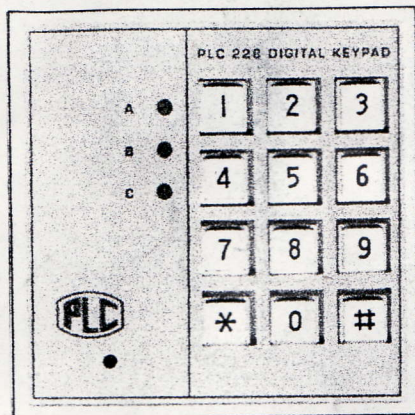# PLC-228 DIGITAL KEYPAD

PLC 228 DIGITAL KEYPAD

APPLICATION

PLC-228 Digital keypad designed for access control ,electric door strike and security . This keypad can also be programmed to be used as a small alarm control panel.
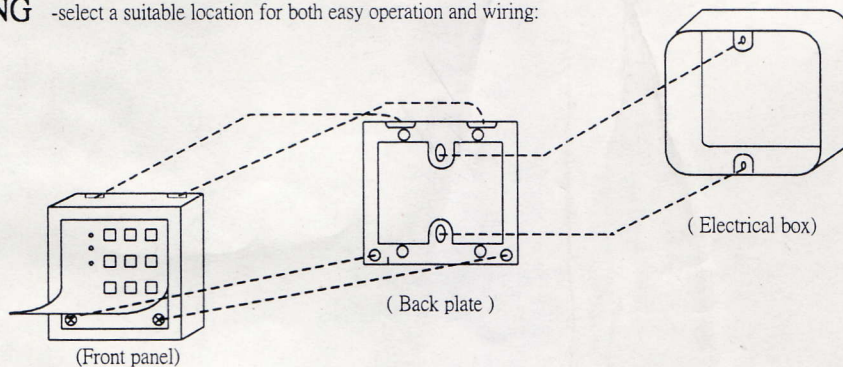
FEATURES	SPECIFICATIONS	
	SIZE :	(103x100x25)mm
1. PULSE MODE	OPERATING VOLTAGE :	11 - 15V D.C.
2. LATCH MODE	CONSUMPTION :	RELAY OFF 10 mA
3. CONTROL PANEL MODE		RELAY ON 50mA
4. MASTER CODE	SOUNDER :	70 dB /0.3m
5. FIVE USER CODES	RELAY OUTPUT	1 A / 30V
6. PANIC CODE	MEMORY	NON - VOLTAGE
7. ONE TIME USE CODE	WIRING :	UNPLUGGABLE SOCKET
8. INSTALLER CODE	TAMPER SWITCH :	N.C. CONTACT 1A/ 100V
	WORKING TEMPERATURE :	-10℃ to 60℃

FRONT PANEL

RED   LED (A)   indicates current status (relay condition in pulse or latch mode , arm indication in control panel mode).
GREEN LED(B)   indicates power status (the LED terminal is connected to the GND).
                  indicates panic status (the LED terminal is connected to the panic).
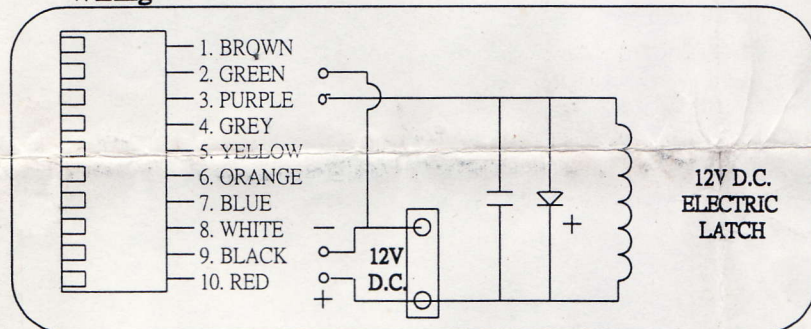AMBER LED(C)   SET MODE-indicates that you have entered the programmed with the keypad.

MOUNTING   -select a suitable location for both easy operation and wiring:

(Electrical box)

(Back plate)

(Front panel)
Use flat head type screws mount back plate to electrical box or secure to wall.

Wiring

1. BRQWN
2. GREEN
3. PURPLE
4. GREY
5. YELLOW
6. ORANGE
7. BLUE
8. WHITE
9. BLACK   12V D.C.
10. RED

12V D.C. ELECTRIC LATCH

TERMINAL	FUNCTION	COLOR
PIN 1	RELAY N.C.	BROWN
PIN 2	COMMON	GREEN
PIN 3	RELAY N.O.	PURPLE
PIN 4	PANIC	GREY
PIN 5	INPUT	YELLOW
PIN 6	TAMPER SWITCH	ORANGE
PIN 7	TAMPER SWITCH	BLUE
PIN 8	LED GREEN	WHITE
PIN 9	D.C. 12V-	BLACK
PIN 10	D.C. 12V+	RED

N.C. and the N.O. terminal are the output relay over stitching contacts Max. (1A/30V).
TAMP terminal are the outputs for the tamper switch.
GND,+12V power supply 12VD.C. should be connected to these terminal.
PANIC terminal is the negative switched transistor output (Max. 0.3A/24V). This transistor switches to the GND in the panic condition (PULSE or LATCH mode).
    In the CONTROL PANEL mode it can be programmed as either a panic output or an alarm memory output.
INPUT terminal is an input of the delay loop in the CONTROL PANEL mode. This terminal should be connected to the GND through normally closed sensor contact
    (or contacts connected in series). When the loop is open the input is activated. This input has no function in the PULSE or LATCH modes.
LED   terminal is connected to the cathode of the GREEN LED. When you connect this terminal to the GND. The LED will light.

OPERATION :   there are three levels of operation in the PLC-228 , stand by ,code programming and installer programming level.

STAND BY :   is the basic working level of the keypad. The function in this level depends if pulse, latch or the control panel mode was selected.

PULSE MODE :   when you enter a valid access code , the output relay is switched ON for the designated time period. Switching on is confirmed with the LED A and with a beep of the built in buzzer.

LATCH MODE: each valid access code changes the output relay condition (ON-OFF----).Switching on is confirmed with one beep and switching off with two beeps of the buzzer. The LED A indicates the current relay condition. The relay can also be switched on by entering only [*] [0] if the quick arming function has been selected.

CONTROL PANEL MODE: You can use the keypad as a security control panel with a delay input loop.

　　　ARMING - to arm the system. The LED (A) will start blinking and the buzzer will sound once. A slow blinking of the LED (A) indicates that the exit delay is activated. During the exit delay, any sensor in the input loop can be activated without triggering the alarm. After the exit delay the LED (A) lights permanently and the PLC-228 will be armed. you can also arm by entering only a [*] [0] if the quick arming function has been selected.

　　　DISARMING- to disarm the system, enter your access code. If you trigger any detector before disarming the system will provide an entrance delay. The entrance delay is indicated by the fast blinking of the LED (A) and the sounding of the pre-alarm buzzer.

　　　* * * If the disarming is confirmed by three beeps instead of two, an alarm memory was triggered. The memory will by reset with a new arming. You can trigger an emergency alarm with the panic code. It is possible to stop an alarm with the access code if you are present to enter it.

CODES : There is a master code, five used codes, a panic code and a one time use code available for users. There is also an install code which is used with the [*] [6] command to enter the installer programming level. This code can be changed by the installer.

MASTER CODE : The master code can be used for entering the code programming level [*] [5] command. It can not used for arming control. A default master code 1 2 3 4 is programmed into the PLC-228 at the factory. The master code can be reprogrammed, but it can not be removed.

CODE PROGRAMMING LEVEL.

Pressing [*] [5] MASTER CODE allows you to enter the code programming level (factory default master code is 1 2 3 4). This level can only be entered when the keypad is disarmed (RED LED is off). Eight different codes (from code 0 to 7) can be programmed in this level :new master code [0] , up to five access arm-disarm codes [1 - 5] , a PANIC code [6] and a ' One Time Use ' code [7] may be programmed. Entering of the programming level is confirmed by a long beep and permanent lighting of the RED LED.

PROGRAMMING NEW CODES :

1 : Enter the user programming level by pressing [*] [5] (MASTER CODE) .

2 : To change master code, press [0] (RED LED goes off) then enter new 4 digit code (confirmed with two short beeps). Then you have to enter the new master code once more to confirm that the code is correct. If it is entered twice correctly, you will hear a confirmation beep and the RED LED will go on. If the same code is not correctly entered twice, you will hear a shrill sounding beep informing you that the code has not been accepted. The master code can be only changed ; it can not be erased.

3 : To program the first access code, press [1] (RED LED goes off) and enter a 4 digit code (confirmed with confirmation beep and the RED LED will go on) You can remove the first access code ,press [1] [*] .

4 : Follow instructions in 3-for programming or removing any of other access codes form 1 to 5 .

5 : You should program the PANIC code as code number six. This code can also be used as an access code, but it triggers a panic (OUT) output every time it is used (if the silent panic was selected in the installer programming). This feature can be very useful in the case you are forced to operate the keypad under pressure. Follow instructions in 3-for panic code setting or removing if you do not want this function.

6 : The code number seven works as the "One Time Use" code if programmed. Follow instructions in 3-for its programming or removing. The " One Time Use " code can be used as an access code control, but this code is removed automatically in the moment when it is first used.

Only code number 0 - the master code, is programmed at the factory. All other access codes are blank. You can exit the code programming level either by pressing [#] and none of the programming will be stored to the memory (you will hear the shrill sounding beep a alert you that the programming was not stored), or by pressing [*] to store the programming you made to the memory. So only if you use the [*] key to return to the stand by mode will the data you programmed be valid. All the codes are stored in the non voltage memory , so they will not be lost even if the power switched off.

INSTALLER PROGRAMMING

Press [*] [6] [INSTALLER CODE] to enter the installer programming level (factory default installer code is 2288). It can only be done while the keypad is disarmed (LED A is off). Entering of the programming level is confirmed by a long beep and the permanent lighting of the LED A. The next step in the installer programming level is to enter a 1 digit section entry for any of the commands described in the following text. As soon as the section digit is entered, the LED A goes off for confirmation. The keypad is now ready to accept data entry for the selected section. The keypad will beep the confirmation signal if the data is entered correctly and the LED A will go on again. After completing one section, you can program other sections or you can return to standby either by pressing the [#] key (no data will be stored) or bypassing the [*] key (programmed data will be stored).

[0] [XXXX] [XXXX] - NEW INSTALLER CODE (XXXX=4 digits code). The installer code has to be entered twice to insure that it is correct. Example : enter [0] [3 3 6 6] [3 3 6 6] to set new installer code 3 3 6 6 . Factory default : 2 2 8 8

　　[1] [X X] - the duration of the output pulse in the PULSE mode (x x - 01 to 99 sec.) . Factory default : 05

　　[2] [X X] - Exit/Entrance delay duration (x x -01 to 99 sec.). It has this function only while in the control panel mode. Factory default : 05 sec.

　　[4] [X X] - Max. number of attempts to enter a valid access code before the PANIC function is triggered (x x -0 0 to 9 9), 0 0 without limit. Factory default : 03

　　[5] [X] - Keypad mode (x - 1 to 3), 1 = PULSE, 2 = LATCH, 3 = CONTROL PANEL mode . Factory default 1 (PULSE)

　　[6] [X] - Built in buzzer pre-alarm (x - 1 or 2), 1 = enabled, 2 = disabled. This setting will function only under the control panel mode. Factory default : 1 (enabled)

[7] [X] - Panic reaction (x - 1 or 2). 1 = audible - both the output terminal OUT and the buzzer are triggered for 5 sec. after you enter the panic code (in control panel mode the alarm is triggered). 2 = silent - panic code works as a valid access code, but the output terminal OUT is also triggered (silently) after you enter the panic code. Factory default : 1 (audible panic)

[8] [X] - function of the OUT terminal in the control panel mode (x - 1 to 4), 1 = panic, 2 = alarm memory, 3 = pre-alarm, 4 = armed. This setting will function only under the control panel mode. Factory default : 4 (armed)

[9] [X] - Quick arming (x - 0 or 1) 0 = disable. You can enter [*] [0] instead of your access code to arm the keypad if the quick arming is enabled. It can be used only for arming, not for disarming. This command works only for the LATCH and the control panel mode. Factory default : 0 (disabled)

You can exit the installer programming level by either pressing the [#] key, (resulting in no data being stored to the memory and the sounding of the shrill sounding beep), or by passing the [*] key to store the data. Only if you use [*] to return to the stand by mode will the data you programmed be valid. All of the data is stored in the non voltage memory, so they will not be lost even if the power is switched off.

COMPLETE RESET : In the event that the master code or installer code is forgotten (or for some other reason). it is possible to completely reset all the setting of the PLC-228 to the factory default. To do this : open the unit (be careful of the tamper switch), disconnect the power for one minute. Connect pin " TP " . Reconnect the power supply, remove connection " TP " .

Programming Diagram

stand by mode

MC UC)))) JC ──────► Normal function
PC ──────► PANIC trigger
*5 + MC

Code programming level

Code		Setting	Erase	Factory default
MC	Master code	0		1234 (enter new MC 2x)
UC1	User code 1	1	1*	
UC2	User code 2	2	2*	
UC3	User code 3	3	3*	
UC4	User code 4	4	4*	
UC5	User code 5	5	5*	
PC	PANIC code	6	6*	
JC	One time use code	7	7*	

Return and not store
* Return and store data

*6 + IC

Installer programming

Feature:		Value	Default value
New Installer code SC	0	Enter new IC 2x	2288
Pulse duration (mode 1 only)	1	00-99 x 1s	05
Exit/Entrance delay (mode 3 only)	2	00-99 x 1s	05
Max. number of attempts to enter code	4	00-99 (00 no limit)	03
Keypad MODE	5	1 pulse, 2 later, 3c panel	1
Builit-in pre-alarm (mode 3 only)	6	1-yes, 2-no	1
PANIC function	7	1-audible, 2-silent	1
Function of OUT terminal in mode 3	8	1-PANIC, 2-alarm memory, 3-external pre-alarm, 4-armed	4
Quick arming *0 (mode 2 & 3 only)	9	1-yes, 0-no	0

Return and not store
* Return and store data