

SECTION 13710

KERI PYRAMID SERIES PROXIMITY ACCESS CONTROL READERS AND CREDENTIALS

GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE, AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING. EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED ON MASTERFORMAT, 1995 EDITION). THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING SECTIONS 01330-SUBMITTAL PROCEDURES, 0162G-PRODUCT OPTIONS, 0163G-PRODUCT SUBSTITUTION PROCEDURES, 01660-PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01770-CLOSEOUT PROCEDURES, AND 01780-CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES. THIS IS AN OPEN PROPRIETARY SPECIFICATION ALLOWING USERS THE OPTION OF APPROVING OTHER MANUFACTURERS WHICH COMPLY WITH THE CRITERIA SPECIFIED HEREIN. NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY. OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G.: [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS. ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED WITH BLANK SPACES, E.G.: _____ . OPTIONAL PARAGRAPHS ARE SEPARATED BY "OR" WITHIN A BOX, E.G.:

OR

THIS SECTION SPECIFIES KERI PYRAMID SERIES PROXIMITY READERS AND CREDENTIALS ONLY. PROVISION OF OTHER COMPONENTS, AND CLOSE COORDINATION THEREWITH, ARE REQUIRED FOR A COMPLETE ACCESS CONTROL SYSTEM.

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Proximity access control readers and proximity credentials (contactless RFID readers, cards and tags for access identification).
- B. Related Sections and Divisions:
 - 1. 08710-Door Hardware
 - 2. 08740-Electro-Mechanical Hardware: Electrical locking control system.
 - 3. Division 16-Electrical: Conductors and outlet boxes.

INCLUDE APPROPRIATE INFORMATION BELOW, INCLUDING A REFERENCE TO SECTION 01210-ALLOWANCES, IF PROXIMITY READERS AND CREDENTIALS ARE INCLUDED IN ANY ALLOWANCE ITEMS, AND ADD 01210-ALLOWANCES TO "RELATED SECTIONS" PARAGRAPH ABOVE. OTHERWISE DELETE FOLLOWING PARAGRAPH.

C. Allowances:

INCLUDE APPROPRIATE LANGUAGE BELOW INCLUDING A REFERENCE TO SECTION 01230-ALTERNATES, IF PRODUCTS SPECIFIED IN THIS SECTION ARE SUBJECT TO ANY ALTERNATE BID ITEMS, AND ADD SECTION 01230-ALTERNATES TO "RELATED SECTIONS" PARAGRAPH ABOVE. OTHERWISE DELETE FOLLOWING PARAGRAPH.

D. Alternates:

1.2 DEFINITIONS

- A. Access Control: The management of persons and vehicles through entrances and exits of a secured area utilizing electronic systems and specialized procedures.
- B. Antipassback Mode: Controller prevents successive use of credential through a specified access point.
- C. Controller: An electronic device that automates the process of who, when and where someone may enter or exit an area.
- D. Normal Mode: Controller grants access provided credential holder has privileges for that time and that access point.
- E. Proximity Credential: A portable media (card or tag) that carries 2 or more bits of data associated with the identity of an individual or property and is based on RFID technology.
- F. Proximity Reader: A device based on RFID technology that is capable of reading data from a proximity credential when the credential is presented within the device read range.
- G. RFID: Radio Frequency Identification. Incorporating electromagnetic or electrostatic coupling in the radio frequency portion of the spectrum allowing proximity credentials and readers to communicate contactlessly through a variety of modulation and encodation schemes. Normally credential data may be contained in 2 or more bits for the purpose of providing identification to the holder of the credential. Widely considered the best identification technology to meet ADA requirements.
- H. Wiegand™ Format: Electrical and physical definition of the interface between a reader and control panel. Commonly used by the security/access control industry, the electrical characteristics are loosely based upon the fundamentals of the Wiegand Effect. The Wiegand Effect is the storage of magnetic energy by a highly processed ferromagnetic wire called the Wiegand Wire.

1.3 SYSTEM DESCRIPTION

- A. Design Requirements: Proximity readers shall read user credentials without physical contact, process credential encoded data and output data to access system controller resulting in instructions to allow/deny access.
- B. Performance Requirements:
 - 1. Credential shall be readable when presented in any orientation or at any angle to reader surface.
 - 2. Reader data output time to controller: 95 milliseconds nominal.
 - 3. Transmission of radio frequency signals into the reader shall not compromise the system.
 - 4. Presence of small metal objects, such as keys or coins, near the credential shall not alter the code nor prevent the code from being read.
 - 5. Different types of credentials may be used interchangeably and shall be compatible with all readers in the system.
 - 6. Reader shall be of a contactless pass-through type, reading any data programmed to the credential, regardless of credential data configuration.
 - 7. Damage or vandalism to the reader shall not compromise any part of the access control system.

1.4 SUBMITTALS

- A. Reference Section 01330-Submittal Procedures; submit following items:
 - 1. Product Data: Readers and credentials.
 - 2. Quality Assurance/Control Submittals:
 - a. Manufacturer's Installation Instructions.
 - 3. Closeout Submittals:
 - a. Operation Guides.
 - b. Special Warranties.

1.5 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer Qualifications: Minimum three years experience in producing proximity access controls.

1.6 DELIVERY STORAGE AND HANDLING

- A. Reference Section 01660-Product Storage and Handling Requirements.
- B. Follow manufacturer's instructions.

1.7 WARRANTY

- A. Special Warranty:
1. All Readers: Lifetime.
 2. Credential Type 1: Lifetime.
 3. Credential Type 2: Lifetime.
 4. Credential Type 3: One year.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Manufacturer: Keri Systems, Inc.; 1530 Old Oakland Road, Suite 100; San Jose, CA 95112 U.S.A. telephone (800) 260-5265 telephone (408) 451-2520; fax (408) 441-0309; email sales@kerisys.com; internet www.kerisys.com.

INSERT NAME, ADDRESS AND PHONE NUMBERS OF SYSTEM MANUFACTURERS BELOW.

1. System Manufacturer:

INSERT NAME, ADDRESS AND PHONE NUMBERS OF SYSTEM INTEGRATORS BELOW.

2. System Integrator:

- B. Substitutions: Reference Section 01630-Product Substitution Procedures.

2.2 SYSTEM COMPONENTS

- A. Proximity Card Reader:

1. General:
 - a. Reader shall function in access control system's normal or antipassback mode without changes to the reader.

CONTACT KERI FOR PROXIMITY COMPATIBILITY WITH BRANDS OTHER THAN PYRAMID SERIES AND HID.

- b. Proximity Credential Compatibility Configuration: [Pyramid Series credentials only] [HID Corporation and Pyramid Series credentials] [Configuration determined by programming of reader at time of order.].

CONTACT KERI FOR OUTPUT DATA CONFIGURATIONS OTHER THAN WIEGAND AND MAGNETIC STRIPE.

- c. Standard Output Data Configuration: [Wiegand] [ABA Track II Magnetic Stripe (clock & data)] [Output data configuration determined by individual credential data configuration (formatting)].
 - d. Status Indicators: Independently controlled 4-state LED (red, green, amber and off) and audio tone, unless otherwise noted.
 - e. Input Voltage: 5 to 14 VDC.

- f. Operating Temperature Range: -40 to 150 degrees F (-40 to 65 degrees C).
 - g. Cabling: Color-coded, multi conductor #24 AWG (0.60 mm), #22 AWG (0.80 mm) or #18 AWG (1.20 mm) shielded minimum 4 conductor data communications cable.
 - h. Frequencies of Operation: 125 kHz excitation, and 12.5 kHz and 15.625 kHz data return (FSK-type Modulation).
 - i. Required Compliance: FCC Part 15, C-Tick per AS/NZS 4251.1:1994 and CE marked per directive 89/336/EEC.
 - j. Special Control Card Operating Requirements:
 - 1) User Status: LED flash and audio tone activation to advise user that a credential has been read and data transmitted to the controller.
 - a) LED Suppress: Disables LED flash only when user credential has been read.
 - b) Beeper Suppress: Disables audio tone only when user credential has been read.
 - 2) Data Line Test: Capability to demonstrate reader's operational readiness of LED, audio tone and data lines.
 - 3) LED Mode: Capability to switch between single line and dual line LED operation.
 - 4) Keypad Data Mode: Capability to switch between 8-bit Burst and 26-bit Wiegand data transmission modes (For use with P-600 Rocky Proximity Reader and Keypad only.).
 - 5) Wiegand Format Lock: Capability to fix a reader's output format to Wiegand, regardless of the format of the presented credential.
 - 6) Magnetic Stripe Format Lock: Capability to fix a reader's output format to magnetic stripe, regardless of the format of the presented credential.
2. Type A:
- a. Model: P-300 Cascade Proximity Reader.
 - b. Maximum Size (HxWxT): 3.0x1.5x0.49 inches (76x38x12 mm).
 - c. Current Draw: 80 mA nominal.
 - d. Application: A mullion-type reader which may be mounted to a metal door (mullion) frame, a window frame or any flat surface.
 - e. Color: [Off-White and Black] [As selected by specifier from manufacturer's standard color range; minimum 2 colors].
 - f. Read Range: Up to 4 inches (102 mm).
3. Type B:
- a. Model: P-400 Gibraltar Proximity Reader.
 - b. Maximum Size (HxWxT): 5.3x2.0x0.75 inches (134x51x19 mm).
 - c. Current Draw: 90 mA nominal.
 - d. Application: A high security, vandal proof, shock resistant-type reader which may be mounted to a metal door (mullion) frame, a window frame or any flat surface.
 - e. Enclosure Materials:
 - 1) Surround: Stainless steel.

- 2) Face: Fiber-Tex®, a UL 752 (bullet-resisting) listed material.
 - f. Mounting Provisions:
 - 1) Through Hole: 2 counter sunk holes appropriate for 0.25 inch (6.4 mm) security bolts.
 - 2) Blind Taps: 4 taps on backside for ¼-20 threaded, 0.4 inch (10 mm) deep bolts.
 - g. Color: Buffed stainless steel with an off-white Fiber-Tex® face.
 - h. Read Range: Up to 1 inch (25 mm).
 - i. LED Indicator: Not included.
4. Type C:
- a. Model: P-500 Alps Proximity Reader.
 - b. Maximum Size (HxWxT): 4.5x3.0x0.38 inches (114x76x10 mm).
 - c. Current Draw: 80 mA nominal.
 - d. Application: A wall switch-type reader which may be mounted to a metal or plastic U.S. single gang electrical junction box or any flat surface.
 - e. Color: [Off-White and Black] [As selected by specifier from manufacturer's standard color range; minimum 2 colors].
 - f. Read Range: Up to 5 inches (127 mm).
5. Type D:
- a. Model: P-600 Rocky Proximity Reader and Keypad.
 - b. Maximum Size (HxWxT): 4.0x3.9x0.95 inches (102x99x2.5 mm).
 - c. Current Draw: 90 mA nominal.
 - d. Application: An integrated-type unit combining both a Pyramid Series reader and an Essex keypad in a single-piece enclosure which may be mounted to a metal or plastic U.S. single gang electrical junction box or any flat surface.
 - e. Color: [Off-White and Black] [As selected by specifier from manufacturer's standard color range; minimum 2 colors].
 - f. Read Range: Up to 4 inches (102 mm).
 - g. Keypad Type: Shall be manufactured by Essex Electronics of stainless steel, utilizing piezo technology, with no moving parts.
 - h. Keypad Reliability: Tested to a minimum of 1 billion keystroke actuations.
 - i. Keypad Output Data Configuration: [Wiegand] [Configurable via Keypad Data Mode Control Card].
 - 1) 8-Bit Burst (default data output configuration).
 - 2) 26-Bit Wiegand.

B. Proximity Credentials:

1. General:

- a. Passive operation-must be readable without use of a battery.
- b. Operating Temperature Range: -40 to 150 degrees F (-40 to 65 degrees C).
- c. Credential coding shall be derived from a population of at least 184 trillion possible unique codes.

CONTACT KERI FOR AVAILABLE CODING TYPES OTHER THAN WIEGAND AND MAGNETIC STRIPE.

- d. Standard Data Configuration: [Wiegand] [ABA Track II Magnetic Stripe].

2. Type 1:

- a. PSC-1 Standard Light Proximity Card; "clamshell"-type plastic card with beveled edges.
- b. Maximum Size: 3.38x2.15x0.06 inches (86x54x1.5 mm).
- c. Read Range: Up to 5 inches (127 mm) with P-500; dependent on reader.
- d. ID Marking: [None] [Encoded, offset or random numbers] [As selected by specifier from manufacturer's standard permanent marking schemes.].
- e. Slot Punch: [Vertical].
- g. Graphics: [None] [Dye sublimation using Keri's PVC-9 PVC Adhesive Overlay.] [Custom color screen printing using Owner supplied artwork].

3. Type 2:

- a. PSK-3 Proximity Key Ring Tag; molded plastic credential with brass eyelet appropriate for fitting to a key ring or chain.
- b. Maximum Size: 1.51x1.15x0.20 inches (38x29x5 mm).
- c. Read Range: Up to 3 inches (76 mm) with P-500; dependent on reader.
- d. ID Marking: [None] [Encoded, offset or random numbers][As selected by specifier from manufacturer's standard permanent marking schemes.].
- f. Attachment: Brass eyelet; 0.20 inches (5 mm) inside diameter.
- g. Graphics: [None].

4. Type 3:

- a. PSM-2 Multi Technology Proximity Card; thin credit card size plastic credential conforming to ISO 7813. Front and back surfaces suitable for edge to edge dye sublimation printing.
- b. Maximum Size: 3.38x2.13x0.033 inches (86x54x0.84 mm).
- c. Read Range: Up to 4 inches (102 mm) with P-500; dependent on reader.
- d. ID Marking: [None] [Encoded, offset or random numbers] [As selected by specifier from manufacturer's standard permanent marking schemes.].
- e. Slot Punch: [None] [Vertical] [Horizontal].
- f. Finish:

- 1) Front: [Printable gloss] white.
 - 2) Back: [Printable gloss] white with slot punch indicators and small logo.
- g. Graphics: [None] [Front] [and] [Back] [Custom color graphics using customer supplied artwork].
 - h. Magnetic Stripe: [None] [3-track high coercivity].
 - i. Smart Module: [None] [Smart module-type per customer specification].

2.3 FABRICATION

- A. Reader:
 1. Electronics Module: Single piece weatherproof construction enclosed in epoxy potting preventing access to reader electronics.
 1. Bezel: Snap-On plastic cover (to conceal electronics module mounting screws) with locking flaps to prevent removal.
 3. Plastics: Scratch resistant, UV stabilized and flame retardant aircraft grade ABS.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates upon which readers will be installed.
- C. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
- C. Commencement of work by installer is acceptance of substrate.

3.2 INSTALLATION

- A. Follow manufacturer's instructions.

3.3 FIELD QUALITY CONTROL

- A. Site Tests: As appropriate test each reader for proper LED and audio tone function, as well as read range and data output accuracy.

3.4 CLEANING

- A. Clean components soiled by work as recommended by manufacturer.
- D. Remove surplus materials and debris from site.

3.5 DEMONSTRATION

A. Demonstrate proper operating procedures to owner's representative.

COMPLETE FOLLOWING SCHEDULES OR PROVIDE SIMILAR SCHEDULES ON DRAWINGS. EXPAND SCHEDULES AS REQUIRED.

3.6 READER SCHEDULE

DOOR NO.	READER TYPE	READER COLOR	REMARKS

3.7 CREDENTIAL SCHEDULE

CREDENTIAL TYPE	NO. REQUIRED