AXS SERIES S40 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

This manual covers the S40 and S40i, and is available from www.storm-interface.com/downloads. Each individual product includes a printed datasheet with just the essential information for installation.

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Product Range

Two products are included in the range. The S40, which has a metal keypad, and the S40i, which has an illuminated white polymer keypad. Both products can be powered via the 5V or 12V supply pins. However, the illumination will only function when powered from 12V

Options

A privacy shield (p/n 1KFS020) is available as an optional extra

Please see the Storm website at www.storm-interface.com

Supported Credentials

The following credentials are supported (additional controller set-up may be required):

iClass
Seos
MiFare Classic
MiFare Plus
MiFare Ultralight
DESFire 0.6
DESFire EV1

Installation

Connection to the Controller is via a 12-way connector. The connector is removable to ease wiring. Recommended locations and wiring methods shall be in accordance with the National Electrical Code, ANSI/NFPA 70.

Connections are as follows:

Pin A – 5V power input – 5V at 200mA
Pin B – Beeper input. Active low, pulled up internally. Beep sounds when this pin is set low
Pin C – Card data hold. Active low, pulled up internally. Set low to hold card data transmission
Pin D – Tamper output. Connects to 0V when the tamper switch is closed, and is open circuit on a tamper
Pin E – 0V power and signal return
Pin F – 0V power and signal return
Pin G – RED LED input. Active low, pulled up internally. Low turns on the RED LED (default is on)
Pin H – GREEN LED input. Active low, pulled up internally. Low turns on the GREEN LED (takes precedence over RED)
Pin I – 12V power input – 200mA for S40, 250mA for S40i
Pin J – Weigand D1 output. Open collector, pulled up internally
Pin K – Wiegand D0 output. Open collector, pulled up internally
Pin L – Tamper output. Open circuit when the tamper switch is closed. Connects to 0V on tamper

Cable lengths of up to 150m are supported, provided the correct power supply voltage is presented to the S40

Connect the Controller Wiegand inputs to the S40 Wiegand outputs, and the Controller Beep and LED control outputs to the relevant S40 Beep and LED control inputs

Physical installation

- Using the case as a template, mark the position of the four holes (A) on the surface.
  (or if fixing to an already installed UK or US back box use the relevant hole pattern)
- Drill fixing holes to suit the supplied fixing screws
- Push the cable through the sealing grommet and secure the case to the mounting surface using the fixing screws
- Make the electrical connections to the connector block (the connector block can be removed to aid wiring)
- Position the rubber seal on the mating edge of the rear case.
- Fix the keypad to the rear case using the security screws
- Use the nylon sealing washers under the screw heads to protect against moisture ingress
- Check the installation to ensure the rubber seal is in place and is compressed evenly around the perimeter of the case.

Weigand Formats

For PIN

Factory default is Weigand 8 bit burst format (for PIN)
If you need Weigand 4 bit burst format, follow the sequence below.

Press # on power up	**LED FLASHES RED/GREEN**
Press #725 to enter FORMAT mode	
Press 1 for FORMAT or 2 for RESET TO DEFAULT	
Press 0 for 4 BIT FORMAT or 1 for 8 BIT FORMAT	
Press 0 to EXIT,	**LED STAYS RED**

This setting is retained even if power is removed

For Cards

Factory default is 26-bit Wiegand for all presented cards. If alternative Wiegand formats are required please contact us via the website www.storm-interface.com

Typical Wiring

Below is a typical wiring schedule – in this case between the S40 and the Kantech KT-300 Controller
The S40 is shown connected to control Door 2.
Where there is an LED connection, usually the GREEN LED connection is appropriate

Wire name	Wire colour	KT-300	S40
Wiegand Data 0	Green	READ2 Green	Pin K
Wiegand Data 1	White	READ2 White	Pin J
0V	Black	READER PWR GND	Pin E or Pin F
+12V	Red	READER PWR +12V	Pin I
Buzzer	Blue	OUT DOOR 2 BUZ	Pin B
LED	Brown	OUT DOOR 2 LED	Pin H

Specifications

Card Compatibility	iClass®, Mifare® serial number ISO15693, ISO14443A&B
Card Read Range	2-5cm (depending on card)
Card Security	V1 Security (Elite security by special order only)
Coupling Frequency	13.56 MHz
Power supply	5V +/- 10% or 12V +/- 15% DC 200mA / 250mA (illuminated) (Illumination only active with a 12V power supply)
Cable distance to host	150m max
Tamper detection	Normally open (N.O.), or normally closed (N.C.) tamper switch
Status Indication	RED/GREEN or BEEP as driven by the attached Controller
Tamper switch	Max 30V DC, 500mA
Operational Temperature	-35°C to +65°C
Weather Resistance	IP65
Vibration & Shock	ETSI 6M3
Impact Resistance	IK09 (10J Rating)
Certifications	CE / FCC / UL294 FCC ID 2AEEZ-DS40 IC 29008-DS40

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