DESCRIPTION

The Model 54A00-1 HAI Access Control Keypad is a weatherproof and vandal resistant piezoelectric keypad designed to interface with the HAI line of automation controllers. Each valid code can be used to arm and disarm the security system, activate an electric door strike or magnetic locks, activate lighting, operate a garage door, operate a security gate, set off a panic alarm, and many other functions.

The keypad is encased in a stainless steel investment casting that will complement any décor. It mounts in a single gang switchbox or to the surface of any wall indoors or outdoors. The keypad has a red LED that is illuminated when the security system is armed and a green LED that is illuminated when it is disarmed.

INSTALLATION

The Model 54A00-1 requires the use of one serial port on the controller and one programmable voltage output.

Run a 4-conductor cable from the controller to the location of the Model 54A00-1 Access Control Keypad and install as follows (maximum distance 50 feet):

1. At the keypad location, using the supplied B-GEL water-tight wire splice connectors, connect the black, red, white, and brown wires of the keypad cable (P/N: 54A03-1) to the corresponding wires of the 4-conductor cable as follows:

| Keypad Cable (P/N: 54A03-1)	4-Conductor Cable
Black	Black
Red	Red
White	White
Brown	Green

2. Insert the keypad cable into the connector on the back of the keypad.

3. Install the 54A00-1 to the surface of any wall using the supplied wall anchors and screws or to a single gang switchbox using the supplied machine screws.

4. Adhere the top (with LED cutouts) and bottom (with HAI logo to bottom right) overlay to the 54A00-1 by removing the backing and pressing into place.

5. At the controller location, connect the black, red, green, and white wires of the keypad communications cable (P/N: 54A02-1) to the corresponding wires of the 4-conductor cable using the supplied wire splice connectors as shown.

6. Connect the green wire of the keypad communications cable (P/N: 54A02-1) to one of the programmable voltage outputs on the controller as shown. Configure the voltage output as an ''Armed'' output

7. Connect the red wire of the keypad communications cable (P/N: 54A02-1) to the Auxiliary 12V output on the controller as shown.

8. Insert the modular connector of the keypad communications cable (P/N: 54A02-1) into one of the serial ports on the controller as shown. Configure the serial port to Pro-Link.
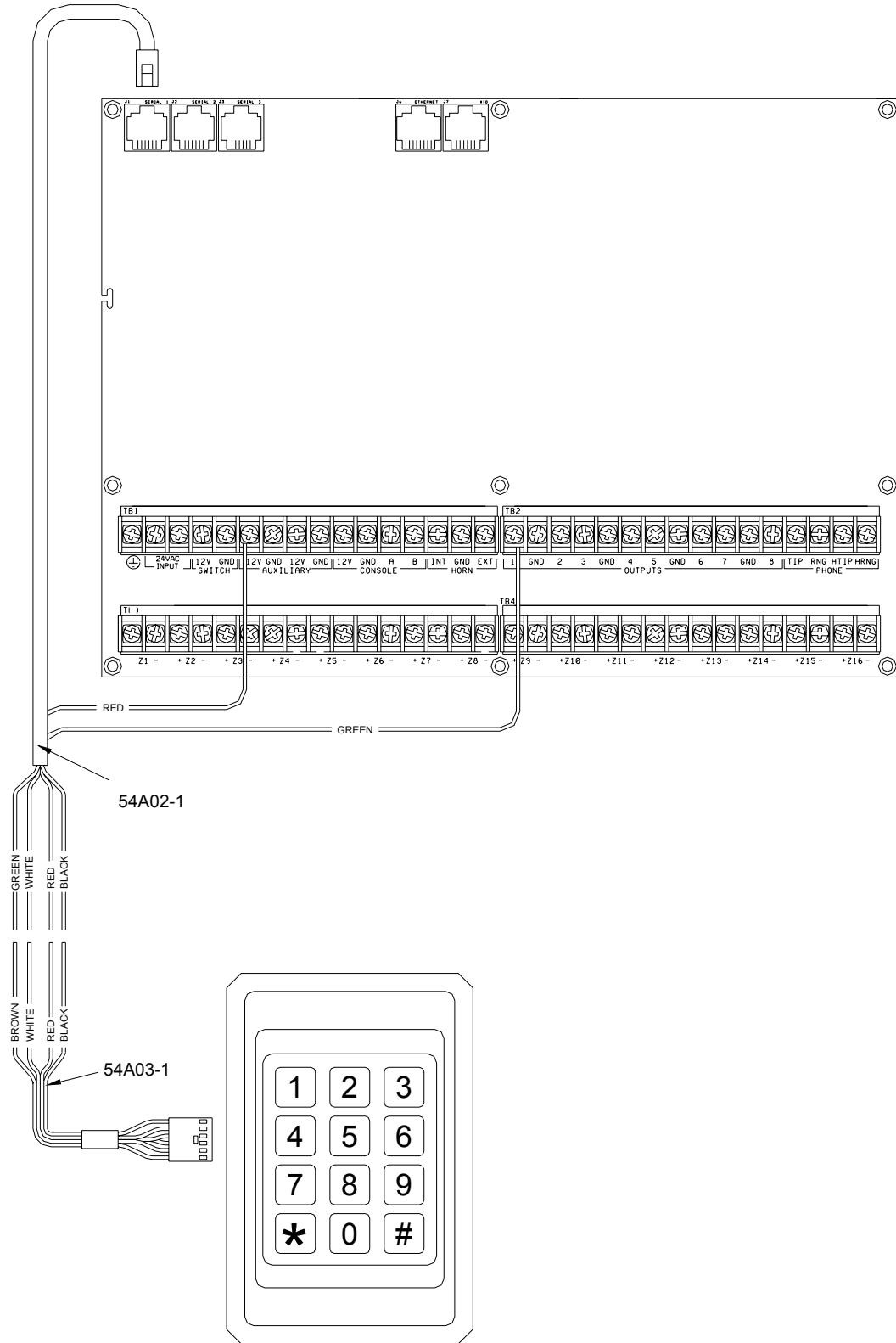
FIGURE 1 – MODEL 54A00-1 CONNECTIONS

OPERATION

The piezoelectric buttons on the Model 54A00-1 work simply by tapping the surface, and do not require an actual physical movement. The piezoelectric feature means that the sleek keys can be operated with a bare finger or a snow-covered glove equally well. With the depression of each key, the 54A00-1 will emit a short tone and flash the red LED.

To enter a code, press each digit of the code (up to 10 digits). After the code has been entered, press the '#' key to send the code to the controller for verification. If you make a mistake while entering the code, press the '*' key to cancel the previously entered digits and start over. If there is a 10 second delay between entering digits, the keypad will cancel previously entered digits. When a previously entered code has been canceled, either by pressing the '*' key or when there has been a 10 second delay, the 54A00-1 will emit two short tones and flash the red LED two times.
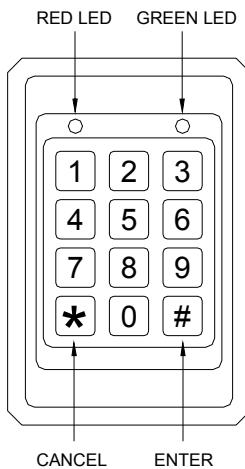
When connected to an HAI security system, if the system is armed to a security mode (i.e. Away, Day, Night, Vacation, etc.), the red LED is illuminated. If the security system is disarmed (i.e. Off mode), the green LED is illuminated.

When connected to a Lumina or Lumina Pro, or if you want a custom function for the LED, you can programmatically illuminate the red or green LED by turning the corresponding voltage output on and off. When the output is turned on, the red LED is illuminated. When the output is turned off, the green LED is illuminated.

PROGRAMMING

The HAI controller monitors the serial interface for incoming keypad codes (messages). An incoming code that matches a stored message in the controller can be used to activate macros (e.g. activate an electric door strike, magnetic locks, lighting, etc.). When a code is matched, the macro corresponding to the matching message is activated. The keypad is capable of sending up to a 10-digit code to the controller. The controller can store as many codes there are available Messages.

The following is an example that shows an arm/disarm code of '1234' that will be used in conjunction with programming in the controller to toggle the arming mode of the system between Away (armed in away mode) and Off (disarmed):

a) Enter the digits for each message under "Setup, Names, Messages". Each code can be up to 10 digits long: Message 1 = 1234

b) Configure the voltage output to control the LEDs, under "Setup, Installer, Control". If the green wire is connected to Output 1, configure "Output 1" to "Armed". The red LED will illuminate when the system is armed and the green LED will illuminate when the system is disarmed.

c) Configure the serial port and baud rate, under "Setup, Installer, Expansion, Serial Function". If the 54A00-1 is connected to Serial Port 1, configure "Serial 1 Function" to "Pro-Link" and configure "Serial 1 Rate" to "9600" baud.

d) This example will use a flag to track the state of the arming. In the example, Flag 1 is named "Armed Flag".

Create the following programs:

```
WHEN ARM AWAY: Armed Flag ON
WHEN OFF: Armed Flag OFF

WHEN RECEIVE 1234 &IF Armed Flag OFF: PROGRAM ARM AWAY
WHEN RECEIVE 1234 &IF Armed Flag ON: PROGRAM DISARM
```

Every time "1 2 3 4 #" is entered at the 54A00-1, the system will toggle between Away (armed in away mode) and Off (disarmed) and the red and green will toggle accordingly.

Example 2:

Additional codes and programs can be entered for other functionality. For example, a code of '12341' can be to activate an electric door strike that is connected to Output 2. In this example the green LED is illuminated when the door strike is engaged (locked) and the red LED will illuminate when the door strike is disengaged (unlocked).

a)   Enter the digits for each message under "Setup, Names, Messages". Each code can be up to 10 digits long: Message 2 = 12341

b)   Configure the voltage output to control the LEDs, under "Setup, Installer, Control". If the green wire is connected to Output 1, configure "Output 1" to "General Purpose". The red LED will illuminate when the output is turned on and the green LED will illuminate when the output is turned off.

c)   Configure the voltage output to control the door strike, under "Setup, Installer, Control". If the door strike is connected to Output 2, configure "Output 2" to "General Purpose".

d)   Configure the serial port and baud rate, under "Setup, Installer, Expansion, Serial Function". If the 54A00-1 is connected to Serial Port 1, configure "Serial 1 Function" to "Pro-Link" and configure "Serial 1 Rate" to "9600" baud.

e)   In the example, Output 1 is named "Red LED" and Output 2 is named "Door Strike".

Create the following programs:

```
WHEN RECEIVE 12341: Door Strike ON FOR 5 SECONDS
WHEN Door Strike ON:  Red LED ON
WHEN Door Strike OFF: Red LED OFF
```

Every time "1 2 3 4 1 #" is entered at the 54A00-1, the output will turn on to disengage the electric door strike for the specified amount of time (i.e. 5 seconds). The red LED will illuminate whenever the door strike is disengaged (unlocked) and the green LED will illuminate whenever the door strike is engaged (locked).

SPECIFICATIONS

Dimensions: 3-3/8W x 5-1/8H x 7/16D

Nominal Voltage: 10 – 13.7 VDC

Current Consumption: 25mA maximum

Operating Ranges: -40°C to +70°C (-40°F to +160°F), 100% Relative Humidity