

# SOYAL<sup>®</sup>

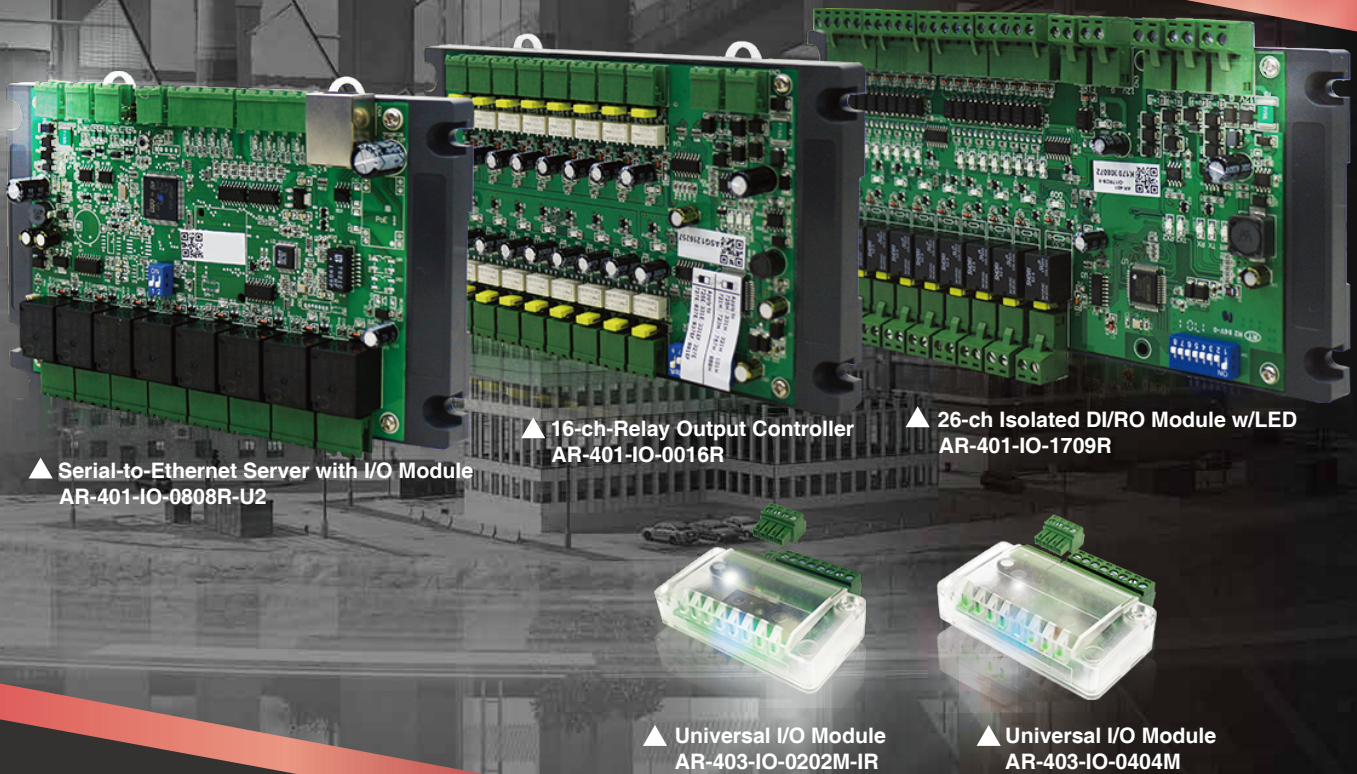
## I/O Module

# AR-401-IO

Serial-to-Ethernet Server with I/O Module /  
16-ch-Relay Output Controller /26-ch Isolated DI/RO Module w/LED

# AR-403-IO

## Universal I/O Module



▲ Serial-to-Ethernet Server with I/O Module  
AR-401-IO-0808R-U2

▲ 16-ch-Relay Output Controller  
AR-401-IO-0016R

▲ 26-ch Isolated DI/RO Module w/LED  
AR-401-IO-1709R

▲ Universal I/O Module  
AR-403-IO-0202M-IR

▲ Universal I/O Module  
AR-403-IO-0404M

## Features

### Modbus

#### Multi-Modbus Protocol Supported

TCP/IP to Wiegand ,TCP/IP to Serial  
To get status of on board I/O, Modbus TCP or  
Modbus RTU over TCP are supported  
Modbus TCP to Modbus RTU Auto Conversion  
(Applicable for Ethernet & WIFI)



#### IoT Application

Wide applications in IoT monitoring,  
Factory Automation or remote monitoring  
equipment.



#### Customizable Firmware

In-field firmware update to support  
customized firmware per conditional logic  
control



#### Diversity of Timer Output

Remote control & program digital ON/OFF  
timer (1-600 secs & Inverted Output & time-in-  
tegration Output) to substitute traditional timer.



#### Multi-Function Ethernet Networking Server

Two RS485 port for ModBus RTU over TCP or  
HEX to connect I/O module or SOYAL Access  
Control for releasing all doors when fire alarm.  
(AR-401-IO-0808R-U2)



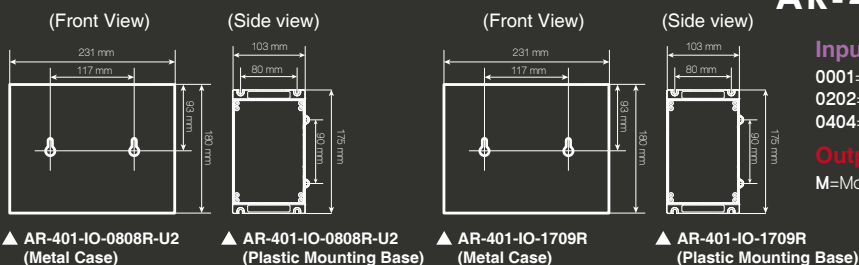
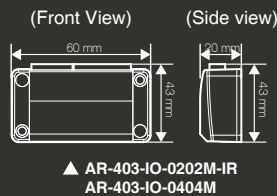
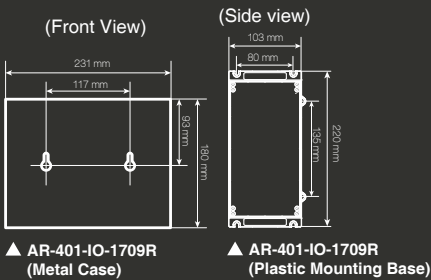
#### SCADA Software Supported

701Server/701Client support SCADA  
and Data-Based System.

# SPECIFICATION

Model No.	AR-401-IO-0808R-U2	AR-401-IO-0016R	AR-401-IO-1709R	AR-403-IO-0202M-IR	AR-403-IO-0404M	
Interface	Ethernet	support TCP/Server, TCP/Client, UDP Mode	—	—	—	
	Serial port	RS485 X 2, support TCP/Server, TCP/Client, UDP Mode	RS485 X1	RS485 X1	RS485 X1	RS485 X1
	Baud Rate	4800 bps -115200 bps	9600 bps (N,8,1)	9600,19200 bps (N,8,1)	9600 bps (N,8,1)	9600 bps (N,8,1)
	Inputs	8 Digital Input	—	17 units of Digital Input (share one COM point for every 4 DI, each DI unit selectable for positive trigger (9-24VDC) or sub-trigger mode (0V))	2 Digital Input (with 1 IR)	4 Digital Input
	Outputs	8 Relay Output (5A/250VAC, 5A/30VDC)	16 Relay Output (Form C)1A/30VDC	9 Relay Output (Form C) 3A/125VAC, 3A/30VDC	2 Digital Output (MosFET)	4 Digital Output (MosFET)
PoE	PoE option, 12W/1A	—	—	—	—	
Protocol	ModBus-TCP, ARP, IP, TCP Client, UDP, ICMP, HTTP, DHCP, NetBIOS	Modbus, Soyal	Modbus, Soyal	Modbus, Soyal	Modbus, Soyal	
Serial Buffer	1K each channel	—	—	—	—	
LED Indicator	Power: Tx/Rx, D.O./D.I	Power: Tx/Rx, D.O./D.I	Power: Tx/Rx, D.O./D.I	Power: Tx/Rx, D.O./D.I	Power: Tx/Rx, D.O./D.I	
Watchdog Function	YES	YES	YES	YES	YES	
Built-in linkage function	YES	YES	YES	YES	YES	
Surge Suppression	400W peak power dissipation. Clamping time < 1 picosecond (theoretical) Power: bi-directional avalanche breakdown device. RS485 bi-directional avalanche breakdown device.					
Fuses	Power & RS485 both with PTC Protector					
Isolation	Input optical isolation 5kV	Input optical isolation 5kV	Input optical isolation 5kV	—	—	
Power Supply	9-24 VDC	9-24 VDC	9-24 VDC	9-24 VDC	9-24 VDC	
Power Consumption	<2W	<8W	<4W	<1W	<1W	
Dimension (mm)	PCB	127(H)x148(W)x20(D)	117(H)x148(W)x20(D)	120(H)x190(W)x20(D)	60(H)x43(W)x20(D)	60(H)x43(W)x20(D)
	Panel Mounting Base	127(H)x175(W)x30(D)	117(H)x175(W)x30(D)	120(H)x220(W)x30(D)		
	Metal Box	180(H)x231(W)x62(D)	180(H)x231(W)x62(D)	180(H)x231(W)x62(D)		
Net Weight (g)	approx. 232 (Panel Mounting Base)	approx. 182 (Panel Mounting Base)	approx. 455 (Panel Mounting Base)	approx. 31	approx. 31	
Network/Device setting	701Server, 701Client, HTTP Web page for any browser	701Server, 701Client, Commview.exe				
OS Supported	Windows 7/8/10, Win Server 2008/2012/2016					
Operating Temperature	-20°C ~ +70°C					

## INSTALLATION(mm)



## HOW TO ORDER

### AR-401-IO-XXXXR-XX-X-X

#### Input Qty / Output Qty

0016=16 Output  
0808= 8 Input & 8 Output  
1709=17 Input & 9 Output

#### Output Type

R=Relay

#### Additional Features

N/A=No Additional Features  
U2=UART \* 2

#### Additional Module

N/A=No Additional Module  
P=POE Features

#### Type

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

### AR-403-IO-XXXXM-XX

#### Input Qty / Output Qty

0001=1 Output  
0202=2 Input & 2 Output  
0404=4 Input & 4 Output

#### Output Type

M=Mosfet

#### Additional Features

N/A=No Additional Features  
IR=1 Infrared Output

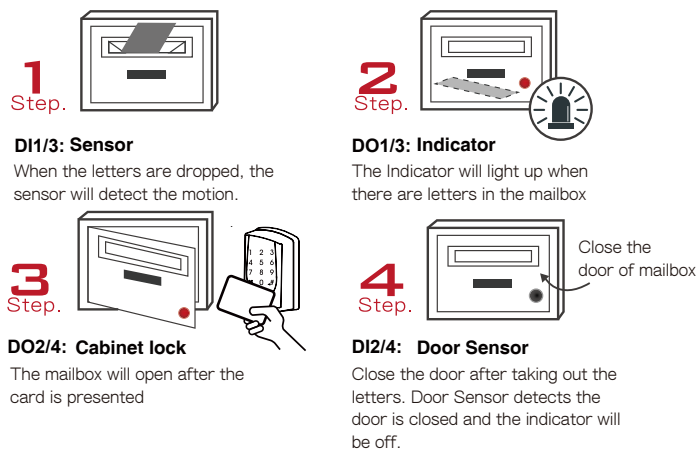
## APPLICATION & STRUCTURE DIAGRAM

### Mail box/Storage Application

AR-403-IR I/O Infrared module integrated to send command via RS485. Saving labor cost from wiring. LED Indicators as reminder of letter arrival.

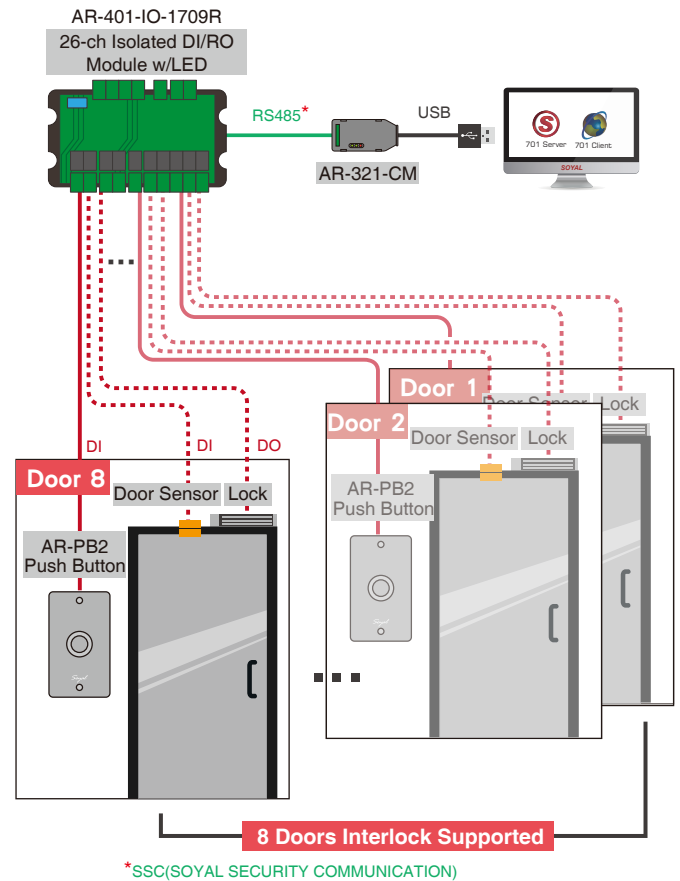


#### Direction for use



### Interactive logic control application

Customized logic control for various need, ig. 8 doors Interlock in clean room & Fire escape direction guide & Auto-unlock



\*SSC(SOYAL SECURITY COMMUNICATION)

### Universal I/O Module

MOSFET Gate Output. Up to 2000mA High power MOSFET output

**01 Standard Modbus I/O Module**

Remote Control

- Sequential Control - Frequency adjustable
- Continuous pulse output
- Support Modbus RTU/SOYAL Protocol

Programmable Controller, Inverter, Embedded Computer, Touch panel PC, Industrial PC

**02 Mailbox Module**

**Input**

- Letters arriving detection (DI)
- Mailbox door contact detector

**Output**

- Indicator for letters inside
- Output trigger for mailbox lock opening
- Output Alarm

When the letters are dropped the sensor will detect the motion. The indicator will light up when there are letters in the mailbox. The mailbox will open after the card is presented. The door sensor detects the door is closed and the indicator will be off.

**03 Multiple delay function**

Output 1: Rising edge trigger (DO1)  
Output 2: Rising edge trigger (DO2)  
Output 3: Toggle trigger (DO3)  
Output 4: Non-inversion Pulse Delay (DO4)

ComView to setup delay time

**04 Rear Detection / Front Detection (Main direction recognition)**

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SOYAL ACCESS CONTROL SYSTEM



### Digital Module for Machinery Management

AR-403-IO-0404M has built-in RS485 interface and support Modbus protocol. Due to its compact size, it's perfectly mount on machinery without taking much space. With software or PLC, it enables security monitoring on machinery operation, also expansion applications, such as operation hours record, maintenance reminder.

# PERIPHERALS / ACCESSORIES

Remotely control I/O status

Support various devices on one Scada Mapping

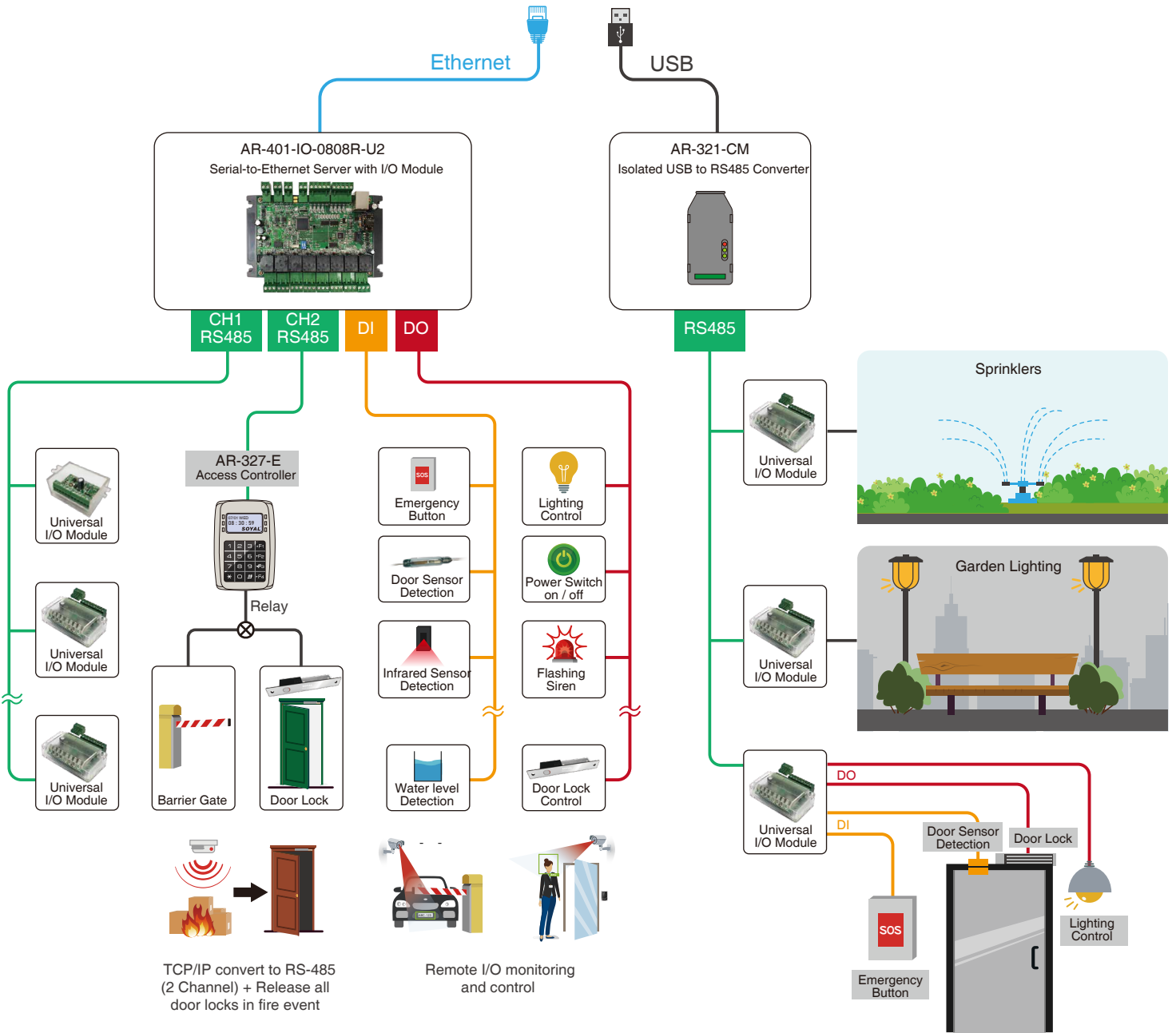
Create multiple windows for each Scada Mapping

Set up abnormal events indicator for pop-up message

New icon status and mapping is available

Create your own icon and mapping

Stop Door Open Output  
Hold Door Open Output  
Keep Door Open Output  
Activate Arming  
Inactivate Arming



More FAQ