

Allegion AD-300 Installation

Application Note

Allegion Schlage AD-300 networked, hardwired locks can be integrated seamlessly with the Doors.NET software when used with the NXT-MSC (Mercury-Powered controllers). You can connect and communicate with up to 16 AD-300s from one controller via the RS-485 port. The AD-Series locks have extensive functionality and operating modes and are combined units consisting of the electric lock, credential reader, Request-to-Exit and Request-to-Enter sensors, door position switch and tamper guard.

For standard applications the AD-300 can be customized with a variety of credential readers including keypad, magnetic stripe or multi-technology which can read both proximity and smart-card technology.

1.0 Hardware Requirements

Keri Hardware

- Requires the use of NXT-MSC (Mercury Powered controllers) - (Mercury, standard NXT or PXL controllers do not support Allegion wireless locks).
- The controllers must be using firmware v1.189 or greater.

Allegion Hardware

	
AD-300 Lockset	HHD (Hand Held Device)

2.0 Software/Licensing Requirements

Access the License Manager to verify you have the correct license settings:

Start > All Programs > Doors.NET > License Manager

- Doors.NET Software revision v3.5.1.19 or greater
- Mercury Powered controller licensing
- Mercury gateway installed and configured
- Allegion enabled

Allegion AD-300 Installation

Application Note

Capacities:

- Number of Gateways – 1 or more
- Number of readers (Allegion) – 1 or more
- Number of readers (Allegion – per controller) – 1 or more

Capacities	
Administrative Clients	4
Badging Clients	1
Cardholders	48000
Central Station Clients	0
Enroll Clients	0
Gateways	4
Inputs	1024
Mapping Clients	0
OnSSI Clients	0
Outputs	1024
PXL controllers (Legacy)	10
Readers	256
Readers - Allegion	16
Readers - Allegion per Controller	16
Readers - Aperio	8
Readers - Aperio per Controller	8
Readers - Sargent Profile Series (VS2)	0
Report Clients	1
Roll Call Clients	1
Video Cameras	4
Video Clients	1

Supported Hardware

- Allegion – True
- Keri Systems – NXT (MSC) – True

Supported Hardware	
Allegion	True
Allow non-Keri Mercury Aperio Hubs	False
Assa Abloy	False
Assa Abloy - Aperio	False
Hardware Encryption	False
Keri Systems - EntraGuard	True
Keri Systems - NXT	True
Keri Systems - NXT (MSC)	True
Keri Systems - PXL 160	False
Keri Systems - PXL 380	False
Keri Systems - PXL 500	True
Mercury Security - AP Series	False
Mercury Security - SCP Series	True

User Interface

- Distribution Interface – False

User Interface	
Distribution User Interface	False

3.0 AD-300 Reset Procedure (to Factory Defaults)

This will remove all information programmed in the lock. Lock settings that will be deleted include functions, failure mode and re-lock delays however, this will not reset configurations and settings in the reader (such as credential format, mag stripe reader track and beeper default).

1. Remove the top inside cover.
2. Press and hold the Allegion button until two (2) beeps sound (10 seconds) then release.
3. Press and release the Inside Push Button (IPB) three (3) times within 10 seconds... the button will beep and blink red with each press.

Allegion AD-300 Installation

Application Note

4. The Allegion button and IPB will both light green for one second and a one-second beep will be heard. This indicates that the lock has been reset. If IPB is not pressed 3 times within 10 seconds, two beeps with two red blinks indicating a timeout and procedure must be repeated.
5. Replace the top inside cover.

4.0 Configuring the AD-300 Lock

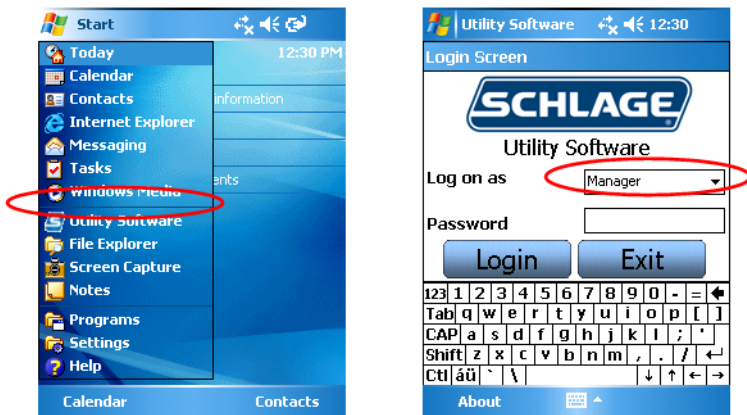
The Schlage Utility Software (SUS) is an application that runs on the Schlage™ Handheld Device (HHD). It is used to configure, edit and program all supported devices. You can use the software and HHD to; edit the AD-300 lock properties, update the lockset's firmware, couple the HHD to the device, set the date/time and run diagnostics.

This section assumes that you have already:

- Downloaded and installed the Synchronization Software
- Connected the HHD to your PC
- Configured the Synchronization Software
- Updated the SUS

4.1 Connecting the HDD programmer to the AD-300

1. Turn on the Hand Held Device (HHD) by pressing the power button on the top of the right side.
2. Remove the stylus from the back lower right side of the HHD.
3. On the HHD Home Screen, use the stylus to tap the Start button.
4. Tap the Utility Software link from the drop down list.
5. Login into the HHD as Manager (the default password is 1 2 3 4 5 6), then click Login.



6. Connect the USB cable to the HHD.

Allegion AD-300 Installation

Application Note

7. Plug the HHD USB cable into the lock's USB port located at the bottom of the exterior housing.



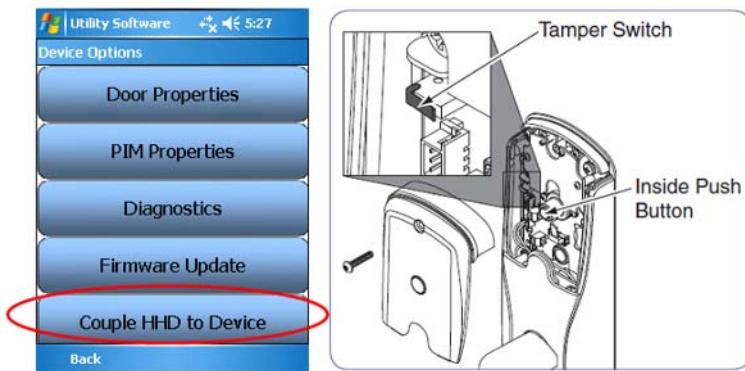
8. Press the Allegion button twice to activate the USB port on the lock.

4.2 Coupling the HHD to the AD-300 Lock

AD-Series locks can be coupled, or authenticated, with the HHD. This provides enhanced security by ensuring that the lock will only communicate with HHD(s) to which it has been coupled. Once the lock has been coupled, the Coupling Password is passed to the device from the HHD during programming. HHDs with the same coupling password can program the same devices. Each HHD with a different coupling password must be coupled with each device it will program.

Note: The HHD will use a default Programming Password (123456) when coupling with a device. The programming password should be changed to provide increased security for your locks.

1. Plug the HHD's USB cable into the AD-300's USB port located underneath the exterior side of the lock.
2. Remove the top inside lock cover of the AD-300.
3. Within the Utility Software on the HHD, select Device Options.
4. Press and hold the IPB, press and release the tamper switch three times then release the IPB... The IPB will flash indicating the AD-300 is in coupling mode.
5. On the HHD, select Couple HHD to Device.



6. When coupling is successful, a message will appear on the screen of the HHD
7. Unplug the HHD USB cable from the lock's USB port

Allegion AD-300 Installation

Application Note

5.0 Testing the Lock for Normal Operation

1. On the HHD select Device Options > Diagnostics
2. Observe the graphics on the HHD while performing the actions listed below. The graphics should reflect the action being performed.

Action	Graphic
Removing/replacing door contact or opening/closing door (door contact must be installed)	An open/closed door
Depressing outside handle	Outside handle down
Depressing inside handle	Inside handle down
Presenting a credential	Lock should unlock and Card Data field should display the card format
Pressing key on keypad	Lock should unlock and Card Data field should display the card format (see next section to edit the Keypad Output Format) <i>Note: Lock will only unlock on card presentation or key press if the 'Unlock on Read' option is selected.</i>



6.0 Programming the PIM 300 Address

The RS485 Channel must be selected to the corresponding bus used on the NXT-MSK controller for proper operation.

1. On the HHD, launch SUS.
2. Login as a Manager, default password is 123456.
3. Press the Schlage button twice.
4. If successfully connected, the AD-300 will be listed.
5. Select Device Options.
6. Select Lock Properties.
7. Select the Edit tab.
8. Select the RS-485 address you wish to assign to the AD-300 lock (all AD-300s wired into a bus of a controller needs a unique address number between 0 and 15) – You have daisy-chain up to 16 locks per controller bus.
9. Select Save.

Allegion AD-300 Installation

Application Note

10. Select Back.
11. Close the SUS.
12. Disconnect the USB cable from the AD-300 and the HHD.
13. Wire the AD-300 to the NXT-MSC controller.

7.0 Wiring the NXT-MSC 2D/4D Controller to the AD-300

- With an RS-485 cable between the AD-300 and the NXT-MSC controller the communication range is up to 4,000ft.
- The AD-300 locks can be daisy-chained up to a maximum of 16 locks per bus.
- There is a maximum limit of 16 locks per NXT-MSC controller. For more than 16 AD-300s you will require additional NXT-MSC controllers.

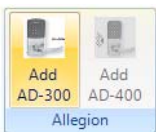
Note: You cannot power the locks from the NXT-MSC controller's RS-485 power supply. You must use a UL 294 Listed Power Supply capable of sourcing at least 250mA @ 12 or 24 VDC.

NXT-MSC RS-485 Port			AD-300 RS-485 Port	
PIN	Label	Wire Color	PIN	485 Connector Label
1	12 VDC		- no connection -	
2	Ground		- no connection -	
3	IO +	White	5	TDA -
4	IO -	Green	3	TDB +

8.0 Configuring Doors.NET for the AD-300

This section assumes the NXT (MSC) 2-door or 4-door controller is online, configured and ready to add the AD-300 to the database. (Refer to the [NXT \(MSC\) controller Quick Start Guide](#) for further details about setting up and configuring this controller type with Doors.NET).

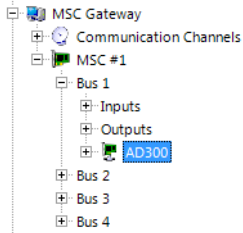
1. Log in to Doors.NET and go to Setup > Hardware Setup > All.
2. On the hardware tree you will see the gateway node and the NXT (MSC) controller(s).
3. Expand the controller and highlight the bus which the AD-300 is connected to.
4. From the hardware ribbon select the Add AD-300 icon.



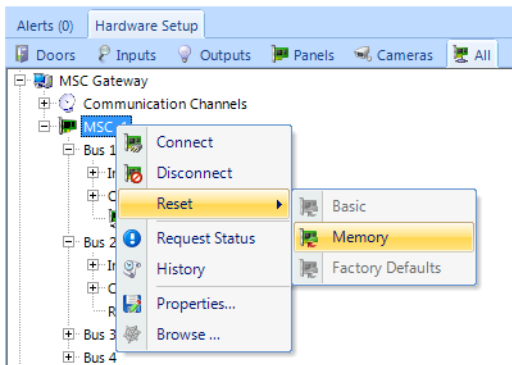
Allegion AD-300 Installation

Application Note

5. The AD-300 will be added to the selected controller bus on the hardware tree.



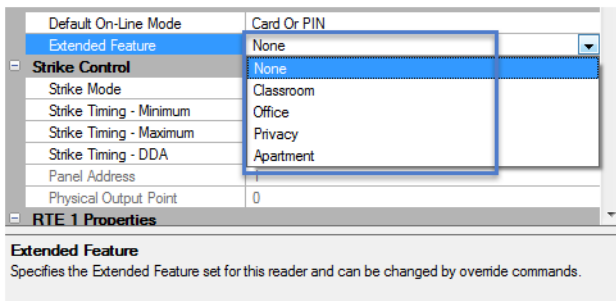
6. Right-click on the NXT-MSC 2/4 door controller and select Reset >> Memory.



9.0 Extended Features

There are several lock modes that are supported by the AD-300 series locks. You can set one of these supported modes by performing the following:

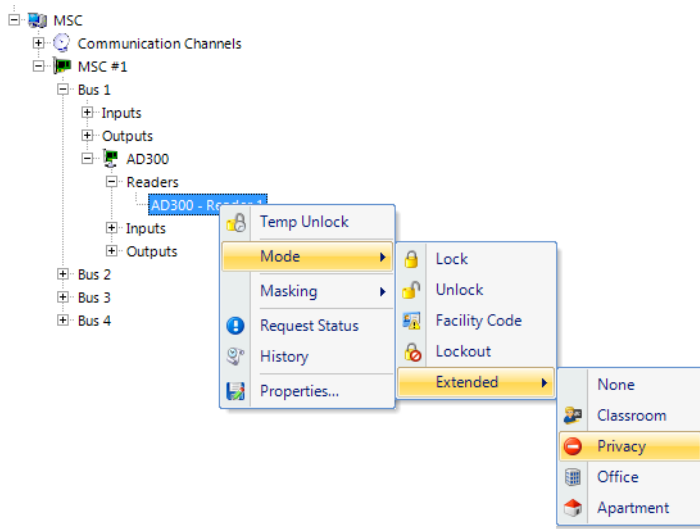
1. Highlight the AD-300 in the hardware tree.
2. Locate the Modes section and select from the Extended Features drop-down list.



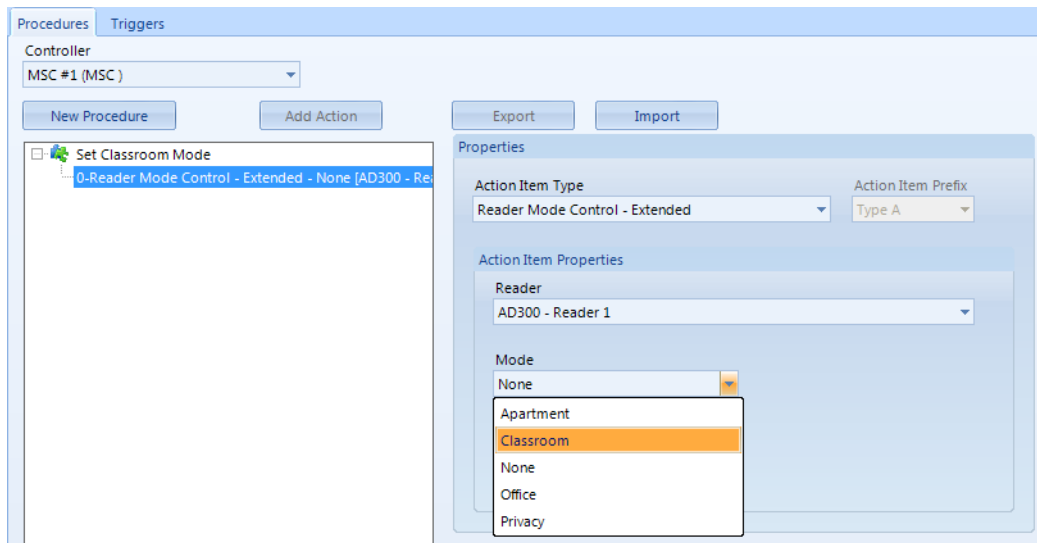
Allegion AD-300 Installation

Application Note

3. You can right-click the AD-300 in the hardware tree or from the doors status grid and select Mode > Extended.



4. You can setup a Local Linkage Procedure to set one of the extended modes.



There are numerous system events that can be defined as Local Linkage Triggers but the event must be generated from the same controller to which the AD-300 is connected. For example: an Extended Feature could be set from a double card presentation, when a certain input goes active/secure or if a tamper input is active/secure on the lock. Refer to the online help for more information about using Local Linkage with Allegion AD series locks.

NOTE: Local Linkage is an additional add-on module and is not included in the standard version of the software.

Allegion AD-300 Installation

Application Note

9.1 Extended Feature Descriptions

Classroom/Storeroom Mode

Lockset is normally secure. Inside lever always allows free egress. Valid toggle credentials on the exterior may be used to change to a passage or secured status.

NOTE: IPB cannot be used.

NOTE: Cannot use with Mortise Deadbolt Chassis.

Privacy Mode

Lockset is normally secure. Inside lever always allows free egress. Interior push button on inside housing may be used to select a privacy status. The interior push button will disable normal electronic access from the exterior. Opening the door or pressing the interior push button a second time on the inside housing deactivates the privacy status.

Privacy Mode with Mortise Deadbolt

Device is normally secured. Upon presenting normal credential to exterior the device momentarily unlocks. Upon turning the thumb turn on the interior the device is placed into a "Privacy State" and will allow access only to "Pass Thru" credentials. Upon retracting the thumb turn or changing state of door position switch the device is removed out of the "Privacy State" and returns to the prior designated state.

Office Mode

Lockset is normally secure. Inside lever always allows free egress. Interior push button on inside housing may be used to select a passage or secured status. Meets need for lockdown function for safety and security.

NOTE: Valid toggle credentials on the exterior may also be used to change status.

NOTE: Cannot be used with Mortise Deadbolt

Apartment Mode

Lockset is normally secure. Inside lever always allows free egress. Interior-push button on inside housing may be used to select a passage or secured status. Opening the door or pressing the interior push button causes the lockset to toggle unsecured. While toggled unsecured, the lockset can only be secured while the door is closed by pressing the interior push button or using a normal credential on the exterior. Normal electronic access from the exterior is always allowed.

Apartment Mode with Mortise Deadbolt

Device is normally secured. Upon presenting normal credential to exterior the device permanently unlocks. Upon extending the deadbolt with thumb turn on the interior the device relocks to normally secured state (not Privacy state). Upon retracting the thumb turn or pressing IPB and opening the door, device permanently unlocks. Upon shutting the door and presenting normal credential to the exterior reader the device returns to a normally secured state. Mortise deadbolt chassis will have deadbolt retracted.

Allegion AD-300 Installation

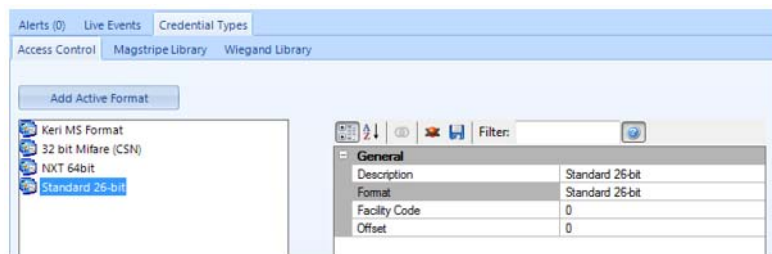
Application Note

10.0 Setup and Configuring Credential Types

1. Before setting up users or adding credentials to users, “Credential Types” must be configured to allow proper card and/or PIN operation.
2. The Credential Types feature must be enabled on your license key within the Options section.



3. While logged into the Doors.NET software, click Setup > Credential Types.
4. From the Access Control tab, click Add Active Format.
5. In the properties pane locate Format and select Standard 26-bit.
6. For PIN operation leave the FC field set to 0 and leave the Offset field set to 0. (This format will allow the keypad to work in 26-bit mode with a FC of 0).
7. For CARD operation set the FC field to the Facility Code programmed in the card(s) to be enrolled.
8. Leave the offset field set to 0, click save.
9. If using cards the above process will need to be completed for each facility code in use.



11.0 Enrolling a Card or PIN

1. From Home > Cardholders, add a new cardholder and save.
2. When adding a card or PIN to a cardholder ensure the 'Calculate Internal Number' option is unchecked.
3. Enter the Imprint number (number printed on the card) or the PIN into the Cardnumber field.
4. Leave the issue code at the default value of zero.
5. Click the Add Card button then save.
6. Assign the card record an access group from the Access Rights tab.
7. This card will automatically be sent to the controller(s) and should work within a few seconds.

11.1 Supported Card Formats

Proximity Cards (125kHz)

- AWID®
- GE/CASI®
- HID®
- Schlage®
- XceedID®

Allegion AD-300 Installation

Application Note

Smart Cards (13.65MHz)

- aptiQ™ MIFARE Classic
- aptiQ™ MIFARE DESFire™ EV1
- PIV and PIV-I compatible

Smart Cards (13.65MHz) – Reading Card Serial Number (CSN) Only

- HID iCLASS®
- DESFire®
- MIFARE®
- MIFARE DESFire™ EV1

12.0 Contact Keri Systems

Keri USA	Keri UK, Ireland, Europe
2305 Bering Drive San Jose, CA 95131	Unit 17 Park Farm Industrial Estate Ermine Street Buntingford Herts SG9 9AZ UK
Telephone: (800) 260-5265 (408) 435-8400	Telephone: + 44 (0) 1763 273 243
Fax: (408) 577-1792	Fax: + 44 (0) 1763 274 106
Web: www.kerisys.com	Web: www.kerisystems.co.uk
E-mail: sales@kerisys.com techsupport@kerisys.com	E-mail: sales@kerisystems.co.uk tech-support@kerisystems.co.uk

end of document