to tags or integrating with custom software, you need to switch to Read-Write

Integration mode using the configuration tool.

1. Install and launch the FONGWAH Configuration Tool on your Windows computer.
2. In the software interface, navigate to the 'Settings' section.
3. Locate the 'Read card mode' options. To disable keyboard emulation, uncheck the 'Auto' checkbox and click 'Set'. This will enable the device for command-based read/write operations.
4. Refer to the SDK documentation for programming instructions to interact with the reader in this mode.

How to Disable Keyboard Emulation

This reader offers two operational modes: Keyboard Emulation and Read/Write Command.

Important:

To switch from Keyboard Emulation to Read/Write Command mode, you must first disable the default keyboard mode. This is done on the 'Settings' page by unchecking 'Auto' in 'Read card mode' and then clicking 'Set'. Refer to the below screenshot.

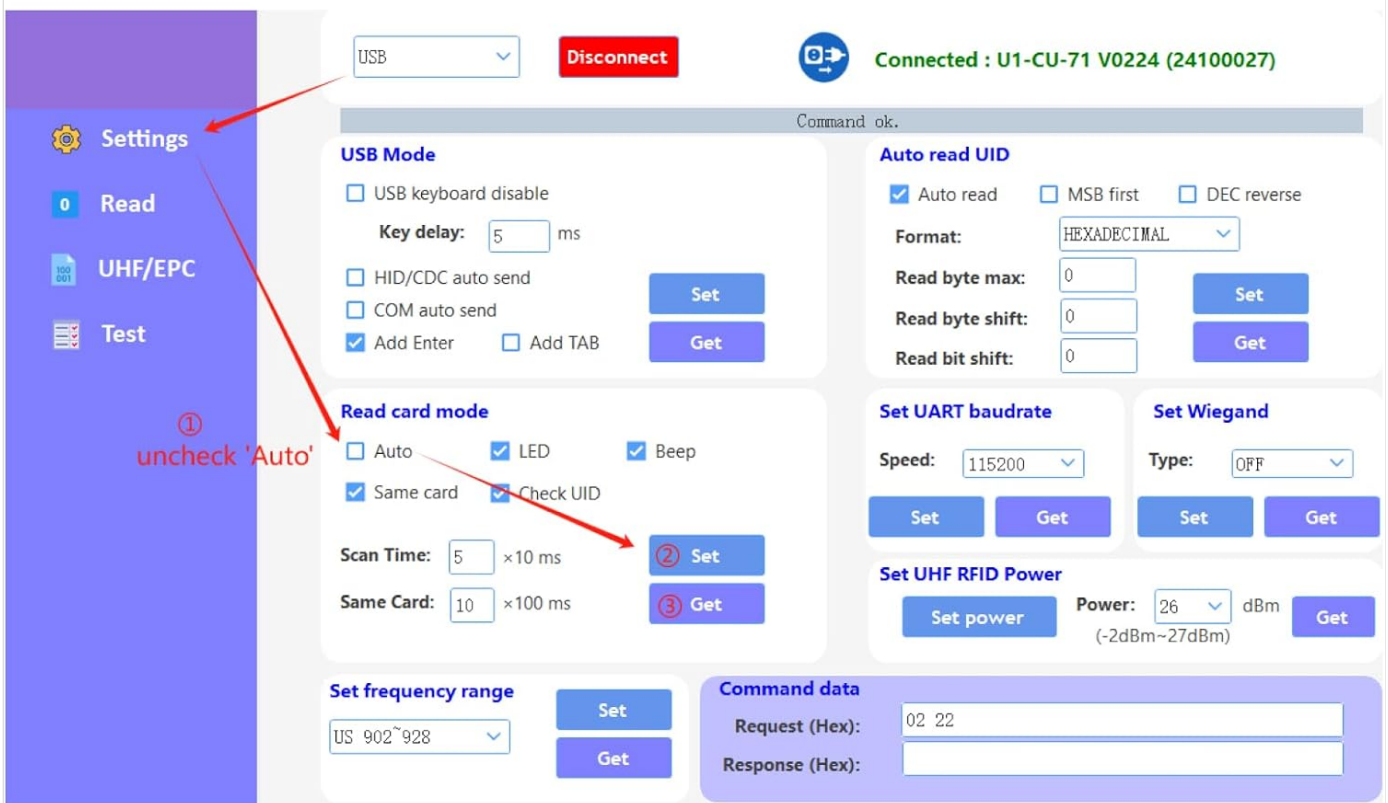


Figure 4: Disabling Keyboard Emulation in the Configuration Tool.

4.3 Adjusting UHF RFID Power

The output power can be adjusted to control the reading range and minimize interference in dense environments.

1. In the FONGWAH Configuration Tool, navigate to the 'Settings' section.
2. Find the 'Set UHF RFID Power' option.
3. Adjust the power value (0-20dBm) as needed and click 'Set' to apply the changes. Lower power reduces read range, higher power increases it.

5. MAINTENANCE

To ensure optimal performance and longevity of your FONGWAH UHF RFID Reader/Writer, follow these simple maintenance guidelines:

- **Cleaning:** Use a soft, dry, lint-free cloth to clean the device. Do not use abrasive cleaners, solvents, or harsh chemicals, as these can damage the surface or internal components.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Handling:** Avoid dropping the device or subjecting it to strong impacts.

6. TROUBLESHOOTING

Issue	Possible Cause	Solution
Device not recognized by computer.	Loose USB connection, faulty USB port, or driver issue.	Ensure the USB cable is securely connected. Try a different USB port. Restart your computer. For advanced modes, ensure the configuration tool/SDK is correctly installed.
No data output in keyboard emulation mode.	No active text field, tag out of range, or device in Read-Write Integration mode.	Click into a text field (e.g., Notepad). Ensure the RFID tag is within 50cm of the reader. Check the configuration tool to ensure keyboard emulation ('Auto' in 'Read card mode') is enabled.
Cannot write data to RFID tags.	Device in keyboard emulation mode, incorrect software usage, or incompatible tag.	Switch the device to Read-Write Integration mode using the configuration tool. Refer to the SDK documentation for proper writing procedures. Ensure the tag is a writable UHF tag compatible with ISO18000-6C/EPC Gen2.
Reading range is shorter than expected.	Low output power setting, environmental interference, or tag orientation.	Increase the UHF RFID power setting in the configuration tool. Minimize electromagnetic interference from other devices. Adjust the orientation of the RFID tag relative to the reader.

7. SPECIFICATIONS

Attribute	Detail
Model	U1-CU-71
Brand	FONGWAH
Compatible Devices	Desktop (Windows, Linux)
Power Source	USB powered
Connectivity Technology	USB Cable
Manufacturer	Shenzhen Fongwah Technology Company
Supported Protocols	ISO18000-6C, EPC Global C1 Gen 2
Frequency	860-960MHz
Reading Distance	Up to 50 cm (20 inches)
Writing Distance	0-20 cm (depending on tag and environment)
Output Power	Adjustable 0-20dBm (1dB accuracy)

Figure 5: FONGWAH U1-CU-71 Key Specifications.

8. WARRANTY AND SUPPORT

FONGWAH products are designed for reliability and performance. For technical support, SDK inquiries, or any questions regarding your U1-CU-71 reader/writer, please contact the manufacturer directly. Information regarding specific warranty terms may be available through your point of purchase or the official FONGWAH website.

For SDK files and programming examples, please refer to the resources provided on the manufacturer's website or the included mini CD.