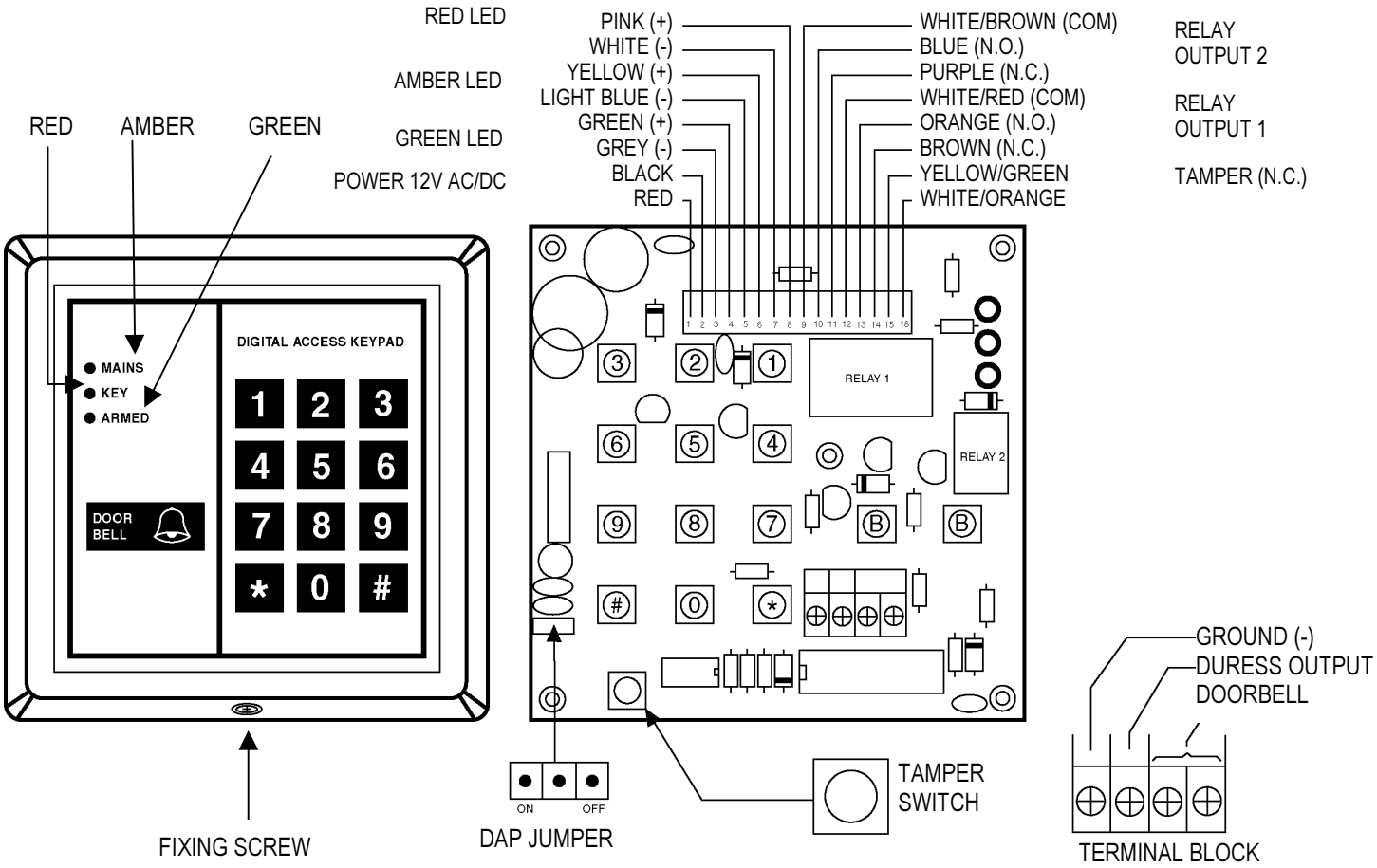
HAA98 : SECURITY KEYPAD
DUAL OUTPUT SYSTEM
FOR DOOR OPENER AND OTHER SECURITY CONTROL APPLICATIONS

INTRODUCTION

The HAA98 (DK-9810E) is a self-contained dual output security keypad, designed for an electric door opener and for other security control applications. All stored data are protected in case of power failure thanks to the EEPROM memory. More than 100 million combinations are available for the User Codes (Code 1 & Code 2) and the Master Code (which also acts as Super User Code). User Code 1 can be altered to act as a Duress Code that activates the Duress Output. This output can be connected to an alarm system or a telephone dialler. The keypad configuration depends on the function of the two User Code Outputs. One might use Code 1 as a door actuator and Code 2 for alarm ON/OFF control ; or the user might install Code 1 for alarm ON/OFF control and Code 2 for reporting intrusions to an alarm system.

CONNECTIONS



- **12V AC/DC**
  Connect to a 12V power supply. AC or DC is possible, no polarity discrimination is required.
- **GREEN, AMBER & RED LEDs** (3-4), (5-6) & (7-8)
  Three LEDs are available that can be connected freely. We suggest that the user connect these LEDs to the remote indicator terminals on the alarm control panel. Be sure to observe the polarity (+ & -). All LEDs are equipped with a 1.5KΩ current limiting resistor and the operating voltage stands at 12V.
- **RELAY OUTPUT 2** (9-10-11)
  1 Amp dry relay contacts, with Normally Open (N.O.) and Normally Closed (N.C.) terminals. Connect the alarm ON/OFF control or the intrusion alarm to this relay. If you decide to use the relay for alarm ON/OFF control, you should be careful to connect the appropriate pair of terminals to the ARM/DISARM terminals of your alarm system's remote ; Connect to the intrusion/24 hour emergency loop for intrusion alarm triggering. Both an N.O. and a N.C. loop connection are possible. The relay contact can be installed for both momentary and start/stop operation.

- **RELAY OUTPUT 1** (12-13-14)
  5 Amp dry relay contacts with Normally Open (N.O.) and Normally Closed (N.C.) terminals. Either the door actuator or the alarm ON/OFF control should be connected to this relay. Connect the door actuator to the N.O. contact. If you intend to use the N.O. contact for alarm ON/OFF control, you should consult your system's manual to determine the appropriate pair of terminals (N.C. or N.O.) to be connected to the ARM/DISARM terminals of your remote. Both an N.O. and an N.C. loop are possible. The relay contact can be installed for both momentary and start/stop operation.
- **N.C. TAMPER** (15-16)
  N.C. contact if the keypad is secured to the box. It is an open contact when the keypad is separated from the box. If necessary, connect these terminals in series with the tamper/intrusion/24 hour emergency circuit loop of your alarm system.
- **DURESS OUTPUT** (TERMINAL BLOCK)
  An NPN transistor with an open collector output. It switches to (-) ground when the Duress Code is entered. Transistor output ratings - Ic max. : 100mA sink. Vce : 24Vdc.
- **DOORBELL** (TERMINAL BLOCK)
  An N.O. dry contact switch for an electronic doorbell. Max. rating : 12Vdc, 50mA.

AUDITIVE INDICATORS

The built-in buzzer generates the following sounds to indicate the operation status :

STATUS	TONES
1. Successful key entry	1 beep
2. Successful code entry	2 beeps
3. Unsuccessful code entry	3 beeps
4. DAP jumper not replaced	Continuous beep

THE DAP JUMPER (DIRECT ACCESS TO PROGRAMMING)

If you forget your Personal Master Code, you can use the DAP jumper to override the forgotten code. This procedure will grant you direct access to the Programming Mode. Follow the procedure meticulously :

1. Disconnect the power supply.
2. Switch the DAP jumper from OFF to ON.
3. Reconnect the power supply (buzzer is activated).
4. Switch the DAP jumper back to the OFF position (buzzer will be deactivated).
5. The keypad is in Programming Mode and ready to receive new data.
6. Enter the new data using section (B) of "Programming the keypad – Summary".

PROGRAMMING THE KEYPAD -- SUMMARY

A) Use the manufacturer's Master Code for the initial programming

Entered Code	Validation	Comment
0000	*	Initiate Programming Mode by entering the manufacturer's Master Code

B) User installs Personal Master Code & User Codes

Access Keys	Entered Code	Validation	Comment
0	From 1 to 8 digits	#	Personal Master Code & Super User Code
1	From 1 to 8 digits	#	User Code 1 & Duress Code (For door actuator or alarm ON/OFF)
2	From 1 to 8 digits	#	User Code 2 (For alarm ON/OFF or reporting of intrusion)

C) Relay Output Configuration – Programming by installer

Access Keys	Code Duration	Validation	Comment
4 0	From 1 to 999	#	Output 1 in Momentary Mode from 1 to 999 seconds
4 1		#	Output 1 in Start/Stop Mode without Accelerated Code
4 2		#	Output 1 in Start/Stop Mode with Accelerated Code
5 0	From 1 to 999	#	Output 2 in Momentary Mode from 1 to 999 seconds
5 1		#	Output 2 in Start/Stop Mode without Accelerated Code
5 2		#	Output 2 in Start/Stop Mode with Accelerated Code

D) System Protection – Programming by installer

Access Keys	Validation	Comment
7 0	#	After 10 successive incorrect codes, the keypad will lock for 30 seconds
7 1	#	After 10 successive incorrect codes, the Duress Output switches to ground
7 2	#	Disconnects 7 0 and 7 1

E) Exit Programming Mode

Validation	Comment
*	The keypad exits the Programming Mode and resumes normal operation.

PROGRAMMING THE KEYPAD -- EXAMPLE

1) **REQUIREMENTS** – Use the following procedure :
a) Change the manufacturer's Master Code 0000 to a Personal Master Code 3289.
b) Install User Code 1 e.g. 8321.
c) Install User Code 2 e.g. 6854.
d) Set Relay Output 1 in Momentary Mode, duration 5 seconds.
e) Set Relay Output 2 in Start/Stop Mode without Accelerated Code.
f) Programme the keypad to lock for 30 seconds after 10 successive incorrect codes.

2) **PROGRAMMING** – Enter the required data into the keypad :

0 0 0 0 *	Initiate Programming Mode using the manufacturer's Master Code.
0 3 2 8 9 #	3289 is now stored as the new Personal Master Code & Super User Code.
1 8 3 2 1 #	8321 is now stored as User Code 1 & Duress Code.
2 6 8 5 4 #	6854 is stored as User Code 2.
4 0 5 #	Relay Output 1 is set in Momentary Mode, duration 5 seconds.
5 1 #	Relay Output is set in Start/Stop Mode without Accelerated Code.
7 0 #	The keypad will lock for 30 sec. after 10 successive incorrect codes.
*	Programming is finished & all required data have been stored.

NOTE : Cancel wrong entries during programming with the # key or wait 10 seconds before re-entering.

MANUFACTURER-PROGRAMMED DATA

In order to facilitate the initial programming, the **HAA98** is delivered with the Master Code set at 0000. The owner is advised to programme the keypad with unique codes and data before use.

IMPORTANT

For safety reasons, the owner should enter a Personal Master Code to invalidate the code provided by the manufacturer.

USING THE KEYPAD – BASED ON THE PREVIOUS EXAMPLE

1) To command Relay Output 1 : enter User Code 1 and validate it through the # key.

8	3	2	1	#	Relay Output 1 is activated for 5 seconds.

2) To command Relay Output 2 : enter User Code 2 and validate it through the # key.

6	8	5	4	#	Relay Output 2 is activated.

3) The Personal Master Code is also the **SUPER USER CODE** for Outputs 1 and 2. It enables the owner to operate the two outputs using **ONE SINGLE CODE**. To command outputs 1 and 2 : enter the Personal Master Code, validate it with the # key **AND** enter the number of the corresponding output.

3	2	8	9	#	1	Relay Output 1 is activated for 5 seconds.
3	2	8	9	#	2	Relay Output 2 is activated.

4) The **DURESS CODE** does not need to be installed. The keypad determines it automatically by increasing the first digit of **USER CODE 1** by **TWO** units.
e.g. If User Code 1 is 1234, then the keypad will determine the Duress Code as 3234.
In the example above, User Code 1 is 8321. Consequently, the Duress Code will be 0321.

To command the **DURESS OUTPUT** : enter the Duress Code & validate it through the # key.

0	3	2	1	#	Duress Output is activated and Relay Output 1 is activated for 5 sec.

The Duress Code has a double function : it simultaneously controls Relay Output 1 and User Code 1 and also activates the Duress Output. The Duress Code can always (de)activate Relay Output 1, but cannot deactivate the Duress Output, which can **ONLY** be deactivated by entering User Code 1.

5) Enter a number of codes consisting of 1 to 8 random digits to test your keypad. The keypad generates 5 beeps for each unsuccessful code once the # key is pressed. The keypad will lock for 30 seconds once 10 successive erroneous codes have been entered. Normal operation will resume after the 30-second interval.

RE-PROGRAMMING THE KEYPAD FOR OTHER OPERATION MODES

6) To access the Programming Mode : enter your Personal Master Code and validate it through the * key.

3	2	8	9	*	The keypad is in Programming Mode & ready to receive new data.

7) Set Relay Output 1 in Start/Stop Mode with Accelerated Code.

4	2	#	Relay Output 1 has switched from Momentary Mode to Start/Stop Mode with Accelerated Code.

8) Programme the keypad to activate the **DURESS OUTPUT** after 10 successive incorrect codes.

7	1	#	The keypad has switched from 30-second lock to activated Duress Output.

9) To leave Programming Mode, press *.

*	The keypad has switched back to normal operation mode and all the re-programmed data have been stored.

USING THE KEYPAD WITH THE RE-PROGRAMMED DATA

10) Relay Output 1 has been installed in Start/Stop Mode with Accelerated Code. Output 1 can be activated using **ONLY** the first two digits of User Code 1. Deactivation of the output always requires the complete code.
e.g. Complete User Code 1 : 8321 Accelerated Code : 83

8	3	#	Relay Output 1 is activated.
8	3	2	1	#	Relay Output 1 is deactivated.

11) Enter some codes consisting of 1 to 8 random digits as a **SAFETY TEST**. The keypad will activate the **DURESS OUTPUT** once 10 successive erroneous codes have been entered. The Duress Output is deactivated (reset) by entering User Code 1 and by validating it through the # key.

SPECIFICATIONS

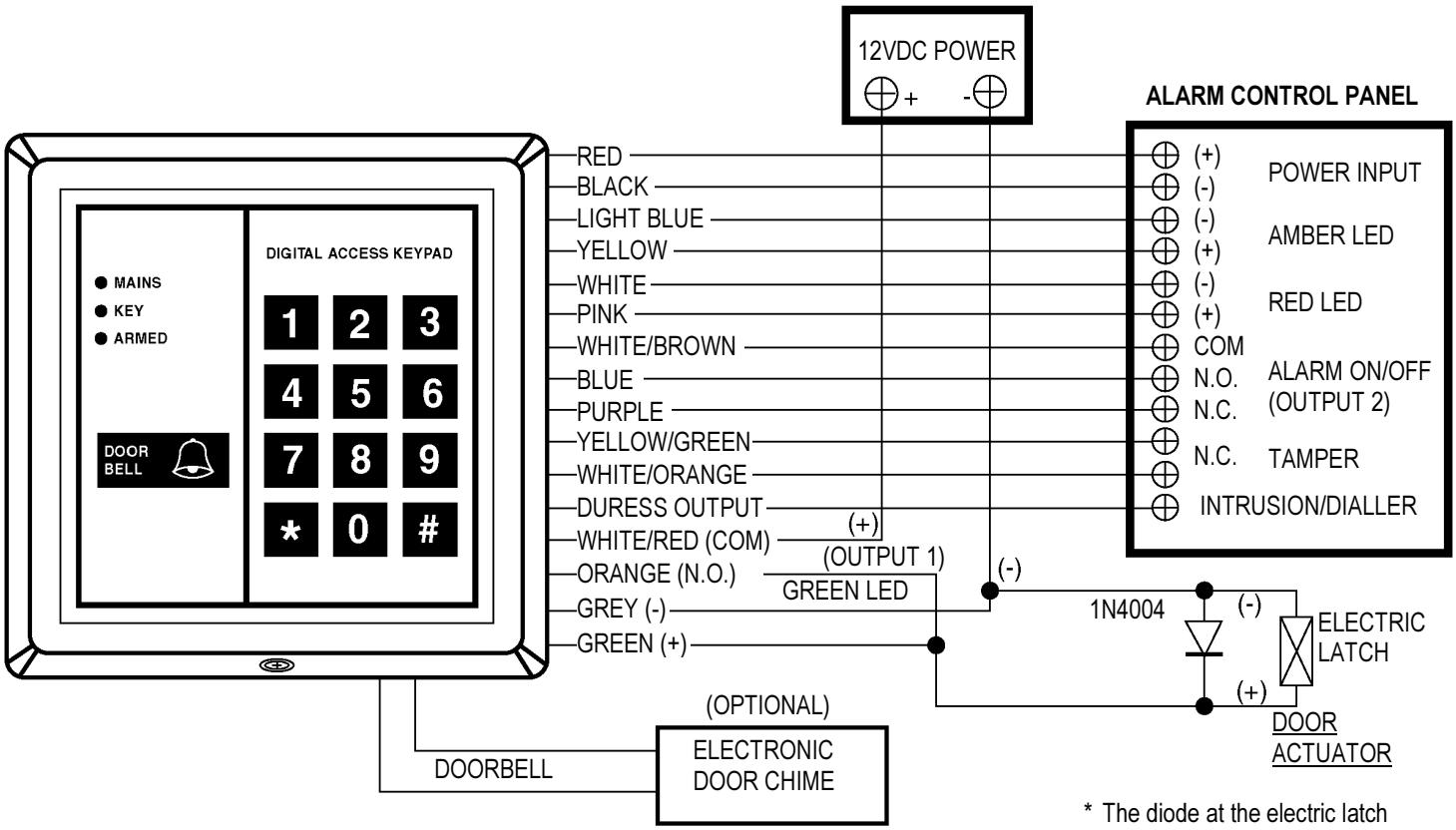
- Operation Voltage : 12V AC/DC (10-14V AC/DC)
- Current Drain : 10-100mA
- Duress Output : NPN transistor with open collector that switches to ground (-) when activated, 100mA / 24V DC max.
- Available Codes : User 1 & 2, Super User, Master, Duress and Accelerated Codes
- Code Combinations : 111111100
- Relay Outputs : Output 1 -- 5 Amp, Output 2 -- 1 Amp, N.C. & N.O. dry contacts, 24VDC max.
- Dimensions : 117 x 21 x 117mm
- Weight : 180g

The specifications are subject to modification without prior notice.

TYPICAL APPLICATION

- OUTPUT 1 -- DOOR ACTUATOR
- OUTPUT 2 -- ALARM CONTROL
- DURESS OUTPUT -- DIALLER / INTRUSION

STATUS INDICATIONS
AMBER / RED LED -- ALARM
GREEN LED -- DOOR OPEN



* The diode at the electric latch is superfluous in case of an AC power supply.