Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

SECTION 28 13 00
ACCESS CONTROL

PART 1 GENERAL

1.1   SUMMARY

A. Section Includes: Server hardware and software, client software, security access devices, access control, relay control, elevator control, credential creation and credential holder database and management, Digital Video Integration, Basic Burglary Alarm Integration

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI *MasterFormat* and specifier's practice.

B. Related Sections:

1. Section [08 11 00 - Metal Doors and Frames] [_____].

2. Section [08 14 00 - Wood Doors] [_____].

3. Section [08 41 13 – Aluminum Framed Entrances and Store fronts] [_____]

4. Section [08 71 00 - Door Hardware] [_____].

5. Section [14 20 00 - Elevators] [_____].

6. Section [21 09 00 – Instrumentation and Control for Fire-Suppression Systems] [_____]

7. Section [25 15 00 - Integrated Automation Software] [_____].

8. Section [26 05 00 - Common Work Results for Electrical] [_____].

9. Section [26 05 19 - Low-Voltage Electrical Power Conductors and Cables] [_____].

10. Section [27 10 00 - Structured Cabling] [_____].

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Section 01 42 19 - Reference Standards may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section. Retain only those reference standards to be used within the text of this Section. Add and delete as required for specific project.

1.2   REFERENCES

A. Institute of Electrical and Electronics Engineers (IEEE):

11. IEEE 1100 Recommended Practice for Powering and Grounding Electronic Equipment.

B. National Fire Protection Association (NFPA):

12. NFPA 70 2005 National Electrical Code.

13. NFPA 72 National Fire Alarm Code.

14. NFPA 80 Fire Doors and Windows, 2007 Edition.

15. NFPA 101 Life Safety Code, 2009 Edition.

C. International Organization for Standardization (ISO):

    16. ISO 7816 Smart Card Standard.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.1   ELECTRONIC ACCESS CONTROL MANAGEMENT SYSTEM

  A.   Manufacturer: HARTMANN CONTROLS CORPORATION

  1. Contact: PHONE 877-411-0101, FAX 705-792-5632. www.hartmann-controls.com

  B.   System Components:

  1. Mullion Mount Proximity Access Reader HC-PROX3:

  a. Dimensions: 38mm (W) X 114mm (H) X 19mm (D) (1.6" X 4.5" X 0.75").

  b. Design: Weatherproof.

  c. Characteristics: High reliability; consistent read range characteristics; low power consumption; vandal-resistant.

  d. Colors: Available in Black

  e. Features: Multicolor LED indicator-Red, Green, Amber, and Off.

  f. Mounting: Mullion, can be mounted directly to metal.

  g. Communication format: High security 40 bit, AWID, HID

  h. Frequency: 125 Khz excitation

  i. Read Range: 3 inches – 6 inches (76mm – 152 mm) depending on credential.

  j. Operating Temperature: -40°F to +149°F (-40° C to +65° C)

  k. Current Draw: 5mA minimum, 45mA typical, 80mA peak.

  l. Compliance: CSA, UL, FCC, CE, C-Tick.

  m. Warranty: Limited Lifetime (as per manufacturer).

  2. High Security Vandal Proof Proximity Access Reader HC-P453 Mullion:

  a. Dimensions: 51mm (W) x 134mm (H) x 19mm (D) (2" X 5.25" X 0.75").

  b. Design: Weatherproof, Vandal proof.

  c. Characteristics: High reliability; consistent read range characteristics; low power consumption; vandal-proof.

  d. Colors: Stainless Steel and Fibertex.

  e. LED: None

  f. Mounting: mullion may be mounted directly to metal.

  g. Communication format: High security 40 bit, AWID, HID

  h. Frequency: 125 Khz excitation

  i. Read Range: up to 1 inch (25 mm).

  j. Operating Temperature: -40 to +65 degrees Celsius.

  k. Current Draw: 90mA typical.

  l. Compliance: CSA, UL, FCC, CE, C-Tick.

  m. Warranty: Limited Lifetime (as per manufacturer).

  3. Keypad/Proximity Access Reader HC-640:

  a. Dimensions: 77mm (W) X 117mm (H) X 18mm (D) (3" X 4.6" X 0.7").

b. Design: Weatherproof.

c. Characteristics: Uses non-mechanical capacitive technology (no moving parts), High reliability; consistent read range characteristics; low power consumption; vandal-resistant.

d. Colors: Available with Black or Off White cover.

e. Features: Multicolor LED indicator-Red, Green, Amber, and Off.

f. Mounting: Wall-single gang box, or may be mounted directly to metal.

g. Communication format: High security 40 bit, AWID, HID

h. Frequency: 125 Khz excitation

i. Read Range: 3 inches – 6 inches (76 – 152 mm) depending on credential.

j. Operating Temperature: -40 to +65 degrees Celsius.

k. Current Draw: 30mA minimum, 50mA typical, 115mA peak.

l. Compliance: FCC, CE, C-Tick.

m. Warranty: Limited Lifetime (as per manufacturer).

4. Long Range Single Gang Access Reader HC-P710:

a. Dimensions: 152.4mm (W) x 216mm (H) x 25.4mm (D) (6" X 8.6" X 1").

b. Design: Weatherproof.

c. Characteristics: High reliability; consistent read range characteristics; low power consumption; vandal-resistant.

d. Colors: Black

e. Features: Multicolor LED indicator-Red, Green, Amber, and Off.

f. Mounting: Wall-single gang box, or non-metallic flat surfaces.

g. Communication format: High security 40 bit, AWID, HID.

h. Frequency: 125 KHz excitation

i. Read Range: Up to 15 inches (up to 381 mm) depending on credential.

j. Operating Temperature: -40 to +65 degrees Celsius.

k. Current Draw: 200mA typical, 600mA peak.

l. Compliance: FCC, CE, C-Tick, ICC.

m. Warranty: Limited Lifetime (as per manufacturer).

5. Long Range Single Gang Access Reader HC-P900:

a. Dimensions: 267mm (W) X 267mm (H) X 53mm (D) (10.5" X 10.5" x 2").

b. Design: Weatherproof.

c. Characteristics: High reliability; consistent read range characteristics; low power consumption; vandal-resistant.

d. Colors: Black

e. Features: Multicolor LED indicator-Red, Green, Amber, and Off.

f. Mounting: US- size metal or plastic single or double gang wall box, standard parking bollard X-mounts or non-metallic flat surfaces.

g. Communication format: High security 40 bit, AWID, HID.

h. Frequency: 125 KHz excitation

i. Read Range: Up to 20 inches (up to 508 mm) depending on credential.

j. Operating Temperature: -40 to +65 degrees Celsius.

k. Current Draw: 200mA typical, 600mA peak.

l. Compliance: FCC, CE, C-Tick, ICC.

m. Warranty: Limited Lifetime (as per manufacturer).

6. Clamshell Proximity Card HC-PSK3:

    a. Dimensions: 86mm(W) X 55mm (H) X 1.5mm (D) (3.4" X 2.2" X 0.06").

    b. Frequency: 125 kHz excitation.

    c. Communication format: High security 40 bit.

    d. Operating Temperature: -40 to +65 degrees Celsius.

    e. Material: ABS Clamshell

    f. Slot Punch: Vertical

    g. Compliance: CSA, UL, FCC, CE, C-Tick.

    h. Warranty: Limited Lifetime warranty as per Manufacturer.

7. Proximity Key Tag HC-PSK3:

    a. Dimensions: 36mm (W) X 29mm (H) X 3.8mm (D) (1.5" X 1.2" X 0.15")

    b. Frequency: 125 kHz excitation.

    c. Communication format: High security 40 bit.

    d. Operating Temperature: -40 to +65 degrees Celsius.

    e. Material: ABS

    f. Color: Light Grey

    g. Slot Punch: Vertical

    h. Compliance: CSA, UL, FCC, CE, C-Tick.

    i. Warranty: Limited Lifetime warranty as per Manufacturer.

8. Image technology Proximity Card HC-PSI4 (46 MIL):

    a. Dimensions: 85.9mm (W) X 53.8mm (H) X 1.17mm (D) (3.38" X 2.12" X 0.046").

    b. Printing Surface Imaging: Appropriate for direct color dye sublimation printing of images and text.

    c. Frequency: 125 kHz excitation.

    d. Communication format: High security 40 bit.

    e. Operating Temperature: -40 to +65 degrees Celsius.

    f. Material: PVC

    g. Color: Glossy white

    h. Slot Punch: Vertical

    i. Compliance: CSA, UL, FCC, CE, C-Tick.

    j. Warranty: Limited Lifetime warranty as per Manufacturer.

9. Image technology Proximity Card HC-PSM-2P (31 MIL):

    a. Dimensions: 85.9mm (W) X 53.8mm (H) X 10.79mm (D) (3.38" X 2.12" X 0.031").

    b. Printing Surface Imaging: Appropriate for direct color dye sublimation printing of images and text.

    c. Frequency: 125 kHz excitation.

    d. Communication format: High security 40 bit.

    e. Operating Temperature: -40 to +65 degrees Celsius.

    f. Material: PVC

g. Color: Glossy white

h. Slot Punch: Vertical

i. Compliance: CSA, UL, FCC, CE, C-Tick.

j. Warranty: Limited Lifetime warranty as per Manufacturer.

10. Long Range Wireless RF Receiver HC-WRR-44:

a. Dimensions: 86.4mm (W) X 160mm (H) X 58.4mm (D) (3.3" X 6.3" X 2.3").

b. Design: Weatherproof

c. Characteristics: High reliability, long read range, encrypted rolling code transmission.

d. Read Range: Up to 200 feet (61 m), installer adjustable, up to 4 wiegand channels.

e. Colors: Off White

f. Frequency: 433 MHz

g. Features: Multicolor LED indicator-Red, Green, and Off.

h. Mounting: Wall-single gang box, or non-metallic flat surfaces.

i. Operating Temperature: -40 to +65 degrees Celsius.

j. Current Draw: 120 mA typical @ 12 VDC

k. Compliance: FCC, IC, CE, C-Tick.

l. Warranty: Limited 1 year (as per manufacturer).

11. Long Range Wireless RF Receiver HC-WRR-22:

a. Dimensions: 84mm (W) X 84mm (H) X 48.3mm (D) (3.3" X 3.5" X 1.9").

b. Design: Weatherproof

c. Characteristics: High reliability, long read range, encrypted rolling code transmission.

d. Read Range: Up to 100 feet (30 m), installer adjustable, up to 4 wiegand channels.

e. Colors: Off White

f. Frequency: 433 MHz

g. Features: Multicolor LED indicator-Red, Green, and Off.

h. Mounting: Wall-single gang box, or non-metallic flat surfaces.

i. Operating Temperature: -40 to +65 degrees Celsius.

j. Current Draw: 80 mA typical @ 12 VDC

k. Compliance: FCC, IC, CE, C-Tick

l. Warranty: Limited 1 year (as per manufacturer).

12. Combination One Button Wireless RF Transmitter and Proximity Credential HC-WRT2:

a. Dimensions: 33mm (W) X 58.4mm (H) X 10.2mm (D) (1.3" X 2.3" X 0.4").

b. Design: Weatherproof

c. Characteristics: High reliability, long read range, rolling code + encrypted algorithm for secure transmission.

d. Communication format: High security 40 bit.

e. Colors: Black

f. LED: Red LED standard (activated upon button press).

g. Read Range:

1) Button press up to 150ft (46m) with HC-HARWRR-42 Receiver

2) Proximity presentation up to 2 inches (51mm)

    h. Operating Temperature: -25 to +50 degrees Celsius.

    i. Battery: 27A, NM27 size 12V Alkaline.

    j. Compliance: FCC, IC, CE, C-Tick.

    k. Warranty: Limited 1 year (as per manufacturer).

13. Combination Four Button Wireless RF Transmitter and Proximity Credential HC-WRT4:

    a. Dimensions: 33mm (W) X 58.4mm (H) X 10.2mm (D) (1.3" X 2.3" X 0.4").

    b. Design: Weatherproof.

    c. Characteristics: High reliability, long read range, rolling code + encrypted algorithm for secure transmission.

    d. Communication format: High security 40 bit.

    e. Colors: Black

    f. LED: Red LED standard (activated upon button press).

    g. Read Range:

        1) Button press up to 150ft (46m) with HC-HARWRR-42 Receiver

        2) Proximity presentation up to 2 inches (51mm)

    h. Operating Temperature: -25 to +50 degrees Celsius.

    i. Battery: 27A, NM27 size 12V Alkaline

    j. Compliance: FCC, IC, CE, C-Tick

    k. Warranty: Limited 1 year (as per manufacturer).

PRODUCT SUBSTITUTIONS

    A   Substitutions: No substitutions permitted.

PART 3 EXECUTION

    1MANUFACTURER'S INSTRUCTIONS

Specifier Note: Article below is an addition to the CSI *Section Format*; please revise to suit project requirements and specifier's practice.

      D. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions and product carton installation instructions.

    1EXAMINATION

      A   Site Verification of Conditions:

        17. Verify that substrate conditions, which have either been previously installed under other sections, or that existing site conditions, are acceptable for product installation in accordance with manufacturer's instructions.

        18. Verify that building doors, frames, walls, wire runs, related items and conditions are ready to receive work of this Section.

    1PROTECTION

      A   Other Trades: Protect installed work of other trades.

    1PREPARATION

      A   Project Planning Forms:

        19. Manufacturer Forms: Obtain and complete project planning forms from manufacturer of surveillance system; customize forms to be project specific.

        20. Final Setup: Review, adjust and prepare final documents to establish system software setup.

      E. Record Setup Data:

        1. Record server and workstations setup data.

        2. Record controller address, features and access requirements for each location.

        3. Propose start and stop times for Time Zones, including holidays; match up for Door Schedule.

        4. Set up Access Privilege groups, Elevator Privilege groups, list inputs and outputs for each Controller.

      F. Electrical Preparation:

        21. Ensure dedicated 120 VAC power circuits, conduit, raceways, back boxes, j-boxes, fittings, hardware and earth grounds supplied as necessary to provide complete working system.

        22. Ensure power supplies associated with electrified door hardware is installed.

        23. Ensure conduit for cable protection within walls, back boxes, door jambs, stubbed above drop ceilings, within closed ceilings, where exposed, and penetrating walls and ceilings, have been provided.

        24. Ensure back box installations in masonry have been completed.

        25. Ensure patching and painting items related to conduit, raceways, j-boxes, fittings hardware and earth grounds conduit and conduit installations has been done.

        26. Ensure cabling for alarm systems is installed and completed.

      G. Elevators:

27. Coordinate installation of wiring, card readers and relay's to cab(s).

28. Coordinate installation of wiring and equipment for elevator control, life safety to cab(s).

29. Coordinate testing and commissioning of elevator system after installation of equipment.

H. Information Services:

30. Ensure that dedicated phone lines and phone equipment have been provided and completed.

31. Ensure that network drops are being installed and installation coordinated with the work of this section.

32. Ensure coordination of Server and Client software installations with IT personnel.

33. Ensure coordination of IT personnel prior to configuration and installation of Ethernet devices.

I. Fire Alarm:

34. Ensure coordination of installation, including wiring and equipment for the fire alarm panel to interface with access control alarm monitoring system, is undertaken.

1INSTALLATION

A   Comply with:

35. IEEE 1100.

36. NFPA 70.

37. NFPA 72.

38. NFPA 80.

39. NFPA 101.

J. Installation:

40. Install surface mounted units to finished substrates.

41. Set units level, plumb and true to line and location.

42. Comply with positioning requirements for disabled accessibility.

43. Provide 120 VAC power circuits, conduit, raceways, back boxes, j-boxes, fittings, hardware and earth grounds as required to provide electrical requirements for access control systems.

K. Cabling:

44. Raceway and Cable Tray: Install wiring in raceway and cable tray, except:

a. Within consoles, cabinets, desks and counters.

b. In accessible ceiling spaces.

c. In gypsum board partitions where unenclosed wiring method may be used.

45. Conduit: Install wiring in conduit, except:

d. Within consoles, cabinets, desks and counters.

46. J-Hooks: Install wiring in j-hooks and associated wire hardware.

47. Conceal [Raceway and cable tray] [Conduit] [J-hooks and cables] except in unfinished spaces.

48. Use NRTL-listed plenum cable in environmental airspaces, including plenum ceilings.

49. Install cables without damaging conductors, shield or jacket.

50. Use only Manufacturer recommended wiring,

51. Basic elevation drawings available from manufacturer upon request.

52. Advanced elevation, riser and point to point diagrams available from manufacturer for an additional fee, based on the complexity of the project, and the level of integration required with other systems.

L. Grounding:

53. Comply with IEEE 1100.

Specifier Note: To eliminate shock hazard and to minimize ground loops, common-mode returns, noise pick-up, cross-talk and other impairments, use the following.

54. Ground cable shields, drain conductors and equipment.

55. Bond shields and drain conductors to ground at only one point.

M. System Software:

56. Develop, install and test software and databases for complete and proper operation of systems involved.

57. Register all Software within 30 days of on site installation.

1 FIELD QUALITY CONTROL

Specifier Note: Use the following Articles only when manufacturer's field services are desired to verify the quality of the installed components. Establish the number and duration of periodic site visits required by Manufacturer and specify below. Consult Manufacturer for services required. Delete if field services are not required.

A   Written Reports: Have manufacturer of products supplied under this Section review Work involved in handling, installation/application, protection and cleaning of its product[s], and submit written reports in acceptable format to verify compliance of Work with Contract.

N. Manufacturer's Field Services: Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

O. Schedule site visits to review Work at stages listed:

58. After delivery and storage of products, and when preparatory Work on which Work of this Section depends is complete, but before installation begins.

59. Throughout progress of Work.

60. [Twice] [_____] during progress of Work at [25%] [_____] and [60%] [_____] complete.

61. Upon completion of Work, after cleaning is carried out.

P. Obtain reports within [Five] [_____] days of review and submit.

1 TESTING & VERIFICATION

A   Perform tests recommended and required by manufacturer to verify required performance of all products manufactured and /or supplied by Hartmann Controls Corp.

Specifier Note: Provide test descriptions in sufficient detail to fully describe the specific tests to be conducted to demonstrate conformance with the specification.

62. Complete system diagnostics and operation verification.

63. Prepare specific plan for system testing, start-up and demonstration.

64. Develop acceptance test concept and specifics.

65. Test each circuit and component of each system. System components with battery back-up to operated on battery power for not less than [10] percent of calculated battery operating time. Provide special equipment and software if testing requires special or dedicated equipment.

66. Operational Test: Demonstrate product capability and compliance with requirements.

67. Remove and replace malfunctioning devices and circuits and retest.

68. Complete installation and start-up checks in accordance with manufacturer's written instructions.

69. Maintain strict security during installation of equipment and software. Secure rooms housing the Server software and workstations.

1DEMONSTRATION

Specifier Note: A training program is required to educate personnel with the required level of system familiarity to provide a common working knowledge concerning all aspects of the system.

A   Training Program:

70. Provide training to Owner's personnel to adjust, operate and maintain access system.

71. Two week prior to the start of the program, submit proposed dates for training.

72. Develop separate training modules consisting of at least, but not limited to 1 hour per group, based on the level of knowledge required by the specific group.

73. Provide group specific operator manuals covering all areas of hardware/software required.

74. Groups:

    e. Computer system administration personnel tasked with managing and maintaining databases and updating and maintaining software.

    f. Operators tasked with preparing and imputing credentials to staff/users.

    g. Operators tasked with configuring hardware and or software features and functions.

    h. Security personnel.

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1COMPLETION & CLEANUP

A   Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

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