



# CP-5M Alarm Control Panel

## INTRODUCTION

The DSC model CP-5M Alarm Control Panel is designed with features which make it ideal for a wide range of residential and commercial alarm system applications.

## FEATURES

**1½ Amp power supply:** 12 volt 1½ amp regulated power supply.

**Delay Circuit:** Provides 45 second exit delay and adjustable entry delay (0-90 seconds). Can be activated with both normally-open and normally-closed contacts.

**Combined Instant/Delay Circuit:** Provides entry delay only if delay circuit has been alarmed first, otherwise it alarms instantly. Can be activated with either normally-open or normally-closed contacts. Instant/delay circuit can be converted to a conventional instant circuit.

**24-hour Panic Circuit:** Normally-open, latching, audible panic circuit.

**Built-in Siren Driver:** When activated by cutting a circuit-board mounted jumper, it allows the use of an 8 ohm speaker as a signal device.

**Automatic Reset and Adjustable Cut-off:** Alarm cut-off is factory set for 4 minutes and is can be set by the installer for 8 or 15 minutes. Alarm circuits automatically re-arm upon closing for subsequent alarms.

**Alarm Memory:** Green circuit status light on panel and remote output terminal flash during and after an alarm until control panel is reset.

**Arming Inhibit:** Alarm control cannot be armed unless alarm circuits are in the non-alarm state (green status light is ON).

**Alarm Contacts:** 3 amp SPDT alarm contacts.

**Remote Arming Station Terminals:** Output terminals are provided for pre-alarm indicator, arming key, loop status and system armed indicator.

## POWER SUPPLY

The power supply utilises a reliable, single-chip, adjustable voltage regulator with built-in 1½ amp current limiting and thermal overload protection. The output voltage is factory set to 13.6 volts to provide the correct charging voltage for a 12 volt gell-type rechargeable battery. On the CP-5-6V 6 volt control panel, the regulator output is set for 6.8 volts to provide the correct charging voltage for a 6 volt rechargeable battery. The alarm control circuitry and auxiliary power output (POS and NEG terminals) are fused for 1 amp. The siren and bell output is separately fused for 2 amps.

Transformer required is 30 VA 14-16 VAC (Model CP-5-6V requires a 20 VA 10-12 VAC transformer). The current available at the auxiliary power output terminals for operating motion detectors, telephone communicator and other equipment is 800 mA continuous draw. This leaves sufficient continuous current available for operating the panel, remote indicators and for charging the battery. Where the total current required for operating all devices connected to the CP-5M during an alarm period is less than 1½ amps, the power supply will provide all the current required and the stand-by battery will only be used in the case of an AC power failure. However, if the power required during an alarm period is greater than 1½ amps, the balance of the current will be drawn

from the battery. After the alarm period, the battery will be automatically recharged.

## ALARM CIRCUITS

The CP-5M alarm control panel has 2 alarm circuits - delay and instant/delay, plus a normally-open 24-hour panic circuit. Both the delay and instant/delay circuits can be activated by normally-closed or normally-open contacts as shown in the connection diagram. Both circuits have a factory-set 45 second exit time during which either loop may be tripped after arming the panel without causing an alarm. This allows one to arm the system and exit the premises. The delay circuit has an adjustable entry time (0 to 90 seconds) during which the alarm is delayed to allow and authorised user to enter the premises and disarm the control panel without causing an alarm. During the entry delay period, the same alarm delay is maintained when the instant/delay circuit is tripped, provided that the delay circuit has been tripped first. If the instant/delay circuit is tripped before the delay circuit, the entry period will not be maintained and the panel will go into alarm instantly. The delay circuit and instant/delay circuit combination is very useful in providing a route of exit and entry, through a door connected to the delay circuit and through motion detectors connected to the instant/delay circuit, without causing an instant alarm.

Note, however, that entering the premises by a route other than through the door connected to the delay loop will cause an instant alarm. If the instant/delay circuit is not required, it may be converted to a normal instant circuit by cutting the two blue jumpers on the circuit board. Cutting the two jumpers removes the exit and entry delay period from the instant/delay circuit.

The 24-hour panic circuit may be activated by closing a momentary contact normally-open push button connected between the Panic and NEG terminals as shown in the connection diagram.

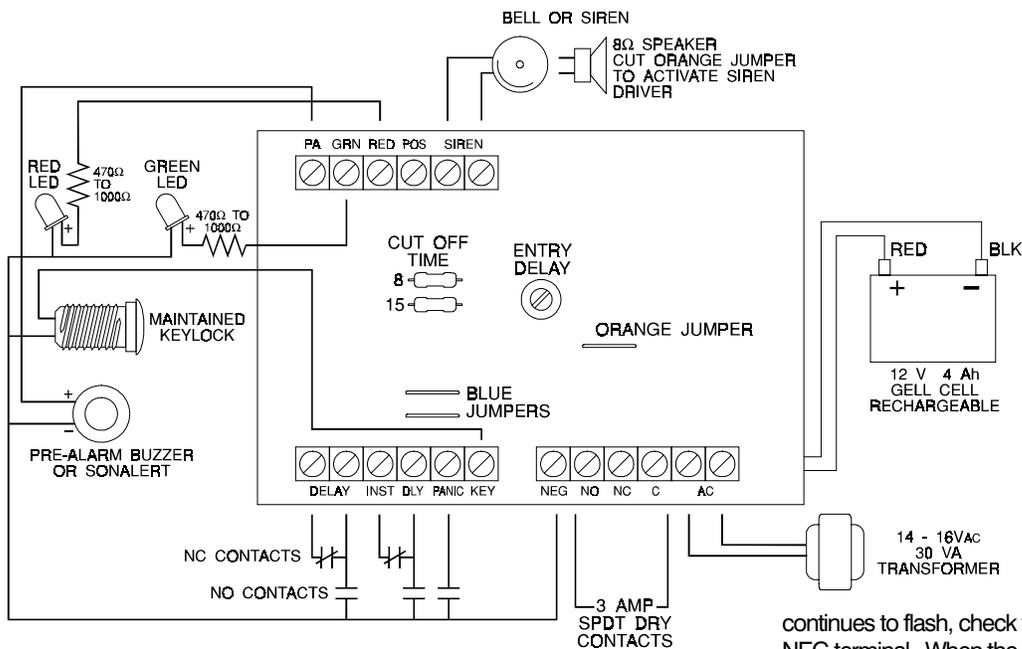
## ARMING AND DISARMING

The alarm panel is disarmed by closing a maintained key switch contact between the KEY and NEG terminals as shown in the connection diagram. The panel is armed when the switch is in the OPEN position. An alarm on the delay or instant/delay loop is reset by disarming the panel (closing the key switch).

An alarm on the panic circuit is reset by arming and disarming the panel if the panel was disarmed when the panic alarm occurred. The panic alarm is reset by disarming the panel if the panel was armed when the panic alarm occurred. The panic alarm cannot be silenced with the panic circuit closed.

The CP-5M alarm panel is designed with an arming inhibit feature. This prevents arming of the panel if either the delay or instant/delay circuits are in the alarm state. The green loop status light will be OFF if either circuit is in alarm. The alarm panel is armed when the red arming light comes ON. The arming inhibit feature prevents unwanted false alarms caused by attempting to arm the panel with one or more circuits in the alarm condition.

Alarm circuits automatically re-arm upon reclosing. If an alarm circuit goes into the alarm state, it will automatically re-arm for further alarms when it resets. If one circuit has gone into the alarm state and remains in that condition after the alarm cut off period, the remaining circuit will still create an alarm should it go into the alarm state.



## JUMPERS

Cut ORANGE jumper to activate built-in siren driver.

Cut the two BLUE jumpers to convert the INST-DLY circuit to a conventional instant circuit.

## ALARM CUT-OFF TIME

Alarm cut-off time is factory set for 4 minutes.

To change to 8 minutes, cut resistor lead to the right of the number "8".

To change to 15 minutes, cut resistor leads to the right of the numbers "8" and "15".

## ALARM PANEL OUTPUTS

The CP-5M provides terminal outputs for loop status indicator, arming indicator and pre-alarm signal. All three are positive voltage outputs, current limited by a 100 ohm resistor. The short circuit current draw from these outputs is therefore approximately 130 mA. The output voltage drops 1 volt for every 10 mA of output current. Therefore, at 30 mA output current, the output voltage will be 10 volts. The green loop status indicator and voltage output is ON when the alarm circuits are in the non-alarm state. The red arming indicator and voltage output are ON when the panel is armed. The pre-alarm signal output is present when the alarm panel is in the entry delay timing period. When the control panel is in the alarm condition, a voltage will appear at the SIREN terminals for operating a bell or other signalling device. The alarm relay is also activated during the alarm cycle, activating the 3 amp SPDT dry contacts. The alarm will cut off after a 4 minute period. This cut off period may be changed to 8 or 15 minutes by cutting a resistor on the circuit board as shown on the connection diagram. The green loop status indicator will flash during and after an alarm has occurred to act as an alarm memory until the control panel has been reset.

## OPERATING INSTRUCTIONS

### Turning on Power

Be sure to discharge any static voltage by touching a ground connection before touching the panel circuit board. Make all circuit connections to the panel before connecting the battery or transformer. Disarm the panel by closing the key switch. If 8 ohm speakers are being used as alarm signals, be sure that the orange jumper is cut to activate the built-in siren driver. Connect the transformer to the AC terminals. With the panel reset (alarm signals not sounding), check the voltage on the red and black battery leads. The voltage should be 13.6 volts (6.8 volts for the CP-5-6V). If the voltage is less than 13.0 volts (or 6.8 volts for the CP-5-6V), check the current load on the auxiliary power terminals and ensure that the proper transformer is being used. If the voltage is correct, connect the red battery lead to the positive (+) post of the battery and the black battery lead to the negative (-) battery post. Reversing the battery leads will blow the siren fuse immediately and, if left connected, will damage the battery.

### Arming and Disarming

Check to see if the green loop status light is ON and the red armed light is OFF. If the green light is flashing, momentarily arm and disarm the panel by opening and closing the key switch. If the green status light is OFF, check the alarm circuits for opens and shorts to negative. If the green status light

continues to flash, check for a short between the panic terminal and the NEG terminal. When the green status light comes ON steady, open the key switch to arm the panel. The red arming indicator should be ON.

### Exit / Entry Delay and Pre-alarm Signal

After a 45 second exit delay time has elapsed from the time of arming, an open or a short to negative on the delay circuit should cause a pre-alarm output on the P.A. terminal. An alarm will occur after the entry time period has expired. Adjust the entry time by adjusting the entry delay potentiometer on the circuit board clockwise for more time. An alarm created on the on the instant/delay circuit during the entry delay period should not cause an instant alarm. However, if an alarm is created on the instant/delay circuit first, an instant alarm should occur.

### Checking Detection Devices and Alarm Signals

Test each detection device (contact, motion detector, mat, foil section, etc.) to be certain that it is correctly wired and creates an alarm on the panel. A small buzzer or Sonalert connected to the loop status output may be of assistance while testing each detection device. One person can then perform a test of all detection devices by listening for the buzzer to stop as each device is alarmed. Check for the proper operation of alarm signal devices, remote indicator stations and any other connected equipment.

Select the desired alarm cut off time as shown in the connection diagram.

## WARRANTY

Digital Security Controls Ltd. warrants that for a period of twelve months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use and that in fulfillment of any breach of such warranty, Digital Security Controls Ltd. shall repair or replace the defective equipment upon return of the equipment to its factory. The foregoing warranty shall apply only to the original buyer, and is and shall be in lieu of all other warranties, whether expressed or implied and of all other obligations or liabilities on the part of Digital Security Controls Ltd. and in no event shall Digital Security Controls Ltd. be liable for loss of any anticipated profits, consequential damages, loss of time or other losses incurred by the buyer in connection with the purchase, installation or operation of this product. This warranty applies only to defects in parts and workmanship and not to damage incurred in shipping or handling, or damage due to causes such as lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse or improper application of the equipment.



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