



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 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
- AD Series with multi-technology readers are NFC compatible¹
- ANSI/BHMA A156.25, ANSI/BHMA Grade 1, UL 294, UL10C, FCC Part 15, ADA, RoHS, Industry Canada (IC)

¹ Please refer to aptiQmobile compatibility chart for a list of certified devices

Reliable communications

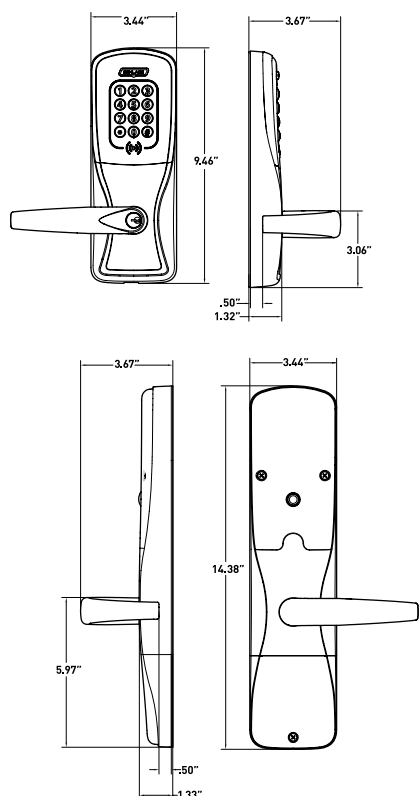
Secure and reliable wireless communication with the Panel Interface Module (PIM) is accomplished using 900 MHz frequency. 900 MHz band enables longer transmission ranges because signal propagation with longer wavelengths travel a greater distance and better penetrates typical building construction –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

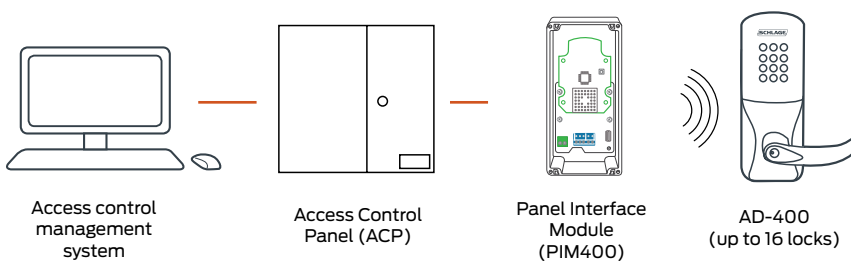
Modulation	900 MHz spread spectrum, direct sequence, 10 channels
Frequency range	902-928 MHz
Transmission/encryption	AES-128 bit key
Credential verification time	< 1 second ¹
Wake-Up on Radio	Responds to lock/unlock command from host in less than 10 seconds in battery powered applications (per field 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, 4}
- Privacy^{3, 4}
- Apartment^{3, 4}

Available status signals

- Lock/unlock status⁵
- 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 Not available on exit trim.

⁵ 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 and 13.56 MHz smart card
Standards	ISO standard 15693 and ISO 14443
Maximum read range	Up to 1.25" on 125 kHz proximity, up to 0.75" on 13.56 MHz smart card
125 kHz compatibility	Schlage Proximity, XceedID™ Proximity, HID® Proximity, GE/CASI ProxLite®, AWID® Proximity, LenelProx®
13.56 MHz compatibility	Schlage MIFARE® Secure Sector, XceedID™ MIFARE® Secure Sector, aptiQ™ smart cards using MIFARE DESFire™ EV1 with PACSA; PIV and PIV-I ^{1,2}
13.56 MHz compatibility (serial number only)	DESFire® CSN, HID iCLASS® CSN, Inside Contactless PicoTag® CSN, MIFARE®, MIFARE DESFire™ EV1, ST Microelectronics® CSN, Texas Instruments Tag-It® Serial Number, Phillips I-Code® CSN
125 kHz compatible XceedID credentials	125 kHz clamshell, ISO card, ISO card with magnetic stripe, keyfob, and PVC disk (7000 series)
13.56 MHz compatible aptiQ™ credentials	aptiQ™ smart cards using MIFARE® in clamshell, ISO card, ISO card with magnetic stripe, keyfob and PVC Patch (9000 Series); aptiQ™ smart cards using MIFARE DESFire™ EV1 in clamshell, ISO card, ISO card with magnetic stripe, keyfob, and PVC disk (8000 Series)
Certifications/standards	FCC, Industry Canada (IC), UL 294 Listed, ISO standard 15693, and ISO standard 14443
Style/layout	Option for 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 aptiQmobile compatibility chart for a list of certified devices.

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 brand of both proximity (125 kHz) and smart (13.56 MHz) technologies with single device
- AD Series multi-technology readers are NFC compatible³
- Allows end user to migrate to more secure credentials over time and as budgets permit

Additional readers

Magnetic stripe

- Now available with choice of insertion or swipe style readers
- Triple track reader (1, 2 or 3), field configurable
- ABA, ISO76XX standard
- Option for 12 button, 3x4 matrix backlit keypad

Keypad

- Backlit keypad
- 12 button, 3x4 matrix

Available AD Series reader modules



Multi-technology

- Proximity
- Smart card
- KEYPAD

FIPS 201-1 compliant option available (FMK)



Multi-technology

- Proximity
- Smart card



Magnetic stripe (insertion)

■ KEYPAD



Magnetic stripe (insertion)



Magnetic stripe (swipe)

■ KEYPAD



Magnetic stripe (swipe)



Keypad

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

Standards 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)
DT	Dummy trim

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	

Lever styles

Standard cylinders shown, SFIC and FSIC also available.



Sparta



Rhodes



Athens



Tubular

Finishes

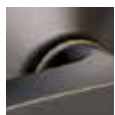
Warm tone finishes



605
Bright brass



606
Satin brass



612
Satin bronze



643e
Aged bronze



619
Satin nickel



625
Bright chrome



626
Satin chrome

626AM
Satin chrome with antimicrobial

Cool tone finishes

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