

CV-110SPK

Standalone Keypad/Prox Access Control Installation Instructions

1. Packing List

Qty	Name	Remarks
1	Keypad	
1	User manual	
1	Screwdriver	0.8" x 2.4" (20 mm x 60 mm)
2	Wall plugs	0.24" x 1.2" (6 mm x 30 mm)
2	Self-tapping screws	0.16" x 1.1" (4 mm x 28 mm)
1	Torx screw	0.12" x 0.24" (3 mm x 6 mm)



2. Description

The CV-110SPK is a single door multifunction standalone keypad with a wiegand output for interfacing to an access control system or remote card reader. It is suitable for mounting either indoor or outdoor in harsh environments. It is housed in a strong, sturdy and vandal proof Zinc Alloy electroplated case. The electronics are fully potted so the unit is waterproof and conforms to IP68. This unit supports up to 2000 users in either a Card, 4 digit PIN, or a Card + PIN option. The built-in prox card reader supports 125KHZ EM cards and 13.56MHz Mifare cards. The unit has many extra features including lock output current short circuit protection, wiegand output, and a backlit keypad. These features make the unit an ideal choice for commercial and industrial applications such as factories, warehouses, laboratories, banks and prisons.

3. Features

- 2000 users, supports Card, PIN, Card + PIN
- Backlit keys
- Zinc Alloy Electroplated anti-vandal case
- Waterproof, conforms to IP68
- Easy to install and program
- Wiegand 26 output for connection to a controller-
- Full programming from the keypad
- Can be used as a stand-alone keypad
- Wiegand 26 input for connection to external reader
- Adjustable Door Output time, Alarm time, Door Open time
- Very low power consumption (30mA)
- Fast operating speed, <20ms with 2000 users
- Lock output current short circuit protection
- Built in light dependent resistor (LDR) for anti-tamper
- Built in buzzer
- Red, Yellow and Green LEDS status indicators

4. Quick Reference Programming Guide

To enter programming mode	* Master Code # 999999 is the default factory master code
To exit from the programming mode	*
Note: You must be in programming mode to program the following feature.	
To change the master code	0 New Code # New Code # The master code can be 6 to 8 digits
To add a PIN user	1 User ID Number # PIN # The ID number is any number between 1 & 2000. The PIN is any four digits between 0000 & 9999 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 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 a PIN user	Enter the PIN then press #
To unlock the door for a card user	Present the card

5. Specifications

Operating Voltage	12V DC $\pm 10\%$
User Capacity	2,000
Card Reading Distance	1.25" to 2.4" (3 cm to 6 cm)
Active Current	< 60mA
Idle Current	25 \pm 5 mA
Lock Output Load	Max 3A
Alarm Output Load	Max 20mA
Operating Temperature	-49°F to 140°F (-45°C to 60°C)
Operating Humidity	10% - 90% RH
Waterproof	Conforms to IP 68
Adjustable Door Relay time	0 - 99 seconds
Adjustable Alarm Time	0 - 3 minutes
Wiegand Interface	Wiegand 26 bit
Wiring Connections	Electric Lock, Exit Button, External Alarm, External Reader
Dimensions	5 15/16" H x 1 3/4" W x 1" D (150 mm x 44 mm x 25 mm)

6. Installation

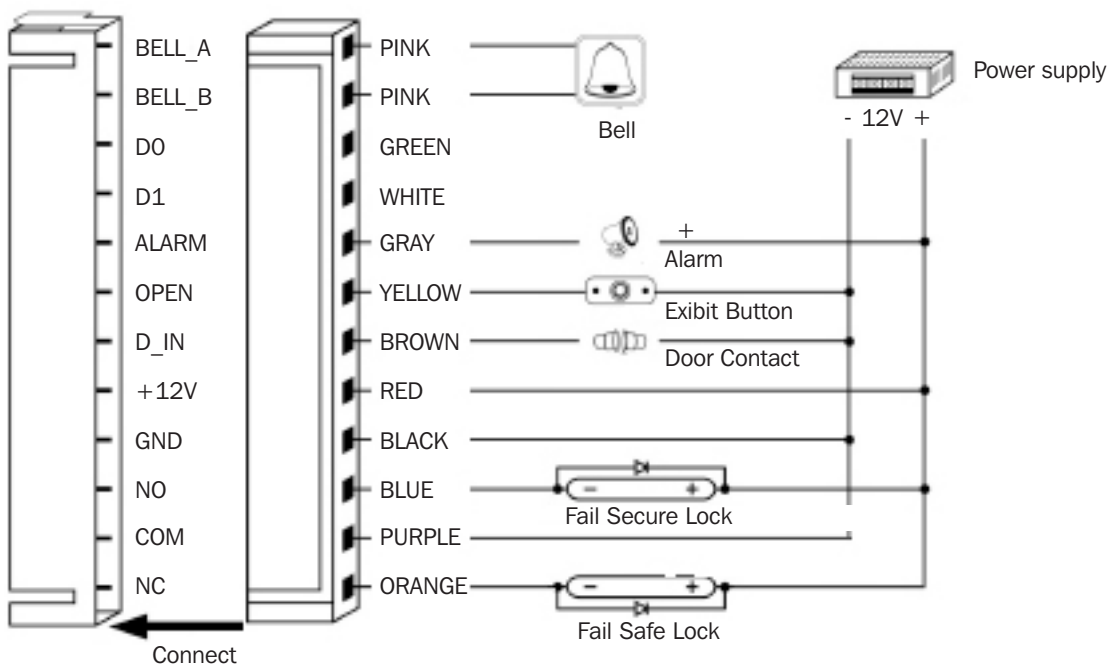
- Remove the back cover from the keypad using the supplied special screw driver
- Drill 2 holes on the wall for the Self tapping screws and 1 hole for the cable
- Put the supplied wall plugs into the two holes
- Attach the back cover firmly to the wall with the 2 Self tapping screws
- Thread the cable through the cable hole
- Attach the keypad to the back cover



7. Wiring

Color	Function	Description
Pink	BELL_A	Doorbell
Pale Blue	BELL_B	Doorbell
Green	DO	Wiegand output D0
White	D1	Wiegand output D1
Grey	ALARM	Alarm negative (alarm positive connected 12 V+)
Yellow	OPEN	Exit button (the other end connected GND)
Brown	D_IN	Door Contact switch (the other end connected GND)
Red	12V +	12V + DC Regulated Power Input
Black	GND	12V - DC Regulated Power Input
Blue	NO	Relay Normally Open
Purple	COM	Relay Common
Orange	NC	Relay Normally Closed

Common power supply diagram:



8. To Reset to Factory Default

- a. Disconnect power from the unit
- b. Press and hold # key while powering the unit back up
- c. On hearing two “Beeps” release # key, system is now back factory settings

Note: Only the installer data is restored, user data will not be affected.

9. Anti-Tamper Alarm

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

10. Sound and Light indication

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

11. Detailed Programming Guide

11.1 User Settings

To enter the programming mode	* Master code # 999999 is the default factory master code
To exit from the programming mode	*
Note: You must be in programming mode to perform any of the following functions	
To change the master code	0 New code # New code # The master code can be 6 to 8 digits long
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, i.e. in the 3 2 # mode. (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 four digits between 0000 & 9999 with the exception of 1234 which is reserved. Users can be added continuously without exiting 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 <i>(This step must be done out of programming mode)</i>	<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. The user ID number is automatically generated.	<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> <p>Users can be added continuously without exiting programming mode</p>
To add card user (Method 3) Card number is the last 5-8 digits printed on the back of the card, user ID number is automatically generated	<p>1 Card number #</p> <p>Users can be added continuously without exiting programming mode</p>
To add a card user (Method 4) In this method a User ID is allocated to a card number. Only one user ID can be allocated to the card number	<p>1 ID number # Card number #</p> <p>Users can be added continuously without exiting programming mode</p>
To delete a card user by card. 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 ID number #</p>
To delete a card user by card number. This option can be used when the user want to make the change but the card has been lost	<p>2 Card number #</p> <p>Note users can be deleted continuously without exiting programming mode</p>

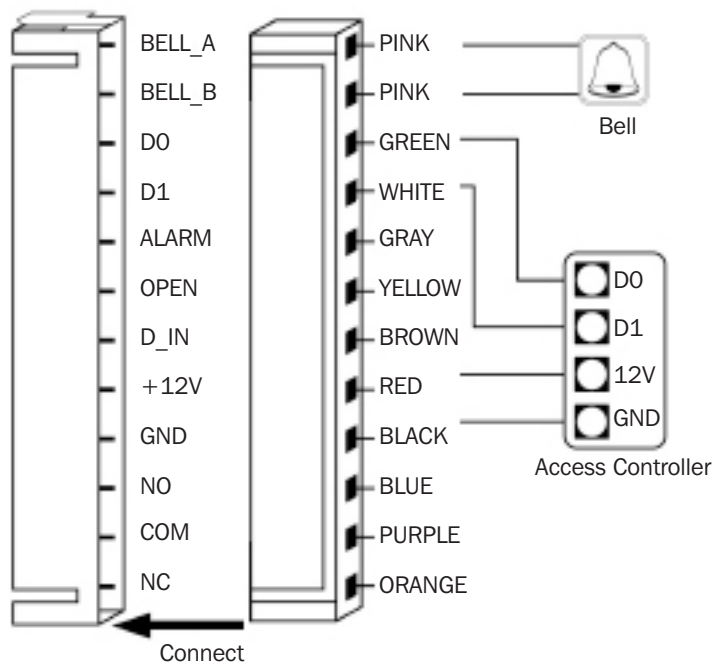
To add a card and PIN user in card and PIN mode (3 1 #)	
<p>To Add a card and Pin user (The PIN is any four digits between 0000 & 9999 with the exception of 1234 which is reserved.)</p>	<p>Add the card as if for a card user. See page 5</p> <p>Press * to exit from the programming mode</p> <p>Then allocate the card a PIN as follows:</p> <p>* Read card 1234 # PIN # PIN #</p>
<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</p>	<p>* Read Card Old PIN # New PIN # New PIN #</p>
<p>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</p>	<p>* ID number # Old PIN # New PIN # New PIN #</p>
<p>To delete a Card and PIN user just delete the card</p>	<p>2 User ID #</p>
To add a card user in card mode (3 0 #)	
<p>To Add and Delete a card user</p>	<p>The operating is the same as adding and deleting cards in mode 3 2 #</p>
To delete All users	
<p>To delete ALL users. Note: This removes all user codes.</p>	<p>2 0000 #</p>
To unlock the door	
<p>For a PIN user</p>	<p>Enter the PIN then press #</p>
<p>For a card User</p>	<p>Read card</p>
<p>For a card and PIN user</p>	<p>Read card then enter PIN #</p>

11.2 Door Settings

Relay Output Dealy Time	
To set door relay strike time	* Master code # 4 0~99 # * 0-99 is to set the door relay time 0-99 seconds
Door Open Detection	
<p><i>Door Propped Open Alarm.</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 Alarm.</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 closing 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	5 0~3 #
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 (factory default)	7 0 # (Factory default setting)
Keypad lockout enable	7 1 #
Alarm and inside buzzer enable	7 2 #
To remove the alarm	
To reset the Door Forced Open Alarm	Read valid card or Master Code #
To reset the Door Propped Open Alarm	Close the door or Read valid card or Master Code #

12. Interfacing to an Access Control System

In this mode the keypad provides a 26 bit wiegand output. The wiegand data lines can be connected to any controller which supports the 26 bit wiegand protocol.



12.1 Keypad 8 bit Burst Mode

Every key pressed generates an 8 bit data stream that is transmitted over the wiegand bus.

Key	Output	Key	Output
0	11110000	6	10010110
1	11100001	7	10000111
2	11010010	8	01111000
3	11000011	9	01101001
4	10110100	*	01011010
5	10100101	#	01001011



Push Buttons



Keypads



Strikes



Magnetic Locks



Key Switches



Relays & Timers



Access Control