

# User Manual

## SLK20S

Date: April 2020  
Doc Version: 1.0  
English

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.



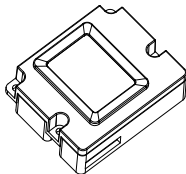
For further details, please visit our Company's website  
[www.zkteco.com](http://www.zkteco.com).

## 1. Overview

SLK20S is an enhanced version of SLK20M fingerprint module. It supports large capacity fingerprint acquisition module with an extended feature of template repository. Its transmission rate is more stable and the fingerprint comparison is faster than SLK20M.

Integrating ZKTeco's independently developed ideal fingerprint recognition algorithm (ZKFinger V10.0), it can instantly recognize the offline extraction and comparison of fingerprint feature templates on the module, and also supports fingerprint template comparison on the host.

It provides a complete SDK that facilitates the integration of the module with the Windows, Android, and Linux systems. It can meet a variety of adaptation scenarios, such as Time Attendance, Access Control, Self-Service Terminals, and other identity authentication devices.



## 2. Application Fields



Bank



Public Security Organs



Education



Logistics



Medical



Traffic



Prison



Access Control

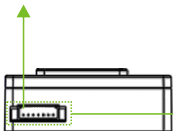
**Note:** This Fingerprint Acquisition Module can be integrated into POS machines, Access Control machines, Visitor machines, Attendance machines, etc.

### 3. Features

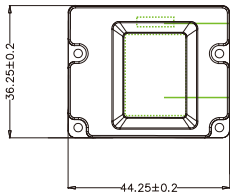
- It is compact and thin, and the thickness of the sensor is only 16mm.
- It supports encrypted local storage of 8000 fingerprint templates, and supports offline fingerprint comparison.
- It is embedded with a 2-megapixel CMOS, and can provide high quality fingerprint image.
- It is based on the Linux operating system, and is a stable device with excellent safety performance.
- When compared with the uniform storage capacity, its fingerprint recognition is 4 times faster than SLK20M.
- It is FBI PIV, Mobile ID FAP20 and STQC certified.

## 4. Specifications and Pin Descriptions

Connector Pin 1

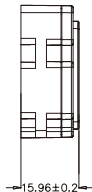


PIN	1	2	3	4	5	6	7
Detail	+5v	GND	Shield	USB D-	USB D+	UART	UART



LED Indicator

Fingerprint Sensor

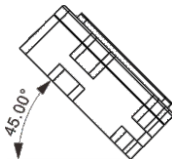
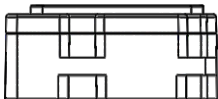
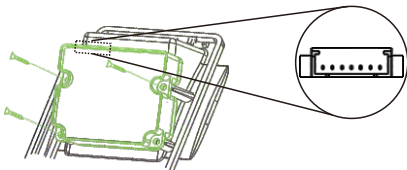


## 5. Technical Parameters

Physical	Dimension (L * W * H)	17.2 * 1.4 * 0.6 inch/44 * 36 * 16 mm
Sensor	Capture Dimension (W * H)	0.6 * 0.8 inch/15.24 * 20.32 mm
	CPU	1 Ghz
Accuracy	FRR (False Rejection Rate)	< 1%
	FAR (False Accept Rate)	< 0.0001%
Image	Distortion Rate	< 1%
	Image Resolution	500 DPI
	Image Size	300 * 400 pixels
	Template Size	< 2KB
S/W	Supported Algorithm	ZKFinger V10.0
	Capacity	8,000 templates (max. 10,000)
	Matching Speed	110ms (1:1); / 937ms (1:10,000)
	Operating Systems	Windows 7 or higher; Android 5.1 or higher; Linux
H/W	Power Consumption	5V, 130mA (Active) / 5V, 70mA (Standby)
	Temperature	0°C ~ 45°C / 32°F ~ 113°F
	Humidity	20 - 90% RH (non-condensing)
	Interface	USB2.0 UART (115200bps / TTL 3.3V)
	Connector	Molex 51021-0700(7-way; 1.25mm)
Certified By	PIV, STQC, CE, FCC, RoHS	

## 6. Installation on Host (Devices)

Install the module on the device, as shown below, by tightening the four screws in the holes and linking the holder to the wire.

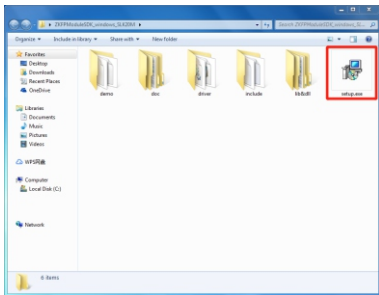


**Note:** In order to ensure good and convenient fingerprint scanning, it is recommended to install the module on the wall horizontally or at an angle of 0-45 degrees.

## 7. Demo Testing Procedure

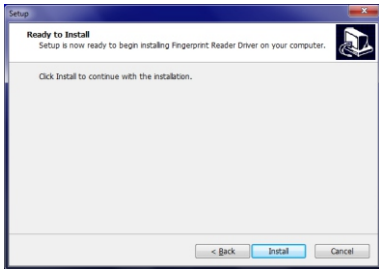
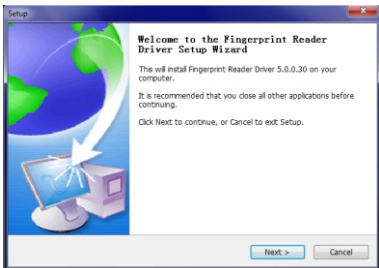
It is required that the first time Users need to install the Device Driver before using the Fingerprint Scanner, and the process is as follows: (If the Users have already installed the Device Driver of SLK ID series Fingerprint Scanner, they can directly test without re-installing it.)

1) Download the Fingerprint Acquisition Module Driver file and then double-click the **setup.exe** file to open.

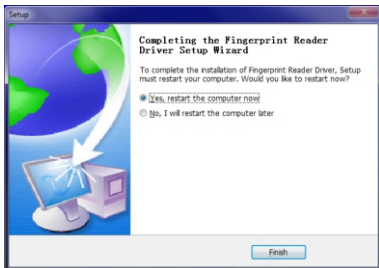




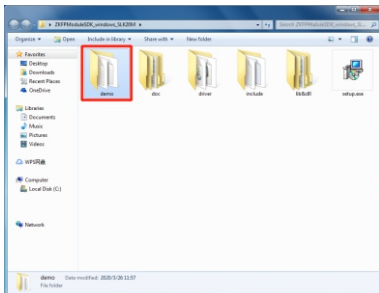
- 2) On the **Setup Wizard**, click **Next** and then click **Install** to install the driver.



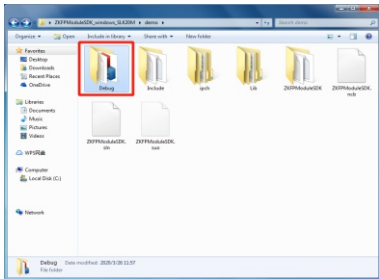
3) After the completion of the Driver installation click **Finish**.



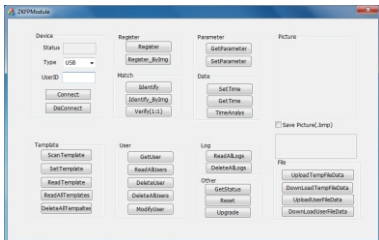
4) On the **Fingerprint Acquisition Module Driver** file, double-click the **demo** file.



5) On the **demo** folder, double-click the **Debug** file to go to the folder.

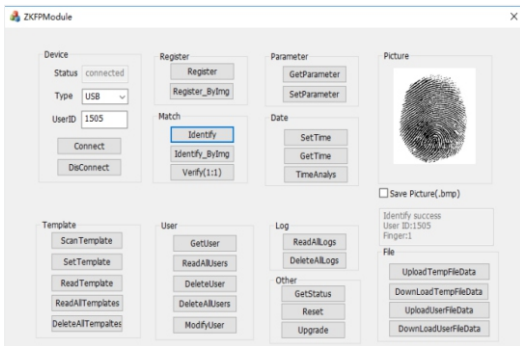


6) On the **Debug** folder, double-click the **ZKFPModule.exe** to go to the Fingerprint Acquisition Interface. **ZKFPModule.exe** desktop shortcut can also be created to instantly open the Fingerprint Acquisition Interface. Click **Connect** to connect to **SLK20S**.



7) After connecting to **SLK20S**, on the **UserID** field, enter the required User ID to register fingerprint, and then click **Register**. Press the finger for three times on the Sensor area for Registration.

After successful Registration, click **Identify**, and then press the registered finger on the Sensor area for verification.

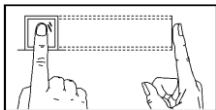


## 8. Operating Instructions

### • Guide to Place the Finger

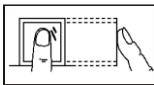
It is advised to use the index finger, middle finger or the little finger for Registration.

#### 1. Proper Positioning of Finger

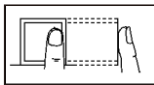


**Note:** The finger needs to be pressed flatly over the Sensor area, and make sure the finger is placed exactly on the Sensor area.

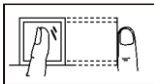
#### 2. Improper Positioning of Finger



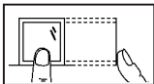
Not the core of the fingerprint



Not the center of the sensor



Not the core of the fingerprint




Not the center of the sensor

- **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 Sensor Area.

- **Suggestion**

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. ZKTeco 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.

## Statement on the Right to Privacy

### **Dear Customers:**

Thank you for choosing this hybrid biometric recognition product, which was designed and manufactured by ZKTeco. As a world-renowned provider of core biometric recognition technologies, we are constantly developing and researching new products, and strive to follow the privacy laws of each country where our products are sold.

### **We Declare That:**

1. All of our civilian fingerprint recognition devices capture characteristics, not fingerprint images, and do not involve privacy protection.
2. None of the fingerprint characteristics that we capture can be used to reconstruct an image of the original fingerprint, and do not involve privacy protection.
3. As the provider of this device, we will assume no direct or indirect responsibility for any consequences that may result from your use of this device.
4. If you would like to dispute human rights or privacy issues concerning your use of our product, please directly contact your employer.

Our other police fingerprinting devices or development tools can capture original images of citizens' fingerprints. As to whether or not this constitutes infringement of your rights, please contact your government or the final supplier of the device. As the manufacturers of the device, we will assume no legal liability.

### **Note:**

The law includes the following provisions on the personal freedoms of its citizens:

1. There shall be no illegal arrest, detention, search, or infringement of persons;
2. Personal dignity as related to personal freedom shall not be infringed upon;
3. A citizen's house may not be infringed upon;
4. A citizen's right to communication and the confidentiality of that communication is protected by law.

As a final point we would like to further emphasize that biometric recognition is an advanced technology that will undoubtedly be used in e-commerce, banking, insurance, legal, and other sectors in the future. Every year the world is subjected to major losses due to simple combination of passwords. Biometric products serve to protect your identity in high-security environments.



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