User Manual

CR100FR

Version: 1.0

Date: March 2026

Preface

Thank you for choosing our product CR100FR - USB Fingerprint Scanner and Dual Frequency Card Reader (Enrollment Only). Please read this User Manual carefully before use.

We strongly believe that USB Fingerprint Scanner brings you and your customers an excellent user experience and will uplift your Brand Image and the Management to a higher level.

Considering the stability of the product quality and service life, please do not intentionally dismantle the product or modify the system settings without professional instructions. For further queries, please contact the local dealers.

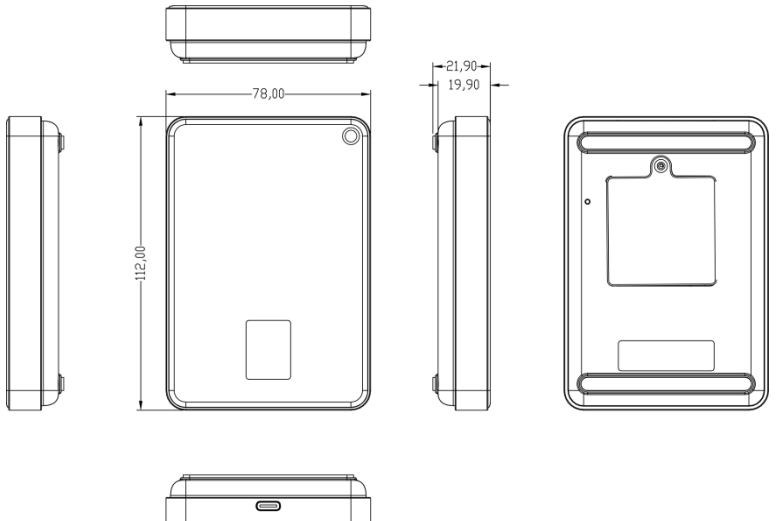
Content

1. Introduction

The CR100FR is compact USB desktop reader designed for efficient enrollment and management of contactless credentials across access control, time attendance, visitor management, and card issuance applications. Supporting both 13.56 MHz (HF) and 125 kHz (LF) technologies, the reader provides broad compatibility with legacy proximity cards and modern smart cards and NFC tags.

Built on a high-integration RF circuit design, the CR100FR delivers reliable card detection with minimal electromagnetic interference, fast read performance (typical detection time ≤500 ms to UID), and read ranges up to 30 mm depending on card type. The USB 2.0 (Type-C) interface enables plug-and-play deployment via standard Custom USB Device and USB keyboard wedge modes on Windows, Android, mac OS, and Linux (on request)—no proprietary drivers required.

2. Dimensions (mm)



3. Technical Specifications

Model	CR100FR
Function	Fingerprint Scanner (Read) + RFID (Read)
Operating Frequency	13.56 MHz +125 kHz (Dual-Frequency)
Supported Card Types	ID card, IC card, CPU card, MF card
Operating System	Windows 7 / 10 / 11 ; Android; mac OS; Linux (on request)
Reading Time	⩽500 ms (typical)
Reading Distance	0~10mm (depending on environment and transponder)
Communication Interface	USB 2.0 (Type-C)
Audio Indicator	Internal buzzer
LED Indicators	Red (card reading failed) Green (card reading successful) Blue (Breathing blue light, standby)
Working Voltage	5V
Operating Temperature	-10℃ - 55℃

Operating Humidity	10%-90% RH (non-condensing)
Dimensions	112 mm × 78 mm × 21.9 mm
Certification	CE, FCC, RoHS
Fingerprint Module	
Scanner Type	Optical
Sensing Area	15.24 * 20.32 mm
Image Size	300*400 pixels
Image Resolution	500 dpi
Grayscale	256 levels
Template Size	<2048 bytes
Data Encryption	AES-256 for image/ template transfer (via SDK)

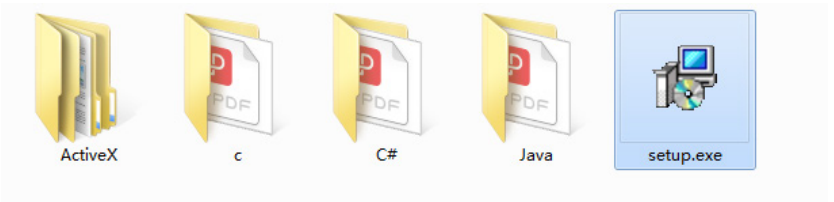
4. Technical Features

- Support dual-frequency card 13.56 MHz and 125kHZ ID and IC card.
- CR100FR is equipped with a high-performance optical fingerprint sensor.
- USB 2.0 (Type-C) charging.
- The red, green and blue LEDs indicate device status.

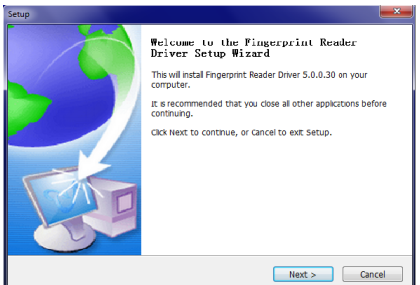
5. Demo Testing Procedure

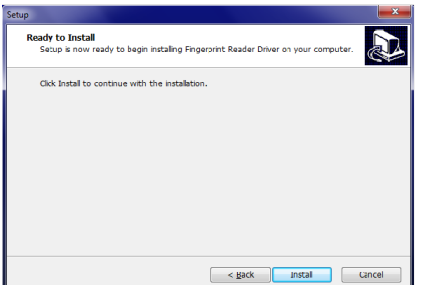
It is required that the first time Users need to install the Device Driver before using the Fingerprint Scanner, and the process is as follows: (If the Users have already installed the Device Driver of SLK ID series Fingerprint Scanner, they can directly test without re-installing it.)

1. Download the ZKFinger SDK compressed package and then double-click the **setup.exe** file to open.

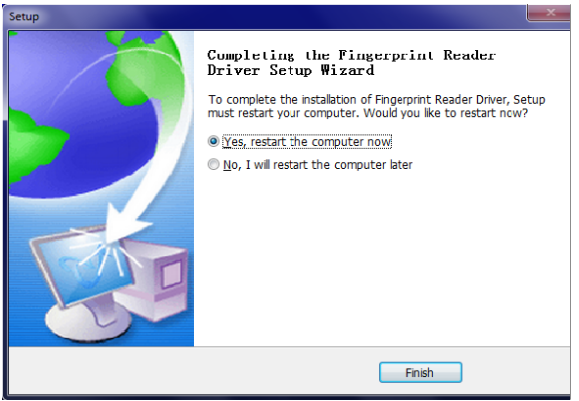


2. On the Setup Wizard, click **Next** and then click **Install** to install the driver.

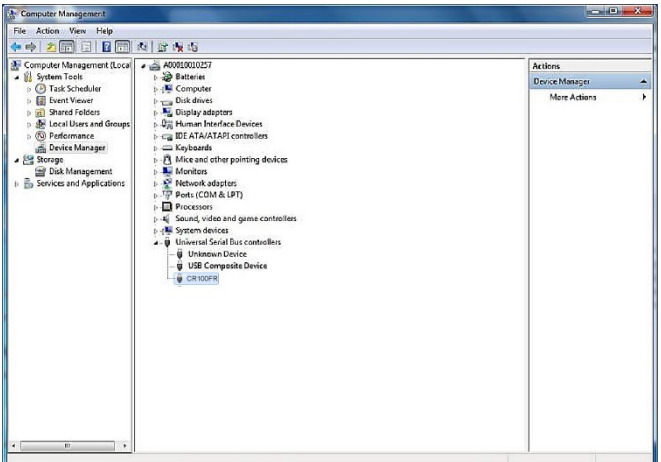




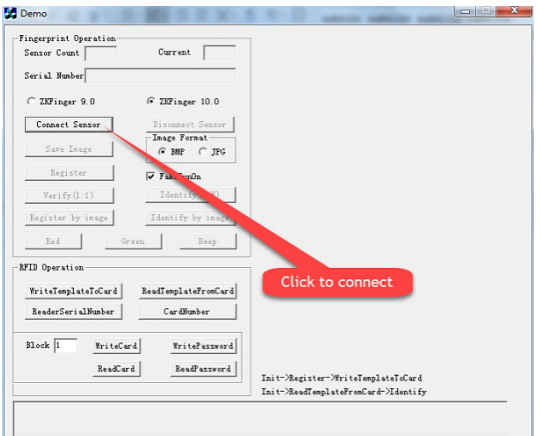
3. After the completion of the Driver installation click **Finish**.



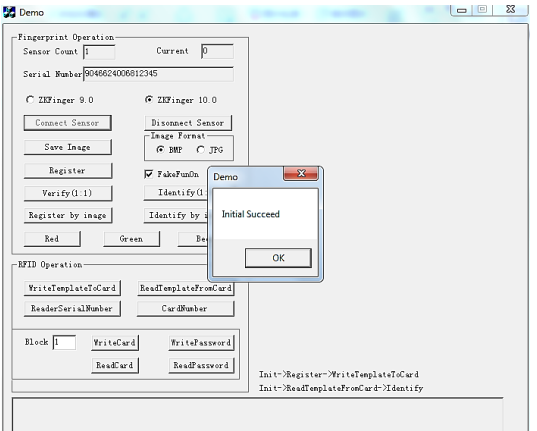
4. Connect the Fingerprint Scanner Device to the Computer and go to **Control Panel** and open **Device Manager**. If the driver is installed successfully, the Device Name will be displayed on the Computer Management window.


Computer Management
File Action View Help
Computer Management (Local
System Tools
Task Scheduler
Event Viewer
Shared Folders
Local Users and Groups
Performance
Device Manager
Storage
Disk Management
Services and Applications
A00010010257
Batteries
Computer
Disk drives
Display adapters
Human Interface Devices
IDE ATA/ATAPI controllers
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Ports (COM & LPT)
Processors
Sound, video and game controllers
System devices
Universal Serial Bus controllers
Unknown Device
USB Composite Device
CR100FR
Actions
Device Manager
More Actions

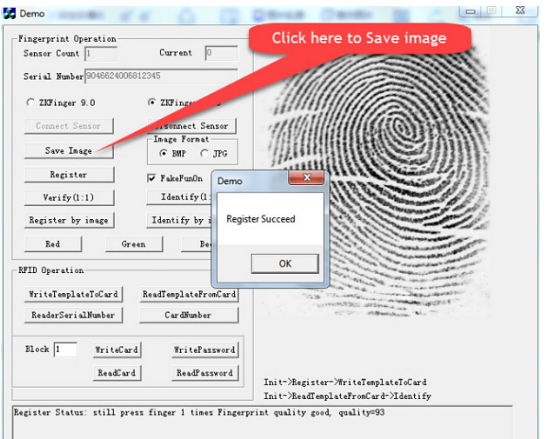
5. Once after the installation of the Device driver, open **Demo** interface from ZKFinger SDK compressed package, and then click **Connect Sensor** to connect with the Fingerprint Scanner.



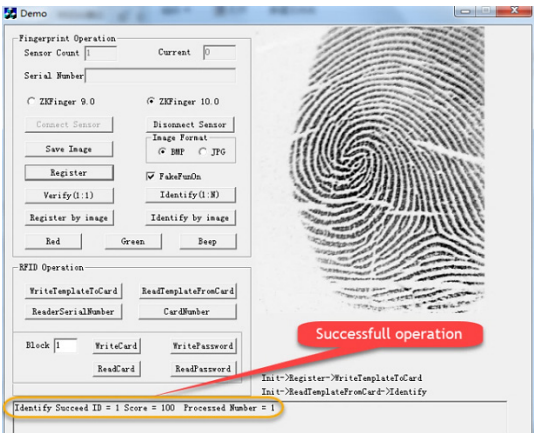
6. After the Sensor is connected, the Sensor Count is automatically displayed as 1. (It's equivalent to a user ID. and we can set it on User ID, when we need to register many User.



7. The default ID of the system is 1. Click **Register** and press the finger three times on the Fingerprint Scanner to Register and click **Save Image**.



8. After successful Registration, click **Identify (1:N)** and press the registered finger on the Fingerprint Scanner for verification.

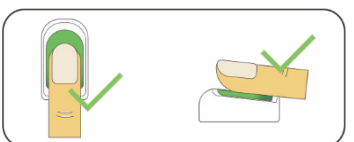


6. Operating Instructions

Guide to Place the Finger

It is recommended to use the index finger, middle finger or the little finger for registration.

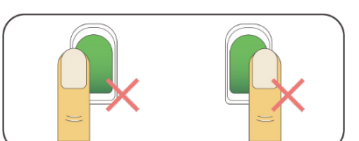
- **Proper Positioning of Finger**



Note: The finger needs to be pressed flatly and placed accurately over the Sensor area.

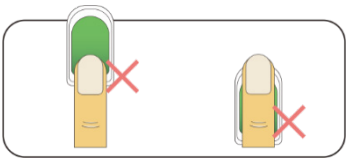
- **Improper Positioning of Finger**

Vertical (not flat)



Too close to the edge

Crooked



Too low or high

Cautions

1. Make sure the fingers are clean when using the Fingerprint Scanner.
2. Place the finger correctly.
3. Recommended to use the index, middle or little fingers for Registration.
4. Please avoid using the thumb and pinky fingers, because these two are clumsy when pressing on the Semsor Area.

Suggestions

1. Please keep the sensor away from dust.
2. Please use adhesive tape to clean the Sensor area.

⚠ Do not use water or other detergents, which may damage the sensor.

3. Please use a wool-free cloth to wipe the Sensor area.
4. Please make sure the Sensor area is clean after each use.

Possible Complications

Some issues may cause difficulties to recognize the Registered fingers or during new Registration. They are:

1. Smoothed out fingers;
2. Too many wrinkles on fingers;
3. Layer of any material on fingers;
4. Extremely dry and wet fingers.

Solutions

1. If the user experiences any difficulty during Registration, they can either delete the fingerprint and re-register or can try using any other fingers.
2. It is recommended to choose the suitable finger with fewer wrinkles, no peeling, and clean finger for Registration.
3. Always try to maximize the Contact Area of the finger.
4. Armatura suggests registering alternative Fingerprints.
5. Soaked alcohol cotton is used for cleansing if the fingers are dry, and a clean napkin is used for cleansing if the fingers are wet.

Attachment

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.

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

Note: 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.

"This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter."

Statements Concerning Human Rights Privacy

Dear Customers,

First of all, thank you for using the hybrid biometrics products designed and manufactured by ZKTeco. As a world-renowned biometrics core technology provider, we keep on researching and developing hybrid biometrics products. We also pay great attention to the compliance of relevant laws concerning human rights and privacy globally.

Statements as follows:

1. All of our civilian fingerprint recognition devices only focus on collecting fingerprint. ZKTeco does not save any personal data.
2. The characteristics of the fingerprint cannot be used to picture as an original fingerprint image.
3. ZKTeco, as the equipment provider, shall not take the legal responsibility for any inappropriate use.
4. If you have any disputes about the use of equipment regarding human rights or privacy, please negotiate internally.

ZKTeco's other fingerprint devices or development tools have the ability to collect the original image of a citizen's fingerprint. If users consider it as an infringement act, please contact the Government or the end provider of the equipment. As the original manufacturer of the equipment, ZKTeco will not be responsible for any legal liability.

Users can refer to ZKTeco's official website to obtain relevant product information: **http://www.zkteco.com**.

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