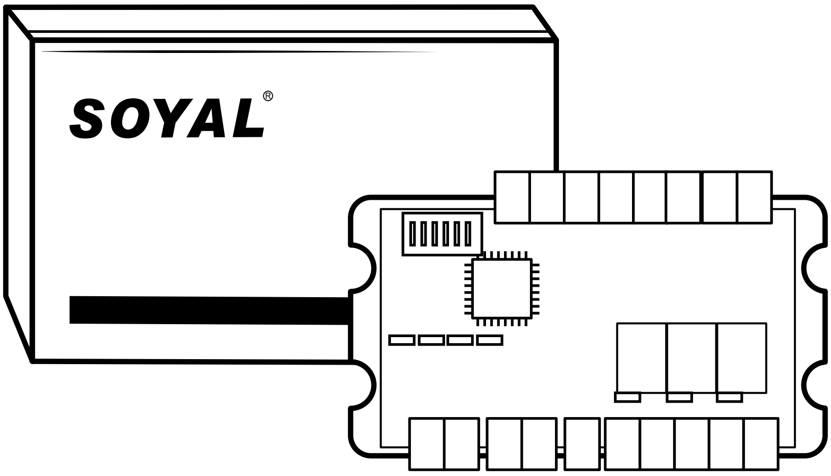
IP-Based Multi-Door Control Panel (16 Doors)

AR-716-E16



1. Product Features

IP-Based Multi-Door Control Panel (16 Doors) **AR-716-E16**

- Support for a high-security centralized access control system with separation of reading and control.
- Used in large-scale access control architecture for personnel entry and exit control and parking lot access management;RS-485 or TCP / IP communication interface, can be selected forming a network loop; Bulit-in Wiegand port to connect with various types of WG readers.
- Support virtual parking space sharing solution: Flexible and efficient use of parking spaces to solve the problem of insufficient parking spaces

2. Application

- Car Parking Management system
  - Car Parking Management system-integration with LPR (License Plate Recognition) and ETC application
  - { Car Parking Management }
- On-Site Crowd Control Management
  - Crowd Control Management – People Counting Solution
  - On-Site Crowd Control Management / Multi-entry and multi-exit facial recognition system-Application Tutorial

3. How to Order

AR-716	E	XX	X	X

Doors No.
02 = Dual Doors (WG)
16 = 16 Doors (RS485)+ 2 WG
18 = 18 Doors (RS485)+ 2 WG

Additional Module
A = TCP/IP Module

Product
E = E Series Access Controller

Type
N/A = PCB
M = Metal Case
X = Plastic Mounting Base

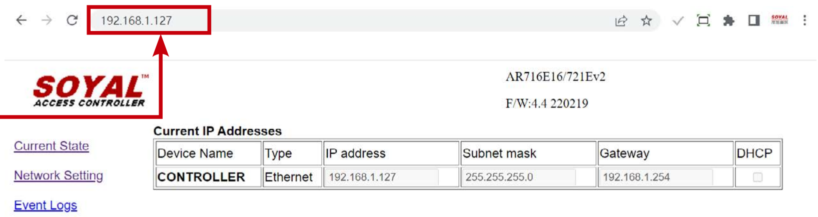
(AR-716-E18 does not have plastic mounting base option)

Table of Contents

01. IP Setting

- **Open your Web Browser and input factory default IP address: http://192.168.1.127**

If the IP address of AR-716-E16 has been changed, we must enter the new IP address.



- **Page menu**

Current Status ← Monitor the on-line computer

Network Setting ← IP Setting

User Password ← Change the Log-in information

- **Current State**

Online Status is able to be monitored showing which computer is linking on Ethernet Module

Current IP address of the AR-716-E16

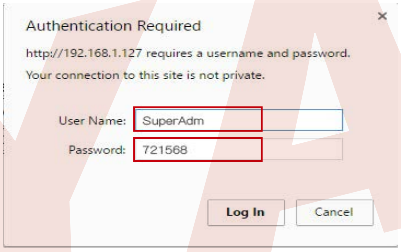
- **Log-in User Password**

When you choose the "Networking Setting" or "User Password," Log-in window will pop out and please input user name and password.

※ At the Factory Default Status -

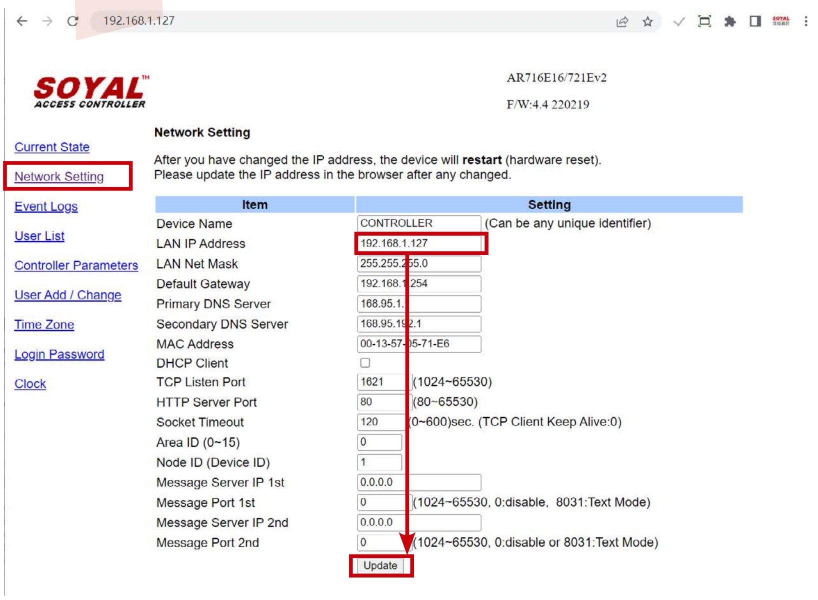
User name: SuperAdm

Password: 721568



- **Networking Setting**

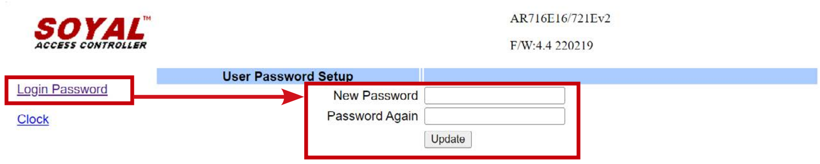
You will see initial IP Address 192.168.1.127 and make sure MAC Address is identical to the sticker on Ethernet Module device. Please alter the IP address as you want, and then click "Update" button. After updating the IP, please re-connect the Web Browser with the new IP address.



- **User Password**

Change the log-in password to lock the IP setting of Ethernet Module.

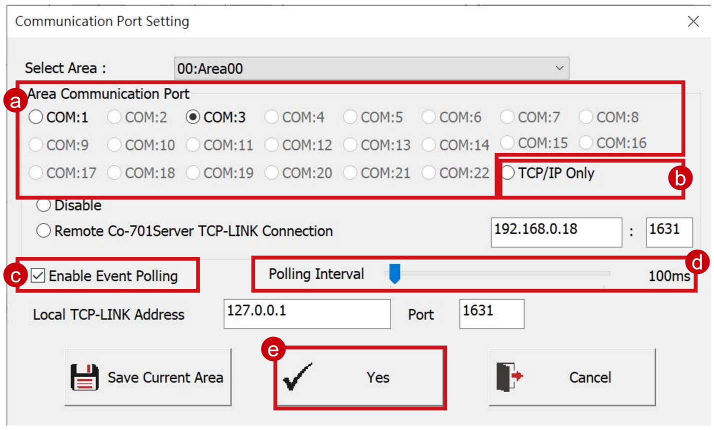
The password can be made up of 10 characters at most, and it can be either A~Z or 0~9.



02. Initial Setup

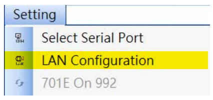
Software: Connection

1. Open the "701 Server" Software → There are two ways to open the Communication Port setting window: COM and → Communication Port Setting

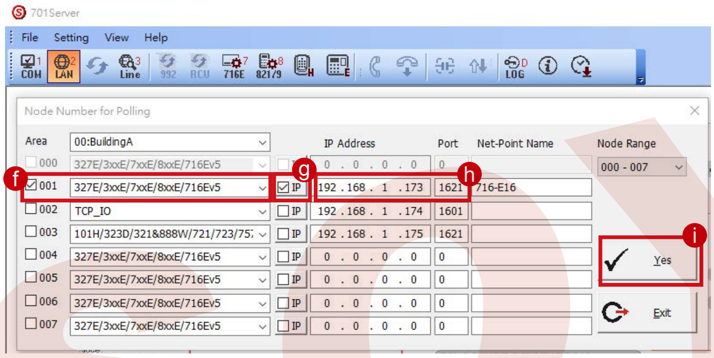


a. According to the computer Detection results to select the port (Use the RS-485)
b. Select [TCP/IP Oonly] (Use the Ethernet)
c. Select the option: Polling Message From Controller
d. Polling Interval: 200ms - meaning the PC polls the controller every 200ms once it accesses the message from the controller
e. Click YES

2. After COM Port setting, there are two ways to open the Node Number for Polling window: LAN and

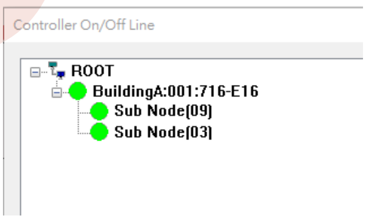


→ Node Number for Polling



f. Select node ID (for example:001) and access controller " **327E/3xxE/7xxE/8xxE/716Ev5**"
g. If use the Ethernet mode, please check the "IP"; if use the RS-485 mode, there's no need to check
h. If use the Ethernet mode, input IP in "IP Address" column (Default value: 192.168.1.127)
i. Input 1621 in "Port" column(Default value: 1621; the Port number is predetermined by SOYAL for connection to the network)
j. Select LAN BASE
k. Click YES

3. Open Controller On/Off Line window to check the device connection status: Line

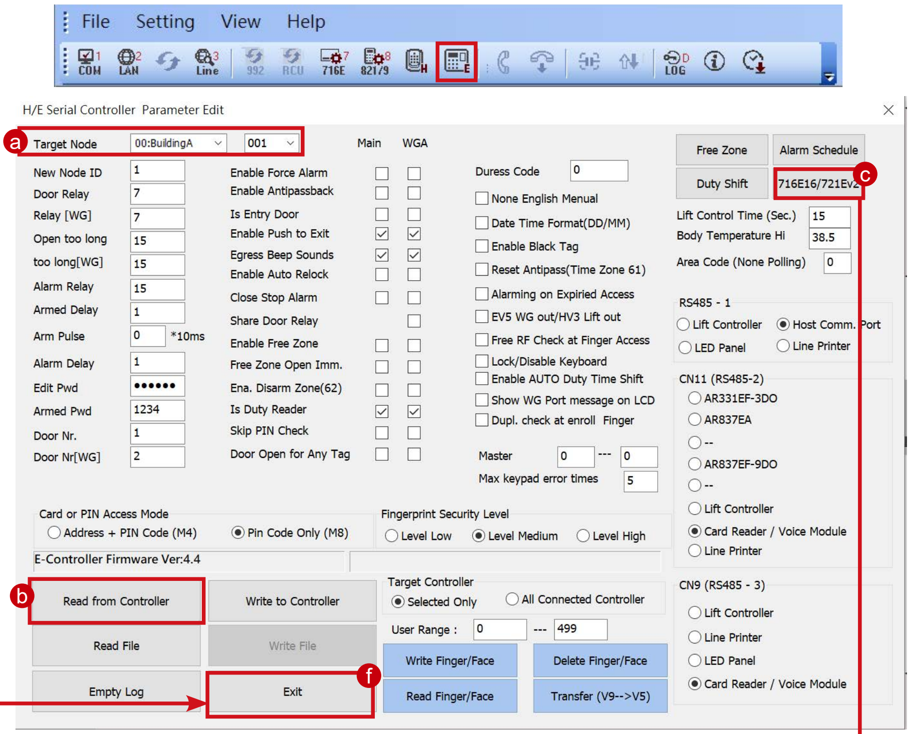


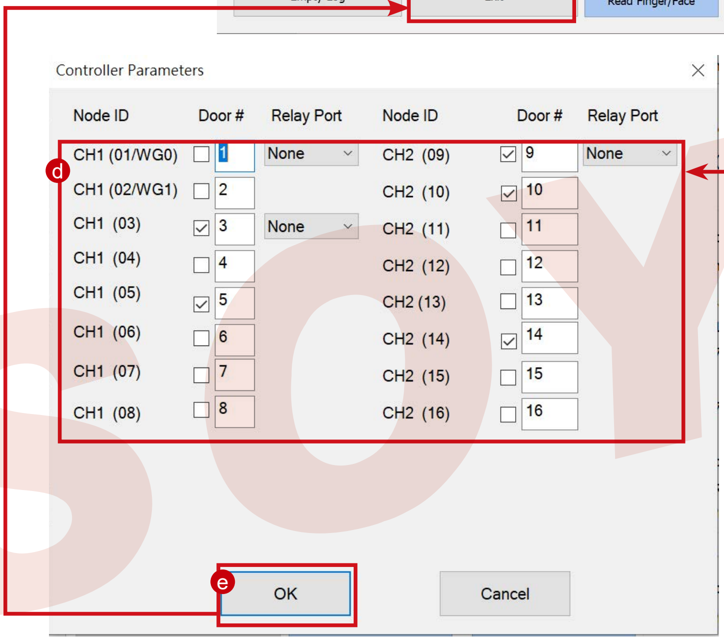
Well: controller successfully connected to PC.
Not connected well: the following checks are required.

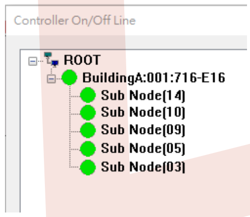
Software: Parameters Settting: Door Number and Users Edit

1. After the 701Server Software connection, go click 82xEv5 Parameters Setting to set up 716-E16's door number

a. Roll and select the Targe Node ID of 716-E16 (The same as the dip-switch)
b. Click "**Read**" to read back the parameter of 716-E16
c. Click "**716-E16**" button to set up Door Number
d. Input the new Door Number of Slave Reader, which door number must be unique and non-repetitive







Remarks:

WG0:

-Connect to WG reader: tick off the option, do not required to set door number, 701Client will indicate door number 17 automatically, triggering K1 relay.

-Connect to controller: tick on the option and set the door number

WG1:

-Connect to WG reader: tick off the option, do not required to set door number, 701Client will indicate door number 18 automatically, triggering K2 relay.

-Connect to controller: tick on the option and set the door number

CH1: RS-485 Reader Node ID must be set up from 01 to 08 or 03 to 08

CH2: RS-485 Reader Node ID must be set up as 09 to 16

03.Factory Reset

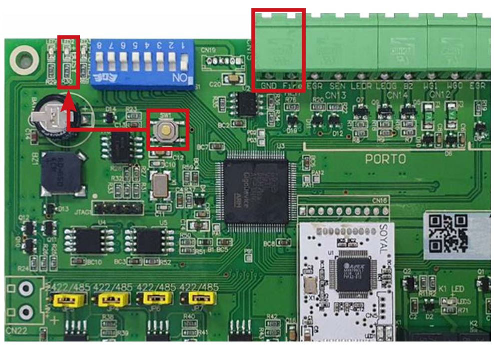
Reset Button:

Step1: After powering on the device, please firstly connect **Fire** contact on **CN15** to **GND** Ground.

Step2: Press【RESET】button on the main board for more than 5 seconds till the BUSY LED is blinking ,release【RESET】button.

Step3: After reset, the device will automatically restart and the IP address will be changed back to default value : 192.168.1.127

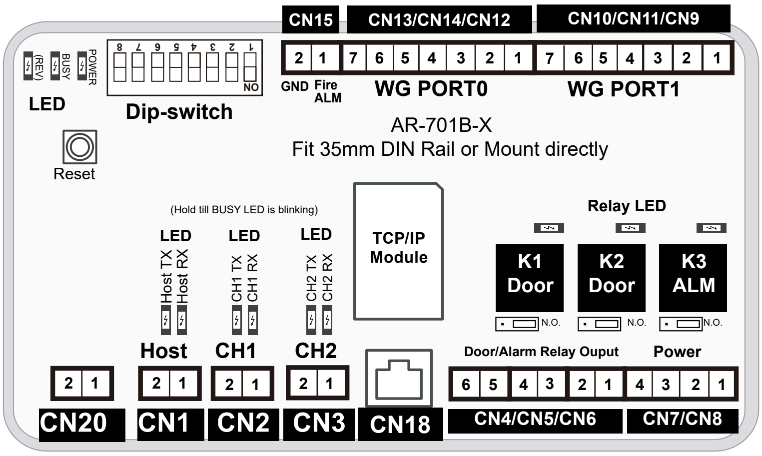
Step4: Disconnect **Fire** contact on **CN15** from **GND** Ground.



Remarks: LED Description

- **POWER LED**
  When the controller is connected to the power, [POWER] will turn on green LED; if there is no light, it means the power supply has some problems.
- **BUSY LED**
  When the red LED is lit, the memory is being cleared and restored to the factory default action.
  ※ **If you do not perform "Flash Restoring", but the [RESET] and [BUSY] has been blinking in red, that indicates a PCB problem should be excluded.**
- **RS-485 Connection: HOST RX & HOST TX LED**
  [HOST RX] : When receiving incoming data from the host PC, the green LED will keep blinking
  [HOST TX] : When transmitting the data back to the host PC, the red LED will be blinking

04.Connector Table



Connector CN1 Host RS-485

Code	Pin	Description
LA+	1	Host RS-485(A+)
LB-	2	Host RS-485(B-)

Connector: CN2 CH1 Slave RS-485

Code	Pin	Description
LA+	1	RS-485(A+)
LB-	2	RS-485(B-)

Connector CN3 CH2 Slave RS-485

Code	Pin	Description
LA+	1	RS-485(A+)
LB-	2	RS-485(B-)

Connector CN4/CN5/CN6 WG Door / Alarm Relay

Code	Pin	Description
Alarm Relay	1	K3-N.O./N.C.
Output	2	COM
Door 1 Relay	3	K2-N.O./N.C.
Output (WG1)	4	COM
Door 0 Relay	5	K1-N.O./N.C.
Output (WG0)	6	COM

Connector CN15 Fire-alarm Input

Code	Pin	Description
Fire-ALM	1	Fire-alarm Input
GND	2	DC Power 0V Output

Connector CN20 Isolated IO Power Output

Code	Pin	Description
V-	1	0V
V+	2	5V (Max. 50mA)

Connector CN7/CN8 Power Supply

Code	Pin	Description
GND	1	0V Input
VIN (716-E16)	2	9~24VDC Input
GND	3	0V Output
VOUT(Slave units)	4	9~24VDC Output

Connector CN9/CN10/CN11 WG Port 1

Code	Pin	Description
WG0	1	Wiegand DAT: 0 Input
WG1	2	Wiegand DAT: 1 Input
BZ	3	Beeper Output
LEDG	4	LED Green Output
LEDR	5	LED Red Output
Door State (N.C.)	6	Door Status Input
Egress Button (N.O.)	7	Exit Button Input

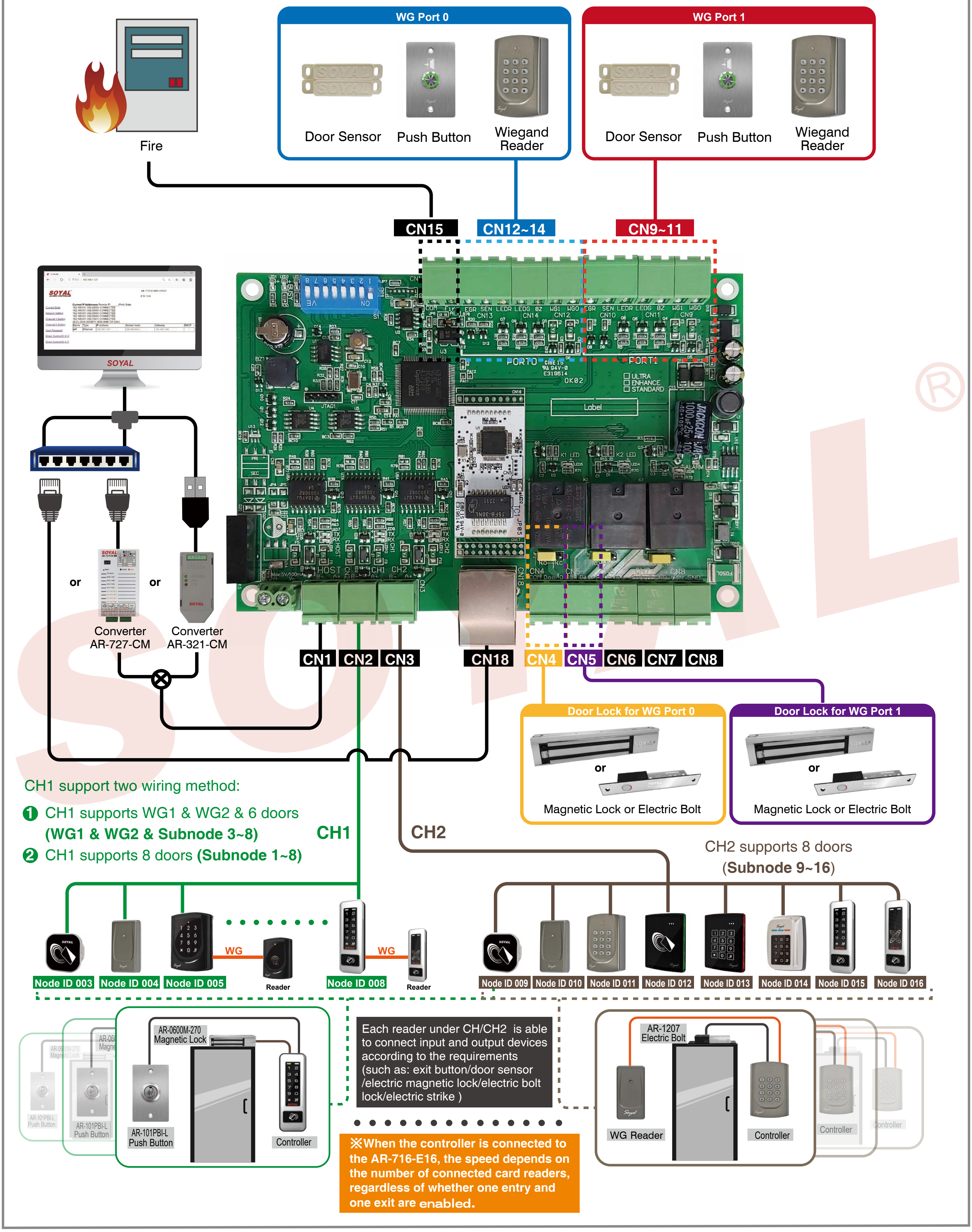
Connector CN12/CN13/CN14 WG Port 0

Code	Pin	Description
WG0	1	Wiegand DAT:0 Input
WG1	2	Wiegand DAT:1 Input
BZ	3	Beeper Output
LEDG	4	LED Green Output
LEDR	5	LED Red Output
Door State (N.C.)	6	Door Status Input
Egress Button (N.O.)	7	Exit Button Input

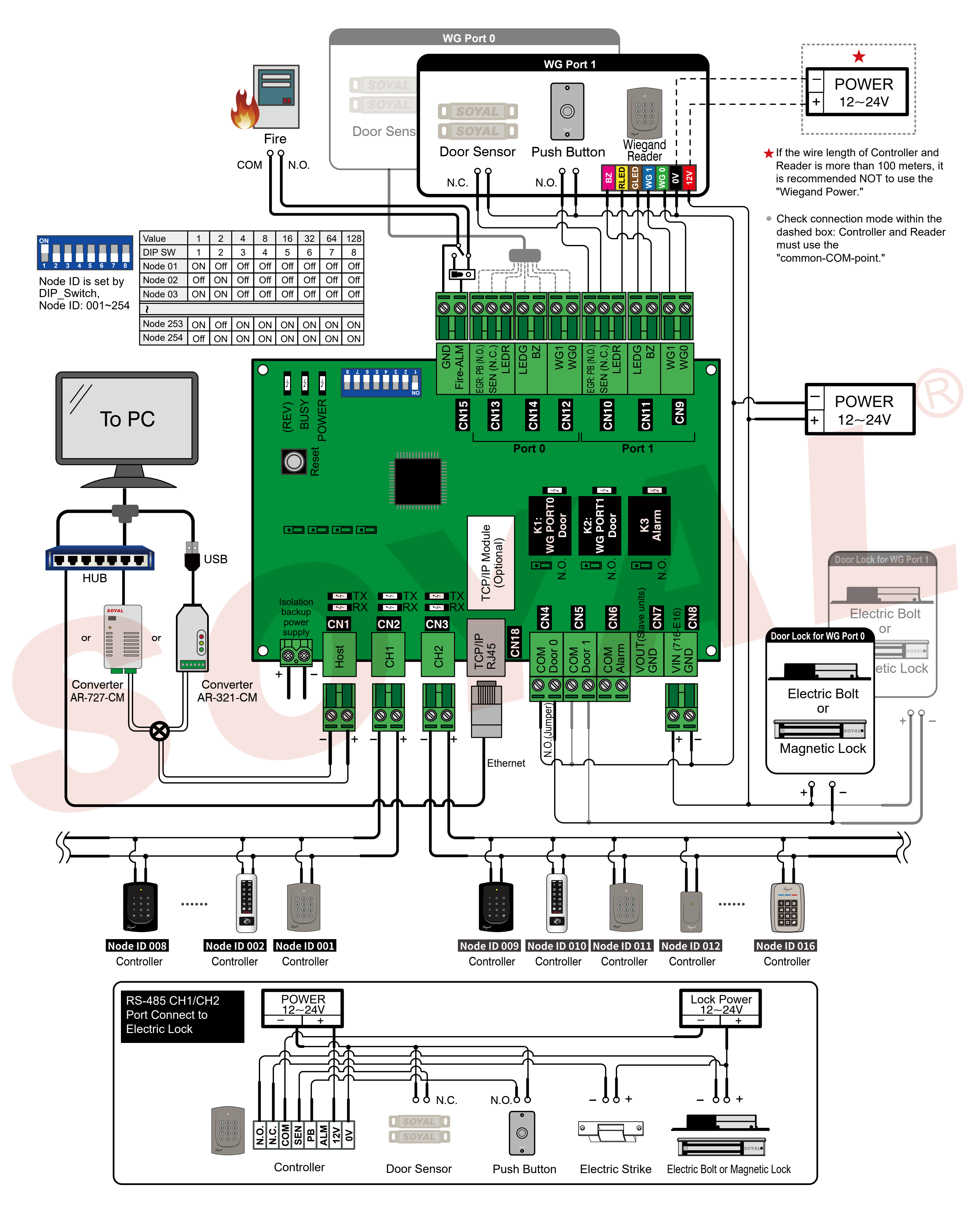
Connector CN18 Host TCP/IP

Code	Pin	Description
TCP/IP Socket	1	CAT5

05.Hardware Architecture



06.Wiring Diagram



Value	1	2	4	8	16	32	64	128
DIP SW	1	2	3	4	5	6	7	8
Node 01	ON	Off	Off	Off	Off	Off	Off	Off
Node 02	Off	ON	Off	Off	Off	Off	Off	Off
Node 03	ON	ON	Off	Off	Off	Off	Off	Off
~								
Node 253	ON	Off	ON	ON	ON	ON	ON	ON
Node 254	Off	ON	ON	ON	ON	ON	ON	ON

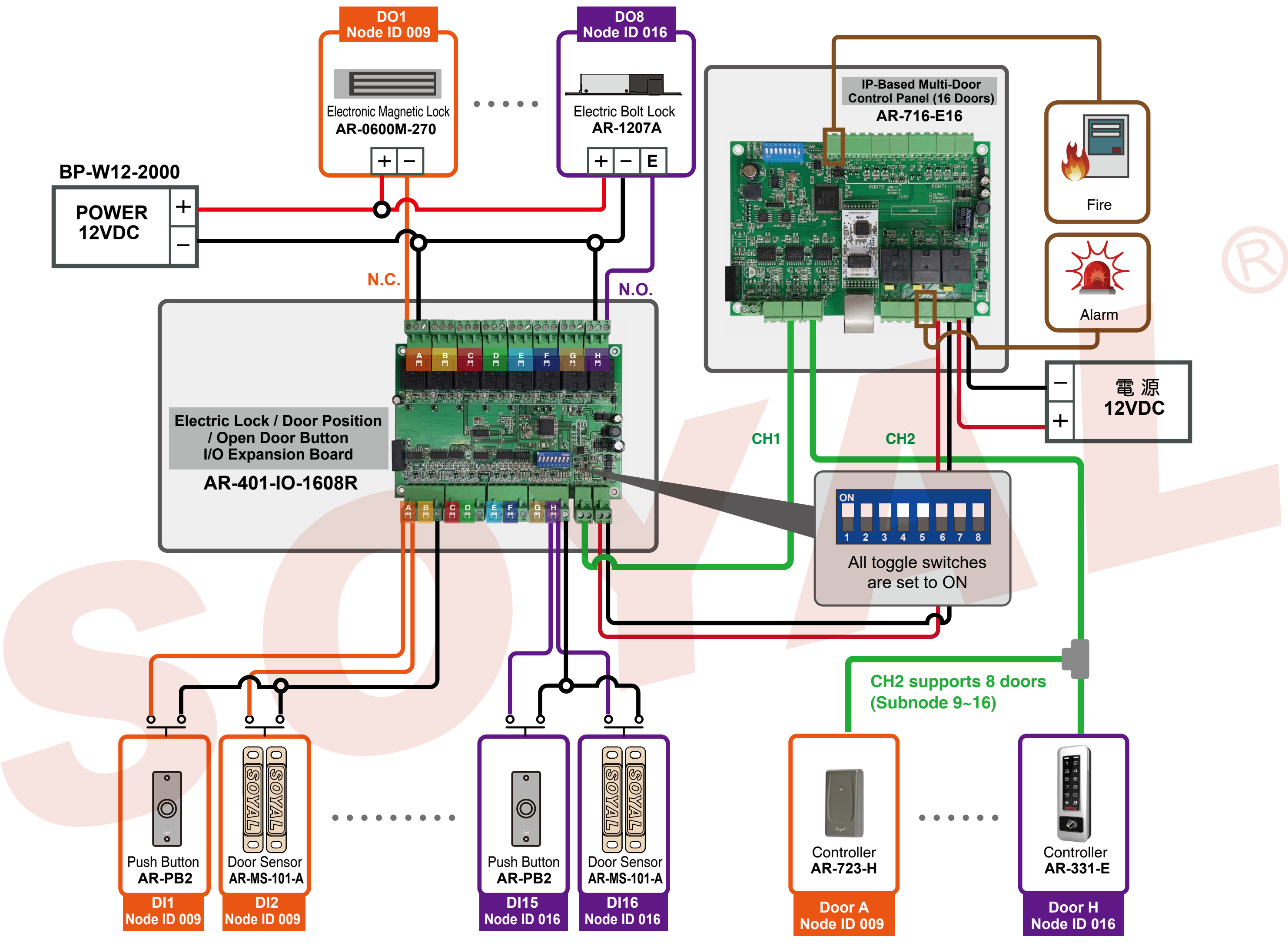
07. Wiring Method for High-Security Mode

Feature Introduction

The high-security mode architecture offers several advantages:

- Power Failure Continuation: A backup mechanism for uninterrupted operation during power outages.
- Centralized Control: Electric locks, open door buttons, and door position detection are all centralized in the equipment room, reducing the risk of I/O control leakage.
- Advanced Anti-Tailgating: Support for interlock control of up to 8 doors to prevent unauthorized entry.

Wiring Diagram



Door Name	Channel 1			Channel 2	Common Contact
	Lock	Push Button	Door Sensor	Controller	
Door A	DO1	DI1	DI2	Node ID 009	Fire Alarm
Door B	DO2	DI3	DI4	Node ID 010	
Door C	DO3	DI5	DI6	Node ID 011	
Door D	DO4	DI7	DI8	Node ID 012	
Door E	DO5	DI9	DI10	Node ID 013	
Door F	DO6	DI11	DI12	Node ID 014	
Door G	DO7	DI13	DI14	Node ID 015	
Door H	DO8	DI15	DI16	Node ID 016	

Software Setting

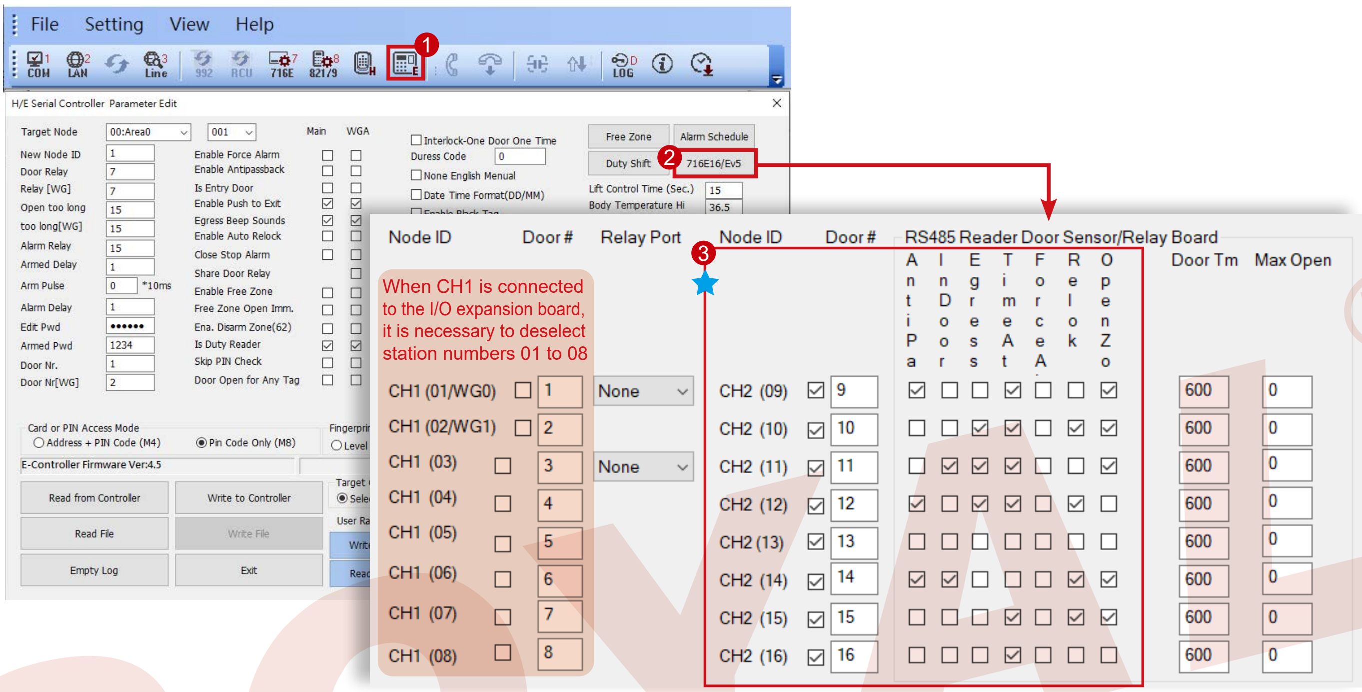
Setting Method:

STEP 1 : Select  in 701ServerSQL.

STEP 2 : Click " 721E16/Ev5 "

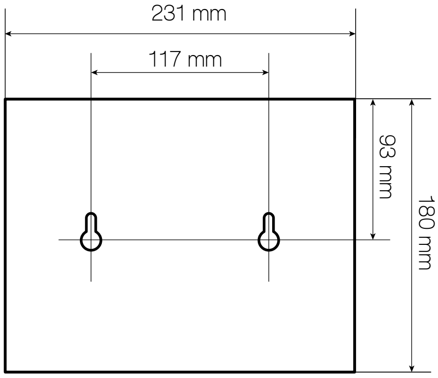
STEP 3 : Check the required functions for RS-485 card readers with station numbers 09 to 16 on CH2.

※When CH1 is connected to the I/O expansion board, it is necessary to deselect station numbers 01 to 08.

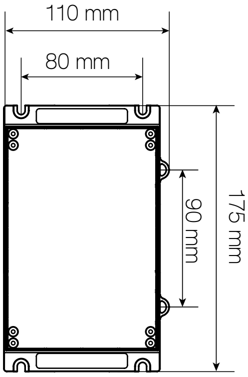


★	701ServerSQL Screen Names	Function Description
1	Anitipa	Anti-pass-back
2	Indoor	Entry/Exit Reader
3	Egress	Exit by Push Button
4	TimeAt	Entry and Exit Access is recorded on Duty Report
5	ForceA	Enable force Open trigger alarm
6	Relok	Activate close door automatically lock (Auto-Relock)
7	OpenZo	Auto Open

08.Installation



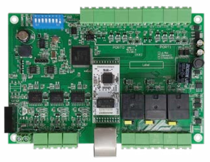
Metal Box



Plastic Mounting Base

09.Contents

1. Product



2. Panel Mounting Base (AR-716-E16-X)

Option

AR-701B-X
Fit 35mm DIN Rail or Mount directly

3. Metal Box (AR-716-E16-M)

Option