

M350 User manual

Features:

Fast recognition

Various output interface

Suitable for access control scenario

Disclaimer

Before using the product, please read all the contents in this Product Manual carefully to ensure the safe and effective use of the product. Do not disassemble the product or tear up the seal on the device by yourself, or Suzhou Koodle Technology Co., Ltd. will not be responsible for the warranty or replacement of the product.

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Edit history

Change date	Version	Description	Responsible
2022.2.24	V1.0	Initial version	

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1. Preface

Thanks for using the M350 QR code reader, Reading this manual carefully can help you understand the function and features of this device, and quickly master the use and installation of the device.

1.1. Product introduction

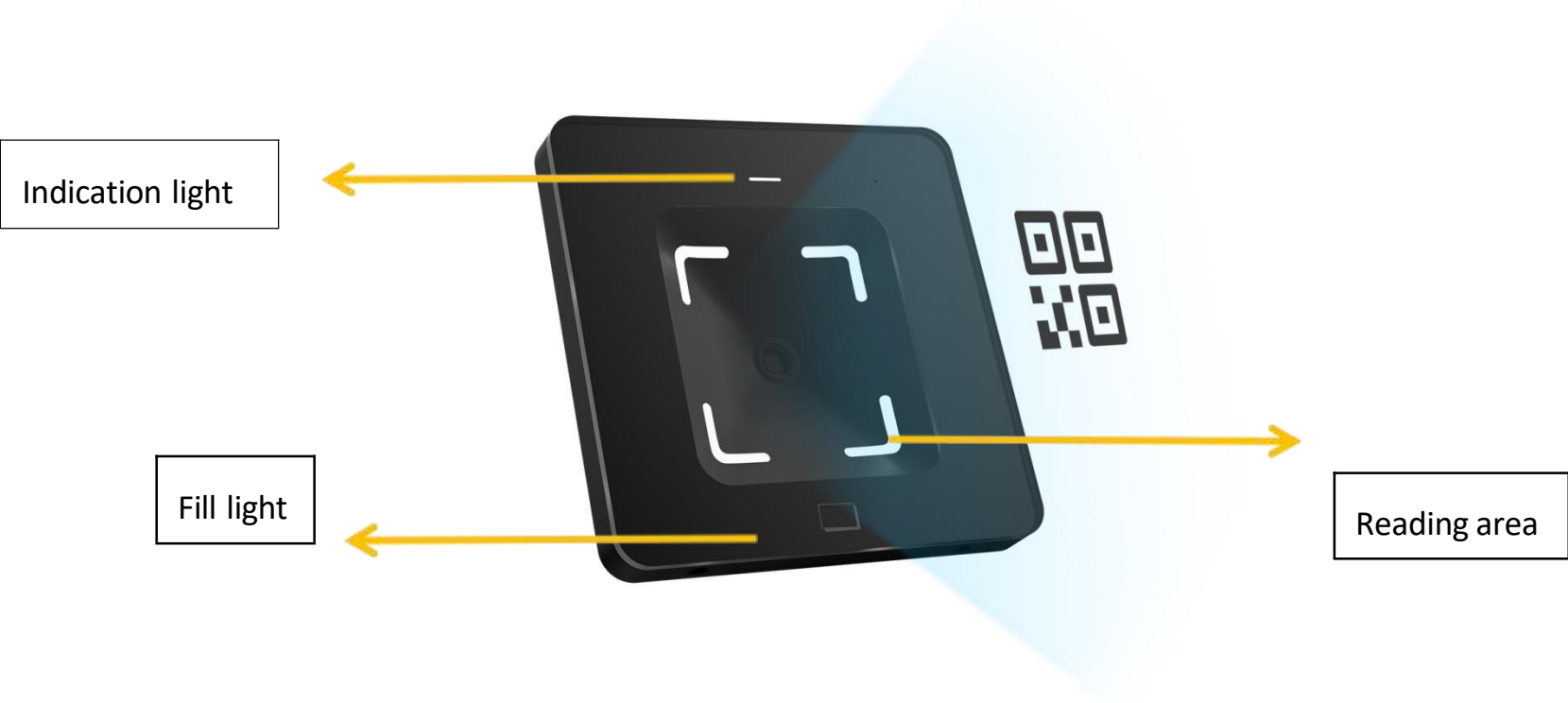
M350 QR code reader was specially designed for access control scenario, which has various output interface, including TTL, Wiegand, RS485, RS232, Ethernet and relay, suitable for gate, access control and other scenes.

1.2. Product feature

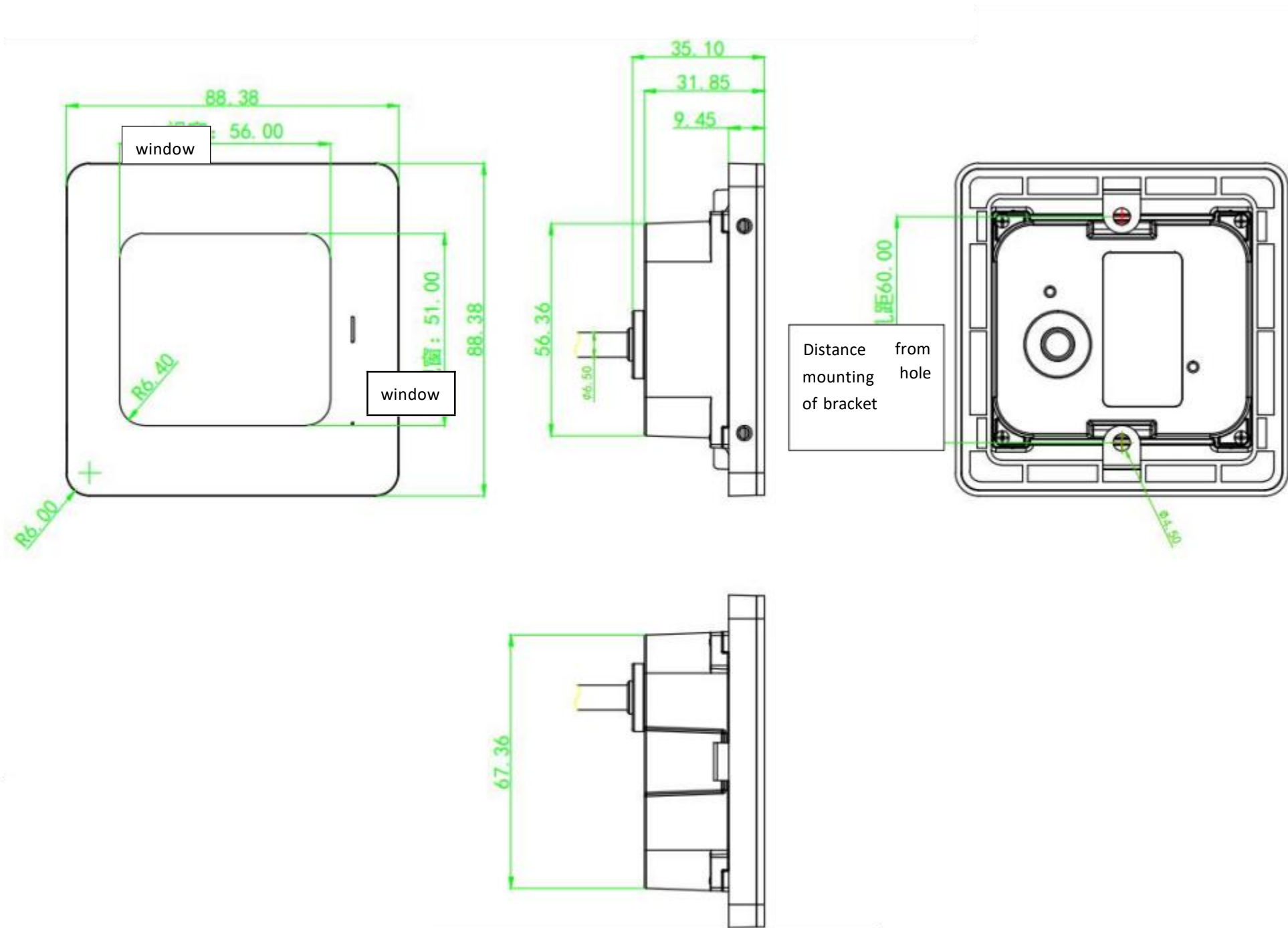
1. Scan code& swipe card all in one.
2. Fast recognition speed, high accuracy, 0.1 second the fastest.
3. Easy to operate, humanized configuration tool, more convenient to config the reader.

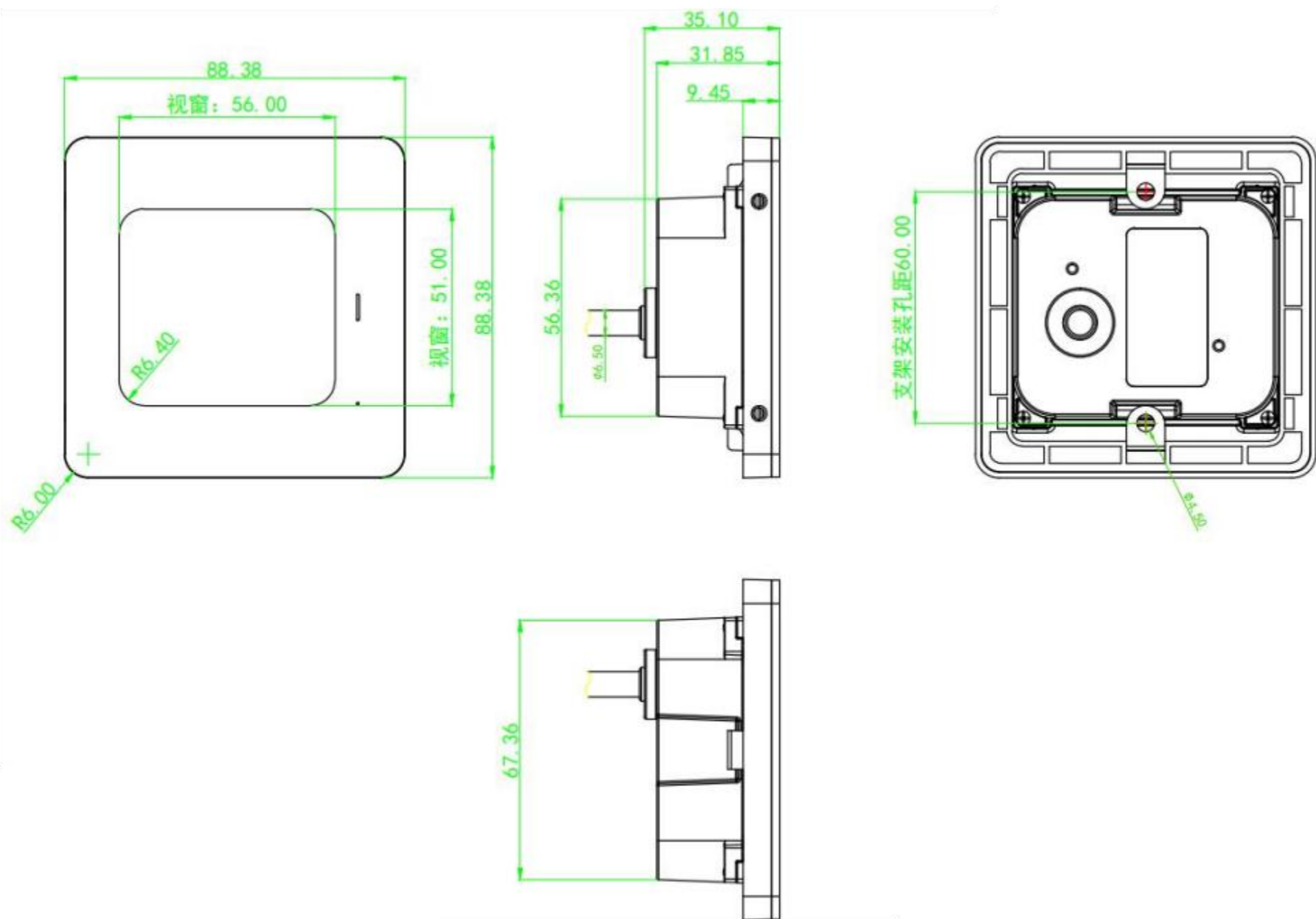
2. Product appearance

2.1.1. OVERALL INTRODUCTION



2.1.2. PRODUCT SIZE





3. Product parameters

3.1. General parameters

General parameters	
Output interface	RS485, RS232, TTL, Wiegand, Ethernet
Indicatingmethod	Red, green, white light indicator Buzzer
Imaging sensor	300,000 pixel CMOS sensor
Max resolution	640*480
Mounting method	Embedded mounting
Product size	88.38mm*88.38mm*35.10mm
Reading window size	56mm*51mm

3.2. Reading parameter

QR code recognition parameter		
Symbologies	QR, PDF417, CODE39, CODE93, CODE128, ISBN10, ITF, EAN13, DATABAR, aztec etc.	
Supported decoding	Mobile QR code and paper QR code	
DOF	0mm~62.4mm(QRCODE 15mil)	
Reading accuracy	≥8mil	
Reading speed	100ms per time(average), support reading continuously	
Reading direction	Ethernet	Tilt±62.3°Rotation±360°Deflection±65.2° （15milQR）
	RS232, RS485, Wiegand, TTL	Tilt±52.6°Rotation±360°Deflection±48.6° （15milQR）
FOV	Ethernet	86.2° （15milQR）
	RS232, RS485, Wiegand, TTL	73.5° （15milQR）
RFID reading parameter		
Supported cards	ISO 14443A, ISO 14443B protocol cards, ID card （only physical card number）	

Reading method	Read UID, read and write M1 card sector
Working frequency	13.56MHz
Distance	<5cm

3.3. Electric parameters

The power input can be provided only when the device is connected properly. If the device is plugged or unplugged while the cable is live (hot plugging), its electronic components will be damaged. Make sure that the power is turned off when plugging and unplugging the cable.

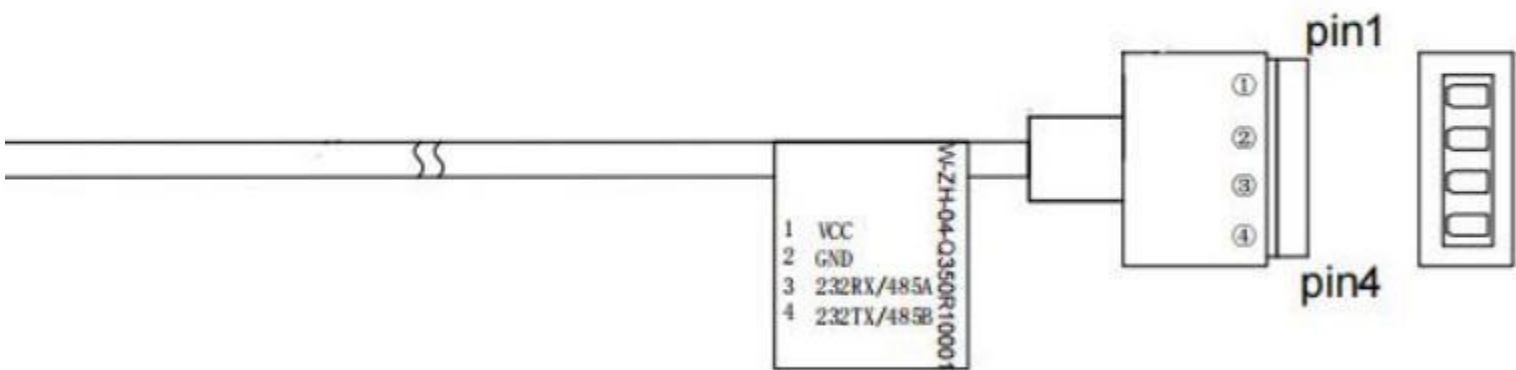
Electric parameters		
Working voltage	RS232, RS485, Wiegand, TTL	DC 5-15V
	Ethernet	DC 12-24V
Working current	RS232, RS485, Wiegand, TTL	156.9mA（5V typical value）
	Ethernet	92mA（12V typical value）
Power consumption	RS232, RS485, Wiegand, TTL	784.5mW（5V typical value）
	Ethernet	1104mW（12V typical value）

3.4. Working environment parameters

Working environment parameters	
ESD protection	±8kV（Air discharge），±4kV（Contact discharge）
Working temp	-20℃-70℃
Storage temp	-40℃-80℃
RH	5%-95%（No condensation）（environment temperature30℃）
Ambient light	0-80000Lux(Non direct sunlight)

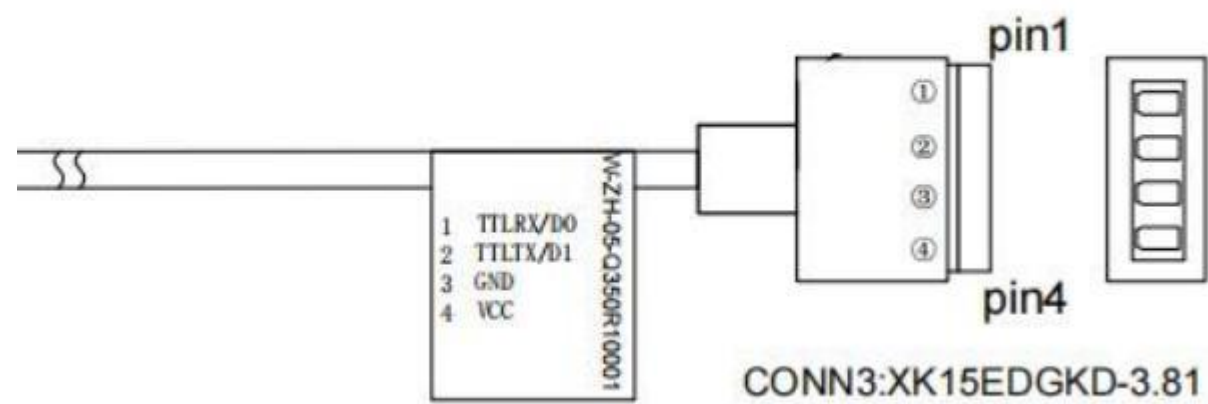
4. Interface definition

4.1. RS232, RS485 Version



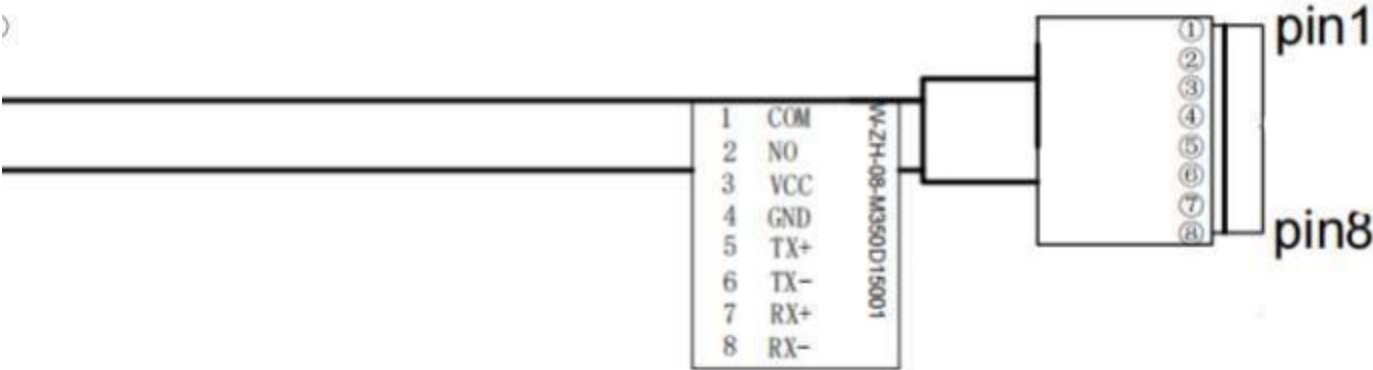
Serial number	Definition	Description	
1	VCC	Positive power supply	
2	GND	Negative power supply	
3	232RX/485A	232 Version	Data receiving end of code scanner
		485 Version	485 _A cable
4	232TX/485B	232 Version	Data sending end of code scanner
		485 Version	485 _B cable

4.2. Wiegand&TTL Version



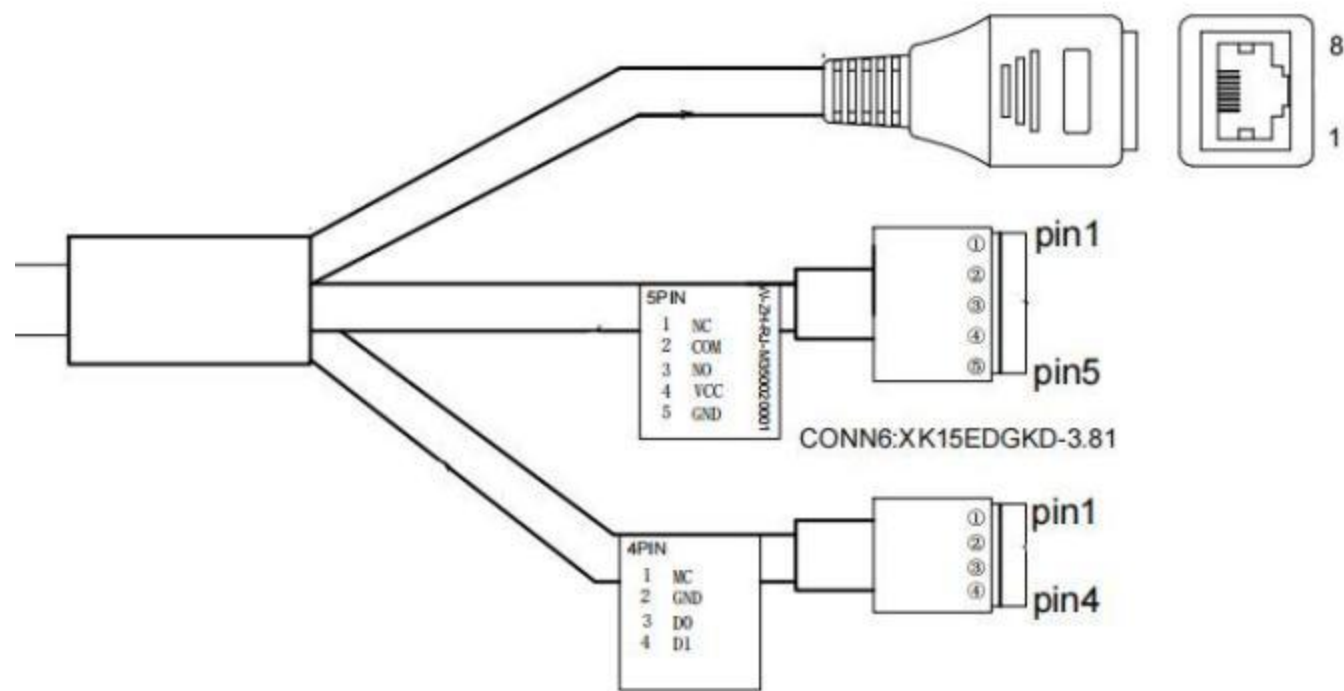
Serial number	Definition	Description	
4	VCC	Positive power supply	
3	GND	Negative power supply	
2	TTLTX/D1	TTL	Data sending end of code scanner
		Wiegand	Wiegand 1
1	TTLRX/D0	TTL	Data receiving end of code scanner
		Wiegand	Wiegand 0

4.3. Ethernet Version



Serial number	Definition	Description
1	COM	Relay common terminal
2	NO	Relay normally open end
3	VCC	Positive power supply
4	GND	Negative power supply
5	TX+	Data transmission positive end (568B network cable pin1 orange and white)
6	TX-	Data transmission negative end (568B network cable pin2-orange)
7	RX+	Data receiving positive end (568B network cable pin3 green and white)
8	RX-	Data receiving negative end (568B network cable pin6-green)

4.4. Ethernet+Wiegand Version



RJ45 port connect to the network cable, 5pin and 4Pin screws interface descriptions are as follows:

5PIN interface

Serial number	Definition	Description
1	NC	Normally closed end of relay
2	COM	Relay common terminal
3	NO	Relay normally open end
4	VCC	Positive power supply
5	GND	Negative power supply

4PIN interface

Serial number	Definition	Description
1	MC	Door magnetic signal input terminal
2	GND	
3	D0	Wiegand 0
4	D1	Wiegand 1

5. Device configuration

Use the config tool to configure the device. Open the following configuration tools (available from the download center on the official website)

Config the device as the step shows, the example are showing 485 version reader.

Step 1, Select the model number M350

The screenshot shows a web-based configuration tool interface. At the top right, there are two buttons: 'EN' and 'Next'. The 'Next' button is highlighted with a red border. Below these buttons, there is a section titled 'Online Device'. It contains a 'Connect' button, a 'State:' dropdown menu set to 'Disconnect', and a 'Version:' input field. Below the 'Online Device' section is the 'Offline Device' section, which displays a grid of device models. The 'M350' model is highlighted with a green border.

Offline Device						
MX86	QT660	MP86	TX	DW100	EC	C900
QT420	JL7066 E2	JL5066	MC	QT960 QT970 QT980	MET	ACE90
Q400	MU86	MC10X MC50	QT960J QT970J	QT100	Q300 M300	QT510 QT310
M320	MC50P MC51	M350				

Step 2, Select the output interface, and config the corresponding serial parameters.

The screenshot displays a configuration window with the following sections and elements:

- Set Password:** A text input field containing "1234567887654321". To its right are two buttons: "Next" (highlighted with a red box) and "Main".
- Work mode:** Two radio button options: "Ordinary" (selected and highlighted with a red box) and "Develop".
- Output:** Four radio button options: "RS485/232" (selected and highlighted with a red box), "TTL", "Wigan", and "Ethernet".
- Serial:** A section containing four dropdown menus: "Baudrate" (open, showing a list of values with "115200" selected and highlighted with a red box), "Databit" (set to "5"), "CheckDigit" (set to "N"), and "Stopbit" (set to "1").

Baudrate
115200
300
2400
4800
9600
19200
38400
57600

Step 3, select the required configuration. For configuration options, please refer to the user manual of Vguangconfig configuration tool on the official website.

Set Password:

→ Main

→ Return

Scan set

Advanced

Swipe

Net

Wigan

☒ Code

☒ Prefix suffix

☒ EnterWrap

☒ Scan Mode

☒ Action

☒ Backlight

Code

☒ QR

☒ ISBN10

☐ CODE93

☐ AZTEC

☐ UPCA

☒ PDF417

☒ ISBN13

☐ EAN13

☐ EAN8

☐ DM

☒ CODE128

☐ CODE39

☐ ITF

☐ UPCE

☐ DATABAR

Config code

Save

Reset Password

Exit

QR Code Position

Step4, After configing as your needs, click “config code”.

Set Password:

→ Main → Return

Scan set Advanced Swipe Net Wigan

☒ Code

☒ Prefix suffix

☒ EnterWrap

☒ Scan Mode

☒ Action

☒ Backlight

Code

☒ QR	☒ PDF417	☒ CODE128
☒ ISBN10	☒ ISBN13	☐ CODE39
☐ CODE93	☐ EAN13	☐ ITF
☐ AZTEC	☐ EAN8	☐ UPCE
☐ UPCA	☐ DM	☐ DATABAR

Config code Save

Reset Password Exit

Step 5, Use the scanner to scan the configurations QR code generated by the tool, then restart the reader to finish the new configurations.

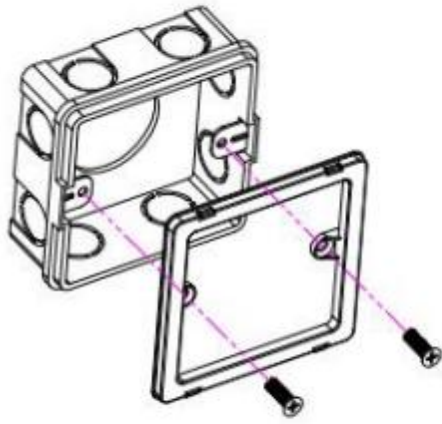
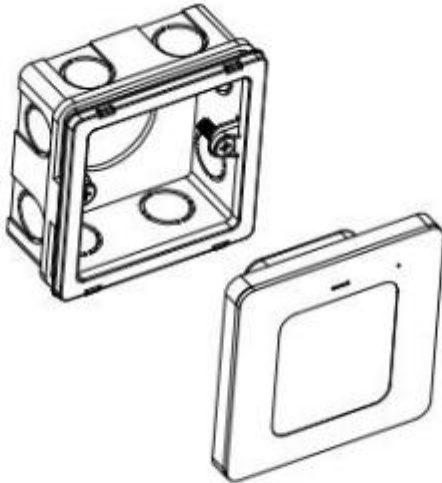
For more details about configurations, please refer to the “Vguang configuration tool user manual”.

6. Mounting method

The product using CMOS image sensor, the recognition window should avoid direct sun or other strong light source when install the scanner. The strong light source will cause the contrast in the image too big to decoding, the long term exposure will damage the sensor and cause the device failure.

The recognition window are using tempered glass, which has good transmission of the light, and also a good pressure resistance, but still need to avoid scratching the glass by some hard object, it will affect the QR code recognition performance.

The RFID antenna was in the underside of the recognition window, there should have no metal or magnetic material within 10cm when installing the scanner, or it will affect the card reading performance.

		
Step 1: Assemble the reader with the 86 box, and tighten the screws.	Step 2: Install the product on the bracket, pay attention to press it tightly and snap it in place.	Step 3: Installation finished.

7. Attention

1. The equipment standard is 12-24V power supply, it can get power from the access control power or power it separately. Excessive voltage may cause the device fail to work normally or even damage the device.
2. Do not disassemble the scanner without permission, otherwise the device may be damaged.
3. The installation position of the scanner should avoid direct sunlight. Otherwise, the scanning effect may be affected. The panel of the scanner must be clean, otherwise it may affect the normal image capture of the scanner. The metal around the scanner may interfere with the NFC magnetic field and affect card reading.
4. The wiring connection of the scanner must be firm. In addition, ensure the insulation between the lines to prevent the equipment from being damaged by a short circuit.

8. Contact info

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