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**Double Relay Access Control Keypad & Reader**

**KPN-2**

**User Manual**

**A close-up of a remote control

Description automatically generated**

# Please read the manual carefully before installing this unit

1. **Packing list**

|  |  |  |
| --- | --- | --- |
| **Name** | **Quantity** | **Remarks** |
| Keypad | 1 |  |
| User manual | 1 |  |
| Screwdriver | 1 |  |
| Wall plugs | 2 | Used for fixing |
| Self tapping screws | 2 | Φ4mm×25 mm, used for fixing |
| Diode IN4004 | 1 | For relay circuit protection |

Please ensure that all the above contents are correct. If any are missing, please notify us immediately.

1. **Description**

The KPN-2 is a waterproof dual relay access control unit with integrated keypad and card reader. It is suitable for mounting either indoors or outdoors in harsh environments. It is housed in a strong, sturdy and vandal proof zinc alloy powder coated case.

This unit supports up to 999 users in multiple access configurations (card only, PIN only, or card + PIN). The built in card reader supports EM 125KHz cards.

Both relays can operate in pulse mode or toggle mode.

# Features

* Supports wide voltage input 12-28Vac/dc
* Waterproof, conforms to IP66
* Strong zinc alloy powder coated anti-vandal case
* All metal keys
* Full programming from the keypad
* 2 relays
* 999 users, supports card, PIN, or card + PIN
* PIN length 1-8 digits
* Backlit keys, set always on, always off, or automatically off after 60 seconds
* Multi-colour LED status display
* Integrated alarm and buzzer output, can set volume level 0 - 5
* Pulse or toggle mode
* Built in light dependent resistor (LDR) for anti-tamper
* Pre-wired with 1 metre of cable

1. **Specification**

|  |  |
| --- | --- |
| **Operating voltage**  Idle current consumption  Max current consumption | **12-28Vac/dc**  <50mA  <80mA |
| **User capacity** | **999** |
| **Proximity card reader**  Frequency  Card reading distance | **EM**  125KHz  1-6 cm |
| **Wiring connections** | **Relay output (x2), exit button (x2), alarm, door contact** |
| **Relay**  Adjustable relay time  Relay maximum load | **Two (Common, NO, NC)**  1-300 seconds (5 seconds default), or Toggle mode  2 Amp |
| **Environment**  Operating temperature  Operating humidity | **Meets IP66**  -40 to 60⁰C  0%RH to 98%RH |
| **Physical**  Colour  Dimensions  Unit weight | **Zinc alloy**  Silver  134 x 55.5 x 21mm  340g |

1. **Installation**

* Remove the back plate from the keypad using the supplied special screwdriver.
* Mark and drill two holes on the wall for the self-tapping fixing screws and one for the cable.
* Put the two wall plugs into the fixing holes.
* Fix the back cover firmly on the wall with the two self-tapping screws.
* Thread the cable through the cable hole.
* Attach the keypad to the back cover.

Diagram

Description automatically generated

# Wiring

|  |  |  |
| --- | --- | --- |
| **Colour** | **Function** | **Description** |
| Basic standalone wiring | | |
| Red | AC/DC | 12-28Vac/dc regulated power input |
| Black | AC/DC | 12-28Vac/dc regulated power input |
| Green | NC1 | Normally closed relay 1 |
| White | COM1 | Common relay 1 |
| Blue | NO1 | Normally open relay 1 |
| Yellow | OPEN1 | Exit button 1 input (other end connects to GND) |
| Black & Green | NC2 | Normally closed relay 2 |
| Black & White | COM2 | Common relay 2 |
| Black & Blue | NO2 | Normally open relay 2 |
| Orange | OPEN2 | Exit button 2 input (other end connects to GND) |
| Grey | GND | Ground |
| Advanced input and output features | | |
| Purple | ALARM- | External alarm output negative |
| Brown | D\_IN  DOOR CONTACT | Door/gate magnetic contact input (Normally closed, connect other end to GND) |

**Tape all unused wires to prevent short circuit.**

A diagram of a car wiring

Description automatically generated

**The above example shows relay 1 being used to trigger a gate, and relay 2 being used to switch a lock. Wire as necessary.**

**If connecting locks install IN4004 diode across the lock +V and -V. Ensure voltage is suitable for the lock you are using.**

1. **Sound & light indication**

|  |  |  |
| --- | --- | --- |
| **Operation** | **LED indicator** | **Buzzer** |
| Power supply connection | Blue ON 3 sec | ON 3 sec |
| Standby | Blue flashing every 2 sec | - |
| Waiting for master code after pressing \* | Yellow flashing every 0.5 sec. Timeout = 60 sec | ON 1 x 0.5 sec |
| In a programming menu | Yellow ON | - |
|  |  |  |
| Incorrect step in programming | Red flashes 5 x 0.2 sec | ON 5 x 0.2 sec |
| Relay 1 activated | Green ON for activation time | ON 1 x 0.5 sec |
| Relay 2 activated | Blue on for activation time | ON 1 x 0.5 sec |
| Relay 1 & 2 activated | Green & blue flashing alternatively 1 sec during activation time | ON 1 x 0.5 sec |
| Card read and waiting for PIN in Card + PIN mode | Blue flashing every 1 sec. Timeout = 10 sec | - |
| Alarm | Red flashing every 0.2 sec | ON every 0.2 sec |

1. **Simplified quick programming guide**

**For reference:**

* User ID is any number 1-999, only one user per ID number.
* Relay selection: 1 = relay 1 only, 2 = relay 2 only, 12 = both relays simultaneously.
* PIN codes can be 1-8 digits long, 0 and 00000000 are not allowed.

**Recording of User ID’s & card/fob numbers is critical. Ideally, they should be kept digitally. See last page.**

**PINs can only be deleted or changed by knowing the User ID number.**

**Cards/fobs can only be deleted or changed by knowing either the User ID number or card/fob number.**

|  |  |
| --- | --- |
| **Enter programming mode** | **\* 888888 #**  Now you can perform the programming. 888888 is default master code. |
| **Change master code** | **0 New Master code # New Master code #**  The master code is any 4-8 digits, except 00000000 |
| **Add card user** | **11 (User ID) # (Relay selection) # Read card #** |
| **Add PIN user** | **11 (User ID) # (Relay selection) # PIN #** |
| **Delete user** | **2 Read card #** for card user  **2 (User ID) #** for PIN user |
| **Exit programming mode** | **\*** |
| **How to release the door** | |
| **Card user** | Read card |
| **PIN user** | Enter PIN # |
| **Card + PIN user** | Read card, then enter PIN # within 10 seconds |

1. **Full programming**

**Set a new master code**

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  888888 is default master code |
| **2. Change master code** | **0 New Master code # New Master code #**  The master code is any 4-8 digits, except 00000000 |
| **3. Exit programming mode** | **\*** |

**For reference:**

* User ID is any number 1-999, only one user per user ID number.
* Relay selection: 1 = relay 1 only, 2 = relay 2 only, 12 = both relays simultaneously.
* PIN codes can be 1-8 digits long, 0 and 00000000 are not allowed.

**Recording of User ID’s & card/fob numbers is critical. Ideally, they should be kept digitally. See last page.**

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**Add Users**

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  888888 is default master code |
| **2. Add a card user by reading card** | **11 (User ID) # (Relay selection) # Read card #** |
| **2. Add a card user by card number** | **11 (User ID) # (Relay selection) # (Input 8 or 10 digits printed on card) #** |
| **2. Add card users continuously** | **12 First User ID number # (Relay selection) # Read cards one after another #** |
| **2. Add a PIN user** | **11 (User ID) # (Relay selection) # PIN #**  You can repeat this to add more than one PIN user without exiting programming, e.g.  **11 1 # 1 # PIN # 11 2 # 1 # PIN # 11 3 # 2 # PIN # etc** |
| **2. Add card + PIN user** | **15 (User ID) # (Relay selection) # PIN # Read card or Input 8 or 10 digits printed on card #**  You can repeat this to add more than one PIN user without exiting programming. |
| **3. Exit programming mode** | **\*** |

**Delete users**

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  888888 is default master code |
| **2. Delete user – by card** | **2 Read card #**  Cards can be deleted continuously without exiting programming mode |
| **2. Delete user – by User ID** | **2 User ID number #** |
| **2. Delete user – by card number** | **2 Input card number #** |
| **2. Delete ALL users** | **2 00000000 #** |
| **3. Exit programming mode** | **\*** |

## **Set relay configuration**

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  888888 is default master code |
| **2. Pulse mode (factory default)**  Relay 1  Relay 2  **OR**  **2. Latch mode**  Relay 1  Relay 2 | **3 1 1-300 #**  **3 2 1-300 #**  The relay time is 1-300 seconds. (1 equals 50mS). Default is 5 seconds.  **3 1 0 #**  **3 2 0 #**  Sets relay to on/off toggle mode. |
| **3. Exit programming mode** | **\*** |

**Set keypad backlight**

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  888888 is default master code |
| **2. Always ON**  **OR**  **2. Always OFF**  **OR**  **2. Automatically turn OFF after 60 seconds of inactivity** | **5 1 1 #** (Factory default)  **5 1 2 #**  **5 1 3 #** |
| **3. Exit programming mode** | **\*** |

**Set buzzer volume level**

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  888888 is default master code |
| **2. Set buzzer volume level** | **6 1 (0-5) #** (Factory default is 3)  0 means the buzzer sound is deactivated |
| **3. Exit programming mode** | **\*** |

## **Set door open too long detection**

A magnetic contact needs to be connected, wire 2 in series if you want to use this feature on both doors. If the door(s) stay open too long, the built in and/or external alarm will activate.

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  888888 is default master code |
| **2. Enable door open detection**  **2. Disable door open detection** | **7 1 1 # A # B # C #**  **7 1 2 #** (Factory default) |
| **Notes:**  A = 1-300 = The preset door open duration in seconds before the alarm triggers  B = 1 = Built-in buzzer ON while alarming  B = 2 = Built-in buzzer OFF while alarming  C = 1 = External alarm output enabled while alarming  C = 2 = External alarm output disabled while alarming | |
| **3. Exit programming mode** | **\*** |

## **Set door forced detection**

A magnetic contact needs to be connected, wire 2 in series if you want to use this feature on both doors.

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  888888 is default master code |
| **2. Enable door forced detection**  **2. Disable door forced detection** | **7 2 1 # A # B # C #**  **7 2 2 #** (Factory default) |
| **Notes:**  A = 1-300 = Alarm time in seconds. Starts counting when the door is shut again.  B = 1 = Built-in buzzer ON while alarming  B = 2 = Built-in buzzer OFF while alarming  C = 1 = External alarm output enabled while alarming  C = 2 = External alarm output disabled while alarming | |
| **3. Exit programming mode** | **\*** |

**Reset the alarm:** Close the door and wait for time A to expire or input a valid user.

## **Set strike-out alarm**

The strike-out alarm will engage after 10 consecutive failed PIN/card attempts within 10 minutes.

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  123456 is default master code |
| **2. Enable strike out alarm**  **2. Disable strike out alarm** | **7 3 1 # A # B # C #**  **7 3 2 #** (Factory default) |
| **Notes:**  A = 1-300 = Blocking & alarm time in seconds.  B = 1 = Built-in buzzer ON while alarming  B = 2 = Built-in buzzer OFF while alarming  C = 1 = External alarm output enabled while alarming  C = 2 = External alarm output disabled while alarming | |
| **3. Exit programming mode** | **\*** |

**Reset the alarm:** After expiration of the programmed alarm time.

## **Set tamper alarm**

Keypad will alarm if it is removed from its back plate.

|  |  |
| --- | --- |
| **1. Enter programming mode** | **\* Master code #**  123456 is default master code |
| **2. Enable strike out alarm**  **2. Disable strike out alarm** | **7 4 1 # A # B # C #**  **7 4 2 #** (Factory default) |
| **Notes:**  A = 1-300 = Alarm time in seconds. Starts counting when the keypad is put back.  B = 1 = Built-in buzzer ON while alarming  B = 2 = Built-in buzzer OFF while alarming  C = 1 = External alarm output enabled while alarming  C = 2 = External alarm output disabled while alarming | |
| **3. Exit programming mode** | **\*** |

**Reset the alarm:** Put the keypad back onto its back plate and wait for the programmed alarm time to expire, or input valid user.

1. **Factory reset**

Power off, press and hold \* button whilst powering up the unit until LED flashes green 4 times and 4 beeps are heard. Settings will be reset, and master code will be 888888. User data is not affected.

1. **Issue record**

**Recording of User ID’s & card/fob numbers is critical. Ideally, they should be kept digitally.**

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**Cards/fobs can only be deleted or changed by knowing either the User ID number or card/fob number.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Site:** |  | **Door location:** |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **User ID No** | **User name** | **PIN** | **Card number** | **Issue date** |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
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