R3K

Stand-Alone Keypad & Proximity Card Reader

User Manual

INTRODUCTION

The R3K is a two relay multifunction standalone access control keypad suitable for either indoor or outdoor use It is housed in a strong, sturdy and vandal resistant Zinc Alloy electroplated case. The electronics are fully potted making it extremely weather resistant and conforming to IP68

It supports up to 1200 users in a Card, PIN, or a Card + PIN option. The inbuilt card reader supports 125KHZ EM frequency card or key fob, and the Pin length is 4-8 digits

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

The R3K has many extra features including block enrollment, backlit keypad. These features make the R3K an ideal choice for door access not only for small shops and domestic households but also for commercial and industrial applications such as factories, warehouses, laboratories, banks and prisons

Features

- Weather resistant to IP68
- Strong Zinc Alloy Electroplated anti-vandal case
- Two relay operation
- Both relays can be programmed for 3 modes: Card, PIN, Card + PIN
- 1200 user capacity
- Zone 1: up to 1100 Pin & Card holders, Zone 2: up to 100 Pin & Card holders
- Pin length: 4-8 digits; card type: 125KHZ EM card/key fob
- Can be used as a standalone keypad
- Pulse mode, Toggle mode
- Block enrollment, can enroll 1100 consecutive cards within 2 minutes
- Backlit keypad
- Adjustable Door Relay Output time, Alarm time, Door Open time
- Built in light dependent resistor (LDR) for anti-tamper
- Built in buzzer
- Dual relay outputs for door opening, door status detecting, open door by button
- Red, Yellow and Green LEDS display the working status
- Supports door bell connection (For relay 2)
- 12-24V AC/DC power input

Specifications

Operating Voltage	12-24V AC/DC
User Capacity	1200
Keypad	12 keys, 3 x 4 digits
Card Type	EM card/key fob
Card Reading Distance	3-6 cm
Pin length	4-8 digits
Active Current	＜60mA
Idle Current	25±5 mA
Lock Output Load	Max 2A
Alarm Output Load	Max 20A
Operating Temperature	-25-60℃
Operating Humidity	5%- 95% RH
Environment	Conforms to IP68
Adjustable Door Relay time	1 -99 seconds
Adjustable Alarm Time	0- 3 minutes
Wiring Connections	Electric Lock, Exit Button, DOTL, External Alarm
Dimensions	H: 128 x W: 82 x D: 28 mm
Net Weight	650g
Gross Weight	800g

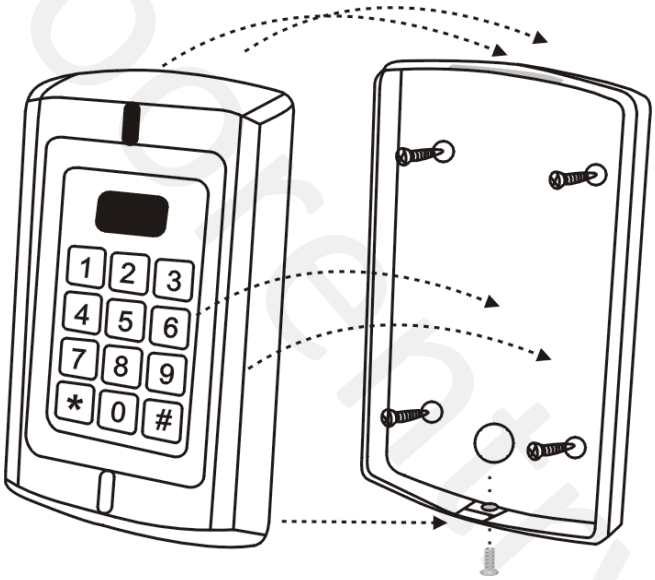
Packing List

Name	Quantity	Remarks
Digital Keypad-R3K	1	
User manual	1	
Screw driver	1	
Rubber bungs	4	6*27mm, used for fixing
Self tapping screws	4	3.5*27mm, used for fixing

Please ensure that all the above contents are correct. If any are missing please notify the supplier of the R3K

Installation

- Remove the back cover from the keypad using the supplied security screwdriver
- Drill four holes on the wall for the screws and one hole for the cable
- Fix the back cover firmly on the wall with 4 flat head screws
- Thread the cable through the cable hole
- Use the supplied rubber bungs to waterproof the screw holes
- Attach the keypad to the back cover



Wiring cable

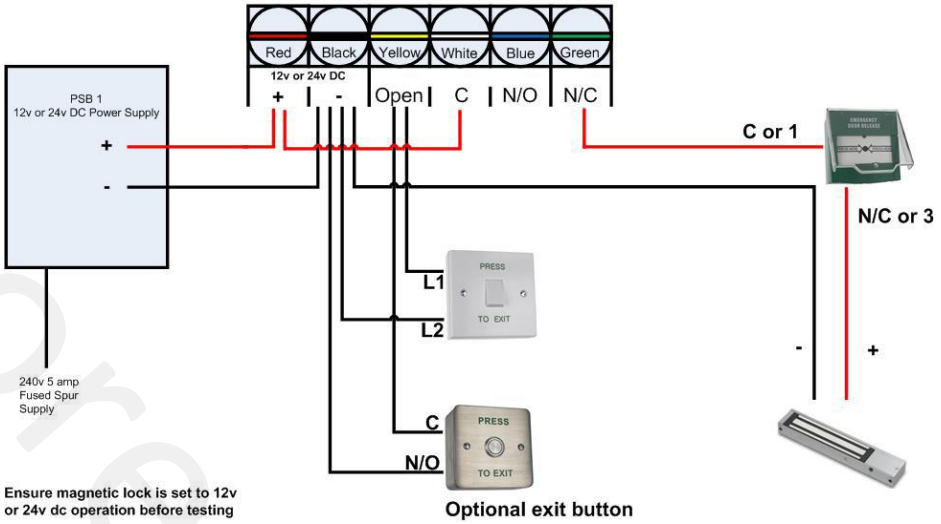
Color	Function	Description
Grey & Black	GND	Negative pole
Grey	Alarm -	Alarm Negative
Yellow & Black	OPEN2	Request to Exit Button of Zone 2
Yellow	OPEN1	Request to Exit Button of Zone 1
Brown	D_IN	Door status detecting
Red	AC & DC	AC & DC 12-24V power input
Black	AC & DC	AC & DC 12-24V power input
Blue & Black	NO 2	
Black & White	COM2	
Green & Black	NC 2	
Blue	NO1	
White	COM1	
Green	NC1	

Quick Programming Guide

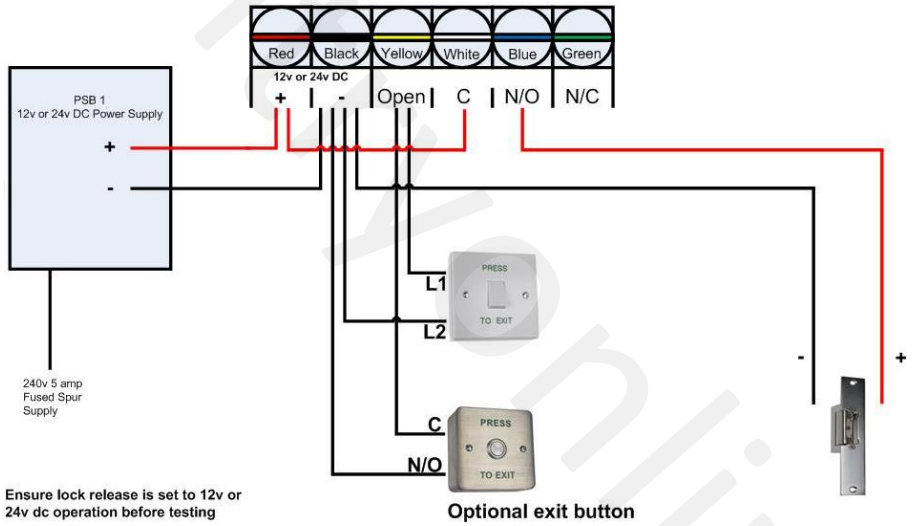
To enter the programming mode	* Master code # 888888 is the default factory master code
To exit from the programming mode	*
Note that to undertake the following programming the master user must be logged in	
To change the master code	0 New code # New code # The master code must be 6 digits
To add a PIN user for Zone 1 To add a Pin user for Zone 2	1 User ID number (1-1100) # PIN # 1 User ID number (1101-1200) # PIN # The ID number is any number between 1 & 1100 for Zone 1 and any number between 1101 & 1200 for Zone 2 The PIN is any 4-8 digits between 0000 & 99999999 with the exception of 1234 which is reserved Users can be added continuously without exiting programming mode
To add a card user for Zone 1 To add a card User for Zone 2	1 Read Card # 5 Read Card # Cards can be added continuously without exiting programming mode
To delete a PIN or a card user	2 User ID number # for a PIN user or 2 Read Card # for a card user Users can be deleted continuously without exiting programming mode
To Unlock the door for Zone 1 or Zone 2	
To unlock the door for a PIN user	Enter the PIN then press #
To unlock the door for a card user	Present the card

Connection Diagram Examples

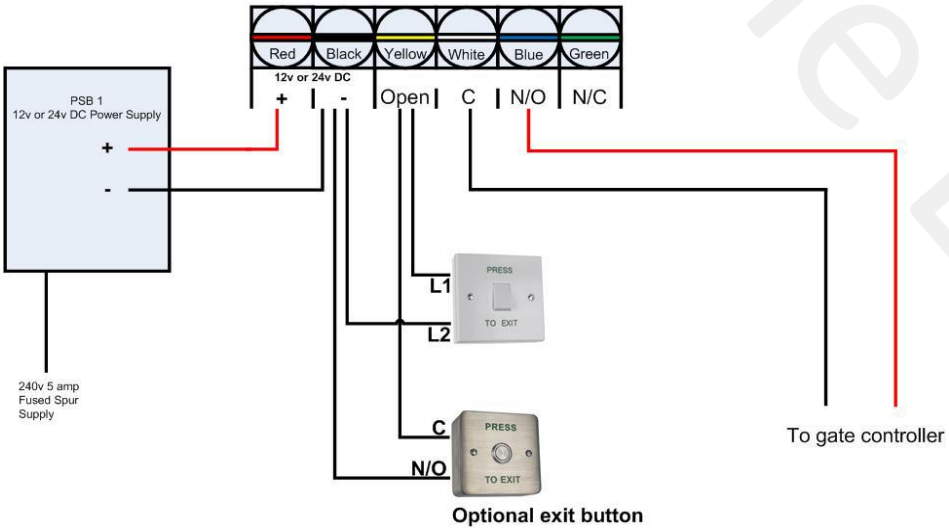
Common power supply for magnetic lock (Fail open – power to lock)



Common power supply for lock release (Fail secure – power to unlock)



Common power supply for auto gate controller (using Normally Open contact)



Remarks: the Zone 2, it can be used to operate a doorbell if there is no need to operate a second door. The wiring to connect the doorbell is via NO2 and COM2. Press **#**, the R3K will send out a switching signal to the doorbell, as long as you press the" **#**", the doorbell will operate, it will stop when you release the " **#**"

Relay operation (Pulse mode and Toggle mode)

Both of the two relays 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 fob/card or Pin is read/input in Pulse Mode, the relay will operate for the pre-set relay pulse time

Every time a valid fob/card or Pin is read/input in Toggle Mode, the relay changes state and will not turn back until the fob/card is presented or the PIN used

Anti-Tamper Alarm

The R3K uses an LDR (light dependent resistor) as an anti tamper alarm. If the keypad is removed from the cover then the tamper alarm will operate

Sound and LED indication

Operation Status	**Red LED**	**Green LED**	**Blue LED**	**Buzzer**
Zone 1, unlock	-	Bright	-	Short Ring
Zone 2, unlock	-	-	Bright	Short Ring
Power on	Bright	-		Long Ring
Stand by	Shines slowly	Off	-	-
Press keypad	-	-	-	Short Ring
Operation successful	-	Bright	-	Long Ring
Operation failed	-	-	-	3 Short Rings
Enter into programming mode	Bright	off	-	Long Ring
In the programming mode	Bright	Bright	-	-
Exit from the programming mode	Shines slowly	-	-	Long Ring
Alarm	Shines quickly	-	-	Alarm

R3K Detailed Programming Guide

User Settings

To enter the programming mode	* Master code # 888888 is the default factory master code
To exit from the programming mode	*
Note that to undertake the following programming, the master user must be logged in	
To change the master code	0 New code # Repeat new code # The master code could be any 6 digits number
Setting the working mode:	
Set valid **Card or PIN** users	3 1 2 # , Zone 1 3 2 2 # , Zone 2 Entry is by either **Card or PIN** (**Factory default setting**)
Set valid **Card and PIN** users	3 1 1 # , Zone 1 3 2 1 # , Zone 2 Entry is by **Card and PIN** together
Note: When adding users, if the Card or Pin user has been enrolled already, you can not add it again. The R3K will give a bleep as error	

Factory default setting: Card or PIN mode	
To set users for Zone 1. (3 1 2 #)	
To add **PIN** users	1 User ID number # PIN # The ID number is any number among 1 - 1100 The PIN is any 4-8 digits between 0000 - 99999999 with the exception of 1234 which is reserved. Users can be added continuously without exiting programming mode as follows: 1 User ID no 1 # PIN # User ID no 2 # PIN #
To delete **PIN** users	2 User ID number # Users can be deleted continuously without exiting programming mode
To change the **PIN** of a PIN user (Note: This step must be done out of programming mode)	* ID number # Old PIN # New PIN # Repeat new PIN #

To add **Card** Users. (Method 1) This is an easy way to enter cards with auto-generated ID numbers The ID number will start from 1 if no user has been programmed	1 Read card # Card can be added continuously without exiting programming mode
To add **Card** Users. (Method 2) This is the alternative way to enter cards using User ID Allocation. In this method a User ID is allocated to a card Only one user ID can be allocated to a single card	1 ID number # Card # The ID number can be any number among 1 - 1100
To add a **series cards** users – **Block Enrollment** The card number must be consecutive (This operation is only for Zone 1)	5 ID number # 8 digits Card number # Card quantity # Card quantity is between 1-1100 Of the 8 digits card number, it is the last 8 digits on the card
To **delete Card** users by cards Note: Users can be deleted continuously without exiting programming mode	2 Read Card # The device can automatically identify the card of Zone 1 or Zone 2
To **delete Card** users by user ID This option can be used when a user has lost their card	2 User ID #
To **delete card** users by card number	9 Input 8 digits Card number # Cards can be deleted continuously without exiting from programming mode
To set users for Zone 2. (3 2 2 #)	
To set **Pin** user for Zone 2 is the same as Zone 1, only the ID number is 1101-1200 for Zone 2. To set **Card** user for Zone 2 is the same as Zone 1, with the exception of adding **Card** users with auto-generated ID numbers (Method 1) as below	

To add **Card** Users. (Method 1) Auto-generated ID numbers	5 Read Card # Card can be added continuously without exiting programming mode

Card and PIN Mode	
To set users for Zone 1. (3 1 1 #)	
To Add a **card** and **Pin** user (The PIN is any four digits between 0000 & 99999999 with the exception of 1234 which is reserved.)	Add the card as for a card user Press * to exit from the programming mode Then allocate the card a PIN as follows: * Read card 1234 # PIN # PIN #
To change a **PIN** in card and PIN mode (Method 1) Note that this is done outside programming mode so the user can undertake this themselves	* Read Card Old PIN # New PIN # New PIN #
To change a **PIN** in card and PIN mode (Method 2) Note that this is done outside programming mode so the user can undertake this themselves	* ID number # Old PIN # New PIN # New PIN #
To delete a **Card and PIN** user just delete the card	2 Read Card # or 2 User ID #
To set users for Zone 2. (3 1 2 #) **The operation is the same as Zone 1.**	

To set **Card** user only.(in this mode, users can only be valid by card)	
To set **Card** user only	3 1 0 # , Zone 1 3 2 0 # , Zone 2 Entry is by **Card only**

To delete **ALL** users	
Note: This is a **dangerous** option, so use with care	Delete all users of Zone 1: 2 0000 # Delete all users of Zone 2: 9 0000 #

To unlock the door (or change relay state)	
For a **PIN** user	Enter the PIN then press #
For a **card** User	Read card
For a **card and PIN** user	Read card then enter PIN #

Relay Setting (Pulse mode, Toggle mode)

Pulse mode (Factory default)

Pulse mode - Door relay time setting	For Zone 1: 4 1 1-99 # For Zone 2: 4 2 1-99 # The door relay time is between 1~99 seconds, the factory default setting is 5 seconds. 1 means Zone 1. 2 means Zone 2

Toggle mode

Toggle mode	For Zone 1: 4 1 0 # For Zone 2: 4 2 0 #

Door, Alarm, Acoustic Signal, Door Bell Settings

Door Open Detection ***Door Open Too Long*** *(DOTL) warning*. When used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened normally, but not closed after 1 minute, the inside buzzer will bleep automatically to remind people to close the door and continue for 1 minute before switching off automatically ***Door Forced Open warning.*** When used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is forced open, or if the door is opened after 20 seconds of the electro-mechanical lock not closed properly, the inside buzzer and alarm output will both operate	
To disable door open detection. (Factory default setting)	6 0 #
To enable door open detection	For Zone 1: 6 1 # For Zone 2: 6 2 # You can enable the door open detection of only one Zone

Keypad Lockout & Alarm Output options. If there are 10 invalid cards or 10 incorrect PIN numbers in a 10 minute period either the keypad will lockout for 10 minutes or the alarm will operate for 10 minutes, depending on the option selected below	
Normal status: No keypad lockout or alarm	7 0 # (Factory default setting)
Keypad Lockout	7 1 #
Alarm Output	7 2 #
Alarm output time	
To set the alarm output time (1-3 minutes) Factory default is 1 minute	8 1～3 #
Acoustic Signal *The acoustic signal can be set on or off. When on, the R3K will bleep when buttons are pressed; when off, the R3K will be in silent mode*	
Normal status: On	8 6 # (Factory default setting)
Acoustic signal Off	8 7 #
Change Zone 2 to Door Bell (When no need to operate a second door, Zone 2 can be set to operate the Door Bell. The wiring is connecting the door bell to COM2 and NO2. Press #, the keypad will send the signal to the doorbell	
Zone 2	8 8 # Factory default.
Doorbell	8 9 #
To remove the alarm	
To reset the Door Forced Open warning	Read valid card **or** Master Code #
To reset the Door Open Too Long warning	Close the door **or** Read valid card **or** Master Code #

Reset Procedure

Reset Alarm:

The alarm will sound for 3 minutes. To reset, present a valid user card or enter *** (Master Code) #** via the keypad

Reset to Factory Default:

To reset to factory default, power off, then press and hold the ***** button and power on, release it after you hear two bleeps, the LED will turn orange. After 10 seconds, it will turn red and bleep once to confirm factory default is successful

Note: Reset to factory default, the user's card/key fob information is still retained

Delete all users:

Delete all users of Zone 1: *** (Master Code) # 2 0000 #**

Delete all users of Zone 2: *** (Master Code) # 9 0000 #**