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f x2

- Up to 500 pin-codes programmable from keypad.
- Two access groups, each have request to exit inputs to control.
- Default value: first group= **000~249 (Relat_A)**; second group= **250~499 (Relay_B)**.
- 2 relay outputs contact support latching or momentary outputs.
- Built-in watchdog to prevent the system from halting.
- Built-in tamper switch, include external security system interface.
- Bell output, Press ✳ + # together for bell using. (Optional)
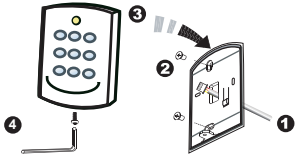- Keypad will be locked for 30 seconds while continuous error operation.

## Specification

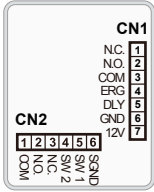| Users | 500 | Power consumption | < 2W | Memory | EEPROM | Weight(g) | 100±10 |
|---|---|---|---|---|---|---|---|
| Digits | 3-6 | Operating Temperature | -20℃ to +60℃ | Color | Gray/Silver | Housing Material | ABS |
| Power Supply | 9-16VDC / 100mA | Indicator | 1 Bi-Color LED&1Beeper | Dimensions(mm) | 111(L) x 77(W) x 26(H) | | |

## Front Panel Indicators

- The unit should make a beep sound when any key on the keypad is depressed.
- If no key is made within 30 seconds, it will automatically exit the programming mode.
- In the programming mode: LED lightgreen and flash rapidly, it means that the unit waits for entering.
  LED is red and flash rapidly, it means the reader is busy.
- One beep sound mean acknowledge, two beep sounds mean not acknowledge.

## Installstion

- Pull the cables from the square hole of the mounting plate.
- Use a screwdriver to screw the base onto the wall.
- Connect the terminal cables to the body and attach the body to the mounting plate.
- Assemble the covers with the Allen key and screws (accessories supplied).
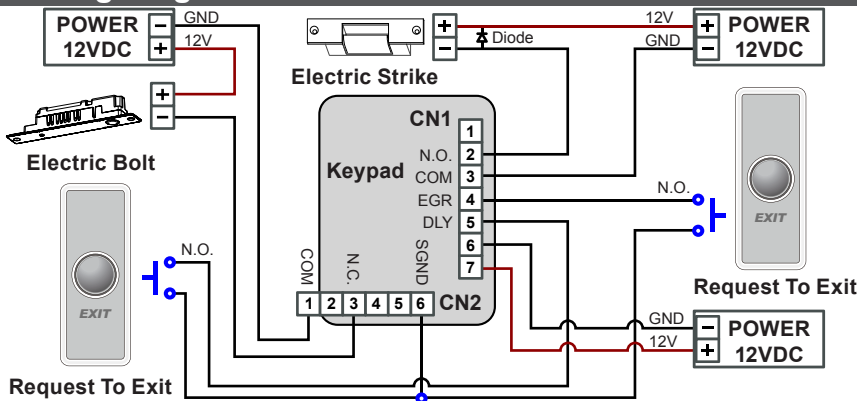- Turn on the power and LED will light and beep will sound.

## Terminator

### CN1

| Wire Appllcation | Wire | | Description |
|---|---|---|---|
| Relay_A | N.C. | 1 | N.C. |
| | N.O. | 2 | N.O. |
| | COM | 3 | COM |
| Exit Switch | EGR | 4 | Negative Trigger Input for Relay_A |
| | DLY | 5 | Negative Trigger Input for Relay_B |
| Power | VIN- | 6 | DC Power GND |
| | VIN+ | 7 | DC Power 12V |

### CN2

| Wire Appllcation | Wire | | Description |
|---|---|---|---|
| Relay_B | COM | 1 | COM |
| | N.O. | 2 | N.O. |
| | N.C. | 3 | N.C. |
| Tamper Switch | SW | 4 | N/O or N/C select via jumper |
| | SW | 5 | COM |
| SGND | SGND | 6 | Signal Ground |

## Wiring Diagram

POWER 12VDC
Electric Strike
Electric Bolt
Keypad
CN1
EXIT
Request To Exit
POWER 12VDC
Request To Exit
POWER 12VDC

**Installation Notice**

- Don't equip controller and lock with the same power supply.
- The power for controller may be unstable when the lock is activating, that may make the controller malfunction.
- The standard installation: Door relay and lock use the same power supply, and controller use independent power supply.

## Delete user(s) code and Enable to system

- **Delete (Remove) a User Code from the system**

  Press ✳ 123456 # (or Master Code) → 14 ✳ UUU # →Done（A green light and beep means that the user code was deleted.）
  [e.g.] Delete User address 10： Access programming mode → 14 ✳ 010 # →Done

- **Delete (Remove) all Users Codes from the system**

  Press ✳ 123456 # (or Master Code) → 29 ✳ 29 ✳ # →Done（The LED flash red during 1 second to mean that the system is deleting all user codes.
  Then a green light and beep means that all user codes were deleted.）

- **Delete (Remove) a User Code from the controller**

  If you would like to delete all user codes. Remove the AR-721KP from the mounting plate. Press and hold the reset switch 10 seconds (RESTER, on the KEYPAD circuit board). LED light green during 5 seconds and six beep sounds mean that all user are deleted.

- **Delete (suspend) a (range of) User(s) Code from the system**

  Press ✱ 123456 # (or Master Code) → 10 ✱ SSS ✱ EEE # → Done (A green light and beep means that the user code(s) was disabled. )

  [e.g.] Delete (suspend) User code 58 :                 [e.g.] Delete (suspend) User code 1 to 10 :

      Access programming mode → 10 ✱ 058 ✱ 058 # → Done        Access programming mode → 10 ✱ 001 ✱ 010 # → Done

- **Enable a (range of) User(s) Code to the system**

  Press ✱ 123456 # (or Master Code) → 11 ✱ SSS ✱ EEE # → Done (A green light and beep means that the user code(s) was enabled. )

  [e.g.] Enable User code 58 to the system :             [e.g.] Enable User code 1 to 10 to the system :

      Access programming mode → 11 ✱ 058 ✱ 058 # → Done        Access programming mode → 11 ✱ 001 ✱ 010 # → Done

## Programming

### A. Entering and Exiting Programming Mode

- **Entering**                                                         • **Exiting**

  Input ✱ 123456 # or ✱ PPPPPP #                                 Input ✱ #

  [e.g.] The Default Value= 123456, if already changed the Master Code= 876112, input ✱ 876112 # → Access programming mode

- **Changing the Master Code**

  Access programming mode → 09 ✱ PPPPPPRRRRRR #    [Input the 6-digit new master code twice.]

  [e.g.] If want to changing the Master Code= 876112, input ✱ 123456 # → 09 ✱ 876112876112 #

- **Factory Reset by its commands**

  If the master code is forgotten it can be restored to the factory default. Remove the AR-721KP from the mounting plate. Press and hold the reset switch 5 seconds. LED light green during 2.5 seconds and five beep sounds mean that master code have restored to the factory default 123456.

### B. Set up user number corresponding to door relay

Access programming mode → 01 ✱ UUUU ✱      UUUU=User address (Default value = 0250)

[User number **0000~0249** operates **Relay_A**; User number **0250~0499** operates **Relay_B**.]

### C. Add a User Code to the system

Access programming mode → 12 ✱ UUU ✱ PPPPPP #

UUU(User address) : 001~254 ; PPPPPP(User Code) : The user code must be 3 to 6 digits in length and the key # cannot be used in a code.

[e.g.] Set user code 123 to user 001 :             [e.g.] Set user code 123456 to user 002 :

    Access programming mode → 12 ✱ 001 ✱ 123 # → Done        Access programming mode → 12 ✱ 002 ✱ 123456 # → Done

### D. Set the door relay-1 release time

Access programming mode → 02 ✱ TTT #                  TTT = 000 Latch(Toggle) / TTT = 001~600 (001~600) seconds.

             └ Set door relay_B, enter 03.       TTT =601~609 (0.1~0.9) seconds.

### E. Set time out value

Access programming mode → 04 ✱ TT #       TT = 00~09 (0~0.9) seconds; TT = 10~49 (1~4.9) seconds

### F. Set keypad lock of continuous error operation

Access programming mode → 05 ✱ T #       T = 3~9 (times); T = 0 (Close this Function)

[e.g.] Set three incorrect user code are entered : Access programming mode → 05 ✱ 3 # → Done

### G. Set Door bell  ( ✱ + # Door Ring)

Access programming mode → 06 ✱ PPP #      PPP = 000 (Disable) / PPP = 001 (Enable) [If use two access groups, places set **disable**.]

## Command List

| Function | Command | Exposition |
|---|---|---|
| Entering programming mode | ✱ PPPPPP # | PPPPPP: Master Code, (Default value: 123456) |
| Exiting programming mode | ✱ # |  |
| User number corresponding to door relay | 01 ✱ UUUU # | UUUU＝User address, (Default value: 0250); User before the 250th is the first group, the other is the second group. |
| Relay_A time setting | 02 ✱ TTT # | TTT＝Door relay time；000 (Output constantly) 001~600＝1-600 Sec.；601~609＝0.1~0.9 Sec. |
| Relay_B time setting | 03 ✱ TTT # | TTT＝Door relay time；000 (Output constantly) 001~600＝1-600 Sec.；601~609＝0.1~0.9 Sec. |
| Set time out value | 04 ✱ TT # | TT＝Keypad operate during time Range：00 ~ 09（0 - 0.9）Sec.；10 ~ 49（1 - 4.9）Sec. |
| Set keypad lock of continuous error operation | 05 ✱ T # | T＝Continuous error times：3 ~ 9 (Times)；T＝0 (Disable) |
| Door bell | 06 ✱ PPP # | PPP＝000（Disable）/ PPP＝001（Enable） |
| Master code settings | 09 ✱ PPPPPPRRRRRR # | PPPPPP= New master code RRRRRR= Repeat the new master code |
| Suspend or delete user code | 10 ✱ SSS ✱ EEE # | SSS= starting user address ; EEE= ending user address |
| Recover user code | 11 ✱ SSS ✱ EEE # | SSS= starting user address ; EEE= ending user address |
| Add a User Code to the system | 12 ✱ UUU ✱ PPPPPP # | UUU＝User address PPPPPP＝3 to 6 digits |
| Delete (Remove) a User Code | 14 ✱ UUU # | UUU＝User address |
| Delete (Remove) all Users Codes | 29 ✱ 29 ✱ # |  |