ES10	Access Control	UNIVERSITY OF LEICESTER

Document Control

Rev	Date	By	Comments
A	Jun'13	C.Monks	Updated to reflect replacement of Net EDGE controllers and Salto integration.
B	Jun'16	L.Davies	Technical review update
C	Oct 17	A Gahagan	Minor revisions
D	Feb 18	A Gahagan	Change of Supplier and Removal of Maxxess as option
E	July 18	R Sturgess	Change of supplier and technical review
F	July 21	R Sturgess	Change of supplier and technical review
G	Oct 24	R Sturgess	Technical review

Design Guidance

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1. This design guidance should be read in conjunction with the document "Access Control: Guidance on Installation at the University of Leicester"

2. The University is migrating to Salto Access Controls and offers a service for this purpose across campus,

3. When upgrading/refurbishing areas of the University any manual lock replacements should be exchanged for Salto, access control.

4. Any project including Access Control, should have the security strategy and access control plan assessed and ratified by the Head of Security and Head of Business Systems as to its suitability for the intended usage of the area.

5. The Access Control specialist shall issue a schedule of MAC addresses to the UOL IT network department ASAP to facilitate the access control commissioning requirements.

6. All equipment shall be Salto as standard installed by an approved installation specialist. The Salto XS4 system shall be utilised as standard.

7. The University is moving to a fully controlled locking strategy which mean traditional lock and key should be avoided normally unless the installation specifically requires this.

8. When selecting locks the following guidance should be used: a. Online Locks:

   Usage: High foot fall areas, main entrances, area perimeters, controlled areas (plant rooms, high security areas etc).

   Typical Install: Maglock with 'Press to release', emergency override and fire alarm interface (It is imperative that FA isolation does not isolate power from the door controller but signal the release facility only) or mortice with electronic release and mechanical handle on the interior this type of install negates the need for Fire Alarm interface, 'Press to release' and emergency overrides as the egress action is a single action mechanical release. Online Controller and PSU Box.

   Requirements: Containment between door and control box, 13amp fused unswitched spur for PSU, fused down to allow for current draw of the PSU's and data outlet, with blank plate to stop patch lead being unplugged.

   Notes: A CU42E0 controller can control 2 door sets & readers of combination of (i.e. 1 door with 2 readers). A CU42E0 controller can also host up to 4 slave controllers (CU4200) each with 2 doors hosted to provide cost efficiencies (CU4200 units are approx. ½ the cost of the CU42E0 unit).

   b. Blue net Locks: Usage: Low Foot Fall areas with high security requirements

   Typical Install: Handle set and Mortice fitted into the door with a battery power supply.

   Requirements: Salto Blue net Access Point with capacity and in range (approx.10-15m) of the door for communications. Blue net doors require a licence per door which must be purchased, blue net can be achieved in two ways, networked to an existing SALTO CU42EO via 485bus or connected to a UOL POE data point to be networked.

   Notes: These shouldn't normally be fitted for most access requirements an offline handle set will surface.

   c. Offline Locks

   Usage: Any door requiring standard access where the users will have already been required to pass through an online lock for card programming.

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Typical Install: Handle set and Mortice fitted into the door with a battery power supply.
Requirements: Users must pass through an online location as part of their entry to program the card.
Notes: These are the most cost-effective handle sets.

9. Half leaf doors should be secured via continuous transom maglocks with door closers provided if both doors are operational, if one half is secured with bolts to the ceiling and floor a handle set my be selected in lieu of the maglock.

10. The design of the access control must include for a single action egress, where maglocks are in use the 'Push to Exit' button must be the only action required to open a door, where electronic strikes are used a mechanical handle on the secure side is required.

11. The design of the access control must account for any fire route through a building; any doors with maglocks should include an emergency break glass to kill the feed to the maglock on both positive and negative feeds poles. A fire alarm interface will be required at the controller.

12. Where automatic doors are used or installed with access control the locking should be installed and controlled by the automatic door controller to allow time for the locks to de energise and to avoid potential damage to the automatic door mechanisms. A volt free pair should be provided to open the automation by access control outside of the control box at a suitable location. In this instance, the break glass and fire relay will be used directly from the automatic door control system.

13. All doors with rebated edges will require door selector arms to enable master to close first.

Design Components

		Manufacturer	Comments

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Door Access Controllers	Salto CU42EO (Online gateway controller) CU4200 (Auxiliary Controller)	A single RJ45 data outlet is required to each online gateway controller. (CU42E0). Further auxiliary controllers (CU4200) can be connected to the online gateway to increase the number of doors.
		Each controller can manage 2 doors with a single read in reader or 1 door with a read in and out readers.
		A Fire alarm interface shall be provided to all doors that form part of a fire escape route to fail safe in the event of a fire condition, if not mechanical egress is installation. FA isolation shall not isolate power to the controller.
		Mounted Unsecure side of the door in an accessible but hidden location for ease of fault over-ride and maintenance. Ideally, controllers shall be centrally located in electrical riser cupboards or IT server/hub rooms. Controllers to be limited to maximum 90m from door location.
		All door controllers' inputs and outputs labelled clearly with the door number they control. Cables to be fixed correctly and kept neat with labels on cables to identify them.
		All door controllers should comply to electrical standards, with correct usage of containment i.e. glands, grommets. Power cables to be run separately to data and fire cables.
		Panels should be mounted 20mm apart with a coupler joining panels where require.
		All panel tampers to be wired into and input.
Power Supplies	Salto or Elmdene 12v Access Range	Consideration should be given to the power requirements of the lock itself. 4 Hours local battery backup as a minimum to be provided to each controller. Supplies should enclose as many controllers as possible, and allowances for this made. IE if an installation has 4 controllers a 8ah panel should be used as all will fit inside. It is not good

		practice to us 4 single 3amp supplies as this will increase fused spur and interface requirements.
Readers	Salto XS4 Range	White Readers should be specified for Access Control, Black Readers for AMS points.
Pin Pads	Salto XS 4 Range	Where dual authentication is required – high security areas.

Locking Cylinders	Salto XS4 Geo Range	For use where only the lock cylinder is required, can be selected as Euro, UK Oval, UK Rim or Scandinavian to suit the lock casing, can be selected as Offline or BLE versions with choice of half barrel, thumb, fob in/out. When selecting BLE a suitable Wireless hub will need to be in range.
Handle sets	Salto XS4 E40 Range, Salto XS4 One Range Or AElement Range if required for aesthetics purposes.	Selected to suit application, finish and handle to suit project (Normally Satin Stainless double cranked Ref U) BLE enabled for future use.
BLE	BLE Node	Bluetooth connectivity. To be used with XS4 handle sets. This makes the handle set an online door. Ideal for low usage areas where a hard-wired door is not viable. BLE node must be fitted within 16metres of doors. You can connect 4 doors per node to work as an online door. A licence key per door is also required.
Glass Door Locks	Salto XS4 Glass Door	Selected to suit application

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Electromagnetic holding devices		Continuously mounted transom type maglocks shall be used
		Minimum holding force of 600lbs to be used for external doors whilst internal doors shall utilise slimline maglocks with a 300lb holding force.
		Sherlocks are not recommended due to noise and alignment problems associated with these.
		Security to be consulted with regard to finalised ironmongery specification. A suitable door closure mechanism must be in place to ensure the keep engages on closure.
Electric Strikes	Adams rite	Selected to suit the application, a suitable door closure mechanism must be in place to ensure the keep engages on closure.
Press to exit button (PTE)	SPB004F	Stainless steel plate with green mushroom press to release engraving. Where surface mounted a suitable stainless-steel bezel shall be provided. PVC pattresses are not acceptable
Emergency release break glass (EBG)	BG1	Standard Green; CP3-LSRC break glass be used.

Framework Contractors		
Service	**Specialist**	**Address & Contact Details**

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Door Access	Aspex	Unit E, Winchester Avenue, Blaby LE8 4GZ 0116 278 3506
Door Access	CTS	Andy Perry Custom Technology Solutions Ltd Belfont House Mucklow Hill Halesowen West Midlands B62 8DD mobile 07531 414732 ¦ free phone 0808 1000 999 ¦ fax 0121 550 2200 e-mail andy.perry@custom-technology.co.uk
Door Access	CVL Systems	8 Edison Close Park Farm, Industrial Estate, Wellingborough, Northants, NN8 6AH 01933 674100 sales@cvlsystems.com

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