

1 - INTRODUCTION

The device is a waterproof dual- entry multi-function Access Controller with integrated keypad and card reader. It is designed and manufactured to perform in a wide range of indoor, outdoor, and harsh environments.

The device supports 999 users in multiple access configurations (Card, PIN, or Card + PIN). The built in card reader supports EM 125KHz frequency cards.

Both of the two relays on board can operate in Pulse Mode (suitable for access control) or Toggle Mode (suitable for arming/disarming alarms, switching lights, machines, etc...).

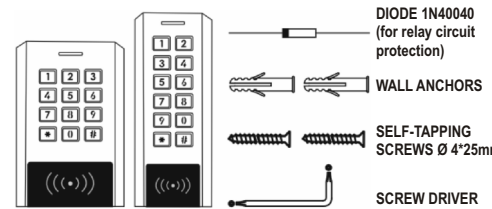
1.1 - FEATURES

- Waterproof, conforms to IP66
- Metal case, anti-vandal
- Fashion design, all-metal key button
- Two relays, 999 users
- PIN length: 1~8 digits
- Card type: 125KHz EM card / tag
- Multi-color LED status display
- Integrated alarm & buzzer output, can set the volume sound from level 0~5
- Pulse mode, Toggle mode
- Built in light dependent resistor (LDR) for anti tamper
- Backlit keypad, can set always ON, always OFF, or turn off automatically after 60 seconds
- Relay 2 supports external door bell
- Low temperature resistance(-40°C)
- Voltage: 12~28VAC/DC

1.2 - SPECIFICATIONS

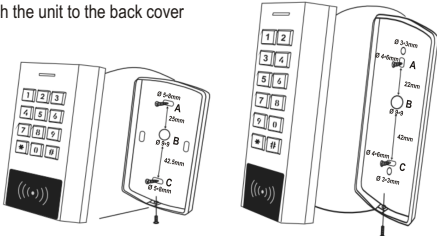
User Capacity	999
Operating Voltage Idle Current	12~28V AC/DC < 50mA
Proximity Card Reader Radio Technology Read Range	EM 125KHz 2~6 cm
PIN Length	1~8 digits
Wiring Connections	Relay Output, Exit Button, Alarm, Door Contact, Doorbell
Relay Adjustable Relay Output Time Lock Output Load	Two (NO, NC, Common) 0~300 Seconds (5 seconds default) 2 Amp Maximum
Environment Operating Temperature Operating Humidity	Meets IP66 -40°C ~ 60°C (-40°F ~ 140°F) 0%RH~98%RH
Physical Color Dimensions	Zinc-Alloy Silver L114.5 x W75 x D22mm (wide) L134 x W55.5 x D21mm (slim)
Unit Weight Shipping Weight	360g (wide) / 340g (slim) 440g (wide) / 420g (slim)

1.3 - CARTON INVENTORY



2 - INSTALLATION

- Remove the back cover from the unit
- Drill 2 holes (A, C) on the wall for the screws and one hole for the cable
- Knock the supplied rubber bungs to the screw holes (A, C)
- Fix the back cover firmly on the wall with 4 flat head screws
- Thread the cable through the cable hole (B)
- Attach the unit to the back cover



2.1 - WIRING

Wire colour	Function	Notes
Basic Standalone Wiring		
Red	AC/DC	12-28V AC/DC Regulated Power Input
Black	AC/DC	12-28V AC/DC Regulated Power Input
Green	NC 1	Normally Closed Relay 1 Output
White	COM 1	Common Connection for Relay 1 Output
Blue	NO 1	Normally Open Relay 1 Output
Yellow	OPEN 1	Request to Exit input 1 (REX)
Grey	GND	Negative Pole
Black&Green	NC 2	Normally Closed Relay 2 Output
Black&White	COM 2	Common Connection for Relay 2 Output
Black&Blue	NO 2	Normally Open Relay 2 Output
Orange	OPEN 2	Request to Exit input 2 (REX)

Advanced Input and Output Features		
Purple	Alarm -	Alarm Negative
Brown	D_IN	Door Status Detecting

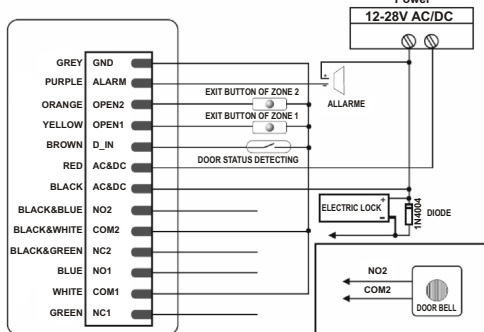
2.2 - SOUND AND LIGHT INDICATION

Operation Status	LED	Buzzer
Power supply connection	Blue ON 3 sec.	ON 3 sec.
Standby	Blue blinking 0.3 s ON / 2 s. OFF frequency	---
Waiting for Master code after pressing *	Yellow blinking 0.5 s. freq. * Timeout = 60 s.	ON 1 x 0.5 s.
In programming mode	Yellow ON	---
Card correct reading in programming mode	Green ON 1 x 0.5 s.	ON 1 x 0.5 s.
Card incorrect reading in programming mode	Red blinking 5 x 0.2 s.	Blinking 5 x 0.2 s.
Correct step in programming mode	Green blinking 2 x 0.5 s.	Blinking 2 x 0.5 s.
Incorrect step in programming mode	Red blinking 5 x 0.2 s.	Blinking 5 x 0.2 s.
Relay 1 activated	Green ON during activation time	ON 1 x 0.5 s.
Relay 2 activated	Blue ON during activation time	ON 1 x 0.5 s.
Relays 1 + 2 activated	Green / Blue ON alternatively 1 s. / 1 s. during activation time	ON 1 x 0.5 s.

Card correct reading and waiting the PIN code in Card + PIN mode	Blue blinking 1 s. ON / 1 s. OFF frequency Time out = 10 sec.	---
Unregistered PIN code or Card	Red blinking 5 x 0.2 s.	Blinking 5 x 0.2 s.
Factory default reset	Green blinking 4 x 0.5 s.	Blinking 4 x 0.5 s.
Alarm	Red blinking 0.2 s. frequency *	Blinking 0.2 s. frequency *

* frequency means that the LED is blinking ON/OFF during the same time.
Example: blinking 1 s. frequency = 1 s. ON / 1 s. OFF / 1 s. ON / 1 s. OFF / ...

2.3 - CONNECTION DIAGRAM



Remarks: The relay 2 can be used to operate the doorbell when no need to operate a second door. The wiring is connecting the door bell to NO2 and COM2. Press *0#, the reader will send out a switching signal to the doorbell.

Connect the negative pole of the lock to NC is for Fail –safe lock.

Connect the negative pole of the lock to NO is for Fail-secure lock.

3 - FUNCTION DESCRIPTION

3.1 - RELAY OPERATION (Pulse mode and Toggle mode)

Both of the two relays on board can operate in Pulse Mode (suitable for access control) or Toggle Mode (suitable for arming/disarming alarms, switching lights, machines....etc)

Every time a valid card/tag read or PIN input in Pulse Mode, the relay will operate, for the preset relay pulse time.

Every time a valid card/tag read or PIN input in Toggle Mode, the relay changes state, which will not turn back until read card/tag or input PIN again..

3.2 - ANTI-TAMPER ALARM

The device uses a LDR (light dependent resistor) as an anti-tamper alarm. If the keypad is removed from the cover then the tamper alarm will operate.

4 - PROGRAMMING

4.1 - GENERAL PROGRAMMING INFORMATION

- User ID number:** Assign a user ID to the access card / PIN in order to track it. The user ID number is 1-999
- IMPORTANT:** User IDs do not have to be proceeded with any leading zeros. Recording of User ID is critical. Modifications to the user require the User ID be available.
- Proximity Card:** 125KHz EM card/tag
- PIN:** Can be any 1~8 digits except 0 and 00000000.

4.2 - ENTER AND EXIT PROGRAM MODE

Programming Step	Keystroke Combination
Enter Program Mode	* (Master Code) # (Factory default is 888888)
Exit Program Mode	*

4.3 - SET MASTER CODE

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Update Master Code	0 (New Master Code) # (Repeat New Master Code) # (Master code is any 4~8 digits, except 00000000)
3. Exit Program Mode	*

4.4 - ADD USERS

(User ID is any number from 1-999; PIN length: 1~8 digits except 0 and 00000000)

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card Users by Reading Card	11 (User ID) # (Relay Selection) # (Read Card) #
or	
2. Add Card Users by Card Number	11 (User ID) # (Relay Selection) # (Input 8~10 digits Card Number, ignoring the ",") #
or	
2. Add PIN Users	11 (User ID) # (Relay Selection) # (PIN) #

or		12 (User ID) # (Relay Selection) # (Read Card Successively) #
2. Add Card Users Successively		
or		15 (User ID) # (Relay Selection) # (PIN) # (Read Card Number, ignoring the ",") #
2. Add Card + PIN Users		
		Relay selection: 1 = Relay 1 only; 2 = Relay 2 only; 12 = Relays 1 & 2 simultaneously
3. Exit		*

Remark: if the "Doorbell push button" mode is activated, it must not be possible to select the relay 2.

4.5 - DELETE USERS

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Delete User - By Card	2 (Read Card) The cards can be deleted continuously
or	
2. Delete User - By Card number	2 (Input 8~10 digits Card number, ignoring the ",") #
or	
2. Delete User - By User ID	2 (User ID) #
or	
2. Delete ALL Users	2 (00000000) #
3. Exit	*