





# **Table of Contents**

Important Note	3
Features and Benefits	3
Ordering Details	4
Installation	6
Installation	7
Wiring Connections – non illuminated versions	8
Wiring Connections – illuminated version	8
Operation and Basic ProgrammingIntroduction and Factory Default Settings	
Summary of FeaturesCode Entry Mode	
Programming Mode Programming : Change or Reset the Engineers Code Programming : Adding and Removing User Codes Programming : Change the Door Strike Time Programming : Set the Penalty Time for Invalid Code Connecting a Exit Switch	11 12 14 15
Other Features (available only if 2 relays are fitted)  Connect an External Alarm  Control a Second Door  Other Features (available only if 2 relays are fitted)  Enable Door Monitoring (Door 1 only)  Activating the 'Operator Under Duress' Alarm	16 16 17 17
F.A.Q's  1/ The door is locked when it should be open and open when it should be locked	
Programming Chart	22
Programming – Quick Reference	23



When you install this product you should always: -

Change the Engineer's Code (do not leave it set as factory default)

Make a note of the new Engineer's Code and also note the Engineer Reset Code

These should be stored in a secure location with access restricted to a limited number of authorising system managers.

Cabling: it is not permitted to connect cables greater than 98.5 ft (30 m) long



#### **Features and Benefits**

A range of access control keypads providing rapid and reliable access control in high-traffic applications.

Constructed to withstand hard use and abuse, the keypads can be fitted in exposed, unsupervised locations.

Up to 50 different 4, 5 or 6 digit pin codes can be programmed and each code can be set to trigger an electric lock or strike for a pre-set time.

One or two door control

Illuminated Version available

Weather resistant for outdoor use

Operational life of >4 million cycles/key

Indexing permits secure allocation and re-allocation of pin codes

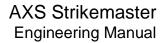
Forced door, anti-tamper and duress alarms

Timed lockout for repeated invalid code input

LED and audible tone status indicators

Rear Case for surface mount included

Optional Privacy Shield available to order





# **Ordering Details**

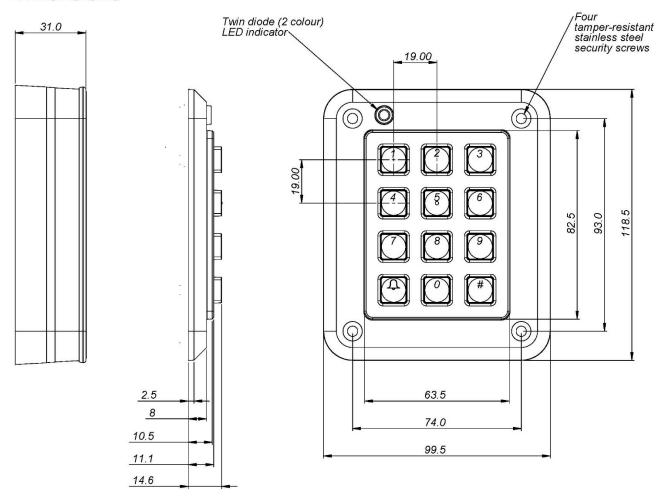
1KFS020

PRIVACY SHIELD

Ordering Deta	alls	Product	Casa	Kovton	Pating
DE1KT10	STORM AXS STRIKE MASTER ANTI-VANDAL KEYPAD	Product Controls Two Relays	<u>Case</u> <u>Material</u> Metal Case	Keytop Material Metal Keytops	Rating  11 – 28V DC or 9-20V AC  300mA max (at 12V DC)  Relay rating
DE2KT10	STORM AXS STRIKE MASTER ROBUST KEYPAD	Two Relays	Polymer Case	Polymer Keytops – White	2A continous  11 – 28V DC or 9-20V AC  300mA max (at 12V DC)  Relay rating 2A continous
DEPLXT20	PLX STRIKEMASTER STORM 1000 SERIES	Two Relays	Polymer Case	Metal Keytops	11 – 28V DC or 9-20V AC 300mA max (at 12V DC) Relay rating 2A continous
DR2KW0	AXS DR2i ILI.UMINATED SINGLE DOOR KEYPAD	One Relay No Alarm Or Door Sensor	Polymer Case	Illuminated Keytops	12V DC only 300mA max (at 12V DC) Relay rating 2A continous
DR2KT20	AXS DR2 ROBUST SINGLE DOOR KEYPAD	One Relay No Alarm Or Door Sensor	Polymer case	Polymer Keytops - Black	11 – 28V DC or 9-20V AC 300mA max (at 12V DC) Relay rating 2A continous
RC12020	REAR CASE (spare)		Polymer Case – includes seal and grommet		



# **Dimensions**





# Installation

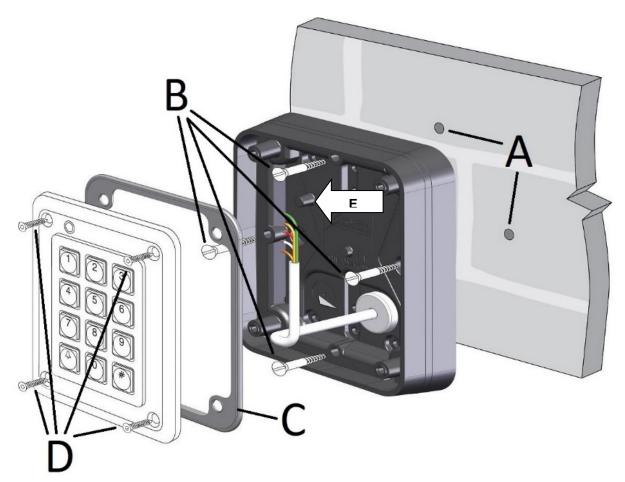
Fixing Instructions - DE1K, DE2K and DEPLX (Please read carefully before attempting installation.)

#### Fit Rear Case to wall

- 1. Select a suitable location with a sound flat surface. Using the case as a template, mark the position of the four fixing holes (A) on the surface.
- 2. Drill and plug the fixing holes to suit fixing screws (B) as supplied.
- 3. Observe that the tamper switch is actuated by the post (E) on the rear case
- 4. Run the cable through the grommet.
- 5. Secure the case to the wall.

#### Fit Keypad

- 6. Fit the seal (C) to the case and make the electrical connections to the connector block,
- 7. Fix the keypad to the rear case using the security screws (D) as supplied
- 8. Check the installation to ensure the seal (C) is in place and compressed evenly around the perimeter of the case.





# Installation

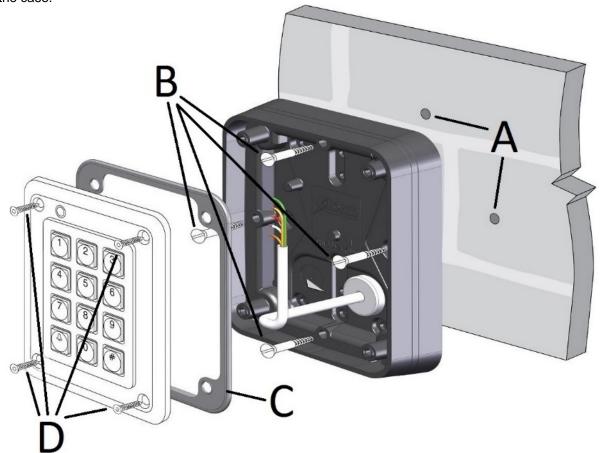
Fixing Instructions - DR2 and DR2i (Please read carefully before attempting installation.)

Fit Rear Case to wall

- 1. Select a suitable location with a sound flat surface. Using the case as a template, mark the position of the four fixing holes (A) on the surface.
- 2. Drill and plug the fixing holes to suit fixing screws (B) as supplied.
- 3. Run the cable through the grommet.
- 4. Secure the case to the wall.

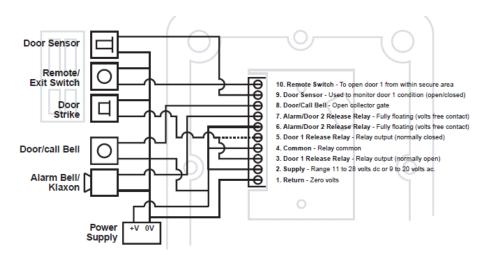
#### Fit Keypad

- 5. Fit the seal (C) to the case and make the electrical connections to the connector block,
- 6. Fix the keypad to the rear case using the security screws (D) as supplied
- 7. Check the installation to ensure the seal (C) is in place and compressed evenly around the perimeter of the case.





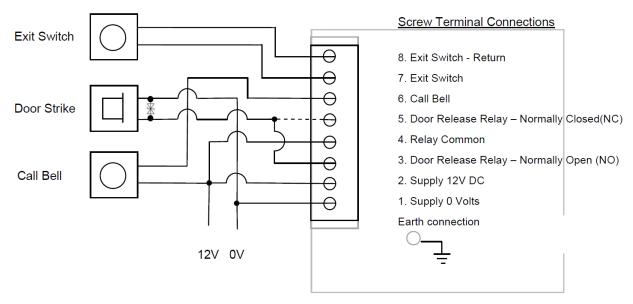
# Wiring Connections – non illuminated versions



Note: When making connection to the door strike, select 'relay normally open' or 'relay normally closed' to suit the intended application and locking mechanism.

Note: To achieve maximum protection against EMC, RFI, or damage from Electrostatic Discharge it is recommended that the keypad casing is earthed with a separate earth wire via the screw terminal attached to the metal shield on the rear face of the keypad. This terminal is identified by a = symbol. It is recommended that a regulated, fully isolated power supply is used to power the StrikeMaster keypad.

# Wiring Connections – illuminated version





# **Operation and Basic Programming**

Read this manual carefully before attempting to install, program or operate the STORM AXS Strike Master Keypad. After installation the Command Summary Chart at the back of this manual can be used as a quick reference to programming and operating command sequences.

#### **Introduction and Factory Default Settings**

Storm AXS Strike Master Keypads provide comprehensive access control for all outdoor and indoor locations. Door / system status is indicated by a high intensity LED light source and an audible sounder. Storm AXS Strike Master Keypads are specified to survive in different service environments, ranging from exposed unsupervised public locations to general service indoor applications. Keypads in the Storm AXS Strike Master range are dimensionally and electrically interchangeable. This allows users, entering codes at both outdoor or indoor access points, to establish and maintain familiarity with the keypad features.

#### **Summary of Features**

- Up to 50 user programmable entry codes
- Entry Code indexing system provides a directory of authorised code holders and permits secure allocation and re-allocation of entry codes
- 4, 5, or 6 digit entry codes
- One or two door control
- Anti-tamper alarm
- Entry code entered under duress alarm
- Hidden entry code feature
- Forced door alarm

- Timed strike or latching door operation
- Timed lock out for repeated invalid code input
- · Remote exit switch facility
- Fail (open) Fail (closed) option
- All weather resistant
- Two protection levels
  - anti vandal keypad for unsupervised public, outdoor locations
- robust keypad for

regular outdoor / indoor locations

The STORM AXS Strike Master Keypad is supplied with the following factory configured defaults

#### FEATURE FACTORY SET DEFAULT

'Engineer's' code 111111 (For security, change default engineer's code on installation)

Door 1 'Strike Time' 5 seconds (always resets to 5 sec on power up)
Door 2 'Strike Time' 5 seconds (always resets to 5 sec on power up)

Invalid code Penalty time 15 seconds

Relay 2 output Set in 'Alarms Mode'

Relay 2 Configuration Relay Output set 'normally open'

Door Sensor Bridged. Remove wire bridge to enable this feature



# Code Entry Mode

During everyday operation the keypad will be in code entry mode or 'logged off'. This is also the mode that the keypad is in when it is first powered up. When the keypad is in code entry mode the LED will light red to signify that the keypad is waiting for either an entry code or the engineer's code to be entered.

When entering a code, spurious digits may be entered before and after the valid code to help disguise it from onlookers or other surveilance (maximum 20 characters to be entered at any one time).

[Care should be taken not to activate the Operator Under Duress alarm by prefixing a valid entry code with the numbers 9 or 1. [see Activating the Operator Under Duress Alarm].

Entry codes should not begin with the numbers 9 or 1 as this can also lead to non intentional triggering of the Operator Under Duress Alarm. [see Adding and Removing Codes].

When a valid entry code has been entered the door strike will release for the period of the strike time [see Setting the Door Strike Time] or latch open, depending on what type of code was entered [see section Adding and Removing Codes].

The LED will light green to signify that the door lock is in a released (or open) condition.

# **Programming Mode**

To enter programming mode it is required that the operator 'logs on' by entering the engineer's code.

When logging on, the engineer's code must be preceded by the # key. If the code is correct the LED will start flashing (red and green alternately) to signify that the operator has logged on and that the keypad is in programming mode ready to accept commands.

Once in programming mode the operator can set up the keypad. After each segment of a command sequence is entered the keypad will give a rising tone beep to indicate that it has accepted the data and is ready for the next segment of the command. If at any stage the keypad gives an error beep (decreasing pitch) then the data entered is invalid. The keypad will remain in programming mode but you must re-enter the whole of the command sequence within which the error beep occurred.

For security reasons it is essential that the default engineer's code is replaced with your own six digit code. Please ensure a record of the code is kept in a secure place.

The Strikemaster Keypad has a buzzer and LED to provide feedback to the user. On illuminated versions the LED is under the bottom right hand key on the keypad. These meanings are used throughout:-

Buzzer: Single Beep Occurs on each key press

Accept Beep Input data has been accepted (1)) rising tone

Error Beep Input data has not been accepted (decreasing tone)

LED Green Unlocked

Red Keypad is in Code Entry Mode, door is locked, active

Flashing Keypad is in Programming Mode

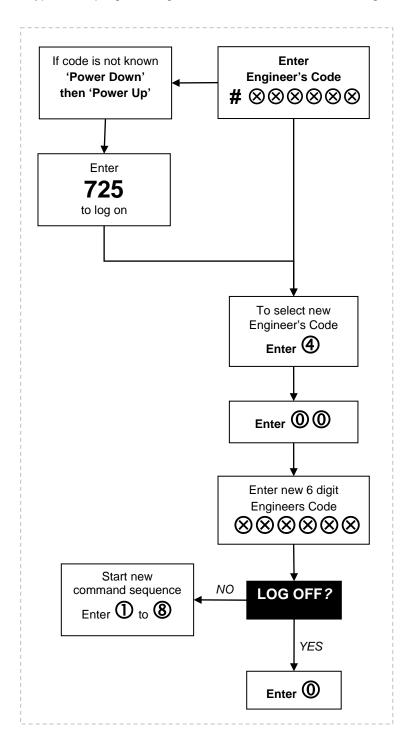
Not illuminated Keypad is powered down, inactive.



# **Programming: Change or Reset the Engineers Code**

If the Engineers Code is known then log on to enter Programming Mode, and enter 4 to select a new code.

Alternatively, if the engineer's code is not known, power down the keypad for a period of not less than three seconds. Power up the keypad and within a two minute period enter the Engineer reset code. Do not enter any other digits before entering this code. The keypad's LED will then begin flashing to indicate that the keypad is in programming mode. Enter 4 to select a new engineer's code;





# **Programming: Adding and Removing User Codes**

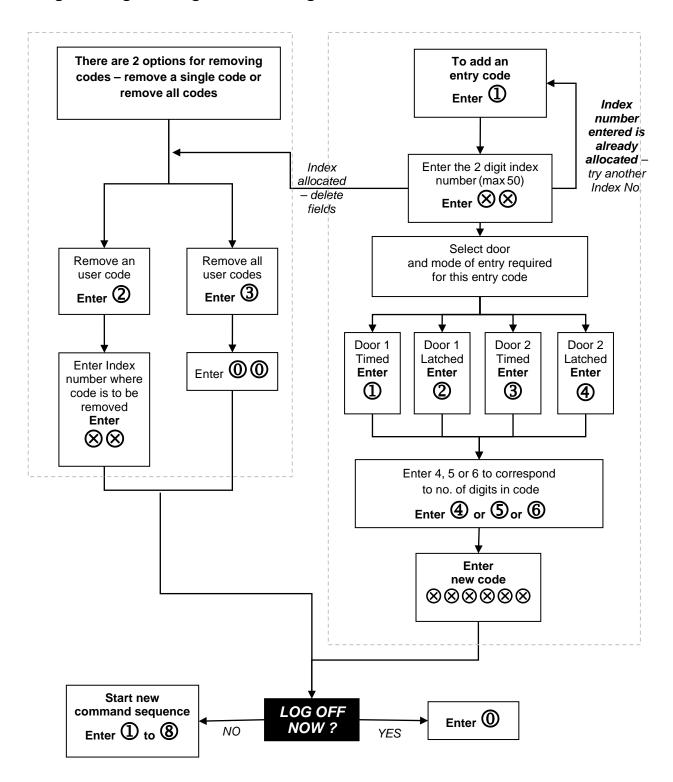
To add or remove entry codes: log on to enter Programming Mode, then follow the appropriate command sequence detailed on the following page.

- a). Entry Codes should not start with numbers 9 or 1.
- b). Each entry code recognised by the keypad is stored under a two digit reference known as the Code Index Number. The code index number allows an authorised holder of the engineer's code to remove entry codes by keying in the code index number without having knowledge of the actual entry code. It also means that a written record of valid code holders can be kept without recording the actual entry codes
- c). Prior to operation of a second door, relay 2 must be set for door control see Controlling a Second Door

Code	Users Name	Door	Latched	Code	Users Name	Door	Latched
Index Number		1 or 2	or Timed	Index Number		1 or 2	or Timed
00			Tillieu	25			Tillieu
01				26			
02				27			
03				28			
04				29			
05				30			
06				31			
07				32			
08				33			
09				34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			



# **Programming: Adding and Removing Users Codes**





# **Programming: Change the Door Strike Time**

#### i) Setting the Door 1 'Strike Time'

The door strike time is the number of seconds for which the door lock remains released (or open) when a valid entry code is entered.

To set the Door 1 strike time, 'log on to Programming Mode', then enter 5 to select the Door 1 Strike Time Set Up function.

Listen for the 'accept bleep'.



Then enter a two digit number to set the duration of the strike time in seconds (01-98).

Listen for the 'accept beep'.



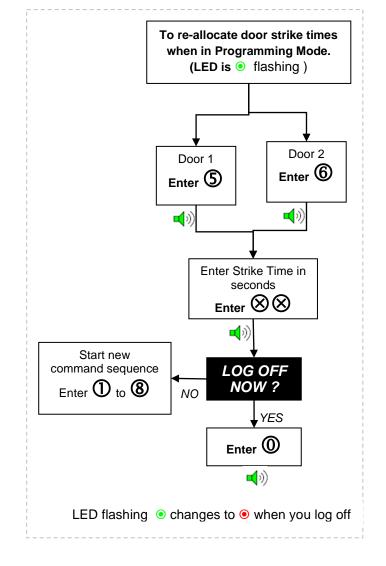
NOTE: If the strike time is required to be set to zero secs, then you must enter '99'. An entry of '00' will give you a strike time of 1 second.

#### ii) Setting the Door 2 'Strike Time'

To set the Door 2 strike time, 'log on', then enter 6 to select the Door 2 Strike Time Set Up function. Listen for the 'accept bleep'.

Then enter a two digit number to set the duration of the strike time in seconds (01-98).

Listen for the 'accept beep'.



Double click here to hear the accept beep.

#### LED meaning

• Red -System locked

Green User Code Accepted

• Flashing System in Programming Mode Green/Red



# **Programming: Set the Penalty Time for Invalid Code**

When in Code Entry mode, if after twenty key presses a valid code has not been entered, the keypad will be disabled for a pre-set period of time. This feature is intended to deter any attempt to gain unauthorised access by guessing the format of a valid code.

To set the Invalid Code Penalty Time, 'log on to Programming Mode', then enter 7 to select the Invalid Code Penalty Time function.

Listen for the 'accept bleep'.

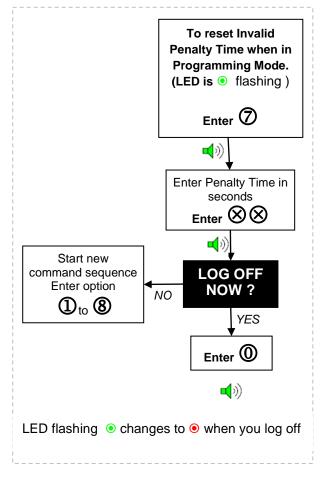
Then enter a two-digit number to set the duration of the Penalty Time in seconds (01-99)

Listen for the 'accept bleep'.

Enter 0 to Log Off

Listen for the 'accept bleep'







#### Connecting a Exit Switch

Making a connection (via a suitable momentary contact switch) between connector terminals 10 and 1 (return) will release (or open) the door lock for a pre-set period of time (the door strike time). This feature can be used to provide a remote exit facility, allowing personnel to exit from a secure area by pressing a button located near or adjacent to the door (on the secure side only). [see sections vii) and viii) for information about setting the door strike time]. Please note the exit switch only controls relay 1. In 2 door operation the connection of an exit switch to control the second door is not possible.

#### Other Features (available only if 2 relays are fitted)

#### **Connect an External Alarm**

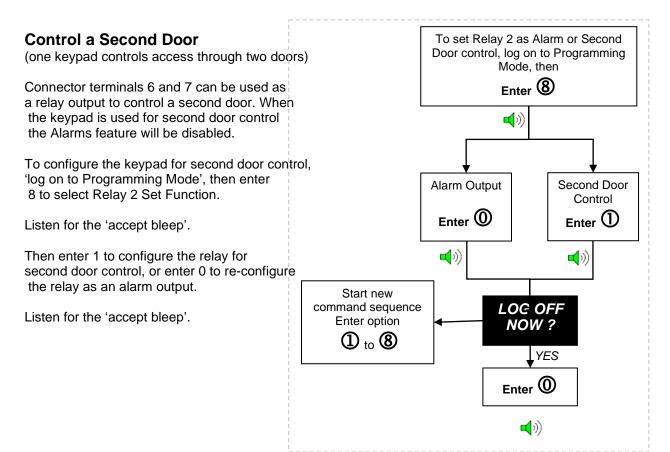
An alarm bell or klaxon can be activated via connector terminals 6 and 7. When the keypad enters an alarm state (door forced or operator under duress or anti-tamper), these two terminals will provide an alarm signal (2 Amps max. at 30 Volts DC). The alarm bell or klaxon should be connected as shown in Electrical & Data Connections. Please note that the alarm bell or klaxon is not powered from the keypad and so must have an independent power supply.

An alarm signal can be cancelled by keying in any valid entry code or the engineer's code. If the cause of the alarm can be rectified (i.e. The Anti-Tamper switch can be re-closed, or a 'forced door' can be closed), then keying in a valid 'Entry Code' will silence and reset the alarm.

If for any reason the cause of the alarm can not be rectified (e.g. The keypad has been forced away from the wall, or the door has been damaged and can not be closed), then the alarm can be silenced by keying in a valid 'Entry Code' twice (2 times). When the alarms have been silenced in this way, the keypad must be isolated from the power for a minimum of 3 seconds to reset the alarm feature.

Note if the alarm function is used to indicate operator under duress then the alarm should be discreet, i.e., situated in a remote location beyond the audible or visual range of an attacker or intruder. The alarm feature can be used to interface with a centralised alarm system or to trigger a synthesised or pre-recorded auto dial telephone message to a chosen monitoring station.

Alternatively, terminals (6 and 7) can be used to control a second door.





# Other Features (available only if 2 relays are fitted)

#### **Enable Door Monitoring (Door 1 only)**

In its factory fitted format, the door sensor is disabled. This is because the hard wire bridge is connected between terminals 9 and 1 (0V Return and the Door Sensor).

This disables the door forced alarm feature. To utilise the door sensor, remove the hard wire bridge and connect the door sensor to terminals 1 and 9.

# **Activating the 'Operator Under Duress' Alarm**

The Operator Under Duress Alarm can be activated at any time by prefixing a valid entry code with the numbers 9 1. Note: if there is any possibility that this feature will be used, any visible or audible alarm indicators must be located out of audible and visual range of any attacker or intruder.



#### F.A.Q's

- 1/ The door is locked when it should be open and open when it should be locked.
- 2/ The Keypad appears to have lost it's entry codes
- 3/ How do I add and delete codes?
- 4/. What power supply do I need for a Strikemaster?
- 5/ I want to fit a separate door bell.
- 6/ I want to disable the alarm and open the door with a single code can I do this?
- 7/ There is a continuous clicking noise.
- 8/ The door opens for too long.
- 9/ What are the door release relays rated at?

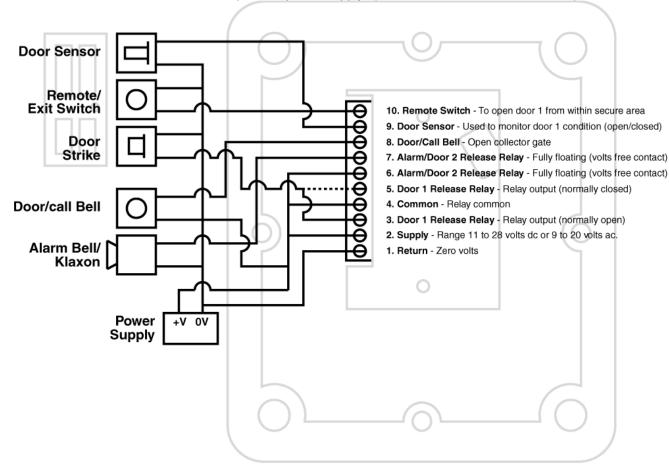
#### 1/ The door is locked when it should be open and open when it should be locked.

Check the type of lock that is installed. Does it require power to open it or power to lock it? This will determine which keypad terminals should be connected.

If the lock requires power to open it then the lock should be connected to "zero volts" and "relay 1 Normally open" ( Terminals 1 and 3 )

If the lock requires power to lock it, i.e. a Magnetic Lock, it should be connected to the "zero volts" and "relay 1 Normally closed" (Terminals 1 and 5).

In both the above cases it is assumed that power is being switched through the relay in which case the "relay common" should be connected to the "positive power supply" (i.e. 4 and 2 should be connected.)





# 2/ The Keypad appears to be have lost its entry codes

The STORM AXS StrikeMaster keypad stores all programmable options in a non-volatile memory location. This means that all codes and settings programmed into the keypad will be saved even if the power supply is switched off or there is a power cut.

In certain installations it may appear that the entry codes have been erased, however, it is not the case. This can occur as a result of electrical noise from a peripheral device (i.e. a noisy electric strike or magnetic lock). In a very few cases external interference, such as short term interruption to the power supply, could cause some electronic components to re-set whilst others are still active.

The result is a semi active keypad that does not perform correctly in that the strike time has re-set to zero seconds and you might assume that the entry code has been erased.

A time of 01 second to 99 seconds can be programmed.

If the above situation is suspected the following routine should be carried out:-

- 1. Check that all connections to the keypad, power supply and locking device are still secure. Ensure that the suppresser (Metal Oxide Varistor "MOV") is connected across the lock terminals. Ideally this should be located as close to the lock as possible.
- 2. Reset a workable strike time as follows:

```
Log in by entering the known Engineers Code

Select door 1 or door 2 by entering

Enter the required 2 digit Strike Time -

Log off by entering

WXXXXX

5 Door 1

6 Door 2

05 (5seconds)
```

**Note:** If after this process the Strikemaster is powered down the Strike Time will automatically reset to 5 seconds.

#### 3/. How do I add and delete codes?

To add use Option 1 (to add a code)

Log in by entering the known Engineers Code		#XXXXXX
Press 1 to add a code		1
Enter the index number where the code is to be	e.g.	12
Choose e.g Door 1 Timed		1
Select the number of digits that will be in the code	e.g.	4
Type in the new code	e.g.	1234
Log off by entering		0

To delete use Option 2 (to delete a code) in Programming Mode - see Programming Flowchart on the last page

#### 4/. What power supply do I need for a Strikemaster?

StrikeMaster power supply (11v-28v DC or 9-20V AC) recommended minimum 12v dc 500mA, preferable 12v dc 640mA. Available from haredata.co.uk

The illuminated product requires 12V DC 250mA supply only. ( Does not work from AC supply)

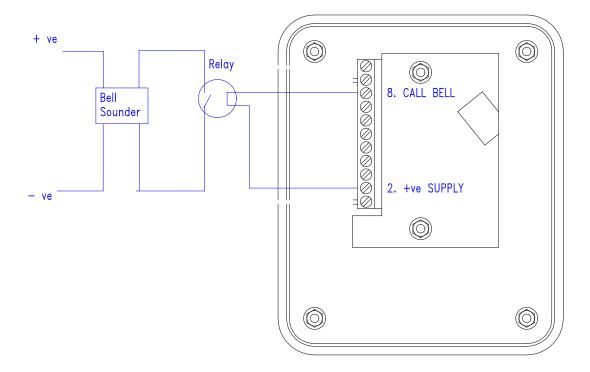


#### 5/ Fitting a door bell

The STORM AXS Strikemaster Keypad will support a door / call bell. This can be activated by the bottom left key on the Strikemaster keypad, there is no need to supply and fit a separate bell push button.

The bell connection terminal (No 8) is an open collector gate. The bell should be connected to the Strikemaster keypad via a relay. The coil on the relay should be connected to the positive supply connection terminal (No 2) and the bell connection terminal (No 8). **Note on illuminated version the bell connection is No. 6** 

When the bell key is pressed a transistor linked to terminal 8 will be driven low. This will allow current from the supply to be drawn across the relay's coil which in turn will close the relay in the same way as a conventional bell push will operate.



Use a latching relay rated to operate at 60mA, up to 12V dc.



# 6/ I want to both disable the alarm and open the door with a single code can I do this?

Some applications, such as overnight deliveries to retail establishments, may require the delivery driver to enter a code that not only allows access to the building but also disables the Alarms that are usually set during the hours that the shop is closed. The design of the StrikeMaster keypad does not allow the same entry code to be programmed into door 1 and door 2; (door 1 operation will take priority and door 2 operation will be ignored.) It is, however, still possible to achieve a solution using the StrikeMaster keypad.

Allocate the driver with an 8 digit number, made up of 2 individual 4 digit entry codes. The first four digits of the entry code should be programmed as a "Latched" code. The second four digits should be programmed as a "Timed" code. So when the 8 digit entry code is entered the first 4 digits can disable the alarms and the second four digits open the door. It will be necessary for the driver to re-enter the 8 digit code after the delivery is complete to re-set the alarms.

The exact configuration will differ between installations. A typical installation may be as follows:-

First 4 digits of entry code are programmed as "door 1" "latched" with relay 1 connected at the normally closed output. The second 4 digits of the entry code are programmed as "door 2" "timed".

So when the 8 digit entry code is entered the first 4 digits will cause relay 1 connections to change to open circuit, this could be used to switch off the alarms. The second 4 digits will then open the door.

Please note. This configuration may not be suited for applications where the driver may have to enter the door on more that one occasion. This is because the alarms will toggle on and off each time the 8 digit entry code is pressed, so there is a danger that either the driver inadvertently sets the alarm whilst in the building or leaves the building without the alarms set. In such a case it may be better to set the second 4 digits to latched.

In any configuration the driver should have clear instructions to enter the full 8 digit entry code on entering and leaving the building.

For additional security a longer entry code could be allocated i.e two individual 5 or 6 digit entry codes resulting in a 10 or 12 digit entry code for the driver.

#### 7/ There is a continuous clicking noise.

Relay 2 can be configured for alarms output or for second door control. The factory setting for relay 2 is "Alarms".

The clicking noise comes from the relay activating the anti-tamper alarm, this is probably because the anti-tamper plate has not been installed. The quickest way to stop this clicking is to re-set relay 2 to second door control.

Use Option 8 in Programming Mode.

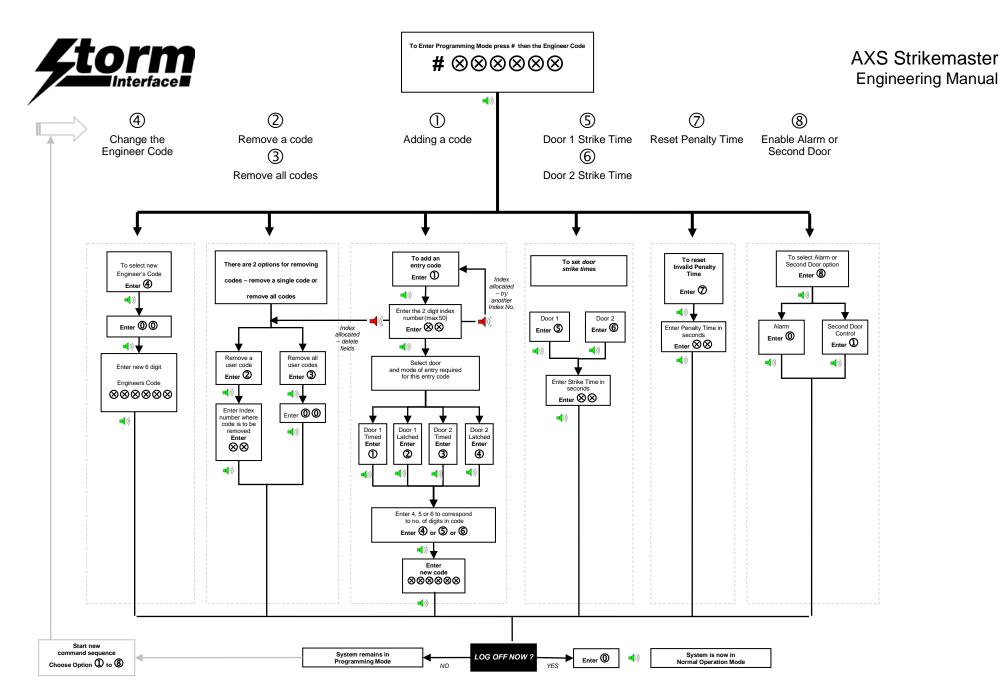
If, however, the alarms feature of the keypad is required, the anti tamper plate should be fitted as shown in the installation manual.

#### 8/ The door opens for too long.

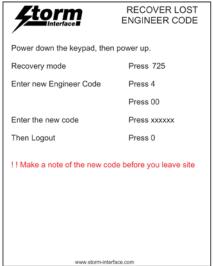
If after entering your entry code, the door opens but stays open it is likely that the strike (opening) time has been set too long or the entry code has been programmed as a latching code. To change the strike time use Option 5 ( Door 1) or Option 6 (Door 2) in Programming Mode

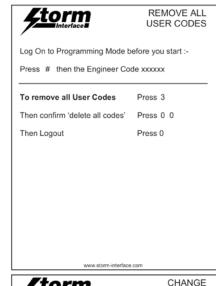
#### 9/ What are the door release relays rated at?

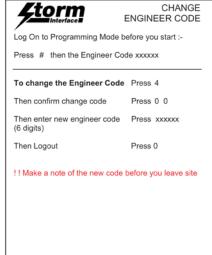
The relays are rated at 1.5A continuous operation.

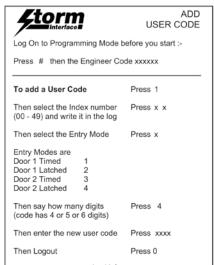


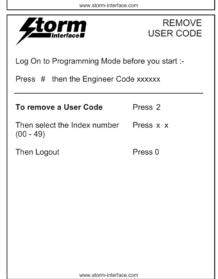


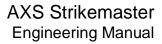














# Change History Page

Rev 1.2 June 2015 Revised to show new polymer rear case (was extruded aluminium)

Rev 1.3 Oct 2019 Correction to page 4. AC rating is 20V max (not 24)