AXS SERIES S60 iCLASS SE® PIN-Contactless Reader: This integrated keypad and contactless reader is rated for continuous outdoor use in exposed, unsupervised locations. Featuring genuine HID® iCLASS SE®, Seos®, contactless technology, this access control keypad offers enhanced security by dual factor authentication. Authorized access through a secured door or barrier can be gained by entry of a valid PIN and/or presentation of an authorized 13.56 MHz contactless card, token or Seos® device.

Additionally available with HID® multiCLASS SE® for 13.56MHZ &125kHz credentials..

This manual is available from www.storm-interface.com/downloads.

Each product includes a datasheet with the essential information for installation.

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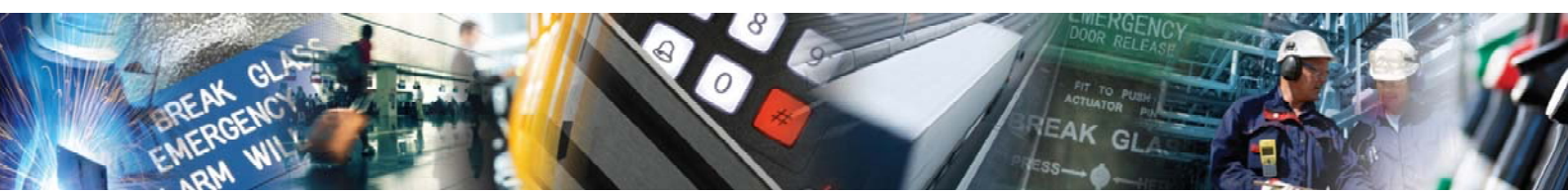

Product Range

Four products are included in the range. The S60, which has metal keys, and the S60i, which has illuminated white polymer keys. The multiclass versions are correspondingly S60M and S60iM

Order Code	Description
DS601K20	AXS Series S60 iClass keypad, metal keys, mullion format
DS602W20	AXS Series S60i iClass keypad, illuminated keys, mullion format
DS601K2P	AXS Series S60M Multiclass keypad, metal keys, mullion format
DS602W2P	AXS Series S60iM Multiclass keypad, illuminated keys, mullion format

Supported Credentials

The following credentials are supported out of the box.

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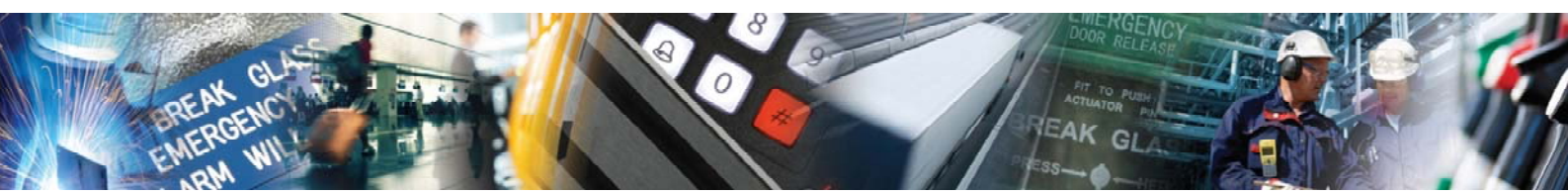
iCLASS® Seos®	16KB	ISO14443A
iCLASS SE®	SE (32K, 2K)	ISO15693
		ISO14443B (requires config card)
iCLASS®	Legacy (16K, 32K. 2K/2)	ISO15693
iCLASS®	SR (32K, 2K/2)	ISO15693
MIFARE®	Classic (4K, 1K)	ISO14443A
	SE (32K, 4K, 2K)	
	SR (32K/2)	
	NXP Ultralight	
DESFire®	EV1 (8K SE, 4K, 2K, 1K)	ISO14443A

And additionally on Multiclass products

HID Prox	No ISO std for Prox

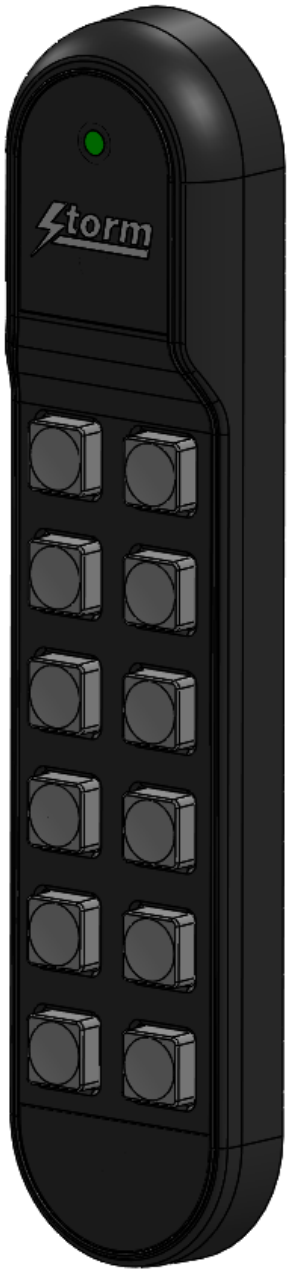
Additional options are available either factory set or via the use of a configuration card
(for example it is possible to read Sector instead of CSN on Mifare and Desfire cards). Contact us for details



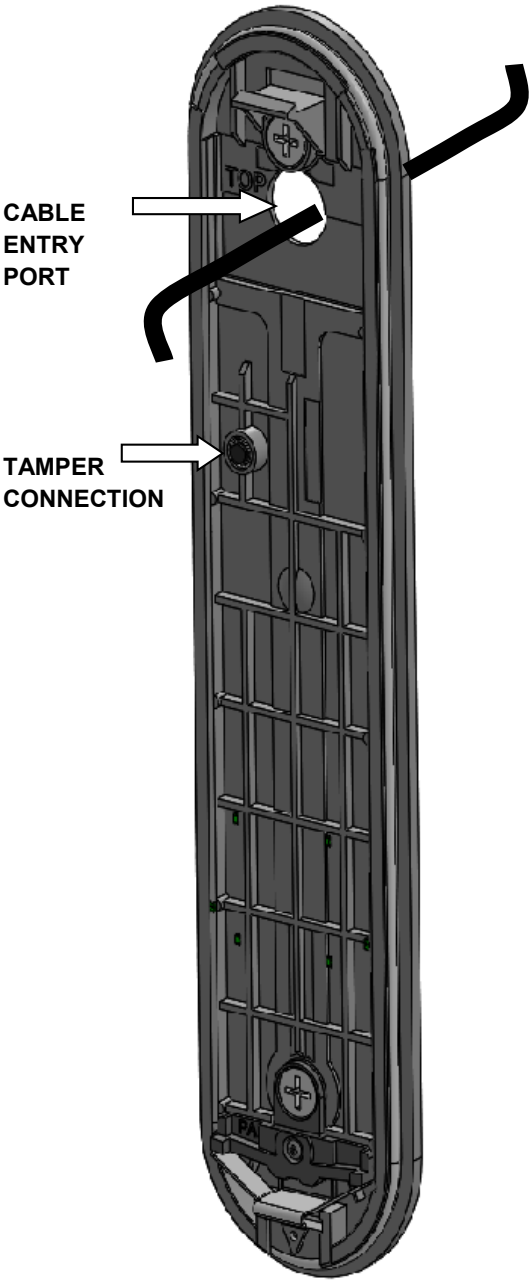
Exploded View

The product is supplied as below, note this product is designed to be installed onto a smooth surface (not a brick wall).

FRONT ASSEMBLY



REAR PLATE (with sticky gasket)



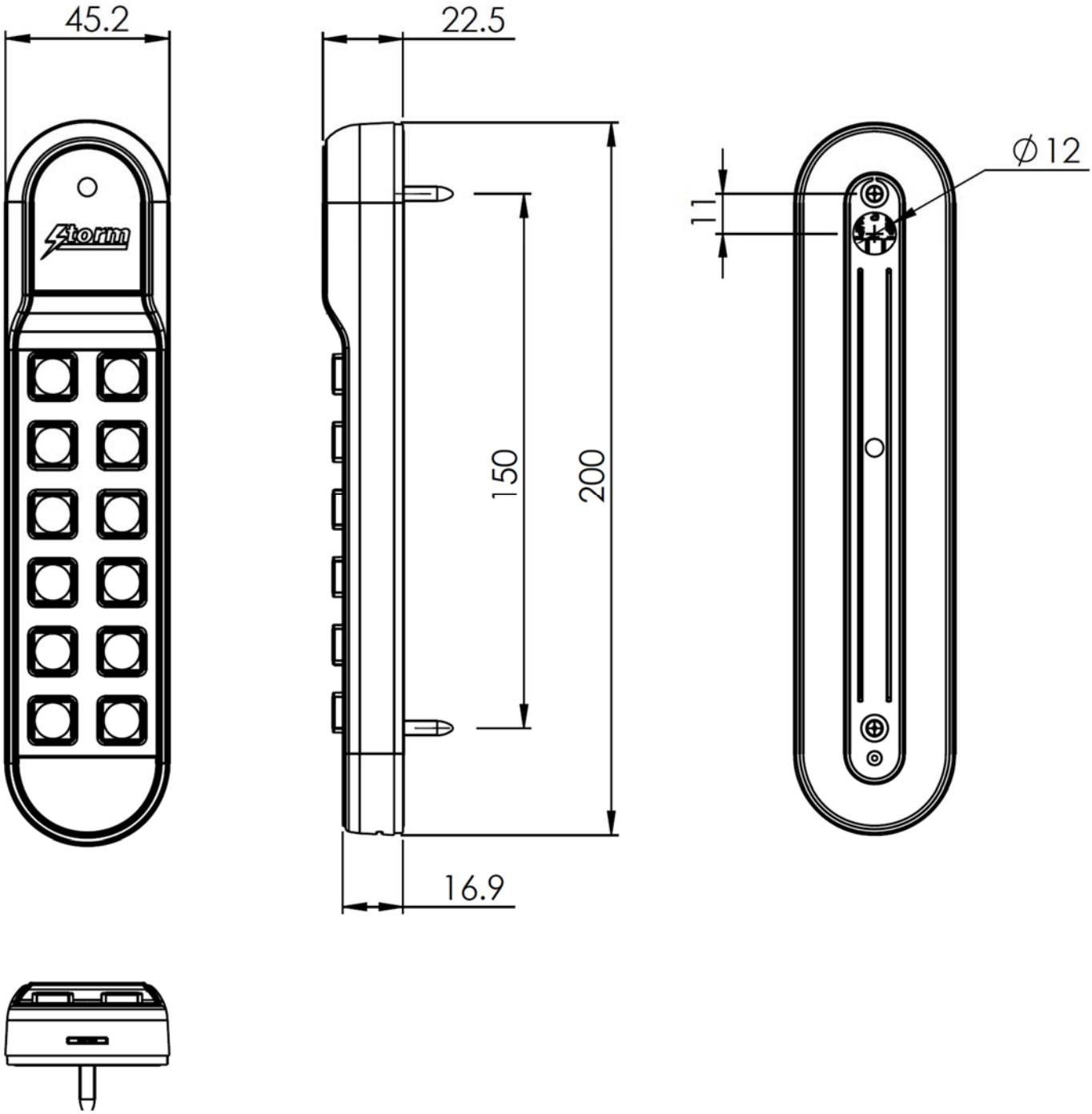
FITTING KIT & DATASHEET

2 X POZI CSK SCREW #8 x ¾ inch

1 X RELEASE TOOL

Dimensional Details

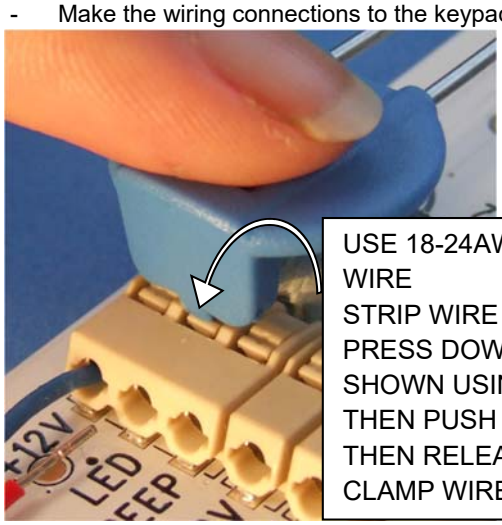
For a CAD model of product / panel fix detail go to www.storm-interface.com/downloads



Installation

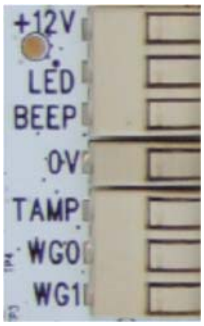
- Mark and drill the cable hole and screw fix positions. Remove the release liner and stick the rear plate to the wall.
- Fix the rear plate to the wall with 2 x countersink #8 x ¾" screws (on 150mm centres) , and feed through the cable
- Strip the cable ends |← 34mm →| |←6mm→|

- Make the wiring connections to the keypad.



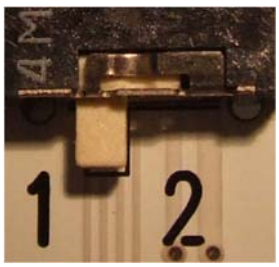
USE 18-24AWG SOLID OR STRANDED WIRE
STRIP WIRE TO 6MM BARE ENDS
PRESS DOWN ON CONNECTOR AS SHOWN USING RELEASE TOOL
THEN PUSH IN WIRE
THEN RELEASE CONNECTOR TO CLAMP WIRE

CONNECTIONS



+12 V	
LED	
BEEPER	
0 V	
TAMPER	
WG0	
WG1	

- Set the rear halo illumination switch SW13 to either ON (1) , OFF (2) (factory default shown is Position 1 : ON)



- Fit the keypad to the rear plate : locate at top and then push at the bottom to engage clip
- Recommended locations and wiring methods shall be in accordance with the National Electrical Code, ANSI/NFPA 70. Use shielded cable

Removal

Insert the release tool in the slot at the bottom of the product.

Push to release the spring clip at the base.

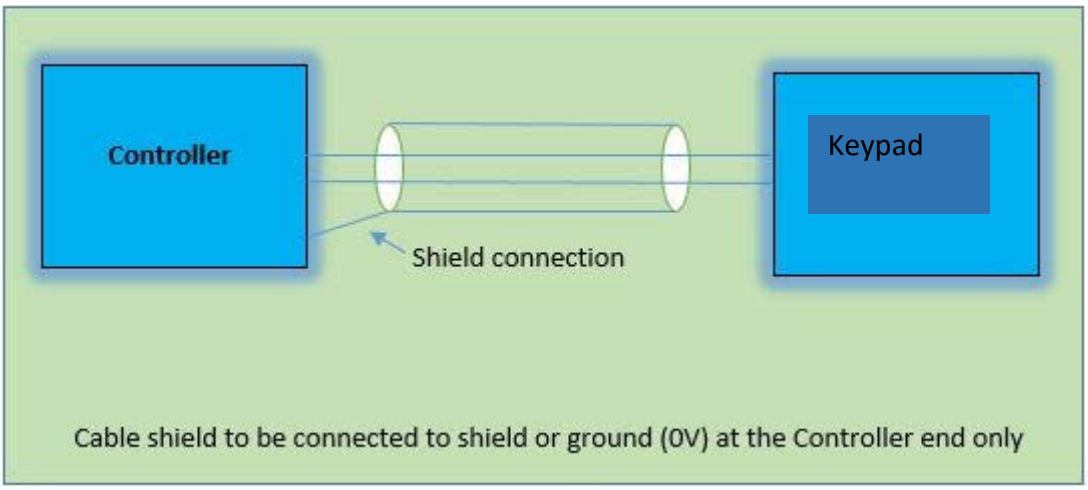
Typical Wiring

Below is a typical wiring schedule – in this case between the S60 and a Kantech KT-300 Controller

The S60 is shown connected to control Door 2.

Where there is an LED connection, usually the GREEN LED connection is appropriate

S60		**KT-300**	
+12V		READER PWR +12V	
LED		OUT DOOR 2 LED	
Buzzer		OUT DOOR 2 BUZ	
0V		READER PWR GND	
TAMPER			
Wiegand Data 0		READ2 Green	
Wiegand Data 1		READ2 White	
Shield		EGND	Do Not Connect



Weigand Formats

For Cards

The reader's Wiegand output easily interfaces with most existing Wiegand protocol access control panels.
The reader reads standard HID format data and will output data as encoded.

For MIFARE® cards the default setting is that the card data will be output as 32 bit. However, it can be configured if required by the use of a separate CONFIG card (supplied by Storm Interface on request) to output 26-bit, 32-bit,, 37-bit, 56-bit, or 64-bit Wiegand formats, based on the card serial number.

For PIN

The keypad supports 4, 8, 26, 32, 4/32 and 8/32 bit wiegand format for the PIN data (factory default is 4 bit).

In 4 or 8 bit mode : for each key press the appropriate wiegand code is transmitted. (NB: no site code is sent)

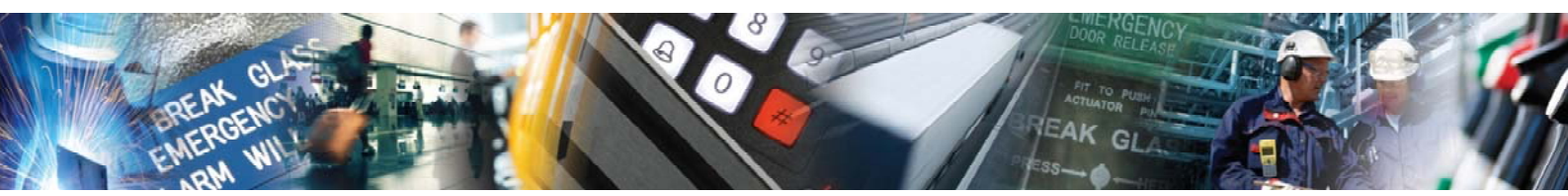
In 26 or 32 bit mode : the entry code (up to 5 digits) is transmitted together with the site code.
(NB : if your entry code is less than 5 digits you must press #, this adds leading zeros.
For example, if you press 131#, then 00131 will be transmitted)

In 4/32 or 8/32 bit mode, then the key presses will be transmitted in 4 or 8 bit Wiegand format.

Alternatively, you can force the output to 32 bit Wiegand format (no site code) using the following sequence

- Press *
- Press your entry code (up to 10 characters maximum)
- Press #

For example: *123# will output 123 as 32 bit Weigand code (without site code)



Configuration

On power-up, you have the option to

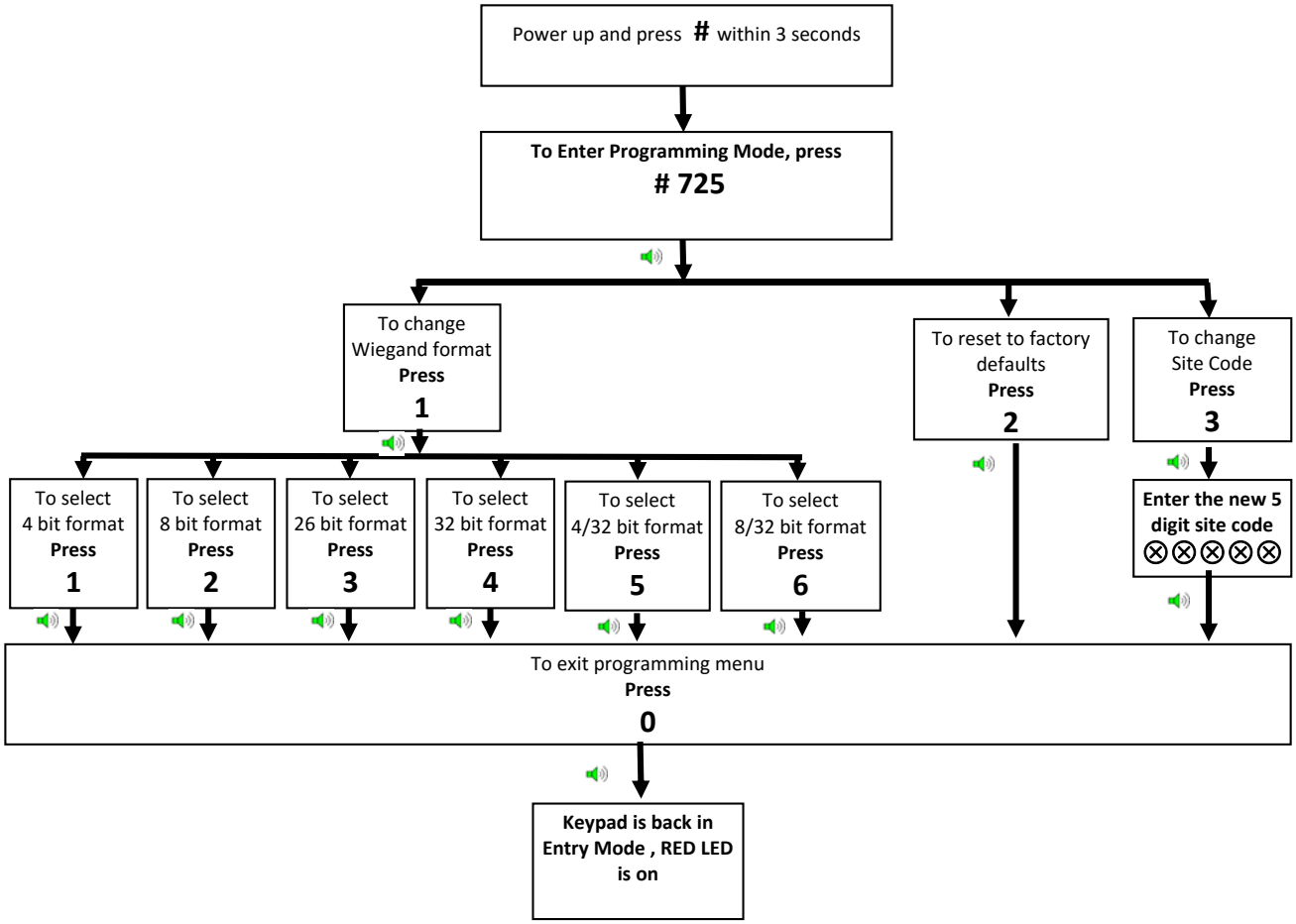
- change the wiegand format,
- change the site code, or
- reset to defaults.

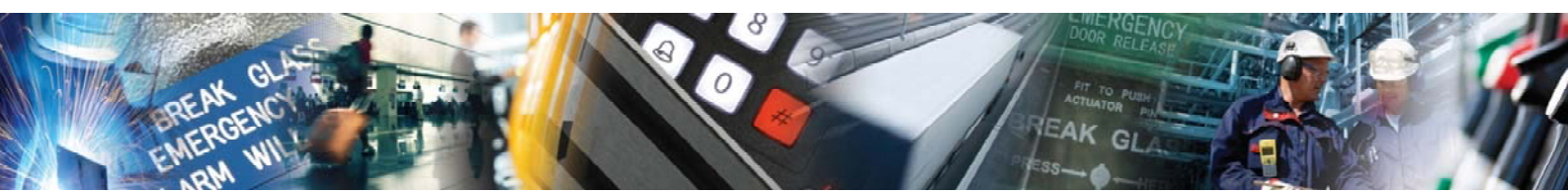
For 32 bit Wiegand, the **site code** must be less than or equal to '65535'.

For 26 bit communication the site code must be less than or equal to '00255'.

Power up and press the '#' key within 3 sec and the red led will start flashing, then enter the engineering code '#725'. On acceptance, the green LED will be displayed for 2 seconds and the buzzer will sound a confirmation beep.

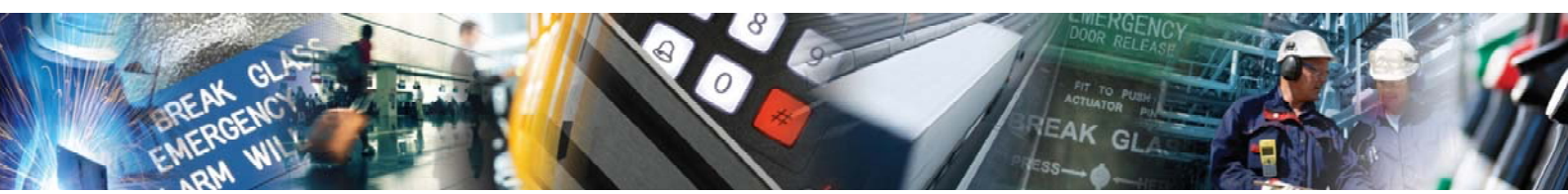
If the unit is left unattended during programming then after 10 seconds it will timeout and drop back into Entry Mode.





Specifications

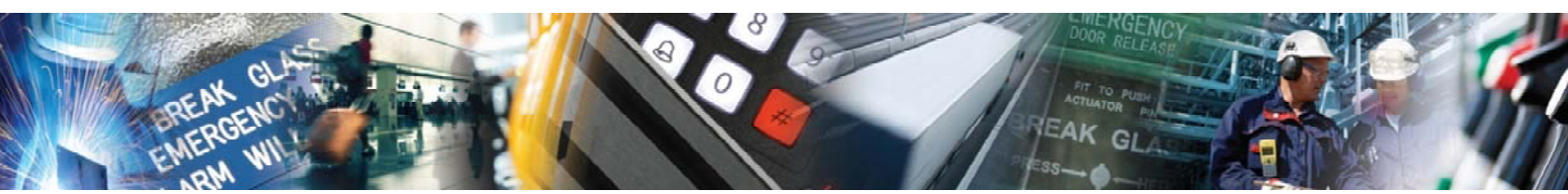
Card Compatibility	iClass®, Mifare® serial number ISO15693, ISO14443A&B (full list on page 2)
Card Read Range	2-11 cm (depending on card)
Card Security	V1 Security (Elite security by special order only)
Coupling Frequency	13.56 MHz or 13.56MHz / 125kHz
Power supply	12V +/- 15% DC 500mA
Tamper detection	Normally closed (N.C.) to 0V tamper switch
Status Indication	RED/GREEN LED and/or BEEP as driven by the attached Controller
Dimensions	200mm H x 45mm W x 21mm D (max).
Packed Dims & Weight	225mm H x 55mm W x 80mm D. 160 grams (Metal Key Version 200 grams)
Operational Temperature	-35°C to +65°C
Weather Resistance	IP65
Vibration & Shock	ETSI 6M3
Impact Resistance	IK09 (10J Rating)
Immunity (ESD)	15kV air & contact
Cable distance to host	150m max, always use shielded cable.
Certifications	CE / FCC / UL294 FCC ID 2AEEZ-DS60 IC 20014-DS60



Change History

Engineering Manual	Date	Version	Details
	Jan 2016	1.0	Provisional Release
	1 Apr 2016	1.5	First Production Release

Product Firmware	Date	Version	Details
	1 Apr 2016	4 Bit Version 1 8 Bit Version 1	First Production Release at Rev 1 i.e. S604V01 is 4 bit version 1



Regulatory Information

This device complies with Part 15 of the FCC Rules and Industry Canada licence exempt RSS standard(s). Operation is subject to the following two conditions:
1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur

in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

F.A.Q's

Q: The illumination on my S60 is not steady : it flickers noticeably.

A : Powering the S60 via long (> 30m) cable lengths can lead to flicker on the keypad and backlight illumination

This is because the cable resistance causes voltage drops which are modulated by the HID module scanning for a card

You can mitigate the flickering as follows:

1) Use lower resistance cable
2) Parallel wire two cables for the +12V connection and two cables for the Ground connection
3) Provide power locally to the S60
4) Switch off the blue backlight illumination'