

SECTION 16725  
CARD ACCESS SYSTEM

**PART 1 GENERAL****1.1 SECTION INCLUDES:**

- A. Main cabinet.
- B. Terminal cabinet.
- C. Conduit and boxes.
- D. Power wiring.

**1.2 SYSTEM DESCRIPTION**

- A. Card access system shall include the furnishing and installation of main and terminal cabinets, conduit system and power feeds AND MUST BE INTERFACED WITH EXISTING CBORD.
- B. Installation and Connecting of Door Hardware Power Supplies.
- C. Wiring and Connecting of Electric Door Hardware. FIT lock shop spec's.

**1.3 SUBMITTALS**

- A. Submit under the provisions of Section 01300.
- B. Shop Drawings: Indicate layout, raceway diagrams, and equipment dimensions.
- C. Product Data: Provide data sheets for each item of equipment, depicting equipment capacity.

**1.4 RECORD DRAWINGS**

- A. Submit under the provisions of Section 01700.
- B. Accurately indicate actual locations of cabinets, boxes, and conduit runs.

**PART 2 PRODUCTS****2.1 MAIN CABINET**

- A. Steel construction #14 gauge, 36" x 36" x 4" cabinet with hinged, lockable cover, ½" thick plywood backboard, painted light gray, shall be surface mounted.

**2.2 DISTRIBUTION "BUILDING AND FLOOR" CABINETS**

- A. Steel construction #14 gauge, 24" x 24" x 4" cabinet with hinged lockable cover, ½" thick plywood backboard, painted light gray.

**2.3 CONDUIT AND BOXES**

- A. Provide and install the building and floor distribution cabinets for each building according to the following criteria:
  - 1. There must be one of these cabinets within 300' of a controlled device.
  - 2. Each cabinet can feed no more than 8 controlled devices and the cabinet must be located on the same floor as the controlled devices.
  - 3. The main cabinet can serve as the distribution cabinet for its area.
  - 4. A 2" raceway from the main cabinet to the next building & floor distribution cabinet.
  - 5. After all distribution cabinets are fed with this raceway, return to the main cabinet.
  - 6. Raceway shall not exceed 400' without a pull box.
- B. Provide and install ¾" conduits from the distribution cabinets and distribute to feed the junction and mounting boxes designated for the area. Each separate ¾" feed will supply no more than two Controlled Device/Card Reader Feed locations.
- C. Provide and install an elevator interface cabinet, 12" x 12" x 4" with hinged lockable cover and a ½" plywood backboard painted light gray with a 10 lug terminal strip mounted on the board at all

designated elevator control panel locations. Feed this interface box from the 3/4" card access raceway. Provide and install a separate 3/4" raceway from the box into elevator control panel. Label this box "Card Access/Elevator Interface". The Elevator Contractor shall extend his control wiring from the elevator control panel to this interface box.

- D. Provide 4-11/16" x 4-11/16" x 2 1/8" flush mounted box with single gang mud ring and weatherproof cover at each elevator stop. Mount the box adjacent to the elevator call button box and use a 3/4" conduit to connect the two boxes. Run a 3/4" conduit from the 4-11/16" x 4-11/16" x 2 1/8" box back to the nearest Card Access terminal cabinet and terminate.
- E. At each controlled door, install the electric hardware's power supply above drop ceiling within 50' of the hardware. In "separate" raceway, supply 120V feed to the power supply on a emergency circuit. Provide and install a 3/4" conduit from the supply box to a neutral 6" x 6" x 4" distribution box located next to the supply. Feed this box from the 3/4" card access system raceway. Also from this box provide and install an additional 3/4" raceway along with (8) 18AWG and (2) 12AWG conductors run from the supply box to feed the electrical power transfer device. From the supply, using that wiring, connect the electric hardware through the electrical power transfer device.
- F. Provide and extend raceway to feed 4-11/16" x 4-11/16" x 2 1/8" flush mounted boxes with single gang mud ring and weatherproof covers; mounted with the opening vertical, at all designated card reader locations. Locate to the strike side of single doors, and as designated for double doors, elevator control and gates. Center 4' above finished floor.
- G. Provide and install a 2" conduit from the Main Card Access terminal cabinet to a brooks box located at designated entry gates. Exact location to be determined during plan review.
- H. Provide and install a 4-11/16" x 4-11/16" x 2 1/8" card access feed junction box with cover, at the interior side of all designated card access door locations. If the area location has removable ceiling tile, the box shall be located above the tile. If the location has a structure of fixed ceiling material, then flush-mount the box with a square to round mud ring & cover.
- I. Provide and install a 4-11/16" x 4-11/16" x 2 1/8" flush mounted box with single gang mud ring and weatherproof cover; mounted with the opening vertical at 48" AFF as the designated "TeleEntry" mounting box.
- J. Provide and install a 4-11/16" x 4-11/16" x 2 1/8" flush mounted box with single gang mud ring and weatherproof cover; mounted with the opening vertical at 60" AFF as the designated "Master Key Control Box" mounting box, and provide a 24" x 24" free space for mounting the Key Box.
- K. Provide and install a 3/4" conduit from the main telephone room terminal board to the main card access cabinet.
- L. Provide and install six additional recessed mounted 4-11/16" x 4-11/16" x 2-1/8" boxes with flush single gang ring and cover; mount the opening vertical with 3/4"-conduit run to nearest card access junction box, (estimate 100' of conduit for each run). Wall mounted locations directed in the field during construction prior to final above ceiling inspection.

## 2.4 POWER FEEDS

- A. Provide a double duplex, dedicated 120-volt power receptacle fed from the optional branch of emergency generator power source, adjacent to the lower portion of the main terminal cabinet and each distribution cabinet.
- B. Provide and install dedicated 120-volt power feeds from the optional branch of emergency generator source to all Electric Hardware Power supplies.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install system in accordance with NECA "Standard of Installation" and Section 16111.
- B. Obtain a detail book from the University's Security Department for system specifics.
- C. Permanently label all conduits as to plan room number destination, at all terminal cabinets.

- D. Paint all Card access system junction box covers tan.
- E. Install ½" (tan round indicators) of paper construction on ceiling tile grid work at all locations where card access system boxes are located above the drop ceiling.
- F. Permanently label all the Card access system terminal cabinets, "card access system".
- G. Install 200 lb strength pull string throughout the raceway system.
- H. The Card Access System raceway shall be a separate raceway and shall not interconnect with or be used by any other system without the authorization of the University's Security Department or per DMS sections 16722, 16723, 16724 and 16725.
- I. All junction boxes mounted above ceiling shall be mounted with the opening facing down, and shall have a reasonable immediate access pathway provided. Note: (removal of a light fixture or other similar ceiling equipment) is not considered as a reasonable access pathway).
- J. All conduit runs shall be as direct as possible in order to save on wiring costs and to reduce poor performance due to cable loss.
- K. Refer to University's DCS Section 8700 for Card Access Door preparation.

### 3.2 LOCATION

- A. Provide a card reader/controlled device at the following locations:
  - 1. Coordinate with Florida Tech Security Department.

END OF SECTION