



AD-402

FIPS 201-2 Integration
Ready 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 greater compatibility with existing 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.

AD-402 locks feature a multi-technology card and keypad reader (FMK) that is fully PIV and PIV-I capable for dual authentication to an external server. The open architecture software design of AD Series facilitates integration making AD-402 a desirable part of a Physical Access Control Software (PACS) provider's offering. Any completed PACS integrations that are tested and approved under HSPD-12 guidelines can then be applied in U.S. Federal Agency Buildings.

Factory orderable options include choices of chassis type, network configurations, locking functions, power options, lever styles and finishes. It also offers a 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 into one design that includes the electrified lock, credential reader, request-to-exit sensor, request-to-enter sensor, and both door position and tamper switches. The AD-402 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.

The AD-402 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.

Features & Benefits

- PIV and PIV-I compatible
- Open architecture platform
- The PIM400-485 Panel Interface Module ensures seamless communication with your RS-485 system and can support up to 16 AD-402 devices
- 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 deadbolt and exit trim
- Compatible with major brands of master key systems

CYBERSECURITY

Learn about Allegion's commitment

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.

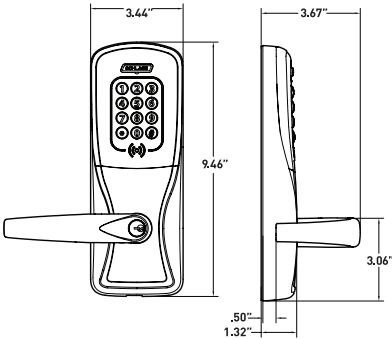
Panel Interface Module (PIM400)

The PIM400 (sold separately) is required for communication between the AD-402 wireless lock and the access control panel, and can support up to 16 locks depending on your access control system.

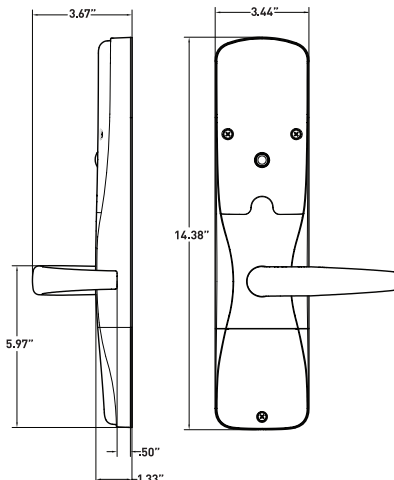
AD-402 Electronic Lock Specifications

Modulation	900 MHz spread spectrum, direct sequence, 10 channels
Frequency range	902-928 MHz
Transmission/encryption	AES-128 bit key
Credential verification time	< 2 seconds in FASC-N mode: card certificate validated by the ACP only 2-6 seconds in full authentication mode: card certificate validated by 3rd party server
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
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 ¹	FASC-N mode: 18-24 months (4AA) Full authentication mode: 10-12 months (4AA)
Operating temperature	Exterior: -31° to 151°F (-35° to 66°C) 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 with SUS Android mobile app. Also supported by existing Handheld Devices (HHD)

Exterior



Interior

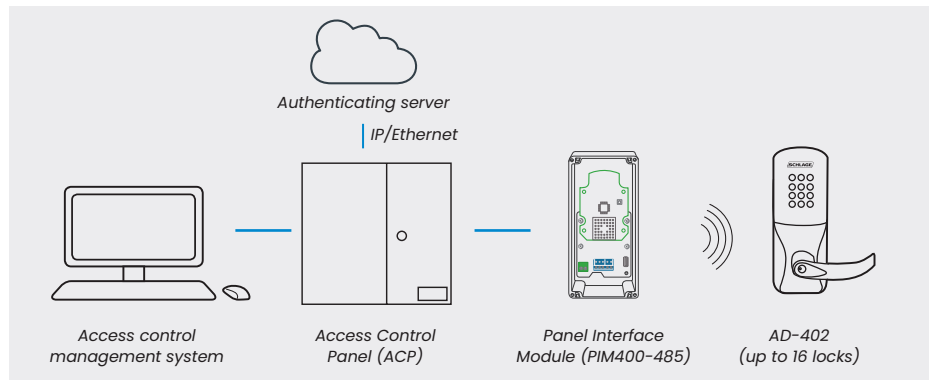


Functions

- Storeroom²
- Office/classroom²
- Privacy
- Apartment

Standard 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



1. Battery life testing results based on an average 20 activations per day.
2. Storeroom and office/classroom functions not available with mortise deadbolt option.

Mechanical Specifications

	Cylindrical	Mortise	Exit Trim
Handing	Handed to order, field reversible		
ANSI standard (meets or exceeds)	A156.25 locked outdoor A156.2 Series 4000 Grade 1	A156.25 locked outdoor A156.13 Series 1000 Grade 1	A156.25 locked outdoor A156.3 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" 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	Pressure cast zinc, plated		
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 Conventional cylinder with two patented keys standard. Additional options available including SFIC, FSIC and competitor brands. See lever and cylinder compatibility data sheet.		

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 78 (rim, SVR, CVR), 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.

FMK Multi-Technology Reader Specification

Credential technologies	Proximity (125 kHz), Smart (13.56 MHz)
Standards	ISO 15693, ISO 14443
Read range	Proximity: up to 1.25"; Smart: up to .75"
Proximity credential support	Compatibility: Schlage, HID ² , GE/CASI ProxLite®, AWID® and LeneIProx®
Smart credential support	Secure sector compatibility: Schlage MIFARE Classic®, Schlage MIFARE Plus®, Schlage MIFARE® DESFire®; PIV and PIV-I ¹ CSN only compatibility: HID iCLASS®, HID iCLASS SE®, Inside Contactless Pico Tag®, MIFARE Classic/Plus/DESFire, ST Microelectronics®, Texas Instruments Tag-It®, Phillips I-Code®
Certifications	FCC, Industry Canada (IC), UL 294
Options	12 button, 3 x 4 matrix backlit keypad

1. 75 bit output format default. Configurable to other output formats.

2. Proximity bit lengths greater than 37 not supported.

AD Series FMK Reader Modules

The AD Series is an ideal solution for applications which require approval by the U.S. Federal Government under HSPD-12 for FIPS 201-2 compliance. It is possible to upgrade existing, non-compliant AD Series locks to the new standard as follows:

- Field upgrade AD Series locks not currently set up for FIPS 201-2 by replacing the reader module with a FIPS 201-2 PIV-I capable FMK reader (sold separately)
- Field upgrade AD Series FIPS 201-1 compliant locks with an FMK reader manufactured after August 2016 by uploading FIPS 201-2 compatible firmware (AD.A.121 or higher)

Both types of upgrades should only be performed by a PACS provider who has tested and been approved under HSPD-12 for AD Series integration.


PIV capable

- The FMK reader is required on AD Series locks to achieve FIPS 201-2 compliance; It supports proximity cards and is PIV-I capable using 13.56 MHz smart card technologies

KEYPAD

Ordering Information

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

AD	-	402	-	CY	-	70	-	FMK	-	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

• FMK	FIPS 201-1 compliant multi-technology + keypad (125 kHz and 13.56 MHz)
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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
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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
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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.

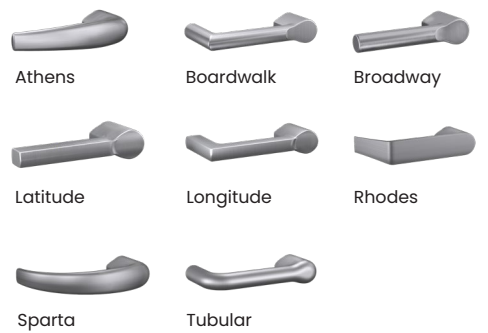
14 Door Thickness

• 134	1-3/4"
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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.



Finishes

