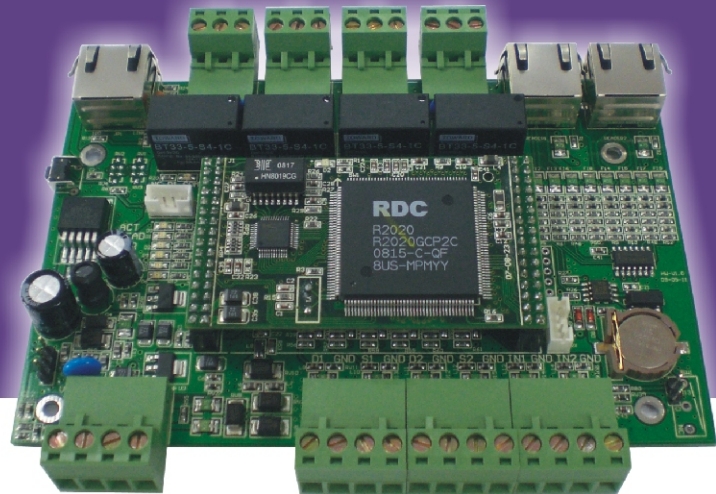


## ACCESS CONTROL

Web Based ▶▶

# Smart Ethernet Multidoor Access Controller

# SEMAG



SEMAG, a most innovation, outstanding newly presented panel design access controller, independently manage a single door bidirectional (in and out) or dual doors-single direction (in or out), has creatively provided a brand new vision of access control topology to the world.

Smart like SEMAG (Smart Ethernet Multi Access Controller), is able to cluster all connected access controller terminals into one access control network over TCP/IP. Additionally, SEMAG is also accessible with Web Pass IP Reader which totally achieves data, resources sharing. Moreover, every single SAMEC, can be working independently with or without PC connection: when we connect SEMAG with PC, system data will be seamlessly integrated thru Management Software, provides a totally Real-Time monitoring environment, and in the other hand, when system is under off-line status will efficiently keep user's punching records and data to the system automatically. With Chiyu's SEMAG solution, would totally free IT mangers from the time-consumed maintenance job load.

## Specifications

- Communication with management software: TCP/IP
- Communication with BF-50: RS-485
- Reader support: 2 wiegand readers ( thru Rj45)
- Door Sensor (Input): 2 ( Circuit Short, Self-Diagnostic support)
- Exit Button (Input): 2 ( Circuit Short, Self-Diagnostic support)
- Dry Connector (Input): 2 ( Circuit Short, Self-Diagnostic support)
- EM Lock (Output): 2 ( 5A/30V · Always ON · Always OFF)
- Dry Connector (Output): 2( 5A/30V · Always ON · Always OFF)
- Default Reset Button: One
- Power requirement: DC 9V~24V
- Dimension: 143×93(113)×17(mm)  
[113mm with terminal connector]
- LED Indicators:
  - 1 Green LED for system connection status (externally)
  - 1 Red LED for power connection status
  - 1 for Reader status
  - 1 for Error status
  - 2 for communication (TX, RX) indicators
  - 4 for Relay indicators

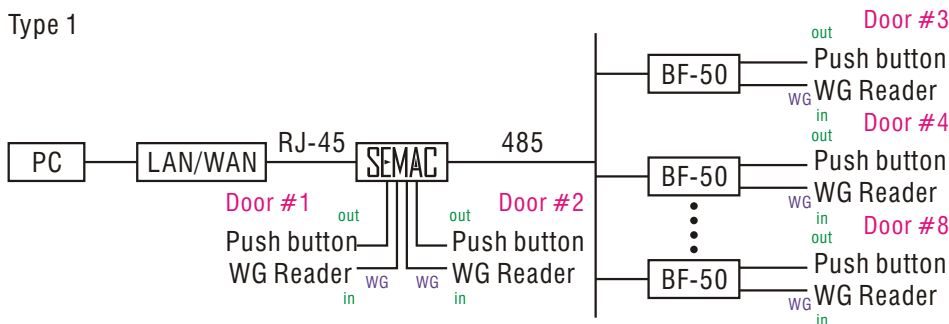
## Features

- Single door/Bidirectional, or Dual doors/ Single directional access mode provided
- Up to 8 doors per SEMAC are accessible with additional BF-50 relay box.
- Apart from Exit Button will be up for emergency status, up to 50 card numbers will be reserved for last 50 particular persons whose card have once access the doors for emergency door-release purpose while device disconnected with SEMAC.
- Built-In HTTP server, provides user friendly Web management interface
- Free Management Software package included
- Capacity for card-holder can be option: 20,000users/60,000 events, or 100,000users/120,000 events
- 12 sets for door release Time Zone authentication provided.
- 3 PIN codes ( Admin/User/Common) and 5 Cards( authentication modes provided).
- All Wiegand 26/34 Readers are compatible.
- Door Release time interval can be set based on site requirement : 1 ~ 60000Sec.
- 255 Time Sets/ 120 Time Zones (8 days per set and 16 Time Set per day) / 255 Groups (8 doors) / 100 Holidays can be organized.
- Each card holder can be assigned to 4 different groups.
- Double-Badge, Anti Pass Back and Anti-Duress design to higher the access security base.
- On-Line system upgrade, ease the maintenance job loading.
- System alert will be sending immediately by E-Mail.
- Diverse Door-release modes provided: Multi-Cards Release (2~3 persons per set, up to 10sets), or Remote-Release, or Prima Card-Release.
- Built-In Watch Dog hardware protection design in case of system crashed.
- Protective ESD/Surge circuit design, secure system lifetime and communication quality.
- External Guard Tour and Security devices supported.
- IP Camera is supported.
- Interlocking supported under multi doors access control environment
- Ships with dry connectors for various kind of external alarm devices.
- Controllers and the controller box can ship with Tamper Switch in case of any illegal break-ins and intentionally break-downs.
- Suitable for large premises, factories, buildings, parking lots, elevator control requirement, school .... Etc.
- Emergency Door-Release: Door can be released from remote site, or by pressing the Emergency Exit Button under emergency situation.

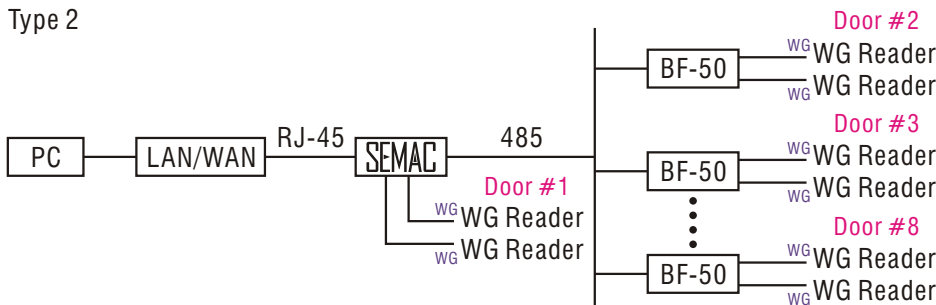
## Application

- BF-50 is required for Door no. 2 when we deploy two Wiegand readers on the same Door no. 1

### Type 1



### Type 2



## How to Order

- Model: SEMAC
- Type
  - S1: Not expandable
  - S2: Up to 8 doors/16 external Wiegand readers support with option BF-50.
- How to choose a model ? SEMAC-S1 or SEMAC-S2

## Optional Devices

Controller box, Power supply, 7Ah Battery, ID card Encoder/Decoder, WG Reader, BF-50 Relay Box, RFID Cards and Keyfob, Push button & EM Lock



Power supply



7Ah Battery



ID card Encoder/Decoder



WG Reader



BF-50 Relay Box

**Controller box**  
Dimension: (mm)  
195×265×75



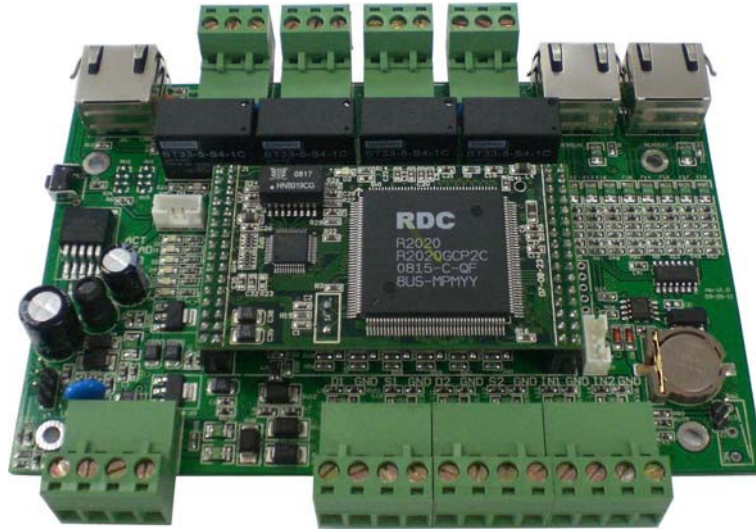
Welcome to **CHIYU**

Chiayi: 886-5-2325465 • Taipei: 886-2-25491289 • Shenzhen, China: 86-755-82514171

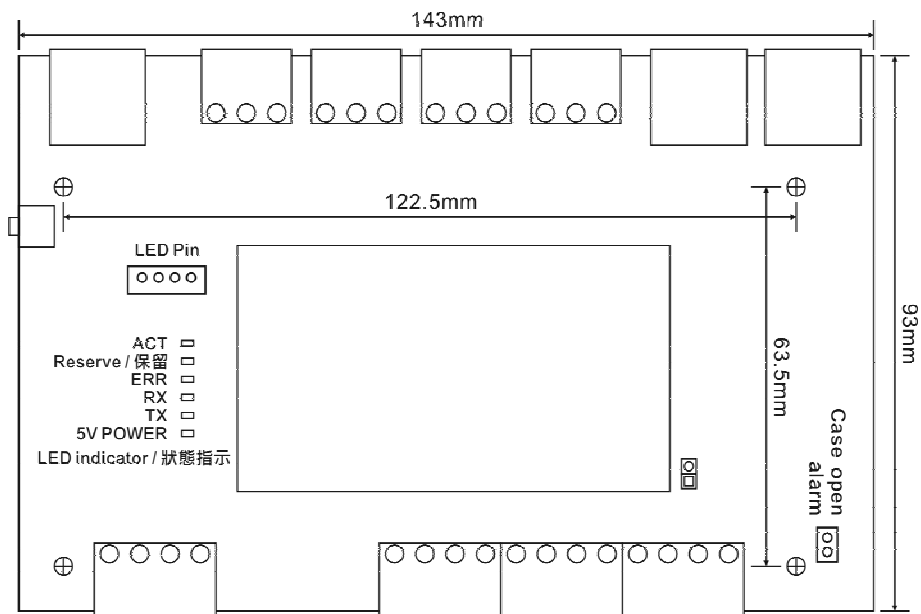
# SEMAC HARDWARE INSTALLATION

## 1. MAIN BOARD

- Practical Picture :



- Schematic Drawing :



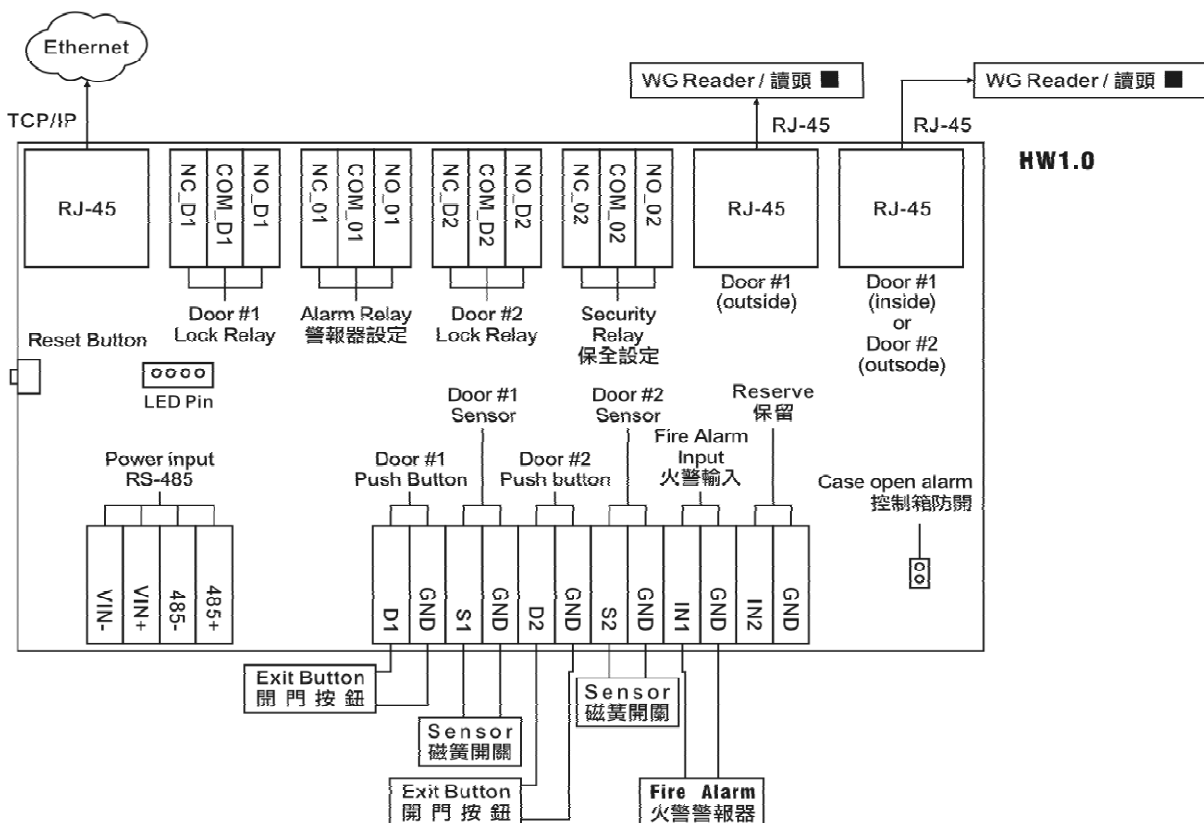
● **Controller Box :**

**Dimension: 195 \* 265 \* 75 mm**

**Indicator : POWER, DC 12V, CHARGE, ACT, ERR**



**2. ILLUSTRATION of SEMAC CONTACTS**



- ※ **RESET** : Press the 'Reset' button for 1 second continually to reset SEMAC.
- ※ **RESTORE** : Press the 'Reset' button for 8 seconds continually to restore SEMAC.
- ※ **When no Sensor installed, make the dry contact of the SENSOR be in shortcircuit.**

### 3. CONNECTION

- **Connection between RJ-45 and Wiegand Reader ( Max. 80M )**

White-orange → D0

Orange → D1

White-green → LED Control Contact of Reader

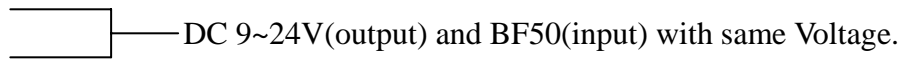
Blue → Buzzer Control Contact of Reader

White-blue → Reading Control of Reader & Reading of GND Short circuit

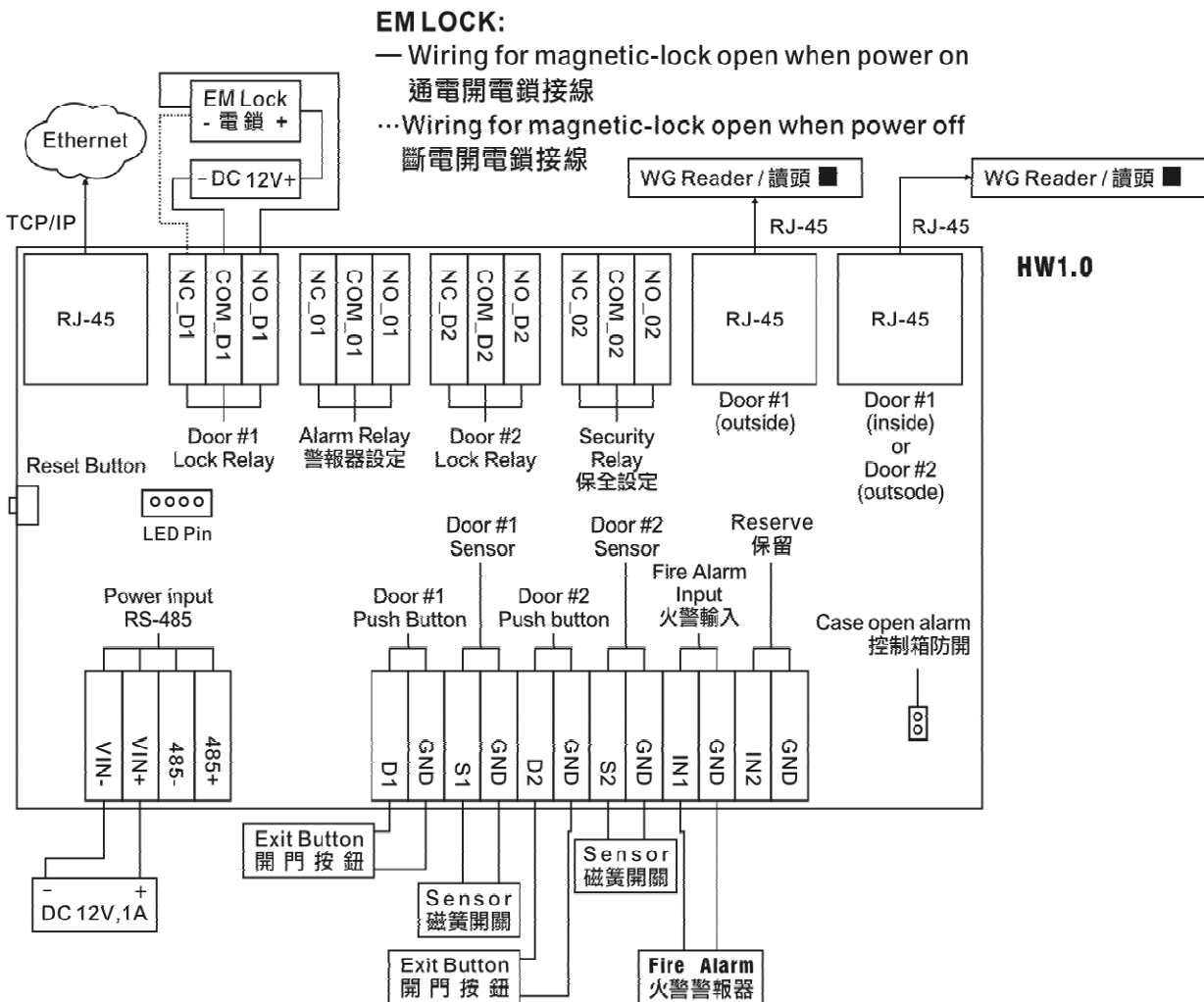
Green → Detecting Readers

White-brown → POWER -

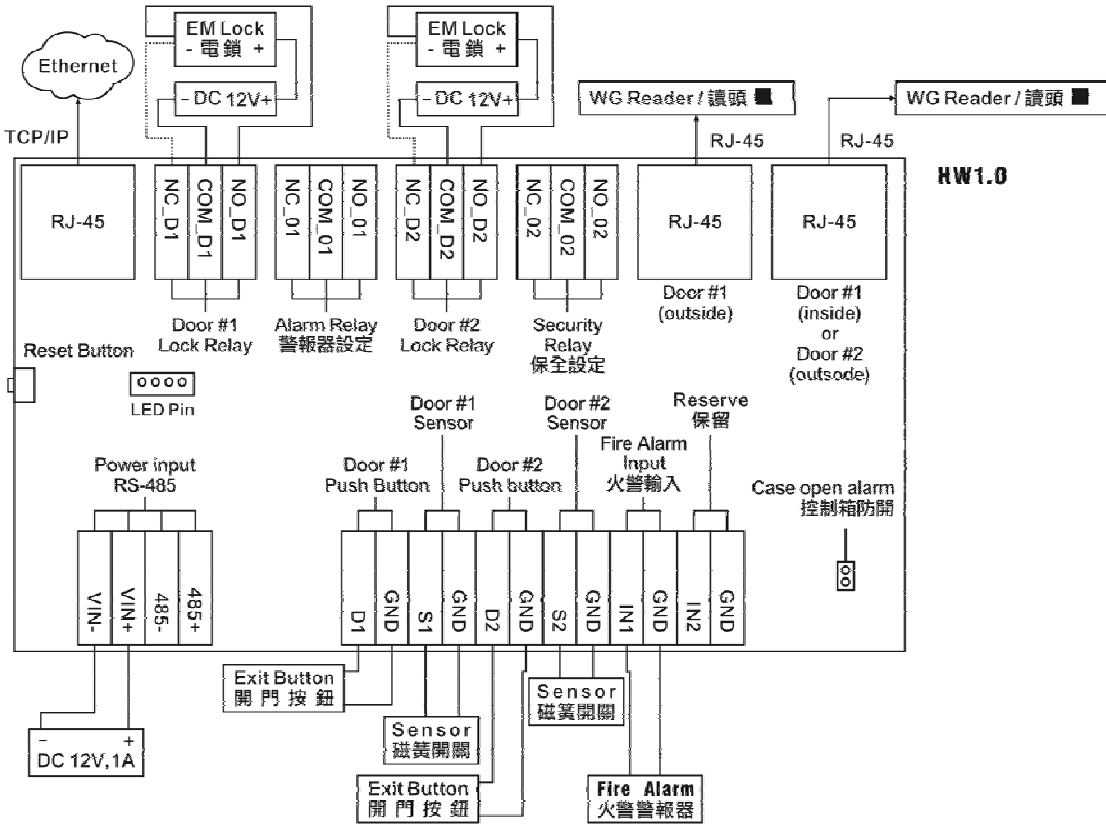
Brown → POWER +



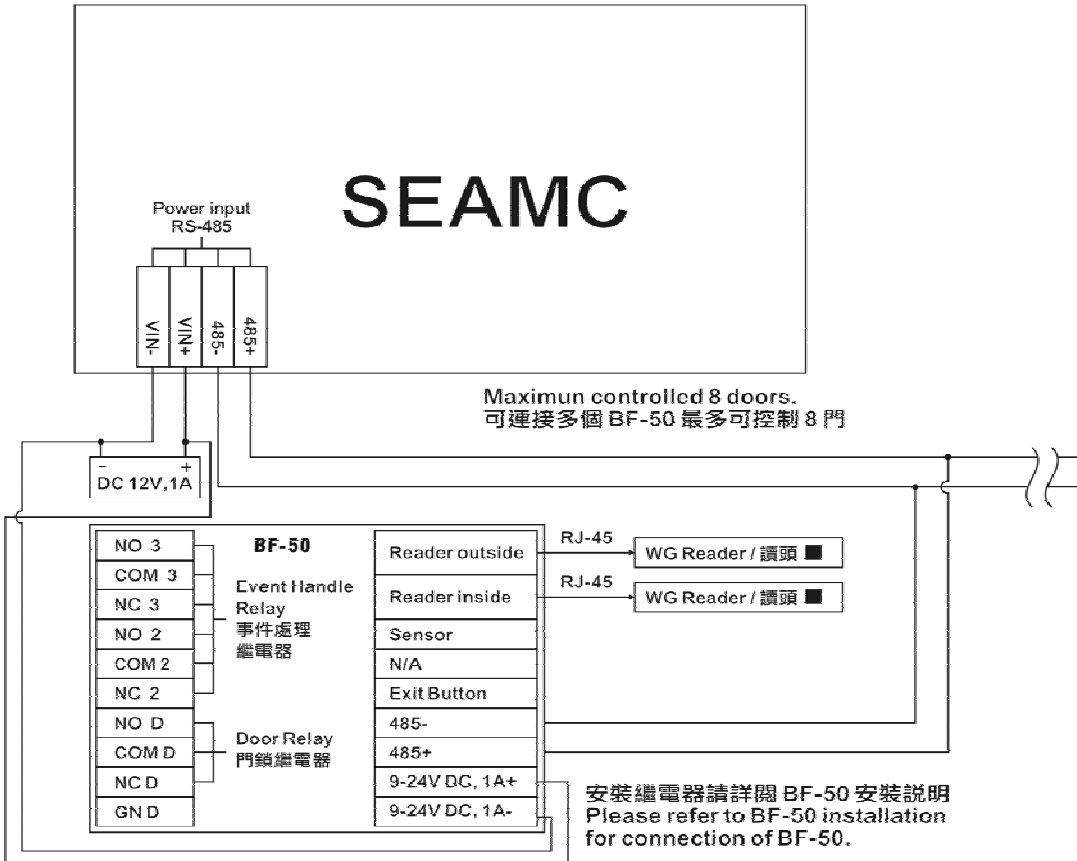
- **1 Door ( 2 Way )**



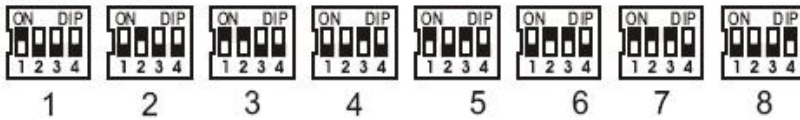
● 2 Door ( 1 Way )



4. CONNECTION with BF-50



● **BF-50 JUMP Adjustment for DOOR Number Setting, referring to the following :**



For verifying BF-50 door number setting, please enter the WEB PAGE of SEMAC. Select ‘Door Setup’ in the left menu bar to enter the ‘Door Setting’ page. Click the button of ‘Search BF-50’, then you’ll see the BF-50 setting status by Door number. There are three different displays as below :

(1) BF-50 Door Number with Wrong Setting :

When BF-50 door number with wrong setting, you click ‘Search BF-50’ and press button ‘Save BF-50’ then you’ll see the status with ‘X’ as the following:

	Door 1	Door 2	Door 3	Door 4	Door 5	Door 6	Door 7	Door 8
BF50/WEBPASS	X	X	v	v	v	v	v	X
L10 First Admin Card IN TZ	000	000	000	000	000	000	000	000
L9 2/3 Badge+Admin P TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L8 2/3 Badge+Personal P TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L7 2/3 Badge TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L6 Card+Admin P TZ	000	000	000	000	000	000	000	000
L5 Admin P TZ	000	000	000	000	000	000	000	000
L4 Card+Personal TZ	000	000	000	000	000	000	000	000

(2) BF-50 Communication Failure with SEMAC:

When BF-50 fails to communicate with SEMAC, then the light on the status area will become to grey as the following:

	Door 1	Door 2	Door 3	Door 4	Door 5	Door 6	Door 7	Door 8
BF50/WEBPASS	X	X	v	v	v	v	v	X
L10 First Admin Card IN TZ	000	000	000	000	000	000	000	000
L9 2/3 Badge+Admin P TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L8 2/3 Badge+Personal P TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L7 2/3 Badge TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L6 Card+Admin P TZ	000	000	000	000	000	000	000	000

When the Wiegand Reader fails to communicate with BF-50, then you’ll see the

status with 'X' as the following:

**Door Setting**      **Wiegand Reader Communication Failure**  
with BF-50

	Door 1	Door 2	Door 3	Door 4	Door 5	Door 6	Door 7	Door 8
BF50/WEBPASS	X	X	v	v	v	v	v	X
L10 First Admin Card IN TZ	000	000	000	000	000	000	000	000
L9 2/3 Badge+Admin P TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L8 2/3 Badge+Personal P TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L7 2/3 Badge TZ	000 (double)	000 (double)	000 (double)	000(double)	000 (double)	000 (double)	000 (double)	000 (double)
L6 Card+Admin P TZ	000	000	000	000	000	000	000	000

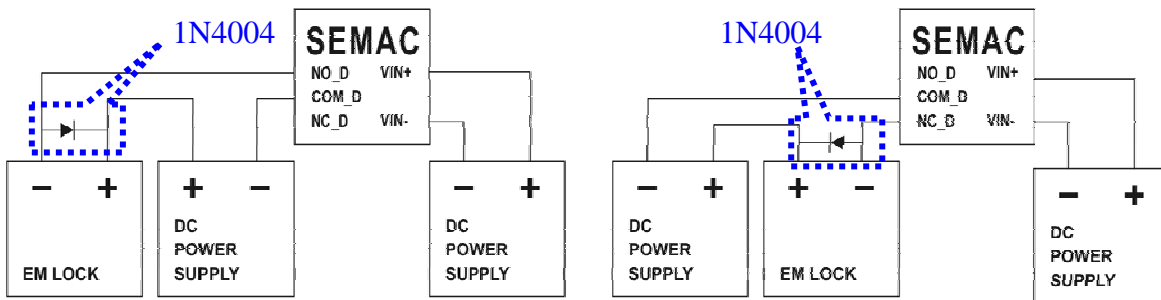
**5. NOTICE :**

1. RVV3X 1.0mm shielding wire is recommended for the wiring of external DC system power supply.
2. RS-485 Communication Wire Specification

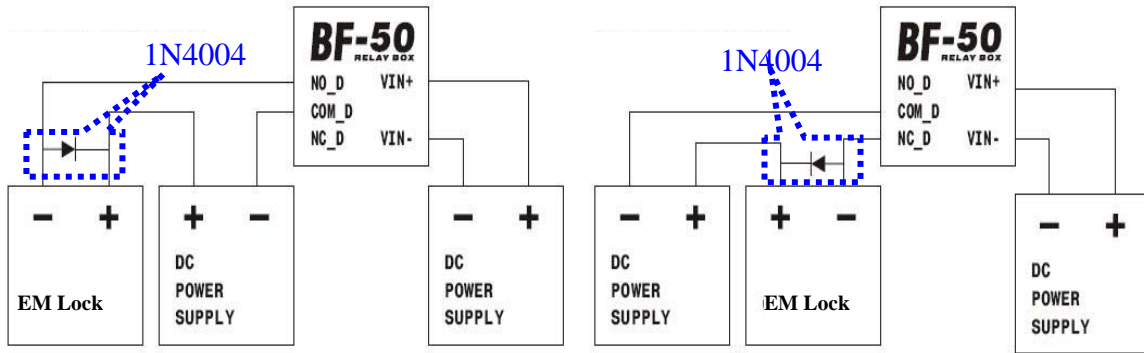
Our suggestion is to use the shielding wire of RVVP2 X 0.75 mm. The wiring layout should be carefully and strictly enough to follow the wiring requirements of RS485. The radial or stellate, branch-like and T-type of irregular wiring are not recommended. Besides, the length of wiring is limited not to over 1200m.

3. EM Lock Wiring Specification

Our suggestion is to use the shielding wire of RVVP2 X 0.75 mm. Meanwhile, please use the diode of 1N4004 to joint the EM Lock as below :







#### 4. Push Button Wiring Specification

-- We suggest you to use the shielding wire of RVVP2 X 0.75 mm.

#### 5. Door Sensor Signal Wire Specification

-- We suggest you to use the shielding wire of RVVP2 X 0.75 mm.

#### 6. Card Reader Wire Specification

-- We suggest you to use the shielding wire of RVVP2 X 0.75 mm.

