SECTION 281400 - ACCESS CONTROL SYSTEM HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Access control system units.
2. Access control system power supplies and battery chargers.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" specifies additional requirements applicable to coordinating, scheduling, and sequencing of the Work specified in this Section.

2. Section 281500 "Integrated Access Control Hardware Devices" for access control field devices controlled by hardware specified in this Section.

1.2 DEFINITIONS

A. DGP: Data gathering panel.

B. LAN: Local area network.

C. RAID: Redundant array of inexpensive disks; redundant array of independent disks.

D. RAM: Random-access memory.

E. WAN: Wide area network.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Field quality-control reports.

1.4 INFORMATIONAL SUBMITTALS

A. Manufacturers' Published Instructions: Record copy of official installation instructions issued to Installer by manufacturer for the following:

1. Installation instructions for access control system input/output interface.
2. Installation instructions for access control system door controllers.

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3. Manufacturer's recommended testing and inspection procedure for operation of access control system servers, panels, input/output interfaces, door controllers, and workstations.
4. Installation instructions for access control system power supplies and battery chargers.
5. Manufacturer's recommended testing and inspection procedure for operation of access control system power supplies and battery chargers.

1.5 CLOSEOUT SUBMITTALS

A. Warranty documentation.

PART 2 - PRODUCTS

2.1 ACCESS CONTROL SYSTEM UNITS

A. Description: This category covers head end units for access control systems, providing a means of regulating or controlling physical entry into an area, or access to or use of device by electrical, electronic, and/or mechanical means. Access control systems are investigated as complete configuration based upon manufacturer's specified system components. Access control systems are intended to comply with applicable life safety access and egress requirements.

B. Performance Criteria:

1. Regulatory Requirements:

a. Listed and labeled in accordance with NFPA 70 and NFPA 72, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
b. Comply with NFPA 1, NFPA 730, NFPA 731, and ICC IBC.

2. Listing Criteria: UL CCN ALVY; including UL 294.

C. Access Control System Door Controllers:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. HID Global; ASSA ABLOY

2. Source Limitations: Obtain products from single manufacturer.
3. Additional Characteristics:

a. Data ports for connection to LAN and downstream controllers.
b. Integral terminal blocks for connection of inputs/outputs to field devices.
c. Controller Inputs:

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1) Auxiliary input.
2) Door contact.
3) Request to exit.
4) Cabinet tamper.
5) Power monitor.

d. Controller Outputs:

1) Auxiliary output.
2) Door strike.
3) Door operators.
4) Credential readers.

4. Options:

a. Input Voltage: 12 to 24 V(dc).
b. Operating Temperature: 32 to 158 deg F.

c. Controller Communication: RS-485.
d. Mounting: Cabinet mount.

D. Access Control System Input/Output Interface:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. HID

2. Source Limitations: Obtain products from single manufacturer.
3. Additional Characteristics:

a. Input Voltage: 12 to 24 V(dc).
b. Operating Temperature: 32 to 158 deg F.

c. Data ports for connection to LAN and downstream panels/controllers.
d. Integral terminal blocks for connection of inputs/outputs to field devices.
e. Inputs:

1) Auxiliary inputs from building systems.
2) Door contact.
3) Request to exit.
4) Cabinet tamper.
5) Power monitor.

f. Outputs:

1) Auxiliary outputs to building systems.
2) Door strike.
3) Credential readers.
4) Audible devices.

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4. Options:

a. Communication: RS-485.
b. Mounting: Cabinet mount.

2.2 ACCESS CONTROL SYSTEM POWER SUPPLIES AND BATTERY CHARGERS

A. Description: This category covers power supplies and battery chargers for access control system units, controllers, input/output interfaces, workstations, printers, and encoders.

B. Performance Criteria:

1. Regulatory Requirements:

a. Listed and labeled in accordance with NFPA 70 and NFPA 72, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
b. Comply with NFPA 1, NFPA 730, NFPA 731, and ICC IBC.

2. Listing Criteria: UL CCN ALVY; including UL 294.

C. Access Control System Power Supply and Battery Charger:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Altronix Corp.

2. Source Limitations: Obtain products from single manufacturer.
3. Additional Characteristics:

a. Input Voltage: 120 V(ac).
b. Output Voltage: 12 to 24 V(dc).
c. Operating Temperature: 32 to 120 deg F.
d. Network connection for remote supervision, management, and testing.
e. Enclosure lock with tamper switch and monitoring.
f. Built-in battery charger.

g. Materials: Steel.

PART 3 - EXECUTION

3.1 INSTALLATION OF ACCESS CONTROL SYSTEM HARDWARE

A. Comply with manufacturer's published instructions.

B. Reference Standards:

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1. Installation of Access Control System Hardware and Wiring: Unless more stringent requirements are specified in Contract Documents or manufacturers' published instructions, comply with requirements in guide information for UL CCN ALVY.
2. Consult Architect for resolution of conflicting requirements.

C. Interfaces with Other Work:

1. Coordinate installation of new products for access control system hardware with existing conditions.

2. Coordinate with Section 281000 "Access Control" for physical and functional interfaces with access control system and for compliance with system-wide performance requirements.
3. Coordinate with Section 284600 "Fire Detection and Alarm" for interfacing security system inputs/outputs with fire-alarm system inputs/outputs.

3.2 FIELD QUALITY CONTROL OF ACCESS CONTROL SYSTEM HARDWARE

A. Administrant for Security Tests and Inspections:

1. Administer and perform tests and inspections.

B. Tests and Inspections:

1. Perform manufacturer's recommended tests and inspections.

C. Nonconforming Work:

1. Hardware and components will be considered defective if they do not pass tests and inspections.
2. Remove and replace defective units and retest.

D. Collect, assemble, and submit test and inspection reports.

3.3 SYSTEM STARTUP

A. Perform startup service.

1. Complete installation and startup checks in accordance with manufacturer's published instructions.

3.4 PROTECTION

A. After installation, protect access control system hardware from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

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