HAA85WP - MULTI-PURPOSE SECURITY KEYPAD

1. Introduction

To all residents of the European Union
Important environmental information about this product

This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment.
Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialised company for recycling.
This device should be returned to your distributor or to a local recycling service.
Respect the local environmental rules.
If in doubt, contact your local waste disposal authorities.

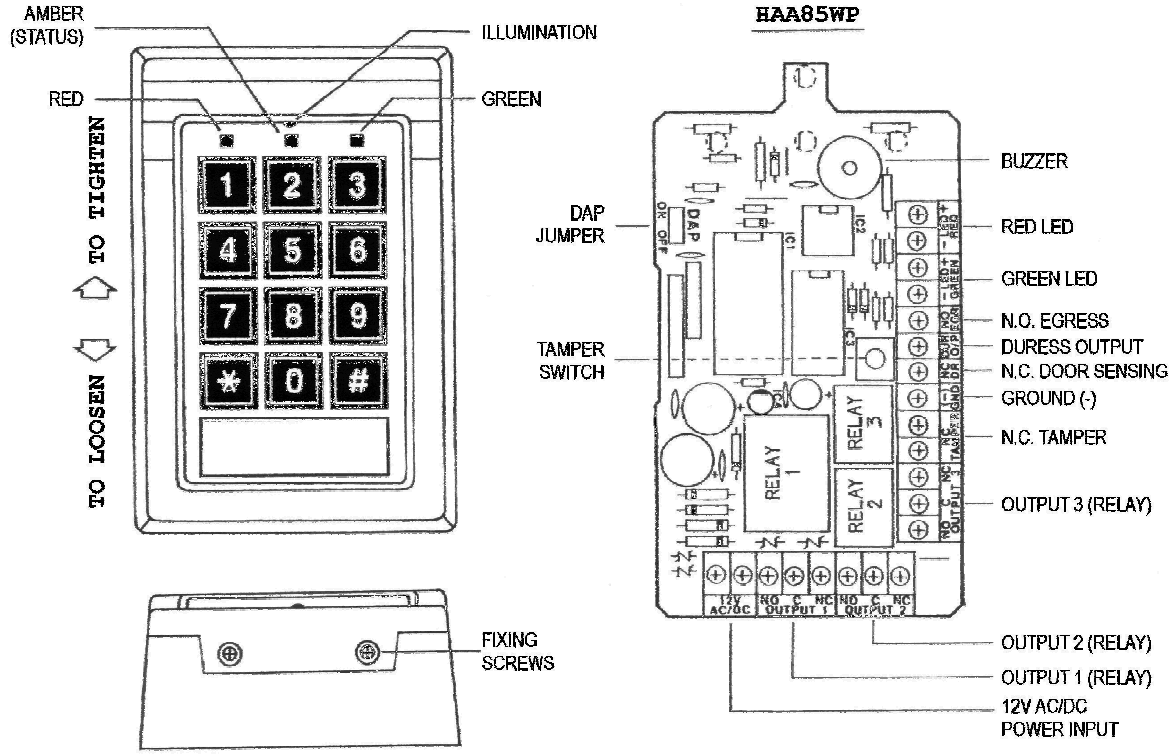
Thank you for buying the **HAA85WP**! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, don't install or use it and contact your dealer.

HAA85WP digital access keypad is a self-contained, three-output system, designed for door strike and security control applications. It employs EEPROM, the system's programmed data is non-volatile in case of power failure. Over 100 million combinations are possible for the three independent user codes (code 1, code 2 & code 3) and the master code (it also acts as the super user code). The user code 1 can be altered to act as a duress code for reporting duress to an alarm system or to a telephone dialler. Other security features include door sensing for door auto re-lock function and a built-in tamper switch. For convenience, the keypad also provides the facility for connecting an egress button inside the protected area for easy exit. The plastic case of the keypad unit is precisely engineered, in which, the front panel and the mounting box is sealed with a water resistant gasket making the keypad suitable for both in-door and out-door installations.

Outputs of the **HAA85WP**:

OUTPUT 1	OUTPUT 2	OUTPUT 3
5 Amp relay	1 Amp relay	1 Amp relay

2. Connection Terminals



* 12V AC/DC: Power supply input, 12V AC or DC is possible, no polarity discrimination for the terminals.

* OUTPUT 1: 5 Amp dry relay contacts, with Normally Open (N.O.) and Normally Closed (N.C.) terminals. This relay is primarily prepared for door strike application or for alarm ON-OFF control. Use the N.O. contact for door strike connection. If for alarm ON-OFF control, connect the appropriate pair of these terminals (N.C. or N.O.) to the remote ARM/DISARM terminals on your alarm system; consult the manual for your system. N.O. or N.C. loop is possible. Relay contact is programmable for momentary or start/stop operation.

* OUTPUT 2: Output 2 is prepared for alarm ON-OFF control or for reporting panic event to an alarm system or to a telephone dialler. The output is programmable for momentary or start/stop operation. 1 Amp dry relay contacts, with Normally Open (N.O.) and Normally Closed (N.C.) terminals.

* OUTPUT 3: Output 3 has identical function as output 2. It is recommended for alarm ON-OFF control or for the auxiliary functional control in your system. 1 Amp dry relay contacts, with Normally Open (N.O.) and Normally Closed (N.C.) terminals.

* TAMPER N.C.: Tamper switch Normally Close contact. It is open when the keypad is separated from the mounting box.

* GROUND (-): The grounding point of the keypad.

* DOOR N.C.: This terminal is prepared for connecting a Normally Closed optional door sensing switch to the door which is controlled by output 1, for initiating the auto re-lock function.
With the help of the door sensing switch, the keypad releases the door latch immediately to re-lock the door automatically after the door is re-closed even the pre-set operation time is not expired in momentary mode ; or you do not require to enter Code 1 again to re-lock the door when the keypad is in Start/Stop mode.
In normal operation without the door sensing switch, an opened door is re-locked after time-out in momentary mode; or by entering Code 1 again in Start/Stop mode.
NOTE: If the door sensing switch is not used, connect the terminal to Ground (-).

* DURESS OUTPUT: NPN transistor Open Collector output, switch of the (-) supply when the Duress Code is entered. Use this output to trigger remote alarm, dialler, indicator, etc., in case of duress. Transistor rating -- Ic max.: 150mA. Vce max.: 12VDC

* EGRESS N.O.: A Normally Open (N.O.) input terminal refers to (-) ground with the help of a normally open button to activate the Relay Output 1. Egress button is usually put inside the house near the door. Leave this terminal open if it is not used.

* GREEN & RED LEDS: Two 12 de-energised LED lamps are available for free connections, to indicate alarm or door operation status. They are built-in with 1.5k Ohm current limiting resistors.

3. Pacifier Tones & LED Indicating Signals

The built-in buzzer and the amber LED indicator give the following tones and signals for operation status:

STATUS	TONES	LED SIGNALS
1. In programming mode	---	ON
2. Successful key entry	1 Beep	1 Flash
3. Successful code entry	2 Beeps	2 Flashes
4. Unsuccessful code entry	5 Beeps	5 Flashes
5. DAP jumper not replaced	Continuous beep	Continuous Flashes
6. In standby mode	---	1 Flash in 2 seconds interval

4. DAP Jumper (Direct Access to Programming)

If the Personal Master Code is forgotten, use the DAP jumper to override the forgotten code permitting direct entry into programming mode. You are required to apply the following procedure precisely:

1. Disconnect power supply
2. Displace the DAP jumper from OFF to ON position.
3. Reconnect power supply (buzzer is activated).
4. Put the DAP jumper back to OFF position (this done, the buzzer is de-activated).
5. The Keypad is in programming mode and ready to receive your new programming data.
6. Enter the new programming data starting from Section **(B)** in the summary chart shown below.

5. Programming the Keypad – Summary Chart

A) Use the factory set Master Code entry in programming -- When starting for first time only

Entry of Code	Validation	Comments
0000	*	Enter in programming mode by factory set master code

B) Programming -- Recording of personal master code & user codes -- User programming

Access Keys	Entry of Codes	Validation	Comments
0	From 1 to 8 Digits	#	Personal Master Code & Super User Code
1	From 1 to 8 Digits	#	User Code 1 & Duress Code (Suggest for door strike)
2	From 1 to 8 Digits	#	User Code 2 (Suggest for alarm control)
3	From 1 to 8 Digits	#	User Code 3 (Suggest for alarm or auxiliary control)

C) Programming -- Configuration of relay outputs -- Installer programming

Access Keys	Code Duration (Seconds)	Validation	Comments
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.
6 0	From 1 to 999	#	Output 3 in MOMENTARY mode from 1 to 999 seconds
6 1	/	#	Output 3 in START/STOP mode without accelerated code.
6 2	/	#	Output 3 in START/ STOP mode with accelerated code.

(*) Auto re-lock is possible, see "DOOR N.C." for details.

D) Programming -- Safety -- Installer Programming

Access Keys	Validation	Comments
7 0	#	After 10 successive false codes, the keypad locks during 30 seconds.
7 1	#	After 10 successive false codes, the DURESS output is switching to ground.
7 2	#	Disappearance of the 2 above securities.

E) Leave programming mode

Validation	Comments
*	The keypad leaves programming mode, and is in OPERATION mode, ready for daily use.

6. Keyboard Illumination LED

The keyboard illumination LED lights up for 10 seconds when a key button is pressed, which indicates the duration of the allowable time for each digit of continuous code entry. The digit of code entry is invalid beyond the allowable time when the LED lamp is off.

7. Factory Set Data

For the owner's convenience in programming at the first time, the factory has put a MASTER CODE 0000 into the keypad. Except that code, no other useful code or data has been put into the keypad. The owner has to put his own UNIQUE CODES and DATA into the keypad before use.

8. Important Note to Owner

To compromise security, in all cases, the owner should program a PERSONAL MASTER CODE for his keypad in order to invalidate the factory set 0000 Master Code.

9. Programming the Keypad - Example

1) **REQUIREMENT** -- The following data are required to be stored:
   a) Change the factory set Master Code 0000 to a Personal Master Code 3289
   b) Set User Code 1 in 8321
   c) Set User Code 2 in 6854
   d) Set User Code 3 in 9270
   e) Set Output 1 in Momentary Mode, 5 seconds
   f) Set Output 2 in Start/Stop Mode without accelerated code
   g) Set Output 3 in Start/Stop Mode with accelerated code
   h) Set the keypad to lock itself during 30 seconds after 10 successive false codes

2) **PROGRAMMING** -- Put the required data above into the keypad

0 0 0 0 *	Enter in programming mode by the Factory Set Master Code.
0 3 2 8 9 #	3289 has been stored as the new Personal Master code & Super User code.
1 8 3 2 1 #	8321 has been stored as User Code 1 & Duress Code.
2 6 8 5 4 #	6854 has been stored as User Code 2.
3 9 2 7 0 #	9270 has been stored as User Code 3.
4 0 5 #	Relay output 1 has been set in Momentary Mode, 5 seconds
5 1 #	Relay output 2 has been set in Start/stop Mode without accelerated code.
6 2 #	Relay output 3 has been set in Start/stop Mode with accelerated code.
7 0 #	Keypad has been set to lock during 30 seconds after 10 successive false codes.
*	Programming is finished. All the data above have been stored and ready for use.

Note: In case of wrong entry during programming, cancel it with key #, or wait 10 seconds, then re-enter.

10. Use the Keypad – Taking the Stored Data Above as Reference

1) To command the outputs 1, 2 & 3, enter the corresponding codes into the keypad and validate via #.

8	3	2	1	#	Relay output 1 activates for 5 seconds
6	8	5	4	#	Output 2 starts (or stops)
9	2	7	0	#	Output 3 starts (or stops)

2) The Personal Master Code is also the **SUPER USER CODE** for output 1, 2 and 3. It allows the owner to use **ONLY ONE** code to operate the 3 outputs. To command outputs 1, 2 & 3, enter the Personal Master Code into the keypad and validate via # **PLUS** and the corresponding output numbers.

3	2	8	9	#	1	Output 1 activates for 5 seconds.
3	2	8	9	#	2	Output 2 starts.
3	2	8	9	#	3	Output 3 starts.

3) The **DURESS CODE** does not need to be programmed. The keypad determines it automatically by increasing the first digit of the User Code 1 by **TWO** units.

e.g. If we have the User Code 1 is 1234, then the keypad will determine the Duress Code as 3234.
In the above programming example, we have made User Code 1 as 8321, the Duress Code has been determined as 0321 automatically by the keypad.
To command the **DURESS OUTPUT**, enter the Duress Code by increasing the first digit of Code 1 of **TWO** units and validate via #.

0	3	2	1	#	Duress output activates, and relay output 1 activates for 5 seconds.

The Duress Code has a double action. It controls the Relay Output 1 at the same time as the User Code 1 and activates the Duress Output. The Duress Code can always activate and deactivate the Relay Output 1, but can not deactivate the Duress Output. **ONLY** the composition of the User Code 1 can deactivate (reset) the Duress Output.

4) To command the outputs using **ACCELERATED CODE**, if the one output from 1 to 3, has been programmed in Start/Stop with the Accelerated Code, it is possible to activate with only the **FIRST TWO** digits, from Code 1 to Code 3, of the corresponding code. Deactivating of this output always requires the composition of the Complete Code.
In this example, the Output 3 has been programmed in Start/Stop Mode with Accelerated Code.
The Complete Code 3 : 9270 The Accelerated Code: 92

9	2			#	Output 3 starts
9	2	7	0	#	Output 3 stops

5) Try to put 1 to 8 digit random false codes to the keypad to test its safety. The keypad generates 5 beeps for each unsuccessful code entry after the # button is pressed. The keypad locks during 30 seconds after 10 successive false codes are entered. Normal operation will be resumed after the 30 seconds are expired.

NOTE: The maximum allowable time for SUCCESSIVE DIGIT and CODE entry are 10 seconds and 30 seconds respectively. The keypad refreshes itself automatically after 30 seconds of silence even some false codes were entered.

11. Reprogram the Keypad for other Operation Modes

6) To access to **PROGRAMMING MODE**, enter your Personal Master Code and validate via *.

3	2	8	9	*

The keypad is in Programming Mode & ready to receive new data.

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

4	1	#

Output 1 has been changed from Momentary to Start/Stop with Accelerated code.

8) Set keypad to activate **DURESS OUTPUT** after 10 successive false codes.

7	1	#

The keypad has been changed from locks 30 seconds to activates Duress Output

9) Re-program is finish. To leave programming mode, validate via *.

*

The keypad is back to operation mode.
The re-programmed data have been stored.

12. Use the Keypad with the Reprogrammed Data

10) To command Relay Output 1, enter the User Code 1 and validate via #.

8	3	2	1	#

Relay output 1 starts

In Start/Stop operation mode, it is necessary to enter Code 1 again to **STOP** Output 1. If Output 1 is for door strike application, it is suggested to work with a door sensing switch to initiate the auto re-lock (STOP) function, in which, enter code 1 for re-locking is not necessary.

11) Try to put 1 to 8 digits false codes to the keypad to test its safety. The keypad will activate the **DURESS OUTPUT** after 10 successive false codes are entered. To reset (deactivate) the Duress Output, you are required to enter the composition of the User Code 1 and validate via #.

12) In case of wrong data entry in operation, press # to cancel, then re-try; or wait 10 seconds, then re-try.

13. Specifications

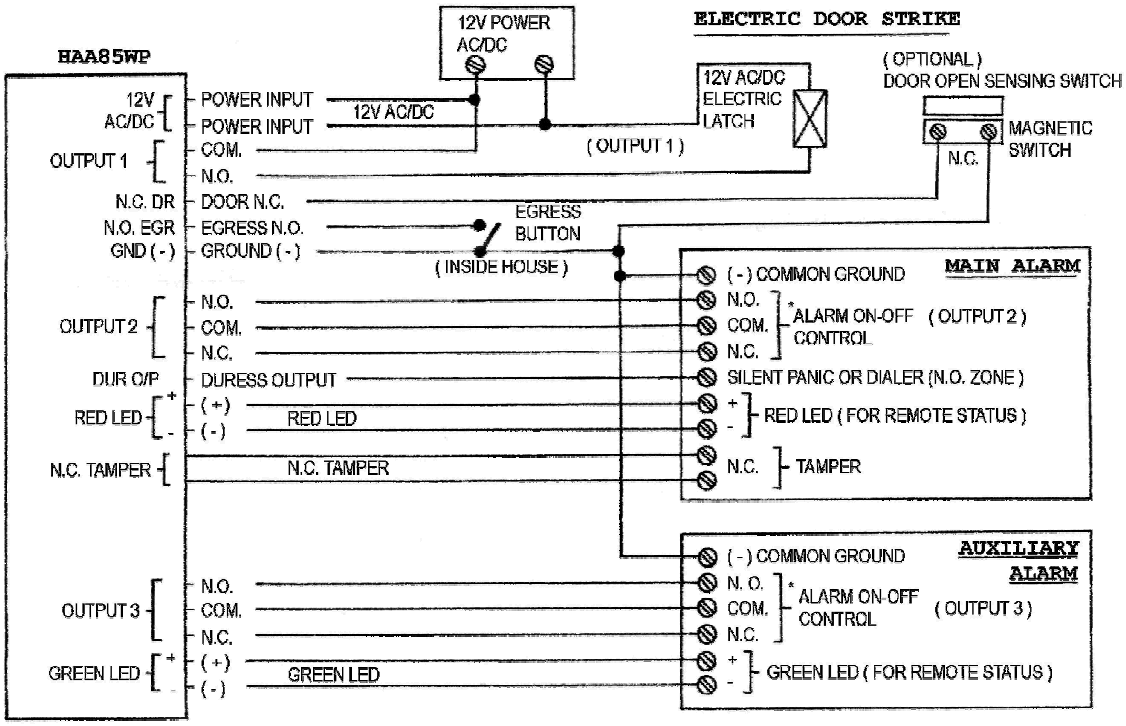
* Operation Voltage	:	12V DC (10-14VDC)
* Current Drain	:	15 - 150mA
* Operation Codes	:	User Code 1, 2 & 3, Super User Code, Master Code, Duress Code, & Accelerated Code
* Code Combinations	:	111111100
* Relay Outputs	:	Output 1 -- 5 Amp, Other outputs -- 1 Amp

* Duress Output : 150mA sink / 12V DC Open Collector switch to ground
* Digit Entry Time : 10 Seconds, auto refresh
* Code Entry Time : 30 Seconds, auto refresh
* Dimensions : 129 (H) mm x 84 (W) x 41 (D) mm
* Weight : 220g net

Specifications are subject to change for modification without notice.

14.Typical Application

* OUTPUT 1 ---------- DOOR STRIKE
* OUTPUT 2 ---------- MAIN ALARM CONTROL
* OUTPUT 3 ---------- AUXILIARY ALARM CONTROL



* Please consult your alarm control panel manual for the selection of N.C. or N.O. for alarm ON-OFF control.

15.Appendix

1. DRY CONTACT -------- A dry contact means no electricity was connected to it. It is prepared for free connections. Usually the relay contacts provided in a keypad are dry contacts.

2. N.C. ---------- Normally Closed, the contact is closed circuit at normal status. It is open circuit when activated.

3. N.O. ---------- Normally Open, the contact is open circuit at normal status. It is closed circuit when activated.

4. TRANSISTOR OPEN COLLECTOR OUTPUT --- An open collector output is equivalent to a Normally Open (N.O.) contact referring to ground similar to a relay contact referring to ground. The transistor is normally OFF, and its output is switched to ground (-) when activated. The open collector can only provide switching function for small power but it is usually good enough for controlling an alarm system.
The Duress Output is Open Collector Output.

The information in this manual is subject to change without prior notice.