



# **SF-AC2101-WR Secure Door Control Unit**

**User Manual**

**V1.0.0**

**UD01462B**

**User Manual**

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**About this Manual**

This Manual is applicable to Secure Door Control Unit.

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website.

Please use this user manual under the guidance of professionals.

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### Regulatory Information

#### FCC Information

**FCC compliance:** This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### FCC Conditions

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

#### EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information, see: [www.recyclethis.info](http://www.recyclethis.info).



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery

to your supplier or to a designated collection point. For more information see: [www.recyclethis.info](http://www.recyclethis.info).

### Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

### Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into **Warnings** and **Cautions**:

**Warnings:** Neglecting any of the warnings may cause serious injury or death.

**Cautions:** Neglecting any of the cautions may cause injury or equipment damage.

Warnings Follow these safeguards to prevent serious injury or death.	Cautions Follow these precautions to prevent potential injury or material damage.



### Warnings

- All the electronic operation should be strictly compliance with the electrical safety regulations, fire prevention regulations and other related regulations in your local region.
- Please use the power adapter, which is provided by normal company. The power consumption cannot be less than the required value.
- Do not connect several devices to one power adapter as adapter overload may cause over-heat or fire hazard.
- Please make sure that the power has been disconnected before you wire, install or dismantle the device.
- When the product is installed on wall or ceiling, the device shall be firmly fixed.
- If smoke, odors or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the device yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)



### Cautions

- Do not drop the device or subject it to physical shock, and do not expose it to high electromagnetism radiation. Avoid the equipment installation on vibrations surface or places subject to shock (ignorance can cause equipment damage).
- Do not place the device in extremely hot (refer to the specification of the device for the detailed operating temperature), cold, dusty or damp locations, and do not expose it to high electromagnetic radiation.
- The device cover for indoor use shall be kept from rain and moisture.
- Exposing the equipment to direct sun light, low ventilation or heat source such as heater or radiator is forbidden (ignorance can cause fire danger).
- Do not aim the device at the sun or extra bright places. A blooming or smear may occur otherwise (which is not a malfunction however), and affecting the endurance of sensor at the same time.
- Please use the provided glove when open up the device cover, avoid direct contact with the device cover, because the acidic sweat of the fingers may erode the surface coating of the device cover.
- Please use a soft and dry cloth when clean inside and outside surfaces of the device cover, do not use alkaline detergents.
- Please keep all wrappers after unpack them for future use. In case of any failure occurred, you need to return the device to the factory with the original wrapper. Transportation without the original wrapper may result in damage on the device and lead to additional costs.

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# Chapter 1 Overview

## 1.1 Introduction

SF-AC2101-WR Secure Door Control Unit (hereinafter referred as “unit”) can be applied to keep the door in the status before down when the door is down or damaged.

SF-AC2101-WR Secure Door Control Unit is the interlayer between the access control terminal and the lock, including the door contact, the lock, the exit button, the Wiegand card reader and so on. It is much safer to apply the secure door control unit with the access control terminal.

## 1.2 Introducing the Appearance

### 1.2.1 Front View

The front view of SF-AC2101-WR Secure Door Control Unit is shown as below:

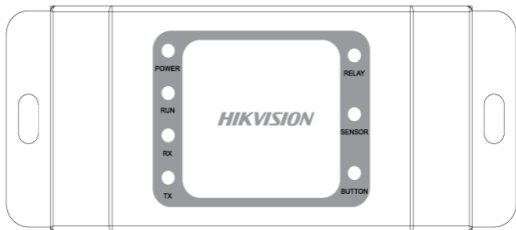


Figure 1. 1 Front View of Secure Door Control Unit

### 1.2.2 Rear View (Dial-up)

The rear view of SF-AC2101-WR Secure Door Control Unit is shown as below:

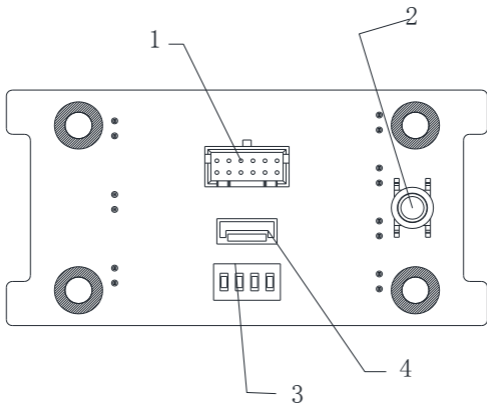


Figure 1. 2 Rear View of Secure Door Control Unit

Table 1. 1 Description of Rear View

No.	Name
1	Cable Interface of RS-485, Power, LED Control, etc.
2	Tampering Prevention Switch
3	DIP Switch (For details, see <i>Chapter 2.1</i> Introduction of DIP Switch)
4	Wiegand Interface



### 1.3 Introducing Indicators

The Indicators of SF-AC2101-WR Secure Door Control Unit are POWER, RUN, RX, TX, RELAY, SENSOR and BUTTON.

The following tables introduce the meaning of different indicator's status:

#### POWER:

Solid Red	The unit is powered on.
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#### RUN:

Flicking Green	The tempering prevention switch is open. Tempering alarm.
Solid Green	The tempering prevention switch is open. The device is running.

#### RX, TX - RS 485 Communication Indicator:

Flicking Green	The RS 485 communication is built.
Solid Green	The RS 485 communication is not built.

#### RELAY: Indicate the lock status:

Green	<p>The indicator will be solid green for a while when the opening door action is done. (The opening door action includes swiping the card, remote opening door and so on.)</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>● Make sure the unit is powered on.</li> <li>● Make sure the unit is connecting the lock.</li> </ul>
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#### SENSOR – Indicate the door contact status:

Green	<p>The indicator is solid green when the door is open. When the door is closed, the indicator is off.</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>● Make sure the unit is powered on.</li> <li>● Make sure the unit is connecting the door contact.</li> </ul>
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**BUTTON – Indicate the Exit button**

Green	<p>The green light is on when press the Exit button. When release the button, the green light will be off.</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"><li>● Make sure the unit is powered on.</li><li>● Make sure the unit is connecting the Exit button.</li></ul>
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## Chapter 2 Installation

### 2.1 Introduction of DIP Switch

For the DIP switch position, please refer to No.3 of Table 2.1 Description of Rear View. The DIP switch module is shown below. The number of DIP switch from left to right is 1 to 4.



Figure 2. 1 DIP Switch Module (Binary Code: 0000)

The table shows below is the description of the DIP switch.

Table 2. 1 Description of DIP Switch

Icon	Description
	Represent 0 in binary mode
	Represent 1 in binary mode

For example, the binary codes of the following figure from No.1 to 4 are 0011 respectively.

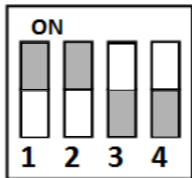


Figure 2. 2 DIP Switch Module (Binary Code: 0011)

The DIP switch in the secure door control unit is for the RS-485 communication. The code range is from 1 to 15, namely the binary code range between 0001 and 1111. The code cannot be repeated.

## 2.2 Wiring Cables

### Purpose:

Wire cables between Access Control Terminal, Secure Door Control Unit and the lock input/output devices (Wiring to the Wiegand card reader is optional.) to establish the communication between them.

### Steps:

1. Set the DIP switch code. The binary code range is between 0001 and 1111. For details, please refer to *Chapter 2.1 Introduction of DIP Switch*.
2. Plug the Terminal 1 to the Interface 1 as shown in Figure 2.3 and Figure 2.4.

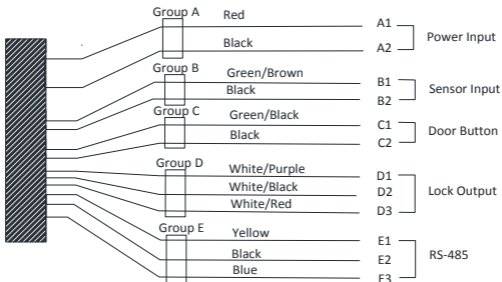


Figure 2. 3 Terminals 1

The table displayed below shows the terminal 1 description:

Table 2. 2 Terminals Descriptions of Secure Door Control Unit

Group	Cable No.	Color	Name	Descriptions
A	A1	Red	+12V	Power Input
	A2	Black	GND	

Group	Cable No.	Color	Name	Descriptions
B	B1	Green/Brown	DOOR_SENSOR	Sensor Input
	B2	Black	GND	
C	C1	Green/Black	DOOR_BUTTON	Door Button
	C2	Black	GND	
D	D1	White/Purple	RELAY_NC	Lock Output
	D2	White/Black	RELAY_COM	
	D3	White/Red	RELAY_NO	
E	E1	Yellow	RS485 +	RS-485
	E2	Black	GND	
	E3	Blue	RS485 -	

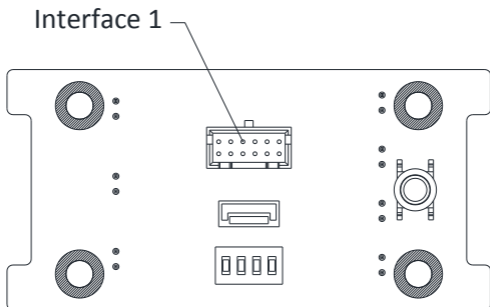


Figure 2. 4 Rear View of Secure Door Control Unit

3. Plug the Wiegand Terminal 2 to the Wiegand as shown in Figure 2.5 and Figure 2.6. The Interface 2 represents the Wiegand interface.

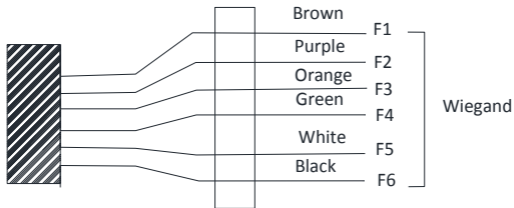


Figure 2. 5 Terminals 2

The table displayed below shows the terminal 2 descriptions:

Table 2. 3 Terminals Descriptions of Secure Door Control Unit

Group	Cable No.	Color	Name	Descriptions
F	F1	Brown	OK	Wiegand
	F2	Purple	BUZZER	
	F3	Orange	ERR	
	F4	Green	W0	
	F5	White	W1	
	F6	Black	GND	

## Interface 2

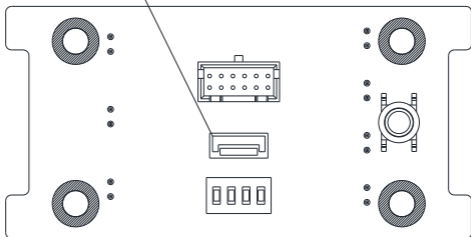


Figure 2. 6 Rear View of Secure Door Control Unit



## 2.3 Installing Secure Door Control Unit

### **Steps:**

1. Drill holes on the wall or other places according to the mounting template.  
**Note:** The minimum bearing weight of the wall or other places should be three times heavier than the device weight.
2. Insert the screw sockets of the setscrews in the drilled holes.
3. Plug the cables of power input, lock input, lock output and RS-485 as well as the Wiegand cables to the target interfaces. (For details, please see *Chapter 2.2 Wiring Cables*)
4. Align the screw holes on the two sides of the secure door control unit with the holes on the wall.
5. Fix and fasten the secure door control unit on the wall by the supplied screws.

**Note:** Knock down the hole on the one side of the unit, as shown in Figure 3.5, if cables need to go from the side.

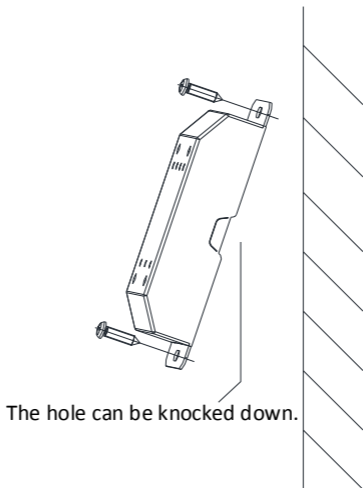


Figure 2.7 Fix on the Wall

## Chapter 3 Wiring External Device

The figure displayed below is the wiring introduction of external device:

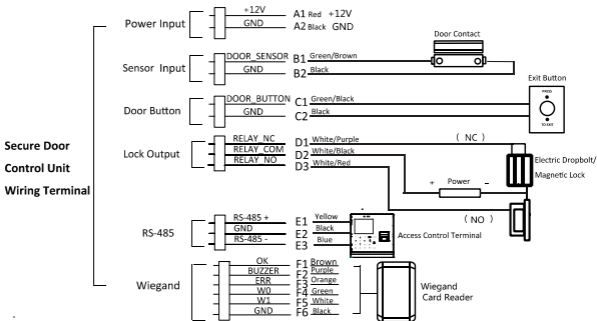


Figure 3. 1 External Device Wiring

