

CV-550SPK

Waterproof Keypad/Reader/Controller Installation Instructions

1. Packing List

This Package Includes:

- 1 x Digital Keypad CV-550SPK
- 1 x User manual
- 1 x Screw driver
- 4 x Wall plugs (6*27mm, used for mounting)
- 4 x Self tapping screws (3.5*27mm, used for mounting)
- 2 x Manager Cards (Manager Add Card & Manager Delete Card)

2. Description

The CV-550SPK is a single door multifunction standalone access control keypad with a Wiegand input/output interface. It is suitable for mounting either indoors or outdoors in harsh environments. It is housed in a strong, sturdy and vandal proof Zinc Alloy electroplated case. The electronics are fully potted so the CV-550SPK is waterproof and conforms to IP65.

The CV-550SPK supports up to 2000 users in either a Card, 4~8 digits PIN, or a Card + PIN option. The built-in card reader supports 125KHZ HID 26 or 37 bit cards/tags. The CV-550SPK has many extra features including block enrollment, Wiegand 26 bit interface, and backlit keypad.

These features make CV-550SPK an ideal choice for door access for commercial and industrial applications such as factories, offices, warehouses, laboratories, banks and prisons.

3. Features

- Waterproof, conforms to IP65
- Strong Zinc Alloy Electroplated anti-vandal case
- Full programming from the keypad
- 2,000 users, supports Card, PIN, Card + PIN
- Can be used as a stand alone keypad, Pin length 4~8 digits
- Backlit keypad



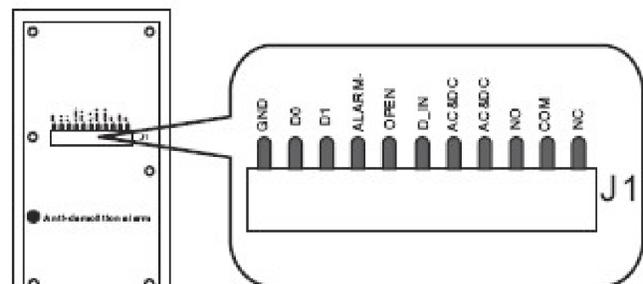
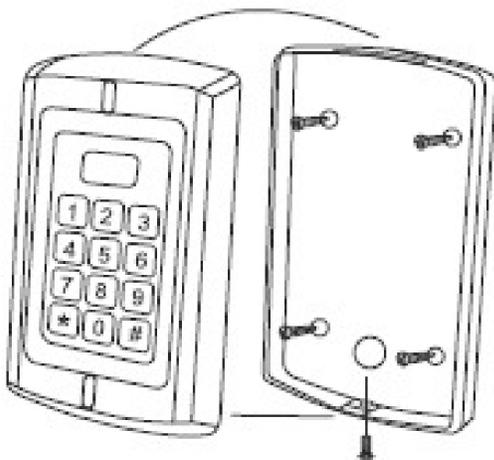
- Wiegand 26 bit input & output
- One programmable Relay output, NO, NC, COM
- Adjustable Door Output time, Alarm time, Door Open time
- Block enrollment, can enroll maximum 2000 consecutive cards within 2 minutes
- Very low power consumption (< 60mA)
- Easy to install and program
- Built in light dependent resistor (LDR) for anti tamper
- Built in buzzer
- Red, Yellow and Green LEDs display the working status
- 12~24VDC – 12-18VAC
- Three-year warranty

4. Specifications

| | |
|-----------------------------------|---|
| Operating Voltage | 12-24V DC – 12-18V AC |
| User Capacity | 2,000 |
| Keypad | 12 keys, 3 x 4 digits |
| Card Type | HID 26, 37 bit |
| Card Reading Distance | 1" to 2.5" (2.5 cm to 6.3 cm) |
| Active Current | < 80mA |
| Idle Current | ≤40mA |
| Lock Output Load | Max 2A |
| Alarm Output Load | Max 20mA |
| Operating Temperature | -4°F to 140°F (-20°C to 60°C) |
| Operating Humidity | 5% - 95% RH |
| Environment | Conforms to IP 65 |
| Adjustable Door Relay time | 0 - 99 seconds |
| Adjustable Alarm Time | 0 - 3 minutes |
| Wiegand Interface | Wiegand 26 input & output |
| Wiring Connections | Electric Lock, Exit Button, DOTL, External Alarm |
| Dimensions | 5" H x 3 1/4" W x 1 1/8" D (128mm x 82 mm x 28mm) |
| Net Weight | 1.2 Lbs. (550 g) |
| Gross Weight | 1.5 Lbs. (700 g) |

5. Installation

- Remove the back cover from the keypad using the supplied security screwdriver
- Drill 4 holes on the wall for the screws and 1 hole for the cable
- Fix the back cover firmly on the wall with 4 flat head screws
- Thread the cable through the cable hole
- Attach the keypad to the back cover.

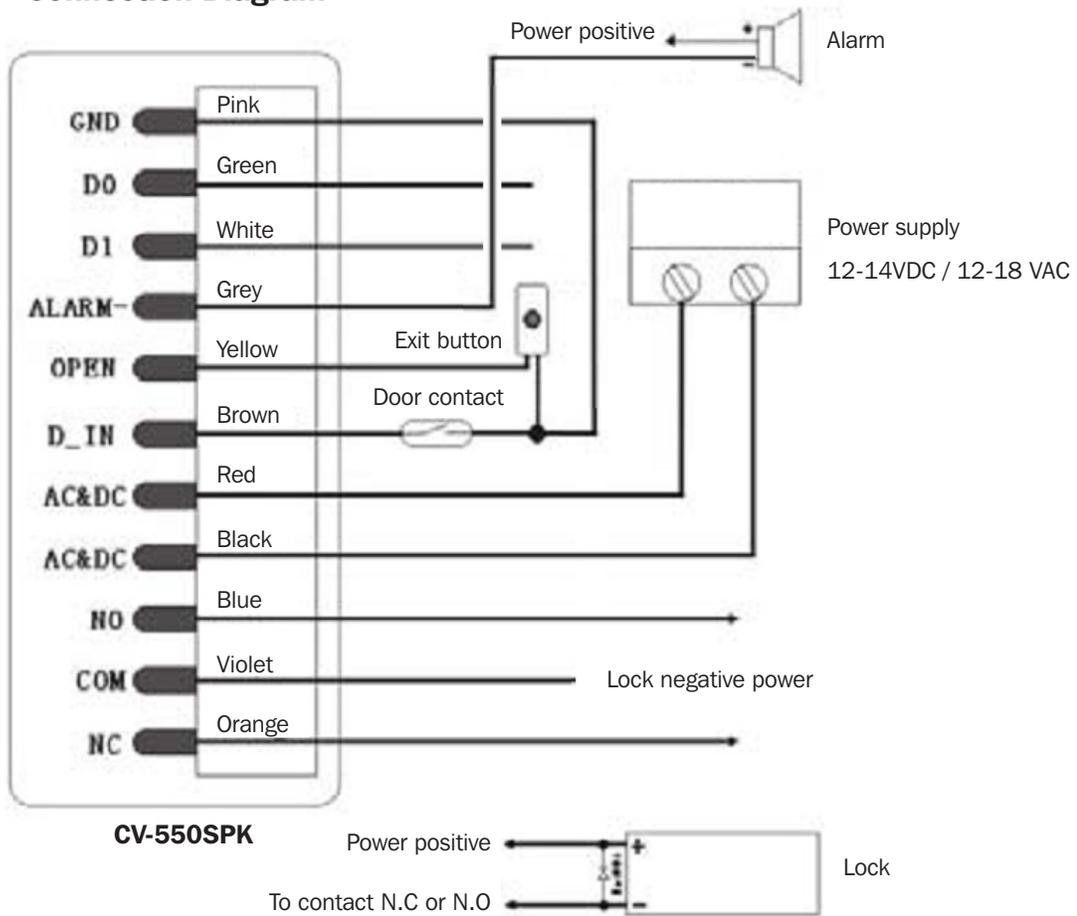


PBC connection diagram

6. Wiring

| Color | Function | Description |
|--------|--------------|--------------------------|
| Green | D0 | Wiegand Output D0 |
| White | D1 | Wiegand Output D1 |
| Grey | Alarm - | Alarm Negative |
| Yellow | OPEN | Request to Exit Button |
| Brown | D-In | Door Contact |
| Red | Power supply | Regulated Power Input |
| Black | Power supply | Regulated Power Input |
| Blue | NO | Relay NO |
| Purple | COM | Relay COM |
| Orange | NC | Relay NC |
| Pink | GND | External Reader Negative |

Connection Diagram



Notes:

- Connect the negative pole of the lock to NC for a Fail safe lock.
- Connect the negative pole of the lock to NO for a Fail-secure lock.

7. To Reset to Factory Default

To reset to factory default settings, power off, press * , hold it and power on. Release it until you hear two beeps and the LED shines in orange, then read any two cards. The LED will turn red. The keypad is reset to factory default setting successfully. Of the two cards read, the first one will be the

Manager Add card and the second one will be the Manager Delete card.

Note: Resetting to factory default, does not delete user data.

8. Anti Tamper Alarm

The CV-550SPK uses an LDR (light dependent resistor) as an anti tamper alarm. If the keypad is removed from the cover, the tamper alarm will operate.

9. Sound and Light indication

| Operation Status | Red Light | Green Light | Yellow Light | Buzzer |
|--------------------------------|-----------|-------------|--------------|---------------|
| Power on | Bright | - | - | Short Ring |
| Stand by | Bright | - | - | - |
| Press keypad | - | - | - | Short Ring |
| Operation successful | - | Bright | - | Short Ring |
| Operation failed | - | - | - | 3 Short Rings |
| Enter into programming mode | Bright | - | - | Short Ring |
| In the programming mode | - | - | Bright | - |
| Exit from the programming mode | Bright | - | - | Short Ring |
| Open the door | - | Bright | - | Short Ring |
| Alarm | Bright | - | - | Alarm |

10. CV-550SPK Detailed Programming Guide

10.1 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 do the following programming the master user must be logged in | |
| To change the master code | 0 New code # New code # The master code is any 6 digits |
| Setting the working mode: Set valid card only users Set valid card and PIN users Set valid card or PIN users | 3 0 # Entry is by card only 3 1 # Entry is by card and PIN together 3 2 # Entry either by card or PIN (default) |
| To add a user in either card or PIN mode (3 2 #) (Default setting) | |

| | |
|--|---|
| To add a Pin user | <p>1 User ID number # PIN #</p> <p>The ID number is any number between 1 ~ 2000. 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 from programming mode as follows:</p> <p>1 User ID no 1 # PIN # User ID no 2 # PIN #</p> |
| To delete a PIN user | <p>2 User ID number # Users can be deleted continuously without exiting programming mode</p> |
| To change the PIN of a PIN user (This step must be done out of programming mode) | <p>* ID number # Old PIN # New PIN # New PIN #</p> |
| To add a card user (Method 1) This is the fastest way to enter cards using ID number auto generation. | <p>1 Read card #</p> <p>Cards can be added continuously without exiting programming mode</p> |
| To add a card user (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. | <p>1 ID number # Card #</p> |
| To add card user (Method 3) Add a series cards users – Block Enrollment NOTE: 8 DIGIT CARD # FC FC FC ID ID ID ID ID FC = 001-255 (Facility Code) ID = 00000 - 65535 (Card #) | <p>5 ID number # 8 digits Card number # Card quantity #</p> <p>Card quantity is between 1 - 2000. The 8 digit card number is the last 8 digits on the card.</p> <p>Maximum 2000 cards can be enrolled at a time within 2 minutes.</p> |
| To delete a card user by card number. Note users can be deleted continuously without exiting programming mode | <p>2 Read Card #</p> |
| To delete a card user by user ID. This option can be used when a user has lost their card | <p>2 User ID #</p> |
| To add a card and PIN user in card and PIN mode (3 1 #) | |
| To Add a card and Pin user (The PIN is any 4~8 digits between 0000 & 99999999 with the exception of 1234 which is reserved.) | <p>Add the card as for a card user</p> <p>Press * to exit from the programming mode</p> <p>Then allocate the card a PIN as follows:</p> <p>* Read card 1234 # PIN # PIN #</p> |

| | |
|--|---|
| To change a PIN in card and PIN mode (Method 1) Note that this is done outside the programming mode so the user can do 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 the programming mode so the user can do this themselves | * ID number # Old PIN # New PIN # New PIN # |
| To delete a Card and PIN user just delete the card | 2 User ID # |
| To add a card user in card mode (3 0 #) | |
| To Add and Delete a card user | The operating is the same as adding and deleting a card user in 3 2 # |
| To delete All users | |
| To delete ALL users . Note that this is a dangerous option so use with care | 2 0000 # |
| To set card users by Manager card | |
| To add a user by Manager Add Card | Manager add card Read card Manager add card Cards can be added continuously. |
| To delete a user by Manager Delete Card | Manager delete card Read Card Manager delete card Cards can be deleted continuously. |
| To unlock the door | |
| 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 # |

10.2 Relay Settings

| | |
|---|--|
| Pulse Mode (Factory default) | |
| Pulse Mode (Door relay time setting) | 4 1-99 # The door relay time is between 1-99 seconds, the factory default is 5 seconds. |
| Toggle Mode | |
| Toggle Mode | 4 0 # When a valid card is presented or a valid pin is entered, the relay will toggle ON. The relay will stay ON until a valid card is presented or a valid pin is entered. |

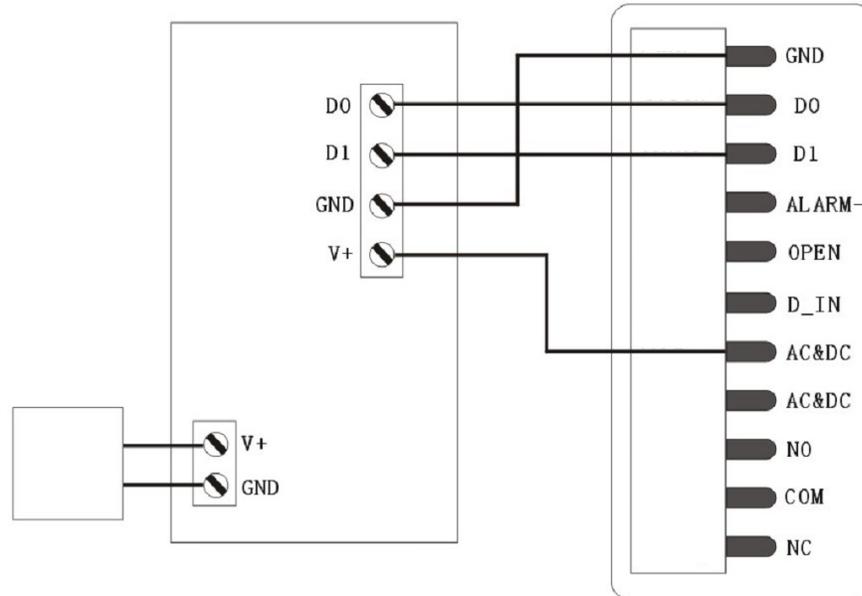
10.3 Door Relay, Door Detecting, Alarm Settings

| Door Open Detection | |
|---|--|
| <p><i>Door Open Too Long (DOTL) warning.</i> 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 beep automatically to remind people to close the door and continue for 1 minute before switching off automatically.</p> <p><i>Door Forced Open warning.</i> When used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened by force, 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. The Alarm Output time is adjustable between 0~3 minutes with the default being 1 minute.</p> | |
| To disable door open detection. (Factory default) | 6 0 # |
| To enable door open detection | 6 1 # |
| Alarm output time | |
| To set the alarm output time (0~3 minutes) Factory default is 1 minute | 9 0~3 # |
| <p>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.</p> | |
| Normal status: No keypad lockout or alarm (factory default) | 7 0 # (Factory default setting) |
| Keypad Lockout | 7 1 # |
| Alarm Output | 7 2 # |
| Light and sound setting | |
| Keypad backlight | 7 4 # Backlight off. |
| | 7 5 # Backlight on.(default). |
| LED setting | 7 6 # Red LED disabled. |
| | 7 7 # Red LED enabled(default). |
| Keypad tone setting | 7 8 # Keypad tone disabled. |
| | 7 9 # Keypad tone enable (default). |
| 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 # |

10. Interconnecting Two Devices

11.1 CV-550SPK operating as a Wiegand Output Reader

In this mode the CV-550SPK supports a Wiegand 26 bit output so the Wiegand data lines can be connected to any controller which supports a Wiegand 26 bit input. See figure 1.



Transmission Format:

• 1: Keypad Transmission

The Reader will transmit the PIN data when it receives the last key (#) press after PIN code.

Format: PIN Code (any 4~8 digits between 0000 ~ 99999999)

Example: PIN code: 111111

Press 111111 #, then the output format will be: 00111111

(Note: if pressing an invalid PIN (any 4~8 digits), the data will be also transmitted.)

• 2: Proximity Card Transmission

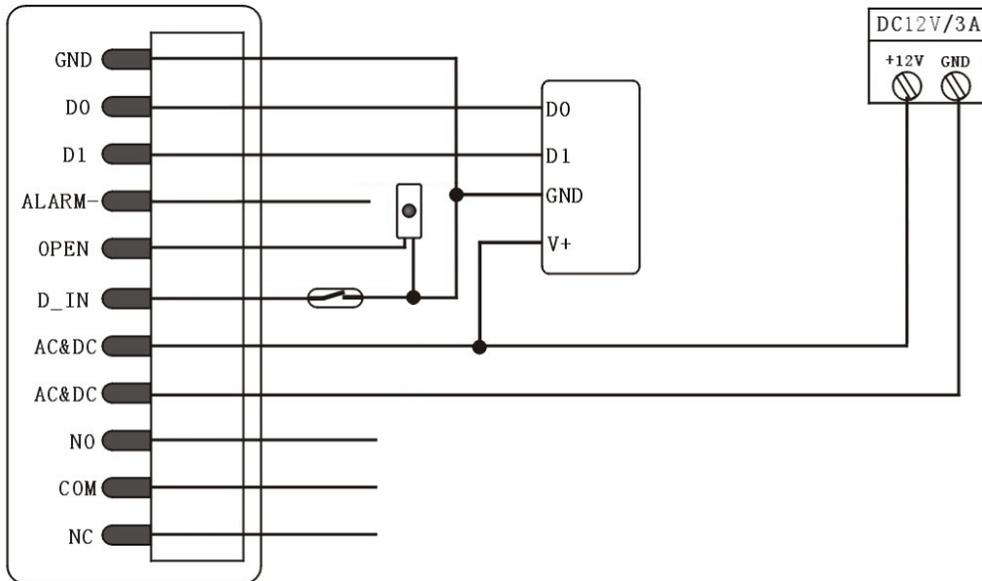
The Reader will transmit the card data when it reads the Card.

Format: Card Number (the last 8 digits of Card Number)

(Note: no matter if the card is valid or invalid, the data will be transmitted)

11.1 CV-550SPK operating as a Controller

In this mode the CV-550SPK supports a Wiegand 26 bit input so an external Wiegand device with a 26 bit output can be connected to the Wiegand input terminals on the CV-550SPK. Either an ID card reader (125 KHZ) or an IC card reader (13.56MHZ) can be connected to the CV-550SPK. Cards are required to be added at the external reader. See figure 2.



CV-550SPK Quick Reference 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 do the following programming the master user must be logged in | |
| To change the master code | 1 User ID number # PIN # The ID number is any number between 1 ~ 2000. 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 | 1 Read Card # Cards can be added continuously without exiting from 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 from programming mode |

| To unlock the door | |
|------------------------------------|--|
| To unlock the door for a PIN user | Enter the PIN then press # |
| To unlock the door for a card user | Present the card |

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