

## SEC-3B

### Microprocessor Based Decoder

This system represents an extremely sophisticated and price effective access control or a multi-task remote control for alarm systems. In restricted areas, such as computer rooms or jewelry stores, it is possible to assign individual 4-digit or 6-digit access codes up to 15 different persons and still have a duress code to open the door and at the same time send a silent alarm to the police.

For large alarm systems, where it is required to partially arm/disarm the system depending on the various needs, the SEC-3B Processor is the ultimate in high security and extremely low cost. Up to 1.000.000 different combinations are available to each of the 15 persons having the right to enter the restricted area or to arm/disarm fully or partially the alarm system.

SEC-3B programming is very simple and complete freedom has been given to the various functions to enable performing any desired task. Each of the 15 codes may activate one or both relays or just give a logic output depending on your needs. A relay interface for all logic outputs is also available to give extra features when required. Two of these interfaces (Mod. INT-38) could be connected on SEC-3B to obtain programmable outputs (1A/28V  $\overline{\text{---}}$  max.) in momentary or latched operation.

The system consists of three units:

- Keypad TECT-1
- Processor SEC-3B
- 2 Relay Interfaces Mod. INT-38 (optional)

The TECT-1 Keypad is mounted in a black diecast aluminum box and is available for surface or flush mounting. A simple 4-way cable is used to connect it to the SEC-3B processor/controller unit. Any number of keypads (in parallel array) can be used with one processor as signals are only transmitted when keys are pressed. This means the system is tamperproof.

The SEC-3B processor is the brain of the system and is directly programmable from the TECT-1 keypad for all its functions:

- 1 programming code of 4 or 6 digits.
- 15 different arm/disarm codes of 4 or 6 digits can be used.
- One additional duress code.
- The two output relays can be independently programmed and can also be used in momentary as well as in alternate modes.

- Momentary relay time adjustable from 2 to 20 sec. max.
- Possibility for each code to drive ON/OFF relay or logic output only.
- All functions are programmed from the keypad and program memory is backed-up by a Lithium battery to prevent data loss in the event of power failure for 20.000 hours.
- Incorrect code entry causes the system to block further attempts for a programmable "penalty time" from 2 to 20 sec.
- If during code entering a wrong digit is pressed, the sequence may be aborted by just pressing [★] and new sequence may be entered.
- 16 logic outputs with programmable polarity.

### Programming

Programming is done by the TECT-1 keypad. Connections are the same as for the SEC-3. The red LED on the TECT-1 is used as an indicator during programming. It flashes when it awaits a new entry. It is on steady when data is expected. When an entry has been completed; it flashes again.

The following is programmed from the TECT-1:

- 17 codes:
  - 1 duress code, 4 or 6 digits
  - 15 arm/disarm (access) codes, 4 or 6 digit codes
  - 1 programming code, 4 or 6 digits, to start program mode from TECT-1
- Individually enable arm/disarm relay operation for each code
- Penalty time: programmable from 2 to 20 seconds.
- Relay momentary time: programmable from 2 to 20 seconds
- Momentary/alternate mode selection
- Polarity of logic outputs

To program the SEC-3B

To program, move the programming jumper to the PROG position, or enter the programming code at the TECT-1. **It is necessary to use the jumper the first time** since no codes are programmed initially.



The red LED on the TECT-1 flashes indicating that it is ready to program. If the program mode is entered using the program code, it automatically returns to normal operation after 64 seconds with no key pressed. If the jumper is used, it stays in the program mode as long as the jumper is in place.

Select the Program Mode

While the red LED is flashing, enter a number from 1 to 5 to select the program mode:

- 1 - Codes: duress, access, and programming code
- 2 - Penalty time
- 3 - Momentary time for relays
- 4 - Momentary/alternate programming for both relays
- 5 - Polarity of logic outputs

After the selection is made, the red LED becomes steady. The next entries depend on the program mode selected. They are described below:

[1] Programming the codes

**Duress and programming codes:**

- A. Duress: enter 00  
Programming: enter 16
- B. Next, enter the 4 or 6 digit code. Repeated digits are okay.
  - 4 digits: Enter 4 digits then # to mark end of code.
  - 6 digits: Just enter all 6 digits.
- C. The red LED flashes again.

**Arm/disarm (access) codes:**

- A. Enter code number, 01 through 15
- B. Next, enter the control digit for the arm / disarm relay.
  - 1 = this code drives the arm / disarm relay.
  - 0 = this code does not drive the relay.

Note: The logic outputs are always driven for 2.5 seconds.

- C. Enter 4 or 6 digit code. Repeated digits are okay.
  - 4 digits: Enter 4 digits then # to mark end of code.
  - 6 digits: Just enter all 6 digits.
- D. The red LED flashes again.
- E. For other arm/disarm codes enter "1" then repeat A through D. A single code can be programmed or all can be entered in any sequence. (Ex: code 15 can be entered before code 01).

Erasing a code:

Any code can be erased by entering the " ★" instead of code digits. "Erasing" loads the memory for that code with digits that are impossible to enter.

For example, to erase the duress code enter "100★ ★ ★ ★ ★". To erase arm/disarm code 08, enter "1080★ ★ ★ ★ ★" or "1081★ ★ ★ ★ ★". The "0" or "1" before the first " ★" is a filler for the arm/disarm relay activation. It's value does not matter since the code is erased, but a number must be entered since it is expecting a fixed number of digits.

[2] Penalty Time Programming (default = 10)

- A. Enter the 2 digit time, 2 to 20 seconds. Times less than 10 sec should have a leading 0 (Ex: 7 sec = 07). If a time greater than 20 sec is entered, the resulting programmed time is 20 sec. If a time less than 2 sec is entered, the resulting programmed time is 2 sec.
- B. The red LED flashes after entry of the second digit.

[3] Programming the length of the relay momentary time (default = 08)

- A. Enter the 2 digit time, 2 to 20 seconds. Times less than 10 sec should have a leading 0. If a time greater than 20 sec is entered, the resulting programmed time is 20 sec. If a time less than 2 sec is entered, the resulting programmed time is 2 sec.
- B. The red LED flashes after entry of the second digit.

[4] Momentary / alternate programming, arm / disarm & duress relays

- A. Enter 2 digits (default = 11)
  - First digit: Arm / disarm relay. Digits are 0 or 1.
    - 0 = alternate
    - 1 = momentary
  - Second digit: Duress relay. Digits are 0, 1, or 2.
    - 0 = alternate
    - 1 = momentary (independent relay operation)
    - 2 = momentary, interacts with arm / disarm relay (security system mode)



**B.** The red LED flashes after entry of the second digit **Example:** 02 = "security system mode". Arm disarm relay is alternate. Duress relay is momentary.

[5] Programming the polarity of the logic outputs (default = 0, pos)

If positive, activation turns on the open collector of the logic output. If a relay is connected to it, it becomes energized. If negative polarity is selected, the relay is continuously energized and turns off when that logic output becomes active.

**A.** Enter 1 digit.

- ▣ 0 = Positive output polarity
- ▣ 1 = Negative output polarity

**B.** The red LED flashes after the digit is entered. **Note:** If the data entry for a programming step is not completed, that entry is aborted 10 sec after the last digit is entered. It is indicated by the red LED flashing again.

To exit the Program Mode

If the program mode had been entered by using the programming code, press "★" while the red LED is flashing. If there had been no key presses for 64 seconds, it automatically exits the program mode.

If the programming jumper on the circuit board had been used to enter the programming, moving it to the NORMAL position causes it to immediately exit the program mode. It stays in the program mode as long the jumper is on the PROG position.

Summary:

A flashing LED indicates that it is ready for a new programming mode. A steady red LED indicates that it expects data. Any programming mode can be entered when the red LED is flashing. The first digit entered defines the mode; the next digits are the data. The red LED flashes again when all data digits have been entered. Programming is very easy with the red LED as an indicator. The entered entered number cannot be seen, but the flashing red LED indicates when the program step has ended. The entries can be verified when it returns to the normal operating mode.

## Technical Data

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<i>Power input:</i>	12V $\overline{\text{---}}$ nominal (10-15V $\overline{\text{---}}$ )
<i>Current drain</i>	
- TECT-1:	2mA (standby mode)
- SEC-3B:	28mA with energized ON/OFF relay 10mA with de-energized ON/OFF relay
<i>Relay outputs:</i>	SPDT dry contacts 1A 28V $\overline{\text{---}}$
<i>Logic outputs:</i>	negative output (max. 100mA/12V $\overline{\text{---}}$ resistive load)
<i>Temperature range:</i>	-10°C to +50°C
<i>Max. wiring run:</i>	200 m
<i>Dimensions (mm)</i>	
- TECT-1:	W 75, D 60, H 120
- SEC-3B:	W 124, D 73, H 30

## INT-38 Interface Card

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The INT-38 interface card has been developed to allow an easy and complete use of SEC-3B processor features and to convert the available logic outputs in dry change-over relay outputs.

Each relay output may be programmed for alternate or momentary mode operation therefore meeting any installation need. When used in momentary mode, relay is energized for 2-3 sec

The INT-38 interface card may be powered directly from SEC-3B processor. To this purpose on terminal block the 12V  $\overline{\text{---}}$  input is provided.

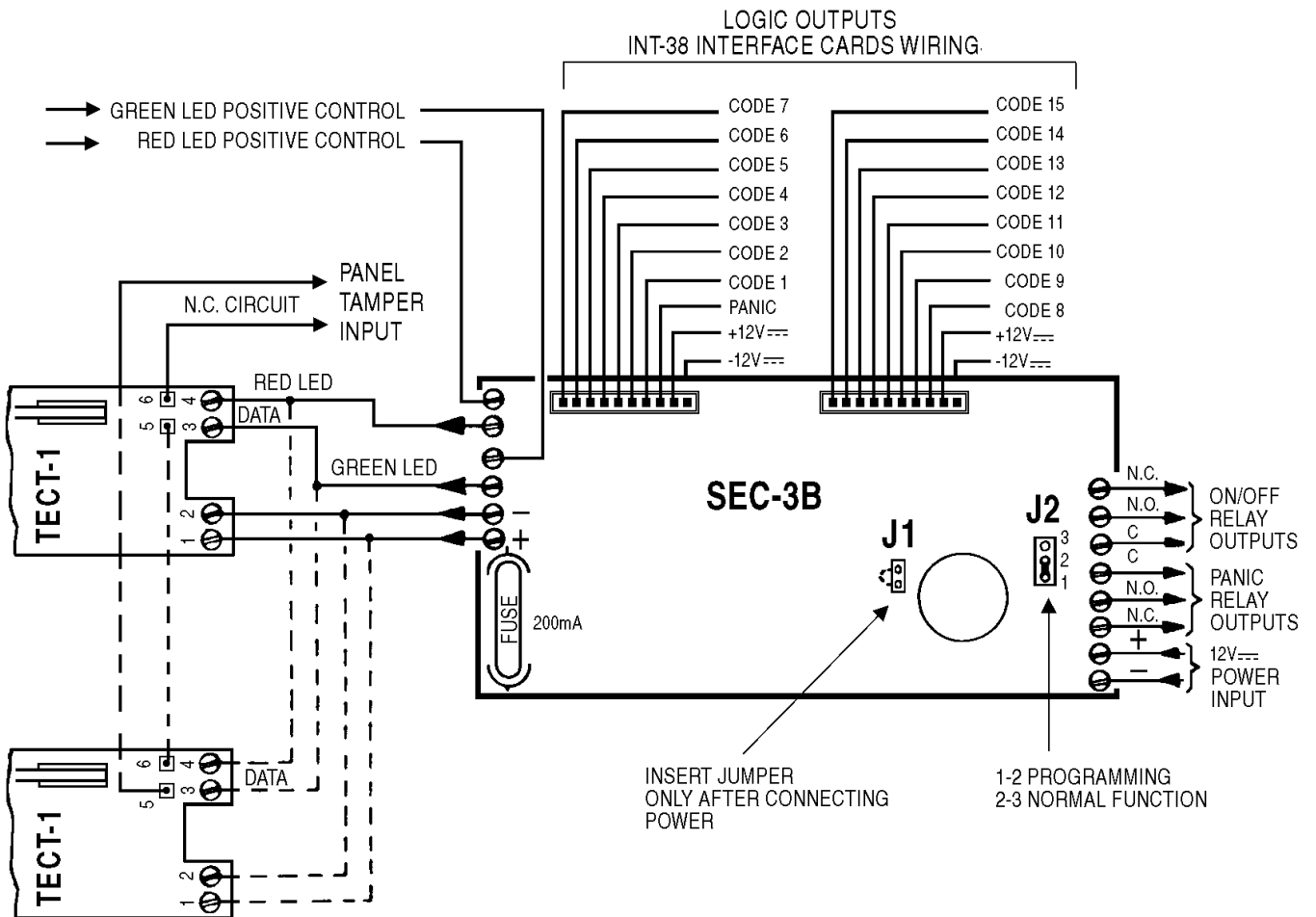
INT-38 is supplied with jumpers factory set for:

- input polarity for operation with negative edge
- relay operation in alternate mode
- power input through flexible cable with connector

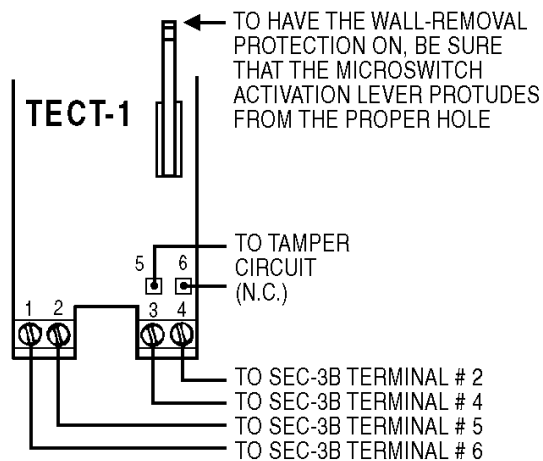
## Technical Data

<i>Power input:</i>	12V $\overline{\text{---}}$ nominal (11-15V $\overline{\text{---}}$ )
<i>Max. current drain:</i>	120mA (with all energized relays)
<i>Relay outputs:</i>	8 dry change-over contacts 1A 28V $\overline{\text{---}}$

Wirings



**Wiring example  
between 1 SEC-3B  
Microprocessore  
Based Decoder  
and 2 TECT-1 Keypads**



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