

**SOYAL**<sup>®</sup>  
ACCESS & INDUSTRIAL CONTROL

# Creating a Vision

## for Smart Life



*ACCESS & INDUSTRIAL CONTROL*



# SOYAL<sup>®</sup>

## ACCESS & INDUSTRIAL CONTROL

***“Total solution provider in access control, industrial control, smart building, and system integration”***

Established in 1993, SOYAL Technology has been the most renowned access control manufacturer in Taiwan who offers options of “Union Body Multi-Demand” family series, a flexibility modification of each SOYAL product depending on client’s need only by in-field firmware upgrade. Because of the dependability and applicability, over 2000 distributors worldwide have supplied countless and various applications of SOYAL products installed based on every client’s requirements.

SOYAL control system provides scale up your system, without replacing existing hardware, effortlessly. Each of SOYAL products characters is cascade control for small to huge system. We also provide products selection guide to choose security level solution from low level to high level based on your needs. Scaling your system or increasing your security level is seamless as each of SOYAL products is flexible and supports all types of system.

With long term service software, we strive to always providing convenience to client’s by having SOYAL software to support both file based system and data based system interchangeable and preserve software format and layout so relearning new software is unnecessary for our clients. It is unquestionable that SOYAL software compatible to both legacy device and current version of hardware, nevertheless Mobile APP and WEB based included. To make it a complete solution for you, SOYAL software is integration friendly as we are not holding any exclusivity on software development.



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# WHY SOYAL

After more than two decades in Access Control industry, with endless innovation, and pursuing high quality products, SOYAL has expanding business worldwide and reached higher visibility in the market.

## Wide Range Solutions

Each SOYAL product is designed taking a consideration of visual attractiveness to provide customer with high quality design. To satisfy customer aesthetic, SOYAL applied Various Design and co-ordinate to SOYAL **VISION (Vision, Iron, Slim, Illuminate, Onyx, and Nation)** Series. You can have the same design, theme, and color for access controller, proximity reader, and push button.

## Long-Term Service Software

After over two decades in business, SOYAL preserve software format and layout since the beginning of establishment. Since the file based system format and now it supports both file based and data based system, there is no significant change on format and layout. The reason is simply we want no hustle and no relearning necessary for every software update.

## Multi Factor Authentications

Choose your access identification options from combination of Card, PIN, fingerprint, and QR Code; either single factor or two factors. With only one set of software you could even have it integrated with face recognition and plate recognition. That way you can have more access options other than what SOYAL hardware provides.

## Communication and Data Redundancies

SOYAL Access Controller support Dual Communication to allow each device having multiple back-up communication; RS485 and TCP/IP. While the communication with one of interface is failed, another interface can be worked as backup to have the system keep on running.

All user data can be stored both on memory of multi-door controller and on each RS485 slave reader; once any readers are disconnected with controller, the user can still get access freely

## Cross-System Software

SOYAL software characteristic is single software that supports all systems; file based system, data based system, and web based system. Without restricting compatibility for particular product only compatible with particular software, SOYAL created 'Cross-System Software' that supports configuration, monitoring, and editing for all access control, industrial control, and smart building products; in one integrated software.

## Beyond Access Controller

Each product manufactured by SOYAL was made for total solution and to offer flexibility. For intense, SOYAL main product is access controller but you can find SOYAL on other application like offline consumption device, charging device, and many more. The main reason is: SOYAL controller built in multiple interfaces for upgrade and scale without replacing the whole hardware.

## Union Body Multi-Demand In-Field Firmware Upgrade

Each SOYAL product is available for in-field firmware upgrade to add or change functions even after the products are already installed in the field. Union Body Multi-Demand features allows each product to easily modify functions anywhere and everywhere, as easy as a click on the firmware upgrade software.

## Long Life Span

Each SOYAL product material is made with RoHS compliance and Industrial grade material. We aim for high durability products that could work in every environment and have a long life span.

## No Exclusivity, Open Integration Resources

For software and system integration, SOYAL will provide open resources such as SDK and protocol document that compatible with other system integration. For web based, SOYAL protocols can easily corresponding to JSON interface that is suitable for GraphQL and Julia developer. Or else, you could integrate SOYAL with other third party integration system by yourselves.

## Expandable User Capacities

When scaling your system it is not only having more hardware, higher security level, and more spaces to control; it also mean there will be more people with access. Without replacing or changing installed hardware, adjust your controller user capacities by adding external multi-door control panel; from a thousand to more than ten thousand user capacity.

## Patent and Certificate



# What SOYAL can do



## Varieties of RFID Tags Selection

RFID tags format that is compatible with SOYAL controller and reader:  
ISO18000-2, ISO14443A, ISO7816-4, ISO15693, Felica, and NFC (card simulation).



## Varieties of RFID Frequency

SOYAL controller and reader frequency varies from 125kHz, 13.56MHz, Dual-Band (125kHz & 13.56MHz) ,and UHF (902-928MHz / 865-868MHz)



## Multi UID Display Format

SOYAL hardware could be assigned into different display format according customer' s requirement, for example: HEX, ABA, WG26, WG34, and many more.



## Duress Code & Output

In case an assailant or robber ambush at the entrance and force you to open the door or disarm the system, try to keep calm and input Duress code to open the door, which will simultaneously send a silent alert to the monitoring station or security guards.



## Built-in Tamper Switch

Equipped with tamper switch for extra burglary system. Activate the alarm output when someone tried to break the controller or open the housing. It will also send signal message to SOYAL 701 Client Software and send loud signal with additional Alarm siren.



## Arming and Disarming

Enable or disable your controller for guarding mode by selecting arming or disarming mode. All controllers under arming mode will transmit abnormal event into alarm.



## Watchdog

Equipped with Watchdog function to prevent from computer hang & to recover from system.



## Complete Indicator

Equipped with LED and buzzer, every flashing LED and beeping sound has different meaning to indicate different situation.



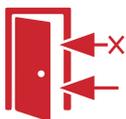
## Double Door Control

Control not only a single door but also double door at the same time with a single unit controller.



## Master Card Feature

Set up three master cards for each access controller to quickly add or erase user only by swiping master card without configuration by software or keypad.



## Anti-Passback

Restrict user re-entering without exiting, SOYAL provides two kind of anti-passback function; single door anti-passback and global anti-passback.



## Auto Open Time zone

Set up auto open time zone and activate it regardless by swiping or not swiping valid tags for particular time.



## Alarming for Abnormal Event

SOYAL indicate abnormal events such as door open too long, force open, door position abnormal, or key-in more than three times invalid card. All of these abnormal events can be tracked via SOYAL 701Client software' s event log.



## Multiple Communication Interfaces

Each SOYAL access controller is built-in more than one interfaces like RS485, RS232, UART, Wiegand Input, Wiegand Output, and TCP/IP for more options. Either under Master or Slave mode, SOYAL controller can also be a reader. It is so flexible and adjustable just by sending a command and wiring adjustment.

## ► Security Level

### Hardware



#### IN-OUT Identification

Installed controller or reader on each side : inside and outside to control and identify user when exiting and entering venue.

Low

### Anti-Cloning



#### 13.56MHz frequency

Although SOYAL offer two types of reading frequency controller; 125kHz and 13.56MHz, it is recommended to purchase 13.56MHz controller. And for more secure and options on doing encryption in the future, purchase 7 Byte identifiers tags rather than 4 Byte.



#### Metal Housing for Anti-Vandalism

Prefer purchasing metal or full metal access controller for anti-vandalism. Thanks to its strong and sturdy material, it is not easily destroyed and your door will remain locked from unwanted event.

Middle



#### SOR Programmer

Besides you can set up non-sequential card to new user ID into sequential number. By pairing your hardware and tags, access by unpaired tags will be unrecognized by hardware. We also offer SOR programmer for Mifare tags encryption with 6 layer distributor management model as another protection to distributors' right and interest.



#### External I/O Control

Let your controller output and input controlled by external hardware other than the controller, and stored it in safe place. That way no matter how the door is destroyed, the door will still remain locked.

High



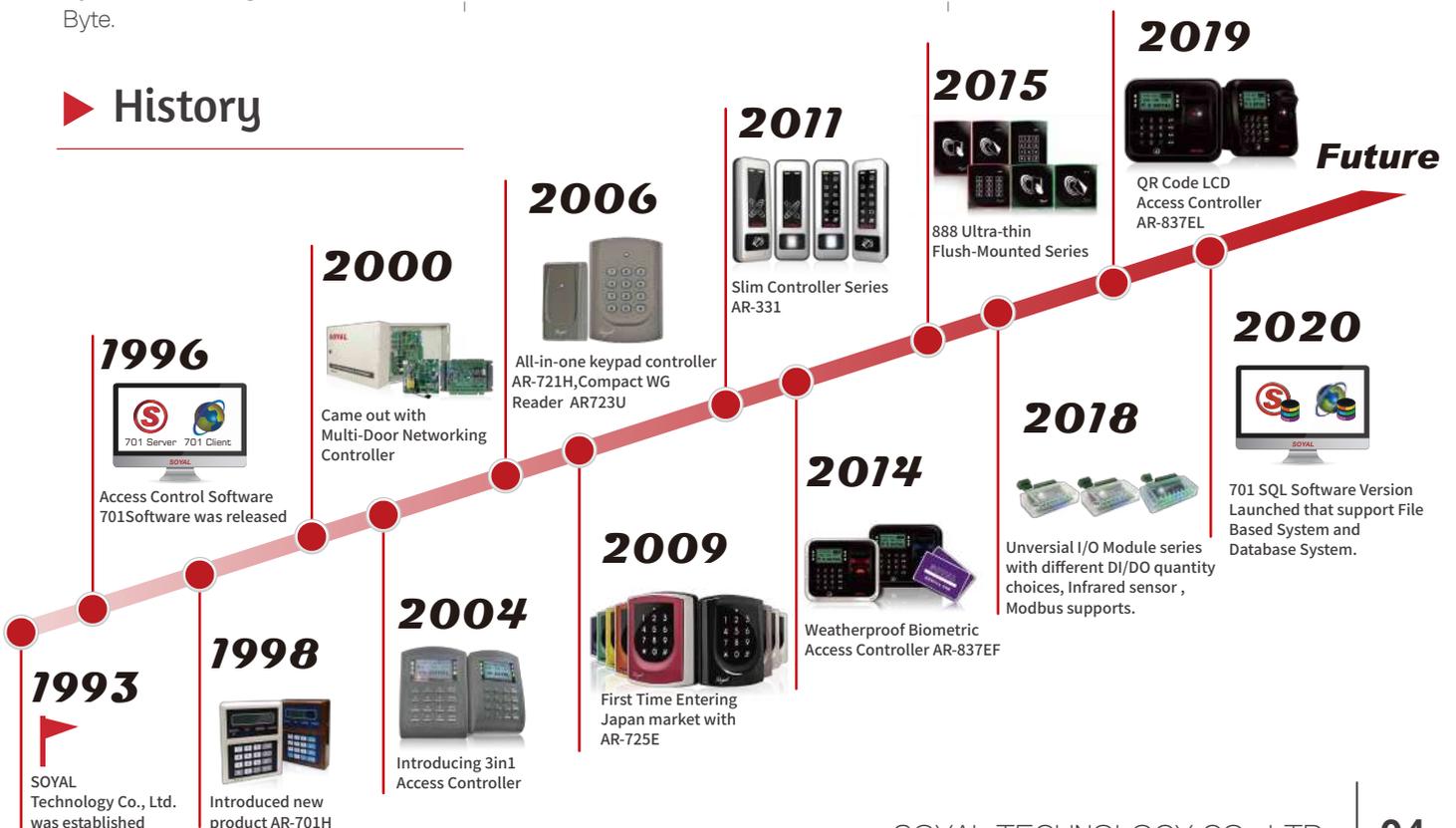
#### Desfire Encryption

Highest security level with none cracked cases, anti-cloning with Desfire encryption for tags and SOYAL controllers equipped with 13.56MHz frequency.

#### Support ISO 7816-4 CPU card

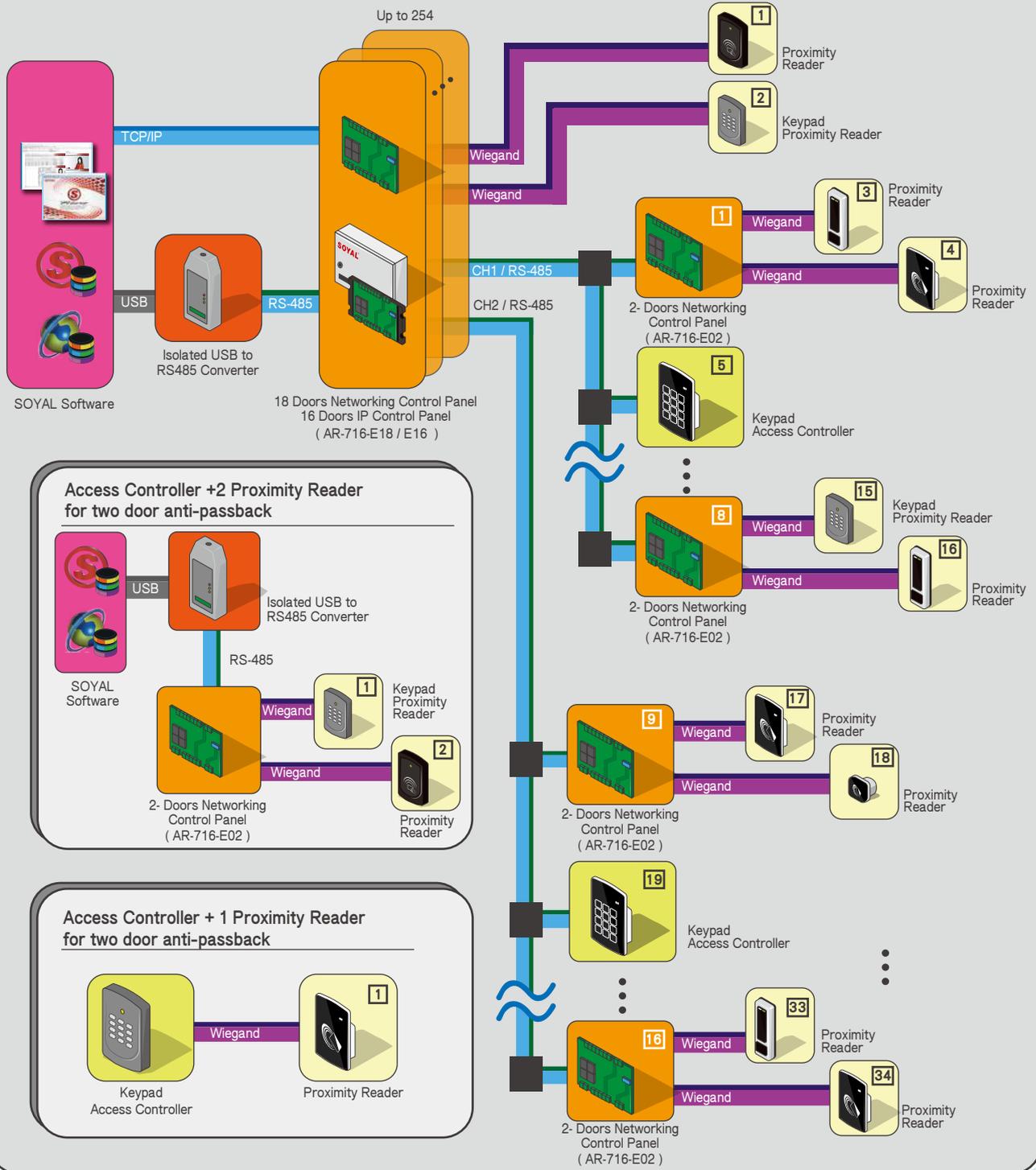
SOYAL controller offer APDU command to read/write CPU card that complies on ISO 7816-4 protocol

## ► History





Scalable system up to 32 X 254 doors



SOYAL Product

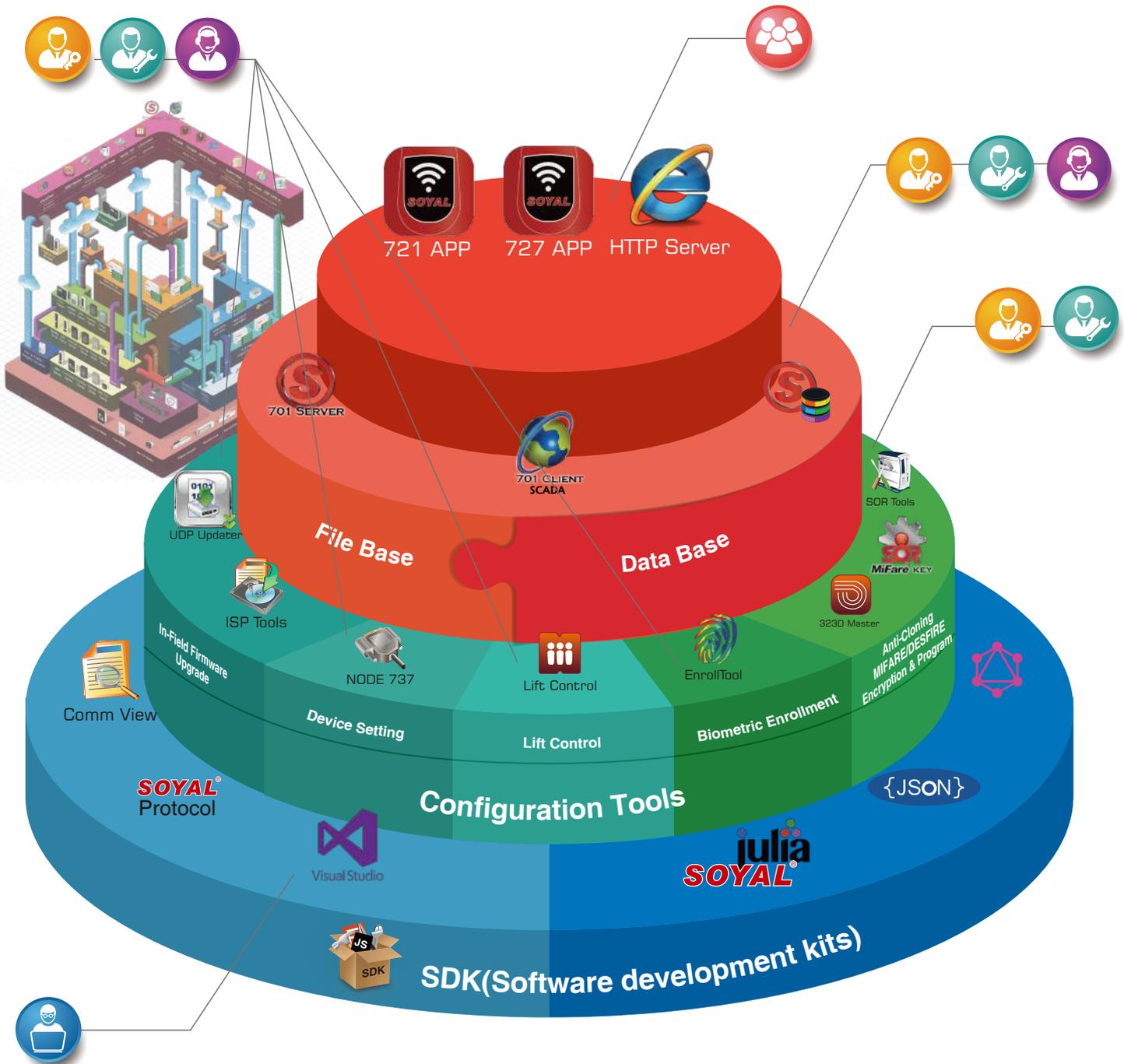
- |                            |                           |                          |                               |
|----------------------------|---------------------------|--------------------------|-------------------------------|
| Software                   | Multi-Door Control Series | Controller & Reader      | I/O Module Series             |
| Fingerprint Enroller       | POE                       | TCP Access Controller    | Modbus TCP                    |
| Programmer                 | Serial-to-Ethernet Server | RS-485 Access Controller | Modbus RTU Over TCP           |
| Signal/Interface Converter | Optional Module           | Proximity Reader         | Modbus RTU                    |
|                            |                           |                          | Push Button / Electronic Lock |

Communication Interface

- |         |                 |
|---------|-----------------|
| TCP/IP  | USB             |
| POE     | Modbus RTU      |
| RS-485  | Optional Module |
| Wiegand | Power           |
| TTL     |                 |

# SOYAL Software

LTSS - Long-Term Service Software



**SOYAL Protocol** **SOYAL Protocol**  
 Create your own software or APP with SOYAL protocol & SDK that are Open System Rules, which compatible with other system.

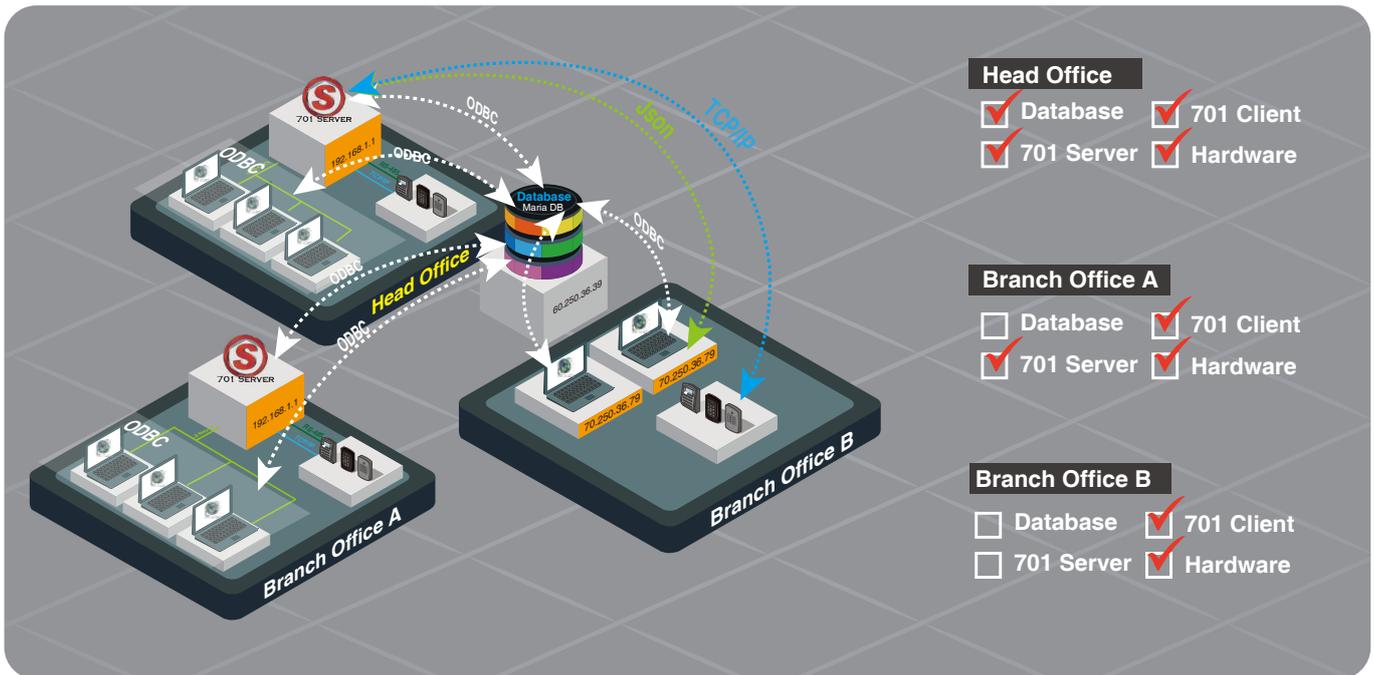
**{JSON}** **JSON**  
 An open-standard file format for software development.





## 701SQL Database System

Soyal 701ServerSQL and 701ClientSQL Software support File System and Database System and interchangeable.



## Benefit of SOYAL Software

### ● Combinable Cross-System Software

SOYAL provides unified software support all SOYAL Serial Hardware enabling control, setting, monitoring, editing, data retrieve and more. Saving users from hustling learning and complicated operation.

### ● Unicode for displaying any language

No more garbled word or message, no more waste on language conversion and interpretation.

### ● File-Based & Data-Based Supported

Have it been your pain point to change software while upgrading your system from File-Based to Data-Based? SOYAL 701SQL software support both system, no need other software to support soyal hardware.

### ● The Long-Term Service Software

SOYAL software is compatible with both legacy device 20 years ago and current hardware, no doubt will be supporting future hardware.

To stay ahead in the field, web-based software and more Mobile App will be compatible with as well.

Sustainable software service is SOYAL's commitment regardless devices installed on site are upgraded and changed.

### ● Effortless learning

With unceasing innovation, SOYAL software come with more functions, nevertheless the software update has only a slight change on format and layout over time. Avoiding many studies, it makes your life easy.

### ● Suited to any applications

With the state of the art, SOYAL software fully support SCADA for remote control in cross-industry. By integration of Access control and Industrial Auto control.

### ● Open Integration Resources

The open resources Protocol & SDK provided with high compatibility. With coding by Json, GraphQL, Julia, will drive your software development fast and easy.

### ● Strong R&D capability for customized design

Are you tired in striving for specific features and turn to compromise with all-fit version? Tell us your requirement and get what you want, we welcome minor modifications.



### 701Server

A communication bridge between the Host PC and access controller and allows users to setup controller's parameters



### HTTP Server

Enter your IP address on browser for devices' quick set up on PC or smartphone.



### 701 Client

Automatically generate daily or monthly time and attendance report of each individual, also capable of payroll control and setting the door group, time zone, user access level, etc.



### CommView

Monitoring your software development, as well as an easy diagnostic tool for communication port



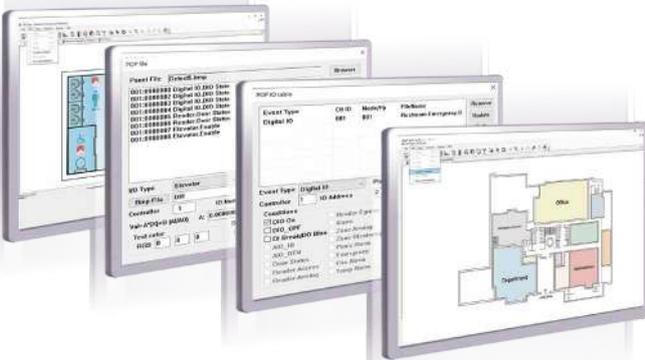
### 721APP

Remote control your door access via mobile app.



### SCADA

Supporting SCADA for remote control in cross-industry, by integration of Access control and Industrial Auto control.



### 727APP

Remote control your room light, air conditioner, and grant an access via mobile app.





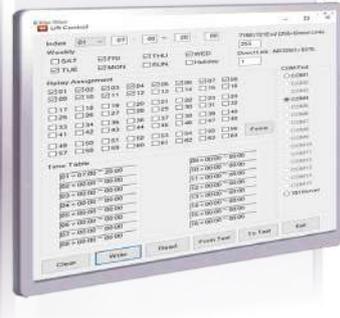
### UDP Updater

Firmware Update Program for SOYAL E series controller



### Lift Control

All Soyol Access Controller support lift control system with lift auto time zone, user floor assignment, and user lift assignment.



### ISP Tools

Firmware Update Program for SOYAL H series controller



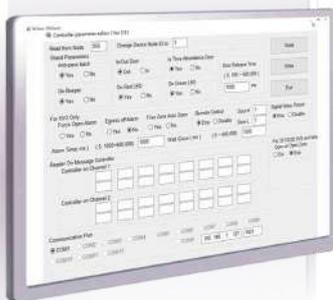
### SOR Tools

It reads data blocks from the cards, which can be used for further setting & encryption.



### NODE 737

Set up the Node ID and simply setting for keypadless controller



### MIFARE Key (SOR)

Develop your own application, create prepaid card and set up expiration date with SOR encryption to enhance security level. (Patent No.: I 365414)



### Enroll Tool

Enrolling, downloading and deleting user's fingerprints to PC and devices



### 323D Master

Highest security level with none cracked cases, anti-cloning with Desfire encryption for tags and Soyol controllers equipped with 13.56MHz frequency. Also able to set up Master cards for standalone use.



# Vision Series

The more the better

Multi-factor authentication with wide selection of proximity, keypad, fingerprint, and QR code





LCD Access Controller - AR-837-E / AR-837-EE



LCD QR Code Controller - AR-837EL



LCD Card Energy Saver - AR-837-W



Fingerprint Controller - AR-837-EF3DO/9DO



Fingerprint Controller - AR-881-EF9DO



Proximity Reader	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	WG 24-34 / WG 24-66 / ABAll / RS485 / RS232 / USB
Controller	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	User Capacity : 1,024 / 3,000 /16,000 /32,000 / 65,000
	DI/DO:Engress/ Door State /Arming input / Arming Output / Alarm Output /Duress Output / Security Output / Door Bell
	RO: Door Relay / Alarm Relay
Push Button	Touchless Infrared / Relay Output(COMN.O./N.C.)
Communication	RS-485 / TCP/IP / UART / POE / QR Code

Scale 1:1

# LCD Access Controller

## AR-837-E



Web



Youtube

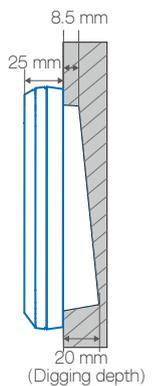
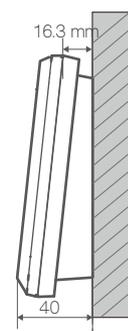
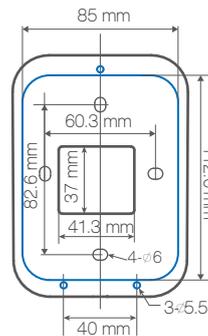
### Dimension (mm)

128(L)X94(W)X40/25(H)

### Color



### Installation



- Surface mounting hole
- Surface mounting
- Flush mounting hole
- Flush mounting

Scale 1:1

# LCD Access Controller

## AR-837-EE



Web



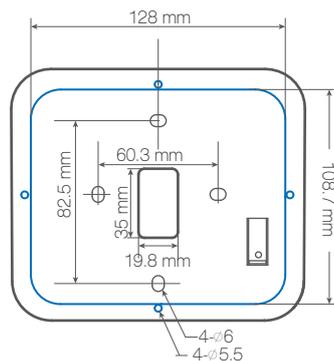
Youtube

### Dimension (mm)

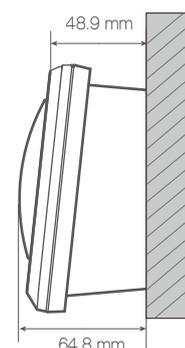
28(L)X147(W)X40/25(H)

### Installation

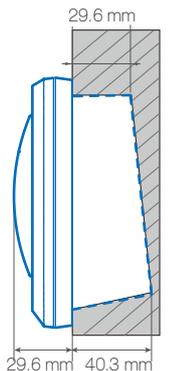
### Color



- Surface mounting hole
- Flush mounting hole



- Surface mounting



- Flush mounting

Scale 1:1

# LCD QR Code Controller

## AR-837-EL



Web



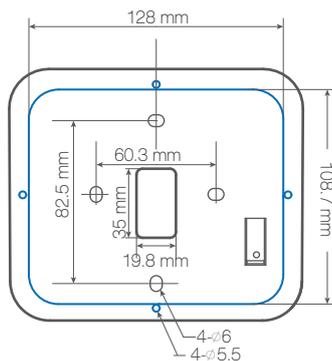
Youtube

Dimension (mm) 28(L)X147(W)X40/25(H)

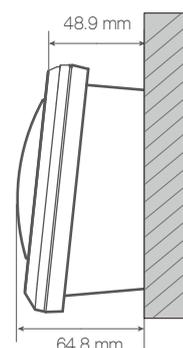
### Installation

Color

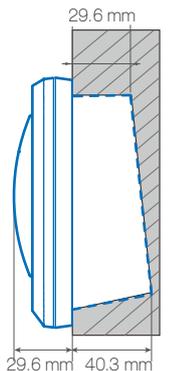
Black



- Surface mounting hole
- Flush mounting hole



- Surface mounting



- Flush mounting

Scale 1:1

# LCD Card Energy Saver

## AR-837-W



Web



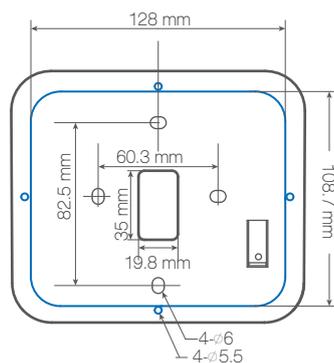
Youtube

### Dimension (mm)

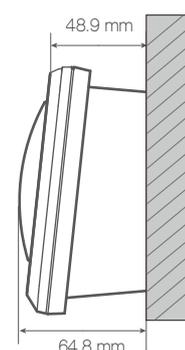
28(L)X147(W)X40/25(H)

### Installation

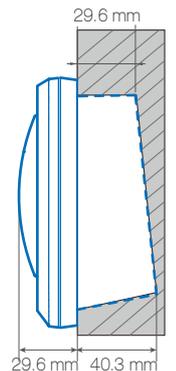
### Color



- Surface mounting hole
- Flush mounting hole



- Surface mounting



- Flush mounting

Scale 1:1.2

# Fingerprint Controller

## AR-837-EF9DO/3DO



Web



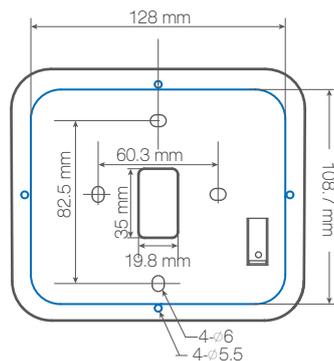
Youtube

### Dimension (mm)

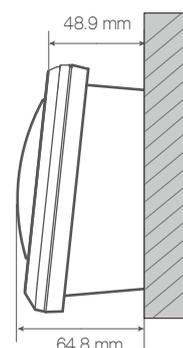
28(L)X147(W)X40/25(H)

### Installation

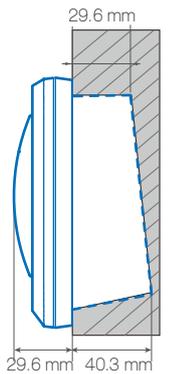
### Color



- Surface mounting hole
- Flush mounting hole



- Surface mounting



- Flush mounting

Scale 1:1

# Fingerprint Controller

## AR-881-EF9DO



Web



Youtube

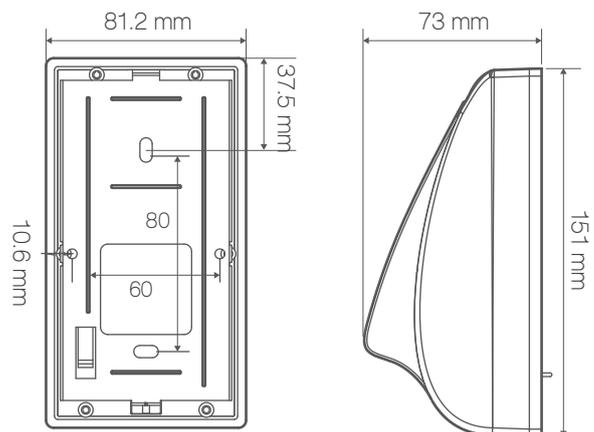
Dimension (mm)

151(L)X81(W)X73(H)

Installation

Color

Black



**SPECIFICATION**

● STANDARD ○ OPTIONAL BY ORDER ✕2 TWO E External

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.			837-E/EE			837-EL			837-W			837-P			837-EF			881-EF9DO				
			B	D	S	B	D	S	B	D	S	B	D	S	B	D	S	B	D	S		
Proximity Reader	Communication Interface	Output Selection	WG 24-34																			
			WG 24-66	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	
			RS485	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	●
			RS232																			
			USB																			
			ABA-II	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	●
	Frequency	125kHz	EM	●		●	●	●							●		●		●		●	
			13.56 MHz	Mifare/NFC		●	●		●	●		●		●		●	●		●	●		●
				DESFire		●	●		●	●		●		●		●	●		●	●		●
				Felica		●	●		●	●		●		●		●	●		●	●		●
ISO15693					●	●		●	●		●		●		●	●		●	●		●	
Controller	Communication	Host	RS-485	●	●	●	●	●	●		●		●		●	●	●	●	●	●		
			TCP/IP	○	○	○	○	○	○		○		○		○	○	○	○	○	○	○	
			POE	○	○	○	○	○	○		○		○		○	○	○	○	○	○	○	
		Serial	UART PORT	✕2	✕2	✕2	✕2	✕2	✕2		✕2		✕2		●	●	●	●	●	●	●	
			WG Module	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	
	Frequency / UID Bits	125kHz	EM	32		32	32		32					32		32	32	32		32		
			13.56 MHz	Mifare/NFC		64	64		64	64		64		64		64	64		64	64		64
				DESFire		64	64		64	64		64		64		64	64		64	64		64
				Felica		64	64		64	64		64		64		64	64		64	64		64
				ISO15693		64	64		64	64		64		64		64	64		64	64		64
	DI/DO	DI	Egress	✕2	✕2	✕2	✕2	✕2	✕2		✕2		✕2		✕2	✕2	✕2	✕2	✕2	✕2	✕2	
			Door State	✕2	✕2	✕2	✕2	✕2	✕2		✕2		✕2		✕2	✕2	✕2	✕2	✕2	✕2	✕2	
			Door Bell	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	
		RO	Door Lock Relay	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	
			Alarm Relay	●	●	●	●	●	●		●		●		●	●	●	●	E	E	E	
		DO	Door Bell Output	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	
			Security Output	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	
			Arming Output	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	
			Duress Output	●	●	●	●	●	●		●		●		●	●	●	●	●	●	●	
	Fingerprint Capacity												500(3DO) / 1500FP 4500(9DO) / 9000FP			4500(9DO) 9000FP						
Doors / Floors Number			2/64			2/64						2/64			2/64							
User Capacity			16000			16000			16000			16000			16000							
Event Log			32000			32000			32000			32000			32000							
RF Reading Range			5-15 cm	2-5 cm	2-15 cm	5-15 cm	2-5 cm	2-15 cm	5-15 cm	2-5 cm	2-15 cm	5-15 cm	2-5 cm	2-15 cm	5-15 cm	2-5 cm	2-15 cm	5-15 cm	2-5 cm	2-15 cm		
QR code Reading Range (Adjust according to QR code size)						5-20 cm																
Others	Tamper Switch		●			●			●			●			●							
	Tamper Output		●			●			●			●			●							
	WG In Port		●			●			●			●			●							
	WG Out Port		●			●			●			●			●							
	Buzzer		●			●			●			●			●							
	QRCode					●																
Dimension(mm)			133(L)X94(W) X40(H)/25(H)			128(L)X147(W)X65(H)/30(H)						151(L)X81(W)X73(H)										
Weight(g)			230±10			395±10			395±10			400±10			450±10			330±10				
Power Consumption			<5W																			
Power Voltage			9-24VDC																			
Ingress Protection			IP65			IP65			IP65			IP65			IP65			NO				
Environment	Operating Temperature			Storage Temperature			Operating Humidity						Storage Humidity									
	-20 °C to +65 °C			-25 °C to +70 °C			20% ~ 90%						5% ~ 95%									

► WHAT TO EXPECT



**Double Relay**

Alarm and Lock relay: checked!  
Does not require any additional output relay.



**Energy Saver**

Insert your card and let it be! It will only consume small amount of energy.



**Door Bell**

Ding Dong! It is built-in doorbell function.



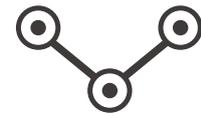
**Quality in Color**

You can either select your controller to be all-black or black-silver combination.



**Complete Indicator**

Built-in total indicator for power, alarm, arming, access granted or denied, and processing indicator.



**Suitable for Extended Function**

Due to its big size, any external module or function required can be easily installed to the board.

► APPLICATION



**Mailbox Management System**

Get notified when mailbox has received mails or package when you swipe card to the mailbox management controller or via graphic control (SCADA) on Soyal software.



**Rental Facilities: Shared Public Space**

Create your own prepaid card via Enrollment Programmer Series and Software Mifare SOR tools and voila, user can now use the balance stored for any rental facilities.



**Visitor Management Center**

QRCode controller is the most suitable for visitor management center whose access is temporary and increased confidentiality.

# Iron Series

Strong and hard.  
Feel safe and sound with Soyal Iron Series wherever you are.



**SOYAL**<sup>®</sup>



Metal Access Controller - AR-321-H



Metal Access Reader- AR-321-K/U



Metal LCD Access Controller - AR-327-E

Smart Digital Door Lock - AR-323-D



Proximity Reader	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	WG 24-34 / WG 24-66 / ABAll / RS485 / RS232 / USB
Controller	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	User Capacity: 1,024 / 3,000 /16,000 /32,000 / 65,000
	DI/DO:Engress/ Door State /Arming input / Arming Output / Alarm Output /Duress Output / Security Output / Door Bell
	RO: Door Relay / Alarm Relay
Push Button	Touchless Infrared / Relay Output(COMN.O./N.C.)
Communication	RS-485 / TCP/IP / UART / POE / QR Code

Scale 1:1

# Metal LCD Access Controller

## AR-327-E



Web

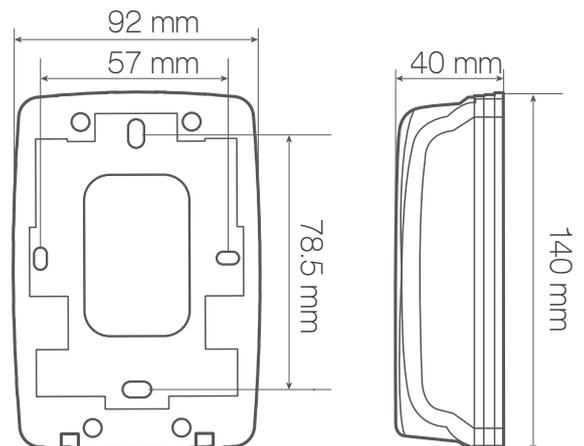


Youtube

### Dimension (mm)

321-H :14(L)X78(W)X33(H)  
 327-E :140(L)X92(W)X40(H)

### Installation



### Color



Scale 1:1

# Metal Access Controller / Reader

AR-321-H/K



Web



Youtube

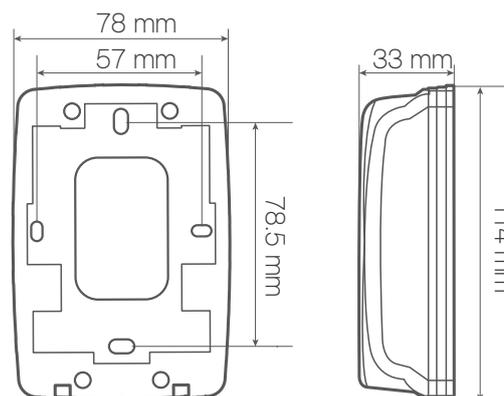
Dimension (mm)

276(L)X75(W)X53(H)

Installation

Color

Silver



Scale 1:1

# Metal Access Controlle

## AR-321-U



Web



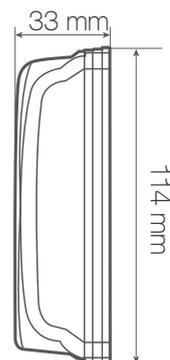
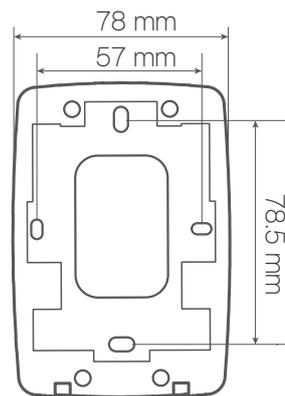
Youtube

**Dimension (mm)** 276(L)X75(W)X53(H)

### Installation

**Color**

Silver



Scale 1:2

# Smart Digital Door Lock

## AR-323-D



Web



Youtube

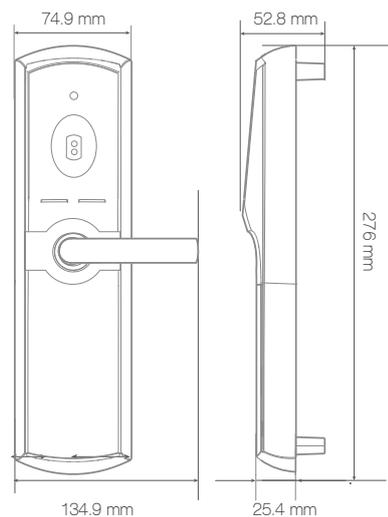
Dimension (mm) 276(L)X75(W)X53(H)

Color

Black



Installation



**SPECIFICATION**

● STANDARD ○ OPTIONAL BY ORDER ×2 TWO E EXTERNAL

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.			321-U		321-K		321-H		327-E			323-D			
			B	D	B	D	B	D	B	D	S	D			
Proximity Reader	Communication Interface	Output Selection	WG 24-34	●	●	●	●								
			WG 24-66							●	●	●			
			RS485		●		●				●	●			
			RS232		○	●									
			USB												
			ABA-II	●	●	●	●			●	●	●			
	Frequency	125kHz	EM	●		●				●		●			
			13.56 MHz	Mifare/NFC		●		●				●	●		
				DESFire		●		●				●	●		
				Felica								●	●		
ISO15693											●	●			
Controller	Communication	Host	RS-485					●	●	●	●	●	●		
			TCP/IP							○	○	○			
			POE								○	○	○		
		Serial	UART Port						Output only	Output only	×2	×2	×2		
			WG Module						○	○	○	○	○		
			Frequency / UID Bits	125kHz	EM					32		32		32	
	13.56 MHz	Mifare/NFC								32		64	64	32	
		DESFire									32		64	64	32
		Felica											64	64	
		ISO15693											64	64	
	DI/DO	DI	Egress					●	●	×2	×2	×2			
			Door State					●	●	×2	×2	×2	●		
			Door Bell					Use #	Use #						
		RO	Door Lock Relay					●	●	●	●	●			
			Alarm Relay					E	E	●	●	●			
		DO	Door Bell Output					Common Alarm PIN	Common Alarm PIN						
			Security Output					●	●	●	●	●			
			Arming Output					●	●	●	●	●			
	Duress Output					●	●	●	●	●					
	Doors / Floors Number							1.5 / 32		2 / 64					
User Capacity							3000		16000		1024				
Event Log							1500		32000		1200				
RF Reading Range			3-7 cm	1-3 cm	3-7 cm	1-3 cm	3-7 cm	1-3 cm	3-7 cm	1-3 cm	1-3 cm	0-2cm			
Extend Port	Tamper Switch							●		●					
	Tamper Output							●		●					
	WG In							●		●					
	WG Out									●					
	Buzzer							●		●					
	QRCode											●			
<b>Dimension(mm)</b>			114(L)X78(W)X33(H)						140(L)X 92(W)X40(H)			276(L)X75(W)X53(H)			
<b>Weight(g)</b>			290±10						430±10			3900±50			
<b>Power Consumption</b>			<1W		<1W		<5W		<5W		<50UA				
<b>Power Voltage</b>			9~24VDC												
<b>Battery Life</b>															
<b>Opening Method</b>															
<b>Door Thickness</b>			40mm-80mm options												
<b>Ingress Protection</b>			IP56		IP56		IP56		IP56						
<b>Environment</b>	Operating Temperature		Storage Temperature				Operating Humidity			Storage Humidity					
	-20 °C to +65 °C		-25 °C to +70 °C				20% ~ 90%			5% ~ 95%					

► WHAT TO EXPECT



**Anti-Vandalism**

Security increased because of strong and sturdy full metal housing for anti-vandalism.



Waterproof

**IP 56**

Solid particle protection: dust protected  
Liquid protection: powerful water jets (12.5 mm nozzle)



**Illuminated Touch Panel**

Built-in illuminated touch panel for more sleek and high quality design.



**Mechanical key override  
AR-323-D**

It can be unlocked with a mechanical key for Emergency



**Background Light**

Made with white background light, enhance the quality and appearance even in darker place.



**Easily card registration  
by master card  
AR-323-D**

Support registering 100pcs user card by Master card

► APPLICATION



**Anti-Vandalism Guard**

Anti-Vandalism metal housing design is recommended for Anti-Vandalism environment with higher level security protection such as in safe box.



**Access Control & Time Attendance in Harsh place**

Strong Zinc Alloy casing with Anti-explosion design is suitable for the harsh place such as in oil company or gas station to manage staffs' access and time attendance.



**Smart Access in Apartment**

Easy installation and convenient operation for the residents to access by swiping RFID card or pressing private PIN Code in room.

# Slim Series

Silver and Slim.

Soyal Slim Series offer you the slimmest yet elegant controller you have ever seen.





Fingerprint Controller - AR-331-EF



Touch Keypad IP Access Controller - AR-331-E



Touch Keypad Access Controller - AR-331-H



Touch Keypad Proximity Reader / Proximity Reader - AR-331-K/U



Proximity Reader	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	WG 24-34 / WG 24-66 / ABAll / RS485 / RS232 / USB
Controller	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	User Capacity : 1,024 / 3,000 /16,000 /32,000 / 65,000
	DI/DO:Engress/ Door State /Arming input / Arming Output / Alarm Output /Duress Output / Security Output / Door Bell
	RO: Door Relay / Alarm Relay
Push Button	Touchless Infrared / Relay Output(COMN.O./N.C.)
Communication	RS-485 / TCP/IP / UART / POE / QR Code

Scale 1:1

# Fingerprint Controller

## AR-331-EF



Web



Youtube

**Dimension (mm)** 158(L)X55(W)X30(H)

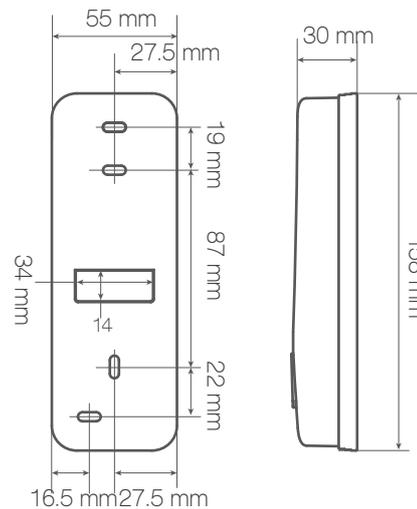
**Color**

Silver      Silver

●      ●

**Housing Material** PC / Zinc Alloy

### Installation



Scale 1:1

# Touch Keypad IP Access Controller

## AR-331-E



Web



Youtube

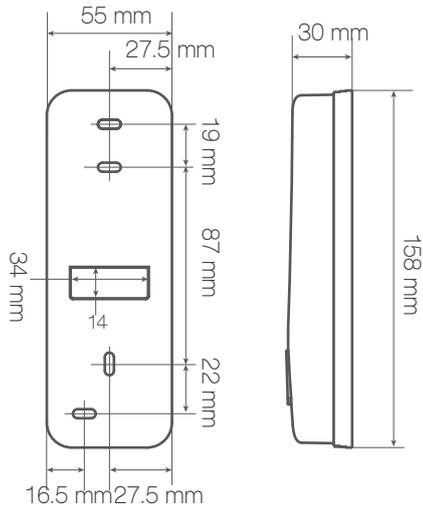
Dimension (mm) 158(L)X55(W)X30(H)

Color

Silver      Silver

Housing Material PC / Zinc Alloy

### Installation



Scale 1:1

# Touch Keypad Access Controller

AR-331-H



Web



Youtube

**Dimension (mm)** 158(L)X55(W)X30(H)

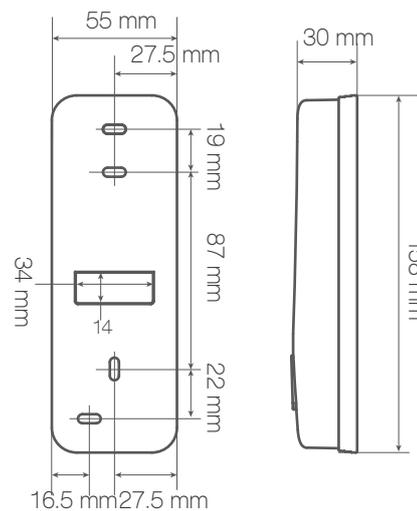
**Color**

Silver      Silver

●      ●

**Housing Material** PC / Zinc Alloy

## Installation



Scale 1:1

# Touch Keypad Proximity Reader / Proximity Reader

## AR-331-K/U



Web



Youtube

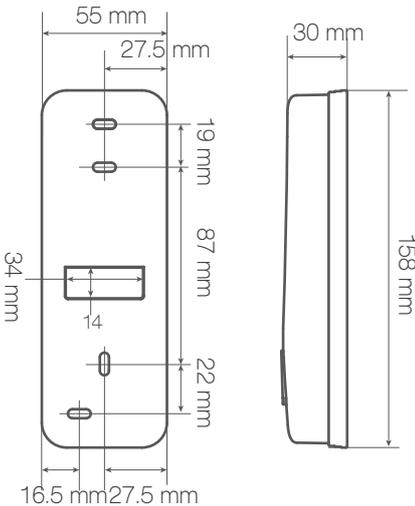
Dimension (mm) 158(L)X55(W)X30(H)

Color

Silver      Silver

Housing Material PC / Zinc Alloy

### Installation



**SPECIFICATION**

● STANDARD ○ OPTIONAL BY ORDER ×2 TWO E External

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.			331-U/K		331-H		331-E			331-EF				
			B	D	B	D	B	D	S	B	D	S		
Proximity Reader	Communication Interface	Output Selection	WG 24-34	●	●									
			WG 24-66					●	●	●	●	●	●	
			RS485		●			●	●	●	●	●	●	
			RS232											
			USB											
			ABA-II	●	●			●	●	●	●	●	●	
	Frequency	125kHz	EM	●				●		●	●		●	
			13.56 MHz	Mifare/NFC		●				●	●		●	●
				DESFire		●				●	●		●	●
				Felica						●	●		●	●
ISO15693									●	●		●	●	
Controller	Communication	Host	RS-485			●	●		●	●		●	●	
			TCP/IP					○	○	○	○	○	○	
			POE					○	○	○	○	○	○	
		Serial	UART PORT	Output only	Output only	Output only	Output only	×2	×2	×2	●	●	●	
			WG Module			○	○	○	○	○	○	○	○	
	Frequency / UID Bits	125kHz	EM	32		32		32		32	32		32	
			13.56 MHz	Mifare/NFC		32		32		64	64		64	64
				DESFire		32		32		64	64		64	64
				Felica						64	64		64	64
				ISO15693						64	64		64	64
	DI/DO	DI	Egress			●	●	×2	×2	×2	×2	×2	×2	
			Door State			●	●	×2	×2	×2	×2	×2	×2	
			Door Bell			Use #	Use #	●	●	●	●	●	●	
		RO	Door Lock Relay			●	●	●	●	●	●	●	●	
			Alarm Relay			E	E	E	E	E	E	E	E	
		DO	Door Bell Output			Common Alarm PIN	Common Alarm PIN	●	●	●	●	●	●	
			Security Output			●	●	●	●	●	●	●	●	
			Arming Output			●	●	●	●	●	●	●	●	
			Duress Output			●	●	●	●	●	●	●	●	
	Fingerprint Capacity										500 User 1500FP			
Doors / Floors Number					1.5 / 32		2 / 64			2 / 64				
User Capacity					3000		16000			16000				
Event Log					1500		32000			32000				
RF Reading Range			3-7cm	1-3 cm	3-7cm	1-3 cm	3-7 cm	1-3 cm	1-7 cm	3-7 cm	1-3 cm	1-7 cm		
Others	Tamper Switch			●		●		●		●		●		
	Tamper Output			●		●		●		●		●		
	WG In Port					●		●		●		●		
	WG Out Port			●				●		●		●		
	Buzzer			●		●		●		●		●		
<b>Dimension(mm)</b>			158(L)X55(W)X30(H)											
<b>Weight(g)</b>			Zinc Alloy :216±10 / PC:110±10											
<b>Power Consumption</b>			<1W		<3W		<5W			<5W				
<b>Power Voltage</b>			9~24VDC											
<b>Ingress Protection</b>			IP56		IP56		IP65			IP65				
<b>Environment</b>	Operating Temperature		Storage Temperature		Operating Humidity			Storage Humidity						
	-20 ° C to +65 ° C		-25 ° C to +70 ° C		20% ~ 90%			5% ~ 95%						

## ▶ WHAT TO EXPECT



### Invisible Keypad

External form's keypad will be invisible for users; only authorized personnel can activate and use keypad function.



### Dual Indicator

Built-in one buzzer and two LED indicators for alarming and access granted or access denied.



### Uniform Design

Get uniform design for your access controller, fingerprint controller and access reader either with keypad, without keypad, or invisible keypad.



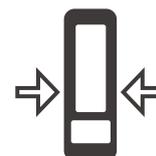
### Metal VS ABS

Soyal Slim series offer you two housing material options; metal and ABS to follow your preference



### Dust and Waterproof

Built-in IP 56 for AR-331H/K/U series and IP65 for AR-331E/EF series, installation in harsh weather not a problem.



### Slim Design

With only 50mm width, it can be installed even in the narrowest place

## ▶ APPLICATION



### Access in harsh weather

Anti-dust and waterproof makes it suited to install outdoor even in harsh weather.



### Security Authentication

Swipe card for security authentication before activate. With only 50mm width, it can be installed even in the narrowest place.



### Gas station

Anti-explosion design enabling mounted in gas station, staff reads card to activate refuelling function.

# Illuminate Series

The more you see it the more you want it.  
 Soyal Illuminate series offer you the best-selling series ever.





Proximity Reader - AR-725-U



Touch Keypad Access Controller - AR-725-H



Touch Keypad IP Access Controller - AR-725-E



Touch Keypad Proximity Reader - AR-725-K



Proximity Reader	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	WG 24-34 / WG 24-66 / ABAll / RS485 / RS232 / USB
Controller	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	User Capacity: 1,024 / 3,000 /16,000 /32,000 / 65,000
	DI/DO:Engress/ Door State /Arming input / Arming Output / Alarm Output /Duress Output / Security Output / Door Bell
	RO: Door Relay / Alarm Relay
Push Button	Touchless Infrared / Relay Output(COMN.O./N.C.)
Communication	RS-485 / TCP/IP / UART / POE / QR Code

Scale 1:1

# Proximity Reader

## AR-725-U



(AR-725-UB:125KHz)



(AR-725-UD:13.56MHz)



Web



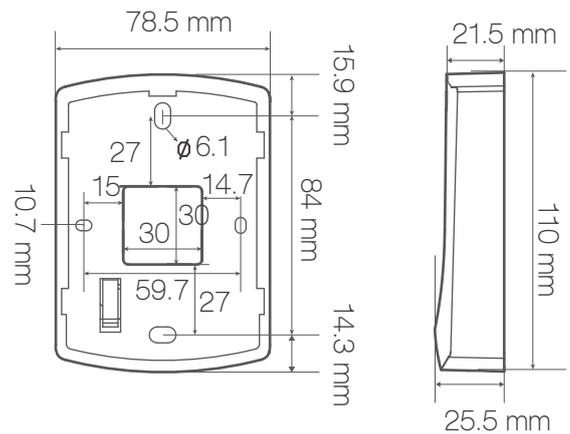
Youtube

**Dimension (mm)** 114(L)X78(W)X33(H)

**Color**



**Installation**



Scale 1:1

# Access Controller / Proximity Reader

## AR-725-E / H / K



Web



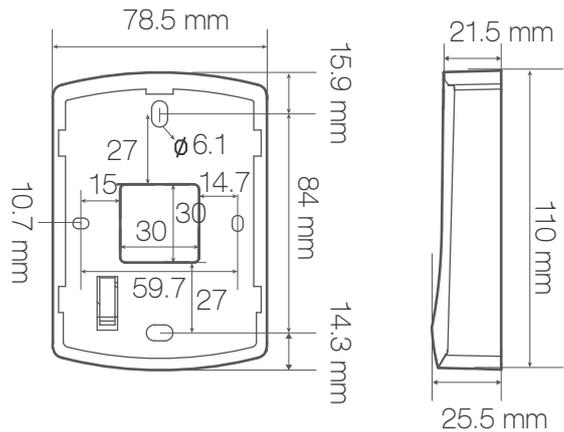
Youtube

### Dimension (mm)

114(L)X78(W)X33(H)

### Installation

### Color



**SPECIFICATION**

● STANDARD    ⊙ OPTIONAL BY ORDER    ×2 TWO    E EXTERNAL

B: 125Khz / D: 13.56MHz / S: Dual Band

Model No.			725-U		725-K		725-H		725-E				
			B	D	B	D	B	D	B	D	S		
Proximity Reader	Communication Interface	Output Selection	WG 24-34	●	●	●	●			●	●	●	
			WG 24-66							●	●	●	
			RS485		●		●				●	●	●
			RS232		⊙		●						
			USB										
			ABA-II	●	●	●	●				●	●	●
	Frequency	125kHz	EM	●		●				●		●	
				13.56 MHz	Mifare/NFC		●		●			●	●
					DESFire		●		●			●	●
					Felica							●	●
ISO15693											●	●	
Controller	Communication	Host	RS-485				●	●	●	●	●		
			TOP/IP						⊙	⊙	⊙		
			POE							⊙	⊙	⊙	
		Serial	UART Port					Output Only	Output Only	×2	×2	×2	
	WG Module						⊙	⊙	⊙	⊙	⊙		
	Frequency / UID Bits	125kHz	EM	32				32		32		32	
				13.56 MHz	Mifare/NFC					32		64	64
					DESFire					32		64	64
					Felica							64	64
					ISO15693							64	64
	DI/DO	DI	Egress				●	●	×2	×2	×2		
			Door State				●	●	×2	×2	×2		
			Door Bell				Use #	Use #					
		RO	Door Lock Relay				●	●	●	●	●		
			Alarm Relay				E	E	E	E	E		
		DO	Door Bell Output					Common Alarm PIN	Common Alarm PIN				
			Security Output				●	●	●	●	●		
	Arming Output					●	●	●	●	●			
			Duress Output				●	●	●	●	●		
	Doors / Floors Number							1.5 / 32		2 / 64			
User Capacity							3000		16000				
Event Log							1500		32000				
RFID Reading Range : 725 Plastic			10-15 cm	3-8 cm	10-15 cm	3-8 cm	10-15 cm	2-8 cm	5-15 cm	2-5 cm	2-15 cm		
RFID Reading Range: 725-M Metal			5-9 cm	3-5 cm	5-9 cm	3-5 cm	5-9 cm	2-5 cm	2-9 cm	2-4 cm	2-9 cm		
Others	Tamper Switch		●		●		●		●				
	Tamper Output		●		●		●		●				
	WG In						●		●				
	WG Out		●		●				●				
	Buzzer		●		●		●		●				
	QRCode												
<b>Dimension(mm)</b>			725:110(L)X79(W)X26(H) / 725-M :125(L)X89(W)X30(H)										
<b>Weight(g)</b>			725:150±10 / 725-M :400±10										
<b>Power Consumption</b>			<1W		<1W		<3W		<5W				
<b>Power Voltage</b>			9-24VDC										
<b>Ingress Protection</b>			IP55										
<b>Environment</b>	Operating Temperature		Storage Temperature		Operating Humidity		Storage Humidity						
	-20 °C to +65 °C		-25 °C to +70 °C		20% ~ 90%		5% ~ 95%						

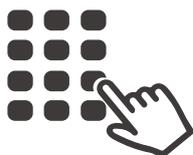
▶ WHAT TO EXPECT



Waterproof

**Waterproof(IP55)**

Solid particle protection: dust protected  
Liquid protection: water jets (6.3 mm nozzle)



**Invisible Keypad**

External form's keypad will be invisible for user, only authorized personnel can activate and use keypad function.



**Illuminated Touch Panel**

Built-in illuminated touch panel for more sleek and high quality design.



**Perfect Size and Design**

Illuminate series not only as big as your palm, but the finishing sleek touch make it a perfect design for access controller



Plastic Metal

**Housing Material**

It is available with metal and plastic housing.



**Dual-Band Frequency**

AR-725-E

125kHz or 13.56MHz frequency?  
Why not both!

▶ APPLICATION



**Lift Control**

725 controller connected with SOYAL Lift control panel can manage up to 64 floors in the lift of commercial building or apartments that allow only the employees or residents with valid card or PIN code to access for specified floors.



**Access Control**

Easy to get access by swiping a card or press PIN code replacing bunches of mechanical keys, the illuminated backlight can be turn on in the dark and the waterproof protection design is suitable for outside installation.



**Capsule Hostel**

Install 725 series outside of capsule hostel, the guest can open the capsule by pressing one time PIN obtained from the reception desk; then will find a valid card on the bed of capsule for normal access during the stay.

# Onyx Series

Black, Bright, and Light  
Complete your aesthetic with Soyal Onyx Series.



-  Flush-Mount Touch Keypad Access Controller/ Reader - AR-888-H/K
-  Flush-Mount Touch Keypad Reader - AR-888-U
-  QR Code Proximity Reader - AR-888-UL
-  Infrared Touchless Button - AR-888-PBI
-  Card Energy Saver - AR-888-W
-  Modbus Smart Switch - AR-888-T
-  DND&MUR Switch - AR-888-CPI / AR-888-CPO



Proximity Reader	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	WG 24-34 / WG 24-66 / ABAll / RS485 / RS232 / USB
Controller	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	User Capacity : 1,024 / 3,000 /16,000 /32,000 / 65,000
	DI/DO:Engress/ Door State /Arming input / Arming Output / Alarm Output /Duress Output / Security Output / Door Bell
	RO: Door Relay / Alarm Relay
Push Button	Touchless Infrared / Relay Output(COMN.O./N.C.)
Communication	RS-485 / TCP/IP / UART / POE / QR Code

Scale 1:1.2

# Flush-Mount Touch Keypad Access Controller / Flush-Mount Touch Keypad Reader

AR-888-H/K



(US)

(EU)



Web



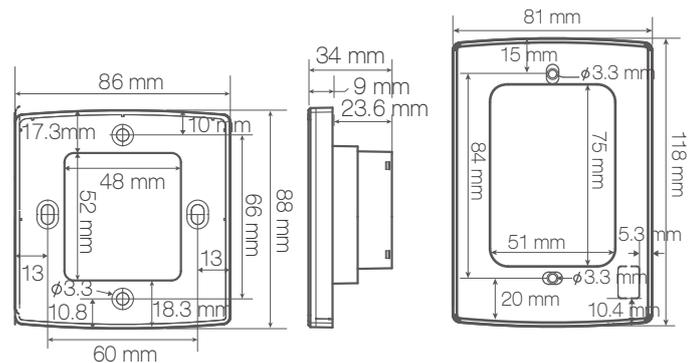
Youtube

## Dimension (mm)

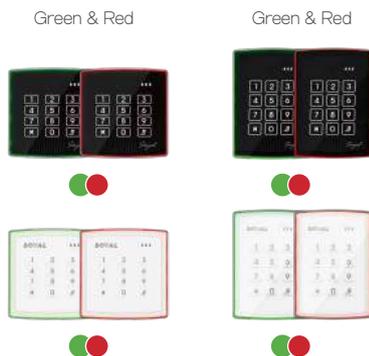
EU :88(L)X86(W)X9(H)/34(H)

US :110(L)X81(W)X9(H)/34(H)

## Installation



## Color (Power ON)



Scale 1:1.2

# Flush-Mount Proximity Reader

## AR-888-U



(US)

(EU)



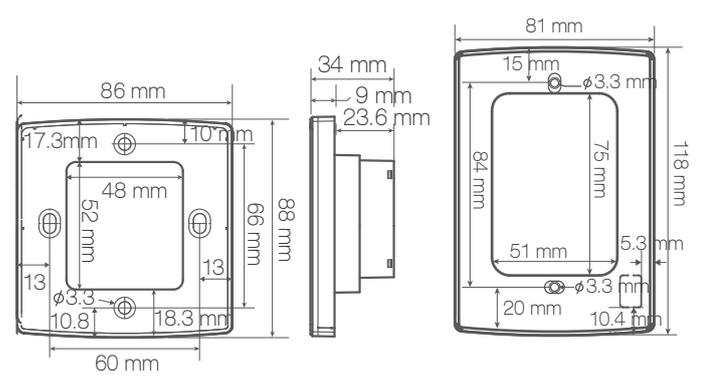
Web



Youtube

**Dimension (mm)**  
 EU : 88(L)X86(W)X9(H)/34(H)  
 US : 110(L)X81(W)X9(H)/34(H)

### Installation



### Color (Power ON)



Scale 1:1.2

# QR Code Proximity Reader

## AR-888-UL



(US)

(EU)



Web



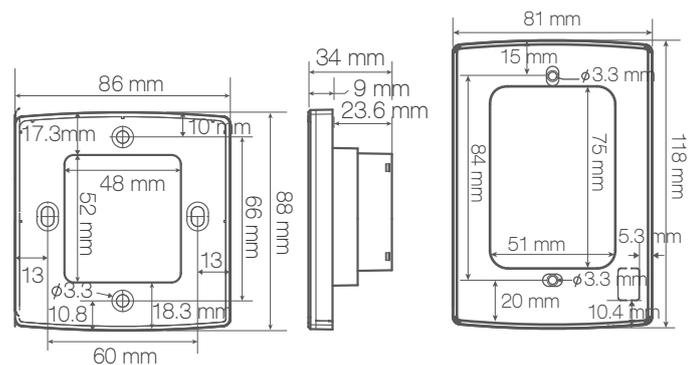
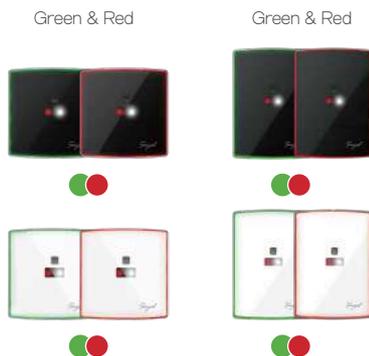
Youtube

### Dimension (mm)

EU : 88(L)X86(W)X9(H)/34(H)  
 US : 110(L)X81(W)X9(H)/34(H)

### Installation

### Color (Power ON)



Scale 1:1

# Infrared Touchless Button

## AR-888-PBI



(US)

(EU)



Web

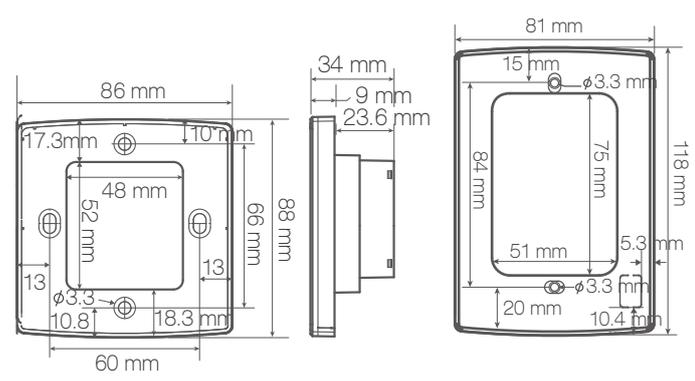


Youtube

### Dimension (mm)

EU	:88(L)X86(W)X9(H)/34(H)
US	:110(L)X81(W)X9(H)/34(H)

### Installation



### Color (Power ON)



Scale 1:1

# Card Energy Saver

## AR-888-W



(US)



(EU)



Web



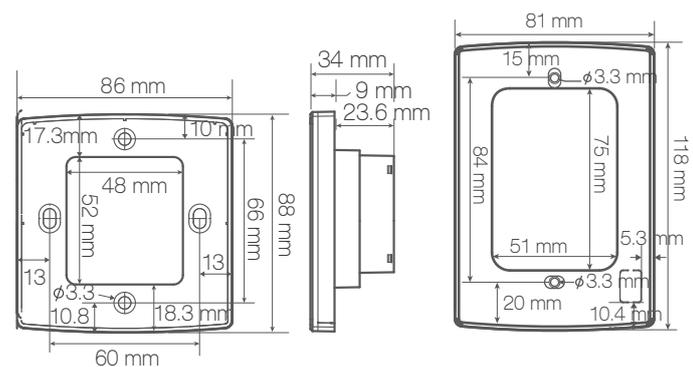
Youtube

### Dimension (mm)

EU : 88(L)X86(W)X9(H)/34(H)  
 US : 110(L)X81(W)X9(H)/34(H)

### Installation

### Color (Power ON)



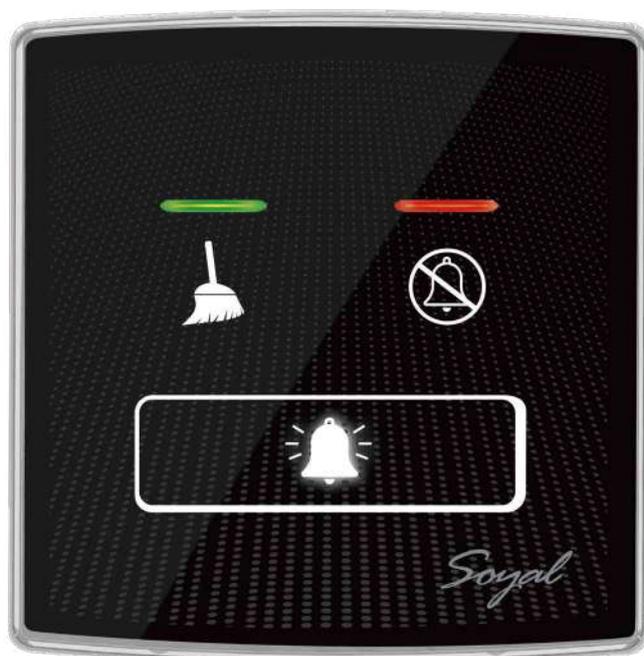
Scale 1:1

# DND&MUR Switch

## AR-888-CPI / AR-888-CPO



(CPI-Indoor)



(CPO-Outdoor)



Web



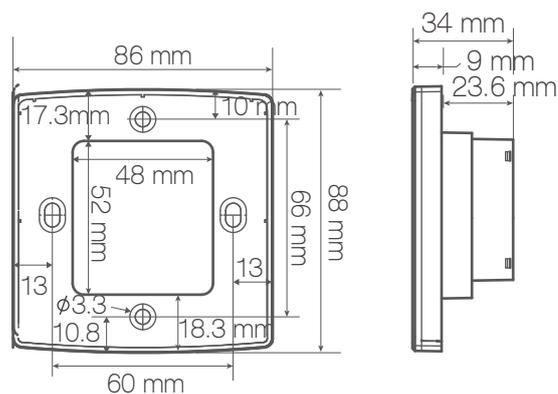
Youtube

### Dimension (mm)

EU : 88(L)X86(W)X9(H)/34(H)

US : 110(L)X81(W)X9(H)/34(H)

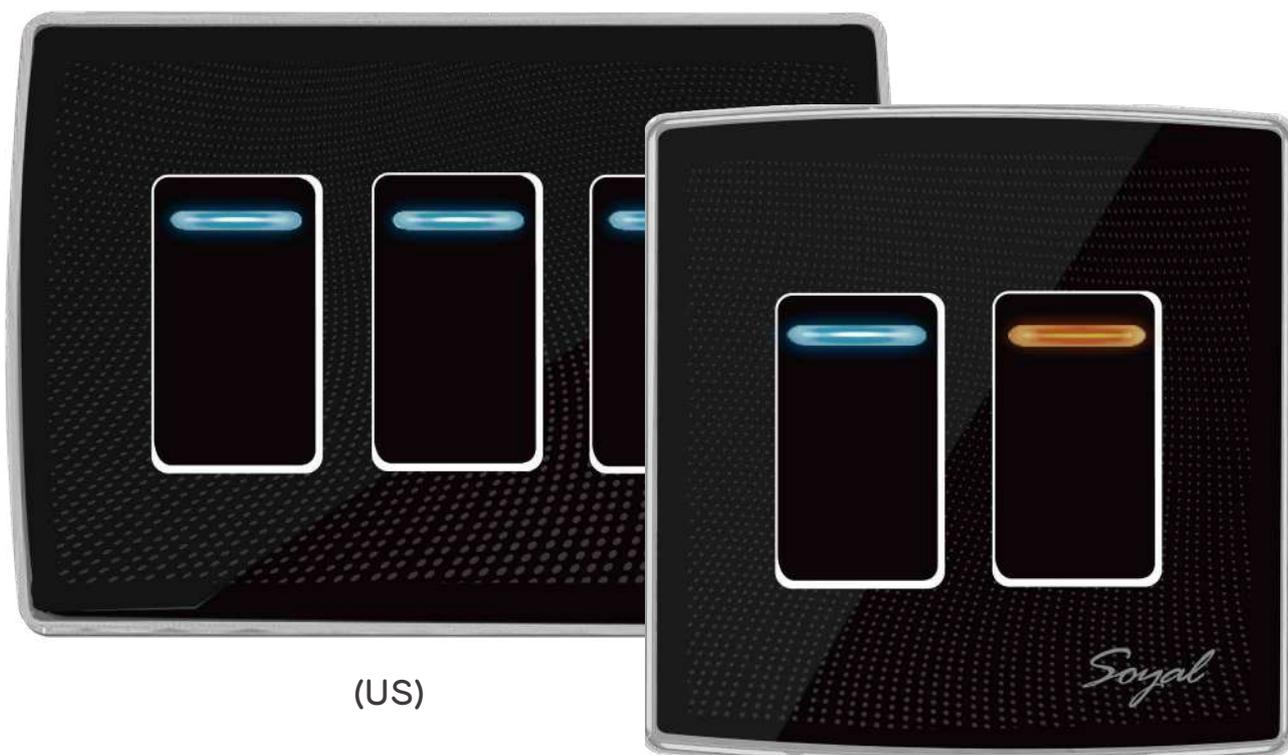
### Installation



Scale 1:1

# Modbus Smart Switch

AR-888-T



(EU)



Web



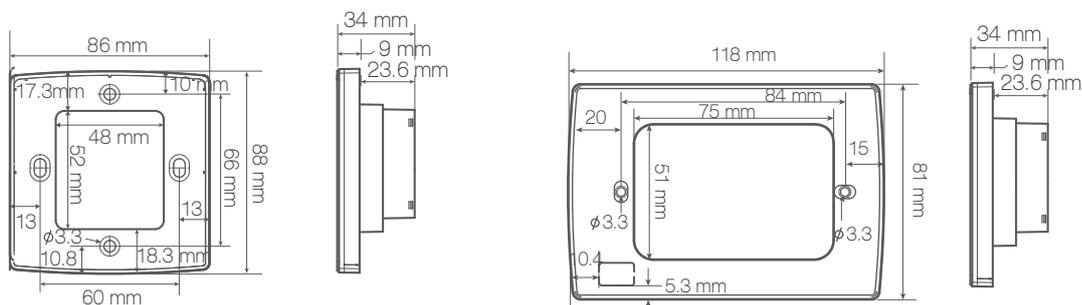
Youtube

## Dimension (mm)

EU :88(L)X86(W)X9(H)/34(H)

US :110(L)X81(W)X9(H)/34(H)

## Installation



**SPECIFICATION**

● STANDARD    Ⓔ External    ⊙ OPTIONAL BY ORDER    X2 TWO    X3 Three

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.			888-U/K		888-UL			888-H		888-PBI
			B	D	B	D	S	B	D	
Proximity Reader	Communication Interface	Output Selection	WG 24-34	●	●	●	●	●		
			WG 24-66							
			RS485		●		●	●		
			RS232							
			USB							
			ABA-II	●	●	●	●	●		
			QR Code			●	●	●		
	Frequency	125kHz	EM	●		●		●	●	
			Mifare/NFC		●		●	●		●
		13.56 MHz	DESFire		●		●	●		●
Felica										
ISO15693										
Controller	Communication	Host	RS-485		●		●	●	●	●
			TCP/IP							
			POE							
		Serial	UART Port						Output only	Output only
	WG Module							⊙	⊙	
	Frequency / UID Bits	125kHz	EM					32		
			Mifare/NFC						32	
		13.56 MHz	DESFire						32	
			Felica							
			ISO15693							
	DI/DO	DI	Egress					●	●	
			Door State					●	●	
			Door Bell					Use #	Use #	
		RO	Door Lock Relay					●	●	
			Alarm Relay					Ⓔ	Ⓔ	
		DO	Door Bell Output					Common Alarm PIN	Common Alarm PIN	
Security Output							●	●		
Arming Output							●	●		
Duress Output					●	●				
Doors / Floors Number							1.5 / 32			
User Capacity							3000			
Event Log							1500			
RF Reading Range			5-15 cm	2-5 cm	5-15 cm	2-5 cm	5-15 cm	2-5 cm	5-15 cm	
QR code Reading Range (Adjust according to QR code size)					5-20 cm					
Others	Tamper Switch		●			●		●		
	Tamper Output		●			●		●		
	WG In Port							●		
	WG Out Port		●			●				
	Buzzer		●			●		●		
	QRCode					●				

<b>Dimension(mm)</b>	EU :88(L)X86(W)X9(H)/34(H) US :110(L)X81(W)X9(H)/34(H)			
<b>Weight(g)</b>	EU :110±10 / US :120±10			
<b>Power Consumption</b>	<1W	<1W	<3W	No
<b>Power Voltage</b>	9~24VDC			
<b>Ingress Protection</b>	IP65			

**SPECIFICATION**

● STANDARD    ⊕ External    ⊕ OPTIONAL BY ORDER    ×2 TWO    ×3 Three

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.			888-U/K		888-UL			888-H		888-PBI
			B	D	B	D	S	B	D	
Push Button	Working Mode	Traditional Push								
		Piezo Push								
		Touchless Infrared								●
	DI/DO	RO	COM							●
			N.O.							●
			N.C.							●
	LED Indicator	None								
		BR: Blue/ Red								●
		GR: Green/ Red								●
	Switch Current	None								
50mA								●		
75mA										
100mA										

Model No.				888-W		888-T-EU	888-T-US
				B	D		
Energy Saver & Switch	Communication	Host	RS485	●	●	●	●
			TCP/IP				
			POE				
	Frequency / UID Bits	125kHz	EM	●			
			13.56 MHz	Mifare/NFC		●	
				DESFire		●	
				Felica			
			ISO15693				
	Card Bit		24~32				
	DI/DO	DI	Don't disturb		●		
			Clean Up		●		
			Service		●		
			Help		●		
			Switch			● <sub>2</sub>	● <sub>3</sub>
		RO	Relay	●	●	● <sub>2</sub>	● <sub>3</sub>
DO	Service output		●				
	Help output		●				
User Capacity			1024				
Event Log			1200				

<b>Dimension(mm)</b>	EU :88(L)X86(W)X9(H)/34(H) / US :110(L)X81(W)X9(H)/34(H)		
<b>Weight(g)</b>	EU :110±10 / US :120±10		
<b>Power Consumption</b>	<5W	<5W	<5W
<b>Power Voltage</b>	9~24VDC		
<b>Ingress Protection</b>	IP65		

Enviroment	Operating Temperature	Storage Temperature	Operating Humidity	Storage Humidity
		-20 °C to +65 °C	-25 °C to +70 °C	20% ~ 90%

Model No.	888-CPI	888-CPO
<b>Power Voltage</b>	9-24VDC	9-24VDC
<b>Indicator</b>	2LED	3LED
<b>Relay</b>	24VDC/7A , 240VDC / 7A	24VDC/7A , 240VDC / 7A
<b>Do Not Disturb LED</b>	Low Active / 20mA max	
<b>Make Up Room LED</b>	Low Active / 20mA max.	
<b>Switch button</b>	2 (DND&MUR)	1(Doorbell)

► WHAT TO EXPECT



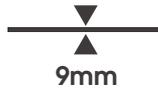
**Total Solution with Aesthetic Design**

Onyx series comes with all ranges of controller, reader, push button, card holder, and Modbus switch. It is perfect for total solution with aesthetic design.



**Illuminated Touch Panel**

Built-in illuminated touch panel for sleek and high quality design.



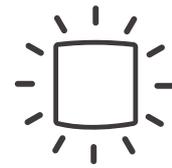
**Ultra-Thin**

Onyx Series offer seamless look with flush mounted design with only 9mm thickness.



**Black or White**

Are you black team or white team? Complete your aesthetic color with Onyx Series. All available with both black and white color.



**Full Frame LED**

It is not only a dot, a line, but it is full frame LED indicator for more quality on its look.



**Long Sensing Distance**

Onyx push button series provides infrared sensor for receiving sensor in distant, no need direct contact.

► APPLICATION



**Visitor Management System**

For temporary visitor, access can be via QRCode by setting up date and time limit for access. For office employee, have access with their own employee card.



**Smart Modbus Switch**

Control lighting, air conditioner, fans, and all digital input installed with only a click. Compatible with Modbus protocol for more customization features.



**RFID Power Function**

For safety precaution and avoid unintended contact, replace your power switch into AR-888W card holder.

# Nation Series

Access controller that sustainable through ages



-  Keypad Access Controller / Keypad Proximity Reader - AR-721-H / K
-  Access Controller / Proximity Reader- AR-723-H / U
-  LCD Access Controller - AR-727-E
-  Keypad Access Controller - AR-757-H

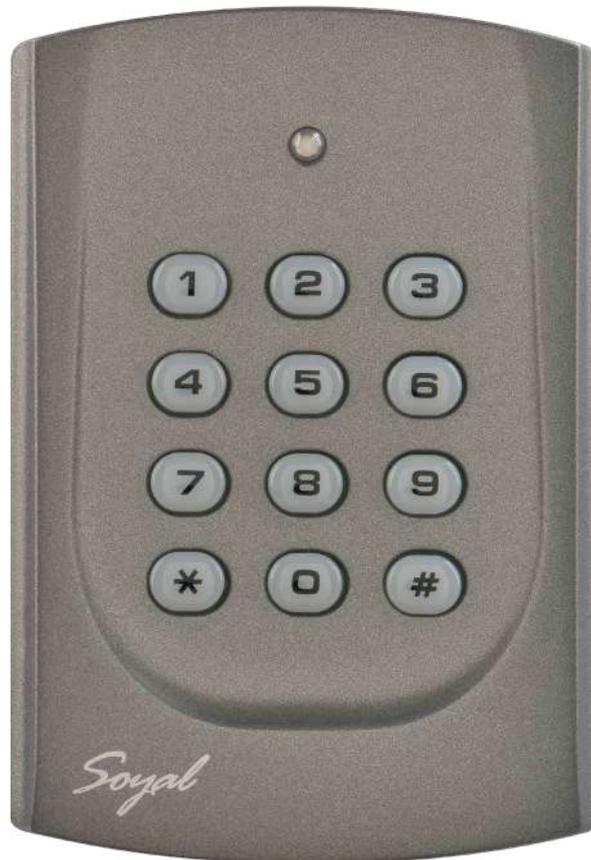


Proximity Reader	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	WG 24-34 / WG 24-66 / ABAIL / RS485 / RS232 / USB
Controller	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	User Capacity: 1,024 / 3,000 /16,000 /32,000 / 65,000
	DI/DO:Engress/ Door State /Arming input / Arming Output / Alarm Output /Duress Output / Security Output / Door Bell
	RO: Door Relay / Alarm Relay
Push Button	Touchless Infrared / Relay Output(COMN.O./N.C.)
Communication	RS-485 / TCP/IP / UART / POE / QR Code

Scale 1:1

# Keypad Access Controller / Keypad Proximity Reader

AR-721-H / K



Web



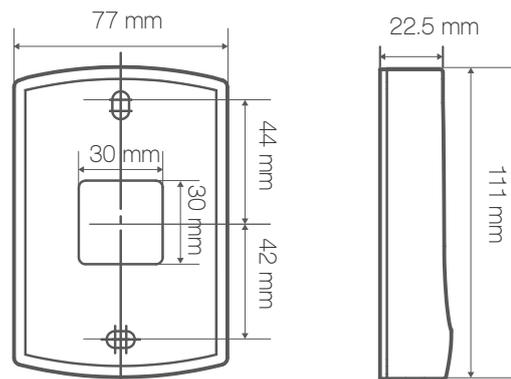
Youtube

**Dimension (mm)** 111(L)X77(W)X26(H)

**Color**



**Installation**



Scale 1:1

# Access Controller / Proximity Reader

## AR-723-H / U



Web



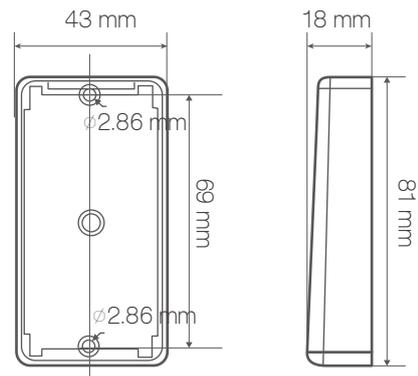
Youtube

### Dimension (mm)

81(L)X43(W)X18(H)

### Installation

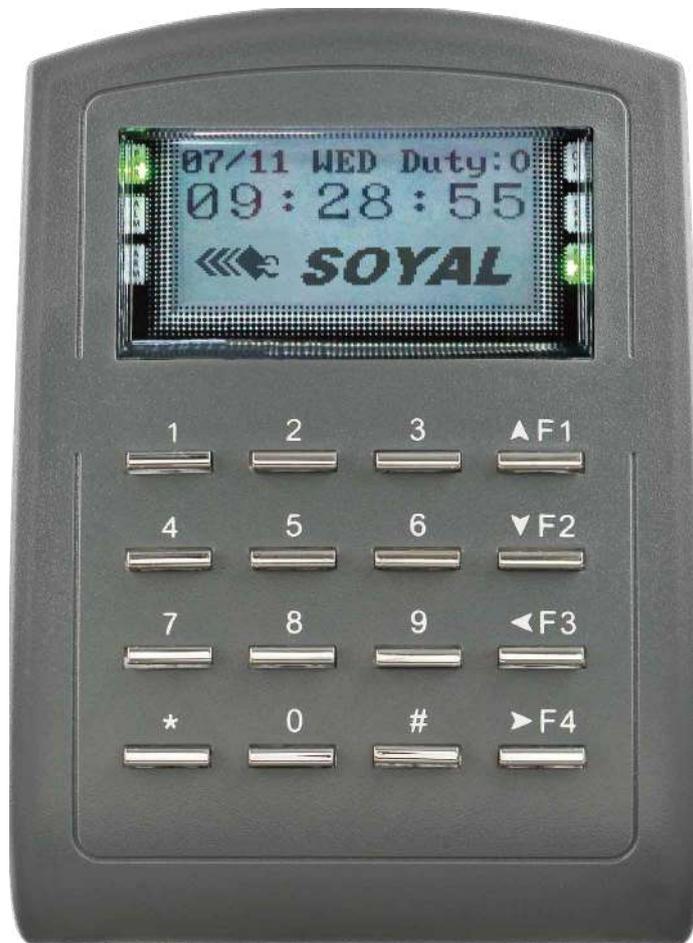
### Color



Scale 1:1

# LCD Access Controller

## AR-727-E



Web



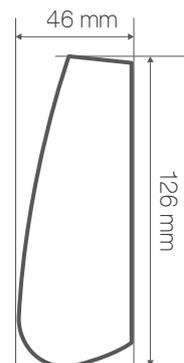
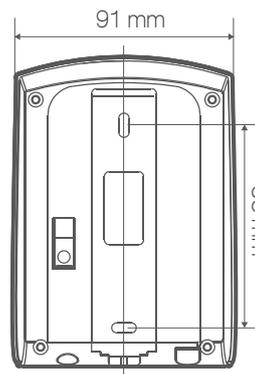
Youtube

**Dimension (mm)** 126(L)X91(W)X46(H)

**Installation**

**Color**

Gray



Scale 1:1

# Keypad Access Controller

## AR-757-H



Web



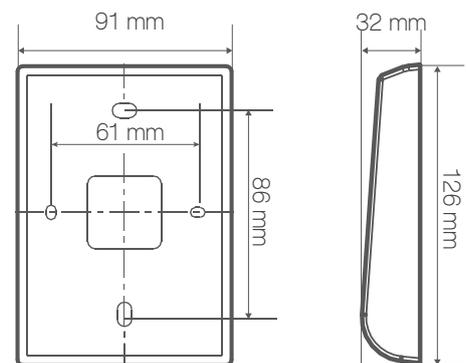
Youtube

### Dimension (mm)

126(L)X91(W)X32(H)

### Installation

### Color



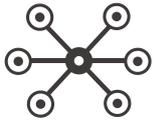
**SPECIFICATION**

● STANDARD ○ OPTIONAL BY ORDER ◻ EXTERNAL

B: 125Khz / D: 13.56MHz / S: Dual Band

Model No.			723-U		721-K		721-H		723-H		757-H		727-E				
			B	D	B	D	B	D	B	D	B	D	B	D	S		
Proximity Reader	Communication Interface	Output Selection	WG 24-34	●	●	●	●										
			WG 24-66											●	●	●	
			RS485		●		●								●	●	●
			RS232	○	○	●											
			USB														
			ABA-II	●	●	●	●								●	●	●
	Frequency	125kHz	EM	●		●								●		●	
			13.56 MHz	Mifare/NFC		●		●								●	●
				DESFire		●		●								●	●
				Felica												●	●
ISO15693					○		○									●	●
Controller	Communication	Host	RS-485				●	●	●	●	●	●	●	●	●		
			TCP/IP											○	○	○	
			POE												○	○	○
		Serial	UART Port					Output Only	Output Only	Output Only	Output Only	Output Only	Output Only	Output Only	○ <sup>x2</sup>	○ <sup>x2</sup>	○ <sup>x2</sup>
			WG Module					○	○	○	○	○	○	○	○	○	○
	Frequency / UID Bits	125kHz	EM					32		32		32		32		32	
			13.56 MHz	Mifare/NFC						32		32		32		64	64
				DESFire						32		32		32		64	64
				Felica												64	64
				ISO15693												64	64
DI/DO	DI	Egress					●	●	●	●	●	●	●	○ <sup>x2</sup>	○ <sup>x2</sup>	○ <sup>x2</sup>	
		Door State					●	●	●	●	●	●	●	○ <sup>x2</sup>	○ <sup>x2</sup>	○ <sup>x2</sup>	
		Door Bell					Use #	Use #			●	●					
	RO	Door Lock Relay					●	●	●	●	●	●	●	●	●		
		Alarm Relay					○	○	○	○	●	●	●	●	●		
	DO	Door Bell Output					Common Alarm PIN	Common Alarm PIN			●	●					
		Security Output							●	●	●	●	●	●	●		
		Arming Output					●	●	●	●	●	●	●	●	●		
		Duress Output					●	●	●	●	●	●	●	●	●		
	Doors / Floors Number							1.5 / 32		1.5 / 32		1.5 / 32		2 / 64			
User Capacity							1024		1024		1024		16000				
Event Log							1200		1200		3000		32000				
RF Reading Range			6-12cm	3-8cm	10-18cm	3-8cm	10-18cm	2-8cm	5-12cm	2-8cm	10-18cm	2-8cm	5-15cm	2-5cm	2-15cm		
Others	Tamper Switch				●		●				●			●			
	Tamper Output				●		●				●			●			
	WG In Port						●		●		●			●			
	WG Out Port		●		●									●			
	Buzzer		●		●		●		●		●			●			
	QRCode																
<b>Dimension(mm)</b>			81(L)X43(W)X18(H)		111(L)X77(W)X26(H)		111(L)X77(W)X26(H)		81(L)X43(W)X18(H)		126(L)X91(W)X32(H)		126(L)X91(W)X46(H)				
<b>Weight(g)</b>			40±5 (125KHz) 60±5 (13.56MHz)		100±10		100±10		40±5 (125KHz) 60±5 (13.56MHz)		155±10		220±10				
<b>Power Consumption</b>			<1W		<1W		<3W		<3W		<3W		<5W				
<b>Power Voltage</b>							9-24VDC										
<b>Ingress Protection</b>			IP56		NO		NO		IP56		IP54		IP54				
<b>Environment</b>			Operating Temperature			Storage Temperature			Operating Humidity			Storage Humidity					
			-20 ° C to +65 ° C			-25 ° C to +70 ° C			20% ~ 90%			5% ~ 95%					

► WHAT TO EXPECT



**Pure Standalone**  
AR-721-H

For economical purpose, current AR-721-H (V3 version) is also available with V2 Version (without RTC) and VSL Version (without RTC, RS485, and WG).



**High Durability**

It can still work fine under extreme circumstances.



**Compact**  
AR-723-H / AR-723-U

Do not have big space, no problem!



Waterproof

**Waterproof**

Solid particle protection: dust protected  
Liquid protection: powerful water jets (12.5 mm nozzle) Liquid protection: splashing of water.



**Door Bell**  
AR-757-H

Ding Dong! It is built-in doorbell function



10 years

**Long Life Span**

Soyal Nation series has been known to have life span up to 10 years.

► APPLICATION



**Keypad Access Control**

No need to carry a bunch of keys, a single card or code to have access in the building.



**Vending machine**

Coins falling and rolling away or shortage? Cashless payment fix your thirsty, read card and select your drink.



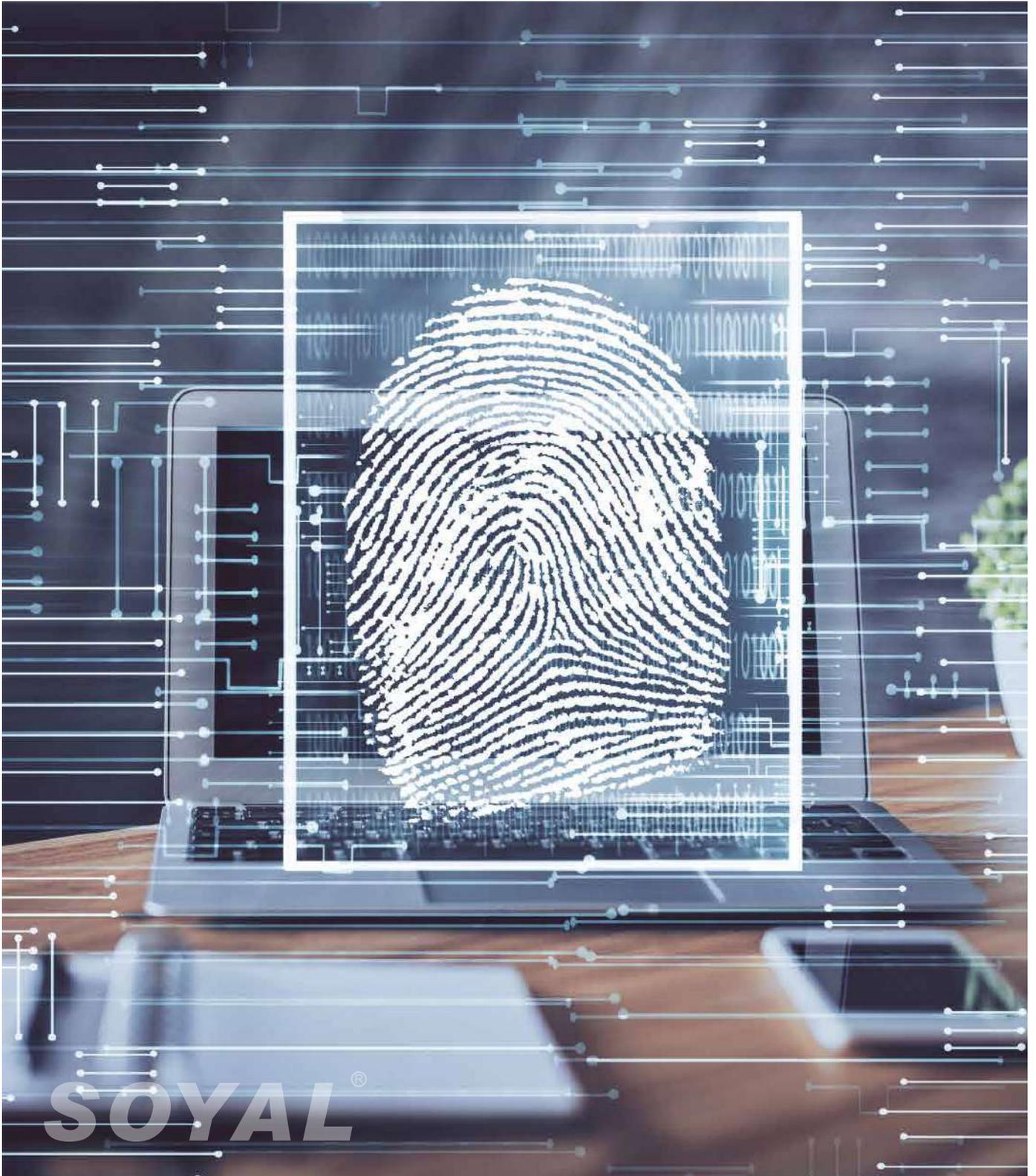
**Control panel Authentication**

Control panel is essential to be operated by authorized personnel only, presenting an encrypted card now!

# Biometric Series

No more fraud or accounts take over.

Get more secure and accurate authentication with Soyal Biometric Series





Fingerprint Controller - AR-331-EF3DO



Fingerprint Enroller - AR-331-UF / AR-881-UF



Fingerprint Controller - AR-837-EF3DO/9DO



Fingerprint Controller - AR-881-EF9DO



Proximity Reader	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	WG 24-34 / WG 24-66 / ABAll / RS485 / RS232 / USB
Controller	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	User Capacity : 1,024 / 3,000 /16,000 /32,000 / 65,000
	DI/DO:Engress/ Door State /Arming input / Arming Output / Alarm Output /Duress Output / Security Output / Door Bell
	RO: Door Relay / Alarm Relay
Push Button	Touchless Infrared / Relay Output(COMN.O./N.C.)
Communication	RS-485 / TCP/IP / UART / POE / QR Code

Scale 1:1

# Fingerprint Controller / Fingerprint Enroller

AR-331-EF3DO  
/ AR-331-UF



(AR-331-UF)



Web



Youtube

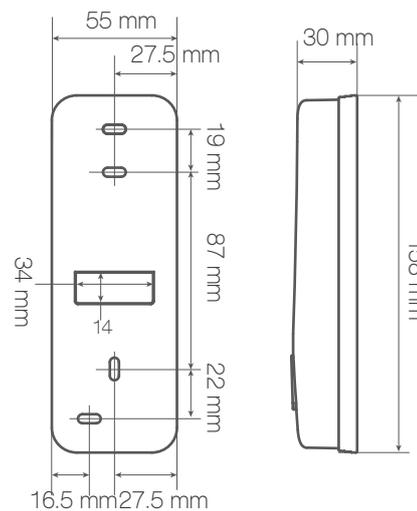
**Dimension (mm)** 158(L)X55(W)X30(H)

**Color**

Silver Silver

**Housing Material** PC / Zinc Alloy

## Installation



Scale 1:1

# Fingerprint Controller

## AR-837-EF3DO



Web



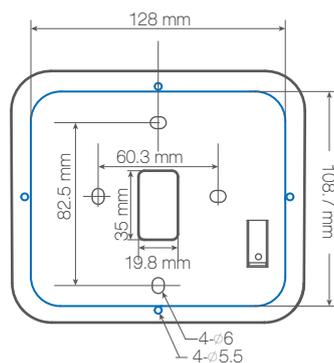
Youtube

### Dimension (mm)

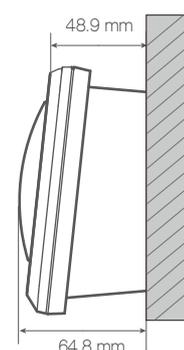
128(L)X147(W)X40/25(H)

### Installation

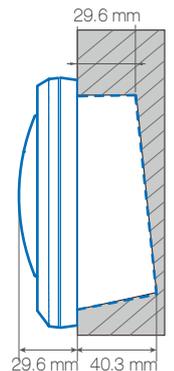
### Color



- Surface mounting hole
- Flush mounting hole



- Surface mounting



- Flush mounting

Scale 1:1

# Fingerprint Controller

## AR-837-EF9DO



Web

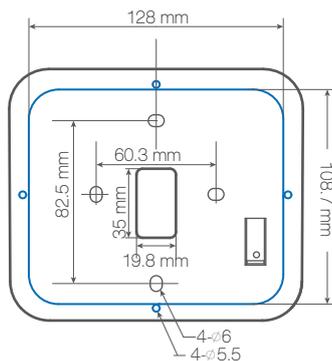


Youtube

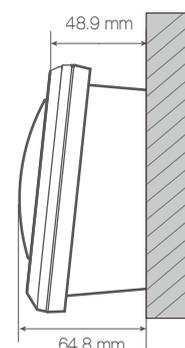
Dimension (mm) 128(L)X147(W)X40/25(H)

### Installation

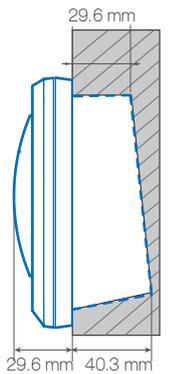
Color



- Surface mounting hole
- Flush mounting hole



- Surface mounting



- Flush mounting

Scale 1:1

# Fingerprint Controller / Fingerprint Enroller

## AR-881-EF9DO / AR-881-UF



(AR-881-UF)



Web



Youtube

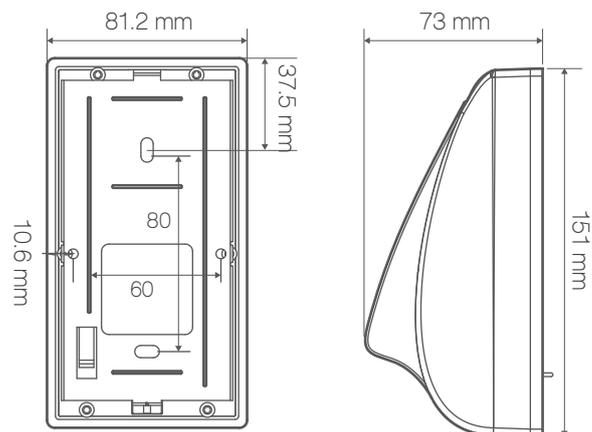
Dimension (mm)

151(L)X81(W)X73(H)

Installation

Color

Black



**SPECIFICATION**

● STANDARD ○ OPTIONAL BY ORDER ×2 TWO E EXTERNAL

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.			331-EF3DO			331-UF	837-EF3DO			837-EF9DO			881-EF9DO			881-UF	
			B	D	S		B	D	S	B	D	S	B	D	S		
Proximity Reader	Communication Interface	Output Selection	WG 24-34														
			WG 24-66	●	●	●		●	●	●	●	●	●	●	●	●	
			RS485	●	●	●		●	●	●	●	●	●	●	●	●	
			RS232														
			USB				USB 2.0 Virtual COM Port										USB 2.0 Virtual COM Port
			ABA-II	●	●	●		●	●	●	●	●	●	●	●	●	
	Frequency	125kHz	EM	●		●		●		●	●		●	●		●	
			Mifare/NFC		●	●			●	●		●	●		●	●	
			DESFire		●	●			●	●		●	●		●	●	
			Felica		●	●			●	●		●	●		●	●	
ISO15693				●	●			●	●		●	●		●	●		
Controller	Communication	Host	RS-485	●	●	●		●	●	●	●	●	●	●	●	●	
			TCP/IP	○	○	○		○	○	○	○	○	○	○	○	○	
			POE	○	○	○		○	○	○	○	○	○	○	○	○	
		Serial	UART PORT	●	●	●		●	●	●	●	●	●	●	●	●	
			WG Module	●	●	●		●	●	●	●	●	●	●	●	●	
	Frequency / UID Bits	125kHz	EM	32		32		32		32	32		32	32		32	
			Mifare/NFC		64	64			64	64		64	64		64	64	
			DESFire		64	64			64	64		64	64		64	64	
			Felica		64	64			64	64		64	64		64	64	
			ISO15693		64	64			64	64		64	64		64	64	
DI/DO	DI	Egress	×2	×2	×2		×2	×2	×2	×2	×2	×2	×2	×2	×2		
		Door State	×2	×2	×2		×2	×2	×2	×2	×2	×2	×2	×2	×2		
		Door Bell					●	●	●	●	●	●	●	●	●		
	RO	Door Lock Relay	●	●	●		●	●	●	●	●	●	●	●	●		
		Alarm Relay	E	E	E		●	●	●	●	●	●	E	E	E		
	DO	Door Bell Output					●	●	●	●	●	●	●	●	●		
		Security Output	●	●	●		●	●	●	●	●	●	●	●	●		
		Arming Output	●	●	●		●	●	●	●	●	●	●	●	●		
		Duress Output	●	●	●		●	●	●	●	●	●	●	●	●		
Doors / Floors Number			2 / 64				2 / 64			2 / 64			2 / 64				
User Capacity			16000				16000			16000			16000				
Event Log			32000			32000	32000			32000			32000			32000	
Fingerprint	FP Sensor Type		Optical Sensor			Optical Sensor	Optical Sensor			Optical Sensor			Optical Sensor			Optical Sensor	
	FRR		<0.1%			<0.1%	<0.1%			<1%			<1%			<1%	
	Image Resolution		450dpi			450dpi	450dpi			500dpi			500dpi			500dpi	
	Fingerprint Capacity		1500FP			1500FP	1500FP			9000FP			9000FP			9000FP	
	Total Users with FP Capacity		500 User <small>(1-3 fingerprints for each user)</small>			500 User <small>(1-3 fingerprints for each user)</small>	500 User <small>(1-3 fingerprints for each user)</small>			4500 User <small>(1-2 fingerprints for each user)</small>			4500 User <small>(1-2 fingerprints for each user)</small>			4500 User <small>(1-2 fingerprints for each user)</small>	
Identification Speed (1:1000)		<1.5sec			<1.5sec	<1.5sec			<0.7sec			<0.7sec			<0.7sec		
RF Reading Range			5-15 cm 2-5 cm 2-15 cm				5-15 cm 2-5 cm 2-15 cm			5-15 cm 2-5 cm 2-15 cm			5-15 cm 2-5 cm 2-15 cm				
Others	Tamper Switch		●				●			●			●				
	Tamper Output		●				●			●			●				
	WG In Port		●				●			●			●				
	WG Out Port		●				●			●			●				
	Buzzer		●				●			●			●				
Dimension(mm)			158(L)X55(W)X30(H)				128(L)X147(W)X65(H)/30(H)			151(L)X81(W)X73(H)							
Weight(g)			Zinc Alloy :216±10 / PC:110±10				450±10			330±10							
Power Consumption							<5W										
Power Voltage			9~24VDC			5VDC	9~24VDC			9~24VDC			9~24VDC			5VDC	
Ingress Protection			IP65			IP65	IP65			IP65			NO			NO	
Environment	Operating Temperature			Storage Temperature			Operating Humidity			Storage Humidity							
	-20 °C to +65 °C			-25 °C to +70 °C			20% ~ 90%			5% ~ 95%							

► WHAT TO EXPECT



**Time Attendance System**

Track and monitor start and stop employees' work time with fingerprint access controller and Soyal software for duty report



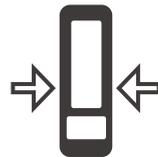
**Quick Step Enrollment**

To support fingerprint reader, we provide USB enrollment reader for fast fingerprint enrollment to each of installed devices via EnrollTool software.



**Anti-Passback with Fingerprint**

Convert your access controller with both master and slave reader for anti-passback with fingerprint access.



**Large VS Slim**

We offer fingerprint controller's option from large size that built-in LCD, RFID, keypad and fingerprint; to slimmer size that only have RFID and fingerprint only.



**Multi-Factor Authentication**

Card, check. PIN, check. Fingerprint, check. Get more secure with dual-factor authentication from three different access options combined.



**High Accuracy**

With large sensing area, noise reduction, and error reduction matches user fingerprint vastly and accurately.

► APPLICATION



**Fingerprint Identification**

All people have unique and different fingerprint. When RFID and PIN is not enough to identify an identity, fingerprint identification is a solution for you.



**Multi-Credential Authorization System**

Want more secure on fingerprint features for keeping your treasure safe? Denying access with only one valid fingerprint, and authorized access with two valid fingerprints.



**Time Attendance**

Clock in and clock out when starting duty hours and ending duty hours with fingerprint controller. Count employee duty report and monthly report via Soyal software.

# Mini 101 Series

Can access controller get tinier than this?  
Introducing AR-101 Series built in LED frame indicator and mini design for all purposes.



 Access Controller - AR-101-H

 Proximity Reader - AR-101-U

 Infrared Touchless Button - AR-101-PBI



Proximity Reader	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	WG 24-34 / WG 24-66 / ABAIL / RS485 / RS232 / USB
Controller	125kHz : EM
	13.56MHz:Mifare ISO14443A / NFC / DESFire / Felica / ISO15693
	User Capacity : 1,024 / 3,000 /16,000 /32,000 / 65,000
	DI/DO:Engress/ Door State /Arming input / Arming Output / Alarm Output /Duress Output / Security Output / Door Bell
	RO: Door Relay / Alarm Relay
Push Button	Touchless Infrared / Relay Output(COMN.O./N.C.)
Communication	RS-485 / TCP/IP / UART / POE / QR Code

Scale 1:1

# Access Controller / Proximity Reader/ Touchless Sensor Push Button

AR-101-H / U / AR-101-PBI



(AR-101-H/U)



(AR-101-PBI)

## Accessories



Stainless Steel Panel  
DMET-PB



Plastic Mounting Panel  
DPLA-PB



Web(101-H/U)



Youtube(101-H/U)



Web(101-PBI)

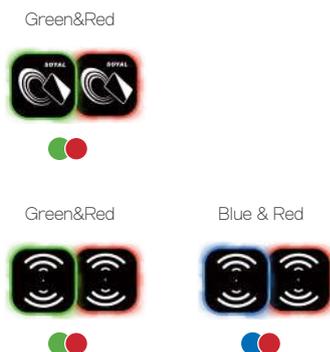


Youtube(101-PBI)

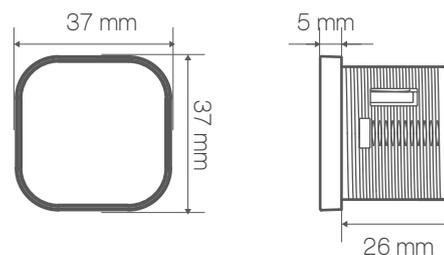
## Dimension (mm)

37(L)X37(W)X31(H)

## Color (LED ON)



## Installation



**SPECIFICATION**

● STANDARD    ⊙ OPTIONAL BY ORDER    ⊕ EXTERNAL

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.			101-U	101-H	101-PBI		
			S	D			
Proximity Reader	Communication Interface	Output Selection	WG 24-34	●			
			WG 24-66				
			RS485	●			
			RS232				
			USB				
			ABA-II				
	Frequency	125kHz	EM	●			
			Mifare/NFC	●			
			13.56 MHz	DESFire	●		
				Felica			
ISO15693							
Controller	Communication	Host	RS-485		●		
			TCP/IP				
			POE				
		Serial	UART Port			Output Only	
	WG Module				⊙		
	Frequency / UID Bits	125kHz	EM				
			Mifare/NFC		32		
			13.56 MHz	DESFire		32	
				Felica			
				ISO15693			
DI/DO	DI	Egress		●			
		Door State		●			
		Door Bell					
	RO	Door Lock Relay		⊕			
		Alarm Relay		⊕			
	DO	Door Bell Output					
		Security Output					
		Arming Output					
		Duress Output					
		Doors / Floors Number			1.5 / 32		
User Capacity			1024				
Event Log			1500				
RF Reading Range			1-3 cm	1-3 cm	-0.5cm or 5-20 cm(Sensor)		
Extend Port	Tamper Switch						
	Tamper Output						
	WG In			●			
	WG Out		●				
	Buzzer		●	●			
	QRCode						

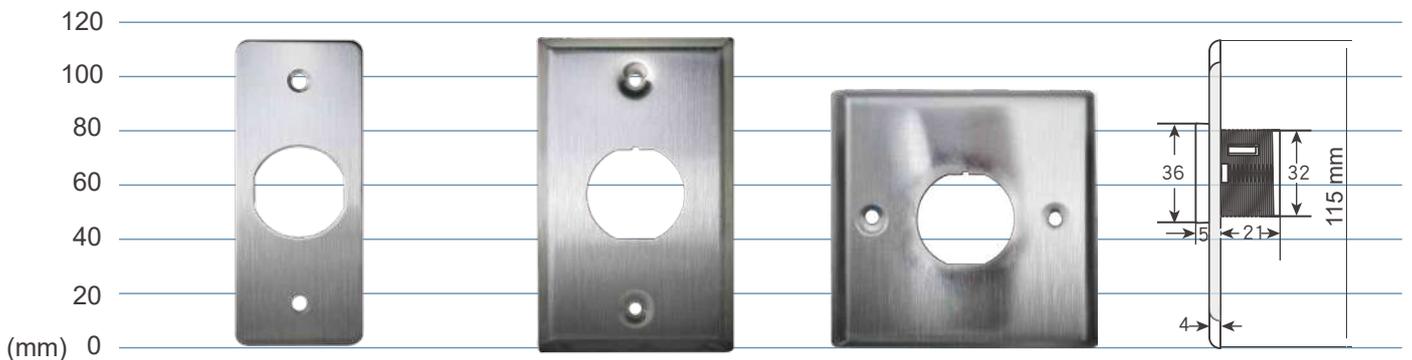
**SPECIFICATION**

● STANDARD    ○ OPTIONAL BY ORDER    ◻ EXTERNAL

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.			101-U		101-H		101-PBI		
			B	D	B	D			
Push Button	Working Mode	Traditional Push							
		Piezo Push							
		Touchless Infrared						●	
	DI/DO	RO	COM					●	
			N.O.					●	
			N.C.					●	
									●
	LED Indicator	None							
		BR: Blue/ Red						●	
		GR: Green/ Red						●	
	Switch Current	None							
		75mA						●	
100mA							●		
Dimension(mm)			37(L)X37(W)X31(H)						
Weight(g)			26±10						
Power Consumption			<1W		<3W		No		
Power Voltage			9-24VDC						
Ingress Protection			NO						
Environment		Operating Temperature		Storage Temperature		Operating Humidity		Storage Humidity	
		-20 °C to +65 °C		-25 °C to +70 °C		20% ~ 90%		5% ~ 95%	

**Stainless Steel Panel**



(Slim US Type)  
DMET-PBC9H01

(Rectangle US Type)  
DMET-PBXXA01

(Square EU Type)  
DMET-PBXXA02

**Plastic Mounting Panel**



(Rectangle US Type)  
DPLA-PB7A  
■ Silver ■ Black

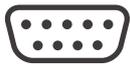
(Square EU Type)  
DPLA-PB8A  
■ Silver ■ Black

▶ WHAT TO EXPECT



**Mini**

Can't get any smaller than this, only as big as a coin!



RS485/WG

**Flush Mounting Installation**

5mm width offer you effortless and slim installation



**Bi-Color Frame Indicator**

Available in Green-Red or Blue-Red LED frame as an indicator



**Long Sensing Distance**

AR-101-PBI

Infrared sensor will received the sensor in distant, no need to press any button!



**Panel Varieties**

Plastic or Stainless? Rectangle, Square, or Slim Size? Silver or Black Color? We have it all!



**Dual-Band Frequency**

AR-101-U

It is mini, but surely it can read both 125kHz and 13.56MHz frequency

▶ APPLICATION



**Cabinet and Storage System**

Keyless and NFC supported AR-101-H or AR-101-U offer you to open your cabinet and storage as easy as a tap.



**Lift Reader**

Fit every corner of lift installation and enhance design quality with LED frame indicator.



**Your Everywhere Sensor**

Hand dryer, automatic sink, or even door handle? AR-101-PBI offer mini infrared touch less push button that suitable for every installation.

# Long Range Reader - 125Khz / UHF

Ease your life - grant access just in Right time, Right place to Right person



SOYAL®

(((•))) Long Range Proximity Reader - AR-661U

(((•))) UHF Long Range Reader - AR-661UG

(((•))) LCD UHF Scanner - AR-661UG-L



**SOYAL Long Range Readers provide longer reading range and suitable for outdoor installation. In bad weather days it free you from overcast day to bright future.**

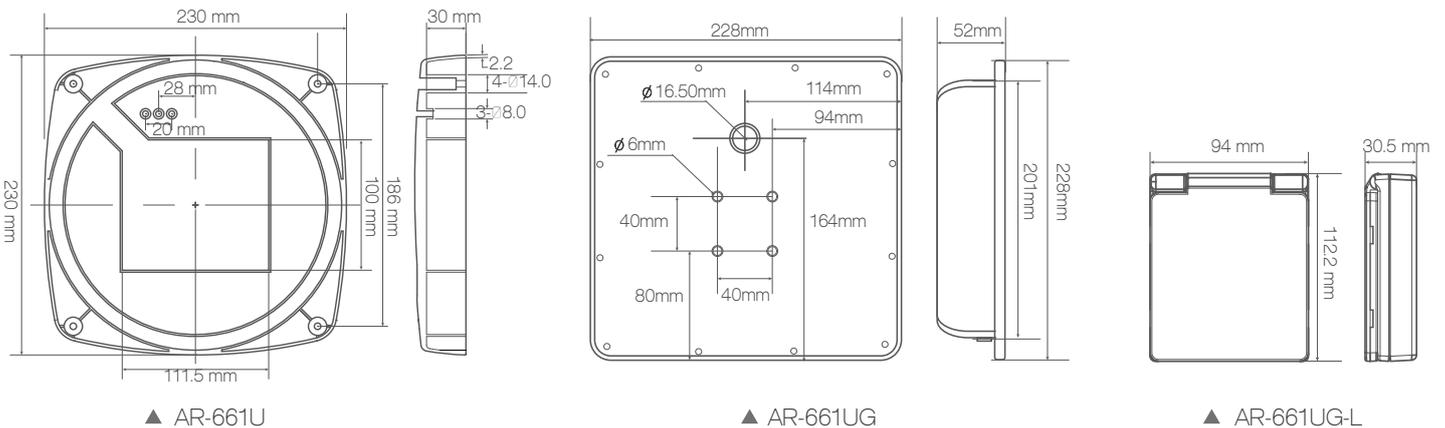
- AR-661U a 125Khz Long Range Reader up to 60CM that made with Industrial Grade, there are lots of Display Format to choose out there to meet your preference, we offer WG-38, WG-34, WG-26, and RS232(TTL) just by adjusting its DIP-SWITCH. It has built-in 3 LED and 1 buzzer for quick visual check. Best choice for Single-lane, Dual-lane, Multi-lane and Multi-Level parking Lot installation (Barrier, Loop Sensor, Payment Machine, LED Board, etc)
- AR-661UG a UHF Long Range Reader up to 6 meters that operable at various operating bands specified by individual countries. It complies with EPC Gen 2 (ISO18000-6C) standard, Cost-effective reading passive tags and output standard Wiegand formats to controller.
- AR-661UG-L, Handheld UHF RFID reader having built-in 2.2 inches LCD screen. It has small, light weight, convenient and simple operation feature. It complies with EPC Gen 2 (ISO 18000-6C) standard. Through the simple operation, user can get the electric label or particular card information from LCD screen directly. It suitable for single date processing.

► SPECIFICATION

Model No.	AR-661U	AR-661UG	AR-661UG-L
Frequency	125Khz	902-928Mhz / 865-868Mhz	902-928Mhz / 865-868Mhz
Standard	EM Standard	ISO18000-6C	ISO18000-6C
Supported Tag	125Khz EM tags	All H3 chip tags can be used Vehicle tags and Hand-held tags	
Communication Interface	Wiegand / 34+4, ASYNC	Wiegand, RS485	Micro USB
Baud Rate	9600 bps (N, 8, 1)	9600 bps (N, 8, 1)	—
Reading Range	33-60 cm	4-6 Meters	> 50 cm
Read/Write	Read only	Read only	Read only
Watchdog function	Yes	Yes	Yes
Power Consumption	<3W	<18W	23 dBm
Power Supply	9-24 VDC	12VDC	12VDC
Indicator	3 LED, 1 Beeper	1 LED	No
Ingress Protection	IP56	IPX6	No
Housing Material/Color	ABS/Gray	ABS/Ivory	ABS/Ivory
Dimension	230(L)x230(W)x39(H)	228(L)x228(W)x52(H)	112(L)x94(W)x31(H)
Weight (g)	1000±50	940±50	225
Operating Temperature	-20°C ~ +65°C	-20°C ~ +65°C	-20°C ~ +65°C
Storage Temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
Operating Humidity	20%~90%	20%~90%	20%~90%
Storage Humidity	5%~95%	5%~95%	5%~95%

Proximity Reader

► INSTALLATION



▶ WHAT TO EXPECT



**Outdoor Use**

Ideal for outdoor applications, high IP (Ingress Protection) Rating.



**Easy Installation**

Easy to install and maintenance with visual LED indicator



**Long Reading Distance**

Contactless RFID Authentication, reading distance up to 60 cm & 4-6 meters



**User Friendly**

User friendly software for setting up & making it suited to access control, car parking and so on.



**Common Interface**

Configurable interface to output most of the common interface formats, easy to upgrade the installations.



**In Field Firmware Upgradable**

Firmware is upgradable just by a easy click on SOYAL Software.

▶ APPLICATION



**Multi-Lane Car Parking**

Long range Reader detects Tags when the vehicle is coming in Multi-lane displaying status: Anti-Pass Back Error, No Vacancy, Invalid Card etc



**Dual-Lane Parking Lot in Residents Apartment**

Handsfree authentication in car using same card to access the building



**Flexible integrated with License Plate Recognition**

High security and recognition effectively without wait in long queue when having integrated with Access controller and I/O modules

# Multi-door Control Series

Absolute Solution for large and scalable multiple Access





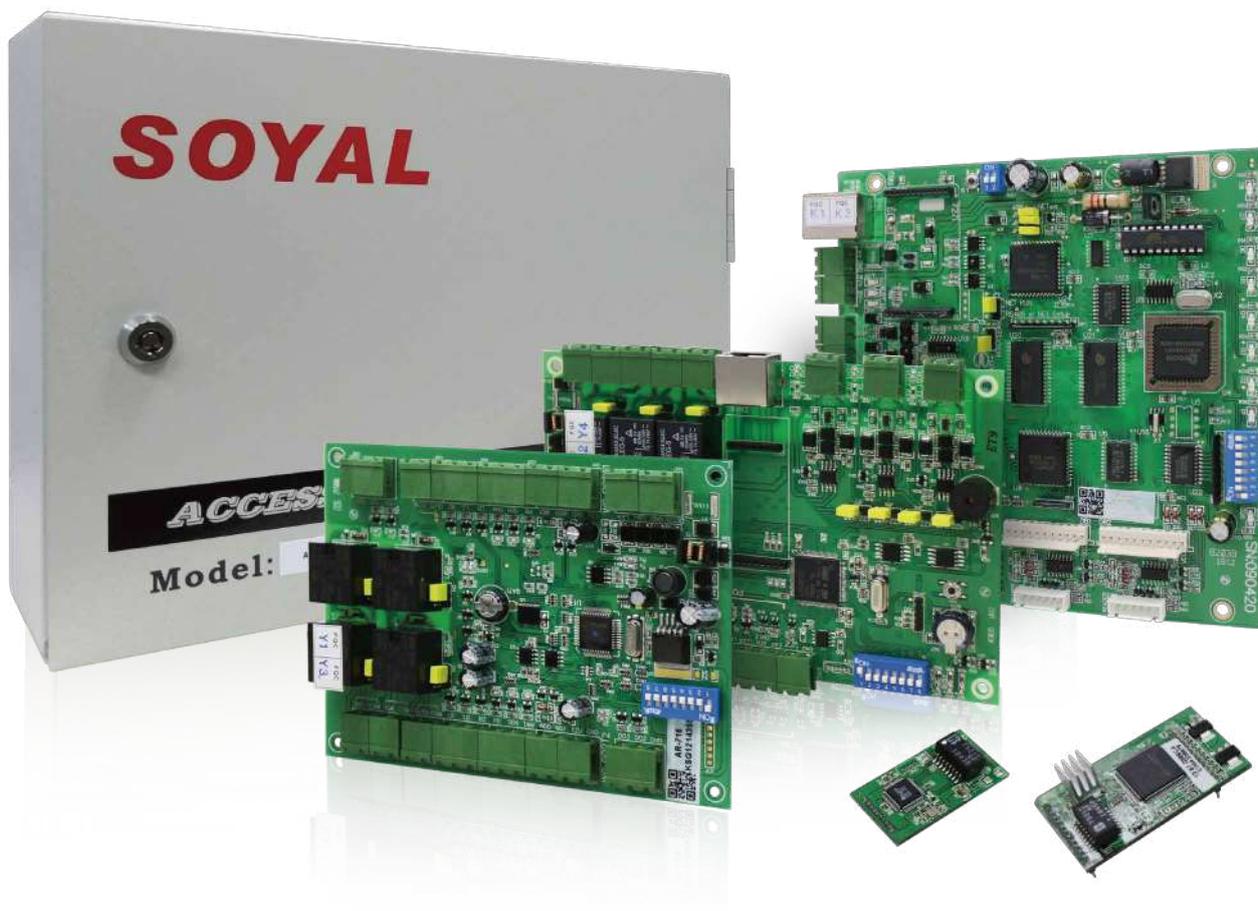
18 Doors Networking Control Panel - AR-716-E18



16 Doors IP Control Panel - AR-716-E16



2 Doors Networking Control Panel - AR-716-E02



SOYAL provides comprehensive product choices for large and scalable multi-door Access.

We provide 2 Doors Networking Control Panel AR-716-E02 that is best choice for dual doors or dual direction of Entry and exit with Anti-pass back access requirement.

The new generation 16 Doors IP Control Panel AR-716-E16 with huge memory storage components and fully new hardware layout make it to be able to meet the requirements of new Echo.

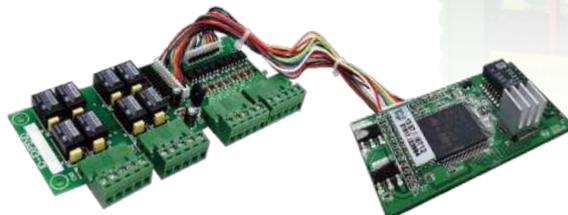
The classic 18 Doors Networking Control Panel AR-716-E18 with its perfect hardware protection design is really stronger, more stable, fair durable after passing through 20 plus years test from plenty of projects all over the world.

They are also open and compatible, easy to develop and integrate based on its open Protocol and SDK by the 3rd Party System..

Scale 1:2

# 18 Doors Networking Control Panel

## AR-716-E18



(AR-716-E-8180)  
I/O Extension Board

(AR-727i-V3)  
TCP/IP Module



Web



Youtube

### Dimension (mm)

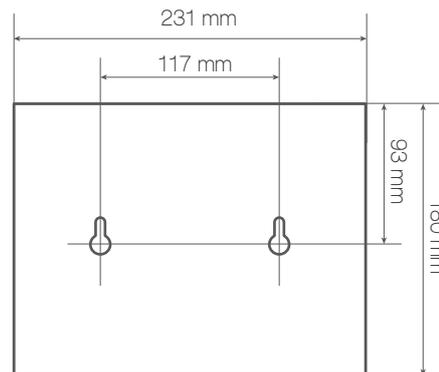
PCB :  
148(L)X150(W)X20(H)

Metal Box :  
180(L)X231(W)X62(H)

### Color



### Installation



• Metal Box

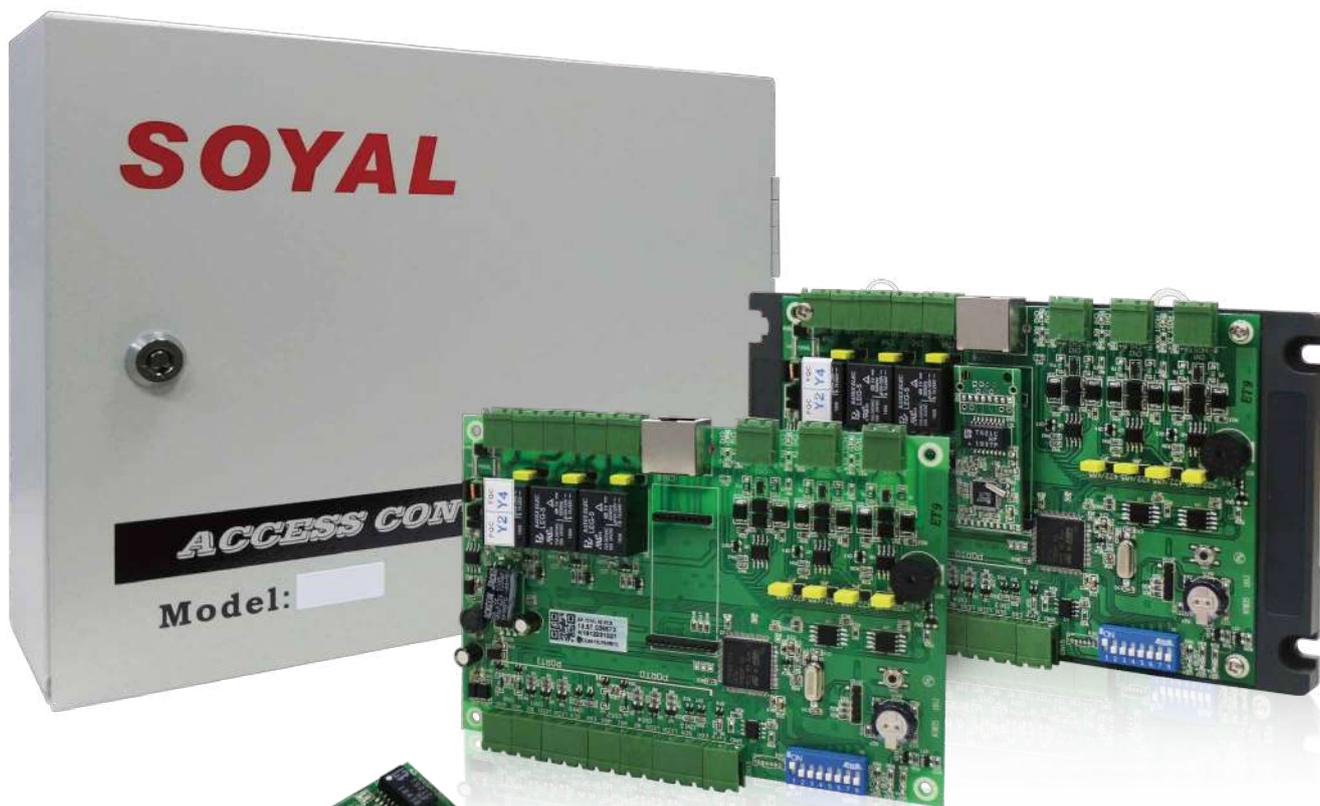
### Others

UPS connectable

# 16 Doors IP Control Panel

## AR-716-E16

Scale 1:2



(DMOD-NETMA)  
TCP/IP Module



Web



Youtube

### Dimension (mm)

PCB : 100(L)X147(W)X20(H)

Plastic Mounting Base :  
103(L)X175(W)X32(H)

Metal Box :  
180(L)X231(W)X62(H)

### Color

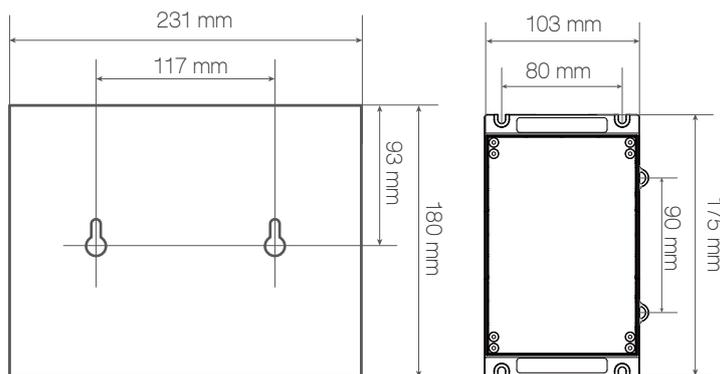
Green



### Others

UPS connectable

### Installation



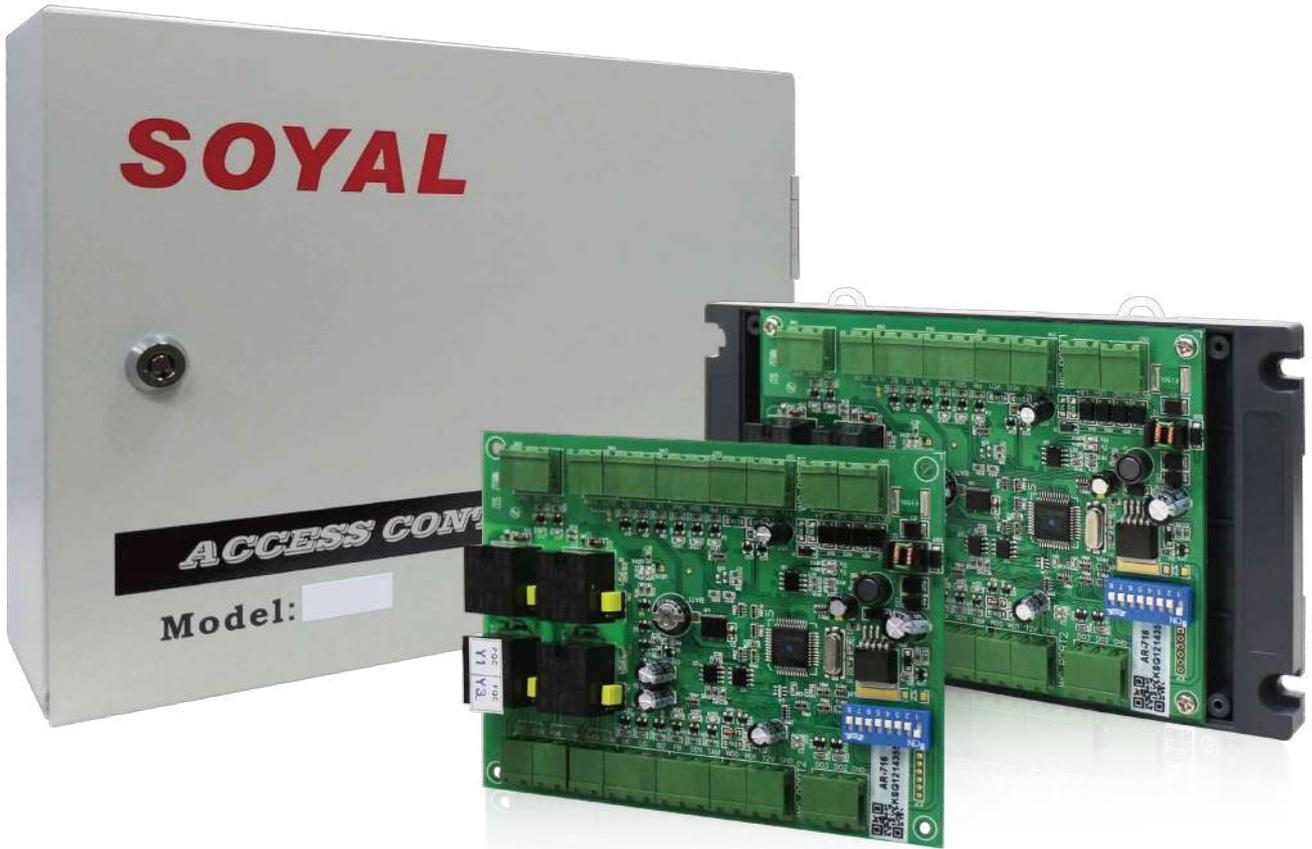
• Metal Box

• Plastic Mounting Base

Scale 1:2

# 2 Doors Networking Control Panel

## AR-716-E02



Web



Youtube

### Dimension (mm)

PCB : 100(L)X132(W)X20(H)

Panel Mounting Base :  
103(L)X175(W)X32(H)

Metal Box :  
180(L)X231(W)X62(H)

### Color

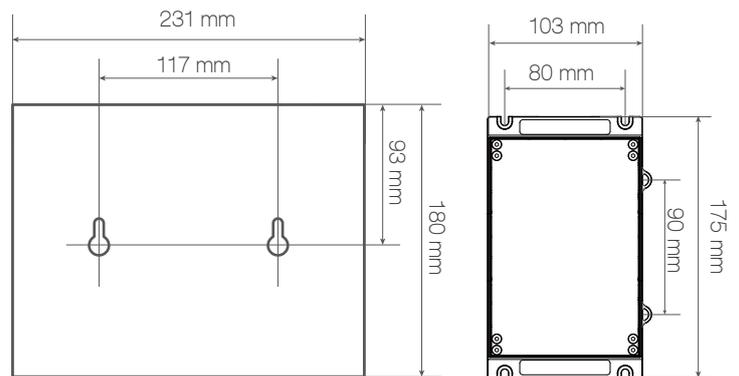
Green



### Others

UPS connectable

### Installation



• Metal Box

• Plastic Mounting Base

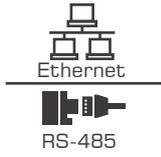
## SPECIFICATION

● STANDARD    ⊙ OPTIONAL BY ORDER    X2 TWO    X1 ONE

B: 125Khz / D: 13.56Mhz / S: Dual Band

Model No.		716-E18	716-E18-A	716-E16	716-E16-A	716-E02	
<b>Door Numbers</b>		18	18	16-32	16-32	2	
<b>Multi Door Controller</b>	Interface /Software	701Server, 701Client	●	●	●	●	●
		HTTP Web browser				●	
		Actively send message to remote Server				●	
		Host (TCP/IP) 10/100 Mbps BaseT Ethernet		●		●	
		Host (RS485) 9600 bps (N,8,1)	●	●	●	●	●
		CH (Slave) RS485 Port *2					
		CH (Slave) WG Port *2	●	●	●	●	●
	User Capacity	3,000					
		15,000	●	●			
		16,000			●	●	
		32,000			●	●	
		65,000	⊙	⊙	●	●	
	Event Log	1,500					●
		11,000	●	●			
		32,000			●	●	
	DI	Engress	X2	X2	X2	X2	X2
		Door Status	X2	X2	X2	X2	X2
		Tamper Switch					X2
		Fire Alarm input	●	●	●	●	●
		Reserved DI	●	●	●	●	●
	DO	Door Lock Relay	X2	X2	X2	X2	X2
		Alarm Relay	●	●	●	●	●
		Reserved RO	●	●			●
		Reserved DO					●
	<b>Watchdog Function</b>		●	●	●	●	●
	<b>Power Supply</b>		9-24 VDC				
	<b>Power Consumption</b>		<2.5W	<2.5W	<3W	<3W	<2W
	<b>Dimension</b>	PCB Board only	150(L)X163(W)X20(H)		100(L)X147(W)X20(H)		100(L)X132(W)X20(H)
With Plastic Mounting Base		None		103(L)X175(W)X32(H)			
With Metal Casing		180(L)X231(W)X62(H)					
<b>Weight (g)</b>	PCB Board only	250g±10		164g±10		175g±10	
	With Plastic Base	None		244g±10		255g±10	
	With Metal Casing	1840g±10		1754g±10		1765g±10	
<b>OS Supported</b>		Windows 7/8/10, Win Server 2008/2012/2016					
<b>Environment</b>	Operating Temperature	-20°C ~ +65°C					
	Storage Temperature	-25°C to +70°C					
	Operating Humidity	20%~90%					
	Storage Humidity	5%~95%					

▶ WHAT TO EXPECT



**Communication Redundancy**

Support Dual Communication interface RS485 and TCP/IP; While one of interface is failed, another interface can be worked as backup to make the system running.



**Release All Door Locks in Fire event**

Built-in DI Fire alarm contact that can be connected with fire alarm input detector; All door locks can be released in case of Fire or emergency accident occurs



**Data Redundancy**

All user data can be stored both on memory of multi-door controller and on each RS485 slave reader; once any readers are disconnected with controller, the user can still get access freely.



**Multiple LED indicator**

Built-in Power and Data Transmission LED indicators easily for Debug and status check.



**Multi-door Anti-passback**

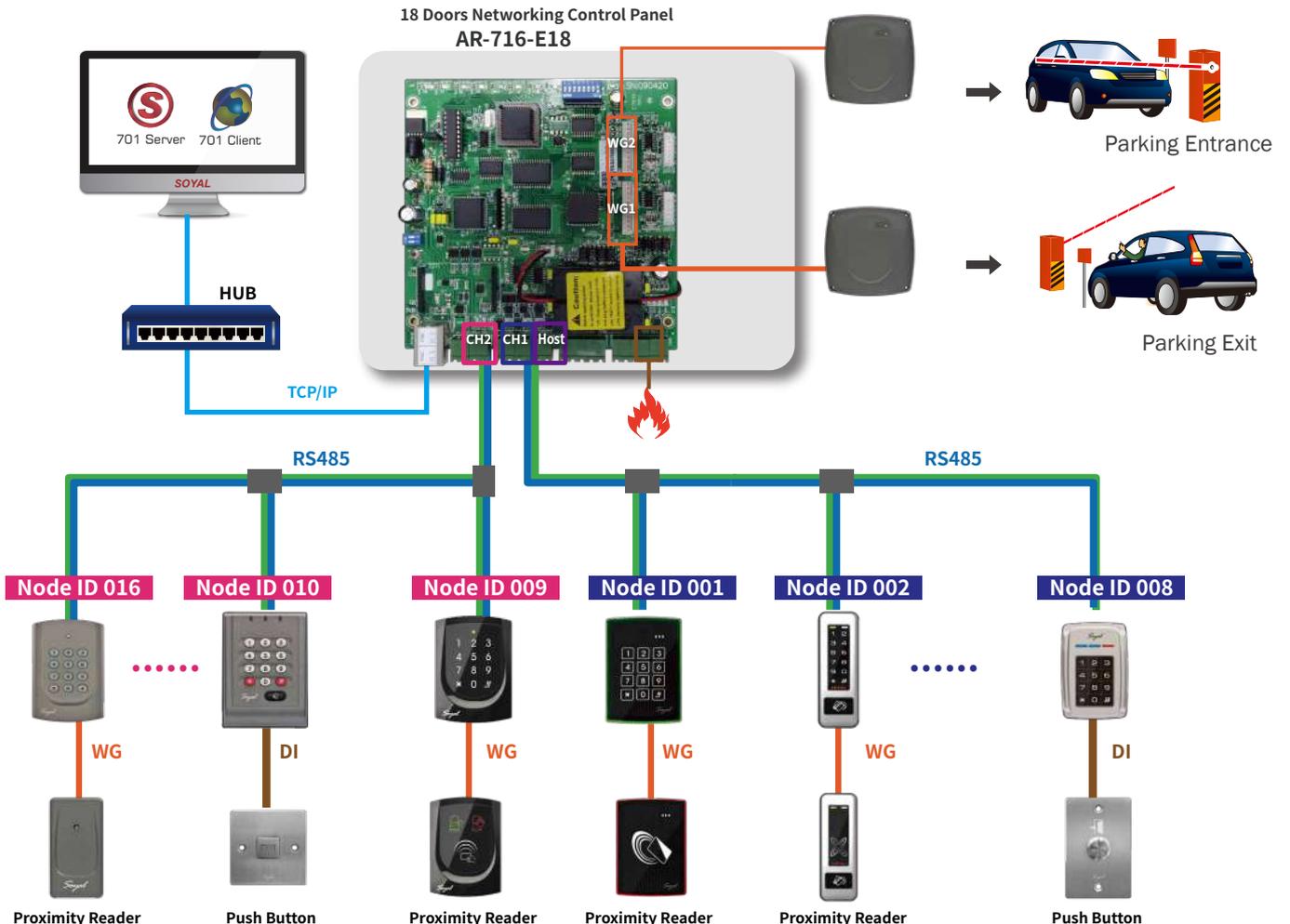
It is capable of accomplishing up to 16 Entry & Exit management.



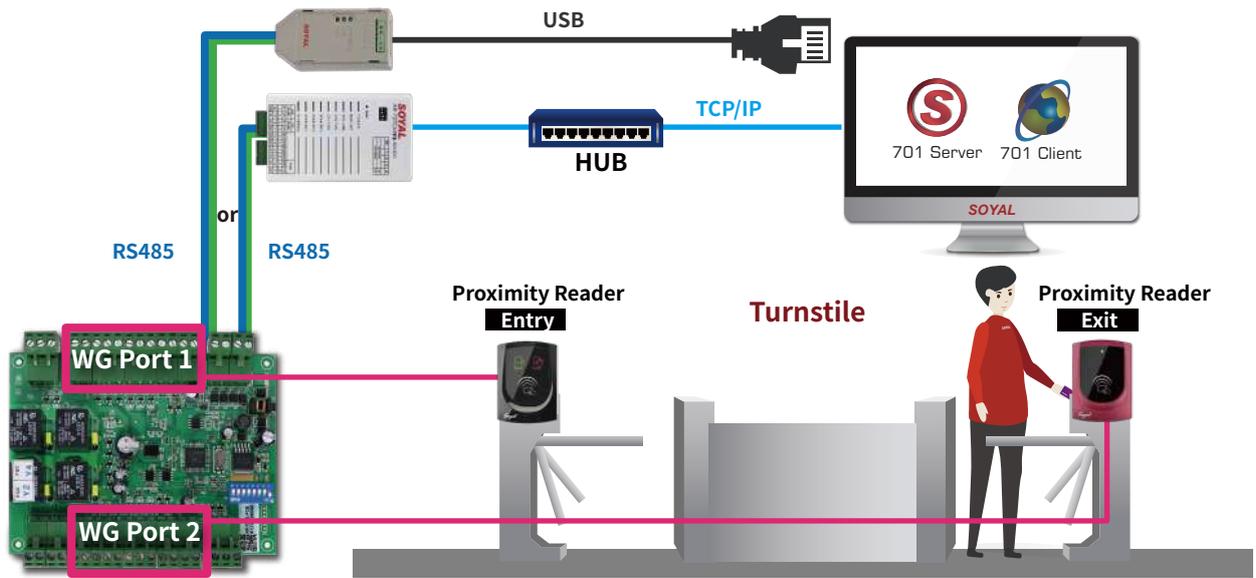
**Send message to Remote Server via Browser**

All parameters, user data can be managed by IP browser without software installation in PC; two Message Listening Ports can actively send out Event Logs to assigned Server for other security system such as CCTV, Fire Alarm to integrate.

**APPLICATION Multi-Entry Anti-Pass Back Access in Parking**

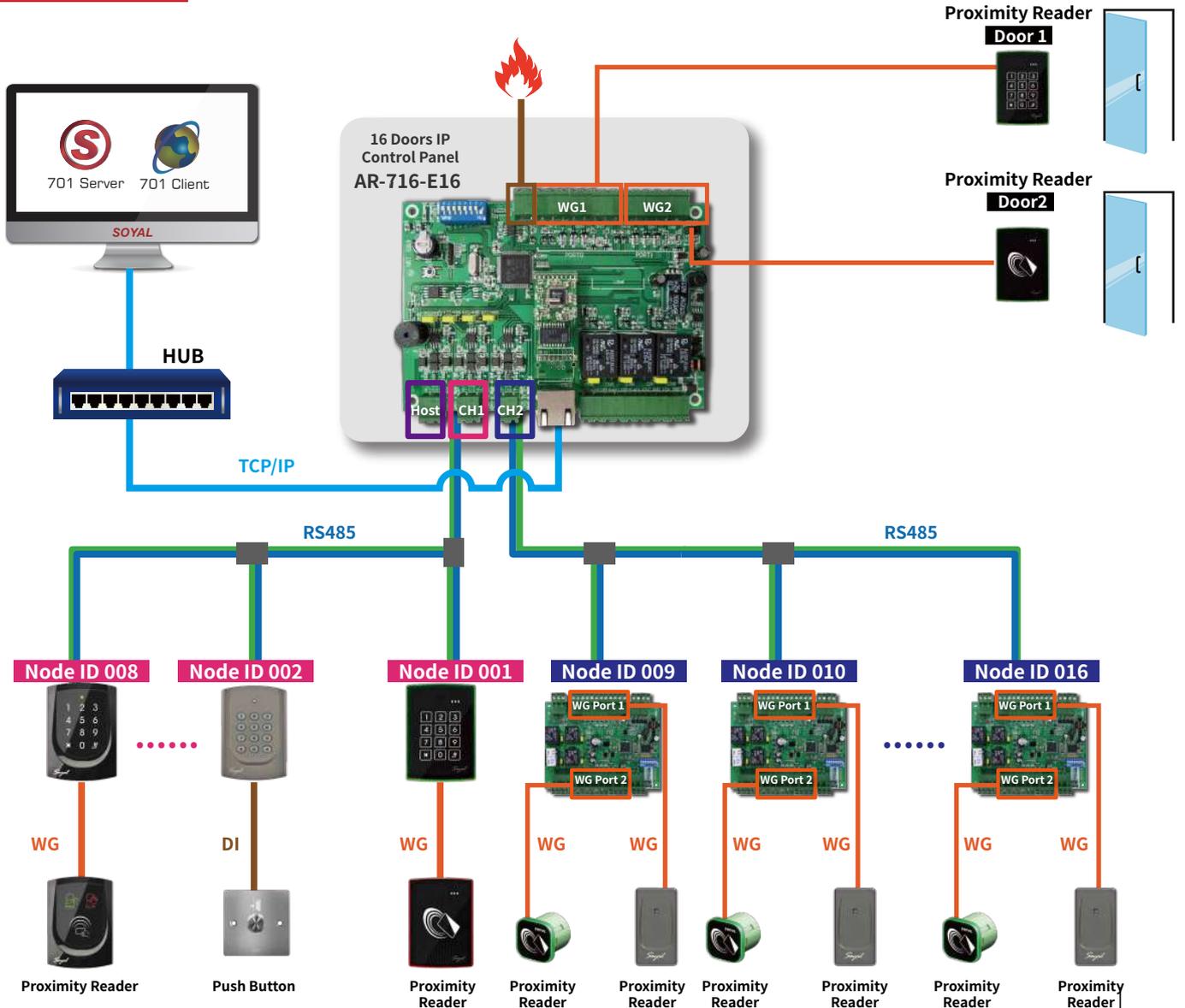


**APPLICATION** Anti-Pass Back Access in Turnstile



2 Doors Networking Control Panel  
AR-716-E02

**APPLICATION** Multi-Door Control with Absolute WG/RS485 Extension



# Enrollment Programmer

SOYAL Encoder save you from repetitive work & risky life





MIFARE Card Programmer - AR-725-P



USB Dual Band Card Register Reader- AR-725-R



DESFire Card Encoder - AR-837-P



Fingerprint Enroller - AR-331-UF / AR-881-UF

(AR-837-P)

(AR-881-UF)

(AR-331-UF)



(AR-725-P)

(AR-725-R)

## How SOYAL encoders save your time and reduce your risk?

- AR-725P MIFARE Card Programmer — Besides MIFARE encryption, SOYAL developed a SOR system (SOYAL OPEN SYSTEM RULES), an advanced edition MIFARE, SOR streamlining MAD and get essential part of to help customers effectively understand the MIFARE features and benefits, particularly for standalone system, SOR help you develop own application issuing card offline for access level, floor mapping, amount deduction, expiry setting, etc.
- AR-837P DESFire Card Programmer — SOYAL provide software 323D Master to easily issue own encrypted DESFire card.
- AR-725RS Dual Band Card Encoder — Plug and Play to quick register user card with SOYAL 701Client Software.
- AR-331UF and AR-881UF — Enroll your fingerprints in 1 second, Read and GO!

## ► SPECIFICATION

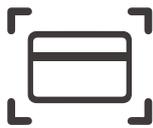
Model No.	725-P	837-P	725-R	331-UF	881-UF
<b>Product Name</b>	<b>MIFARE Card Programmer</b>	<b>DESFire Card Encoder</b>	<b>USB Dual Band Card Register Reader</b>	<b>Fingerprint Enroller</b>	<b>Fingerprint Enroller</b>
Frequency	13.56Mhz	13.56Mhz	125Khz & 13.56Mhz	—	—
Standard	ISO14443A	ISO14443A (3DES, AES 128)	EM Standard & ISO14443A	—	—
Supported Tag	MIFARE Tag	DESFire Tag (EV1, EV2)	EM Tag, MIFARE Tag	—	—
Finger Capacity	—	—	—	1500	9000
Communication Interface	USB 2.0 Virtual COM Port	RS485 (9600, N, 8, 1)	USB 2.0 HID (Plug N Play)	USB 2.0 Virtual COM Port	USB 2.0 Virtual COM Port
Reading Range	1-3 cm	1-3 cm	1-3 cm	—	—
Read/Write	Read/Write	Read/Write	Read only	—	—
Watchdog function	Yes	Yes	Yes	—	—
Power Consumption	<1.5W	<5W	<0.5W		
Power Supply	5VDC	9-24VDC	5VDC	5VDC	5VDC
Indicator	1 Bi-Color LED & 1 Beeper	1 Bi-Color LED & 1 Beeper	1 Bi-Color LED & 1 Beeper	2 LED	3 LED
Housing Material/Color	ABS	ABS	ABS	ABS	ABS+PC
Dimension	110(L)x79(W)x26(H)	128(L)x147(W)x40(H)/25(H)	110(L)x79(W)x26(H)	158(L)x55(W)x30(H)	151(L)x81(W)x73(H)
Weight (g)	230±10	470±30	230±10	216±10	330±10
Operating Temperature	-20°C ~ +65°C	-20°C ~ +65°C	-20°C ~ +65°C	-20°C ~ +65°C	-20°C ~ +65°C
Storage Temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
Operating Humidity	20%~90%	20%~90%	20%~90%	20%~90%	20%~90%
Storage Humidity	5%~95%	5%~95%	5%~95%	5%~95%	5%~95%

► WHAT TO EXPECT



**Anti-Duplicate**

High Security with encryption, Anti-duplicate



**High Recognition**

High fingerprint recognition, High fingerprint authentication speed 0.8 secs (with 100 persons registered)



**Quick Register**

User Code Management, Quick Register User Card



**Common card format**

Output different card format suited to most common controller system, no need to convert by yourself



**Expiration setup & 6-layer managing structures**

Set up validity in MIFARE card by SOR. With built-in agent codes issuance (up to 6 sub-layers) via SOR programmer.



**In-field Firmware upgradable**

In-field Firmware is upgradable just by a easy quick on SOYAL Software.

► APPLICATION



**Online/Offline Consumption Application**

Avoiding long queue waiting for the changes, and easy to get transactions data



**Membership Management**

Issuing encrypted loyal card for anti-cloning and offline valued stored data

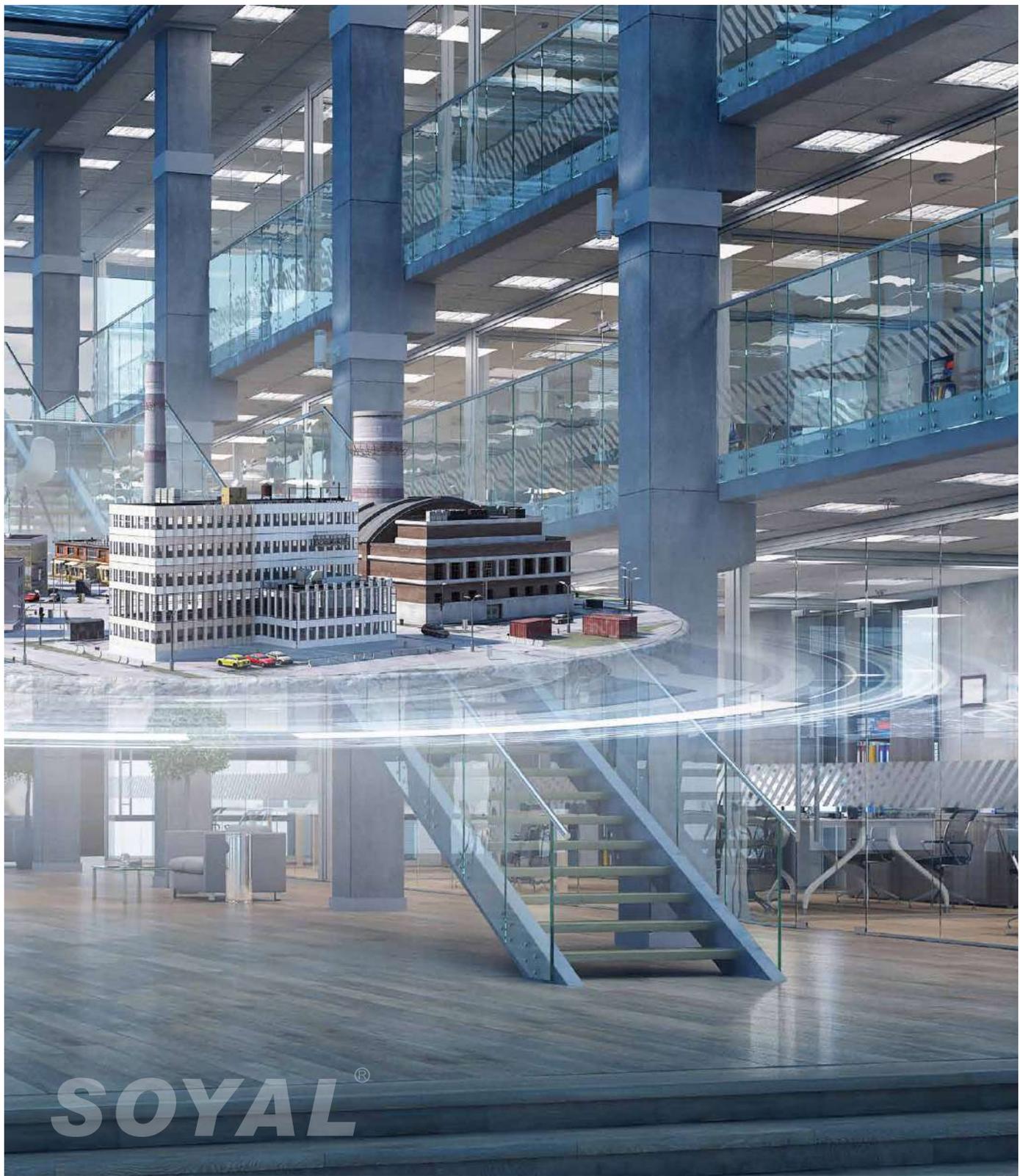


**High security & Quick Registration**

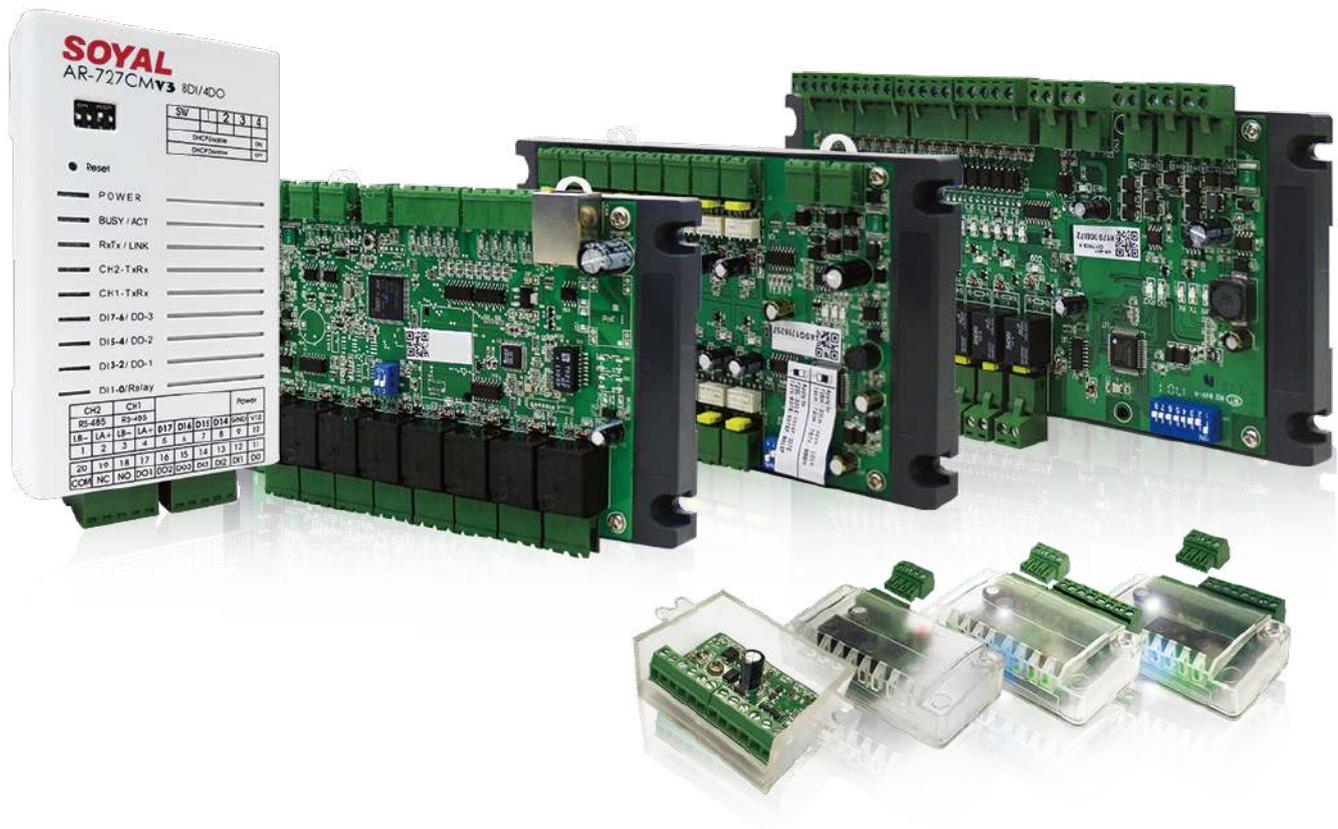
Fingerprint enrollment for multi-factor authentication and multiple users registration in one time

# Surpass your expectations

Equipped with Multi-Channels, Isolation, Surge protection, Failure protection functions to provide a reliable system for multi-function integration.



- I/O Serial-to-Ethernet Server with I/O Module - AR-727CM Series
- I/O 16-ch Relay Output Controller - AR-401-IO-0016R
- I/O 26-ch Isolated DI/RO Module w/LED - AR-401-IO-1709R
- I/O Universal I/O Module - AR-403 Series



## Industry Programmable Logic Control

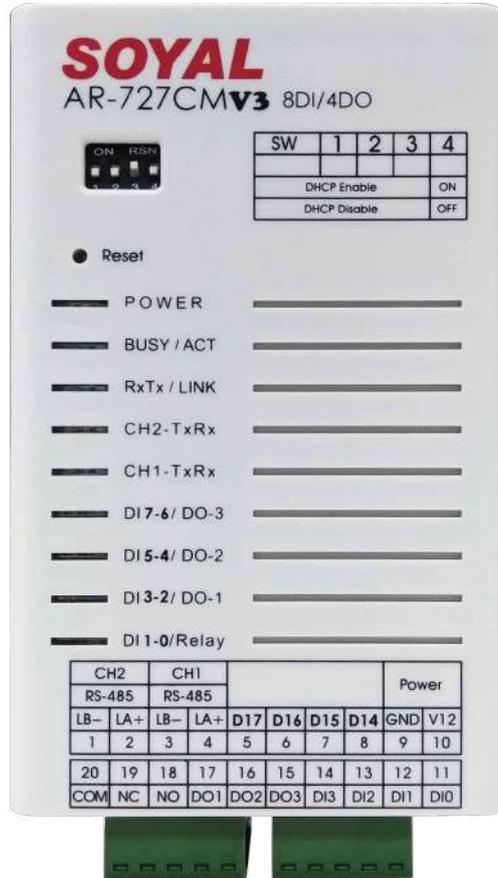
SOYAL provides universal I/O modules that enabling the automated control in cross-industry, successfully combining industry control and access control in one system. Also make it ideal to any applications with flexibility.

- Air condition control by condition
- Lightings control - turn on all/partial lights for conference meeting mode, turn off part of lights for theater mode
- Alert notification when door is abnormal unlock and alarm beeping when exceeding certain time duration
- 4 control modes: direction recognition, multiple delay mode, Modbus I/O mode, mailbox mode.

Scale 1:1

# Serial-to-Ethernet Server with I/O Module

## AR-727-CM-IO-0804M



Web



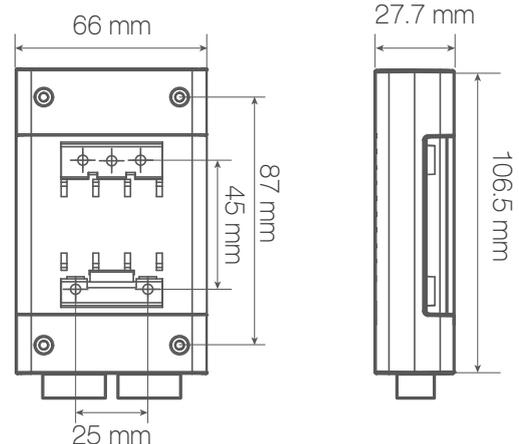
Youtube

Dimension (mm) 106.5(L)X66(W)X27.7(H)

### Installation

Color

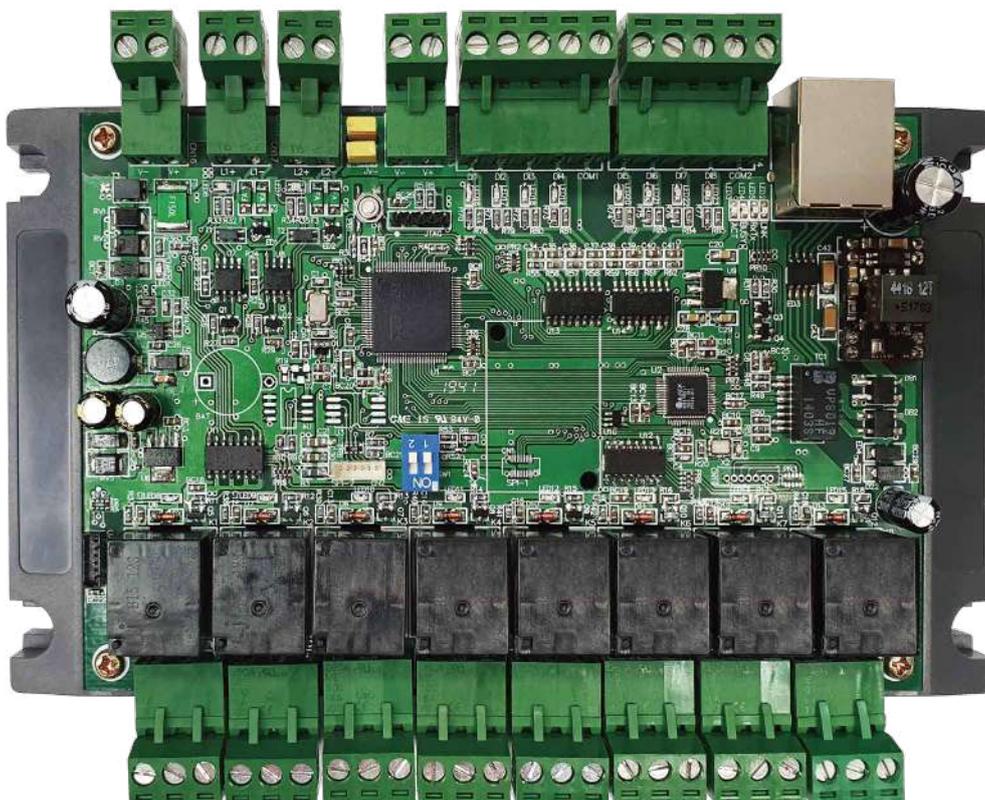
White



Scale 1:1

# Serial-to-Ethernet Server with I/O Module

## AR-401-IO-0808R-U2



Web

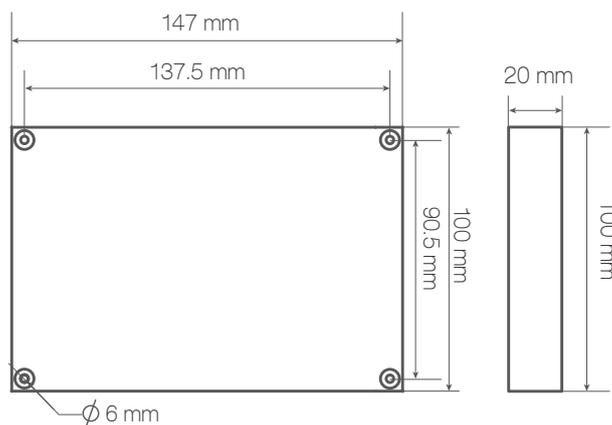


Youtube

Dimension (mm) 110(L)x132(w)x20(H)

Installation

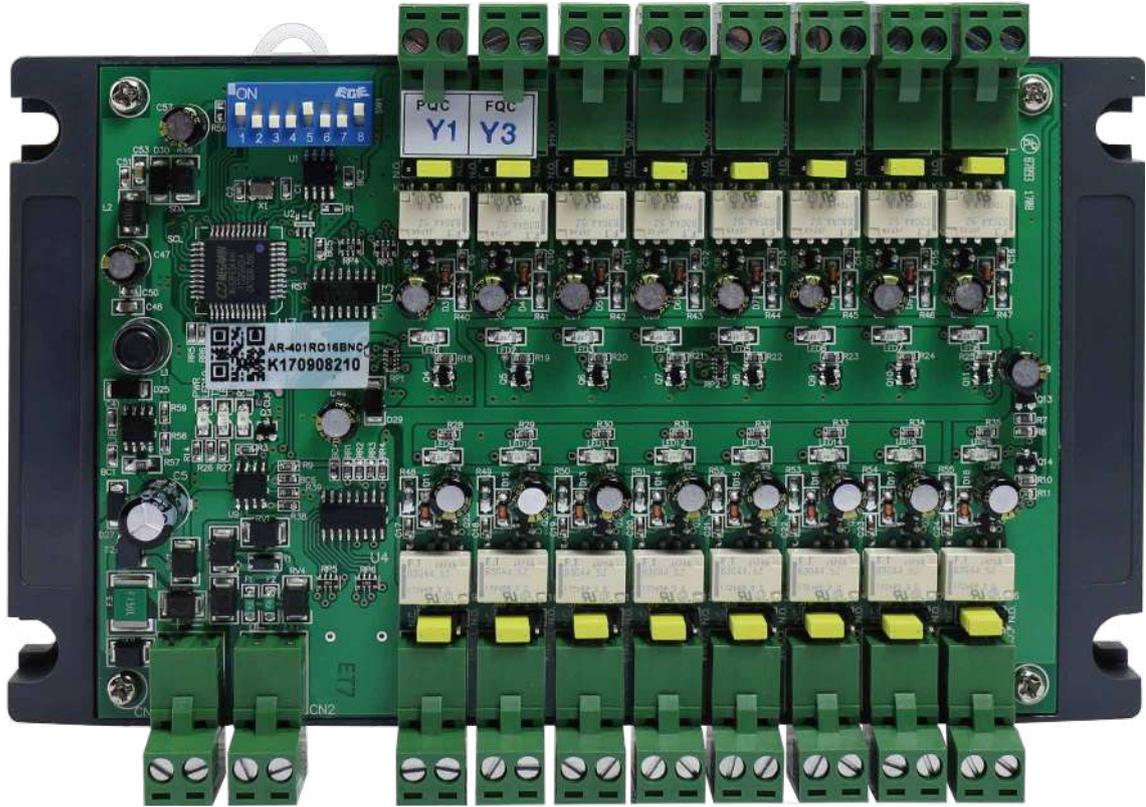
Color



Scale 1:1

# 16-ch Relay Output Controller

## AR-401-IO-0016R



Web



Youtube

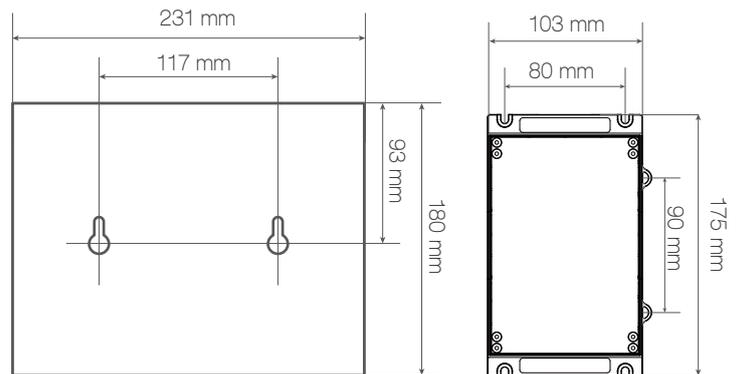
### Dimension (mm)

PCB : 150(L)x100(W)x20(H)

Panel Mounting Base :  
130(L)x175(W)x32(H)

Metal Box :  
180(L)x231(W)x62(H)

### Installation



• Metal Box

• Plastic Mounting Base

With Metal Box

With Plastic Mounting Base

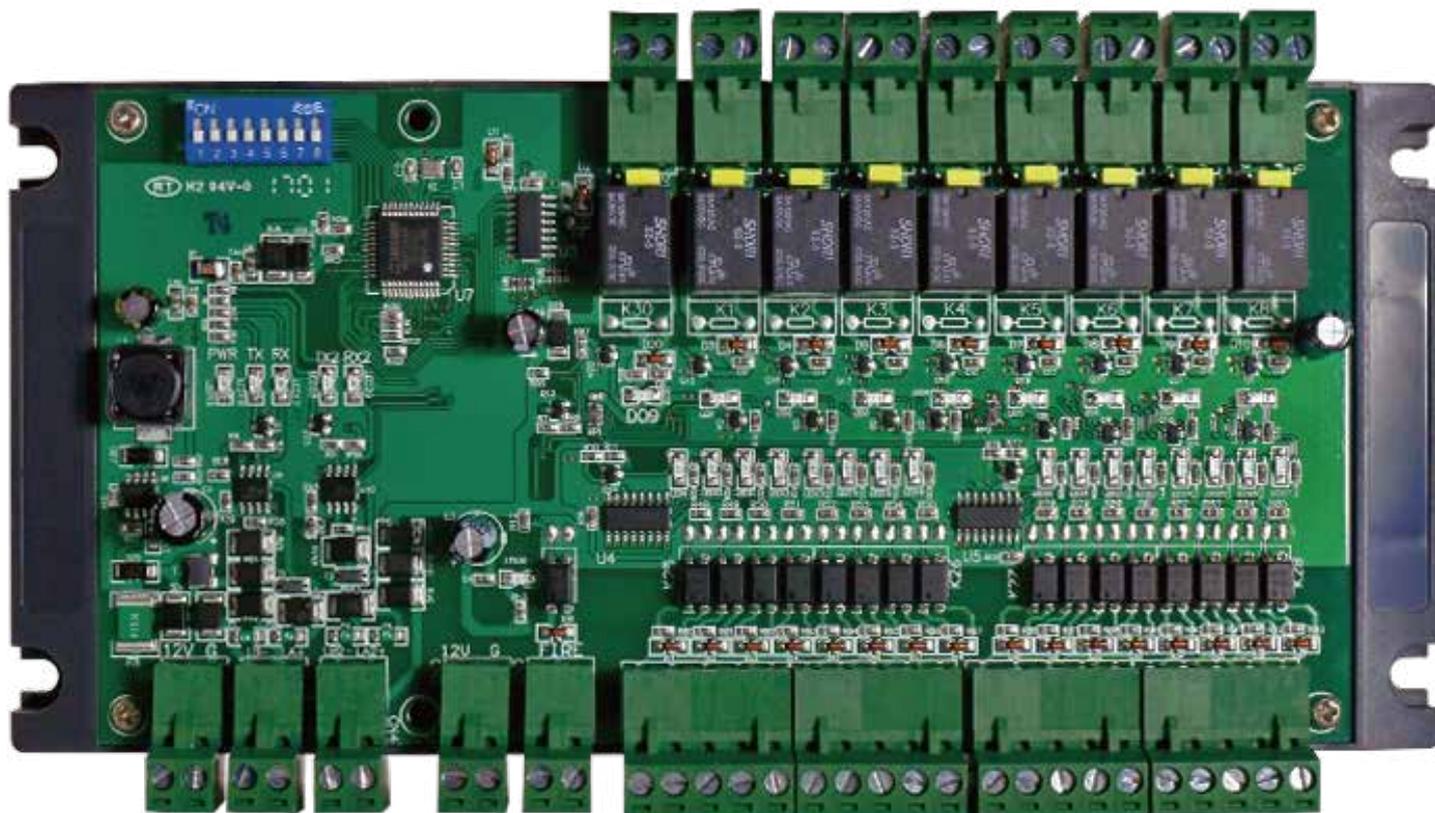
### Mounting Option



Scale 1:1

# 26-ch Isolated DI/RO Module w/LED

AR-401-IO-1709R



Web



Youtube

## Dimension (mm)

PCB : 120(L)x190x20(H)

Panel Mounting Base :  
130(L)x220(W)x32(H)

Metal Box :  
180(L)x231(W)x62(H)

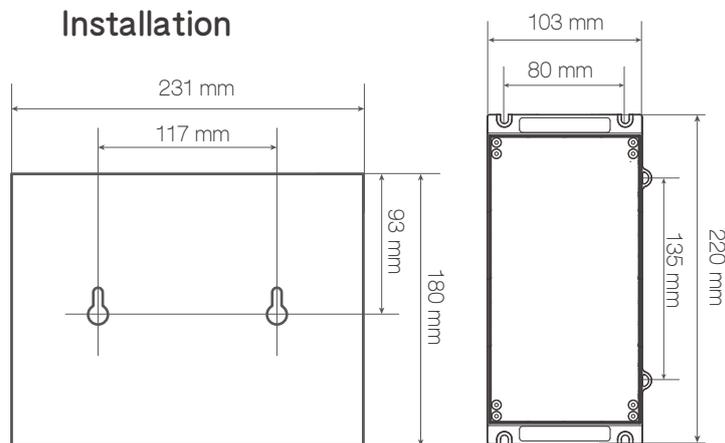
With Metal Box

With Plastic Mounting Base

## Mounting Option



## Installation



• Metal Box

• Plastic Mounting Base

Scale 1:1

# Universal I/O Module

## AR-403-IO Series



AR-403-IO-0001M-IR

AR-403-IO-0202M



AR-403-IO-0404M4

AR-403-IO-0404M

AR-403-IO-0202M-IR



Web

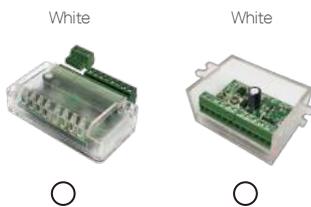


Youtube

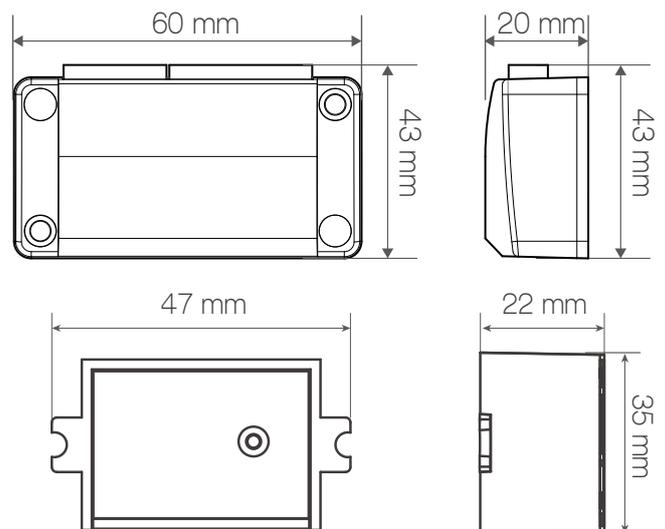
### Dimension (mm)

60(L)x43(W)x20(W)

### Color



### Installation



# SCADA Solutions



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

SOYAL

701 SERVER

SCADA Parameters

1F

Emergency Shelter Platform

Office

Work Office

Department

Administration

Emergency Water Platform

Stop unlock  
Tem unlock  
Keep unlock  
Arming enabled  
Arming disabled

## 4 control modes

### Mode 1 : Standard Modbus I/O Module

- Remote Control
- Sequential Control : Frequency-adjustable continuous pulse output
- Support Modbus RTU/Soyal Protocol

### Mode 2 : Mailbox Module

-Input

- Letters arriving detection (IR)
- Mailbox door contact detection

-Output

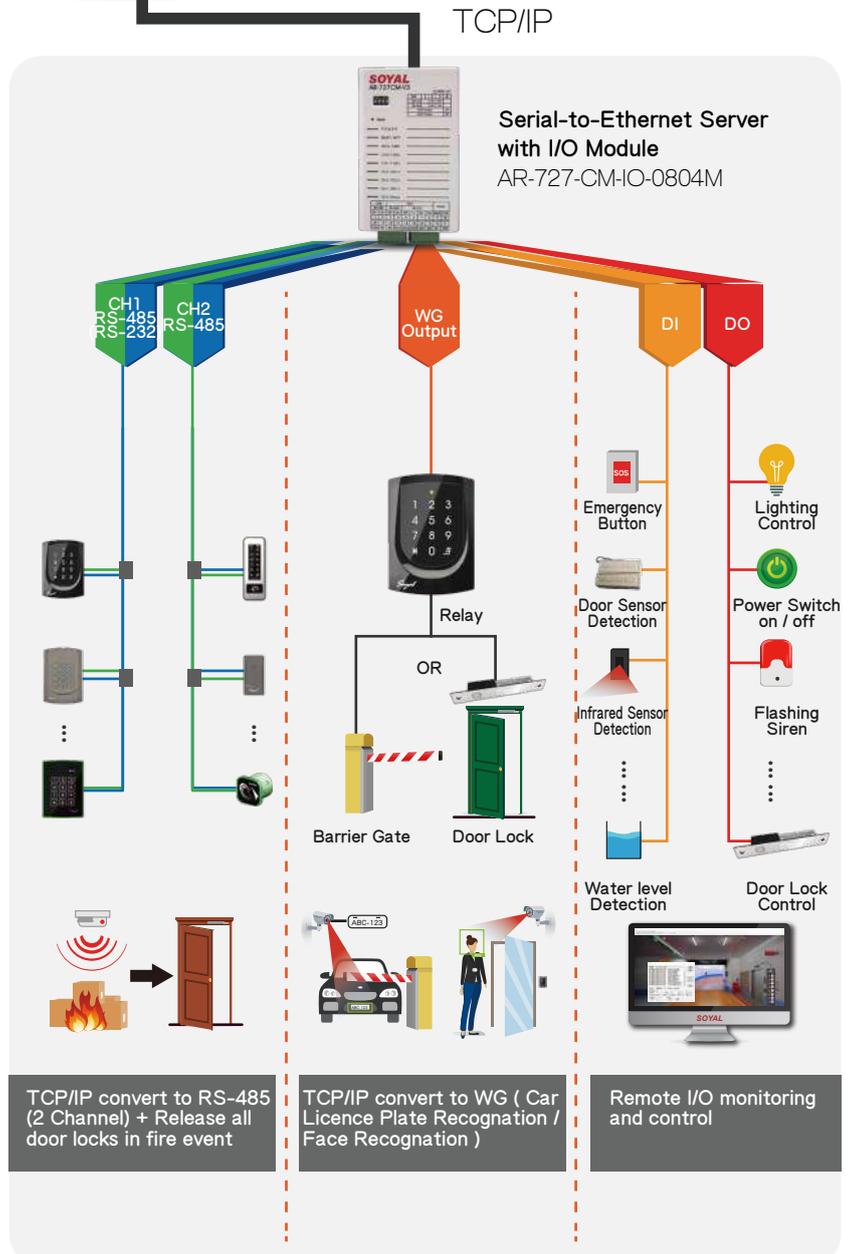
- Indicator for letters inside
- Output trigger for mailbox lock opening
- Output Alarm

### Mode 3 : Multiple delay function

- Output 1: Falling edge Trigger (DO3)
- Output 2: Rising edge Trigger (DO1)
- Output 3: Toggle trigger (DO2)
- Output 4: Non-distortion Pulse Delay (DO3)

### Mode 4 : Direction Recognition

- Vehicle Rear Detection
- Front Detection



## ► SPECIFICATION

Model No.		727-CM-IO-0804M	401-IO-0808R-U2	
I/O Module series	Interface	TCP server	10/100 Mbps Base T Ethernet <-> RS485 (By order: RS232, RS232+RS485) Auto detect	
		Server port 0/1 (CH1/CH2)	Baud Rate 2400 bps - 115200 bps support TCP/Server · TCP/Client · UDP Mode	
		WG port	Output WG 128bits maximum, supporting user defined format, auto add even parity bit and odd parity bit and various format, etc.	
		Digital Inputs/Outputs	8 Digital Input / 4 Digital Outputs: 1 Relay Output + 3 DO	8 Digital Input / 8 Relay Output
	PoE	No	PoE option, 12W/1A	
	Hardware	Baud Rate	4800 bps - 115200 bps	
	Protocol	ModBus-TCP, ARP, IP, TCP Client, UDP, ICMP, HTTP, DHCP, NetBIOS		
	Serial Buffer	1K each channel		
	LED Indicator	9 LEDs for Power, Communication		
	Watchdog Function	Yes		
	Surge Suppression	Power: 30 Volt, bi-directional avalanche breakdown device. RS485 6.5 Volt, bi-directional avalanche breakdown device. 400W peak power dissipation. Clamping time < 1 picosecond (theoretical)		
	Fuses	Power PTC 150mA / RS485 PTC 30mA		
	Isolation	optical 5 kV		
	Power Supply	9-24 VDC		
	Power Consumption	<2W		
	Dimension(mm)	106.5(L)x66(W)x27.7(H)	110(L)x132(w)x20(H)	
	Weight (g)	86±5	232±5	
	Software	OS Supported	Windows 7/8/10, Win Server 2008/2012/2016	
		Network/Device setting	701Server, 701Client, HTTP Web browser	
	Environment	Operating Temperature	-20°C ~ +65°C	
Storage Temperature		-25°C to +70°C		
Operating Humidity		20%~90%		
Storage Humidity		5%~95%		

Model No.		403-IO-0404M	401-IO-0016R	401-IO-1709R	
I/O Module series	Hardware	Interface	RS485	RS485 10/100 Mbps Base T (option)	RS485
		Digital Inputs / Outputs	4 Digital Input 4 Digital Output (MosFET)	16 Relay Output (Form C)	17 Digital Input 9 Relay Output (Form C)
		Baud Rate	9600 bps (N,8,1)		
		Protocol	Modbus-RTU, Soyal		
		LED Indicator	Power: Tx/Rx, D.O./D.I.	Power: Tx/Rx, Relay On/Off	26 LEDs: Power, Tx/Rx, Input: Close/Open, Relay: On/Off
		Watchdog Function	Yes		
		Surge Suppression	Power: 30 Volt, bi-directional avalanche breakdown device. RS485 6.5 Volt, bi-directional avalanche breakdown device. 400W peak power dissipation. Clamping time < 1 picosecond (theoretical)		
		Fuses	Power PTC 150mA RS485 PTC 30mA		
		Isolation	—	—	Optical 5kv
		Power Supply	9-24 VDC		
	Power Consumption	<1W	<8W	<4W	
	Dimension(mm)	48(L)x35(W)x24(W)	PCB: 150(L)x100(W)x20(H) Panel Mounting Base : 175(L)x100(W)x20(H) Metal Box: 180(L)x231(W)x62(H)	PCB: 100(L)x191x20(H) Panel Mounting Base : 97(L)x44(W)x225(H) Metal Box: 180(L)x231(W)x62(H)	
	Weight (g)	23±5	1780±10	455±10(PCB Only)	
Software	OS Supported	Windows 7/8/10, Win Server 2008/2012/2016			
	Network/Device setting	701Server, 701Client, HTTP Web browser			
Environment	Operating Temperature	-20°C ~ +65°C			
	Storage Temperature	-25°C to +70°C			
	Operating Humidity	20%~90%			
	Storage Humidity	5%~95%			

## ► SPECIFICATION

Model No.		403-IO-0202M	403-IO-0202M-IR	403-IO-0404M	403-IO-0001M-IR	
I/O Module series	Hardware	Interface	RS485		—	
		Digital Inputs/Outputs	2 Digital Input 2 Digital Output (MosFET)	2 Digital Input (with 1 IR) 2 Digital Output (MosFET)	4 Digital Input 4 Digital Output (MosFET)	1 Digital Output (IR)
		Baud Rate	9600 bps (N,8,1)		—	
		Protocol	Modbus-RTU, Soyal		—	
		Serial Buffer	—		—	
		LED Indicator	Power: Tx/Rx, D.O./D.I		Red LED indicate DO active 1 DO infrared output	
		Watchdog Function	Yes		Yes	
		Surge Suppression	Power: 30 Volt, bi-directional avalanche breakdown device. RS485 6.5 Volt, bi-directional avalanche breakdown device. 400W peak power dissipation. Clamping time < 1 picosecond (theoretical)		—	
		Fuses	Power PTC 150mA RS485 PTC 30mA		—	
		Isolation	—		—	
		Power Supply	9-24 VDC		9-24 VDC or DC 0V	
		Power Consumption	<1W		<0.5W	
		Dimension(mm)	60(L)x43(W)x20(H)		60(L)x43(W)x20(H)	
	Weight (g)	31±5		28±5		
	Software	OS Supported	Windows 7/8/10, Win Server 2008/2012/2016		—	
Network/Device setting		701Server, 701Client, HTTP Web browser		—		
Enviroment	Operating Temperature	-20°C ~ +65°C				
	Storage Temperature	-25°C to +70°C				
	Operating Humidity	20%~90%				
	Storage Humidity	5%~95%				

▶ WHAT TO EXPECT



**Serial buffer**

Supporting serial buffer 1 K each channel to prevent data lost in case network is disconnected (AR-727CM)



**Watchdog timer**

Equipped with Watchdog function to prevent from computer hang & to recover from system malfunction

**Modbus**  
**RTU**

**Modbus/RTU protocol**

Supports standard Modbus/RTU protocol (AR-727CM)



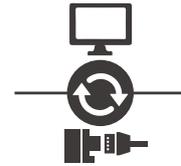
**Surge protection**

High Surge Protection to fit in any bad environment (built-in ESD protection for all signals)



**Fire alarm broadcast**

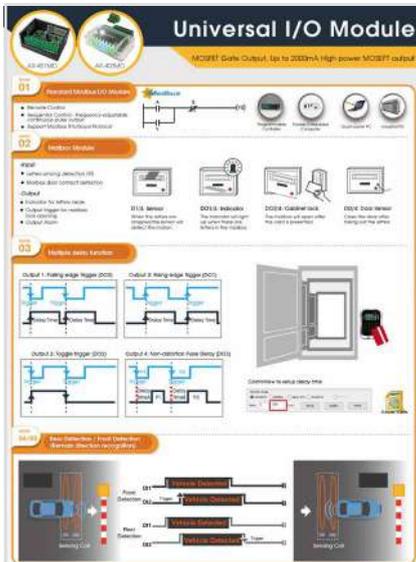
Supports UDP/RS485 (Ch1 & 2) for broadcast opening doors with fire alarm system linkage.



**Multi-signal conversion**

Multi-signal conversion in between TCP/IP to WG, TCP/IP to Serial, TCP/IP to I/O.

▶ APPLICATION



**Multi-Control Modes**

Supporting multi-control modes: direction recognition, multiple delay mode, Modbus I/O mode, mailbox mode, etc.



**Control Panel**

Support MODBUS protocol, PLC integrated with for the simplest HMI (Human Machine Interface). Remote control equipments by touch when working with PLC or controller, Two-color LED frame indicates equipment status.

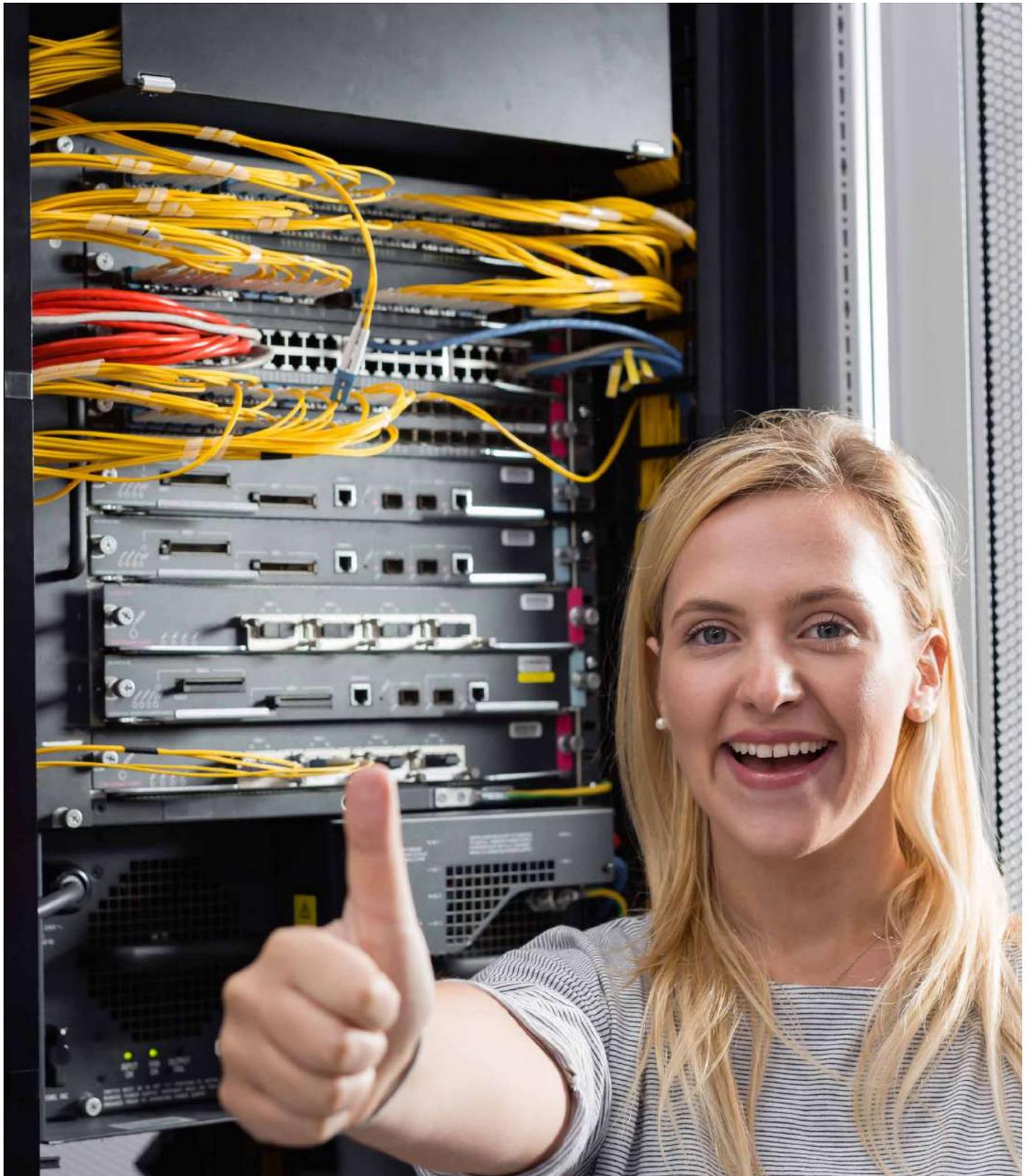


**Fence IR security control**

SOYAL 403MO support IO latch function, enhance the detection of fast change of DI status on site, latch to hold the abnormal status till alarm is released, as Self-Hold Circuit. eg monitoring on Photo Beam IR sensor on plant fence.

# Signal/Interface Converter

Suffering from signal output? Soyal serial converters are easy to install and configure





Serial-to-Ethernet Server - AR-727-CM



Serial-to-Ethernet Server with I/O Module - AR-727-CM-IO-0804M



Isolated USB to RS485 Converter - AR-321-CM



TTL to RS485 Converter for H Series Controller - AR-321L485-12V

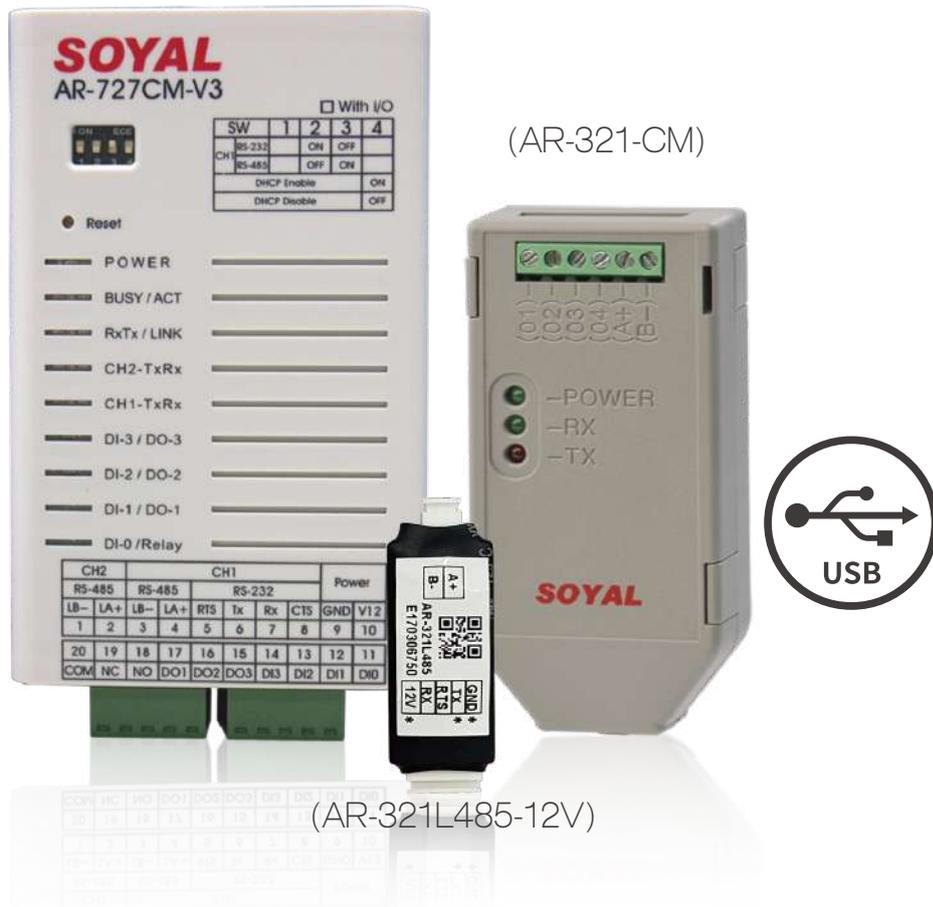


TTL to RS485 Converter for E Series Controller - AR-321L485-5V



TTL to RS232 Converter for E Series Controller - AR-321L232-5V

(AR-727CM / AR-727-CM-IO-0804M)



(AR-321-CM)

(AR-321L485-12V)

### Multi-signal conversion in between TCP/IP to WG, TCP/IP to Serial, TCP/IP to I/O, RS485 to USB/TTL, RS485 to RS232.

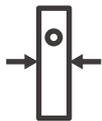
- Have you got everything but nothing? Without having an easy to use converter, your system is mute!  
SOYAL converters support standard Modbus/RTU protocol & 1K serial buffer each channel (AR-727CM), help integration in industrial application.
- With High Surge Protection, it fits in any bad environment (built-in ESD protection for all signals).

## ► SPECIFICATION

Model No.		727-CM	321-CM	321L485-12V	321L485-5V	321L232-5V	
Signal Converter series	Hardware	Interface	10/100 Mbps Base T Ethernet <-> RS485 (By order: RS232, RS232+RS485) Auto detect	USB <-> RS485	TTL <-> RS485	TTL <-> RS485	TTL <-> RS232
		Baud Rate	4800 bps - 115200 bps				
		Protocol	ARP, IP, TCP Client, UDP, ICMP, HTTP, DHCP, NetBIOS	—	—		
		Serial Buffer	1K each channel	—	—		
		LED Indicator	9 LEDs for Power, Communication	3 LEDs for Power, Communication	—		
		Digital Inputs/Outputs	No				
		Watchdog Function	Yes				
		Active Distance	300m (RS485)				
		Surge Suppression	Power: 30 Volt, bi-directional avalanche breakdown device. RS485 6.5 Volt, bi-directional avalanche breakdown device. 400W peak power dissipation. Clamping time < 1 picosecond (theoretical)			—	
		Fuses	Power PTC 150mA RS485 PTC 30mA			—	
		Isolation	Optical 5 kV	Electric 2.5 kV	—		
		Power Supply	9-24 VDC	5 VDC	12 VDC	5 VDC	12 VDC
		Power Consumption	<2W	<1W	<1W	<1W	<1W
		Dimension	106.5(L) x66(W) x27.7(H)	76(L) x37(W) x16.4(H)	52(L) x14(W) x11(H)	52(L) x14(W) x11(H)	52(L) x14(W) x11(H)
		Weight (g)	86±5	60±5	14±5	14±5	14±5
Software	OS Supported	Windows 7/8/10, Win Server 2008/2012/2016					
	Network/Device setting	701Server, 701Client, HTTP Web browser	—				
Environment	Operating Temperature	-20°C ~ +65°C					
	Storage Temperature	-25°C to +70°C					
	Operating Humidity	20%~90%					
	Storage Humidity	5%~95%					

Model No.		727-CM-IO-0804M	401-IO-0808R-U2	
I/O Module series (727CM)	Interface	TCP server	10/100 Mbps Base T Ethernet <-> RS485 (By order: RS232, RS232+RS485) Auto detect	
		Server port 0/1 (CH1/CH2)	Baud Rate 2400 bps - 115200 bps suppor TCP/Server · TCP/Client · UDP Mode	
		WG port	Output WG 128bits maximum, supporting user defined format, auto add even parity bit and odd parity bit and various format, etc.	
		Digital Inputs/Outputs	8 Digital Input / 4 Digital Outputs: 1 Relay Output + 3 DO	8 Digital Input / 8 Relay Output
	PoE	No	PoE option, 12W/1A	
	Baud Rate	4800 bps - 115200 bps		
	Protocol	ModBus-TCP, ARP, IP, TCP Client, UDP, ICMP, HTTP, DHCP, NetBIOS		
	Serial Buffer	1K each channel		
	LED Indicator	9 LEDs for Power, Communication		
	Watchdog Function	Yes		
	Surge Suppression	Power: 30 Volt, bi-directional avalanche breakdown device. RS485 6.5 Volt, bi-directional avalanche breakdown device. 400W peak power dissipation. Clamping time < 1 picosecond (theoretical)		
	Fuses	Power PTC 150mA / RS485 PTC 30mA		
	Isolation	optical 5 kV		
	Power Supply	9-24 VDC		
	Power Consumption	<2W		
	Dimension	106.5(L)x66(W)x27.7(H)	110(L)x132(w)x20(H)	
	Weight (g)	86±5	232±5	
	Software	OS Supported	Windows 7/8/10, Win Server 2008/2012/2016	
		Network/Device setting	701Server, 701Client, HTTP Web browser	
	Enviroment	Operating Temperature	-20°C ~ +65°C	
Storage Temperature		-25°C to +70°C		
Operating Humidity		20%-90%		
Storage Humidity		5%-95%		

# Electric Bolt Lock



### Slim Design

Only 31mm lock body depth



### Auto-Detect Voltage

Auto-Detect voltage range between 12VDC-24VDC



### Strategic LED indicator

Placed on the bolt position, LED indicator can be seen without any additional hole



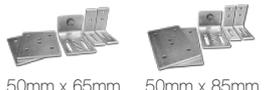
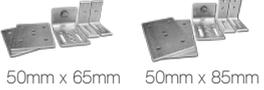
### More Options to Choose

Available in fail safe or fail secure mode, with or without cylinder bracket and 29mm / 36mm on diameter between screw hole and bolt



(Patent No. I682093)

## ► Electric Bolt Lock - AR-1207 Series

Suitable Installation		Public Space Lock Type: Fail Safe	Private Space Lock Type: Fail Secure / Fail Secure with Cylinder Bracket	High Authorization Area Lock Type: Fail Safe with Cylinder Bracket	Automatic Slide Door Lock Type: Fail Safe with Angle Bracket
 <p>Diameter between screw hole and bolt</p>	29mm	 AR-1207A-29	 AR-1207B-29   AR-1207B-29-F	 AR-1207A-29-F	 AR-1207A-29-0565 AR-1207A-29-0585   50mm x 65mm    50mm x 85mm
	36mm	 AR-1207A-36	 AR-1207B-36   AR-1207B-36-F	 AR-1207A-36-F	 AR-1207A-36-0565 AR-1207A-36-0585   50mm x 65mm    50mm x 85mm

## ► SPECIFICATION - AR-1207 Series

Model No.		AR-1207
Operating Voltage		DC12V-24V
Current Draw		1A(12V) / 0.5A(24V)
Power Saving Mode		220mA (12V) / 110mA (24V)
Material	Lock Body	Union Body Zinc Alloy
	Strike Plate	Stainless Steel
	Bracket	Alluminium Alloy
Solenoid test		Over 500,000 times
Temperature	Lock Surface Temperature	Low Temperature
	Operating Temperature	0° C ~ +50° C
Humidity		0~90%(non-condensing)
Dimmension (mm)	AR-1207A/B-29	Lock Body: 200(L) x 32(W) x 32(H) Strike Plate: 104(L) x 32(W) x 3.5(H) Dropbolt Length: 16 mm
	AR-1207A/B-36	Lock Body: 205(L) x 32(W) x 32(H) Strike Plate: 104(L) x 32(W) x 3.5(H) Dropbolt Length: 16 mm
Weight(kg)		0.5kg
Time Delay		0s, 3s, 9s
LED Indicator		YES

► Optional Additional Purchase:

Bracket		Dimmension (mm)	Weight (g)
U Bracket	 AR-BU-180	210(L) x 22(W) x 50(H)	537±10
	 AR-BU-078	110(L) x 22(W) x 50(H)	272±10
BR Bracket	 AR-BE-180	210(L) x 44(W) x 50(H)	386±10
	 AR-BE-078	110(L) x 44(W) x 50(H)	228±10
C Bracket (only Bracket without Strike Plate)	 MMET-120XI01	95(L) x 24(W) x 23.5(H)	81±5

► Resource



Web  
( Electric Bolt  
Lock Series )



Web  
( Electric Bolt  
Lock Accessories)



Youtube  
( Electric Bolt  
Lock Series )



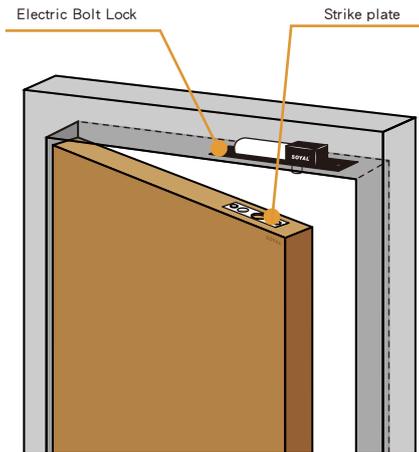
Youtube  
( Electric Bolt  
Lock Accessories)

## ► Bracket Selection Guide

### Mortise Mount

#### (Standard Installation)

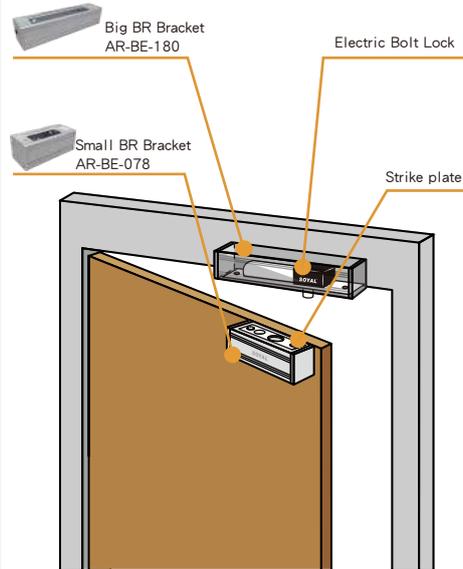
When lock body fit the door frame and strike plate fit in, it does not required to purchase additional accessories for installation



### Surface Mount for Narrow Door

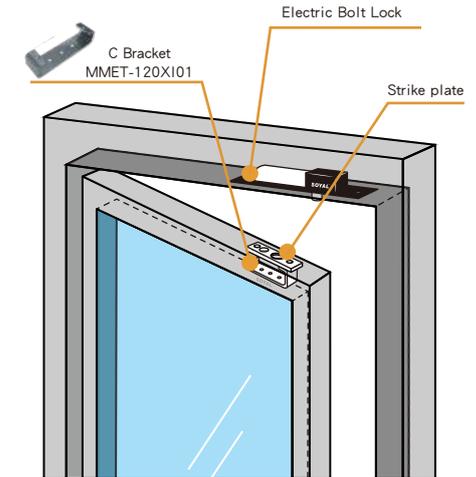
When door and door frame are narrow, lock body and strike plate does not fit, both lock body and strike plate must be installed inside a BR bracket.

Big BR Bracket AR-BE-180 for lock body  
Small BR Bracket AR-BE-078 for strike plate



### C Bracket Support for Strike Plate

C Bracket (MMET-120X101) is installed as a bracket support for electric strike to increase the height of electric strike, commonly used for wooden door.



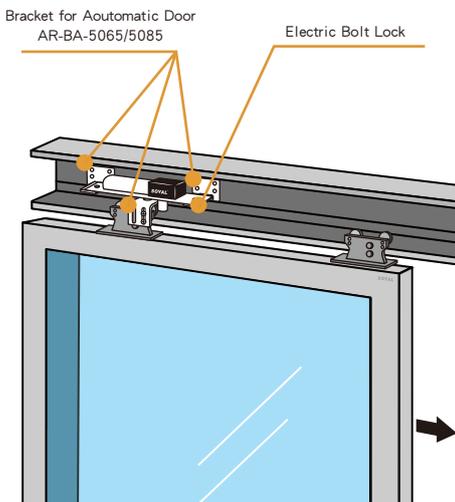
### Angle Bracket for Automatic Door

Angle Bracket purchased with AR-1207A-29-A for Automatic Door feature.

AR-BA-5065 for door hanger with overall wide 65mm (no gap in between)

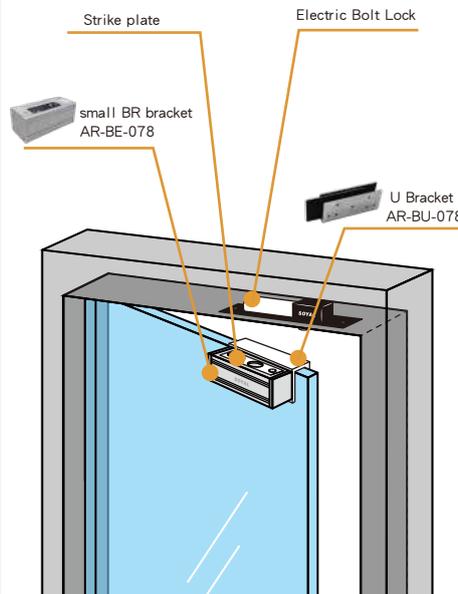
AR-BA-5085 for door hanger with overall wide 85mm.

Angle Bracket is included when purchased electric bolt lock for Automatic Slide Door



### Glass Mount for Glass Door

When door is made out of glass and door frame is fit enough to install lock body, it requires small BR bracket AR-BE-078 mounted on U Bracket AR-BU-078 for strike plate.

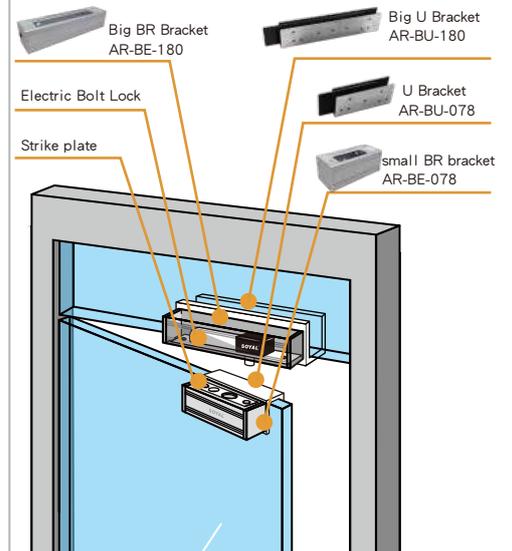


### Glass Mount for Glass Door and Frameless Glass Door

When both door and door frame is made out of glass, lock body and strike plate required to be installed in BR Bracket that mounted on U Bracket.

Big BR Bracket AR-BE-180 + Big U Bracket AR-BU-180 for lock body

Small BR Bracket AR-BE-078 + Small U Bracket AR-BU-078 for strike plate



# Electronic Magnetic Lock

## ▶ Electronic Magnetic Lock - INDOOR Series

Holding Force		40kg / 90pounds	80kg / 180pounds	110kg / 200pounds
Lock Type	Magnetic Lock (Single Door)	 AR-0090M	 AR-0180M	 AR-0200M
Bracket Type	 L Bracket	L Bracket (included)	-	-
Suitable Door Type		Suitable for storage that requires low holding force; mailbox, postal box, locker, cabinet, drawer	Suitable as a door holder feature	Suitable for cabinet and wooden door

Holding Force		150kg / 300pounds	250kg / 600pounds	500kg / 1200pounds
Lock Type	Magnetic Lock (Single Door)	 AR-0300M	 AR-0600M	 AR-1200M
	Magnetic Lock (Single Door)	-	 AR-0600M-DB	 AR-1200M-DB
Bracket Type	 Z&L Bracket	AR-0300MZL Z and L Bracket can be purchased separately	AR-0600MZL Z and L Bracket can be purchased separately	AR-1200MZL Z and L Bracket can be purchased separately
	 Armature Plate Bracket (MA Bracket)	-	AR-0600M-MA	AR-1200M-MA
	 U Bracket	AR-0300M/0400M-U	AR-0600M-U	-
Suitable Door Type		Suitable for most door types (wooden door, alluminium door, sliding door)	Suitable for most door types and provide enough amount of holding force to locking solution (high level of security)	Suitable for heavy duty gate (iron gate)

## ► SPECIFICATION - INDOOR Series

Model No.		AR-0090M	AR-0180M	AR-0200M	AR-0300M	AR-0600M	AR-1200M
Operating Voltage		12VDC/24VDC					
Current Draw		130mA/12VDC 60mA/24VDC	200mA/12VDC 100mA/24VDC	370mA/12VDC 185mA/24VDC	500mA/12VDC 250mA/24VDC		
Lock Type	Lock Housing	Alluminium Alloy					
	Armature Plate	Pure Iron					
	Bracket	Alluminium Alloy					
Selenoid Test		Over 500,000 times					
Temperature	Lock Surface Temperature	≤ ambient temperature ± 20° C					
	Operating Temperature	-10° C ~ +55° C					
Humidity		0~95% non-condensing					
Dimension (mm)	Magnetic Lock	Magnet: 70(L) x 37(W) x 25(H) (L Bracket included) Armature Plate: 60(L) x 32(W) x 8(H)	Magnet: 100(L) x 38(W) x 38(H) Armature Plate: 74(L) x 28(W) x 8(H)	Magnet: 160(L) x 28(W) x 20(H) Armature Plate: 130(L) x 28(W) x 9(H)	Magnet: 166(L) x 39(W) x 21(H) Armature Plate: 130(L) x 32(W) x 10(H)	<b>AR-0600M</b> Magnet: 251(L) x 47(W) x 25(H) Armature Plate: 185(L) x 38(W) x 12(H)	<b>AR-1200M</b> Magnet: 266(L) x 74(W) x 40(H) Armature Plate: 185(L) x 61(W) x 16(H)
	Bracket	<b>L Bracket:</b> 70(L) x 5(W) x 38(H) (included)	<b>Door Holder:</b> 74(L) x 28(W) x 48(H) (included)	-	<b>AR-0300M-Z:</b> 166(L) x 43(W) x 43(H) <b>AR-0300M-L:</b> 166(L) x 43(W) x 29(H) <b>AR-0300M / 0400M-U:</b> 140(L) x 45(W) x 30(H)	<b>AR-0600M-Z:</b> 190(L) x 50(W) x 50(H) <b>AR-0600M-L:</b> 250(L) x 50(W) x 33(H) <b>AR-0600M-MA:</b> 190(L) x 45.5(W) x 30(H) (Door width max 17.50mm) <b>AR-0600M-U:</b> 190(L) x 44(W) x 15.5(H)	<b>AR-1200M-Z:</b> 190(L) x 72(W) x 72(H) <b>AR-1200M-L:</b> 266(L) x 75(W) x 48(H) <b>AR-1200M-MA:</b> 190(L) x 67.5(W) x 21(H)
Electronic Magnetic Lock Weight (kg)		0.25kg	0.75kg	0.6kg	0.95kg	AR-0600M: 1.2kg AR-0600M-DB: 3.1kg	AR-1200M: 3.2kg AR-1200M-DB: 6.2kg
Door Monitoring Output		NO			Yes	YES (All type)	YES (All type)
LED indicator		NO					

## ► Electronic Magnetic Lock - OUTDOOR Series

Holding Force		180kg / 400pounds	600kg / 1500pounds
Lock Type	Magnetic Lock (Single Door)	 AR-0400WF	 AR-1500WF
	Magnetic Lock (Double Door)	 AR-0400WS	 AR-1500WS
Bracket Type	 Z&L Bracket	AR-0400MZL (Z&L Bracket) Z and L Bracket can be purchased separately	AR-1500MZL-WF (Z&L Bracket) AR-1500MZL-WS (Z&L Bracket)
	 U Bracket	AR-0300M/0400M-U	-
Suitable Door Type		Suitable for most door types installed outdoor (wooden door, alluminium door, sliding door) Face Mount (WF): Out swing door Side Mount (WS): In swing door	Suitable for heavy duty gate installed outdoor (iron gate) Face Mount (WF) : Out swing door Side Mount (WS) : In swing door

## ► SPECIFICATION - OUTDOOR Series

Model No.		AR-0400WF / AR-0400WS		AR-1500WF / AR-1500WS	
Operating Voltage		12VDC/24VDC			
Current Draw		370mA/12VDC 185mA/24VDC		500mA/12VDC 250mA/24VDC	
Material	Lock Housing	Stainless Steel			
	Armature Plate	Pure Iron			
	Bracket	Alumumium Alloy			
Solenoid Test		Over 500,000 times			
Temperature	Lock Surface Temperature	≤ ambient temperature ± 20° C			
	Operating Temperature	-10° C ~ +55° C			
Humidity		0~95% non-condensing			
Dimmension (mm)	Magnetic Lock	<b>AR-0400WF</b> Magnet: 164(L) x 35(W) x 27(H) Armature Plate: 130(L) x 32(W) x 11(H)	<b>AR-0400WS</b> Magnet: 164(L) x 41(W) x 27(H) Armature Plate: 130(L) x 32(W) x 10(H)	<b>AR-1500WF</b> Magnet: 203(L) x 63(W) x 40(H) Armature Plate: 185(L) x 61(W) x 17(H)	<b>AR-1500WS</b> Magnet: 224(L) x 70(W) x 42(H) Armature Plate: 185(L) x 61(W) x 16(H)
	Bracket	<b>AR-0400M-Z</b> 166(L) x 43(W) x 100(H) <b>AR-0400M-L</b> 166(L) x 43(W) x 33(H) <b>AR-0300M/0400M-U</b> 140(L) x 43(W) x 28(H)		<b>AR-1500MZL-WF (Z&amp;L Bracket)</b> Z Bracket: 184(L) x 66(W) x 66(H) L Bracket: 198(L) x 69(W) x 43(H) <b>AR-1500MZL-WS (Z&amp;L Bracket)</b> Z Bracket: 190(L) x 72(W) x 144(H) L Bracket: 225(L) x 78(W) x 48(H)	
Magnetic Lock Weight (kg)		AR-0400WF: 0.90kg AR-0400WS: 1.30kg		AR-1500WF: 3.10kg AR-1500WS: 3.50kg	
Igress Protection (IP)		IP 66			

## ► Optional Additional Purchase

### Digital Relay Output Module (AR-721RB)

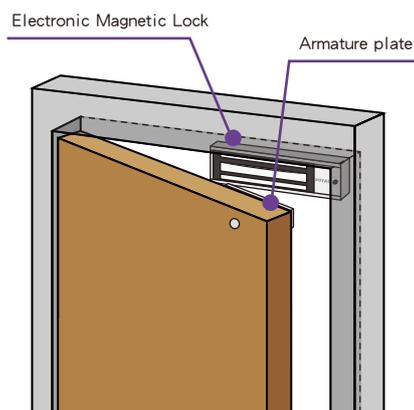


1. Supports N.O. type Egress button input
2. Supports security trigger signal for relay active
3. Support 4 delay time: 0.1, 3, 6, 9 sec.
4. Easy Delay Time setting via DIP SW
5. Contact capacity up to 12A/125VAC, 7A/250AC, 7A/30VDC

### Bracket Selection Guide

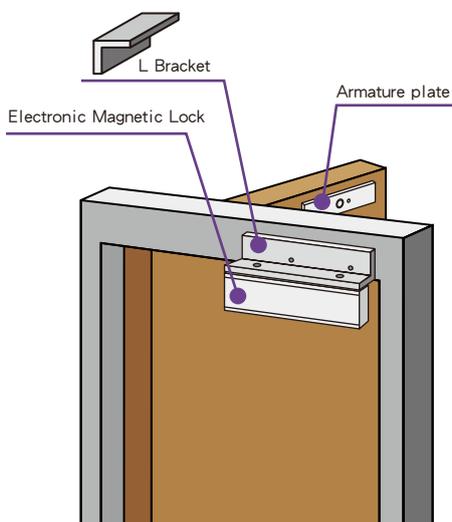
#### Regular Installation

When door has eligible frame to directly installed magnetic lock, door direction is outswing, and door frame width is wide enough; there is no need to purchase bracket for this installation



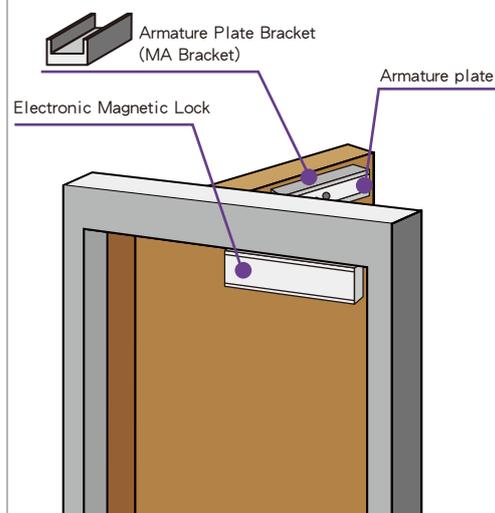
#### Narrow Door Frame

when door frame is too narrow and not enough to install armature plate, it needs additional installation of L bracket to hang the armature plate



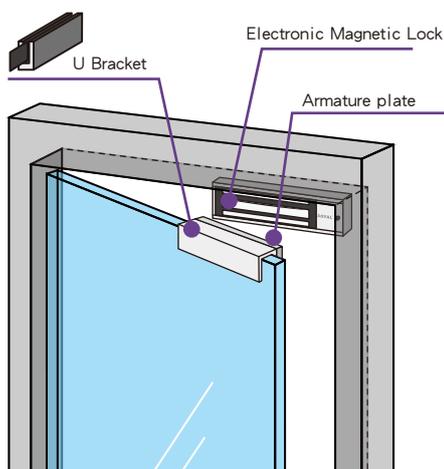
#### Thick Door

When door frame is too thick, to preserve door from closing and opening gestures, it is best to installed A bracket for armature plate



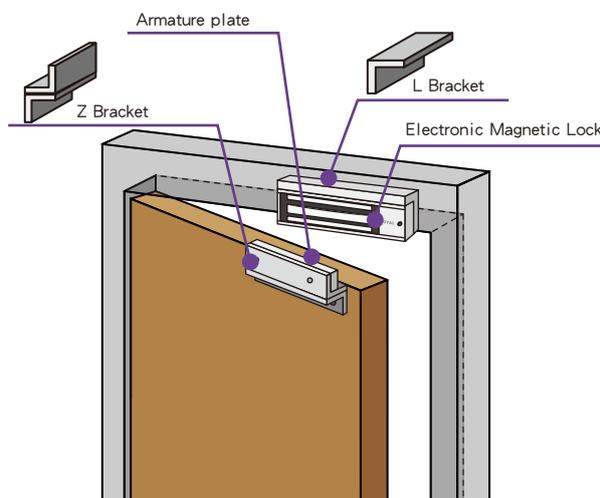
#### Frameless Glass Door

Magnetic lock installed in a glass door without frame, need to install U Bracket on the glass door



#### Narrow Door Frame

When magnetic lock is installed on the inswing door, there will be a gap between armature plate and magnet. Armature plate will be installed in the edge of door frame and ZL Bracket is needed to install the magnet



Web



YouTube

# ElectricStrike & Cabinet Lock

## ▶ Electric Bolt Lock - AR-1207 Series

	Electric Strike		Cabinet Lock	
<b>Model No.</b>	 AR-YS-130NO	 AR-YS-131NO	 AR-1213P	 AR-1211P
<b>Features</b>	Suitable for most doors (wooden door, metal door, and PVC door)	Slim design for narrow site installation -Made with painted stainless steel for high durability	Slim design -Can be installed vertically or horizontally	Available in four different lock tongue direction for different installation requirement -Power Saving Energy, continuous power on for 50 seconds.

## ▶ SPECIFICATION

Model No.	AR-YS-130NO	AR-YS-131NO	AR-1213P	AR-1211P
<b>Lock Type</b>	Fail Secure	Fail Secure	Fail Secure	Fail Secure
<b>Holding Force</b>	500kg	500kg	600-650gram	100kg
<b>Operating Voltage</b>	12VDC	12VDC	12VDC	12VDC
<b>Current Draw</b>	200mA	200mA	200mA	650mA
<b>Housing Material</b>	Zinc Alloy (Strike: Stainless Steel)	Painted Stainless Steel (Strike: Stainless Steel)	Black Painted Stainless Steel (Strike: Stainless Steel)	Stainless Steel
<b>Solenoid test</b>	1,000,000 times	1,000,000 times	Over 500,000 times	Over 100,000 times
<b>Operating Temperature</b>	-10° C ~ +55° C	-10° C ~ +55° C	-20° C ~ +55° C	-40° C ~ +55° C
<b>Weight(g)</b>	280±10	240±10	185±5	150±5
<b>Dimension (mm) / Length(mm)</b>	149(L)x28(w)x34(H)	160(L)x25(w)x31(H)	Lock: 73Lx14Wx67H(mm) Cable Length: 160mm PIN Length: 18mm	Lock: 55Lx41Wx28H(mm) Cable Length: 1100mm PIN Length: 10mm

## ▶ Resource



Web  
( Electric Strike )



Web  
( Cabinet Lock )



Youtube  
( Electric Strike & Cabinet Lock )

# Proximity Tags

## ► SPECIFICATION

Thin Card	Thick Card	Round Keychain	Round Keychain (Small)	Square Keychain	Label Sticker
				 (Patent No. : D 125398)	
					

Frequency	Low Frequency		High Frequency			Ultra High Frequency
	125kHz		13.56MHz			922-928MHz
<b>Compatible Standard</b>	ISO18000-2		ISO 14443-A	ISO 15693	ISO 14443-A ISO 7816-4	ISO18000-6C
<b>Supported Tags</b>	EM4001 and EM4095 compatible		Mifare (EV1, EV2, Classic, Mifare Pro, Ultralight)	ISO 15693	Desfire	EPC UHF Class 1 Gen 2
<b>Identifiers</b>	64bits	128bits	4byte / 7bytes	7bytes	7bytes	7bytes
<b>Printing Card Format</b>	WG32	Manufacturing Serial Number & WG32	Manufacturing Serial Number & WG32	WG32 / HEX3.4	Manufacturing Serial Number & WG32	Manufacturing Serial Number
<b>Functions</b>	Read Only	Read and Write	Read and Write	Read and Write	Read and Write	Read and Write
<b>Features</b>	<ul style="list-style-type: none"> <li>• Contactless</li> <li>• Longer reading range</li> <li>• Economy cost</li> <li>• Suitable for common application</li> </ul>		<ul style="list-style-type: none"> <li>• Support Mifare and SOR encryption for anti-duplicate</li> <li>• A single card be used for multi-applications (A/C, E-Purse, etc)</li> <li>• Easy Expiration &amp; Deduction Amount Setup</li> </ul>	<ul style="list-style-type: none"> <li>• Economy cost</li> <li>• Long reading range</li> </ul>	<ul style="list-style-type: none"> <li>• Support Desfire and Soyal Desfire encryption for anti-duplicate</li> <li>• Highest security level, none cracked cases</li> <li>• Simple step for encryption setting</li> </ul>	<ul style="list-style-type: none"> <li>• Suitable for reading tags from far distance</li> </ul>
<b>Tags Selection</b>	   	   	  	   	  	 

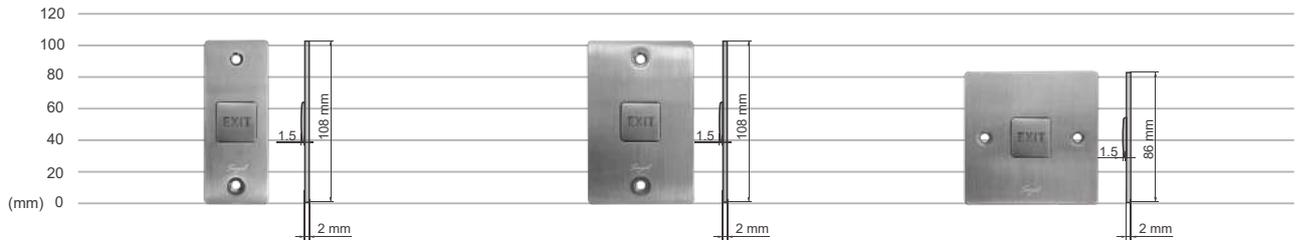
# Push Button



## Stainless Steel Push Button (No Power Supply Needed)



Available with Logo Customization



### (Slim US Type)

#### Stainless Steel Push Button

AR-PB5-041108

Length : 108 mm

Width : 41 mm

Depth : 2 mm

Print Text : SOYAL+EXIT

### (Rectangle US Type)

#### Stainless Steel Push Button

AR-PB5-068108

Length : 108 mm

Width : 68 mm

Depth : 2 mm

Print Text : SOYAL+EXIT

### (Square EU Type)

#### Stainless Steel Push Button

AR-PB5-086086

Length : 86 mm

Width : 86 mm

Depth : 2 mm

Print Text : SOYAL+EXIT



## Full Stainless Steel Push Button



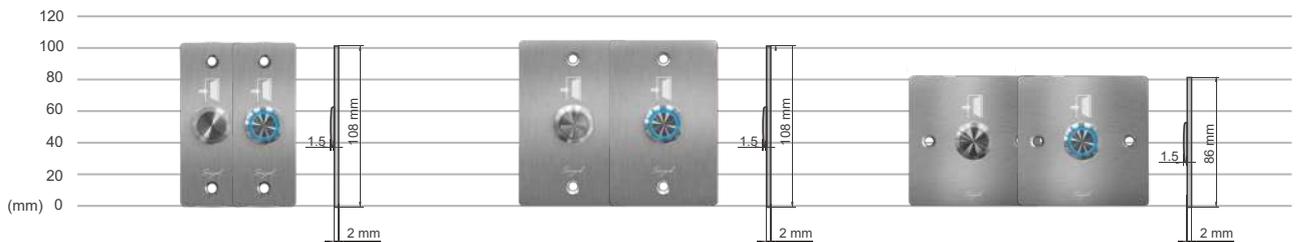
Available with Logo Customization

Standard



LED Ring

(LED OFF) (LED ON:Blue&Red)



### (Slim US Type)

#### Full Stainless Steel Push Button

AR-PB2-041108

■ Standard ■ LED Ring

Length : 108 mm

Width : 41 mm

Depth : 2 mm

Print Text : SOYAL with Door Exit logo

### (Rectangle US Type)

#### Full Stainless Steel Push Button

AR-PB2-068108

■ Standard ■ LED Ring

Length : 108 mm

Width : 68 mm

Depth : 2 mm

Print Text : SOYAL with Door Exit logo

### (Square EU Type)

#### Full Stainless Steel Push Button

AR-PB2-086086

■ Standard ■ LED Ring

Length : 86 mm

Width : 86 mm

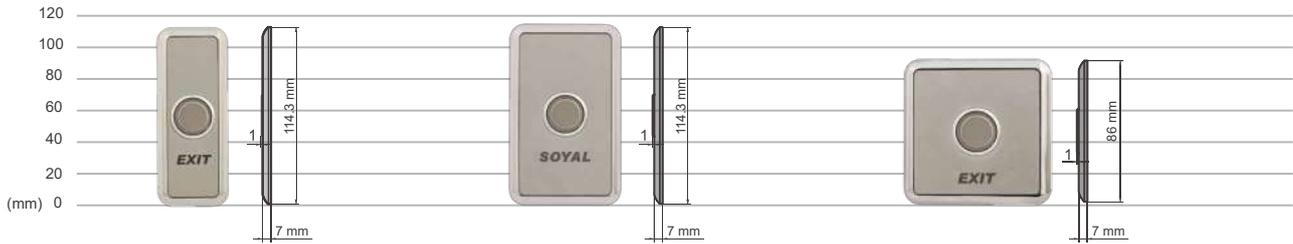
Depth : 2 mm

Print Text : SOYAL with Door Exit logo



## LED Piezo Push Button

**LED Ring**  
**LED Piezo Push Button**  
AR-PB-MDL



**(Slim US Type)**  
**LED Piezo Push Button**  
AR-PB-6A

Length : 114.3 mm  
Width : 44.5 mm  
Depth : 7 mm  
Print Text : N/A / SOYAL / EXIT

**(Rectangle US Type)**  
**LED Piezo Push Button**  
AR-PB-7A

Length : 114.3 mm  
Width : 70 mm  
Depth : 7 mm  
Print Text : N/A / SOYAL / EXIT

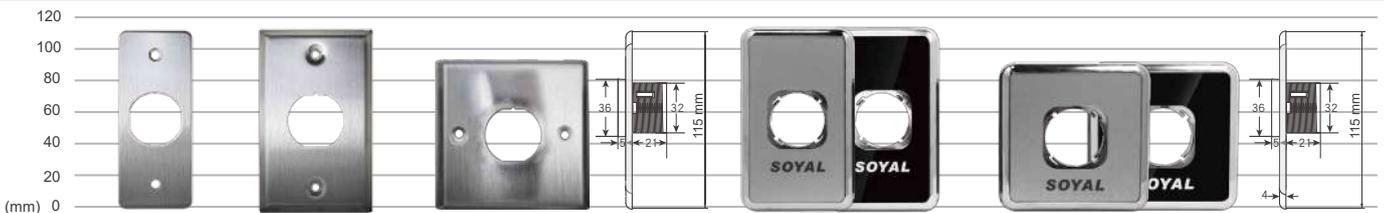
**(Square EU Type)**  
**LED Piezo Push Button**  
AR-PB-8A

Length : 86 mm  
Width : 86 mm  
Depth : 7 mm  
Print Text : N/A / SOYAL / EXIT



## Touch-less Infrared Sensor Push Button

**LED Ring**  
**Touch-less Infrared Sensor Push Button**  
AR-101-PBI



**(Slim US Type)**  
**Stainless Steel Panel**  
DMET-PBC9H01

Length : 115 mm  
Width : 46 mm  
Depth : 2 mm / 30 mm  
Print Text : N/A

**(Rectangle US Type)**  
**Stainless Steel Panel**  
DMET-PBXXA01

Length : 115 mm  
Width : 70 mm  
Depth : 4 mm / 32 mm  
Print Text : N/A

**(Square EU Type)**  
**Stainless Steel Panel**  
DMET-PBXXA02

Length : 86 mm  
Width : 86 mm  
Depth : 4 mm / 32 mm  
Print Text : N/A

**(Rectangle US Type)**  
**Plastic Mounting Panel**  
DPLA-PB7A

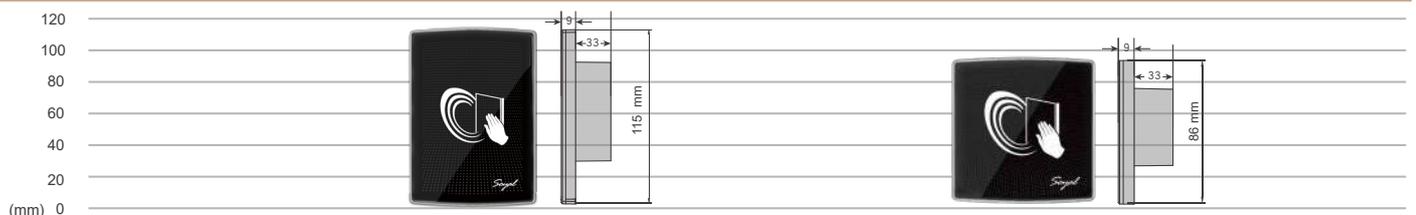
■ Silver ■ Black  
Length : 115 mm  
Width : 70 mm  
Depth : 4 mm / 32 mm  
Print Text : N/A / Soyal  
(Included EXIT sticker)

**(Square EU Type)**  
**Plastic Mounting Panel**  
DPLA-PB8A

■ Silver ■ Black  
Length : 86 mm  
Width : 86 mm  
Depth : 4 mm / 32 mm  
Print Text : N/A / Soyal  
(Included EXIT sticker)



## Flush Mounted IR Push Button



**(Rectangle US Type)**  
**Flush Mounted IR Exit Button**  
AR-PBI-888US

Depth : 118 mm  
Width : 81 mm  
Depth : 9 mm / 42 mm  
Print Text : N/A / SOYAL

**(Square EU Type)**  
**Flush Mounted IR Exit Button**  
AR-PBI-888EU

Depth : 86 mm  
Width : 86 mm  
Depth : 9 mm / 42 mm  
Print Text : N/A / SOYAL

# Peripherals & Accessories

## ▶ Wiegand Keyboard

External Wiegand Keyboard for keypadless Soyal access controller. Each keypadless Soyal access controller is built with a port specifically for Wiegand Keyboard. It is use suitable for those who want to do set up and configuration on site and for those who do not want to use PC for configuration. How to use: plug in the Wiegand Keyboard by doing set up and configuration, lastly unplug once set up is done.

Model no.	AR-WG-KEYBOARD-V2 (DMOD-WGKBA04)	AR-WG-KEYBOARD-V2 (DMOD-WGKBA05)	AR-WG-KEYBOARD-V2-M (DMOD-WGKBA06)
PIC	 Cable :4 PIN	 Cable :6 PIN	
Compatible Controller	AR-723-H	new AR-331-H with no keypad	AR-881-EF9DO

## ▶ External Relay Board

Additional relay output for door lock or alarm output

Model no.	AR-821RB	AR-721RB	AR-829RB
PIC			
Compatible	<ul style="list-style-type: none"> <li>Support low trigger</li> <li>Support digital output to relay output</li> </ul>	<ul style="list-style-type: none"> <li>Supports Egress button input</li> <li>Supports security mode</li> <li>Support 4 delay time: 0.1, 3, 6, 9 sec.</li> <li>Easy Delay Time setting via DIP SW</li> </ul>	<ul style="list-style-type: none"> <li>Built-in two port relay</li> <li>Dual-control: control two relay port at the same time</li> <li>Positive-Negative trigger mode</li> </ul>

## ▶ Repeater

Soyal Repeater was divided into RS485 Repeater and Wiegand Repeater to enhance communication signal transmission and to extend signal range.

Suitable for wiring installation that required longer cable.

Model no.	AR-WGREP	AR-485REP-V2
PIC		
Features	<ul style="list-style-type: none"> <li>Enhance Wiegand Output transmission range</li> <li>Support WG24 to WG64</li> </ul>	<ul style="list-style-type: none"> <li>Available with two RS485 Port, connect up to 128 nodes in total</li> <li>Auto-detect data flow</li> <li>Auto-detect Baud Rate without external switching</li> </ul>

## ▶ Power Supply

Model no.	BP-W12-1500-US (US Type) BP-W12-1500-EU (EU Type)	BP-W15-2400-US (US Type) BP-W15-2400-EU (EU Type)	CA-AC2-US (for BP-W15-2400-US) CA-AC2-EU (for BP-W15-2400-EU)
PIC	 (US) (EU)		 (US) (EU)
Features	Desk Power Supply Unit 12VDC, 1500mA	Power Adaptor 15VDC, 2400mA	Power Cord
Features	Efficiency level V	Efficiency level V	Efficiency level V

## ▶ Uninterruptible Power Supply

Model no.	AR-716E-TC-P	
PIC		
Features	<ul style="list-style-type: none"> <li>• With additional Back-Up Battery supports Uninterruptible Power Supply (UPS) feature.</li> <li>• Built in two sets assist relay (low trigger), for external equipment control.</li> <li>• Low ripple output.</li> <li>• Low voltage output protector, (To avoid output voltage below 9V damage external equipment).</li> <li>• Built-in metal case for installation storage</li> </ul>	

## ▶ Module

Model no.	AR-721V	183U-Module	G3-Module	DMOD-NETMA (with Surge Protection)	3911-Module
PIC					
Function	Voice Module	RS485 Reader Module	USB Reader Module	TCP/IP Module (For IP Access Controller)	Mifare Module

## ▶ Installation Kit

Model no.	AR-HT-98128	MPLA-888XA18 / MPLA-888XA19	AR-701B-X
PIC			
Function	Suitable for: all SOYAL access controller and proximity reader Installation under uneven or imbalance wall	Suitable for: SOYAL Onyx Series Enhance mounting installation	Suitable for: SOYAL Multi-Door Control Series Plastic mounting panel for PCB, to fix board on place and wall mounting

# SOYAL Conventional Solution

**01 Employee Dormitory-Room Control System**

Smart digital door lock and Energy saver can be applied in Dormitory for door access and light/power control.

**02 Sky Garden-Light Control by Infrared Sensor**

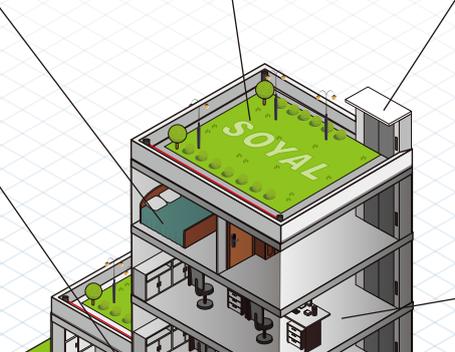
The universal module AR-403 series supported Modbus protocol can be applied in Outdoor light control and scheduled mode by infrared detection.

**03 Lift-lift control**

The Flush-mounted 888 and Mini 101 series are recommended for Lift Control application to prevents collision with ultra-thin design.

**04 Hall-Locker**

Mini 101 series with compact appearance design can be equipped with various lockers and cabinets to effectively manage the personnel to use lockers.



**05 Office-Access Control / Smart Switch**

Keypad controller can be used for the employees' access and time attendance in office; Smart Touch switch supported Modbus protocol can be installed inside for exit.

**06 Guard Room & Central Control room /Access control**

Slim series is recommended for the installation of narrow door.

**07 Automatic sliding door**

Luminous 725 series can connect with Electric Bolt lock for open/close control of Automatic sliding door.

**08 Parking -Access Control**

Modbus IO universal module is recommended for access management in Car Parking system, which supports Lane direction sequence judgement.

**09 Building Entrance- Burglary Arming/Disarm**

Anti-Vandalism Metallic series is suitable for installation at the entrance of building for access control and arming/disarm setting integrated with Burglary system.

# SOYAL Advanced IP Solution

**01 Lift-lift control**

Visitor showing QR Code and Staff swiping card to reach specific floor

**02 Roof garden-Door contact detection / Top floor emergency button**

Transmit in time the signal of door contact status and emergency button to SCADA for immediate rescue

**03 Staff canteen-Value Stored and deduction for meals and beverages in vending machine**

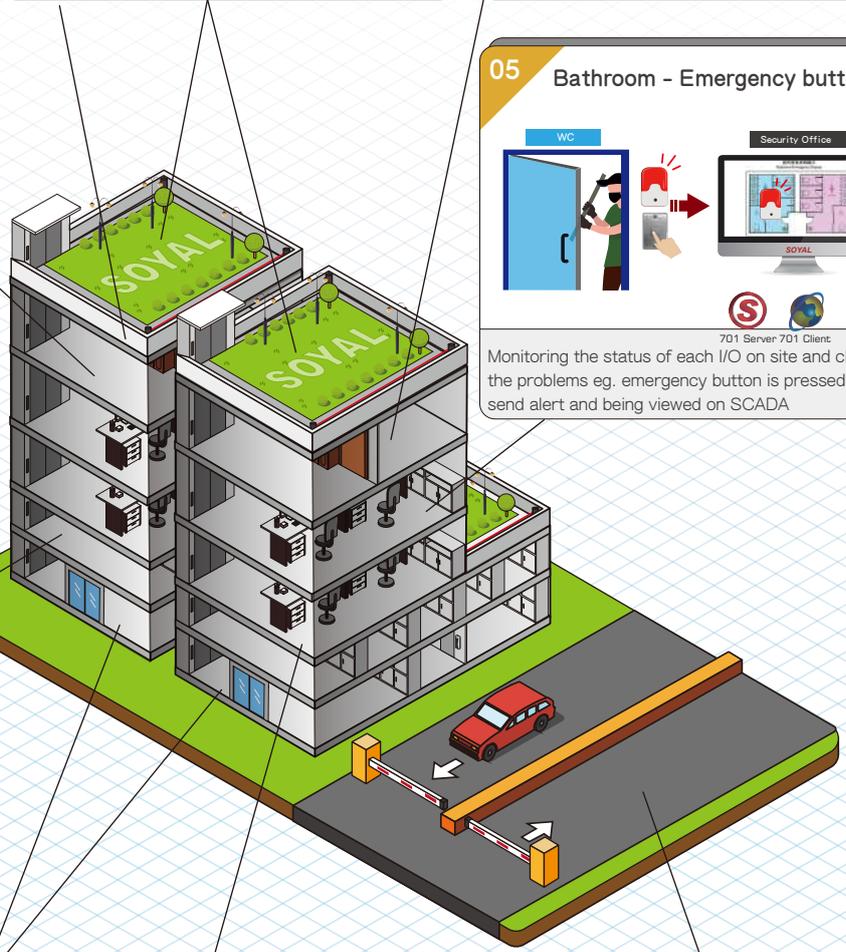
The card can store value points, deduct points after swiping the card for meals and drinks

**04 Control Center - Public Area SCADA/Abnormal Alarm Notification**

The main software with SCADA function to know the status of each I/O module on site in time and to fix any situation.

**05 Bathroom - Emergency button**

Monitoring the status of each I/O on site and clear the problems eg. emergency button is pressed to send alert and being viewed on SCADA



**06 Mailbox / Locker**

You have a parcel, please go to management center to collect it

Actively transmit status to the property management center and broadcast.

**07 Building entrance- Visitor Gate/ Multi-Gates Access/Time Attendance**

Visitor to have access by showing QR Code based on demand of the limit of time/a number of times. Anti-pass back function supported to avoid others swiping staff card to have access.

**08 Main hall counter (sub-control room)**

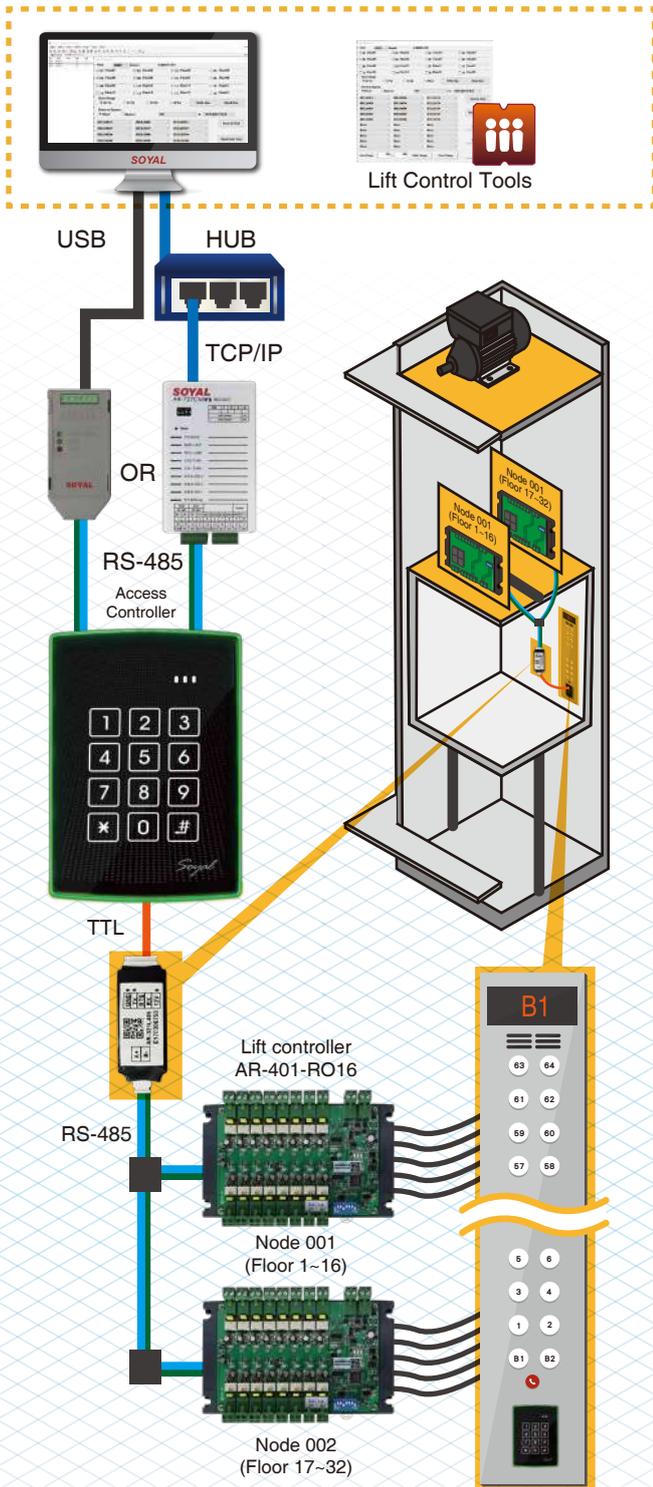
Monitoring and capturing picture of guest access, remote control Modbus smart power switch

**09 Parking Area -Plate Recognition/Anti-Pass Back/Multi-Cars share One Parking Space**

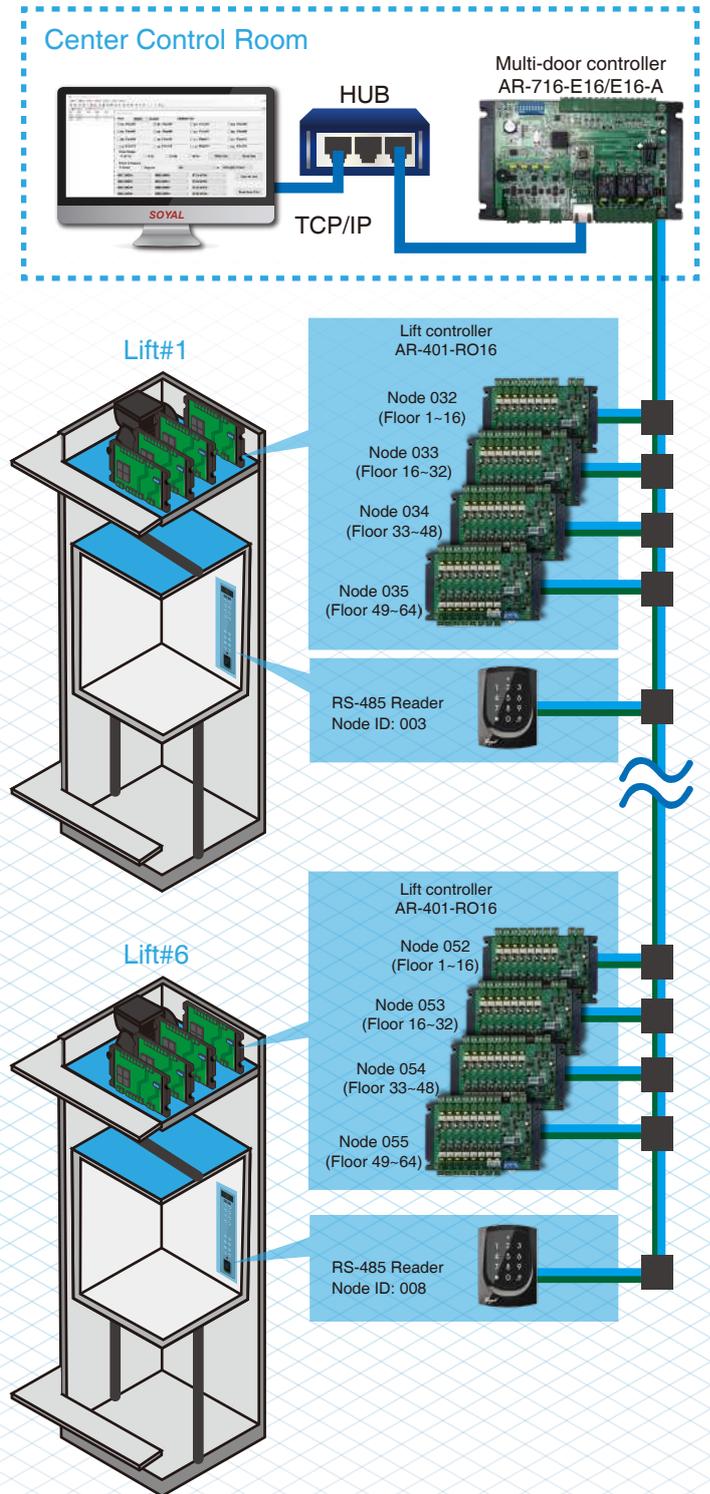
After recognizing plate number, convert it to a card number and send to controller for judging validity. Parking Area : Multi-Cars share One ParkingSpace. Other Vehicles are denied to entry when the space is occupied.

# SOYAL Lift Control Solution

## Basic Lift Control Structure



## Centralized Lift Control Structure

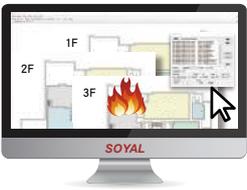


All SOYAL RS485 or TCP/IP controllers are built-in the interface to connect with Lift Controller AR-401-RO16 for 1~32 or 1~64 floors control. The controller is installed in the lift car that allows manager to easily edit user floors card on Standalone mode or edit by software on networking mode if connecting to computer. After swiping a valid card or pressing PIN code on controller, only the specified floor button can be pressed for access.

One Multi-door controller AR-716-E16/E16-A can manage up to 14 lifts with up to 64 floors in each lift by connecting maximum 14 units of RS485 readers and 56 units of lift controller AR-401-RO16 through its two RS485 channel CH1 and CH2. Installing Multi-door controller in Center Control Room connecting with computer allow the manager to easily set up parameters and edit user floors card at any time. The lift control panel installed in the equipment room on top of the building is more convenient for inspection and maintenance.

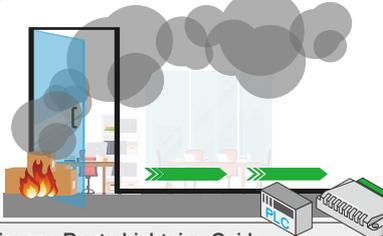
# SOYAL Industry Automation Solution

**01 Building-Central Control Center**



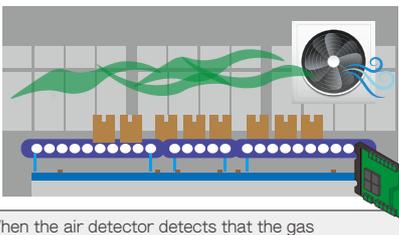
**SCADA for Monitoring / Remote Control**  
Soyal software support SCADA for monitoring status and sending a command for controller, reader, and I/O module. For controller and reader monitor and remote control arming and disarming status, door status, pop up abnormal event, and remotely open door. For I/O module monitor and remote control all input and output connected to it such as ventilation fan, air conditioner, lamp, blinds, mailbox, and many more.

**02 Building-Offices**

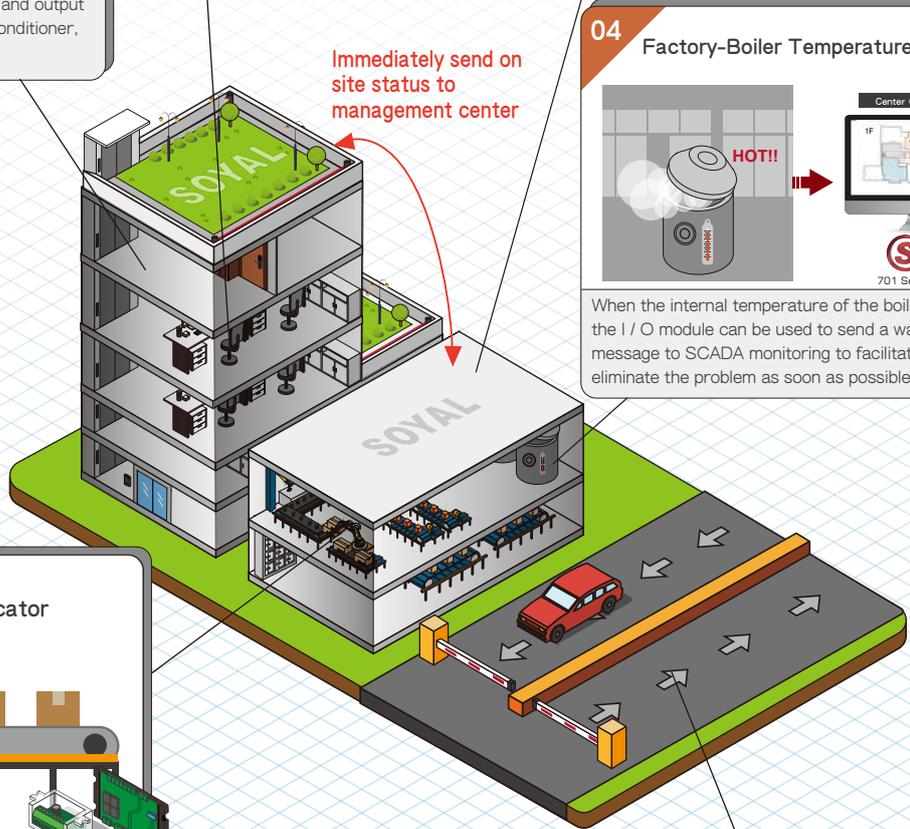


**Escape Route Lightning Guide**  
When fire emergency occurred, I/O module sensor will provides output to turn on the emergency lightning simultaneously to facilitate personnel escaping building as soon as possible.

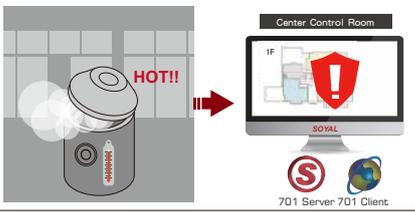
**03 Factory-Air Ventilation Fan**



When the air detector detects that the gas concentration is too high, the I/O module can be used to send a signal to start the air ventilation fan. It can also turn on two of the fan if it reached certain degree of concentration.

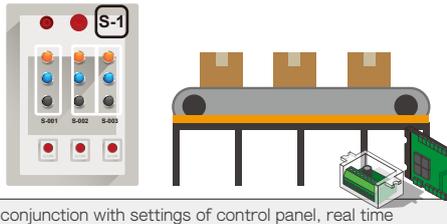


**04 Factory-Boiler Temperature Detection**



When the internal temperature of the boiler is too high, the I/O module can be used to send a warning message to SCADA monitoring to facilitate personnel eliminate the problem as soon as possible.

**05 Factory-Control Panel-Status Indicator**



In conjunction with settings of control panel, real time displays of all I/O modules status are displayed and available for real-time monitoring.

**06 Parking Lot-Parking Management System**



LED board installed will show remaining parking spaces available in real time, at the same time it will notify parking center for parking space adjustment

For visitor, after registering their car and passing the barrier, LED board will show and guide visitor to registered parking floor

I/O module installed near the parking sensor to show LED light RED if space is occupied and GREEN if space is vacant, at the same time this status will displayed on SCADA for parking management personnel to monitor parking lot.

# How to Order

**\*Type :**  
**TM**= Keypad Touch Panel + Metal Housing / **TP**=Keypad Touch Panel+ Plastic Housing  
**SM**=Without Keypad + Metal Housing / **SP**=Without Keypad + Plastic Housing

**\*Color :**  
**B**=Black / **1**=Silver / **2**=Gray **P**=Pearl White/White / **J**=Black/Black / **K**=Red/Black / **L**=Gray/Silver

**\*Additional Module :**  
**A**=TCP/IP Module / **P**=POE Features

## ▶ H Series Controller

AR-XXX	-H	X	R	1	1	1	1	XX
Item No.	Housing	Frequency	RTC	Communication	Waterproof	Color	Type	*Type
AR-321 / AR-331 	H=Controller H series	B=125KHz D=13.56MHz	R=Built in RTC	1=RS485	1=Weatherproof	1=Silver	1=Standard	321H: <b>TM</b> 331H: <b>TM/TP/SM/SP</b>
AR-XXX	-H	X	R	X	X	X	X	X
Item No.	Housing	Frequency	RTC	Communication	Waterproof	*Color	Type	Type
AR-101 / AR-721 AR-723 / AR-725 AR-757 / AR-888 	H=Controller H series	B=125KHz D=13.56MHz  (AR-101H available only one frequency D=13.56MHz)	R=Built in RTC  (X=None(some of 721H series available with no-RTC))	1=RS485 101-H: 1=WG+RS485	101-H: N=None 723-H/725-H/757-H/888-H: 1=Weatherproof 723-H/888-H: 2=Epoxy Waterproof	101-H: <b>B</b> 721-H: <b>1/2/B</b> 723-H/725-H: <b>1/2/B/P</b> 757-H: <b>1/2/J/K/L</b> 888-H: <b>B/P</b>	1=Standard  888-H: 7=Rectangle US Type 8=Square EU Type	725-H: <b>M</b> =Metal Housing

## ▶ E Series

AR-331	-E	X	R	1	1	1	1	XX	X
Item No.	Housing	Frequency	RTC	Communication	Waterproof	Color	Type	*Type	*Additional Module
AR-331 	E=Controller E Series	B=125KHz D=13.56MHz S=125KHz+13.56MHz	R=Built in RTC	1=RS485	1=Weatherproof	1=Silver	1=Standard	<b>TM/TP/SM/SP</b>	<b>A/P</b>
AR-725	-E	X	R	1	1	X	1	X	-X
Item No.	Housing	Frequency	RTC	Communication	Waterproof	*Color	Type	*Type	*Additional Module
AR-725 	E=Controller E Series	B=125KHz D=13.56MHz S=125KHz+13.56MHz	R=Built in RTC	1=RS485	1=Weatherproof	<b>1/2/3/B/P</b>	1=Standard	<b>M</b> =Metal Housing	<b>A/P</b>
AR-XXX	-E	X	R	1	1	1	1	---	-X
Item No.	Housing	Frequency	RTC	Communication	Waterproof	Color	Language(LCD)	---	*Additional Module
AR-327 / AR-727 	E=Controller E Series	B=125KHz D=13.56MHz S=125KHz+13.56MHz	R=Built in RTC	1=RS485	1=Weatherproof	327: 1=Silver 727: 2=Gray	1=English /Chinese	---	<b>A/P</b>
AR-8XX	-E	X	R	1	X	1	1	---	-X
Item No.	Housing	Frequency	RTC	Communication	Waterproof	Color	Language(LCD)	---	*Additional Module
AR-837 	E=Controller E Series	B=125KHz D=13.56MHz S=125KHz+13.56MHz	R=Built in RTC	1=RS485	1=Weatherproof	837E: B=Black Edge 1=Silver Edge	1=English /Chinese	---	<b>A/P</b>

## ▶ Fingerprint Controller

AR-331	-EF	X	3DO	---	XX	-X
Item No.	Housing	Frequency	Module	---	*Type	*Additional Module
AR-331 	EF=Fingerprint Controller	B=125KHz D=13.56MHz S=125KHz+13.56MHz	3DO= White Sensor FP Module	---	<b>TM/TP/SM/SP</b>	<b>A/P</b>
AR-725	-EF	X	XXX-	X	X	-X
Item No.	Housing	Frequency	Module	Edge Color	Type	*Additional Module
AR-837 	EF=Fingerprint Controller	B=125KHz D=13.56MHz S=125KHz+13.56MHz	9DO= Red Sensor FP Module 3DO= White Sensor FP Module	B=Black Edge 1=Silver Edge	R=Roof Type X=Standard Type	<b>A/P</b>
AR-XXX	-EF	X	XXX-	---	---	-X
Item No.	Housing	Frequency	Module	---	---	*Additional Module
AR-881 	EF=Fingerprint Controller	B=125KHz D=13.56MHz S=125KHz+13.56MHz	9DO= Red Sensor FP Module	---	---	<b>A/P</b>
AR-XXX	-UF	---	---	---	---	---
Item No.	Housing	---	---	---	---	---
AR-331 / AR-881 	UF=Fingerprint Enroller 331-UF for White Sensor FP 881-UF for Red Sensor FP	---	---	---	---	---

## ► Proximity Reader

AR- 331	-X	X	X	X	1	1	1	XX
Item No.	Reader Option	Frequency	RTC	Communication	Waterproof	Color	Type	*Type
AR-331 	<b>K</b> =Access Reader w/Keypad <b>U</b> =Access Reader	<b>B</b> =125KHz <b>D</b> =13.56MHz	<b>X</b> =None	<b>3</b> =WG choosing : <b>D</b> =13.56MHz have WG+RS485	<b>1</b> =Weatherproof	<b>1</b> =Sliver	<b>1</b> =Standard	<b>TM/TP/SM/SP</b>
AR- XXX	-X	X	X	X	X	X	X	X
Item No.	Reader Option	Frequency	RTC	Communication	Waterproof	*Color	Type	Type
AR-101 / AR-723 AR-725 / AR-888 	<b>U</b> =Access Reader	<b>B</b> =125KHz <b>D</b> =13.56MHz  (AR-101-U available only one frequency <b>S</b> =125KHz+13.56MHz)	<b>X</b> =None	<b>3</b> =WG choosing : <b>D</b> =13.56MHz have WG+RS485	101-U: <b>N</b> =None 723-U/725-U/888-U: <b>1</b> =Weatherproof 723-U/725-U: <b>2</b> =Epoxy Waterproof	101-U: <b>B</b> 723-U/725-U: <b>1/2/B/P</b> 888-U: <b>B/P</b>	<b>1</b> =Standard  888-U: <b>7</b> =Rectangle US Type <b>8</b> =Square EU Type	725-U: <b>M</b> =Metal Housing
AR- XXX	-X	X	X	X	X	X	X	X
Item No.	Reader Option	Frequency	RTC	Communication	Waterproof	*Color	Type	Type
AR-721 / AR-725 AR-888 	<b>K</b> =Access Reader w/Keypad	<b>B</b> =125KHz <b>D</b> =13.56MHz	<b>X</b> =None	<b>3</b> =WG choosing : <b>D</b> =13.56MHz have WG+RS485	721-K: <b>N</b> =None 725-K/888K: <b>1</b> =Weatherproof 725K: <b>2</b> =Epoxy Waterproof	721-K: <b>1/2/B</b> 725-K: <b>1/2/B/P</b> 888-K: <b>B/P</b>	<b>1</b> =Standard  888-U: <b>7</b> =Rectangle US Type <b>8</b> =Square EU Type	725-K: <b>M</b> =Metal Housing

## ► I / O Module

AR- XXX	-IO	-XXXX	X	-XX	-X	-X
Item No.	Controller Option	Input Qty / Output Qty	Output Type	Additional Features	Type	*Additional Module
AR-727CM 	<b>IO</b> =I/O Module Series	<b>08</b> =8 Input / <b>04</b> =4 Output	<b>M</b> =Mosfet	N/A	N/A	N/A
AR-401 	<b>IO</b> =I/O Module Series	<b>00</b> =N/A / <b>16</b> =16 Output <b>08</b> =8 Input / <b>08</b> =8 Output <b>17</b> =17 Input / <b>09</b> =9 Output	<b>R</b> =Relay	N/A 401-IO-0808R: <b>U2</b> =UART*2	N/A=PCB <b>M</b> =Metal Case <b>X</b> =Plastic Mounting Base	401-IO-0808R: <b>P</b> =POE Features
AR-403 	<b>IO</b> =I/O Module Series	<b>00</b> =N/A / <b>01</b> =1 Output <b>02</b> =2 Input / <b>02</b> =2 Output <b>04</b> =4 Input / <b>04</b> =4 Output	<b>M</b> =Mosfet	403-IO-0202/0001: <b>IR</b> =1 Infrared Output	N/A	N/A

## ► Multi-Door Control Series

AR- 716	-E	XX	—	—	-X	-X
Item No.	Controller Option	Doors No.	—	—	Type	Additional Module
AR-716 	<b>E</b> =Multi-Door Networking Controller	<b>02</b> =Dual Doors (WG) <b>16</b> =16 Doors (RS485) + 2 WG <b>18</b> =18 Doors (RS485) + 2 WG	—	—	N/A=PCB <b>M</b> =Metal Case <b>X</b> =Plastic Mounting Base (AR-716-E18 does not have plastic mounting base option)	716-E16/E18: <b>A</b> =TCP/IP Module

## ► Proximity Tags

AR- TAG	1	2	3	4	5	6	7	8
AR-TAGXXXXXX-XXX AR-TAG <b>1234567-888</b> 	<b>C</b> =Card <b>K</b> =Keychain <b>T</b> =Label(Tag)	<b>I</b> =Thin Card <b>T</b> =Thick Card <b>3</b> =Round Keychain <b>1</b> =Round Keychain (Small) <b>7</b> =Square Keychain <b>9</b> =Label Sticker	<b>1</b> =125kHz (EM) <b>3</b> =13.56MHz (Mifare) <b>B</b> =13.56MHz (ISO-15693) <b>D</b> =13.56MHz (Desfire) <b>8</b> =922-928MHz (EPC UHF for card) <b>9</b> =922-928MHz (EPC UHF for label)	<b>R</b> =Read only <b>W</b> =Read and Write	<b>2</b> =Gray (standard color for Keychain) <b>5</b> =Ivory (standard color for Card)	<b>0</b> =Standard	<b>F</b> =ROHS compliance	N/A=125kHz & UHF tags does not required*  <b>MF06</b> = Mifare Economical Chip 4byte <b>MF08</b> = Mifare Standard Chip 4byte <b>MF18</b> = Mifare Standard Chip 7byte <b>MFb</b> = Mifare Standard Chip 7byte <b>MF93</b> = ISO-15693 7byte HEX 3.4 <b>DF28</b> = ISO-15693 7byte WG32 <b>DF28</b> = Desfire 7byte WG32

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