
SECTION 28 10 00**ACCESS CONTROL****PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Access control system requirements.
- B. Access control units and software.
- C. Access control point peripherals, including readers and keypads.
- D. Accessories.

1.2 RELATED REQUIREMENTS

- A. Section 08 71 00 - Door Hardware: Electrically operated door hardware, for interface with access control system.
- B. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- C. Section 26 05 33.13 - Conduit for Electrical Systems.
- D. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
- E. Section 27 10 00 - Structured Cabling: Data cables for access control system IP network connections.
- F. Section 28 20 00 - Video Surveillance: For interface with access control system.
- G. Section 28 46 00 - Fire Detection and Alarm: For interface with access control system.

1.3 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- B. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- C. UL 294 - Access Control System Units Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other installers to provide suitable door hardware as required for both access control functionality and code compliance.
 - 2. Coordinate the placement of readers with millwork, furniture, equipment, etc. installed under other sections or by others.
 - 3. Coordinate the work with other installers to provide power for equipment at required locations.
 - 4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Preinstallation Meetings:
 - 1. Conduct meeting with facility representative to review reader and equipment locations.
 - 2. Conduct meeting with facility representative and other related equipment manufacturers to discuss access control system interface requirements.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Include plan views indicating locations of system components and proposed size, type, and routing of conduits and/or cables. Include elevations and details of proposed equipment arrangements. Include system interconnection schematic diagrams. Include requirements for interface

with other systems.

- C. Product Data: Provide manufacturer's standard catalog pages and data sheets for each system component. Include ratings, configurations, standard wiring diagrams, dimensions, finishes, service condition requirements, and installed features.
- D. Design Data: Standby battery/UPS calculations.
- E. Certify that proposed system design and components meet or exceed specified requirements.
- F. Evidence of qualifications for installer.
- G. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and operation of product.
- H. Manufacturer's detailed field testing procedures.
- I. Field quality control test reports.
- J. Project Record Documents: Record actual locations of system components and installed wiring arrangements and routing.
- K. Operation and Maintenance Data: Include detailed information on system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.
- L. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.
- M. Software: One copy of software not resident in read-only memory.

1.6 QUALITY ASSURANCE

- A. Comply with the following:
 - 1. NFPA 70.
 - 2. The requirements of the local authorities having jurisdiction.
 - 3. Applicable TIA/EIA standards.
- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- D. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience with access control systems of similar size, type, and complexity and providing contract maintenance service as a regular part of their business; authorized manufacturer's representative.
- E. Maintenance Contractor Qualifications: Same entity as installer.
- F. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
- B. Store products in manufacturer's unopened packaging, keep dry and protect from damage until ready for installation.

1.8 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.

1.9 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS**2.1 VENDOR AND PROCUREMENT**

- A. Contractor will obtain the services of the prison access control vendor: Montgomery Technology, Inc. who will select equipment manufacturer and systems software.

2.2 ACCESS CONTROL SYSTEM REQUIREMENTS

- A. Provide new access control system consisting of required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.
- B. System Battery Backup: Provide batteries/uninterruptible power supplies (UPS) as required.
- C. Access Control Points:
1. See article "ACCESS CONTROL POINT PERIPHERALS" below for device descriptions.
- D. Computers Required:
1. See article "ACCESS CONTROL UNITS AND SOFTWARE" below for product descriptions.
- E. Interface with Other Systems:
1. Provide products compatible with other systems requiring interface with access control system.
 2. Interface with electrically operated door hardware as specified in Section 08 71 00.
 - a. Capable of locking/unlocking/releasing controlled doors.
 - b. Capable of receiving input from integral door hardware switches.
 3. Interface with parking control gates as specified in Section 11 12 00.
 - a. Capable of controlling gate access.
 4. Interface with video surveillance system as specified in Section 28 20 00.
 - a. Capable of affecting camera/video operation for selected access control system events.
 5. Interface with fire alarm system as specified in Section 28 46 00.
 6. Interface with lighting control system.
 - a. Capable of affecting control of designated lighting for selected access control system events.
- F. Provide products listed, classified, and labeled as suitable for the purpose intended.
1. Access Control Units and Readers: Listed and labeled as complying with UL 294.

2.3 ACCESS CONTROL UNITS AND SOFTWARE

- A. Provide access control units and software compatible with readers to be connected.
- B. Unless otherwise indicated, provide software and licenses required for fully operational system.
- C. Computers:
1. Workstation Computers: Unless otherwise indicated, workstation computer hardware and associated peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section, meeting access control system equipment manufacturer's recommended requirements.
 2. Servers: Unless otherwise indicated, server hardware and associated peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section, meeting access control system equipment manufacturer's recommended requirements.
-

3. Badging Peripherals: Unless otherwise indicated, badging peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section.

2.4 ACCESS CONTROL POINT PERIPHERALS

- A. Provide devices compatible with control units and software.
- B. Provide devices suitable for operation under the service conditions at the installed location.
- C. Readers and Keypads:
 1. General Requirements:
 - a. Provide readers compatible with credentials to be used.
 - b. Color: To be selected by Architect from manufacturer's available standard colors.
- D. Door Position Switches:
 1. Magnetic Contacts: Encapsulated reed switch(es) and separate magnet; designed to monitor opened/closed position of doors.
- E. Request to Exit Devices:
 1. Motion Sensors: Passive infrared.
- F. Door Locking Devices (Electric Strikes and Magnetic Locks): Comply with Section 08 71 00.

2.5 ACCESSORIES

- A. Provide components as indicated or as required for connection of access control system to devices and other systems indicated.
- B. Unless otherwise indicated, credentials to be provided by vendor.
- C. Unless otherwise indicated, network switches required for network connections to system components to be provided by Owner's IT Vendor.
- D. Provide cables as indicated or as required for connections between system components.
 1. Data Cables for IP Network Connections: Unshielded twisted pair (UTP), minimum Category 5e, complying with Section 27 10 00.
- E. Provide accessory racks/cabinets as indicated or as required for equipment mounting.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that ratings and configurations of system components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive system components.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to system.
- E. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install access control system in accordance with NECA 1 (general workmanship).
- B. Install products in accordance with manufacturer's instructions.
- C. Wiring Method: Unless otherwise indicated, use cables (not in conduit).
 1. Use suitable listed cables in wet locations, including underground raceways.
 2. Use suitable listed cables for vertical riser applications.
 3. Use listed plenum rated cables in spaces used for environmental air.
 4. Install wiring in conduit for the following:

- a. Where required for rough-in.
- b. Where required by authorities having jurisdiction.
- c. Where exposed to damage.
- d. Where installed outside the building.
- e. For exposed connections from outlet boxes to devices.
- 5. Conduit: Comply with Section 26 05 33.13.
- 6. Conceal cables unless specifically indicated to be exposed.
- 7. Use power transfer hinges complying with Section 08 71 00 for concealed connections to door hardware.
- 8. Route exposed cables parallel or perpendicular to building structural members and surfaces.
- 9. Do not exceed manufacturer's recommended maximum cable length between components.
- D. Provide grounding and bonding in accordance with Section 26 05 26.
- E. Identify system wiring and components in accordance with Section 26 05 53.

3.3 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Provide services of a manufacturer's authorized representative to observe installation and assist in inspection and testing. Include manufacturer's detailed testing procedures and field reports with submittals.
- C. Prepare and start system in accordance with manufacturer's instructions. Contractor shall assist vendor with startup.
- D. Program system parameters according to requirements of Owner.
- E. Test for proper interface with other systems.
- F. Correct defective work, adjust for proper operation, and retest until entire system complies with Contract Documents.
- G. Submit detailed reports indicating inspection and testing results and corrective actions taken.

3.4 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.5 CLOSEOUT ACTIVITIES

- A. Demonstration: Demonstrate proper operation of system to Owner, and correct deficiencies or make adjustments as directed.
- B. Training: Train Owner's personnel on operation, adjustment, and maintenance of system.
 - 1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
 - 2. Provide minimum of four hours of training.
 - 3. Instructor: Manufacturer's authorized representative.
 - 4. Location: At project site.

3.6 PROTECTION

- A. Protect installed system components from subsequent construction operations.

END OF SECTION 28 10 00