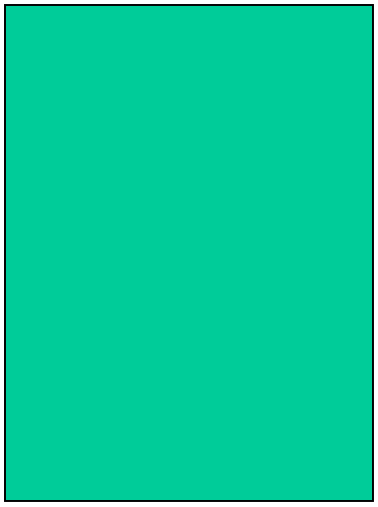
MLDK83
Access Control
Keypad
Instruction Manual



INTRODUCTION

The MLDK83 is the ideal keypad for office and home security installations. It is a self-contained security keypad with a built-in 5A relay for electric door strike and other security and access control applications. With it's EEPROM memory, the keypad's programmed data is saved in case of power failure. Security is assured with over 100 million possible combinations for the master, user, duress and quick codes. Other security features include duress output and a built in tamper switch. For convenience, the MLDK83 also supports egress input (a push button switch inside the protected area for easy exit when one-way security is sufficient.

TERMINALS

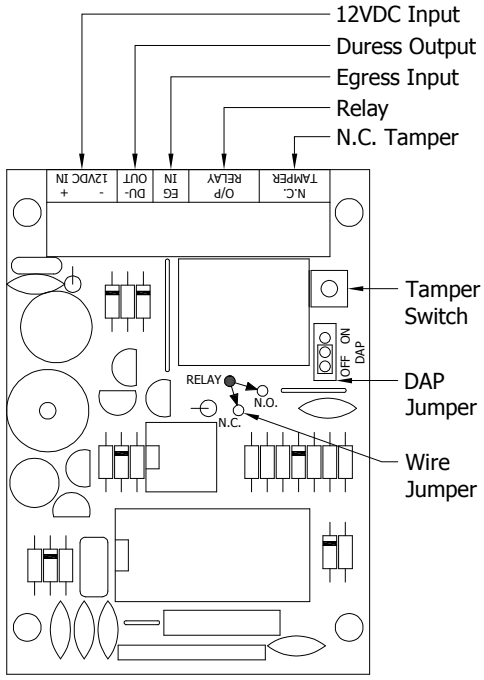
• 12VDC IN – Connect to the (+) and (-) terminals of a 12VDC power supply. The key pad's (-) terminal is the grounding point for the keypad.

• DU OUT (Duress Output) – Outputs a transistor ground when the Duress Code is entered. Connect to activate an alarm control panel or telephone dialer. Output: Ground (-), 100mA, 25VDC maximum.

• EG IN (Egress Input) – Connect to the 12VDC IN (-) terminal via a momentary push-button switch. Allows user to bypass the security code by pushing the pushbutton switch. This switch is normally put inside the protected premises near the door to allow those inside the protected premises to exit without keying in the code. Leave this terminal open if it is not used.

•O/P RELAY – 5A N.O. dry relay contact for connection to a door striker. Programmable N.O. or N.C.

•N.C. Tamper – N.C. contact when the keypad is secured on the back box. The contact opens when the keypad is separated from the box. Connect to the 24-hour zone alarm system is necessary.



VISIBLE AND AUDIBLE INDICATORS

• RED – Lights off when the first digit of the entry code is pressed. Remains on for 10 seconds, during which time the entire code must be entered. If the entire code is not entered while the red LED is on, the entire code is canceled, and must be entered again from the first digit.

• AMBER – Program status indicator. Synchronized with the built-in buzzer's tone (see Figure 1).

• GREEN – Lights off when the 5A relay makes contact. The built-in buzzer and the amber LED generate tones and signals to indicate programming status as shown in Figure 1.

PROGRAMMING THE RELAY

The 5A relay can be programmed for the N.O. operation via the on board wire jumper. See Figure 2.

Figure 2:
Programming
For N.O or
N.C. output

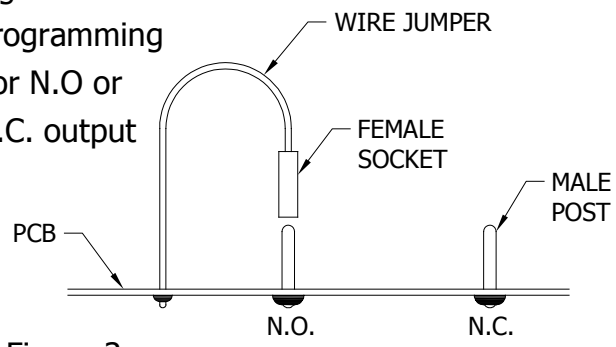


Figure 1:
Visible and Audible Indicators

Amber LED output	Buzzer Tones	STATUS
ON	None	In programming mode
1 flash	1 beep	Successful key entry
2 flashes	2 beeps	Successful code entry
5 flashes	5 beeps	Unsuccessful code entry
Continuous flash	Continuous beeps	DAP jumper not replaced
1 flash every 2 seconds	None	Standby mode

Figure 3:
Programming the MLDK83 Keypad

Access Keys	Entry	Validation	Comments
First-time use -- Set the personal Master Code			
	Master Code (factory pre-set at 0000)		Enter the programming mode by keying in the Master Code
Programming -- Changing Master and User Codes			
0	From 1 to 8 digits	#	Sets the 1 to 8 digit personal Master Code
1	From 1 to 8 digits	#	Sets the 1 to 8 digit User Code
Programming -- Configuration of the relay output			
40	Relay activate time (from 1 to 999 seconds)	#	Relay has momentary output of 1 to 999 seconds each time the User Code is entered.
41		#	Relay latches ON or OFF each time the User Code is entered.
42		#	Relay latches ON each time the Quick Code is entered.
Programming -- Personal safety			
70		#	After 10 successive incorrect code attempts, keypad locks out code for 30 seconds
71		#	After 10 successive incorrect code attempts, keypad outputs Duress signal
72		#	Neither of the above
Exit programming mode			
*			Exits programming mode, returns to normal operation.

PROGRAMMING THE KEYPAD

To program the MLDK83, you will first need to decide the following information:

The Master and/or User Code

Relay configuration – momentary or shunt, and relay momentary output time (1 to 999 seconds) in momentary mode.

Whether or not Quick Code is to be used.

Result of improper code entry after 10 successive tries (30 second code lockout, Duress output, or neither.

Now you can program the keypad as shown in Figure 3.

FACTORY SET DATA -- IMPORTANT NOTE

For convenience in first-time programming, the MLDK83 comes preprogrammed with the Master Code 0000. Additional codes and or data should be programmed at the owner's discretion. However, to ensure security, the owners should program a personal Master Code to replace the factory set Master Code.

PROGRAMMING THE KEYPAD (EXAMPLE)

In this example, the following data will be stored in the keypad:

Change the factory Master Code 0000 to a personal Master Code 3289.
Set the user Code to 8321.
Set the relay output to momentary mode 5 seconds.
Set the keypad to lockout for 30 seconds after 10 consecutive incorrect code inputs.

Programming -- Enter the data as follows:

0 0 0 0 *	Enter the programming mode using the factory-set Master Code
0 3 2 8 9 #	3289 has been stored as the new personal Master Code
1 8 3 2 1 #	8321 has been stored as the new User Code
4 0 5 #	The relay has been set to momentary mode with 5 second output
7 0 #	The keypad has been set to lockout code entry for 30 seconds following 10 consecutive incorrect code entries
*	Exit programming mode, with all data stored.

Note: If you make a mistake, press the "#" to cancel, or wait 10 seconds, then re-enter.

USING THE KEYPAD (EXAMPLES)

The following examples use the sample data programmed above.

Example 1 - Activate the 5A relay with the User Code.

To activate the relay output (for instance, to energize the electric door strike), enter the User Code followed by the "#" key.

8 3 2 1 # The relay output will activate for 5 seconds.

Example 2 - Activate the 5A relay with the Master Code.

Under normal circumstances, the User code is used to activate the relay. However, if several keypads are programmed with the same personal Master Code but different User Codes, the relay can be activated by typing in the Master Code followed by "#1"

3 2 8 9 # 1 The relay output will activate for 5 seconds.

Example 3 - Duress Code

If a user is being forced by a thief to use the keypad to open a door, he/she can use the Duress Code. This allows a user under duress to activate the 5A relay and trigger an alarm at the same time. The keypad determines it automatically by adding 2 to the first digit of the User Code. (Example: If the User

Code is "1234", then the Duress Code is "3234". If the User Code is "7321", then the Duress Code is "0321". To activate the Duress Code, Enter the Duress Code followed by the "#" key.

[0] [3] [2] [1] [#] The relay output will activate for 5 seconds, and the Duress signal is sent to an alarm device

Example 4 - Using the Quick Code.

The Quick Code, if programmed, allows the keypad to latch the relay ON by pressing the first 2 digits of the User Code. To turn the relay OFF, key in the entire User or Master Code. This is useful when , for instance, the relay need to be ON during the day to allow unrestricted access to the protected premises, bu OFF during the evening to restrict access. In this example, the supervisor uses the quick code to latch the relay ON in the morning and the user Code to shut it off in the evening.

A. To program the keypad for the Quick Code:

[3] [2] [8] [9] [*] The keypad is now in programming mode, ready to receive new data.

[4] [2] [*] Set the relay to latch ON when the Quick Code is entered.

[*] Exit Programming mode.

B. How the relay will be latched On when the first 2 digits of the User Code are entered. The relay will be deactivated when the entire User code is entered.

[8] [2] [*] Relay output is latched ON (activated)

[8] [3] [2] [1] [*] Relay output is latched OFF (deactivated)

DAP JUMPER (DIRECT ACCESS TO PROGRAMMING)

If the personal Master Code is forgotten, use the DAP jumper to override the forgotten code and permit direct entry into the programming mode as follows:

1. Disconnect the power supply.
2. Switch the DAP jumper from OFF to ON.
3. Reconnect the power supply (the buzzer will be activated).
4. Switch the DAP jumper back to the OFF position (the buzzer will be deactivated).
5. The keypad is now in programming mode, ready to receive new data.

SPECIFICATIONS:

Operation Voltage - 12VDC (10~14VDC)
Current drain - 10-60mA
Duress output – Transistor ground(-) 100mA, 25VDC max.
Codes available - Master,user,duress,and quick
Code combinations – 111,111,100 possibilities
Relay output – 5A, dry contact, programmable N.O. or N.C., 30VDC max.
Dimensions (keypad with back box) – 4-5/8" x 2-7/8" x 1-7/8" (117 x 74 x 48 mm)
Weight (keypad with back box) – approx. 6.2 oz. (175g) net), 7.9 oz (225g) gross.

INSTALLATION DIAGRAM

Notes:

- Leave unused terminals open.
- Connect the included diode 1N4004 across electric latch
- N.C. = Normally Closed
  N.O. = Normally Open