

Card Access Control Specifications

1.0 Qualifications

- 1.01 Vendors must be pre-qualified for card access on the SHSU campus. No 3rd party installations permitted.

2.0 General Requirements and Notes

- 2.00 SHSU requires that all exterior doors for public access (including each operable leaf) have active electronic card access monitoring and scheduling for door lock/unlock. Monitoring to include ALL exterior openings to include, operable windows, balcony doors, mechanical room doors, roll up doors, roof access doors, and roof access/hatches. No Exceptions.
- 2.01 Access Services or Residents Life reserve the right to approve or reject final design and/or scope of work for access control on any structures new or existing.

3.0 Base Specifications

- 3.01 The system must fully and completely integrate with the most current version of CCURE 9000 door access system purchased from Software House/Tyco Electronic Product Group.

4.0 Standardized Hardware

- 4.00 The following hardware is specified hardware for access control integrations. No substitutions are allowed.

- 4.01 Controllers
iSTAR Intelligent Network Controllers

ISTAR002 iSTAR Edge – 2-reader controller

ISTAR004 iSTAR Edge – 4-reader controller

ISTAR ULTRA – 16 READER CONTROLLER

- 4.02 **Readers**

Schlage MTM S15 Card Reader/ Multi-tech and mag reader track 3

RESI LIFE REQUIRES = SOFTWARE HOUSE RM4/RM1 READERS

- 4.03 **Exit Devices (Mechanical)**
Von Duprin 98/99 Series QEL
Not used in Resi Life Buildings

- 4.04 **Electric Strikes**

Von Duprin Series 6000 24 Volt

HES 1006 Strike

HES 9600 RIM Strike or HES 9500 RIM for fire rated applications

4.05 Electric Power Transfer

Von Duprin

EPT-10 or EPT-10con

Armored cable door loops – used on pivot hinge doors in place of GVUX power transfer.

Alarm Lock AL271

Keedex K-DLA12

4.06 Power Supplies and Batteries

Altronix AL600 Series Power Supplies

Altronix Batteries

Base Electronics LVPC201144-24 - 8 Door Power Distribution Enclosure with Aux Power Output for auxillary door components (REX motion detector, sounders, etc.)

Base Electronics LVPC201181-24 - 16 Door Power Distribution Enclosure with Aux Power Output for auxillary door components (REX motion detector, sounders, etc.)

Von Duprin PS914 to include 900 battery back-up kit and an additional 900 2RS 2 relay EL panic device control board.

4.07 Relays

Altronix Relay

Altronix 6062 – Time delay relay (for ADA doors.)

IDEC

IDEC RHU1B and RHU2B Relays (in Base Power Distribution Enclosures)

4.09 Request to Exit (REX) Request to exit

Rex Switches are preferred of motion detectors. Motion detectors to be used as last resort.

Detection Systems : *BOSCH* DS 150i Request to Exit Motion Detector

No Rex switches in Residence Halls. Use only motion detectors.

4.10 Cabling: Composite Cabling

658AFJ Belden or equivalent

4.11 Personality Module and Housing

RM4 Reader Module

4.12 Door Switches

Sentrol (GE)

Sentrol 1078C – Flush Mounted Door Position Switch (Color Match)

Sentrol AL2505 – Surface Mounted switch with Armored Cable

4.13 Input/Output Module

Software House (Tyco)

AS0073-00 – RM Module I8 Inut Module

AS0074-00 – RM Module R8 Output Module

5.0 Network Topography

5.01 SHSU uses a star configuration with each access/alarm point being a ‘home run’ back to the access control panel from the personality module located above the door or the card reader. The cabling between the personality module (RM Reader) or junction box (Wiegand) and the access control panel will be the composite cabling outlined in the section 4.10. All communication and power to the individual doors will come from the access control panel location. An exception to this will be made when specific hardware requires a localized power supply. When possible a trunk conduit/raceway should be established in common hallways to accommodate multiple ‘home run’ composite cables. Use only 4 conductor 16AWG OR 18AWG cable in Residence Halls

5.02 Shop drawings shall indicate location of all junction boxes, controllers and power supply.

6.0 Installation Requirements

6.01 Panel and any network device server will be wired through a dedicated power supply with battery backup.

6.02 Power is to be access control panels is to be hardwired utilizing EMT or rigid conduit in accordance with section 6.10 of this specification.

6.03 Access control panels are to be installed in network or electrical closets as approved by the SHSU Access Services Shop or Residence Life. All panels and boards must be installed in NEMA 4 enclosure(s) (within the electrical closet) that are of sufficient size and orientation to include all card access system components. All enclosures must be lockable and located in a manner that the enclosures will be accessible by maintenance personnel.

6.04 Installation of two (2) network connection drop is to be coordinated through SHSU IT office. Drop termination is to be inside of access control panel to prevent tampering. The MAC address and IP address for each panel/device will be posted on the inside panel door. All panel boxes are to have functioning locking hardware with keys. Keys will be submitted to the Physical Plant Access Shop Office or Residence Life upon completion of install.

6.05 Wiring and Conduit

- 6.05.1 A trunk conduit/raceway should be established in common hallways to accommodate multiple ‘home run’ composite cables.
- 6.05.2 All wiring runs will be in a star configuration or home run from RM board to the panel box. **Daisy-Chain reader communication loops are not permitted.** Each door will have an RM Reader board for inputs/outputs and future expansion of door devices.
- 6.05.3 All devices must be hardwired. Unless approved by the SHSU Access Services or Residence Life, all wiring must be installed in EMT, cable tray or rigid conduit. Conduit must be installed square and plumb to building structure in a good workmanship manner. Installation of conduit must be in accordance with the National Electrical Code and SHSU written standards for 110-120 VAC circuits. NOTE: When approved by the SHSU Access Services or Residence Life, only plenum rated low cable wiring may be run without conduit provided the cable is run square and plumb with the building structure. Plenum cable must be supported by an SHSU approved means on 4 ft. centers.
- 6.05.4 Power to the access control panel power supplies will be concealed hard wired, on a dedicated circuit with a proper ground. This circuit will be on emergency power where available.
- 6.05.5 All wire terminations in the panel and field devices must be clearly labeled. All labels must be manufactured for low voltage wiring and the information on the labels must include both source and designation terminal information.
 - A. All wires are to include the following information
 - 1. A number to correspond to what panel wire is connected to
 - 2. A number on the wire to correspond to panel schedule
 - 3. A location of final destination of the wire termination in relation to true north
 - 4. Door number assigned to the door as designated by the card reader addressed and which in turn will be assigned in the software and designated on the door by the assigned number (label)
 - B. All panels are to include a panel schedule which will include the following information
 - 1. The terminal block number at which the wire is terminated followed by the above mentioned information.
 - 2. All CCure panel programs that are written shall be reviewed by SHSU Facilities Management and/or Residence Life Maintenance.
- 6.05.6 All junction boxes must be covered, painted green, labeled with destination and source. Contents shall be included on the label when appropriate (ex. junction box with relay for handicap button).
- 6.05.7 Low voltage shields will be terminated in the panel in accordance with manufacturer’s guidelines. Should “noise” in the building ground reference interfere with or prevent the device from operating properly, the Contractor will install a dedicated ground for the card access system in that particular building

- 6.05.8 Field wiring must be one piece from source terminal to destination terminal. Splices in field wiring will NOT be allowed.
- 6.05.9 The construction procedure for wiring routed thru door mullion will be submitted to SHSU for approval. All wiring in and around door mold will be done in a good workmanship type manner to minimize the visual impact on the appearance of the door. All holes drilled in the door mullion will be concealed using plastic manufactured hole-caps. The color of the hole-caps will be suitable for the application.
- 6.06 Door Switches
 - 6.06.1 Door switches will be surface mounted or flush mounted on the opposing side of the door from the hinges. The switch will be mounted on the top of the door and will be no further than four inches from the interior portion of the doorframe.
 - 6.06.2 Surface mount switches will have armored cable between the switch and the cable entrance hole in the door.
 - 6.06.3 Flush mount switches are to be mounted in the top portion (header) of the doorframe and in the adjoining portion of the door.
 - 6.06.4 The holes for flush mounted door switches must be drilled the exact size for the switch being used. A tight friction fit must be achieved.
 - 6.06.5 No hinge contacts are to be used.
- 6.07 Door Hardware
 - 6.07.1 Door hardware will be **fail-secure** with **mechanical manual** egress from the secured side.
 - 6.07.2 Door switching and power will reside in the access control panel location.
 - 6.07.3 Power supply will be connected to building emergency circuits when possible.
 - 6.07.4 Power supplies will have a battery backup that provides 4hr minimum use of all controllers and locks.
 - 6.07.5 Power and Battery failure sensors in the controllers will be wired for remote monitoring via CCure.
 - 6.07.6 The location of power supplies when located away from access control panel will be fully documented via As-Built drawings.
 - 6.07.7 Door hardware is to be set so that ‘dogging’ functionality is not possible.
 - 6.07.8 Door hardware will have blank cylinder or key override and capable of accepting Schlage lock full size interchangeable core.