

User Manual

SAC 3601



1. Packing List

Name	Quantity	Remark
SAC 3601	1	
User Manual	1	
Rubber Bungs	3	6*27mm used for fixing
Self Tapping Screws	3	3.5*27mm used for fixing
USB Cable	1	

2. Descriptions

SAC 3601 is a standalone fingerprint reader with exquisite & unique appearance and wiegand 26/34 output functions. The machine uses the most advanced fingerprint identification technology and very safe, which supports to open door by following three ways: fingerprint/card/fingerprint+card.

It's not only widely used in the commercial and industrial field, such as offices, factories, warehouse, banks, laboratories, but in the small shops and households.

The operations of this product are all done by the software installed in your PC.

3. Features

- Standalone Fingerprint reader
- Supports USB & RS485/232 communication
- 3,000 fingerprint users and 3,000 card users
- Supports to back up users' data (fingerprint & card user info)
- Supports to upload & download users' data
- Can be used as a standalone access control
- Wiegand26/34 output for connecting to a controller
- One relay output for control door
- Built-in buzzer
- Built-in light dependent resistor (LDR) for anti-tamper
- Supports to open door by fingerprint/card/fingerprint+card
- Fast Verification: Less than 1s base on full enrollment of 3,000 fingerprint

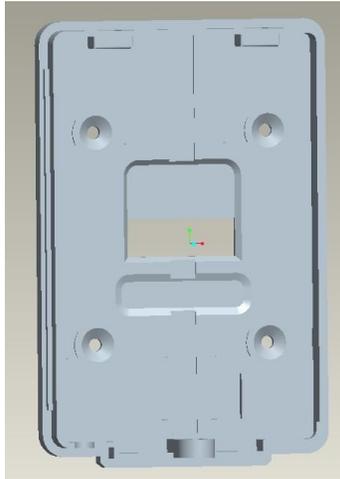
4. Specifications

Item	Parameters	
CPU	32-bit RISC Core, 120MHz, 1MB FLASH, 128K SRAM	
Sensor	500DPI optic sensor	
Cards	EM 125KHz	
Capacity	Fingerprint: 3,000; cards: 3,000	
Each user can enroll	2 fingerprints & 1pc card	
ID number	Wiegand26 output: 1~16777215 ; Wiegand34 output: 1~4294967295	
Verification mode	"or" mode: fingerprint or card (verify fingerprint or card will output wiegand signal)	
	"and" mode: card and fingerprint (after card verify requires fingerprint will output wiegand signal)	
Response time	<1s (full of 3,000 fingerprints)	
FAR	< 0.0001 % (security level is 3)	
FRR	< 0.1 % (security 3)	
Reading Distance	5-10cm	
Security level	1 ~ 5, default setting: 3	
Access interface	Wiegand output mode: Wiegand26 or Wiegand34 can be set	
	Relay output (option): passive contact output (NO、NC、COM)	
Communication interface	RS485	9600~115200 BPS can be setting; no parity ;1stop bit; Flow Control: None
	USB	USB1.1 Full speed
Input voltage	9V-15V DC	
Working current	≤100mA	
Working environment	Temperature : -20°C ~ 80°C, Humidity : 20% ~ 80%	

5. Installation

After connecting cable, mounting the device on wall

- 1). Pull the back plate shown below to open



- 2) With four screws to secure the appliance to the hole in the 4.
- 3) Connect the device to controller and computer according to the above definition.

Note: For device safety, please do setting the communication password before using.

6. Wiring

Controller interface (4 cables)		RS485 interface (2 cables)	
Cable color	Definition	Cable color	Definition
Red	Power supply :(9V~15V DC)	Purple	RS485A
Black	GND	Blue	RS485B
Green	DATA0		
White	DATA1		

7. Operation Introduction

- Connect device to PC (by USB or RS485), then to run software SAC 3601.exe "Pass= admin"
- (1). click **"All Employee Info Management"** to input employee information (ID, Name, Picture).
 - (2). click **"Device Management"** to set device parameters, and add the device to system.
 - (3). click **"Fingerprint/card Enrollment"** to enroll employee fingerprint and card to device.

8. Detailed user guide introduction

8.1.1 Software setting

- 1). Run SAC 3601.exe:



Figure 1

Input software password (default: admin), after successful, it displays main interface:

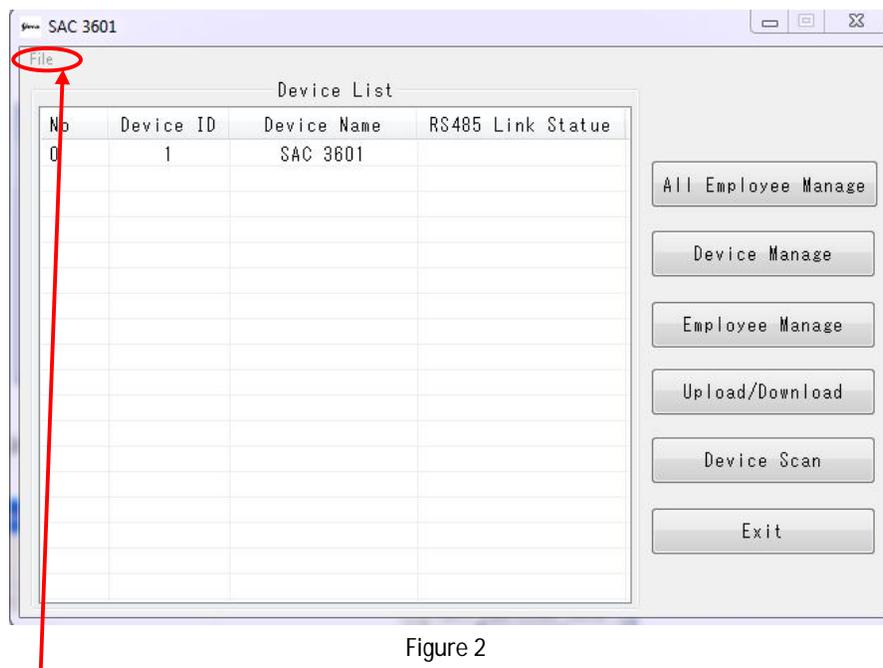


Figure 2

- 2). To Set the password and language of software:
Click "File" → select "Setting", entering into software setting interface:

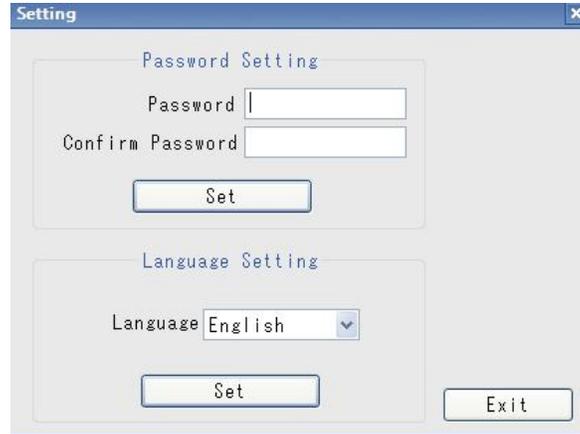


Figure 3

Setting software password: Input password and confirm setting.

Setting language: Select "English", then click "Set".

8.1.2 All Employee Info Management

Click "All Employee Info Management" in the main interface:

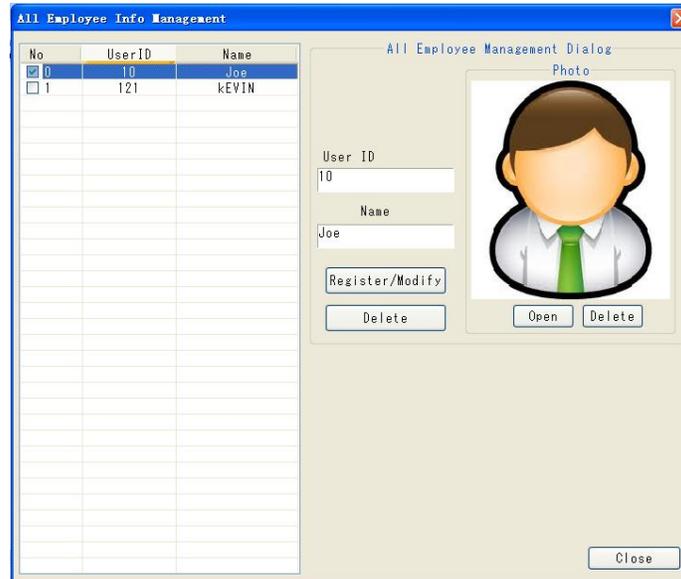


Figure 4

- a) **To add new employee:** Input ID, name and picture (requires *.bmp)
- b) **To modify employee information:** Select the employee to be modified, change the relevant information and click "Modify".

Note: If modify ID number, should delete the employee first then input again.

- c) **To delete employee information:** select the employee to be deleted then click "Delete".

After modifying & keeping employee information management, click "Close" to ESC.

8.1.3 Device Management

Click "Device Management" in the main interface of software:

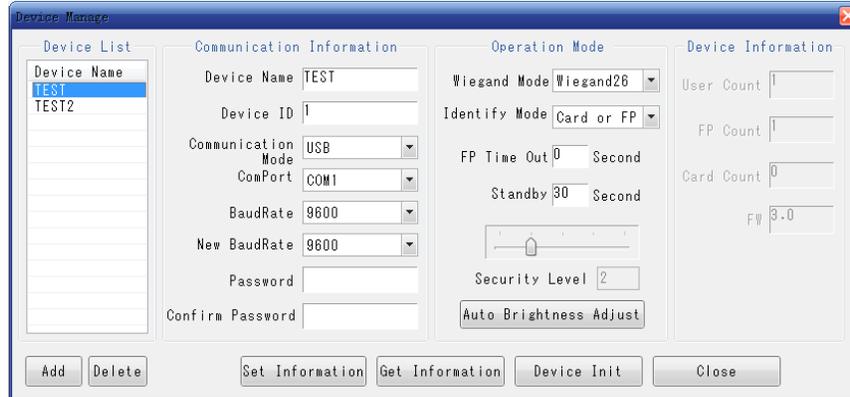


Figure 5

1). To Add Device

Device Name: To set a name for the device.

Device ID: To input Device ID (1~255), to make sure ID is unique for each one.

Communication Mode: USB or RS232/RS485.

ComPort: To design the RS232/RS485 COM PORT of PC.

Baud Rate: To set baud rate when choose RS232/RS485 for communication. If to change baud rate, the baud rate of old device and new baud rate are required to fill, then restart the device, which will be communicated by new baud rate.

Password: For setting communication password for device and PC, to improve the safety of device. Password are consist of 14 letters and numbers, please do remember the password after setting, once forget, it should be **sent back to factory** to format and all the registration information will be lost.

Note: For device safety, please do setting the communication password before using.

Wiegand Mode: Wiegand26 or Wiegand34.

Identification Mode: Card or FP: Once card or fingerprint verification successful, it will output wiegand signal.

Card and FP: Once card and fingerprint verification successful, it will output wiegand signal.

FP Time Out: 0~60s can be set, default setting: 30s, used for enroll fingerprint: to detect if press fingerprint after command, time out will exit to enroll.

For setting "0" means no time out for judging.

Standby: 0~60s, Device will enter into standby mode if without any operation during the setting time. The device will be activated if press a finger or a proximity card or there is communication command from PC.

For setting "0" means no sleep mode, default setting: 60 seconds.

Security level: 1~5 levels, default setting is 3, level 1 is the most high security level.

After setting the above parameter, click "Add" will register the device to software.

2) To Set/Modify device parameters

To select the device in the Device List, after inputting the above parameters.

If using USB communication mode, click "Set Information" to keep setting successfully.

If using RS485 communication mode, make sure the consistency of Device ID and baud rate with the present device.

After setting successfully, device will working as the setting parameters.

3) To get device information

To select the device in the Device List, click "Get Information", will get the device parameters and total enrolled user data, fingerprint users, cardholders and the device's version info.

Note:

1. Please make sure Device ID & Baud Rate are correct when get information from device by RS485.
2. If no device ID & baud rate, please choose USB to get the information first on condition that know communication password.

4) To Initialize the Device

To Select the device in the Device List, click "Device Init", all the enrolled user information will be deleted , and resume to the following default parameters:

Name	Default setting
Device ID	0
Baud rate	9600BPS
Wiegand mode	Wiegand26
Verification mode	Card or fingerprint
Security level	3

Note: Device Initialization will not delete communication password.

5) Brightness Auto Adjust

After long time using, the sensor backlight might lower down, which may lower the identify rate, in this case please adjust the lightness.

Note: Device has been set the auto brightness control, so no need to adjust all the time.

Adjustment Method:

To select device in the Device List, click "Brightness Auto Adjust", after see "please screen sensor's light", cover the sensor windows with hand, click "OK" to confirm.

After setting all information, click "close" to ESC.

6) To Delete Device

To select the device in the Device List, click" Delete".

Warning: To delete device will clear all the user information in the database, please handle with care.

Once to delete the device by mistake, please using the function of "Upload/Download" to back up device's user information.

8. 1.4 To Register, delete fingerprint/card

After inputting user information and Device Setting, click **"Fingerprint/card Enrollment"**:

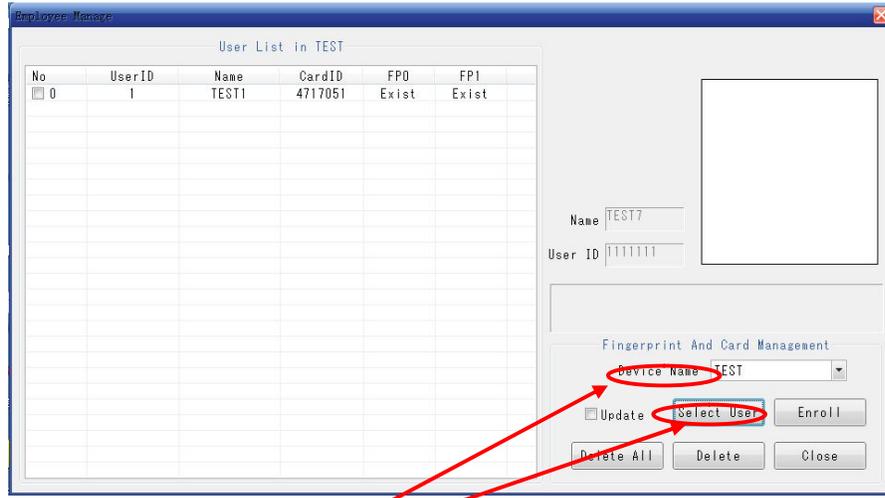


Figure 6

- To select the device from "Device Name" to enroll fingerprint and cards
- To click "Select User" to select the user who will enroll fingerprint and cards:

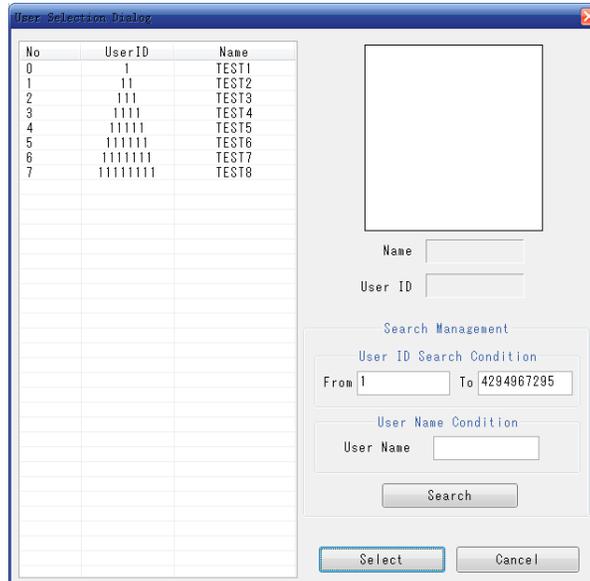


Figure 7

- To Enroll fingerprint and card:** select user to be enrolled, click "Select" back to Employee Manage interface, click "Enroll" to enter enroll interface:

Note: One user can be enrolled with 2 fingerprints and 1pc card.

If the user who was enrolled in the device needs to update the fingerprint or card, please tick the check box "Update", otherwise the software will not allow enrolling for this user.



Figure 8

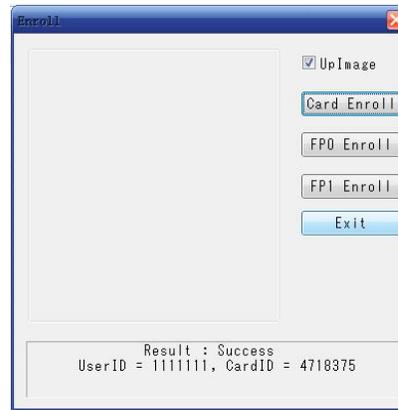


Figure 9

A、 To Enroll fingerprint users:

Connect with USB and tick the check box "Upimage" to view the fingerprint image in real time when enroll.

Click "FP0 Enroll", press one fingerprint, system hints "Uploading Image" → "Release your Finger" → "two more" → "release your finger" → "one more" → "release your finger", press three times to finish fingerprint enrollment.

Click "FP1 Enroll", step same as above to enroll second fingerprint.

B、 To Enroll card users:

Click " Card Enroll" in the "Enroll" interface, system hints "Input your Card", press card after system read card hinting "Release your Card", the device will detect and show the status after releasing cards:

"Result = success and reference user's ID= and Card ID=".

Click "Exit" to finish enrollment and back to "**Fingerprint/card Enrollment**" interface → click "select user" to choose next user → click "Enroll" to enroll all users as same steps.

d) To Delete user: in the "**Fingerprint/card Enrollment**" interface, select the device name & users to be deleted, click "Delete" will delete the appointed user from device.

e) To Delete all users: in the "**Fingerprint/card Enrollment**" interface, select the device, click "Delete all" will delete all users from device.

8.1.5 To Upload/Download

Upload/Download is used to synchronize the fingerprint and card data of device and Dada Base in PC. Click "Upload/Download" on the Main interface:

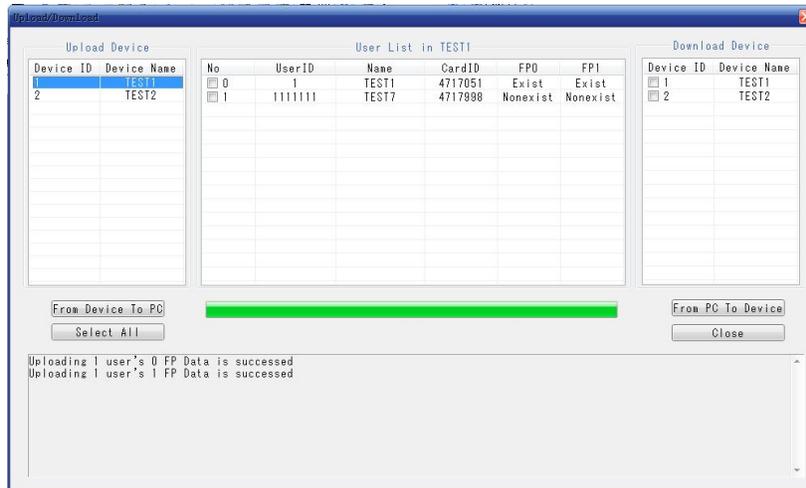


Figure 10

1). **Upload:** To back up the fingerprint and card data from device to software database in PC.

A. If the device is deleted by mistake:

Click "from device to PC" in the Upload/Download (no need to select device)::

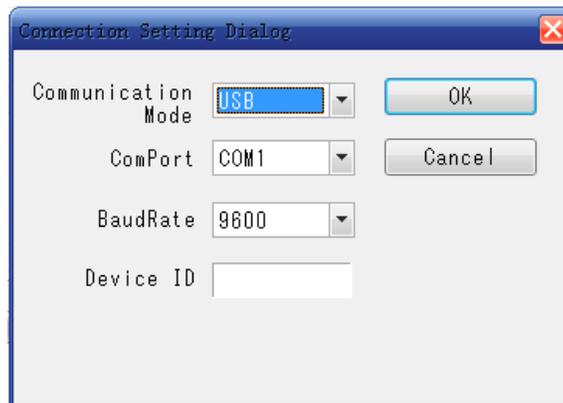


Figure 11

After setting all the parameters, click "ok":

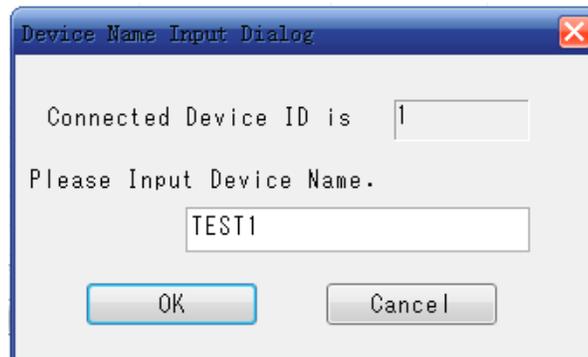


Figure 12

Input device name, then Click "ok", entering into "Upload/Download" interface:

The blue progress bar shows the uploading progress

B. To Upload the fingerprint and card data to new software in PC

To input all the employee information in "All Employee Info Management", operated following the above step A to upload employee's info in each device's data to PC.

2) To Download Data: To download the fingerprint and card data from software in PC to device. It is applied to following cases:

- A. If all enrolled data in device were deleted after initializing the device,
- B. If needed to manage several devices, it is available to manage all data in one device by putting it in the management center then to select some employee to download their data to specified devices.

Operation procedures:

1. To select the device in the left of "Upload/Download" interface→ all users' information list will be shown in middle box (shown as Figure 10)
2. To select the users or all users click "select all"
3. To select the device to be downloaded (tick the check box before the 'device ID')
4. To click "from PC to device": the blue progress bar shows the uploading progress.
5. To click "close" to finish downloading.

8.1.6 To Scan Device (To detect the state of device in RS485 Network)

For detecting the state of RS485 network (online or offline).

Click "Device Scan" in Figure2 to scan device in Main interface.

APPENDIX ONE APPLICATION INFORMATION

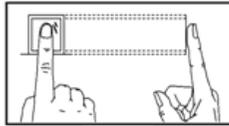
A1.1 Backup Data Base

To Run software SAC 3601.exe will create the following 3 database files under the directory:

1. Emp.db (Employee information)
2. DeviceInfo.db (device setting parameter database)
3. EnrollData.db (employee enrollment database)

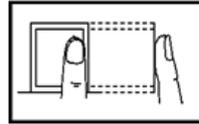
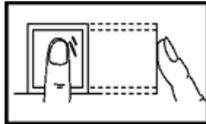
After adding all the devices to software, inputting all the employee information, and enrolling all employees' fingerprint and card to device, **also put into formal using, copy above 3 database files to save.**

A1.2 Right pose of pressing finger

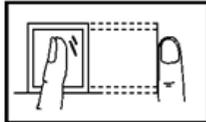


Right Pose

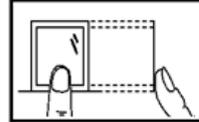
*Following is Wrong Pose



Put the core of the finger on the core of capturing window



Sidelong Pose



Lower Pose

APPENDIX TWO INSTALLATION AND CONNECTION

A2.1 SAC 3601 Connection defination:

- | | |
|---------|--------------------------------|
| Red: | Power supply input (9V~15V DC) |
| Black: | GND |
| Brown: | DATA0 |
| Yellow: | DATA1 |
| White: | RS485A |
| Blue: | RS485B |