



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 can change 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 -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 that enables efficient centralized lockdown in less than 10 seconds while still optimizing battery life up to 2 years
- Available in cylindrical, mortise, mortise with deadbolt and exit trim
- Compatible with major brands of master key systems
- Wireless accessories available for remote, gate, elevator and portable (mustering) applications
- AD-Series with multi-technology readers are NFC compatible
- ANSI/BHMA A156.25, ANSI/BHMA Grade 1, UL 294, UL10C, FCC Part 15, ADA, RoHS

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 travels a greater distance and better penetrates typical building construction – allowing for simplified system design.

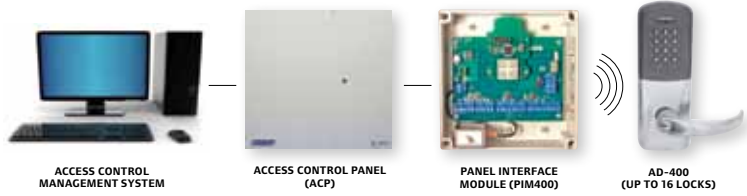
Wake-Up On Radio

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.

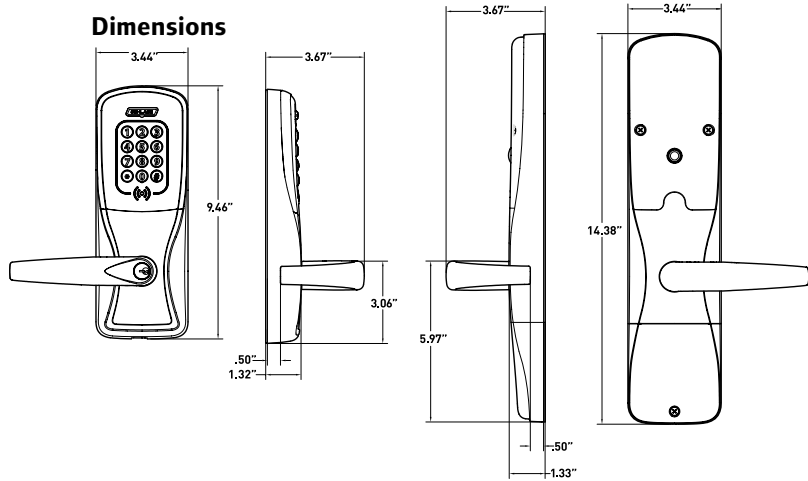
Panel Interface Module (PIM400)

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.

System Configuration



Dimensions



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*
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 w/ obstructions (normal building construction), up to 1000 ft clear line of site
RF Interference Avoidance	Configurable Dynamic Channel Switching
Data Rate	RF: 40 kbps
Visual/Audible Communications	Tri-colored LED's & 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 (8AA option recommended for smart card and multi-technology options)
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% 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/Storeroom
- ▶ Office**
- ▶ Privacy**
- ▶ Apartment**

Note: BHMA/ANSI functions such as these can be implemented by the Software when Door Position, Deadbolt Position and/or Interior Push button are monitored. Consult Software provider for specific capabilities. Classroom/Storeroom and Office function not available with Mortise Deadbolt option.

Available Status Signals

- ▶ Lock/Unlock Status†
- ▶ Request-to-Exit
- ▶ Door Position
- ▶ Mechanical Key Override**
- ▶ Deadbolt Position**
- ▶ Interior Push Button**
- ▶ Interior Cover Tamper Guard**
- ▶ Battery Status
- ▶ Communication Status**
- ▶ Request-to-Enter**

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

** 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.

† 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 (Based on Schlage ND-Series)	Mortise (Based on Schlage L-Series)
Handing	Handed to Order, Field Reversible	
ANSI Standard	Meets or exceeds A156.25 and A156.2 Series 4000, Grade 1 strength and operational requirements	Meets or exceeds A156.25 and A156.13 Series 1000, Grade 1 operational and security
Door Thickness	1-3/4" standard, 1-3/8" to 2-3/4" optional (available in 1/8" increments)	
Backset	2-3/4" standard, 2-3/8", 3-3/4" and 5" optional	2-3/4" only
Latch Bolt	1/2" throw security latch standard, 3/4" throw optional	3/4" throw with anti-friction tongue standard, 1" throw deadbolt on Mortise Deadbolt option*
Levers	Pressure cast zinc, plated to match finish symbols	Steel, plated to match finish symbols
Strike	ANSI curved lip strike 1-1/4" x 4-7/8" x 1-3/16" lip to center standard, optional strikes, lip lengths and ANSI strike box available	ANSI curved lip strike 1-1/4" x 4-7/8" x 1-3/16" lip to center with dust box standard, optional strikes lip lengths available
Cylinder & Keys	Schlage 6-pin Everest C123 keyway cylinder with two patented keys standard Additional options available including Standard, SFIC, FSIC and competitor brands	

*Classroom/Storeroom and Office options not available with deadbolt.

AD-Series Exit Trim

AD-300 and 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 Ingersoll Rand. 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

Multi-Technology Reader Specification	
Frequency	125 kHz proximity and 13.56 MHz smart card
Standards	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**†
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 Schlage Credentials	125 kHz Clamshell (SXF7410), 125 kHz ISO Card (SXF7510), 125 kHz ISO Card w/Magnetic Stripe (SXF7510MS)
13.56 MHz Compatible Schlage Credentials	13.56 MHz MIFARE Clamshell (SXF9420), 13.56 MHz MIFARE ISO Printable (SXF9520, SXF9551, SXF9558), 13.56 MHz MIFARE Key Tag (SXF9651), 13.56 MHz MIFARE PVC Patch (SXF9751), aptiQ™ Smart Cards using MIFARE DESFire™ EV1 (SXF9000 Series)
Certifications/Standards	FCC, RSS210, UL 294, Listed, ISO Standard 15693, and ISO Standard 14443
Style/Layout	Option for 12 button, 3x4 matrix backlit keypad

Notes:

** 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.

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

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 compatible
- 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
- Reader can be cleaned without removing lock from door
- 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



- 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 distributors; BAA options available

AD-400-CY-70-MG-SPA-626-PD-C123-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
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 (125 kHz and 13.56 MHz)
MTK	Multi-Technology + Keypad (125 kHz and 13.56 MHz)
DT	Dummy Trim

6 Lever	
SPA	Sparta
RHO	Rhodes
ATH	Athens
TLR	Tubular
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
9 Keyway Type	
C123 Everest	
10 Handing	
RH	Right Handed
LH	Left Handed

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
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
14 Door Thickness	
1-3/4"	

Lever styles

Standard cylinders shown, SFIC and FSIC also available.



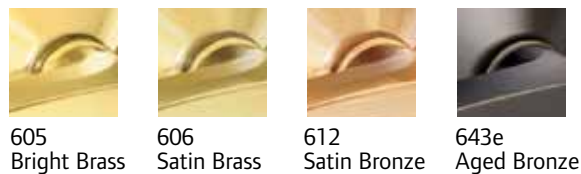
Sparta

Rhodes

Athens

Tubular

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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