6500 Series Programmable Keypad

QUICK-TEST

A) Connect 12 or 24 VDC to the Red (+) and Black (-) wires. Refer to *24 VDC Operation* before wiring for 24 Volts.

B) Touch ✱ 382436 # You should hear three (3) beeps. (You are <u>now</u> in program mode) If you did not get 3 beeps, see below.

C) Touch ✱ 11 11111 # 1 #   (3 beeps)

D) Touch ✱ 11 22222 # 2 #   (3 beeps)

E) Touch ✱ 11 33333 # 3 #   (3 beeps)

F) Touch ✱ 99 #   (3 beeps)

You have now exited the program mode. Now we'll see if the unit works...

1) Touch # 11111 You should hear a key beep for each number (5 beeps total). After the 5th digit you should hear the Main Relay activate for 2 seconds.

2) Touch # 22222 You should hear the Auxiliary Relay activate for 2 seconds.

3) Touch # 33333 you should receive a voltage output on Switch 3 for 2 seconds.

If you noticed, each code was preceded by a # i.e. # 11111. Most times the # is unnecessary, but its usage will always "clear" any previous digits entered.

Finished? Touch ✱ 382436 # you are now in program mode. Touch ✱ 25 # to erase memory.

If the decoder did not work...

Place the small black jumper on the 2 pins marked J1. The pins are next to the 7 position wire harness.

Try the above sequence again.

STATIC PROTECTION

For keypads with metal plates the static grounding strap must be used. This strap consists of a ring terminal, disc capacitor, and black wire, and is included with all 6500 series keypads. Connect the wire end of the strap to the negative (-) power supply connection of the keypad (the black wire). Connect the ring terminal end of the strap under one of the plate screws between the plate and the wall (see fig. 6).

WIRE CONNECTIONS

7 POSITION HARNESS:
Grey wire is an output for Door-Ajar, Forced Entry, and Time Cancel. Connect a magnetic contact which is closed when the door is closed to this wire, and connect the other wire to the negative supply voltage input.

Brown wire is the Request To Exit (RTE) input trigger. When this wire is momentarily connected to the common or negative supply voltage input, the outputs programmed to operate from RTE will activate.

Yellow wire is for Switch 4 which is used as a voltage output line or printer data line. This voltage output line is capable of switching up to 50ma. The output will activate when an input condition programmed for Switch 4 is activated.

Orange wire is for Switch 3 which is used as a voltage output line. This voltage output line is capable of switching up to 50ma. The output will activate when an input condition programmed for Switch 3 is activated.

White wire is the common, the **Green** wire is the normally open (N.O.) and the **Blue** wire is the normally closed (N.C.) contact of the Auxiliary Relay which is rated for 1 amp at 30 VDC.

6 POSITION HARNESS:
Red (+) positive 12 or 24 VDC supply voltage input. This voltage should be uninterrupted and able to supply a minimum of 120ma for the keypad, and 20ma for each LED or night-lite. **Black** (-) negative VDC supply voltage input.

Blue wires are normally closed (N.C.) and **Green** wires are the normally open (N.O.) set of Main Relay contacts. The Main Relay is rated for 5 amps at 30 VDC.
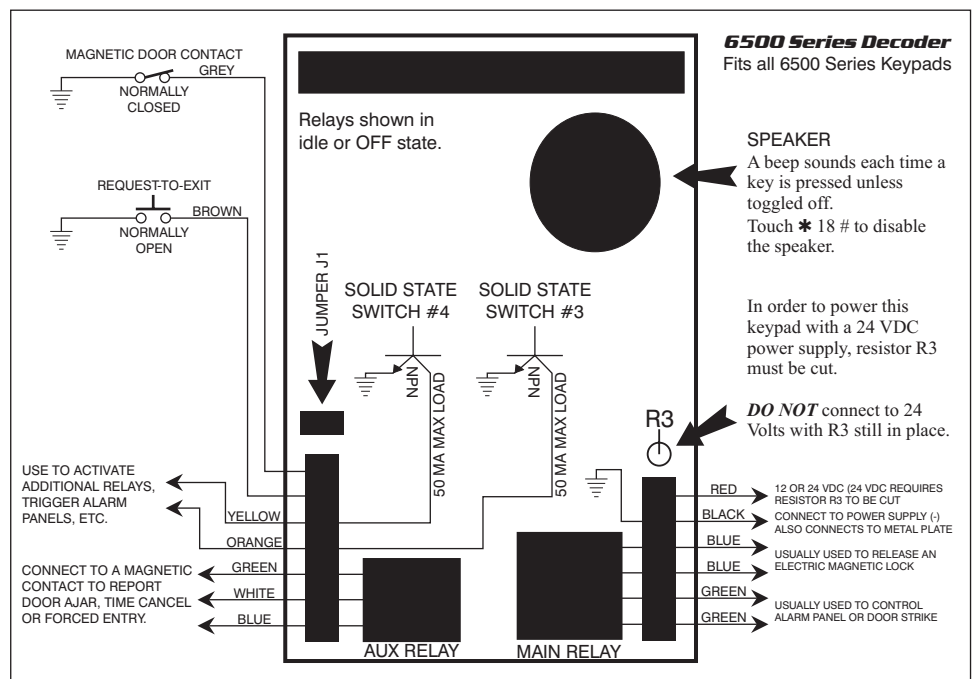
24 VDC OPERATION

In order to power this keypad with a 24 VDC power supply, resistor R3 must be cut. **DO NOT** connect to 24 Volts with R3 still in place. Your keypad only has 24VDC capability if you have a 6500 series keypad or later.

To program this unit for 24 VDC:
✓ Remove circuit board from the keypad
✓ Cut the metal lead on resistor R3
✓ Connect the 620 ohm resistor (included in the screw pack for the LEDs) in series with the positive (red) lead of the LEDs and the positive side of the light bulb (6522 only). **If resistors are not installed, LEDs will burn out.**
✓ Apply power to the unit

CAUTION !!!

If you use this product to operate a DC door strike, magnetic lock, relay, or any device that has a coil (inductive load) that is powered from a DC source; you **MUST** install a diode, in parallel, across the coil terminals. Use a 1N4001, 1N4002 or equivalent. Connect the stripe side of the diode to the coil terminal that becomes positive (+). Connect the other side to the other end of the coil. Proper installation of this diode will prevent the high voltage spike that occurs whenever a coil is de-energized. **If you do not use this diode, you will have erratic operation and will eventually damage the keypad and any other electronic device in the system.**

6500 Series Decoder
Fits all 6500 Series Keypads

MAGNETIC DOOR CONTACT — GREY
NORMALLY CLOSED

Relays shown in idle or OFF state.

REQUEST-TO-EXIT — BROWN
NORMALLY OPEN

JUMPER J1

SOLID STATE SWITCH #4 — NPN — 50 MA MAX LOAD

SOLID STATE SWITCH #3 — NPN — 50 MA MAX LOAD

SPEAKER
A beep sounds each time a key is pressed unless toggled off. Touch ✱ 18 # to disable the speaker.

In order to power this keypad with a 24 VDC power supply, resistor R3 must be cut.

R3
DO NOT connect to 24 Volts with R3 still in place.

USE TO ACTIVATE ADDITIONAL RELAYS, TRIGGER ALARM PANELS, ETC.
YELLOW
ORANGE

CONNECT TO A MAGNETIC CONTACT TO REPORT DOOR AJAR, TIME CANCEL OR FORCED ENTRY.
GREEN
WHITE
BLUE

AUX RELAY   MAIN RELAY

RED — 12 OR 24 VDC (24 VDC REQUIRES RESISTOR R3 TO BE CUT)
BLACK — CONNECT TO POWER SUPPLY (-) ALSO CONNECTS TO METAL PLATE
BLUE
BLUE — USUALLY USED TO RELEASE AN ELECTRIC MAGNETIC LOCK
GREEN
GREEN — USUALLY USED TO CONTROL ALARM PANEL OR DOOR STRIKE

PROGRAMMING

Touch ✱ 382436 # to enter program mode. Three (3) beeps indicate a valid program code was entered. Select the options to program from the following:

✱ 11   ASSIGN USER CODES
The number of code digits entered depends on the code length selected in option ✱ 19.

Program codes with these outputs:
1   Main Relay   3   Switch 3
2   Aux Relay   4   Switch 4

EXAMPLES: Program a code of 54321 to activate the Main Relay, and trip Switch 3 by touching ✱ 11 54321 # 13 #
Program a code of 43682 to activate the Main Relay, Aux Relay, and Switch 4 by touching ✱ 11 43682 # 124 #

An output does not need to be assigned to activate the Main Relay ONLY.
EXAMPLE: To program a user code of 98765 to activate the Main Relay (ONLY) touch ✱ 11 98765 # #
To program a user code of 98765 to activate the main relay and switch 4 touch ✱11 98765 #14#

✱ 12   DELETE A CODE
The code to be deleted must be entered twice. Any outputs assigned to this code do not need to be entered.

EXAMPLE: To delete the code 54321 touch ✱ 12 54321 # 54321 #

✱ 13   CHANGE PROGRAM CODE
Changes the program code of 382436.
Jumper J1 must be removed to perform this option. The new program code to be entered must be entered twice.

Sequence:

A) Place the jumper on J1

B) Touch ✱ 382436 #

C) Remove Jumper J1

D) Touch ✱ 13 (new code) # (new code) #

E) Finish programming the unit

F) Exit program mode by touching ✱ 99 #

EXAMPLE: To program a NEW program code of 123456
Touch ✱ 13 123456 # 123456 #

The Outputs listed below are available in any combination for activation from any of the four assigned inputs (options 14-17).
1   Main Relay   3   Switch 3
2   Aux Relay   4   Switch 4
5   Buzzer

The available inputs that can be used with the buzzer are door ajar, forced entry, panic and request to exit. The buzzer cannot be assigned to a user code. The buzzer was introduced in board number 6514 and later.

✱ 14   DOOR AJAR INPUT
Door ajar occurs when a door is left open after a valid entry or exit. It has a 30 second delay past the Main Relay time. If the Main Relay is programmed for an output time of 10 seconds, a door ajar alarm will sound in 40 seconds.

EXAMPLE: To assign the door ajar input to the Auxiliary Relay and the buzzer touch ✱ 14 25 #

✱ 15   FORCED ENTRY INPUT
Forced Entry occurs when the door is opened without a preceding code or RTE.

EXAMPLE: To assign the forced entry input to the Aux Relay and Switch 4 touch ✱ 15 24 #

✱ 16   PANIC INPUT
A panic condition occurs when the ✱ and # are touched together. The ✱ and # have no key beep for a silent activation.

EXAMPLE: To assign the panic input to the Main Relay and Switch 3 touch ✱ 16 13 #

✱ 17   REQUEST-TO-EXIT INPUT
A RTE condition occurs when the RTE input line is shorted to common or ground.

EXAMPLE: To assign the RTE input to the Main Relay touch ✱ 17 1 #

✱ 18   DISABLE/ENABLE KEY BEEP
The beep sounds each time a key is depressed unless toggled off. This will not disable the programming beeps.

This option toggles the key beep on/off.
EXAMPLE: To disable the key beep touch ✱ 18 # to enable the beep touch ✱ 18 #

✱ 19   SET CODE LENGTH
Set the code length for 3, 4, 5, or 6 digits. Factory default is 5 digits. The code length selected applies for all codes.

EXAMPLE: For 6 digits touch ✱ 19 6 #

✱ 20   SECURITY LOCKOUT
If programmed, this feature can lockout any keypad activity for a designated time after three consecutive incorrect code attempts. This feature is active for 01-99 seconds.

EXAMPLE: Touch ✱ 20 45 # to activate the security lockout for 45 seconds. To deactivate this feature, touch ✱ 20 00 #

✱ 21   SET THE MAIN RELAY TIME
Programs the Main Relay for latching (00) or momentary (01 - 99 seconds) operation.

EXAMPLE: To program the Main Relay for 9 seconds touch ✱ 21 09 #, to latch it on/off touch ✱ 21 00 #

✱ 22   SET THE AUX RELAY TIME
Programs the Aux Relay for latching (00) or momentary (01 - 99 seconds) operation.

EXAMPLE: To program the Aux Relay for 9 seconds touch ✱ 22 09 #, to latch it on/off touch ✱ 22 00 #

✱ 23   SET SWITCH 3 TIME
Programs Solid-State Switch 3 for latching (00) or momentary (01-99 seconds) operation.

EXAMPLE: To program Switch 3 for 10 seconds touch ✱ 23 10 #, to latch it on/off touch ✱ 23 00 #

✱ 24   SET SWITCH 4 TIME
Programs Solid-State Switch 4 for latching (00) or momentary (01-99 seconds) operation.

EXAMPLE: To program Switch 4 for 7 seconds touch ✱ 24 07 #, to latch it on/off touch ✱ 24 00 #

✱ 25   ERASE ALL MEMORY
Erases any previously programmed options and returns to default settings.

EXAMPLE: To erase memory touch ✱25#

✱ 26   ERASE CODES ONLY
Erases all codes programmed into memory.

EXAMPLE: To clear all codes touch ✱26#

✱ 27   SET BUZZER TIME
Programs the Buzzer for latching (00) or momentary (01 - 99 seconds) operation.

EXAMPLE: To program Buzzer for 12 seconds touch ✱ 27 12 #, to latch it on/off touch ✱ 24 00 #

✱ 99   EXIT PROGRAM MODE
Allows the keypad to return "on-line".

EXAMPLE: To exit program mode and return "on-line" touch ✱ 99 #

PART NUMBERS

Indoor:

6520 Single-gang, flush mount with a green and red LED.
6521 Double-gang, flush mount with a green and red LED.
6524 Hidden view with a tamper switch, a green and red LED
6530 Single-gang, flush mount w/ one green, yellow and red LED
6540 Single-gang, flush mount w/ one green, two yellow and one red LED
6571 Double-gang, flush mount plate w/ one green, five yellow and one red LED

Outdoor:

6522 Aluminum cover, surface mount w/ a green and red LED and night light
6564 Cast metal heavy-duty, in a lock box w/ a green & red LED
6566 Cast metal heavy-duty, flush mount w/ a green and red LED

SPECIFICATIONS

Input Voltage: 12 or 24 Volt DC Only

Power Consumption: 120ma with all outputs; 20ma idle

Programmable Relays:
Main: Form"C" & Form "A", 5A @ 30 VDC
Auxiliary: Form "C", 1Amp @ 30 VDC

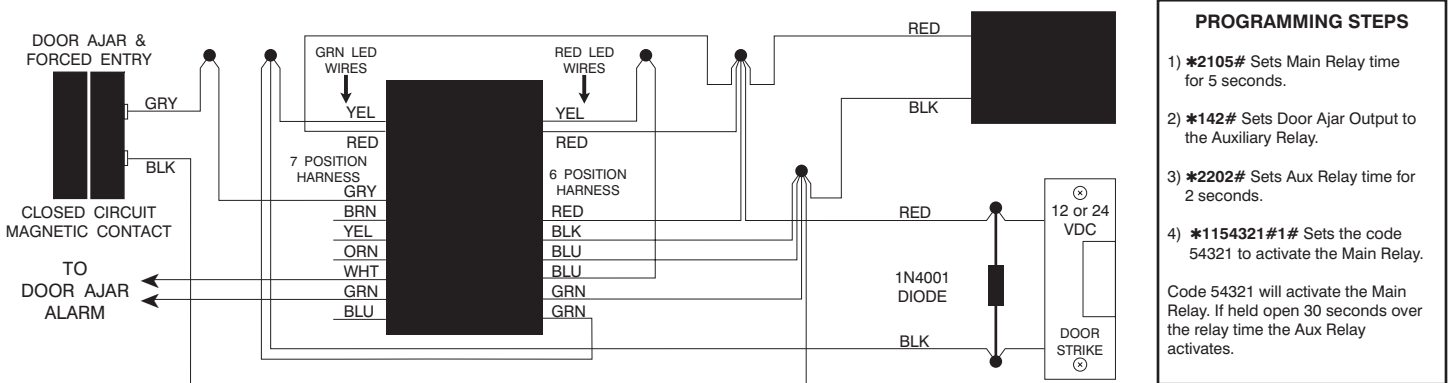**Two Programmable Solid-State Switches:**
Switch "low" (negative) 50ma max load
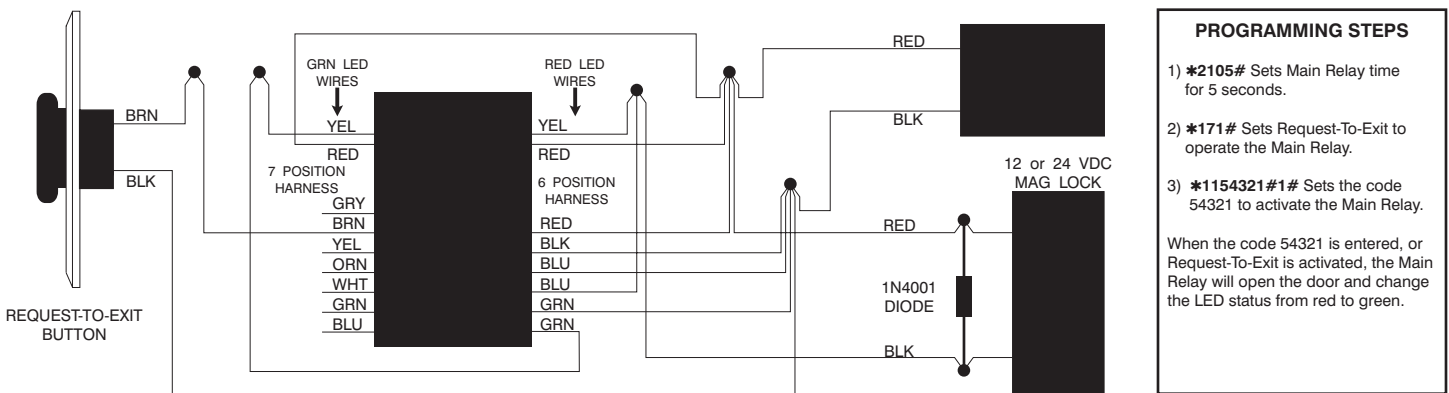
Operating Temp: -18C-55C (0F-131F)

Dimensions:
Single gang: 2.75" X 4.5" (53mm X 40mm)
Double gang: 4.56" X 4.5" (115mm X 114mm)
Heavy Duty: 3.23" X 5.0" (84mm X 127mm)
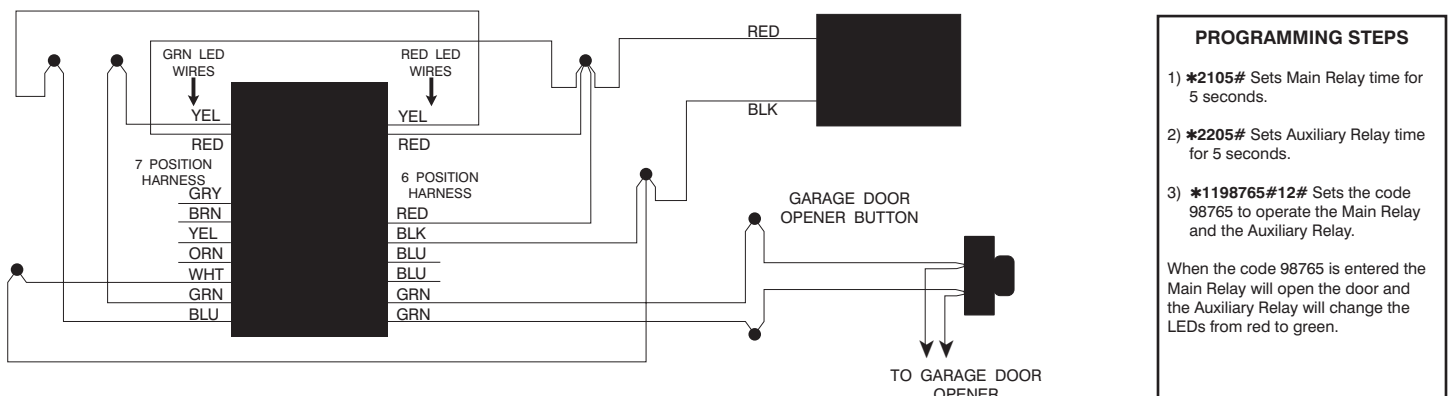Lock Box: 4.75" X 5.3" (120mm X 133mm)

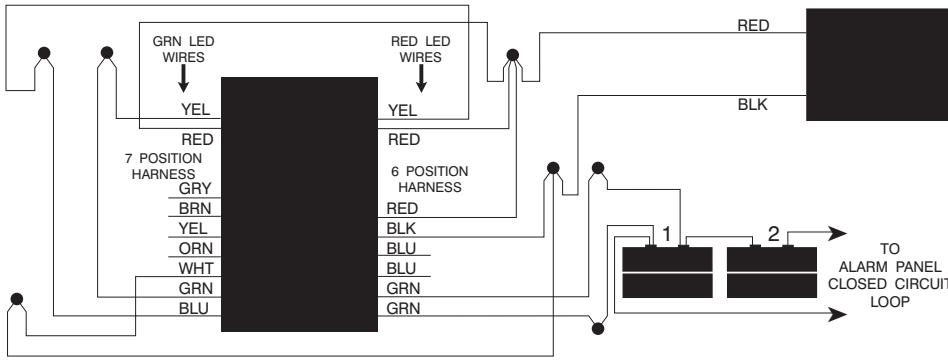## FIG. 1   OPERATE A 12 OR 24 VDC DOOR STRIKE WITH DOOR AJAR AND GREEN & RED LED INDICATORS

PROGRAMMING STEPS

1) *2105# Sets Main Relay time for 5 seconds.

2) *142# Sets Door Ajar Output to the Auxiliary Relay.

3) *2202# Sets Aux Relay time for 2 seconds.

4) *1154321#1# Sets the code 54321 to activate the Main Relay.

Code 54321 will activate the Main Relay. If held open 30 seconds over the relay time the Aux Relay activates.

FIG. 2   OPERATE A 12 OR 24 VDC MAG-LOCK WITH REQUEST-TO-EXIT AND GREEN & RED LED INDICATORS

PROGRAMMING STEPS

1) *2105# Sets Main Relay time for 5 seconds.

2) *171# Sets Request-To-Exit to operate the Main Relay.

3) *1154321#1# Sets the code 54321 to activate the Main Relay.

When the code 54321 is entered, or Request-To-Exit is activated, the Main Relay will open the door and change the LED status from red to green.

FIG. 3   OPERATE AN ELECTRIC GARAGE DOOR OPENER WITH GREEN & RED LED INDICATORS

PROGRAMMING STEPS

1) *2105# Sets Main Relay time for 5 seconds.

2) *2205# Sets Auxiliary Relay time for 5 seconds.

3) *1198765#12# Sets the code 98765 to operate the Main Relay and the Auxiliary Relay.

When the code 98765 is entered the Main Relay will open the door and the Auxiliary Relay will change the LEDs from red to green.

FIG. 4   SHUNT CONTACT #1 IN A CLOSED CIRCUIT ALARM LOOP WITH GREEN & RED LED INDICATORS

GRN LED WIRES
RED LED WIRES
RED
BLK
YEL
YEL
RED
RED
7 POSITION HARNESS
6 POSITION HARNESS
GRY
BRN
YEL
ORN
WHT
GRN
BLU
RED
BLK
BLU
BLU
GRN
GRN
1
2
TO ALARM PANEL CLOSED CIRCUIT LOOP

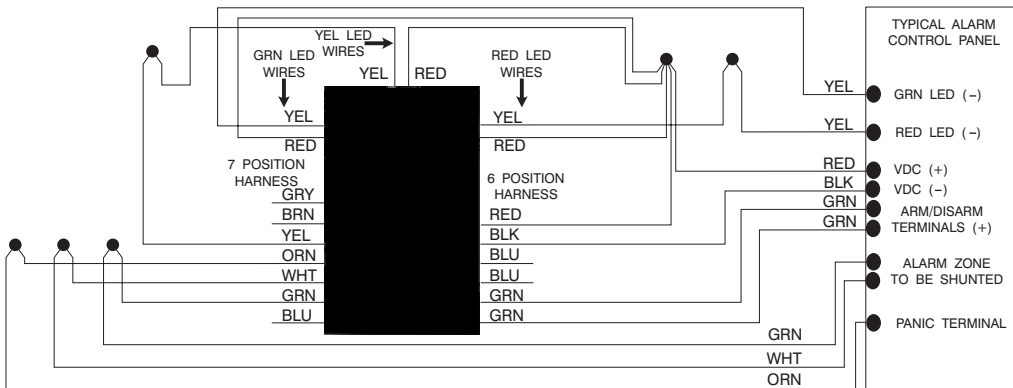### PROGRAMMING STEPS

1) **2100#** Sets Main Relay time for latching (on/off).

2) **2200#** Sets Auxiliary Relay time for latching (on/off).

3) **1198765#12#** Sets the code 98765 to operate the Main Relay and the Auxiliary Relay.

When the code 98765 is entered the Main Relay will shunt zone 1 until the code is entered again. A red LED indicates the zone is "in-the-loop". When the zone is shunted, the green LED will be on.

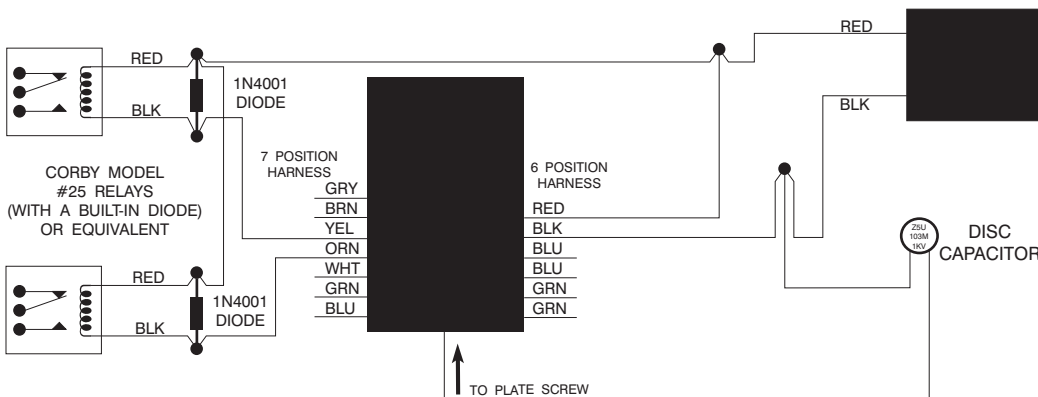## FIG. 5   ARM & DISARM AN ALARM PANEL WITH ZONE SHUNTING AND PANIC

TYPICAL ALARM CONTROL PANEL
YEL LED WIRES
GRN LED WIRES
RED LED WIRES
YEL
RED
YEL
YEL
YEL
GRN LED (−)
YEL
RED LED (−)
RED
RED
RED
VDC (+)
BLK
VDC (−)
7 POSITION HARNESS
6 POSITION HARNESS
GRY
BRN
YEL
ORN
WHT
GRN
BLU
RED
BLK
BLU
BLU
GRN
GRN
GRN
GRN
ARM/DISARM TERMINALS (+)
ALARM ZONE TO BE SHUNTED
GRN
WHT
ORN
PANIC TERMINAL

PROGRAMMING STEPS

1) **2102#** Main Relay set 2 secs.
2) **2200#** Aux Relay set for latching.
3) **2400#** Switch 4 set for latching.
4) **2302#** Switch 3 set for 2 secs.
5) **1154321#1#** Sets the code 54321 to activate the Main Relay.
6) **163#** Sets Panic to operate Switch 3.
7) **1198765#24#** Sets the code 98765 to operate the Aux Relay and Switch 4 for a shunt.

When the code 54321 is entered it will turn on/off the alarm panel.

When * and # (Panic) are pressed, Switch 3 triggers duress.

FIG. 6   FOR ADDITIONAL DRY CIRCUIT OUTPUTS, ADD TWO RELAYS TO OUTPUT LINES 3 & 4
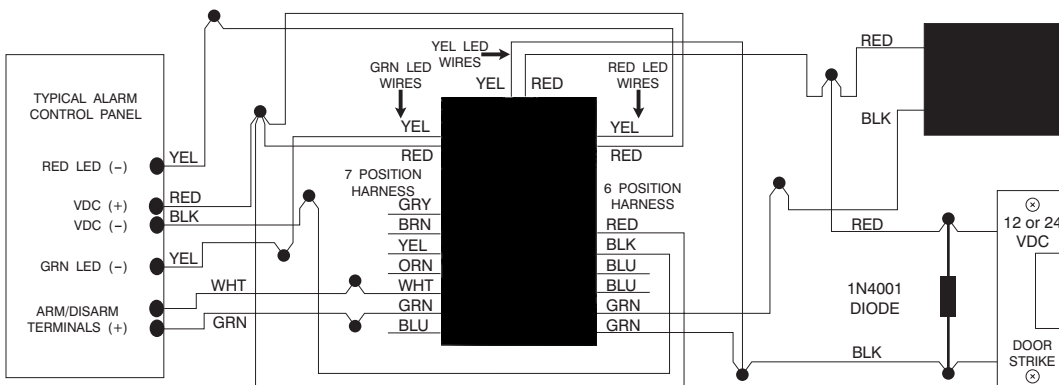

RED
BLK
RED
BLK
1N4001 DIODE
CORBY MODEL #25 RELAYS (WITH A BUILT-IN DIODE) OR EQUIVALENT
7 POSITION HARNESS
6 POSITION HARNESS
GRY
BRN
YEL
ORN
WHT
GRN
BLU
RED
BLK
BLU
BLU
GRN
GRN
RED
BLK
1N4001 DIODE
25U 103M 1KV
DISC CAPACITOR
TO PLATE SCREW

PROGRAMMING STEPS

1) **2300#** Sets Switch 3 for latching (on/off).

2) **2405#** Sets Switch 4 for 5 seconds.

3) **1154321#34#** Sets the code 54321 to operate Switch 3 and Switch 4.

When the code 54321 is entered Switch 3 and 4 will trigger the additional relays.

FIG. 7   OPERATE A DOOR STRIKE AND ARM/DISARM AN ALARM PANEL. THE GREEN AND RED LED INDICATORS MONITOR THE ALARM PANEL. THE YELLOW LED INDICATES DOOR STRIKE OPERATION.

TYPICAL ALARM CONTROL PANEL
RED
BLK
YEL LED WIRES
GRN LED WIRES
RED LED WIRES
YEL
RED
RED LED (−)
YEL
YEL
YEL
VDC (+)
RED
RED
RED
VDC (−)
BLK
7 POSITION HARNESS
6 POSITION HARNESS
GRN LED (−)
YEL
GRY
BRN
YEL
ORN
WHT
GRN
BLU
RED
BLK
BLU
BLU
GRN
GRN
ARM/DISARM TERMINALS (+)
WHT
GRN
RED
12 or 24 VDC
1N4001 DIODE
BLK
DOOR STRIKE

PROGRAMMING STEPS

1) **2105#** Sets Main Relay time for 5 seconds.
2) **2202#** Sets Auxiliary Relay time for 2 seconds.
3) **1154321#1#** Sets the code 54321 to activate the Main Relay.
4) **1198765#2#** Sets the code 98765 to activate the Auxiliary Relay for arm/disarm.

Code 54321 will open the door and trigger the yellow LED. Code 98765 will arm/disarm the alarm panel.

The red & green LEDs indicate the alarm panel status.