SOYAL®

Slim Series

AR-331-H / AR-331-E / AR-331-EF / AR-331-K / AR-331-U

Elegant and slim design, supporting multiple working modes: standalone, networking and cascade structure for diverse applications

More Than One Access Ways

AR-331-H/E: RFID tags (125kHz/13.56MHz) and PIN
AR-331-EF: RFID tags (125kHz/13.56MHz), PIN and fingerprint

Anti-Vandalism, Metal Frame Selectable

Metal frame is able to enhance protection and reduce destruction upon collision and damage

Invisible Keypad

For invisible keypad model, user can activate keypad function by swiping Master Card when doing programming of controller

Slim Appearance

Suitable for installation in narrow place and limited area

Support SOYAL Cascade Structure

Controllers have built-in multiple control modes:
1. One door
2. 1.5 door or 2 doors (with WG reader)
3. Multiple doors (with multi-door control panel)

Features

Invisible Keypad

Dust and Waterproof

Dual Indicator

Slim Design

In-Field Firmware Upgrade
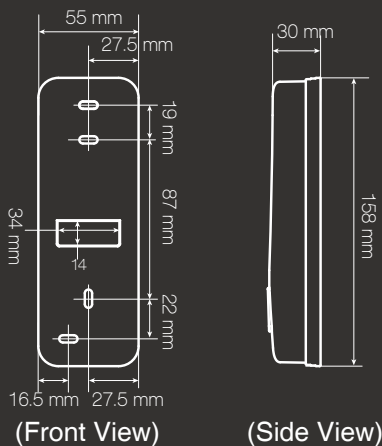
Alarming for Abnormal Event

Web

Youtube

- Built-in hardware watchdog and real time clock
- Support RS485 communication encryption, SSC (Soyal Security Communication)
- Support Standalone / Networking / Cascade structure
- In-field firmware update
- Arming / Force Alarm / Unclose Alarm / Duress Output
- Lift Control: 64 floors for AR-331-E&EF /32 floors for AR-331-H
- Access Mode: Card Only, Card or PWD, Card and PWD
- Built-in Multi-Output: Door Lock / Alarm / Arming / Duress / Security trigger signal

- Holiday Edit up to 120 days a year
- Auto Relock for anti-trailing and sneaking
- Suitable for access control, lift control, time attendance, payroll and SCADA: graphic monitoring & remote control
- AR-331-H supports one and half door anti-passback; AR-331-E/EF support two doors anti-passback
- WG port provides anti-pass-back function
- Support freqeuency 125Khz , 13.56Mz or dual band (only for AR-331-E&EF)

SPECIFICATION - Slim Series RFID Controllers

Model No.		AR-331-H Home Series Access Controller	AR-331-E Enterprise Series Access Controller	AR-331-EF Multi-Function Fingerprint Controller
Communication interface	Host	RS485/9600bps	RS485/9600bps, TCP/IP	RS485/9600bps, TCP/IP
	Serial	TTL Output	UART (TTL port) x 2	UART (TTL port) x 1
Frequency		125kHz, 13.56MHz	125kHz, 13.56MHz, Dual Band	125kHz, 13.56MHz, Dual Band
RFID Reading Range		125kHz: 3~7 CM / 13.56MHz: 1~3 CM		
Supported Tag	125kHz	ISO 18000-2 EM4001 & EM4095 compatible	ISO 18000-2 EM4001 & EM4095 compatible	
	13.56MHz	ISO 14443 Mifare Ultralight, Classic, DESFire, NFC (card simulation) *Crypto comply with EAL4+	ISO 14443 Mifare Ultralight, Classic, Plus, DESFire EV1&EV2, ISO15693, Felica, NFC (card simulation) *Crypto comply with EAL5+	
Tag UID Bits		24~32	24~64	
Fingerprint	FRR	——	——	<0.1%
	Fingerprint Capacity	——	——	1500
	User Capacity	——	——	500(1~3 fingerprints per person)
	Identification Speed (1:1000)	——	——	<1.5 sec
	Sensible Temperature	——	——	38~39℃
Digital Input / Output	DI	Push Button / Door Status / Door Bell(use keypad #)	Push Button X2 / Door Status X2	
	DO	Door Bell(use Alarm PIN), Security, Arming, Duress	Security, Arming, Duress	
	RO	Door Lock Relay / Alarm Relay(Need External Relay Module)	Door Lock Relay / Alarm Relay	
Doors / Floors Number		1.5 Doors / 32 Floors	2 Doors / 64 Floors	
User Capacity		3,000	16,000	
Event Log		1,500	32,000	
Indicator		2 Bi-Color LED, BuzzerX1	2 Bi-Color LED, BuzzerX1	
Extend Port		Tamper Switch / Tamper Output / Wiegand Input / Buzzer	Tamper Switch / Tamper Output / Wiegand Input / Wiegand Output / Buzzer	
Power Consumption		<3W	<5W	
Ingress Protection		IP56	IP65	
Dimension (mm)		158(H) x 55(W) x 30(D)		
Housing Material		PC housing + PC frame / PC housing + Metal frame		
Color		Chrome		
Net Weight (g)		PC + PC: approx. 160 PC + Metal: approx. 216	PC + PC: approx. 140 PC + Metal: approx. 250	PC + PC: approx. 160 PC + Metal: approx. 260
Power Voltage		9~24VDC		
Operating Temperature		-20℃ ~ +65℃		

INSTALLATION(mm)

55 mm
27.5 mm
19 mm
87 mm
22 mm
34 mm
14
16.5 mm   27.5 mm

(Front View)

30 mm
158 mm

(Side View)

HOW TO ORDER

AR-331-XXXX1X1-XX-X

Product
H=Home Series Controller
E=Enterprise Series Controller
K=Proximity ReaderTouch Keypad
U=Proximity Reader

Frequency
B=125kHz / D=13.56MHz
S=125KHz+13.56MHz(only for 331-E)

RTC
R=RTC / X=None

Communication
1=RS485 (only for 331-E / H)
3=WG (only for 331-K / U)

Additional Module (only for 331-E)
A=TCP/IP Module / P=POE Features / J=RJ45 Module

Type
TM= Keypad Touch Panel + Metal Housing
TP= Keypad Touch Panel + Plastic Housing
SM= Without Keypad + Metal Housing
TP= Without Keypad + Plastic Housing

Type
1=Standard

Color
1=Silver

Waterproof
1=Weatherproof / 2=Waterproof

AR-331-EFX3DO-XX-X

Frequency
B=125kHz / D=13.56MHz
S=125KHz+13.56MHz

Module
3DO=White Sensor Fingerprint Module

Additional Module
A=TCP/IP Module / P=POE Features
J=RJ45 Module

Type
TM= Keypad Touch Panel + Metal Housing
TP= Keypad Touch Panel + Plastic Housing
SM= Without Keypad + Metal Housing
TP= Without Keypad + Plastic Housing

SPECIFICATION - Slim Series Proximity Readers

Model No.		AR-331-K/U Access Reader
Frequency		125kHz / 13.56MHz
Supported Tag	125kHz	EM
	13.56MHz	ISO 14443, Crypto (3DES)
RFID Reading Range	125kHz	3~7 CM
	13.56MHz	1~3 CM
Communication Interface (Output)		WG 24~34, RS485(13.56MHz), RS232(Optional By Order), ABA-II
Power Voltage		9~24VDC
Power Consumption		<1W
Other Function		Tamper Switch / Tamper Output / Wiegand Output / Buzzer
Ingress Protection		IP56
Dimension (mm)		158(H) x 55(W) x 30(D)
Housing Material		PC housing + PC frame / PC housing + Metal frame
Color		Chrome
Net Weight (g)	PC + PC	approx. 140
	PC + Metal	125kHz: approx. 240 13.56MHz: approx. 300
Operating Temperature		-20℃ ~ +65℃

KEYPAD FEATURES

1. Illuminated Touch Keypad

All-in-One: Have access by either swiping valid tags or entering PIN. Configuration setting can also directly proceed via its keypad.

2. Keypad-less

RFID Only: Have access by swiping valid tags. Numerical keypad is unavailable and and quick keyless editing via Authorization Card /Master Card

3. Illuminated Touch Keypad Invisible

The keypad function is available but there is no numerical keypad on it (invisible keypad). To make configuration easier, attach External Numerical Keypad and swipe Authorization or Master Card first for authentication and detach when finished.
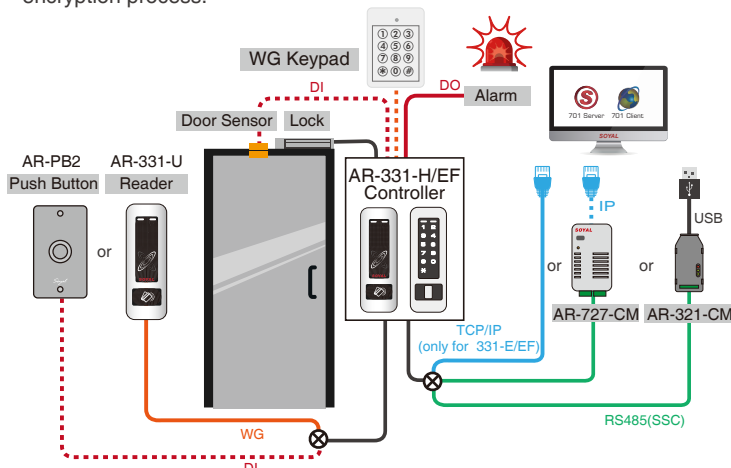
Programming   ❷ External Keypad

❶ master card

APPLICATION & STRUCTURE DIAGRAM

● STANDALONE & NETWORKING ACCESS CONTROL

Basic Access: the most basic access, exiting venue is only by pressing a push button

Anti Passback: restrict user to re-enter before exiting venue or increase security level by having access reader at the other side of the door. Both entering and exiting will required swipe card or keyfob for access.

Netwoking: beside configuration through Wiegand Keyboard and Master Card, you can also link AR-331-H/E/EF with Soyal converter to PC for configuration via SOYAL Software or for anti-cloning and encryption process.
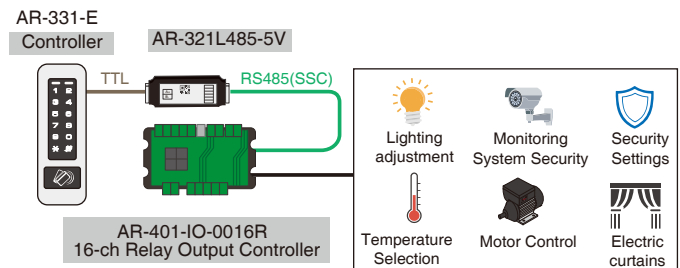
WG Keypad

Alarm

DI   DO

Door Sensor   Lock

701 Server   701 Client

AR-PB2   AR-331-U
Push Button   Reader

AR-331-H/EF
Controller

or

IP

USB

or   or

AR-727-CM   AR-321-CM

TCP/IP
(only for 331-E/EF)

WG

DI

RS485(SSC)

--3000 User, 11 Timezone-- for AR-331-H

--16000 User, 63 Timezone-- for AR-331-E/EF

● AUTO-SCHEDULING

Smart Home System : AR-331-E connect with DO module for auto-control, can formulate a ime schedule for each output, up to 64. It's suitable for each various switching devices.

AR-331-E
Controller   AR-321L485-5V

TTL   RS485(SSC)

Lighting adjustment   Monitoring System Security   Security Settings

Temperature Selection   Motor Control   Electric curtains

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

Lift Control:
Auto-Open by time zone setting in particular floors

Lighting adjustment:
Smart lighting control combined with traditional switch and digital control

Sprinkler system:
Auto-Watering activated by time zone in different places

Electric curtains:
Electric equipment control such as Electric curtains, Gasshut-off valves and etc.

Temperature Selection:
Heating and cooling Air Conditioning system control
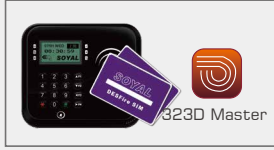
PERIPHERALS / ACCESSORIES

HIGH LEVEL SECURITY

• Anti-Cloning Kits

Mifare Encryption
Encoder: AR-725-P
Authorization Tags
Software: Mifare Key

Desfire Encryption
Encoder: AR-837-P
Authorization Tags
Software: 323D Master

• Expansion I/O Control

I/O Modules
AR-401 Series: Multiple Channel I/O Module
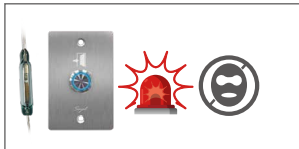**AR-403 Series:** Tiny Digital I/O Module

AR-331-H   AR-331-E/EF

NETWORKING

• Software

Firmware Upgrade
(Only for 331-H)
ISP Tools

Firmware Upgrade
(Only for 331-E/EF)
Udp Updater

Remote Lift Control and Time Table Setting
Lift Control

• Signal/Interface Converter

POE Module
(Only for 331-E/EF)
AR-MDL-RJ45-POE-12V12W

Isolated USB to RS-485
AR-321-CM
Isolated RS232 to RS-485 Converter
AR-321-CM-485232

Ethernet to RS485
AR-727-CM
AR-727-CM-IO-0804M
(with I/O for Fire Alarm to open all doors)

TTL to RS-485
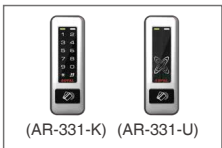For external module converter

• Large User Capacity & Multi-Door AntiPassback

Multi-Door Control Series
AR-716-E16: 16 Doors IP Control Panel
AR-716-E18: 18 Doors Networking Control Panel

STANDALONE

• Input/Output

Locks
Magnetic Lock
AR-0600M
Electric Bolt Lock
AR-1207 Series
Cabinet Lock
AR-1211-P/AR-1213-P
Electric Strike
AR-YS-130NO/AR-YS-131NO

Door Sensor / Push Button / Alarm / Burglary Security System

• Slim Series

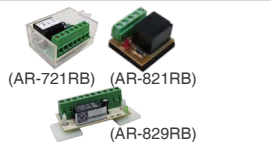(AR-331-K)   (AR-331-U)

Touch Keypad Proximity Reader
AR-331-K

Proximity Reader
AR-331-U

• External Relay Output
(Security / Arming / Duress / WIEGAND Unlock Door/Alarm)

(AR-721RB)   (AR-821RB)

(AR-829RB)
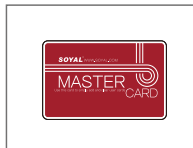
1 Form C relay with time delay
AR-721RB
1 Form C relay
AR-821RB
2 Forcm C relay
AR-829RB

• Programming

MASTER CARD

Keyless Editing
Self programmed master card
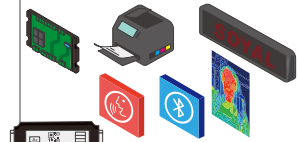
• Necessary

Power Supply
BP-W12-1500 (1.5A)
BP-W15-2400 (2.4A)

Proximity Tags
125kHz: EM
13.56MHz: Mifare Classic, Mifare Plus, Mifare Desfire, UltraLight
Tags Selection: Thin Card, Round Keyfob, Square Keyfob

• UART Port
(Only for 331-E / EF)

Lift Control / I/O Module / Printer / LED display / Voice Module / Bluetooth Module / Infrared Thermo-Camera

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FAQ

Q: **How to Integrate SOYAL with Face & License Plate Recognition?**

A: As Face Recognition is more and more in demand, SOYAL provide resources and two integration method. The integration will grant access via face recognition by sending converting face data to UID to Soyal system (software/hardware) that later will resulting in access granted or denied, based on the availability user data on Soyal database system.
As the integration method is various, we offer flexibility of integration based on what customer preferred.

Q: **How to set the IP address offline without computer for AR-331-E?**

A: Besides online setting IP address by computer via the built-in HTTP Web Server, offline setting by keypad is also workable, that suited on site or when IP address is unknown.

- The default IP address: 192.168.1.127
- To edit IP address: for example: 192.168.77.10
  STEP 1. Entering programming mode
  STEP 2. Input 01*0*192168077010# by keypad.

More FAQ