## A. Package Content

Relay box x 1, RJ45 cable x 2, installation guide x 1, kit pack x 1
Kit pack : screw x 4, screw anchors x 4, diode (1N4004) x 1

B. Specification

- Dimension : 100 x 106 x 26.5 mm
- Voltage range : 9 ~ 24 VDC
- Recommend power : 600mA ~ 1000mA
- Wiegand range : Max 100M
- RS485 range : Max 1000M
- Relay supports max 30VDC 3A
  (AC POWER does not support)

Recommend

- DC power supply
- RVSP shielded twisted pair RS485 cable
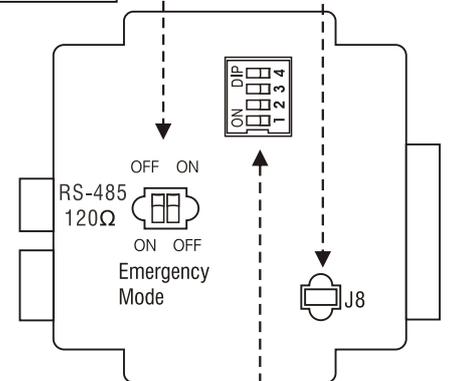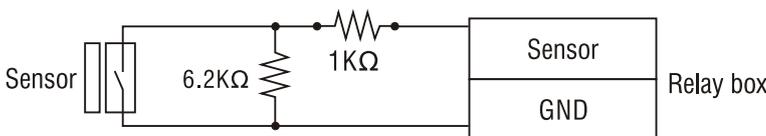- Separate power source for relay box and magnetic lock
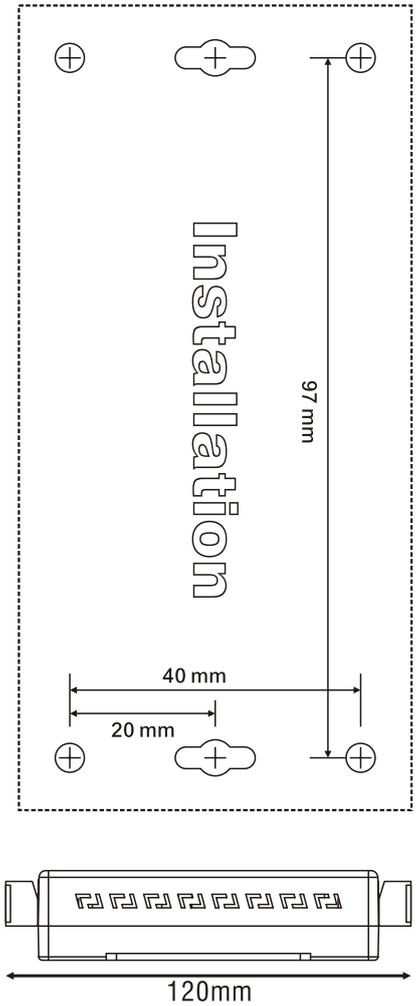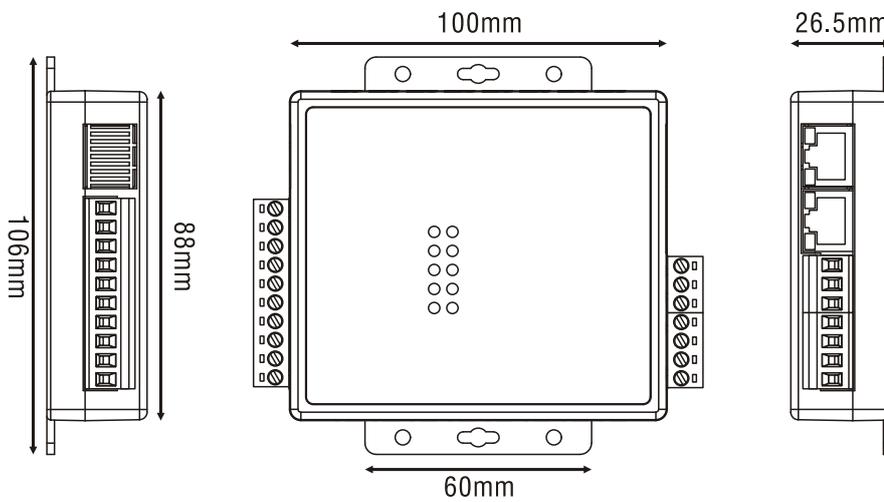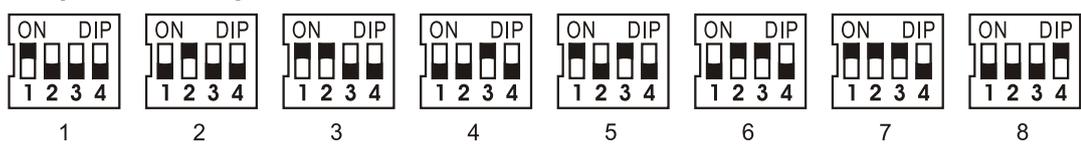

C. Short-Circuit Plate Status Description

Jumps J8	Buzzer switch	Short: enable (default)	Open: disable
Emergency Mode	When RS485 disconnected, exit button can still function without controller's verification	Enable (default) ON	Disable OFF
RS485 120Ω	Enable/Disable build in 120Ω resistor for furthest relay box	Disable (default) OFF	Enable ON

↘ Relay box sensor detection function (Support SEMAC S series control panel only)
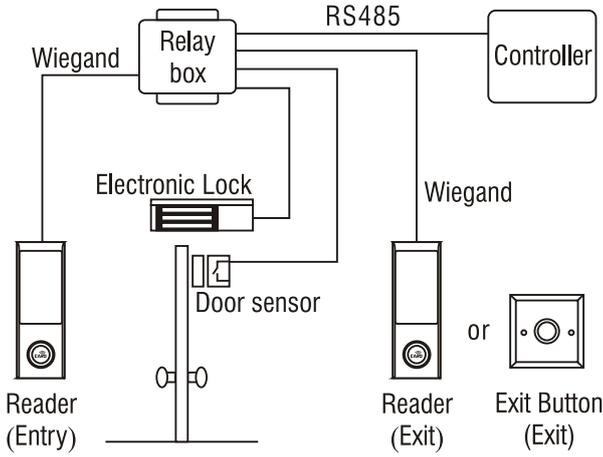1. Enable sensor detection → log into controller's webserver → door setup → door sensor mode → select circuit close/open
2. When enable detection function, must connect 1KΩ and 6.2KΩ resistors. Diagram as below :
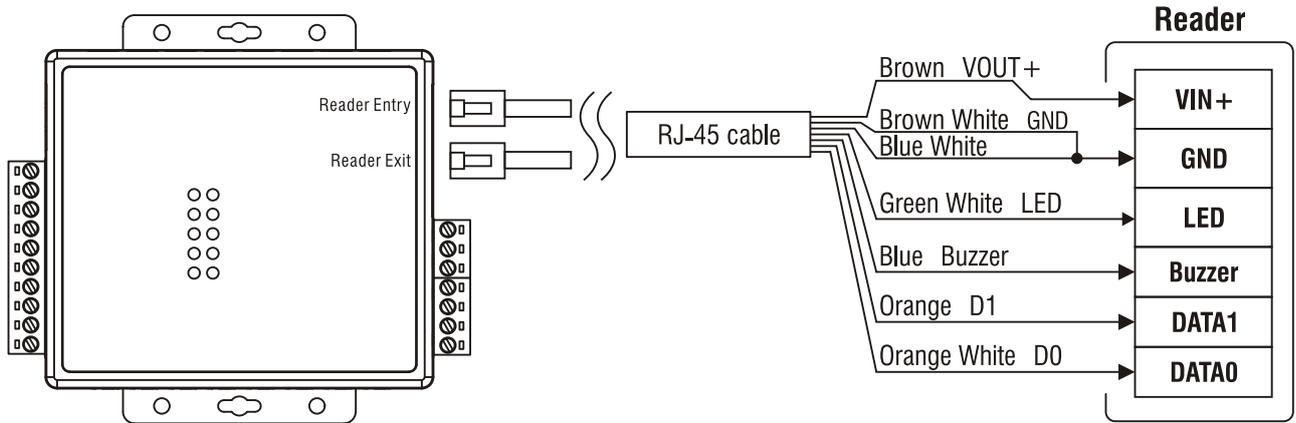

↘ **Dip switch Setting**

D. Structure

Relay box
RS485
Controller
Wiegand
Electronic Lock
Wiegand
Door sensor
or
Reader (Entry)
Reader (Exit)
Exit Button (Exit)

RJ45 and Wiegand Reader Wire Description

Wiegand range Max 100M

1	Orange White	DATA 0	
2	Orange	DATA 1	
3	Green White	Output, Control Reader LED	
4	Blue	Output, Control Reader Buzzer	
5	Blue White	Reader Sensing Control (Must short GND)	
6	Green	Retention	
7	Brown White	GND	DC 9-24V Power Output,
8	Brown	VOUT+	Same as Relay box Power Input.

E. RJ45 & Wiegand Reader Connection

Reader

Reader Entry
Reader Exit
RJ-45 cable

Brown   VOUT+   VIN+
Brown White   GND   GND
Blue White
Green White   LED   LED
Blue   Buzzer   Buzzer
Orange   D1   DATA1
Orange White   D0   DATA0

※ Electronic lock and door relay connection

• Electronic Fail Secure mode

1N4004
V+   V-
EM Lock
Power Supply
V-   V+
NC D (ON)   COM D   NO D (OFF)
Relay box

diode (1N4004)
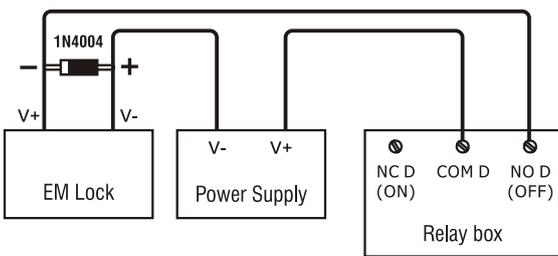
• Electronic Fail Safe mode

1N4004
V+   V-
EM Lock
Power Supply
V-   V+
NC D (ON)   COM D   NO D (OFF)
Relay box

F. Connection Diagram

NO.3 Relay
Event Handle Relay 2
(Soft Alarm 2)

NO.2 Relay
Event Handle Relay 1
(Soft Alarm 1)

NO.1 Relay(EM Lock)

NO 3
COM 3
NC 3
NO 2
COM 2
NC 2
NO D
COM D
NC D
GN D

Reader Entry
Reader Exit

Entry Door WG Reader
Exit Door WG Reader

RJ-45 cable ●

Sensor: Short GND While sensor is not in use.

Sensor
N/A
Exit Button
485−
485+
VIN+
GND
(DC9~24V)

Exit Button

485−
485+
VIN+
GND

Access Controller

Power Supply
DC 9~24V
V−   V+