

# MINI CONTROLLER                      MODEL MC-6a

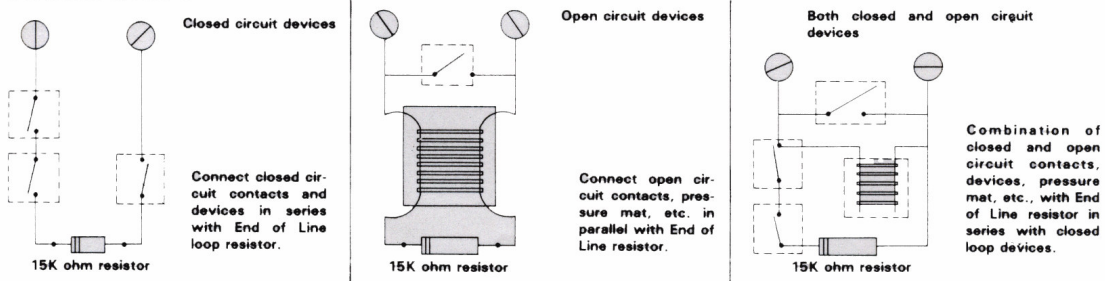
## INSTALLATION INSTRUCTIONS



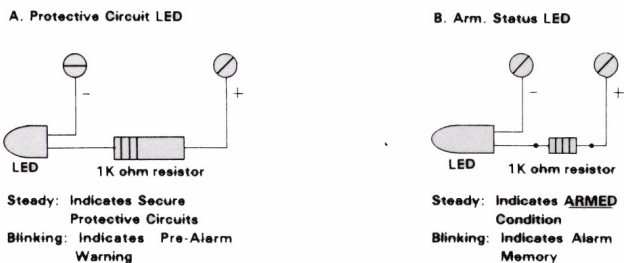
UNITED SECURITY PRODUCTS, Inc.

### ILLUSTRATIONS AND HOOK-UP DIAGRAMS

**ILLUSTRATION 1**

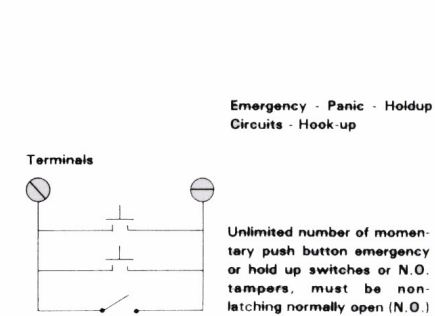


**ILLUSTRATION 2**



\*NOTE: External LED's must have 1K ohm current limiting resistors. Otherwise damage will result to MC-6a

**ILLUSTRATION 3**



## INSTALLATION INSTRUCTIONS — MODEL MC-6<sub>a</sub>

TERMINALS	FUNCTION	WIRING INSTRUCTIONS
TS-1		
1 and 2	Protective Circuits (Delayed)	Both closed circuit (N.C.) and open circuit (N.O.) contacts and detectors may be used on the Delay Circuit. The protective circuits are supervised, therefore closed circuit contacts must be wired in series and open circuit contacts must be wired in parallel (See Illustration I) with End of Line Resistor. Both the Delay and Instant Circuits of Mini Controller are supervised by a 15K ohm (End of Line) Resistor. If one of the Protective Circuit loops is not used, install the Resistor directly across the unused Protective Circuit terminals to provide proper operation of the active functions of the Mini Controller.
	Exit Delay Entry Delay	The exit/entry delay time periods are separately adjustable from approximately two seconds up to three minutes. The potentiometers for adjusting the time delays are located on the P.C. (Printed Circuit) Board directly underneath the symbols 0 (ENTRY) MAX 0 (EXIT) MAX on Mini Controller cover. Turning the potentiometers adjustments to the right increases the time delay; turning the adjustments to the left decreases the time delay.
3 and 4	Protective Circuits (Instant)	Both closed circuit (N.C.) and open circuit (N.O.) contacts and detectors may be used on the Instant Circuit. Closed circuit contacts must be wired in series and open circuit contacts must be wired in parallel to End of Line Resistor. (See Illustration I). Circuits wired to these terminals will provide instant activation of alarm output when loop (protective circuit) has been violated (Mini Controller armed).
5 [-] and 6 [+]	Key Switch Arm/Disarm/Reset  Fail-Safe Arming	A momentary closure across terminals 5 and 6 will arm, disarm or reset the Mini Controller. Momentary closure can be provided by either a momentary, spring return keyswitch or by the relay output of a digital keypad. Up to 5 TELSAR digital keypads or 10 keyswitches can be wired in parallel to these terminals. Control unit <b>CANNOT</b> be armed until all protective circuits are in a non-violated state. The Protective Circuit Loop LED on remote key stations will be lit when Protective Loops are in non-violated state. When using multiple remote arm/disarm stations, hook-up wiring must connect in parallel to controller to provide N.O. momentary closure.
6 [+] and 7 [-]	Protective Circuit LED	A Protective Circuit (Loop) LED (Light Emitting Diode) may be connected between terminals 6 and 7 as indicated (See illustration 2a).
*Note: External LED's must have 1K ohm current limiting resistors, otherwise damage will result to MC-6 <sub>a</sub>		Loop LED will indicate conditions of protective circuit detectors. When all protective circuit loops are in the non-violated state, LED will be "on", Mini Controller cannot be armed unless Loop LED is "on". Up to 5 remote LED's may be installed to these terminals.
	Pre-Alarm LED	Upon activation of entry time delay period, the Protective circuit LED will begin to blink, indicating that entry delay time is counting down to activate alarm output. This feature provides silent visual notice of entry countdown.
6 [+] and 8 [-]	Arm Status LED	Arm Status LED's may be connected between Terminal 6 and 8 (See illustration 2b) to provide indication of armed status Mini Controller. LED will be "on" when Mini Controller is armed, "off" when disarmed. Up to 5 remote LED's may be installed across these terminals.
	Alarm Memory LED	Upon activation of alarm output, Arm Status LED will begin to blink during and after the 7 minute bell cut off time to indicate that an intrusion has occurred and the alarm has activated. When control is reset by momentary closure across terminals 5 and 6, (Keyswitch) arm status LED will cease to blink.
9 [-] and 10 [+]	Pre-Alarm Warning	A sonalert or similar 12 VDC electronic (non-mechanical) device connected across these terminals will provide an audible output. Output will sound during the entry delay period (countdown). Terminals 9 and 10 maximum current drain should not exceed 100 mA.

**NOTE:** Static Electric Charges can cause damage to components of (P.C.) Printed Circuit Board. Before handling Mini Controller board be sure to discharge any static electricity you may have accumulated by touching a grounded object, such as a light switch cover screw or cold water pipe.

TERMINALS	FUNCTION	WIRING INSTRUCTIONS
TS-1		
11 and 12	24 Hour Emergency-Panic	Any number of open circuit contacts and devices can be wired in parallel across these terminals. A momentary (non-latching) closure of devices on this circuit will cause alarm to immediately sound regardless of Mini Controller status (armed or disarmed). This circuit can also be used to connect open circuit tamper switches for tamper security. A momentary closure across terminals 5 and 6 (Keyswitch) resets emergency circuit after activation. Emergency circuit devices must be open circuit before connecting to Mini Controller, otherwise alarm will sound immediately. This circuit requires no end of line resistor. (See Illustration 3).
13 [+] and 14 [-]	12 VDC Auxiliary Output	These Terminals provide a constant source of filtered, regulated DC voltage 12VDC at 1 Amp (max. current) providing power for motion detectors, dialers, digital keyboards, etc. Observe polarity when making connections to terminals or damage could result to Mini Controller or auxiliary equipment.
15 and 16	Dry Contact Output	A normally Open Dry Contact output is available for activating dialers and other equipment. Upon alarm output, a dry relay closure will occur between terminals 15 and 16. Output contacts rated 2 Amps at 12 VDC./This output resets after alarm reset or shutdown.
17 [+] and 18 [-]	Alarm Output	Alarm output provides 12 VDC at 2 Amp (max) to drive bells, siren drivers, digital dialers, etc.
	Automatic Shutdown and Reset	Alarm output automatically shuts down after 7 min. (approx.) If the protective circuit(s) violated is restored to it's non-violated condition, Mini Controller will automatically reset itself. Additional intrusions will result in alarm output.
	Continuous Alarm Output	Continuous Alarm Output is available if desired. For continuous output, cut Jumper J-1 located at upper left corner of Mini Controller. Controller then is reset and disarmed with keyswitch.  When connecting equipment to alarm output observe polarity if necessary. Use 18 gauge wire (or larger for long runs) to minimize voltage loss to sounding device.
19 and 20	AC Input	Connect a 14-16 VAC • 60 Hz • Class II transformer rated at 20 VA (not included) to input terminals. Use 18 gauge wire (or larger for long wire runs).
	AC POWER LED	The Mini Controllers "Power" indicator will be "on" when AC power is present.  <b>DO NOT CONNECT AC POWER OR BATTERY UNTIL ALL OTHER CONNECTIONS ARE COMPLETED AND CHECKED FOR ACCURACY.</b>
Red and Black Leads	Standby Battery	Use a 12 volt rechargeable gel-type battery (1.5 Amp hour recommended). Connect the red lead to the positive battery terminal and the black lead to the negative battery terminal.  <b>CAUTION: OBSERVE POLARITY WHEN CONNECTING BATTERY TO AVOID DAMAGE TO THE MINI CONTROLLER. STANDBY BATTERY SHOULD BE LAST CONNECTION MADE AFTER COMPLETE CHECK OF SYSTEM OPERATION ON AC POWER ONLY.</b>
	Automatic Recharge	With AC Input connected and provided, Mini Controller will provide a regulated output and automatically recharge battery as necessary.
	Fused Output	Model MC-6 Mini Controller is fully protected by 2 Amp fused output and input polarity protection diode. <b>DO NOT EXCEED FUSE RATING</b> , otherwise, serious damage to Mini Controller will result. Fuse type 3 AG 2 Amp fast blow.
TS-2		
1	24 Hour Silent Panic	For silent panic positive voltage output cut jumper J2 on left side PC Board.
2	Opening and Closing Reports	Positive voltage output arm 12VDC out disarm 0 volt out.
3	Earth Ground	Use 18 gauge wire or equal to cold water pipe or ground stake.

Alarm output automatically shuts down after 7 min. (approx.). If the protective circuit(s) violated is restored to its non-violated condition, Mini Controller will automatically reset itself. Additional intrusions will result in alarm output.