NOTES TO SPECIFIER: Items in BLUE font are edit prompts and notes that **should be deleted from final section**.Specifications are for electronic access control locksets, exit device trim and handheld gramming devices and as such, are only part of a complete access control installation. Copy and paste information into complete specification section as required.

2. Text in GRAY FONT is provided for reference and in locating applicable articles within the specification.
3. Typical edit prompts: Explanation

   EDIT/NOTE = Flag with instructions to the specifier on options/selections.

   [**Brackets**] = Options. Delete brackets and turn off **bold** to include.

   <**Carrots**> = Text Insert. Turn off **bold**, replace text and delete carrots.

NAVIGATION SHORTCUTS: Hover the cursor over **bold, underlined** text and follow instructions for shortcut link to specified item.

AD-400-CY: Bored, Cylindrical-Type EAC Lockset

AD-400-MS/MD: Mortise-Type EAC Lockset

AD-400-993: Exit Device Trim EAC Lockset

HHD: Handheld Programing Device

PIM: Panel Interface Module

SCHLAGE AD-400
ELECTRONIC ACCESS CONTROL LOCKSET IN OPEN OPTIONS DNA FUSION SYSTEM

PART 1 - GENERAL

NO INFORMATION INCLUDED IN PART 1 OF THIS TEMPLATE

PART 2 - PRODUCTS

2.1 MATERIALS

A. Fasteners: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

B. Cable – Wireless Electronic Access Control Lockset[**and Exit Device Trim**]:

EDIT - Specify actual cabling only if you are certain of the project/application requirements. Otherwise, delete first 2 subparagraphs and choose GENERIC OPTION.

1. Data: 24AWG, 3 conductor shielded, Belden 3106A or comparable or 8 conductor Belden 9844 or comparable. If plenum rated cable is required use Belden 4 conductor 88102 or comparable or 8 conductor Belden 88104 or comparable.
2. DC Power: 18 AWG, 2 conductor, Belden 8760 or comparable.
3. Provide data and DC power cabling as required. Provide cabling of type(s) as approved by access control device manufacturer, subject to compliance with building code requirements, for the approved installation. **GENERIC OPTION**

2.2 ELECTRONIC ACCESS CONTROL LOCKSETS – WIRELESS BORED-TYPE PROPRIETARY – AD-400-CY

A. Manufacturer: "AD-400-CY" series, as manufactured by Schlage, an Ingersoll Rand Company. No substitutes will be accepted.

B. Requirements: Wireless electronic locksets shall comply with the following requirements.

1. Type: Heavy-duty, bored cylindrical, non-handed, field-reversible.
2. Backset: 2-3/4-inch (70 mm) standard, with 2-3/8-inch (60 mm), 3-3/4-inch (95 mm) and 5-inch (127 mm) backset optional.
3. Latchbolt Throw: 1/2-inch (13 mm) with optional 3/4-inch (19 mm) throw available.
4. Chassis: Shall accommodate standard 161 cylindrical lock prep for 1-3/4-inch (44 mm) doors standard, or 1-3/8-inch (35 mm) to 2-3/4-inch (70 mm) thick doors in 1/8-inch (3 mm) increments.
5. Applicable Standards:

    a. Listed, UL 294 - The Standard of Safety for Access Control System Units.

b. Compliant with ANSI Standard A156.25 and A156.2 Series 4000, Grade 1 strength and operational requirements.
c. Compliant with ANSI/BHMA A156.25 Grade 1 Operation and Security Requirement.
d. Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
e. Compliant with ASTM E330 for door assemblies.
f. Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, IBC Chapter 10, and Industry Canada RSS-210.

6. Lockset Functions: Provide locks with following functions, as scheduled, that are field configurable without taking the lock off the door:

EDIT – as required

a. Classroom / Storeroom 70.

7. Emergency Override: Lockset shall have the ability to utilize emergency mechanical key override with the following manufacturer's key systems in the lever:

EDIT – as required for cylinders/cores.

a. Full Size cylinders from Schlage and Sargent up to 6-pin cylinders and Falcon up to 7-pin cylinders.
b. Full Size Interchangeable Cores from Schlage, Sargent, Corbin Russwin, Medeco, and Yale format by Medeco in up to 6 pin cylinders
c. Small Format Interchangeable core up to 7 pin by Schlage, Falcon, BEST, Sargent, Corbin Russwin, Medeco, Yale, and others.

8. Levers:

a. Vandal Resistance: Exterior (secure side) lever designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
b. Levers shall operate independently of each other.
c. Style: Sparta[**Rhodes**][**Athens**][**Tubular**]
d. Tactile Warning (Knurling): Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous by the authority having jurisdiction.

9. Power Supply:

a. Lockset powered by four AA batteries with options for eight AA batteries or a 12V or 24V DC power supply.
b. Lockset shall have the ability to communicate Low Battery Status and Battery Voltage Level by means of a handheld programming device at door.
c. Lockset shall have the ability to communicate Low Battery Status remotely by Open Options DNA Fusion integrated software.

10. Features: Locksets shall incorporate the following features.

a. Ability to communicate unit's communication status.

b. Visual tri-colored LED indicators that indicate activation, additional PIN code credential required, operational systems status, system error conditions and low power conditions.
c. Audible feedback that can be enabled or disabled.
d. Tamper-Resistant Screws: Tamper torx screws on inside escutcheon for increased security.

11. Adaptability:

a. Open Architecture: Locksets manufactured with open architecture characteristics capable of handling new and existing access control software and credential reading technology.
b. Field changeable Reader Modules: Lockset to have the ability to change credential reader technologies without being removed from door.

12. Switches: Provide locksets with the following switches, standard:

a. Door Position Switch
b. Interior Cover Tamper Guard
c. Mechanical Key Override
d. Request to Exit

13. Credential Reader:

a. Credential Reader Configuration: Provide credential reader modules in the following configurations, as indicated in door hardware sets. Multi-tech contactless reader shall be NFC-Compatible and read access control data from both 125 kHz and 13.56 MHz contactless smart cards. The multi-tech contactless reader shall be optimally designed for use in access control applications that require reading both 125 kHz proximity and 13.56 MHz contactless smart cards.

EDIT – Select configuration(s) as required.

1) Proximity, Smartcard via Multi-Technology.
2) Proximity, Smartcard via Multi-Technology and keypad.
3) Magnetic stripe (insertion type).
4) Magnetic stripe (insertion type) and keypad.
5) Magnetic stripe (swipe type).
6) Magnetic stripe (swipe type) and keypad.
7) Keypad.

b. Credential reader capabilities, which can be configured at lockset with handheld programming device to include, but may not be limited to:

EDIT – Select capabilities, as appropriate, based upon reader configuration(s).

1) 13.56 MHz Smart card credentials: **NOTE**: Multi-tech reader.
   a) Secure section (Multi-Technology and Smartcard): MIFARE, MIFARE DESFire EV1, PIV II Compatible.
   b) 13.56 MHz Serial number only (Multi-Technology and Smartcard): MIFARE DESfire, iClass,.
2) 125 kHz Proximity card credentials: Schlage, XceedID, HID, GE/CASI and AWID. **NOTE**: Multi-tech reader.

3) Multi-Technology readers that read both 13.56 MHz Smart Cards and 125 kHz Prox cards. **NOTE**: Multi-tech reader.
4) Dual credential reading capabilities credential card or fob and PIN. **NOTE**: Credential reader combined with keypad.
5) 12 button keypad with backlit buttons.
6) Magnetic Card Reader:
   a) [**Full insertion**][**Swipe**] reader capable of reading information along full length of magnetic stripe.
   b) Magnetic card triple track reader capable of reading tracks 1, 2 or 3 per field configuration by handheld programming device at lockset.

14. Operation:

a. Lockset System Interface:

EDIT - Select interface option.

1) Wiegand or Clock & Data via PIM400-TD2 (Panel Interface Module). **OPTION 1**
2) Directly via RS485. **OPTION 2**

b. Lockset to have real-time bidirectional communication between Open Options DNA Fusion system and lock.

EDIT – Wake on Radio feature is for battery-powered devices.

c. Remote Commanding By Open Options DNA Fusion Access Control Software: Battery-powered lockset shall have "Wake on Radio" feature causing activation of remote, wireless access control locksets, enabling activated locksets to be locked or unlocked from a centralized location within 10 seconds or less without user interface at the device.
d. Local Commanding: Locksets shall have the ability to be configured, locked or unlocked locally by handheld programming device, in real-time.
e. When Utilized with Open Options DNA Fusion Access Control Software With Remote Commanding Capability: Lockset shall have ability to be remotely locked down or unlocked within 10 seconds or less while battery powered without user interface at the device.
f. Real-time response of battery powered device capable of being configured at door by handheld programming device.
g. Upon Loss of Power to Lockset: Lockset shall have ability to manage access control offline in one of three methods below that can be configured in the field at lockset by handheld programming device:
   1) Fail locked (secured)
   2) Fail unlocked (unsecured)
   3) Fail As-Is

h. Upon Loss of Communication Between Lockset and Open Options DNA Fusion Network: Lockset shall have ability to manage access control offline in one of four methods below that can be configured in the field at lockset by handheld programming device:
   1) Fail locked (secured)
   2) Fail unlocked (unsecured)
   3) Fail As-Is

4) Fail to Degraded/cache mode utilizing cache memory with following selectable options:
   a) Grant access up to the last 1,000 unique previously accepted User IDs.
   b) Grant access up to the last 1,000 unique previously accepted facility/site codes
   c) Remove from cache previously stored User IDs or facility/site codes that have not been presented to lock within the last 5 days.

i. Lockset shall have ability to be configured at door by handheld programming device the length of time device is unlocked upon access grant.
j. Lockset shall have the ability to communicate identifying information such as firmware versions, hardware versions, serial numbers, and manufacturing dates by handheld programming device.
k. Wireless Transmission:
   1) Modulation: 900 MHz spread spectrum, direct sequence, 10 channels.
   2) Encryption: AES-128 bit Key minimum.

2.3 ELECTRONIC ACCESS CONTROL LOCKSETS – WIRELESS MORTISE-TYPE PROPRIETARY – AD-400-MS/MD

A. Manufacturer: "AD-400-MS/MD" series, as manufactured by Schlage, an Ingersoll Rand Company. No substitutes will be accepted.

B. Requirements: Wireless electronic locksets to comply with the following requirements.

1. Type: Mortise, field-reversible handing.
2. Backset: 2-3/4-inch (70 mm), nominal.
3. Latchbolt: 3-piece, beveled, stainless steel with 3/4-inch (19 mm) throw and anti-friction latch.
4. Chassis: Shall accommodate ANSI standard mortise lock prep for 1-3/4-inch (44 mm) doors standard, or 1-3/8-inch (35 mm) to 2-3/4-inch (70 mm) thick doors in 1/8-inch (3 mm) increments.
5. Applicable Standards:
   a. Listed, UL 294 - The Standard of Safety for Access Control System Units.
   b. Compliant with A156.25 and A156.13 Series 1000, Grade 1 Operational and Security.
   c. Lockset to meet or exceed ANSI Standard A156.25 and A156.13 Series 1000, Grade 1 strength and operational requirements.
   d. Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
   e. Compliant with ASTM E330 for door assemblies.
   f. Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada RSS-210.
6. Lockset Functions: Provide locks with following functions, as scheduled, that are field configurable without taking the lock off the door:

EDIT – as required

a. Classroom / Storeroom 70. **NOTE:** Not available in mortise deadbolt option.

EDIT – Deadbolt is an option, delete entire paragraph if not required.

7. Deadbolt Option: Provide lockset incorporating deadbolt complying with the following.

   a. Characteristics: Stainless steel, 1-inch throw, 1-5/8-inch (41 mm) high and 5/8-inch (16 mm) thick.
   b. Operation:
      1) Deadbolt can be retracted from both interior and exterior.
      2) Deadbolt interconnected with latch.

8. Emergency Override: Lockset shall have the ability to utilize emergency mechanical key override with the following manufacturer's key systems in the lever:

EDIT – as required for cylinders/cores.

   a. Full Size cylinders from Schlage and Sargent up to 6-pin cylinders and Falcon up to 7-pin cylinders.
   b. Full Size Interchangeable Cores from Schlage, Sargent, Corbin Russwin, Medeco, and Yale format by Medeco in up to 6 pin cylinders
   c. Small Format Interchangeable core up to 7 pin by Schlage, Falcon, BEST, Sargent, Corbin Russwin, Medeco, Yale, and others.

9. Levers:

   a. Vandal Resistance: Exterior (secure side) lever designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
   b. Levers shall operate independently of each other.
   c. Style: Sparta (17)[**Rhodes (06)**][**Athens (07)**][**Tubular (03)**]
   d. Tactile Warning (Knurling): Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous by the authority having jurisdiction.

10. Power Supply:

   a. Lockset powered by four AA batteries with options for eight AA batteries or a 12V or 24V DC power supply.
   b. Lockset shall have the ability to communicate Low Battery Status and Battery Voltage Level by means of a handheld programming device at door.
   c. Lockset shall have the ability to communicate Low Battery Status remotely by Open Options DNA Fusion integrated software.

11. Features: Locksets shall incorporate the following features.

   a. Ability to communicate unit's communication status.
   b. Visual tri-colored LED indicators that indicate activation, additional PIN code credential required, operational systems status, system error conditions and low power conditions.
   c. Audible feedback that can be enabled or disabled.
   d. Tamper-Resistant Screws: Tamper torx screws on inside escutcheon for increased security.

12. Adaptability:

    a. Open Architecture: Locksets manufactured with open architecture characteristics capable of handling new and existing access control software and credential reading technology.
    b. Field changeable Reader Modules: Lockset to have the ability to change credential reader technologies without being removed from door.

13. Switches: Provide locksets with the following switches, standard:

    a. Door Position Switch
    b. Interior Cover Tamper Guard
    c. Mechanical Key Override
    d. Request to Exit

14. Credential Reader:

    a. Credential Reader Configuration: Provide credential reader modules in the following configurations, as indicated in door hardware sets. Multi-tech contactless reader shall be NFC-Compatible and read access control data from both 125 kHz and 13.56 MHz contactless smart cards. The multi-tech contactless reader shall be optimally designed for use in access control applications that require reading both 125 kHz proximity and 13.56 MHz contactless smart cards.

EDIT – Select configuration(s) as required.

1) Proximity, Smartcard via Multi-Technology.
2) Proximity, Smartcard via Multi-Technology and keypad.
3) Magnetic stripe (insertion type).
4) Magnetic stripe (insertion type) and keypad.
5) Magnetic stripe (swipe type).
6) Magnetic stripe (swipe type) and keypad.
7) Keypad.

b. Credential reader capabilities, which can be configured at lockset with handheld programming device to include, but may not be limited to:
    1) 13.56 MHz Smart card credentials: **NOTE**: Multi-tech reader.
        a) Secure section (Multi-Technology and Smartcard): MIFARE, MIFARE DESFire EV1, PIV II Compatible.
        b) 13.56 MHz Serial number only (Multi-Technology and Smartcard): MIFARE DESfire, iClass,.
    2) 125 kHz Proximity card credentials: Schlage, XceedID, HID, GE/CASI and AWID. **NOTE**: Multi-tech reader.

EDIT – Select capabilities, as appropriate, based upon reader configuration(s).

3) Multi-Technology readers that read both 13.56 MHz Smart Cards and 125 kHz Prox cards. **NOTE**: Multi-tech reader.
4) Dual credential reading capabilities credential card or fob and PIN. **NOTE**: Credential reader combined with keypad.
5) 12 button keypad with backlit buttons.
6) Magnetic Card Reader:
    a) [**Full insertion**][**Swipe**] reader capable of reading information along full length of magnetic stripe.

b) Magnetic card triple track reader capable of reading tracks 1, 2 or 3 per field configuration by handheld programming device at lockset and remotely by Partner integrated software.

15. Operation:

a. Lockset System Interface:

EDIT - Select interface option.

1) Wiegand or Clock & Data via PIM400-TD2 (Panel Interface Module). **OPTION 1**
2) Directly via RS485. **OPTION 2**

b. Lockset to have real-time bidirectional communication between Open Options DNA Fusion system and lock.

EDIT – Wake on Radio feature for battery-power units.

a. Remote Commanding Capability By Open Options DNA Fusion Access Control Software: Battery-powered lockset shall have "Wake on Radio" feature causing activation of remote, wireless access control locksets, enabling activated locksets to be locked or unlocked from a centralized location within 10 seconds or less without user interface at the device.
b. Local Commanding: Locksets shall have the ability to be configured, locked or unlocked locally by handheld programming device, in real-time.
c. When Utilized with Open Options DNA Fusion Software With Remote Commanding Capability: Lockset shall have ability to be remotely locked down or unlocked in real-time via configurable heartbeat without user interface at the device. Real-time response of battery powered device capable of being configured at door by handheld programming device.
d. Upon Loss of Power to Lockset: Lockset shall have ability to manage access control offline in one of three methods below that can be configured in the field at lockset by handheld programming device:
    1) Fail locked (secured)
    2) Fail unlocked (unsecured)
    3) Fail As-Is

e. Upon Loss of Communication Between Lockset and Open Options DNA Fusion Network: Lockset shall have ability to manage access control offline in one of four methods below that can be configured in the field at lockset by handheld programming device:
    1) Fail locked (secured)
    2) Fail unlocked (unsecured)
    3) Fail As-Is
    4) Fail to Degraded/cache mode utilizing cache memory with following selectable options:
        a) Grant access up to the last 1,000 unique previously accepted User IDs.
        b) Grant access up to the last 1,000 unique previously accepted facility/site codes
        c) Remove from cache previously stored User IDs or facility/site codes that have not been presented to lock within the last 5 days.

f. Lockset shall have ability to be configured at door by handheld programming device the length of time device is unlocked upon access grant.
g. Lockset shall have the ability to communicate identifying information such as firmware versions, hardware versions, serial numbers, and manufacturing dates by handheld programming device.
h. Wireless Transmission:
    1) Modulation: 900 MHz spread spectrum, direct sequence, 10 channels.
    2) Encryption: AES-128 bit Key minimum.

2.4 ELECTRONIC ACCESS CONTROL – WIRELESS EXIT DEVICE TRIM PROPRIETARY – AD-400-993

A. Manufacturer: "AD-400-993" series, as manufactured by Schlage, an Ingersoll Rand Company. No substitutes will be accepted.

B. Requirements: Wireless electronic exit device trim shall comply with the following requirements.

1. Type: Exit device trim, non-handed, field-reversible.
2. Exit Device Configurations: Exit device lever trim to retract latchbolt for the following exit device applications:

    a. Rim

NOTE – The following are applicable to Von Duprin 98/99/22 only.

    b. Surface vertical rod

NOTE – The following are applicable to Von Duprin 98/99 only.

    c. Mortise
    d. Concealed vertical rod

3. Exit Device Compatibility: Provide exit device trim with universal mounting plate enabling operation as follows:

EDIT – as required for configurations and manufacturer series.

    a. All Von Duprin 98/99 x RX-LC Series exit device configurations.
    b. Von Duprin 22 x RX-LC Series rim and surface vertical rod configurations.
    c. Rim exit devices from Falcon, 25 Series x RX.

4. Applicable Standards:

    a. Listed, UL 294 - The Standard of Safety for Access Control System Units.
    b. Compliant with ANSI/BHMA A156.25 Grade 1 Operation and Security Requirement.
    c. Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
    d. Compliant with ASTM E330 for door assemblies.
    e. Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada RSS-210.

5. Exit Device Trim Functions: Provide exit device trim with following functions, as scheduled, that are field configurable without taking the trim off the door:

    a. Classroom / Storeroom.

6. Emergency Override: Lockset shall have the ability to utilize emergency mechanical key override with the following manufacturer's key systems in the lever:

EDIT – as required for cylinders/cores.

    a. Full Size cylinders from Schlage and Sargent up to 6-pin cylinders and Falcon up to 7-pin cylinders.
    b. Full Size Interchangeable Cores from Schlage, Sargent, Corbin Russwin, Medeco, and Yale format by Medeco in up to 6 pin cylinders
    c. Small Format Interchangeable core up to 7 pin by Schlage, Falcon, BEST, Sargent, Corbin Russwin, Medeco, Yale, and others.

7. Levers:

    a. Vandal Resistance: Exterior (secure side) lever designed with ability to rotate freely while door remains securely locked, preventing damage to internal trim components from vandalism by excessive force.
    b. Style: Sparta (17)[**Rhodes (06)**][**Athens (07)**][**Tubular (03)**]
    c. Tactile Warning (Knurling): Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous by the authority having jurisdiction.

8. Power Supply:

    a. Exit Device trim powered by four AA batteries with options for eight AA batteries or a 12V or 24V DC power supply.
    b. Exit Device trim shall have the ability to communicate Low Battery Status and Battery Voltage Level by means of a handheld programming device at door.
    c. Exit Device trim shall have the ability to communicate Low Battery Status remotely by Open Options DNA Fusion integrated software.

9. Features: Exit device trim shall incorporate the following features.

    a. Ability to communicate unit's communication status.
    b. Visual tri-colored LED indicators that indicate activation, additional PIN code credential required, operational systems status, system error conditions and low power conditions.
    c. Audible feedback that can be enabled or disabled.
    d. Tamper-Resistant Screws: Tamper torx screws on inside escutcheon for increased security.

10. Adaptability:

    a. Open Architecture: Exit device trim manufactured with open architecture characteristics capable of handling new and existing access control software and credential reading technology.
    b. Field Changeable Reader Modules: Exit device trim to have the ability to change credential reader technologies without being removed from door.

11. Switches: Provide exit device trim with the following switches, standard:

    a. Door Position Switch
    b. Interior Cover Tamper Guard
    c. Mechanical Key Override
    d. Request to Exit

12. Credential Reader:

    a. Credential Reader Configuration: Provide credential reader modules in the following configurations, as indicated in door hardware sets. Multi-tech contactless reader shall be NFC-Compatible and read access control data from both 125 kHz and 13.56 MHz contactless smart cards. The multi-tech contactless reader shall be optimally designed for use in access control applications that require reading both 125 kHz proximity and 13.56 MHz contactless smart cards.

EDIT – Select configuration(s) as required.

1) Proximity, Smartcard via Multi-Technology.
2) Proximity, Smartcard via Multi-Technology and keypad.
3) Magnetic stripe (insertion type).
4) Magnetic stripe (insertion type) and keypad.
5) Magnetic stripe (swipe type).
6) Magnetic stripe (swipe type) and keypad.
7) Keypad.

    b. Credential reader capabilities, which can be configured at exit device trim with handheld programming device and remotely by Partner software to include, but may not be limited to:
        1) 13.56 MHz Smart card credentials: **NOTE**: Multi-tech reader.
            a) Secure section (Multi-Technology and Smartcard): MIFARE, MIFARE DESFire EV1, PIV II Compatible.
            b) 13.56 MHz Serial number only (Multi-Technology and Smartcard): MIFARE DESfire, iClass,.
        2) 125 kHz Proximity card credentials: Schlage, XceedID, HID, GE/CASI and AWID. **NOTE**: Multi-tech reader.

EDIT – Select capabilities, as appropriate, based upon reader configuration(s).

3) Multi-Technology readers that read both 13.56 MHz Smart Cards and 125 kHz Prox cards. **NOTE**: Multi-tech reader.
4) Dual credential reading capabilities credential card or fob and PIN. **NOTE**: Credential reader combined with keypad.
5) 12 button keypad with backlit buttons.
6) Magnetic Card Reader:
    a) [**Full insertion**][**Swipe**] reader capable of reading information along full length of magnetic stripe.
    b) Magnetic card triple track reader capable of reading tracks 1, 2 or 3 per field configuration by handheld programming device at exit device trim.

13. Operation:

    a. Exit Device Trim System Interface:

EDIT - Select interface option.

1) Wiegand or Clock & Data via PIM400-TD2 (Panel Interface Module). **OPTION 1**
2) Directly via RS485. **OPTION 2**

b. Exit device trim to have real-time bidirectional communication between Open Options DNA Fusion control system and lock.

EDIT – Wake on Radio feature for battery-powered units.

a. Remote Commanding Capability By Open Options DNA Fusion Integrated Access Control Software: Battery-powered exit device trim shall have "Wake on Radio" feature causing activation of remote, wireless access control exit device trim, enabling activated exit device trim to be locked or unlocked from a centralized location within 10 seconds or less without user interface at the device.
b. Local Commanding: Exit device trim shall have the ability to be configured, locked or unlocked locally by handheld programming device, in real-time.
c. When Utilized with Open Options DNA Fusion Software With Remote Commanding Capability: Exit device trim shall have ability to be remotely locked down or unlocked in real-time via configurable heartbeat without user interface at the device. Real-time response of battery powered device capable of being configured at door by handheld programming.
d. Upon Loss of Power to Exit Device Trim: Exit device trim shall have ability to manage access control offline in one of three methods below that can be configured in the field at lockset by handheld programming:
    1) Fail locked (secured)
    2) Fail unlocked (unsecured)
    3) Fail As-Is

e. Upon Loss of Communication Between Exit Device Trim and Open Options DNA Fusion Network: Exit device trim shall have ability to manage access control offline in one of four methods below that can be configured in the field at exit device trim by handheld programming:
    1) Fail locked (secured)
    2) Fail unlocked (unsecured)
    3) Fail As-Is
    4) Fail to Degraded/cache mode utilizing cache memory with following selectable options:
        a) Grant access up to the last 1,000 unique previously accepted User IDs.
        b) Grant access up to the last 1,000 unique previously accepted facility/site codes
        c) Remove from cache previously stored User IDs or facility/site codes that have not been presented to lock within the last 5 days.

f. Exit device trim shall have ability to be configured at door by handheld programming device the length of time device is unlocked upon access grant.
g. Exit device trim shall have the ability to communicate identifying information such as firmware versions, hardware versions, serial numbers, and manufacturing dates by handheld programming device.
h. Wireless Transmission:
    1) Modulation: 900 MHz spread spectrum, direct sequence, 10 channels.

2) Encryption: AES-128 bit Key minimum.

2.5 COMPONENTS

A. Handheld Programming Device for Access Control Lockset[**and Exit Device Trim**] PROPRIETARY

1. Manufacturer: "HHD" series with "Schlage Utility Software," as manufactured by Schlage, an Ingersoll Rand Company. No substitutes will be accepted.
2. Requirements: Handheld programming device shall comply with the following requirements.

a. Capable of initializing and accessories using preloaded Schlage Utility Software.
b. Used to field configure electronic access control devices for the following attributes:
   1) Credential reader formats
   2) Lock function
   3) Unlock period
   4) Power failure mode
   5) Audible alarm ON/OFF
   6) Battery status
   7) Validate hardware and software revision
   8) Troubleshooting status signals
   9) Special access delay (ADA)
   10) Delayed egress (release delay)
   11) Door propped open delay
   12) Lockdown cancel delay time out between credential and PIN
   13) Number of key presses without valid PIN before lockout
   14) Current date/time
   15) Enable/disable manual programming

c. Utilized to download firmware updates and door files to device.
d. Features/Components:
   1) 3.5-inch (89 mm) LCD display minimum
   2) Touch Screen/Keypad Backlit
   3) 32-bit processor minimum
   4) Memory: 128MB RAM/256 MB ROM
   5) Battery: Rechargeable Li-ion

B. Panel Interface Module for Wireless Electronic Access Control Lockset[**and Exit Device Trim**] PROPRIETARY

EDIT – Coordinate model selection with "system interface" selection under lockset/exit trim "Operation" heading above. Verify existing "head end" system for compatibility with selected PIM model. Coordination with IR EACS representative is recommended.

1. Manufacturer: "PIM400 Panel Interface Module," model as indicated below, as manufactured by Schlage, an Ingersoll Rand Company. No substitutes will be accepted.

NOTE: Refer to separate specifications template for PIM400-1501 model.

a. Model: PIM400-485.
b. Model: PIM400-TD2.

2. Requirements: Panel interface module shall comply with the following requirements.

a. Provide panel interface module, used to connect wireless lockset[**or exit device trim**] to the access control board or reader interface board[**, where Wiegand or Clock & Data protocol is required**]. **NOTE**: Refer to edit options below.
b. Distribution:

EDIT – **OPTION-1** for PIM400-485 (RS485 communication, non-Wiegand, interface)

1) General: Provide one (1) PIM400-485 panel interface module per sixteen (16) electronic access control devices, subject to the following limitations:
   a) Panel interface module is located on the same floor as associated electronic access control devices.
   b) Panel interface module is located within 200-feet (60m) indoor range with normal building obstructions; or 1000-feet (300m) with unobstructed, clear line-of-sight of associated electronic access control device(s).
2) Where panel interface module cannot comply with general distribution requirements for associated electronic access control devices, provide additional modules, as required.

EDIT – **OPTION-2** for PIM400-TD2 (Wiegand or Clock & Data interface)

3) General: Provide one (1) PIM400-TD2 panel interface module per two (2) electronic access control devices, subject to the following limitations:
   a) Panel interface module is located on the same floor as associated electronic access control devices.
   b) Panel interface module is located within 200-feet (60m) indoor range with normal building obstructions; or 1000-feet (300m) with unobstructed, clear line-of-sight of associated electronic access control device(s).
4) Where panel interface module cannot comply with general distribution requirements for associated electronic access control devices, provide additional modules, as required.

c. Applicable Standards:
   1) Listed, UL 294 - The Standard of Safety for Access Control System Units.
   2) Compliant with NEMA 1, 4, 4X, 6; 294
   3) Certified compliant with FCC Part 15 and RoHS.

d. Power Supply: 12VDC or 24VDC.
e. Wireless Transmission:
   1) Modulation: 900 MHz spread spectrum, direct sequence, 10 channels.
   2) Encryption: AES-128 bit Key minimum.

2.6 FINISHES

A. Electronic Access Control Locksets[**and Exit Device Trim**]: Provide metal finish complying with BHMA A156.18, as indicated below[**and where indicated in door hardware sets**].

EDIT – Select one, or if multiple required, defer to door hardware schedule edit option above.

1. 605 (Bright Brass)
2. 606 (Satin Brass)
3. 612 (Satin Bronze)
4. 643e (Aged Bronze)
5. 619 (Satin Nickel)
6. 625 (Bright Chrome)
7. 626 (Satin Chrome)
8. 626AM (Satin Chrome, Antimicrobial)

PART 3 - EXECUTION

A. NO INFORMATION INCLUDED IN PART 3 OF THIS TEMPLATE

END OF SECTION