# AD-400

## Networked Wireless Electronic Lock

## Overview

AD Series electronic locks from Schlage® are designed to be modular and provide more options to choose from, more functionality in the lock, and more compatibility with existing access control systems. Its patented modular design allows the lock to be customized to fit the needs of an application now and changed to meet future needs without removing it from the door.

To simplify installation, the AD Series combines all the hardware components required at the door for a complete access control system into one integrated design that includes the electrified lock, credential reader, request-to-exit, and request-to-enter sensors, door position switch, tamper switch, and more.

The AD-400 wireless networked lock gives you many of the key benefits of a hardwired access control system—without the wires. This allows you to secure doors that were traditionally difficult to run wires to in the past and increase the security throughout your facility.

### Encryption Key & Credential Interoperability

- Hardware configured with our default encryption key or custom key developed by Schlage Custom Encryption Key Service (SCEKS) including NXP, HID® and NFC
- Schlage MIFARE® DESFire® and MIFARE Classic® credentials
- NFC mobile credentials in Apple Wallet® and Google Wallet™
- HID iCLASS®, iCLASS SE® and SEOS® plastic and NFC mobile credentials
- Other competitive credentials (see the Credential Compatibility Guide)

### Schlage Credential Services

- CardTrax™ credential format sequencing service offering industry standard formats
- Custom format development

## Features & Benefits

- Open architecture platform - integrated into most popular physical access control systems through our PACS Alliance program
- Multi-technology credential compatibility includes Schlage MIFARE®, NFC mobile[1], and proximity
  - Optional support for HID® smart and NFC mobile credentials
- Panel interface options ensure seamless communication with the access control system
- Secure encrypted data transmission
- Unique communication protocols won't interfere with other wireless networks
- 'Wake up on Radio' feature enables centralized lockdown in less than 10 seconds while still optimizing battery life up to 2 years
- Non-invasive wireless installation for historic buildings and sensitive areas
- Wireless accessories available for remote, gate, elevator, and portable or temporary (mustering) applications

**CYBERSECURITY**
Learn about Allegion's commitment

1. Check with PACS provider for specific support of mobile credentials in Apple Wallet® and Google Wallet.™

## Reliable Communications

Secure and reliable wireless communication with the Panel Interface Module (PIM) is accomplished using 900 MHz frequency. 900 MHz band enables longer transmission ranges because signal propagation with longer wavelengths travel a greater distance and better penetrate typical building construction – allowing for simplified system design.

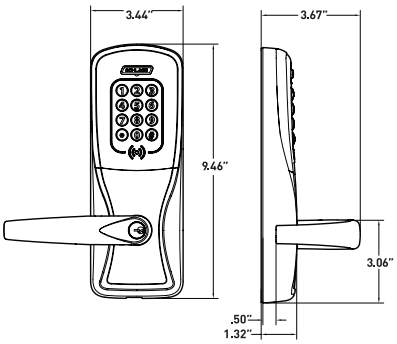
## Wake-Up on Radio

This feature enables implementation of wireless locks in applications where centralized lockdown or unlock is required. 'Wake Up on Radio' utilizes patent-pending technology to enable real-time activation at a remote battery-powered wireless lock. The technology is configurable from 10 to 1 second increments. When Wake-Up on Radio is used in critical applications, Dynamic Channel Switching should also be enabled.

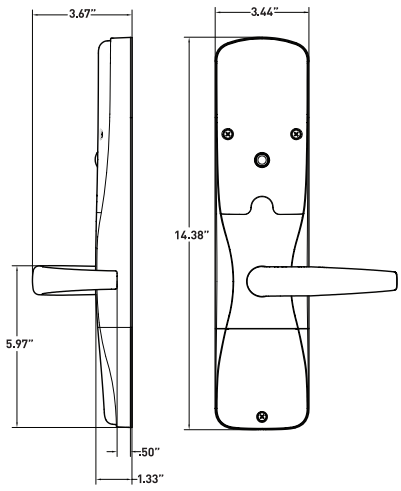
## Panel Interface Module (PIM400)

The PIM400 (sold separately) is required for communication between the AD-400 wireless lock and the access control panel, and can support up to 16 locks depending on your access control system.

### Exterior




### Interior




| AD-400 Electronic Lock Specifications | |
|---|---|
| Modulation | 900 MHz spread spectrum, direct sequence, 10 channels |
| Frequency range | 902-928 MHz |
| Transmission/encryption | AES-128 bit key |
| Credential verification time | < 1 second[1] |
| Wake-up on radio | Responds to lock/unlock command from host in less than 10 seconds in battery powered applications (per field configuration) |
| Communication range | Up to 200 ft with obstructions (normal building construction), up to 1,000 ft clear line of sight |
| RF interference avoidance | Configurable dynamic channel switching |
| Data rate | RF: 40 kbps |
| Visual/audible communications | Tri-colored LED's and audible indicators (field configurable) |
| System interface | RS-485, Wiegand, or Clock & Data via PIM400 to host |
| Power supply | 4AA, 8AA, 12 VDC or 24 VDC |
| Voltage range | 4 VDC to 26 VDC |
| Max current requirement | Up to 250 mA |
| Battery life | Up to 2 yrs with 4AA |
| Operating temperature | Exterior: -31° to 151°F (-35° to 66°C)<br>Interior: 32° to 120°F (0° to 49°C) (battery) |
| Operating humidity | 0 - 100% non-condensing |
| Certifications | ANSI/BHMA A156.25; ANSI/BHMA Grade 1; UL 294; ULC S319; UL 10C 3 hour; FCC Part 15; Industry Canada (IC); ADA compliant; Cylindrical and mortise chassis only: TDI DR-464; DR-465; FL12400, FL4613, FL1592, FL13013, FL14482; Mortise chassis only: FL3905 |
| Accessories | Panel Interface Module (PIM400), SUS-A Cable used with SUS Android mobile app, remote antennas for PIM400 to extend range, Dry Contact Relay Board (RLBD) may be required for supervised inputs (Wiegand systems) |

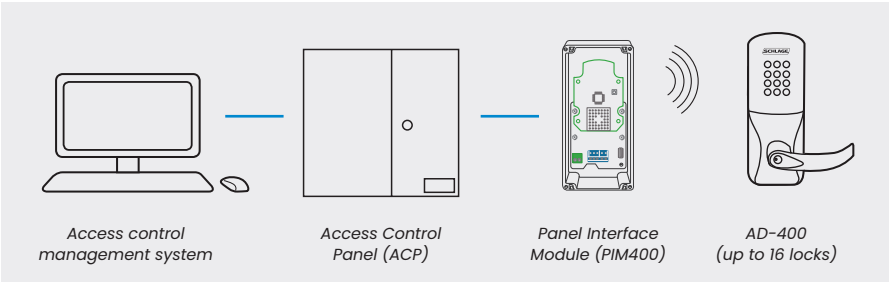
### Functions

- Storeroom[2]
- Office/classroom[2, 3]
- Privacy[3]
- Apartment[3]

### Available Status Signals

- Lock/unlock status[4]
- Request-to-exit
- Door position
- Mechanical key override[3]
- Deadbolt position[3]
- Interior push button[3]
- Interior cover tamper guard[3]
- Battery status
- Communication status[3]
- Request-to-enter[3]

*The AD-400 has a number of field-configurable features and provides opening intelligence through status signals that can be monitored by access control software. Please consult one of our Physical Access Control Software (PACS) providers for **details** on specific features.*




1. Lock requires less than 100 msec, response time does not include latency time of ACP.
2. Storeroom and office/classroom functions not available with mortise deadbolt option.
3. Consult your Physical Access Control Software (PACS) provider for specific scope of support. Interior pushbutton, mechanical key override, and deadbolt position are only available when linked via PIM400-485.
4. Software indicates lock/unlock status based on sequence of events, but cannot validate mechanical clutch position unless monitored on RS-485 connection.

| Mechanical Specifications | | | |
|---|---|---|---|
| | **Cylindrical** | **Mortise** | **Exit Trim** |
| Handing | Handed to order, field reversible | | |
| ANSI standard (meets or exceeds) | A156.25 locked outdoor<br>A156.2 Series 4000<br>Grade 1 | A156.25 locked outdoor<br>A156.13 Series 1000<br>Grade 1 | A156.25 locked outdoor<br>A156.3<br>Grade 1 |
| Door thickness | 1-3/4" standard, 1-3/8" to 2-3/4" optional (available in 1/8" increments) | | |
| Backset | Standard: 2-3/4"<br>Optional: 2-3/8", 3-3/4", 5" | 2-3/4" only | Defined by exit device |
| Latch bolt | Standard: 1/2" throw<br>Optional: 3/4" throw | Standard: 3/4" throw<br>Optional: 1" throw on mortise deadbolt | Provided by exit device |
| Levers | Pressure cast zinc, plated | | |
| Strike | Standard: 1-3/16" lip, ANSI, 1-1/4" x 4-7/8"<br>Optional: Additional configurations available, please see price book | | Provided by exit device |
| Cylinder and keys | Schlage® 6-pin Everest 29 S123 keyway Conventional cylinder with two patented keys standard. Additional options available including SFIC, FSIC and competitor brands. See lever and cylinder compatibility data sheet. | | |

| Standard Multi-Technology Reader Specification | |
|---|---|
| Credential technologies | Proximity (125 kHz), Smart (13.56 MHz) and Near Field Communication (NFC) |
| Standards | ISO 15693, ISO 14443 |
| Read range | Proximity: up to 1.25"; Smart: up to .75"; NFC mobile: mobile device dependent |
| Proximity credential support | Schlage, ISONAS™, HID4, GE/CASI ProxLite®, AWID® and LenelProx® |
| Smart credential support | Secure sector: Schlage MIFARE Classic®, Schlage MIFARE Plus®, Schlage MIFARE® DESFire®, PIV and PIV-I[1,2]<br>CSN only: HID iCLASS®, HID iCLASS SE®, Inside Contactless Pico Tag®, MIFARE Classic/Plus/DESFire, ST Microelectronics®, Texas Instruments Tag-It®, Phillips I-Code® |
| Mobile credential support | NFC mobile credentials in Apple Wallet® and Google Wallet™ [3] |
| Certifications | FCC, Industry Canada (IC), UL 294 |
| Options | 12 button, 3 x 4 matrix backlit keypad |

## Available AD Series Reader Modules

Multi-Technology

- Proximity
- Smart
- NFC mobile

+ KEYPAD option

Si with HID Support

- Smart
- NFC mobile

+ KEYPAD option

Magnetic Stripe (swipe)

+ KEYPAD option

Keypad

AD Series exit trim is compatible with Von Duprin 98/99 and 98/99XP (rim, mortise, SVR; and CVC, CVR on metal doors only), Von Duprin 22/22F (rim and SVR) and Falcon 25 (rim) exit devices from Allegion. The AD Series is also compatible with select rim exit devices from Sargent, Corbin Russwin, Yale, Dorma and Precision.

For Von Duprin and Falcon solutions, a low current request-to-exit switch (RX-LC or AE) is required. The part numbers are:

Von Duprin: 050281
Falcon: 650359

Refer to the AD Series Exit Trim Compatibility Guide for additional details.

## Benefits of AD Series Multi-Technology Readers:

- Reads multiple brands of both proximity (125 kHz) and smart (13.56 MHz) technologies with single reader
- Compatible with NFC mobile credentials in Apple Wallet® and Google Wallet™ [3]
- Allows facility to migrate to more secure credential technologies over time and as budgets permit

## Additional Readers

**Si option with HID® support**

Supports:

- Secure application area of HID iCLASS®, iCLASS SE®, Seos® smart credentials
- iCLASS Standard Key and Elite Keys
- HID NFC mobile credentials
- All Schlage MIFARE® and NFC mobile credentials

Does not support:

- Proximity
- Bluetooth® (BLE) mobile credentials

**Magnetic stripe**

- Triple track reader (1, 2 or 3), field configurable
- ABA, ISO76XX standard

**Keypad**

- Backlit keypad
- 12 button, 3 x 4 matrix

1. FIPS 201-2 integration ready option available: The AD Series can be used in applications which require approval by the U.S. Federal Government under HSPD-12 for FIPS 201-2 compliance when installed as part of a tested and approved integrated solution. Please see the AD-402 data sheet or AD-302 data sheet for complete details.
2. 75 bit output format default. Configurable to other output formats.
3. Check with PACS provider for specific support of mobile credentials in Apple Wallet® and Google Wallet.™
4. Proximity bit lengths greater than 37 not supported.

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# Ordering Information

Available through one of our GSA schedule 84 approved distributions. BAA options available.

| AD | - | 400 | - | CY | - | 70 | - | MS | - | SPA | - | 626 | - | P6 | - | S123 | - | RH | - | 4B | - | 13-247 | - | 10-025 | - | 134 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Series | | Class | | Chassis | | Function | | Reader | | Lever Style | | Finish | | Key Cylinder | | Keyway | | Handing | | Battery | | Backset & Latch or Armored Front | | Strike | | Door Thickness |
| 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 |

Standard options are indicated with a dot. See price book for specific configuration options.

### 3 Chassis

| | |
|---|---|
| CY | Cylindrical |
| MS | Mortise |
| MD | Mortise deadbolt |
| 993R | Exit trim – rim/CVC/CVR |
| 993S | Exit trim – SVR |
| 993M | Exit trim – mortise |
| 993DT | Non-functioning dummy trim for exit |

### 4 Function

| | |
|---|---|
| 40 | Privacy |
| 50 | Office/classroom |
| 60 | Apartment |
| 70 | Storeroom |

Lock function capabilities are determined by users access control system.

### 5 Reader

| | |
|---|---|
| • KP | Keypad |
| MS | Magnetic stripe (swipe) |
| MSK | Magnetic stripe + keypad (swipe) |
| MT | Multi-technology (125 kHz, 13.56 MHz, NFC) |
| MTK | Multi-technology + keypad (125 kHz, 13.56 MHz, NFC) |
| FMK | FIPS 201-1 compliant multi-technology + keypad (125 kHz and 13.56 MHz) |
| Si | HID support |
| SiK | HID support + keypad |
| DT | Dummy trim |

### 6 Lever

| | |
|---|---|
| ATH | Athens |
| BRK | Boardwalk |
| BRW | Broadway |
| LAT | Latitude |
| LON | Longitude |
| RHO | Rhodes |
| SPA | Sparta |
| TLR | Tubular |

Available with tactile warning options.

### 7 Finish

| | |
|---|---|
| 605 | Bright Brass |
| 606 | Satin Brass |
| 612 | Satin Bronze |
| 619 | Satin Nickel |
| 625 | Bright Chrome |
| • 626 | Satin Chrome |
| 626AM | Satin Chrome Antimicrobial |
| 643e | Aged Bronze |

### 8 Key Cylinder

| | |
|---|---|
| • P6 | Schlage 6-pin conventional key-in-lever cylinder |

See price book for other SFIC, FSIC and less cylinder options available. Compatible with Schlage®, Sargent®, Corbin Russwin, Medeco® and Yale®.

### 9 Keyway

| | |
|---|---|
| • S123 | Everest 29 |

See price book for other available keyway options including restricted keyways in Primus XP high security cylinders and master keying.

### 10 Handing

| | |
|---|---|
| • RH | Right handed |
| LH | Left handed |

Field reversible.

### 11 Battery

| | |
|---|---|
| • 4B | 4AA |
| 8B | 8AA |

### 12 Backset & Latch or Armored Front

| | |
|---|---|
| • 13-247 | Cylindrical: 2-3/4" backset deadlatch, square corner, 1-1/8" x 2-1/4" |
| • 09-663 | Mortise: Armor front, 1-1/4" wide, square corner |

See price book for mortise deadbolt and other backset and latch options or armor front options.

### 13 Strike

| | |
|---|---|
| • 10-025 | Cylindrical: 1-3/16" lip, ANSI, no box, 1-1/4" x 4-7/8" |
| • 10-072 | Mortise: 1-3/16" lip, 1-1/4" x 4-7/8" square corner, box |

See price book for other available strikes.

### 14 Door Thickness

| | |
|---|---|
| • 134 | 1-3/4" |

Other thicknesses available between 1-3/8" and 2-3/4" See price book for details.

## Lever Styles

Conventional cylinders shown, SFIC and FSIC also available.

Athens

Boardwalk

Broadway

Latitude

Longitude

Rhodes

Sparta

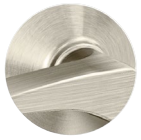
Tubular

## Finishes

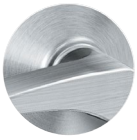
605
Bright Brass

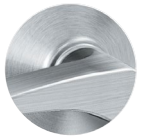
606
Satin Brass

612
Satin Bronze


619
Satin Nickel

625
Bright Chrome


626
Satin Chrome


626AM
Satin Chrome Antimicrobial

643e
Aged Bronze



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