

# **LTK1107 Series Card Reader**

## **User Manual**

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This Manual is applicable to Card Reader.

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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# Chapter 1

## Preventive and Cautionary Tips

To guarantee the card reader works properly, please read and obey the notes below.

- If the card reader is powered by the controller, the power supply distance is recommended to be no longer than 100m. If the distance is longer than 100m, you are advised to power the card reader by external 12V (range:  $-\%10 \sim +\%10$ ) DC power supply, which is nonswitched and linear.
- To guarantee the communication between the controller and the card reader, you must use RVVP cable above 0.5 to connect them.
- If the card reader is installed outside or in environment easy to permeable, it is advisable to install a waterproof shield.
- If you need to install several card readers, the distance among them must over 30cm.
- To reduce the noise in long distance transmission, the shield of cable should connect to the GND of both controller and card reader terminal.

## Chapter 2

## Introduction

### 2.1 Over View

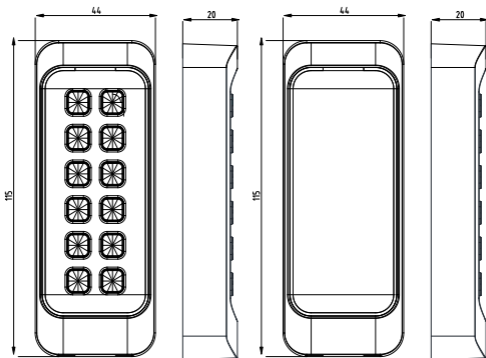


Figure 2-1 LTK1107 Series Card Reader

LTK1107 series card reader is a kind of high-performance product, with a 32 bit high-speed processor. It communicates with access controller via either RS-485 protocol (AES encrypted) or Wiegand protocol. And a build-in tamper-proof module helps to protect card reader from malicious damage. As to the physical appearance, the PC+ABS material makes water proof and dust proof possible in poor environment.

## 2.2 Indicator and Component

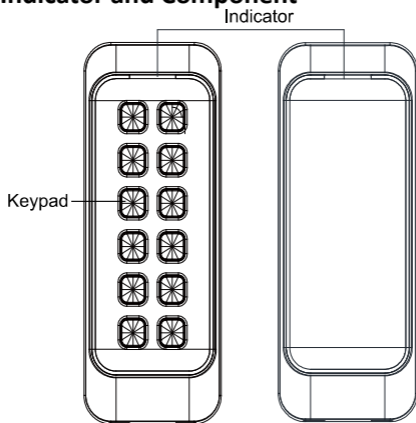


Figure 2-2 2.2 Indicator and Component

## Chapter 3

## Installation

### 3.1 Introduction for DIP Switch

The DIP switch module is shown below. The No. of DIP switch from left to right is 1 ~ 8.

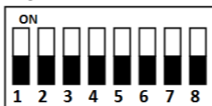


Figure 3-1 DIP Switch Module

Table 3-1 Description of DIP Switch

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

For example, binary value of the following status is: 0000 1100.

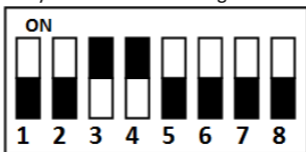


Figure 3-2 DIP Switch Module

Table 3-2 Description of DIP Switch

No.	Description	DIP Switch Status
1 ~ 4	Address of RS-485	1: 1

No.	Description	DIP Switch Status
		0: 0
5	Reserved	Reserved
6	Wiegand protocol or RS-485 protocol.	1: Wiegand protocol; 0: RS-485 protocol.
7	Wiegand Protocol (available when No. 6 is 1)	1: Wiegand protocol of 26-bit; 0: Wiegand protocol of 34-bit.
8	Matched Resistance (available for RS-485 protocol)	1: Enable; 0: Disable.

## 3.2 Definition of Cable

The description of 10 cables is shown below.

Table 3-3 Description of Cable

Color	Description
Orange	Red LED Control (available for Wiegand Protocol)
White	Wiegand W1 (available for Wiegand Protocol)
Green	Wiegand W0 (available for Wiegand Protocol)
Green	RS-485-
Yellow	RS-485+
Red	PWR (+12 VDC)
Black	GND
Gray	TAMPER (available for Wiegand Protocol)
Purple	Beep Control (available for Wiegand Protocol)
Brown	Green LED Control (available for Wiegand Protocol)

### 3.3 Wiring Cables

***Purpose:***

Wire the cables between controller and card reader, thus to establish the communication between them.

***Steps for RS-485 communication mode:***

1. Set the DIP switch of No. 6 as 0.
2. Set the DIP switch of No. 1 ~ 4 for RS-485 address and reading card mode. For details, please refer to 3.1 *Introduction for DIP Switch*.
3. Wire the cable between controller and card reader as shown below.



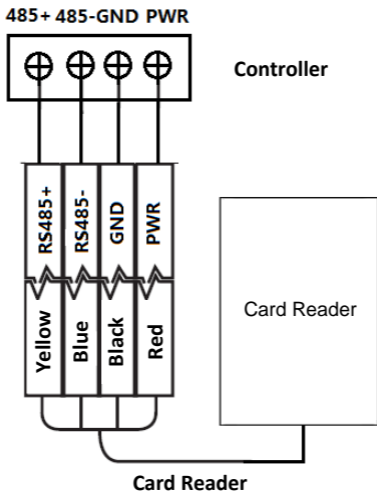


Figure 3-3 Wiring for RS-485 Communication Mode

**Steps for Wiegand communication mode:**

1. Set the DIP switch of No. 6 as 1.
2. Set the DIP switch of No. 7 for reading card mode and Wiegand protocol. For details, please refer to 3.1 *Introduction for DIP Switch*.
3. Wiring the cable between controller and card reader as shown below.

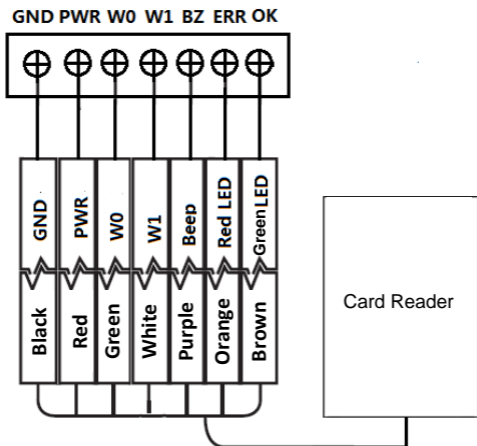


Figure 3-4 Wiring for Wiegand Communication Mode

### 3.4 Installing Card Reader

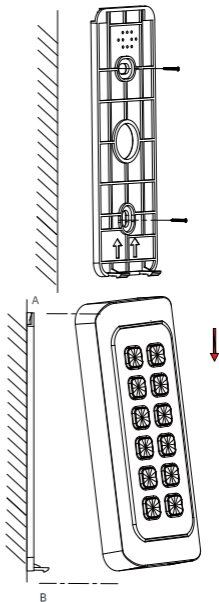
***Before you start:***

Set the DIP switch. For details, refer to *3.1 Introduction for DIP Switch*.

## Installation for LTK1107 series card reader

### Steps:

1. Fix the plate on the wall or other places by using two screws (PA4×25-SUS). Make sure the arrows on the plate are upwards.
2. Check whether the plate is fixed and in the right direction.
3. Slide the card reader from the direction A to B along the plate side until the bottom matches the joint. Make sure the card reader is tightly on the wall or other places.
4. Drag and move the card reader to make sure it is fixed.



## Chapter 4

# Sound Prompt and Indicator

After the card reader is powered on, LED status indicator will turn green and blink for 1 time. Then it will turn red and blink for 3 times. At last the buzzer will send out a beep sound indicating the starting up process is completed.

When using the card reader, it will send out different sounds prompt and the LED indicator to indicate different statuses. You can refer to tables below for detailed information.

**Table 4-1 Description of Prompt Sound**

Sound Prompt	Description
One beep	Swiping card prompt
	Pressing keys prompt
	Prompt for too long card No. input by pressing keys.
	Time out prompt for pressing keys or swiping card.
	For Card + Fingerprint authentication: prompt for pressing the fingerprint after swiping the card.
Two rapid beeps	The operation of pressing keys or swiping card is valid.
Three slow beeps	The operation of pressing keys or swiping card is invalid.
Rapidly continuous beeps	Prompt for tamper-proof alarm.
	Prompt for buzzer alarm.
Slowly continuous beeps	The card reader is unencrypted.

**Table 4-2 Description of LED Indicator**

<b>LED Indicator Status</b>	<b>Description</b>
Green (blink for 1 time), and red (blink for 3 times)	The card reader is power on.
Green and blinking	For Card + Fingerprint authentication: prompt for pressing the fingerprint after swiping the card.
	The operation of configuring the fingerprint.
Solid green for 2s	The operation of pressing keys or swiping card is valid.
Solid red	Card reader is working normally.
Red and blink for 3 times	The operation of pressing keys or swiping card is invalid.
Red and blinking	For RS-485 protocol: Registering failed or card reader is offline.