



AD-400

Networked wireless electronic lock



Overview

AD Series electronic locks from Schrage® are designed to be modular and provide more options to choose from, more functionality in the lock and more compatibility with existing systems. Its patent-pending 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.

Factory orderable options include choices of credential readers, chassis type, network configurations, locking functions, power options, lever styles and finishes. It also offers a wide selection of features that can be configured in the field to customize your openings.

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 guard 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.

The AD-400 has a number of features built in, that are configurable in the field and a long list of items that can be monitored by access control software. Please consult your access control software partner for details on the integration of specific features.

Features and benefits

- Open architecture platform
- Panel interface options ensure seamless communication with your system
- Non-invasive installations for historic buildings and sensitive areas
- Secure encrypted data transmission
- Unique communication protocols that won't interfere with other wireless networks
- Patent-pending wireless feature enables centralized lockdown in less than 10 seconds while still optimizing battery life up to 2 years
- Wireless accessories available for remote, gate, elevator and portable (mustering) applications
- Allows use of smart/mobile device as credential with Schrage and aptiQ® mobile (multi-technology reader only)¹
- ANSI/BHMA A156.25, ANSI/BHMA Grade 1, UL 294, UL10C, FCC Part 15, ADA, RoHS, Industry Canada (IC), FL12400², FL1591², FL13013² and FL14482²

¹ Refer to the Schrage/aptiQ mobile credential compatibility chart for a list of certified devices.

² Applies to cylindrical and mortise chassis only

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.

AD-400 electronic lock specifications

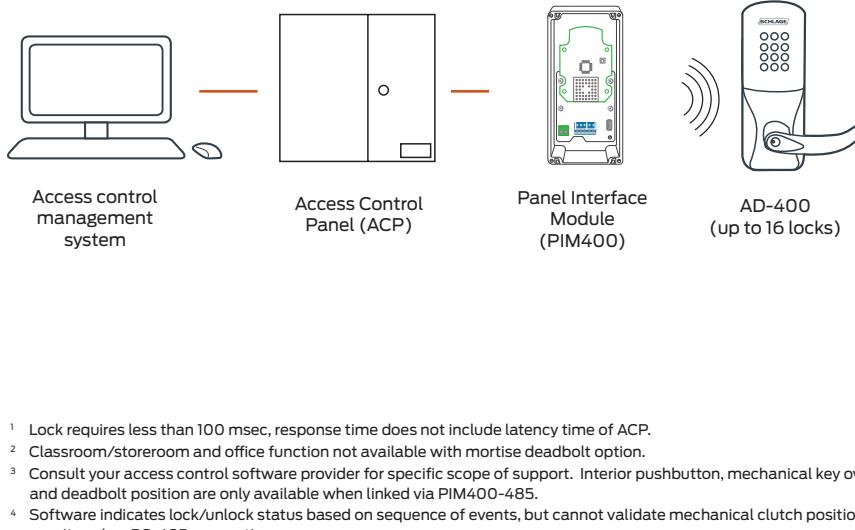
Modulation	900 MHz spread spectrum, direct sequence, 10 channels
Frequency range	902-928 MHz
Transmission/encryption	AES-128 bit key
Credential verification time	< 1 second ¹
Wake-Up on Radio	Responds to lock/unlock command from host in less than 10 seconds in battery powered applications (per field configuration)
Communication range	Up to 200 ft with obstructions (normal building construction), up to 1000 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)
Operating temperature/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, UL10 C, FCC Part 15, ADA, RoHS
Accessories	Panel Interface Module (PIM400), Handheld Device (HHD), remote antennas for PIM400 to extend range, Dry Contact Relay Board (RLBD) may be required for supervised inputs (Wiegand systems)

Functions

- Classroom/storeroom²
- Office^{2, 3}
- Privacy³
- Apartment³

Available status signals

- Lock/unlock status⁴
- Request-to-exit
- Door position
- Mechanical key override³
- Deadbolt position³
- Interior push button³
- Interior cover tamper guard³
- Battery status
- Communication status³
- Request-to-enter³



¹ Lock requires less than 100 msec, response time does not include latency time of ACP.

² Classroom/storeroom and office function not available with mortise deadbolt option.

³ Consult your access control software 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

Chassis	Cylindrical	Mortise	Exit trim
Handing	Handed to order, field reversible		
ANSI standard (Meets or exceeds)	A156.25 A156.2 Series 4000 Grade 1	A156.25 A156.13 Series 1000 Grade 1	A156.25 A156.3
Door thickness	1 3/4" standard, 1 3/8" to 2 3/4" optional (available in 1/8" increments)		
Backset	Standard: 2 3/4" Optional: 2 3/8", 3 3/4", 5"	2 3/4" only	Defined by exit device
Latch bolt	Standard: 1/2" throw Optional: 3/4" throw	Standard: 3/4" throw Optional: 1" throw on mortise deadbolt	Provided by exit device
Levers	For lever base metals see lever and cylinder compatibility data sheet (010432)		
Strike	Standard: 1 3/16" lip, ANSI, 1 1/4" x 4 7/8" Optional: Additional configurations available please see price book	Provided by exit device	
Cylinder and keys	Schlage® 6-pin Everest 29 S123 keyway cylinder with two patented keys standard Additional options available including Standard, SFIC, FSIC and competitor brands. See lever and cylinder compatibility data sheet (010432)		

Multi-technology reader specification

Frequency	125 kHz proximity 13.56 MHz smart
Standards	ISO 15693 ISO 14443
Read range	Up to 1.25" on 125 kHz proximity Up to 0.75" on 13.56 MHz smart
125 kHz proximity credential use	Compatibility: Schlage, XceedID®, HID®, GE/CASI ProxLite®, AWID® and LenelProx® Schlage credential style formats: Clamshell, ISO card, ISO card with magnetic stripe, keyfob, thin keyfob and PVC adhesive disk
13.56 MHz smart credential use	Secure sector compatibility: Schlage and aptiQ® MIFARE Classic®, XceedID, Schlage MIFARE Plus®, Schlage and aptiQ MIFARE® DESFire® EV1 with PACSA, Schlage and aptiQ mobile credentials; PIV and PIV-1. ¹ CSN only compatibility: DESFire, HID iClass®, Inside Contactless Pico Tag®, MIFARE, MIFARE DESFire EV1, ST Microelectronics, Texas Instruments Tag-It®, Phillips I-Code® Schlage credential style formats: Clamshell, ISO card, ISO card with magnetic stripe, keyfob, thin keyfob, wearable wristband, mobile, PVC patch
Certifications/standards	FCC, Industry Canada (IC), UL 294 Listed, ISO standard 15693 and ISO standard 14443
Options	12 button, 3x4 matrix backlit keypad

¹ FIPS 201-1 compliant option available: The AD Series can be used in applications which require approval by the U.S. Federal Government under HSPD-12 for FIPS 201-1 compliance. Specific components are required, please see the AD 401 data sheet or AD 301 data sheet for complete details.

² 75 bit output format default. Configurable to other output formats.

³ Please refer to the Schlage/aptiQ mobile credential compatibility chart for a list of certified devices.

Available AD Series reader modules

								
Multi-technology <ul style="list-style-type: none">▪ Proximity▪ Smart card▪ Mobile	Multi-technology <ul style="list-style-type: none">▪ Proximity▪ Smart card▪ Mobile	Smart - iClass compatible <ul style="list-style-type: none">▪ Smart card▪ KEYPAD	Smart - iClass compatible <ul style="list-style-type: none">▪ Smart card▪ KEYPAD	Magnetic stripe (insertion) <ul style="list-style-type: none">▪ KEYPAD	Magnetic stripe (insertion) <ul style="list-style-type: none">▪ KEYPAD	Magnetic stripe (swipe) <ul style="list-style-type: none">▪ KEYPAD	Magnetic stripe (swipe) <ul style="list-style-type: none">▪ KEYPAD	Keypad
KEYPAD FIPS 201-1 compliant option available (FMK)								

AD Series exit trim:

AD-400 exit trim is exclusively compatible with Von Duprin 98/99 and 98/99XP (Rim, Mortise, and SVR. CVC and CVR on metal doors only), Von Duprin 22/22F (Rim and SVR) and Falcon 25 (Rim) exit devices made by Allegion. The proper low current request-to-exit switch (RX-LC or AE) is required.

Part numbers for request-to-exit switch:

- Von Duprin: 050281
- Falcon: 650359

Benefits of AD Series multi-technology readers:

- Reads multiple brands of both proximity (125 kHz) and smart (13.56 MHz) technologies with single reader
- Allows use of smart/mobile device as credential with Schlage or aptiQ mobile technology³
- Allows facility to migrate to more secure credential technologies over time and as budgets permit

Additional readers

Smart – iClass compatible

- Smart card reader only
- Reads secure sector of HID iClass, iClass SE, iClass SEOS, iClass Standard Key, and iClass Elite Key; Schlage MIFARE Classic, MIFARE Plus, and MIFARE EV1
- BLE mobile credential not supported

Magnetic stripe

- Available with choice of insertion or swipe style readers
- Triple track reader (1, 2 or 3), field configurable
- ABA, ISO76XX standard

Keypad

- Backlit keypad
- 12 button, 3x4 matrix

Ordering information

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

AD-400-CY-70-MG-SPA-626-PD-S123-RH-4B-13-049-10-025-1 3/4

Series	Class	Chassis	Function	Reader	Lever style	Finish	Lever cylinder	Keying type	Handing	Battery	Backset & latch	Strike	Door thickness
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Selections correspond with the numbers above

Standard options are indicated in bold. 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

- 70 Classroom/storeroom
- 50 Office
- 40 Privacy
- 60 Apartment

Lock function capabilities are determined by users access control system

5 Reader

- KP Keypad
- MG Magnetic stripe (insertion)
- MGK Magnetic stripe + keypad (insertion)
- MS Magnetic stripe (swipe)
- MSK Magnetic stripe + keypad (swipe)
- MT Multi-technology (125kHz and 13.56 MHz)
- MTK Multi-technology + keypad (125kHz and 13.56 MHz)
- FMK FIPS 201-1 compliant multi-technology + keypad (125 kHz and 13.56 MHz)
- Si Smart – iClass compatible
- SiK Smart – iClass compatible + keypad
- DT Dummy trim

Lever styles

Standard cylinders shown, SFIC and FSIC also available.



Sparta



Rhodes



Athens



Tubular

6 Lever

- SPA Sparta
- RHO Rhodes
- ATH Athens
- TLR Tubular

Available with knurled surface

7 Finish

- 626 Satin chrome**
- 605 Bright brass
- 606 Satin brass
- 612 Satin bronze
- 619 Satin nickel
- 625 Bright chrome
- 643e Aged bronze
- 626AM Satin chrome antimicrobial

8 Lever cylinder type

- PD Schlage 6-pin full cylinder

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

9 Keyway type

- S123 Everest 29**

See price book for other available keyway options including master keying

10 Handing

- RH Right handed**
- LH Left handed

Field reversible

11 Battery

- 4B 4AA**
- 8B 8AA

12 Backset & latch or armor front

Cylindrical

- 13-049 2 3/4" backset, deadlatch, square corner, 1 1/8" x 2 1/4"**

Mortise

- 09-663 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

Cylindrical

- 10-025 1 3/16" lip, ANSI, no box, 1 1/4" x 4 7/8"**

Mortise

- 10-072 1 3/16" lip, 1 1/4" x 4 7/8" square corner, box**

See price book for other available strikes

14 Door thickness

1 3/4"

Other thicknesses available between 1 3/8" and 2 3/4"

See price book for detail

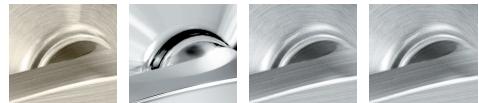
Finishes

Warm tone finishes



605 Bright brass
606 Satin brass
612 Satin bronze
643e Aged bronze

Cool tone finishes



619 Satin nickel
625 Bright chrome
626 Satin chrome
626AM Satin chrome with antimicrobial

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About Allegion

Allegion (NYSE: ALLE) is a global pioneer in safety and security, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion produces a range of solutions for homes, businesses, schools and other institutions. Allegion is a \$2 billion company, with products sold in almost 130 countries. For more, visit www.allegion.com.

