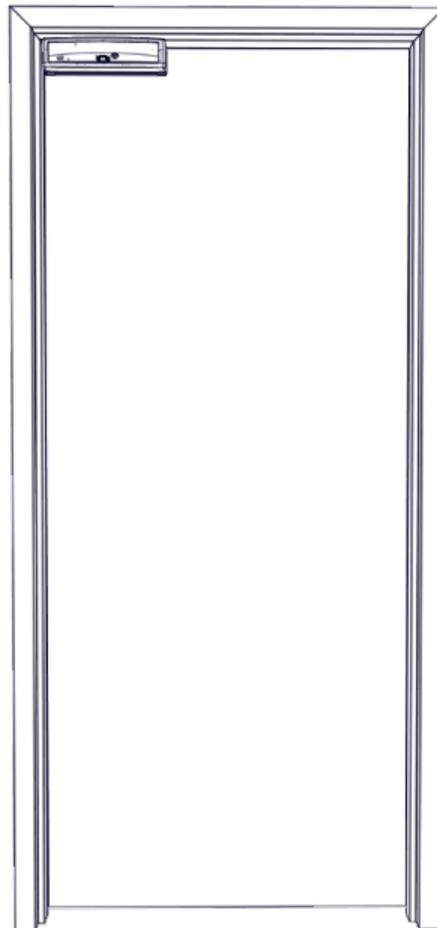


Securitron® M680E Series Magnalock® With EcoMag™ Technology

Installation Instructions



Models Covered:

M680E

M680EBD

M680EBDX



IMPORTANT NOTE:

This Magnalock requires calibration upon installation.

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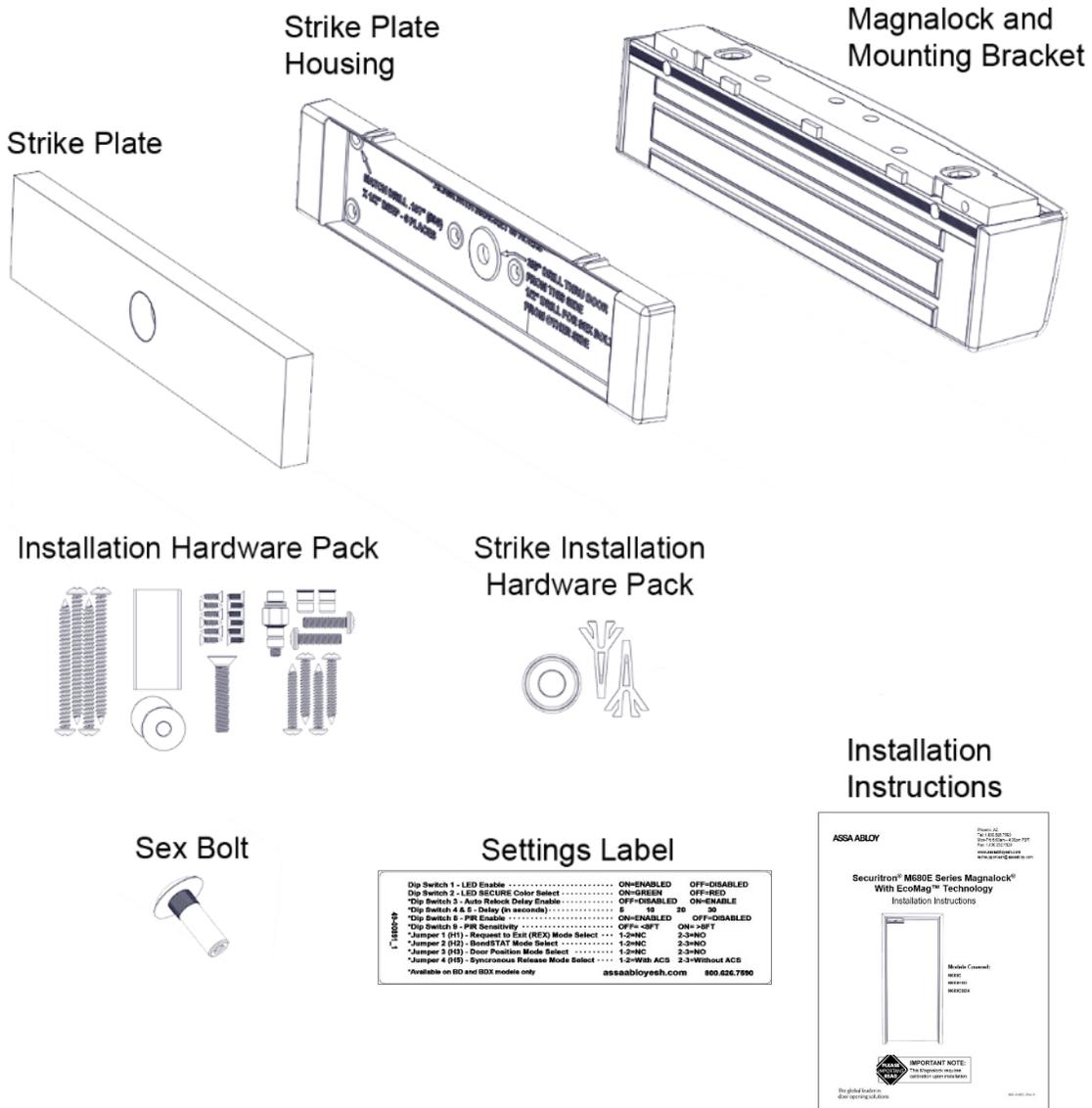
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RECOMMENDED INSTALLATION TOOLS

- Masking Tape
- Measuring Device
- #1 and #2 Phillips Screwdrivers
- Mini Phillips Screwdriver 1/2" Box End or Crescent Wrench, or BlindNut Installation Tool
- Wire Strippers/Cutter
- Pencil/Pen
- Center Punch
- 3/16" Hex (Allen) Wrench
- Multimeter
- Fish Tape or Lead Wire
- Rubber Mallet
- Drill Bits: #36 (0.107"), 3/16", 1/2", and 5/8"

IN THE BOX CONTENTS



Installation Hardware Pack Contents

NOTE: Hardware is provided for various installations. There will be leftover parts depending on the type of installation.



#14 X 3" Type A
Phillips Pan Head Screw (4)



#12 X 1-1/2" Type A Phillips
Pan Head Screw (4)



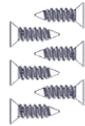
5/16-18 X 1-3/4"
Flat Head Socket Screw



Threadlock



1/4-20 X 1" Phillips
Pan Head Screw (2)



#6 X 1/2" Phillips Flat Head
Type A Steel Screw (6)



6-32 X 3/8" Phillips Flat Head
Type F Steel Screw (6)



Lock Nut Install
Hardware Assembly



1/4-20 Rivet Nut (2)

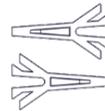


Neoprene Washer (2)

Strike Installation Hardware Pack Contents



M680E Strike Spring Assembly



M380E/M680E Template Pins
(2)

SPECIFICATIONS

Mechanical

Physical Size:	Height: 2.50" [64 mm] Depth: 2.56" [65 mm] Length: 11.50" [292 mm]
Shipped Weight:	13 lb [5.89 kg]
Static Holding Force (Maximum):	1200 lbs [499 kg]
UL Tested Ratings:	Static Holding Force: 1000 lbs [454 kg] Dynamic Holding Force: 70 ft-lbs [95 J] Endurance: 250,000 cycles

Electrical

IMPORTANT: UL 294 compliance requires that the locking device be powered by a UL 294 (ALVY) or UL 603 (APHV) listed power supply and shall be installed in accordance with the following UL and National Standards:
NFPA 70 – National Electrical Code

Input Voltage: (VDC +/- 10%)	12 through 24 VDC. Power must be at least <u>rectified</u> and <u>filtered</u> to meet minimum electrical specifications. AC, Half Wave, and Full Wave power is unacceptable.
Tamper Rating:	Voltage – 30 VDC (Maximum) (Resistive) Current – 1A (Maximum)
DPS Rating:	Voltage – 30 VDC (Maximum) (Resistive) Current – 125 mA (Maximum)
REX Rating:	Voltage – 24 VDC Current – 1A (Resistive)

Current by Model Number	Average Power Draw (12/24VDC)	Maximum Power Draw (12/24 VDC)
M680E	113/52 mA	520/360 mA
M680EBD	113/52 mA	520/360 mA
M680EBDX	139/69 mA	545/380 mA

IMPORTANT: Size your power supply to handle the maximum power draw

Environmental (Indoor Use)

Operating Temperature:	32°F to 110°F [0°C to 43°C]
Humidity:	10% to 90% RH

IMPORTANT: This product must be installed according to all applicable building and life safety codes.

UL 294 Performance levels: Access Control Line Security Level 1, Destructive Attack Level 1, Endurance Level IV, Standby Power Level 1.

MAGNALOCK PREPARATION AND INSTALLATION

Performing a Pre-Installation Survey

1. Before installing the Magnalock, DETERMINE and ASSESS the mounting location for the following:
 - Physical strength of the frame— it should be strong enough to meet or exceed the holding force of the Magnalock.
 - Frame and vicinity— it should offer protection for the wiring to prevent vandalism, and adequate protection from rain exposure.
 - Door inspection—it should be inspected for any obstacles that may interfere when mounting the strike plate.

- Proper mounting—The Magnalock comes with factory default mounting for use with an outswing door. Securitron should be contacted for available brackets for other installation configurations.

Removing the Cover

NOTE: Removing the cover provides access to the circuit board on the back of the magnet.

2. Using a Phillips screwdriver, REMOVE the two (2) screws securing the cover, as shown in Figure 1, “Removing the Cover Screws.”
3. SET the screws aside to re-attach the cover later.

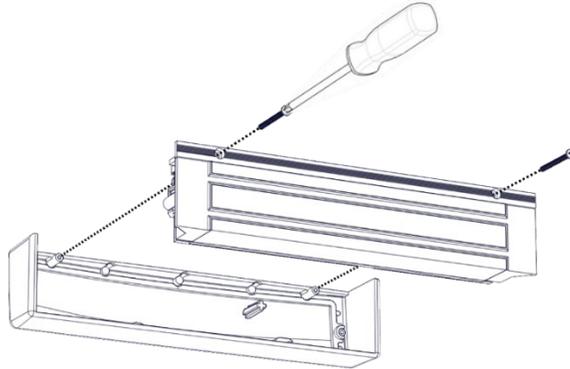


Figure 1. Removing the Cover Screws

Preparing the Magnalock

1. ENSURE you have at least 2-3/16" between the closed door and the edge of the header. If not, you will require additional bracketry (see Figure 2, “Assessing the Installation Site”).

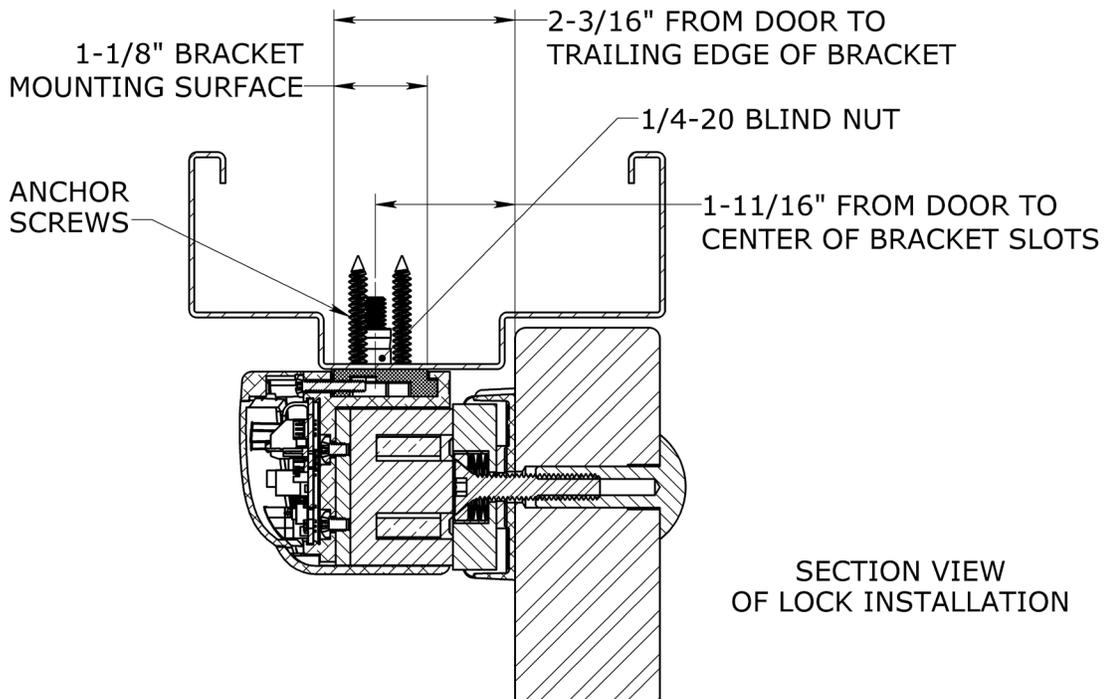


Figure 2. Assessing the Installation Site

2. REMOVE the three (3) screws securing the lock to the mounting bracket and SLIDE the bracket from the top of the lock chassis (see Figure 3, "Removing the Securing Screws").

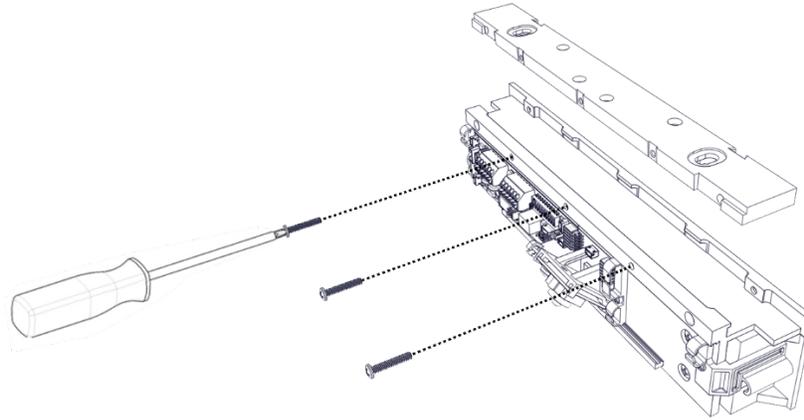


Figure 3. Removing the Securing Screws

3. PINCH and INSERT the template pins flush into the dovetail slots of the mounting bracket (see Figure 4, "Inserting the Template Pins").

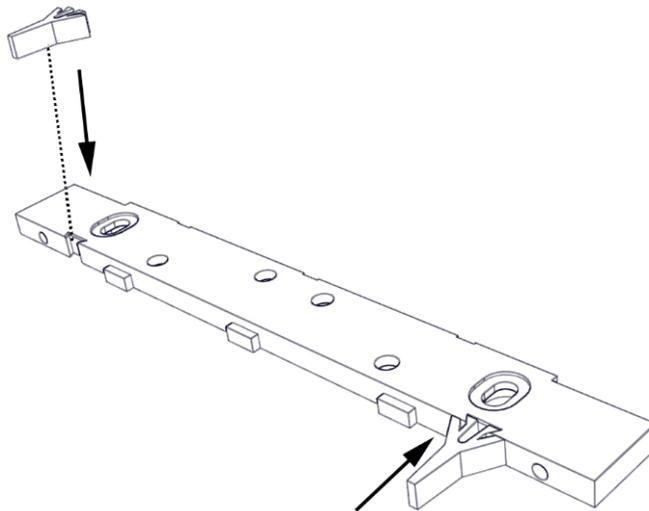


Figure 4. Inserting the Template Pins

4. PERFORM the following to mark the mounting holes:
 - a. APPLY masking tape to the door and frame surfaces to protect from any possible damage during marking and drilling.
 - b. PLACE the mounting bracket on the secure side of the door against the frame stop and towards the side of the door that does not have hinges, and has a minimum of 1" clearance from the frame.
 - c. CLOSE the door and ADJUST the bracket so that the template pins rest against the door.
 - d. MARK the frame through the two (2) oblong bracket mounting holes (see Figure 5, "Marking the Frame").

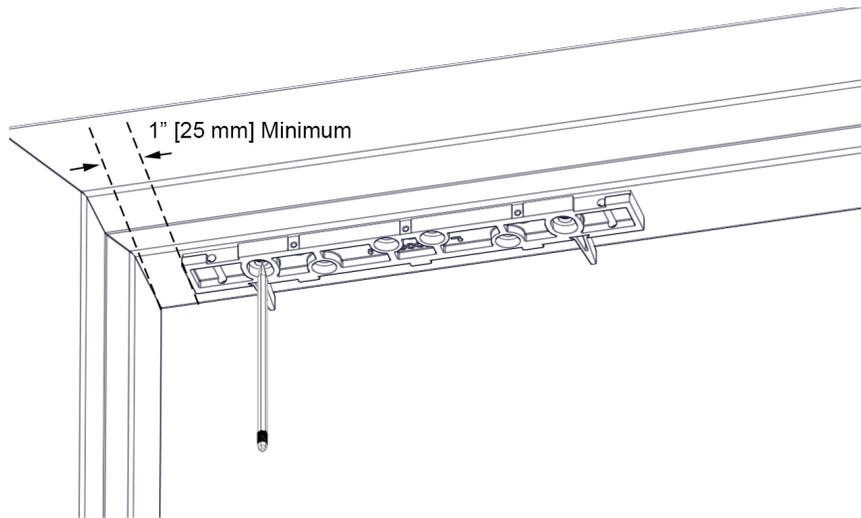
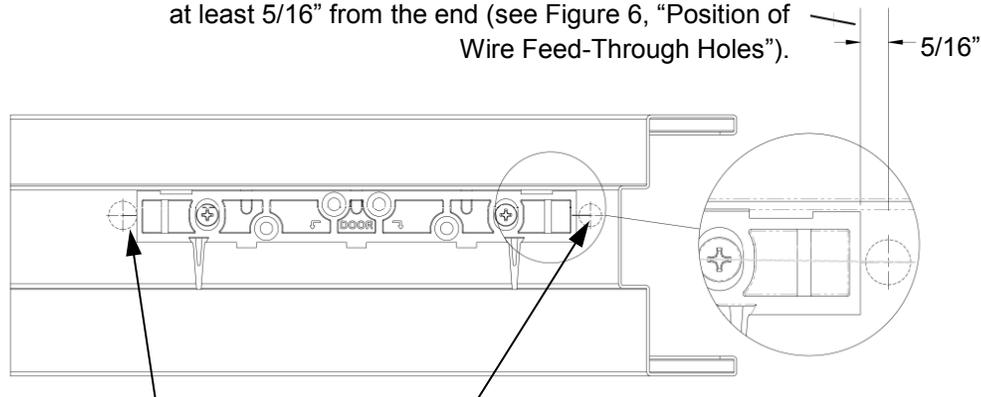


Figure 5. Marking the Frame

5. MARK the frame for wire feed-through hole at the end closest to where the wire run will be accessed, and ENSURE the hole marking is centered at least 5/16" from the end (see Figure 6, "Position of Wire Feed-Through Holes").

1/2" or 5/8" diameter hole, as applicable, is centered at least 5/16" from the end (see Figure 6, "Position of Wire Feed-Through Holes").



Use either location for Wire Feed-Through Holes

Figure 6. Position of Wire Feed-Through Holes

6. REMOVE mounting bracket from frame.

INSTALLING MAGNALOCK ON A METAL DOOR FRAME

1. GO TO "Installing Magnalock on a Metal Door Frame" section.

INSTALLING MAGNALOCK ON A WOOD DOOR FRAME

1. GO TO "Installing Magnalock on a Wood Door Frame" section.

Installing Magnalock on a Metal Door Frame

NOTE: Drilling a pilot hole first or using a step bit will ensure a snug fit for the blind nuts.

1. DRILL two (2) $\frac{3}{8}$ " diameter holes at bracket-mounting hole marks (see Figure 7, "Drilling the Bracket Mounting Holes"); DO NOT oversize.

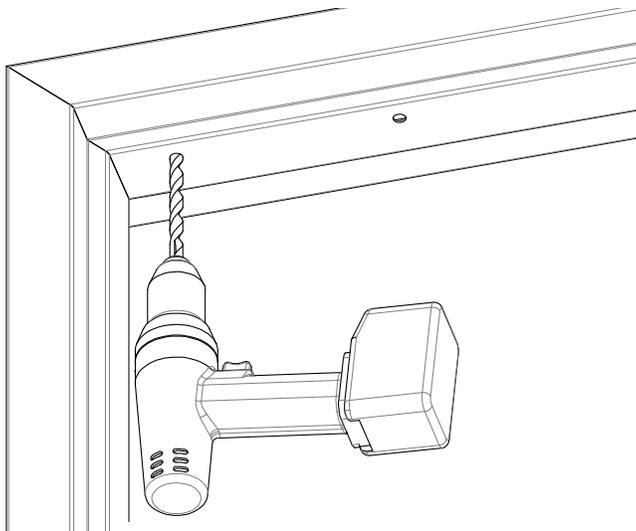


Figure 7. Drilling the Bracket Mounting Holes

NOTE 1: Blind nuts provide a highly secure and tamper resistant system for mounting and are the mounting hardware provided for this unit.

NOTE 2: A blind nut installation tool (Securitron BPT-2, "Blind Nut Placement Tool," or by others) can be used instead of using the box end wrench and hex wrench.

2. INSTALL blind nut into each $\frac{3}{8}$ " diameter hole using the provided tool (see Figure 8, "Installing the Blind Nuts").
 - a. HOLD the collapsing nut with a $\frac{1}{2}$ " open or box end wrench.
 - b. MAINTAIN pressure on the mounting surface, TIGHTEN the cap screw using a $\frac{3}{16}$ " hex wrench, and COLLAPSE the blind nut.

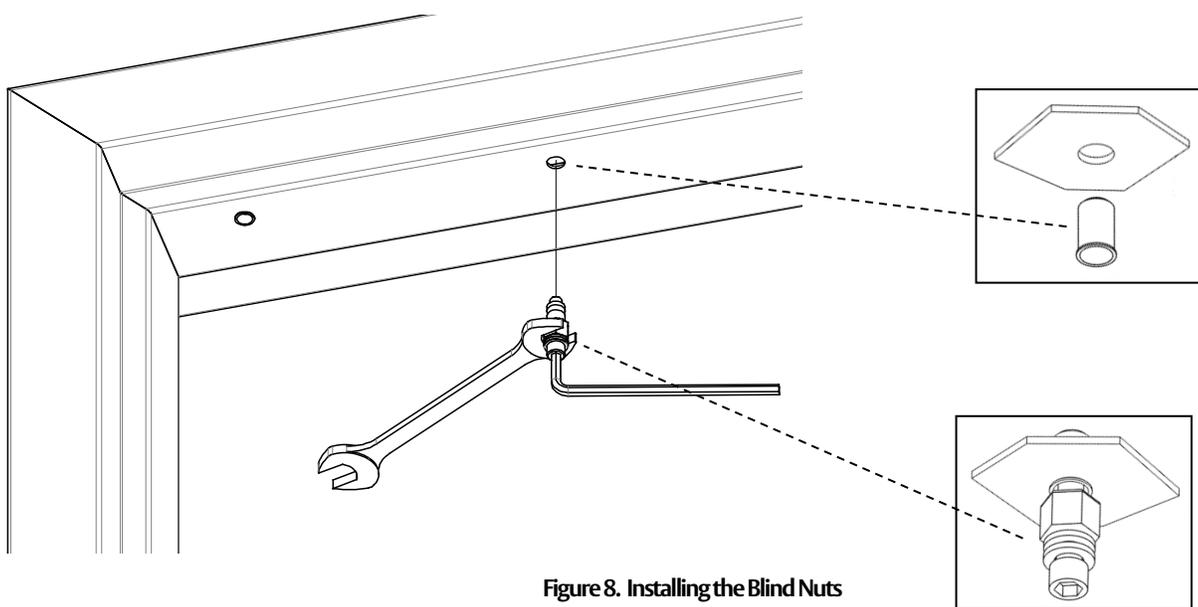


Figure 8. Installing the Blind Nuts

3. DRILL wire access holes (1/2" diameter recommended), as needed, on one or both sides of the bracket (see Figure 9, "Drilling the Wire Access Holes").

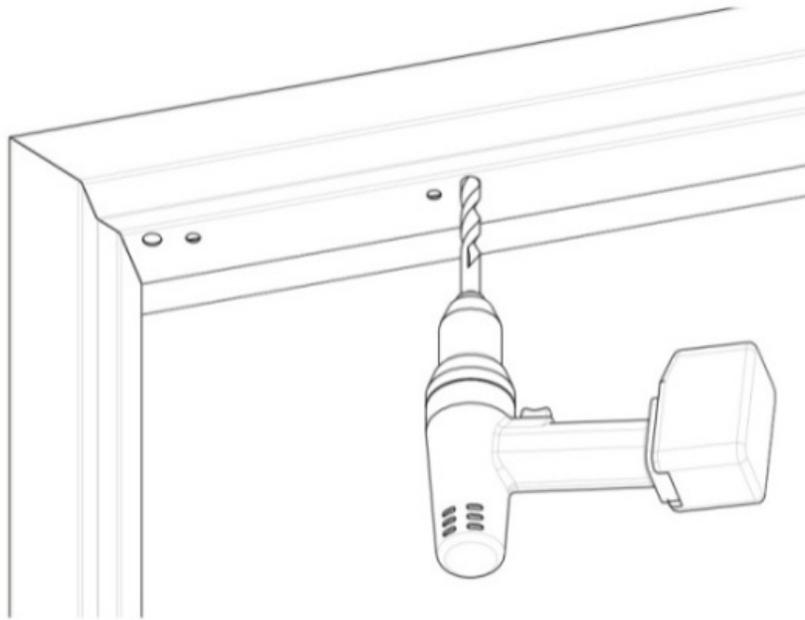


Figure 9. Drilling the Wire Access Holes

4. REMOVE the protective tape from the frame.
5. Temporarily INSTALL the mounting bracket with template pins against the closed door using a Phillips screwdriver (see Figure 10, "Installing the Bracket").
 - a. USE two (2) 1/4-20 X 1" Phillips Pan Head Screws.

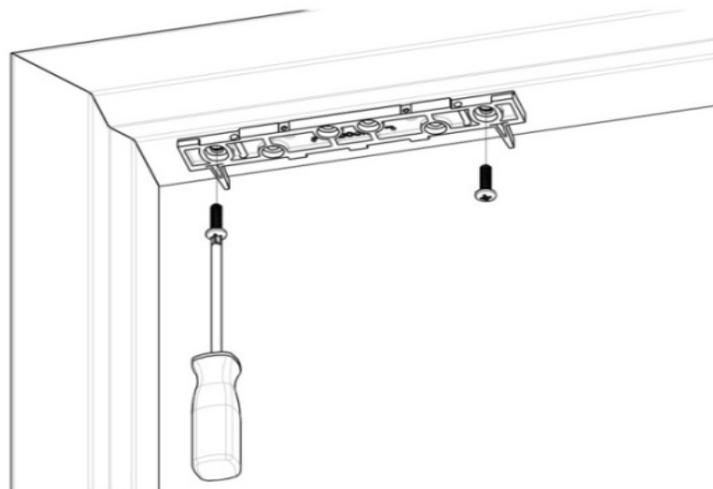


Figure 10. Installing the Bracket

6. With the door closed, ALIGN the strike plate housing with the template pins, as indicated on the strike plate housing. Ensure the template is pushed snug against the template pins.

7. MARK the strike plate housing hole locations (see Figure 11, “Marking the Strike Plate Hole Locations”).

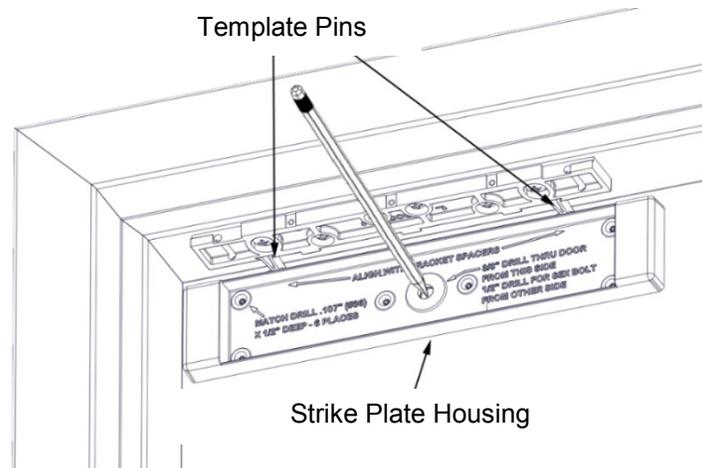


Figure 11. Marking the Strike Plate Hole Locations

8. REMOVE the strike plate housing from the door, and the template pins from the top mounting bracket.

From INSIDE the door:

9. DRILL a 3/8" diameter hole for the sex bolt all the way through the door at the strike mounting center mark.
10. DRILL six (6) #36 (0.107)" X 1/2" deep holes for the strike plate housing anchor screws.

From OUTSIDE the door:

11. For a **Hollow Metal Door**, DRILL out the 3/8" diameter strike mounting hole to 1/2" diameter in the outer wall only (see Figure 12, “Drilling the Outside Door Holes”).

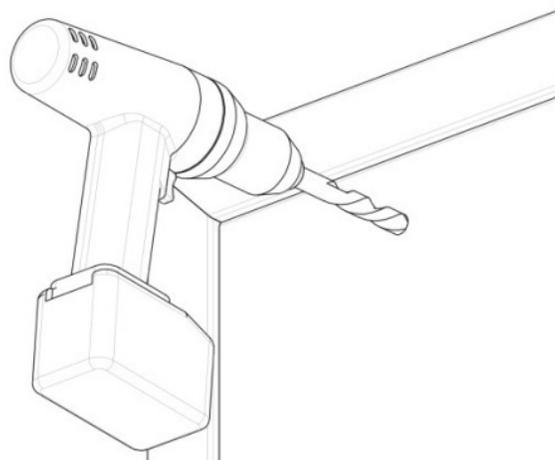


Figure 12. Drilling the Outside Door Holes

NOTE: Figure 13, “Installing the Strike Plate Assembly,” Figure 14, “Strike Plate Assembly Installed – Inside Door,” and Figure 15, “Strike Plate Assembly Installed – Outside Door,” provide illustration for the following steps.

12. PERFORM the following to secure strike plate assembly to the door:
 - a. INSERT the sex bolt into the hole from outside of the door.
 - b. ATTACH the strike plate housing using the six (6) 6-32 X 3/8" Phillips flat head screws.
 - c. APPLY the included thread lock compound, per manufacturer's specifications, to the 5/16"-18 X 1-3/4" flat head socket screw.
 - d. INSERT the 5/16"-18 X 1-3/4" flat head socket screw through the strike bushing, strike plate, one (1) neoprene washer, strike plate housing and door into the sex bolt.

NOTE 1: Strike should rock on the neoprene washer for proper function and optimal holding force.

NOTE 2: The assembly should not be over-tightened; the neoprene washer should not be compressed; **and the head of the 5/16"-18 X 1-3/4" flat head socket screw should only be seated flush in the strike plate bushing.**

- e. TIGHTEN the screw into the sex bolt using a 3/16" hex wrench; and while tightening, gently TAP the head of sex bolt using a rubber mallet until the head sits flush with the door. IF using a metal hammer, ensure the finish of the sex bolt is protected by additional material such as foam or cloth.

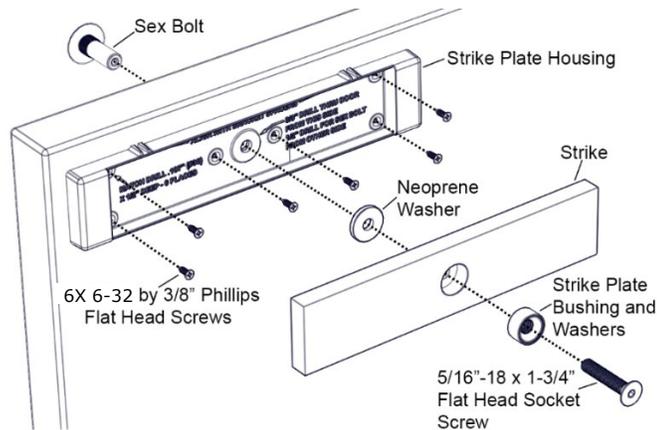


Figure 13. Installing the Strike Plate Assembly

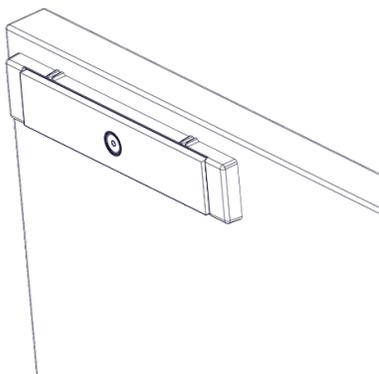


Figure 14. Strike Plate Assembly Installed – Inside Door

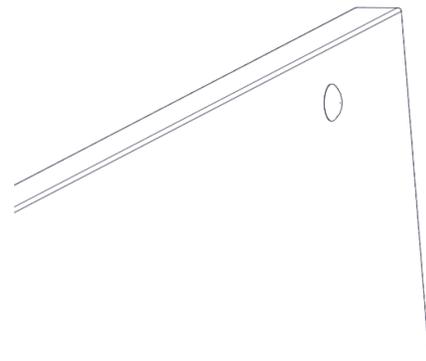


Figure 15. Strike Plate Assembly Installed – Outside Door

13. GO TO "Assembling the lock to the Bracket and Adjusting, as Necessary" section.

Installing Magnalock on a Wood Door Frame

1. DRILL two (2) $\frac{3}{16}$ " diameter mounting holes by $1\text{-}\frac{1}{4}$ " deep at bracket-mounting hole marks (see Figure 16, "Drilling the Mounting Holes").
2. DRILL wire access holes ($\frac{1}{2}$ " diameter recommended), as needed, on one or both sides of the bracket (see Figure 17, "Drilling the Wire Access Holes").

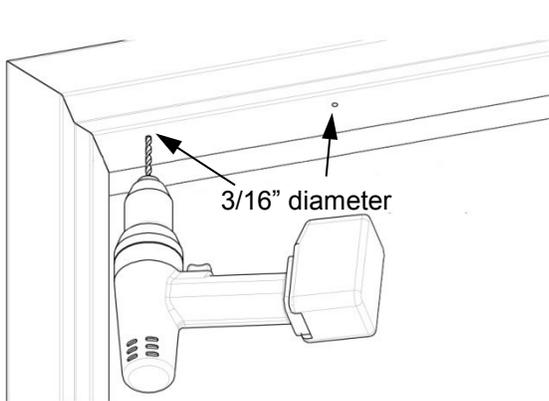


Figure 16. Drilling the Mounting Holes

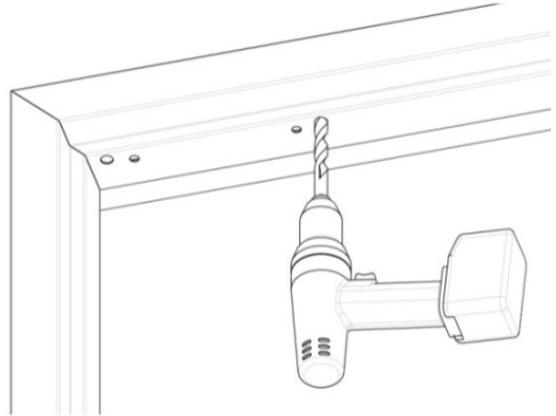


Figure 17. Drilling the Wire Access Holes

3. REMOVE the protective tape from the frame.
4. Temporarily INSTALL the mounting bracket with template pins against the closed door using a Phillips screwdriver (see Figure 18, "Installing the Bracket").
 - a. USE two (2) #12 X $1\text{-}\frac{1}{2}$ " Type A, Phillips Pan Head Screws.

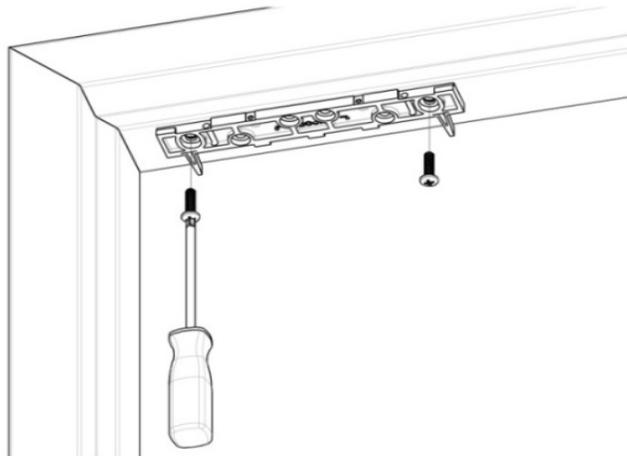


Figure 18. Installing the Bracket

5. With the door closed, ALIGN the strike plate housing with the template pins, as indicated on the strike plate housing.

6. MARK the strike plate housing hole locations (see Figure 19, “Marking the Strike Plate Hole Locations”).

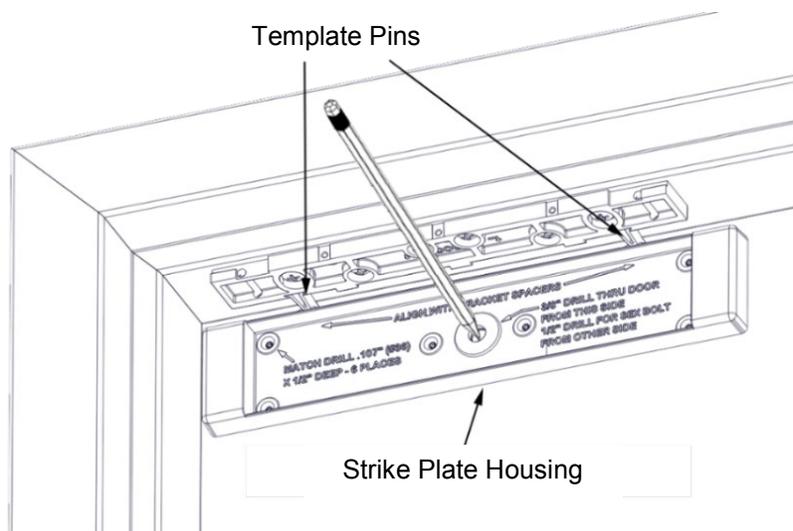


Figure 19. Marking the Strike Plate Hole Locations

7. REMOVE the strike plate housing from the door, and the template pins from the top mounting bracket.

From INSIDE the door:

8. DRILL a 3/8" diameter hole for the sex bolt all the way through the door at the strike mounting center mark.
9. DRILL six (6) #36 (0.107)" X 1/2" deep holes for the strike plate housing anchor screws.

From OUTSIDE the door:

10. DRILL out 3/8" diameter strike mounting hole to 1/2" diameter; DRILL completely through door.

NOTE: Figure 20, “Installing the Strike Plate Assembly,” Figure 21, “Strike Plate Assembly Installed – Inside Door,” and Figure 22, “Strike Plate Assembly Installed – Outside Door,” provide illustration for the following steps.

11. PERFORM the following to secure strike plate assembly to the door.

- a. INSERT the sex bolt into the hole from outside of the door.
- b. ATTACH the strike plate housing using the six (6) #6 X 1/2" Phillips flat head screws.
- c. APPLY the included thread lock compound, per manufacturer’s specifications, to the 5/16"-18 X 1-3/4" flat head socket screw.
- d. INSERT the 5/16"-18 X 1-3/4" flat head socket screw through the strike bushing, strike plate, one (1) neoprene washer, strike plate housing and door into the sex bolt.

NOTE 1: Strike should rock on the neoprene washer for proper function and optimal holding force.

NOTE 2: The assembly should not be over-tightened; the neoprene washer should not be compressed; **and the head of the 5/16"-18 X 1-3/4" flat head socket screw should only be seated flush in the strike plate bushing.**

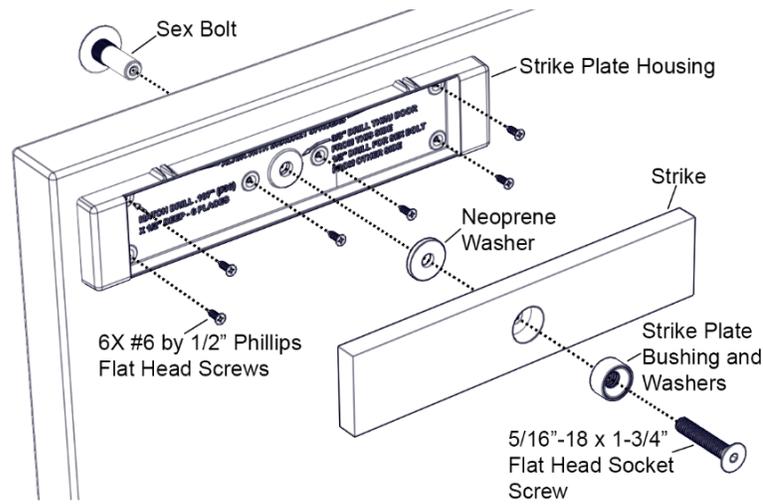


Figure 20. Installing the Strike Plate Assembly

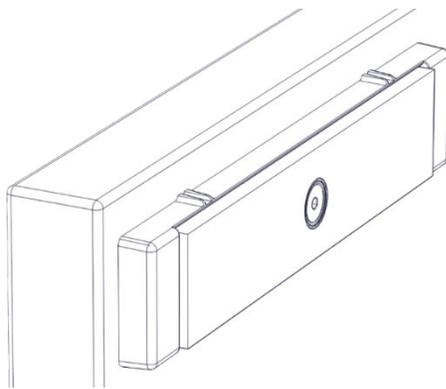


Figure 21. Strike Plate Assembly Installed – Inside Door

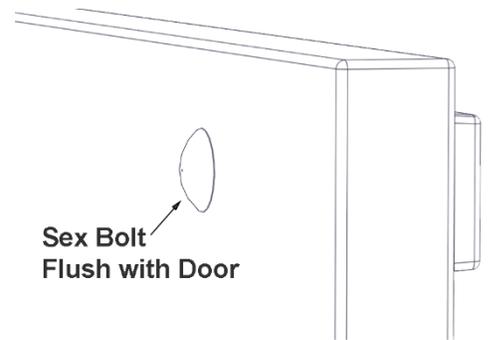


Figure 22. Strike Plate Assembly Installed – Outside Door

- e. **TIGHTEN** the screw into the sex bolt using a 3/16" hex wrench; and while tightening, gently **TAP** the head of sex bolt using the rubber mallet. **IF** using a metal hammer, ensure the finish of the sex bolt is protected by additional material such as foam or cloth.

12. **GO TO** "Assembling the lock to the Bracket and Adjusting, as Necessary" section.

Assembling the Lock to the Bracket and Adjusting, as Necessary

1. LOOSEN the two screws securing the mounting bracket to door frame just enough so bracket can move.

NOTE: The edge of the magnalock must be flush with the end of the mounting bracket when centered.

2. SLIDE the lock onto the mounting bracket and TEST FIT against the strike plate with the door closed (see Figure 23, "Assembling the Magnalock to the Bracket").

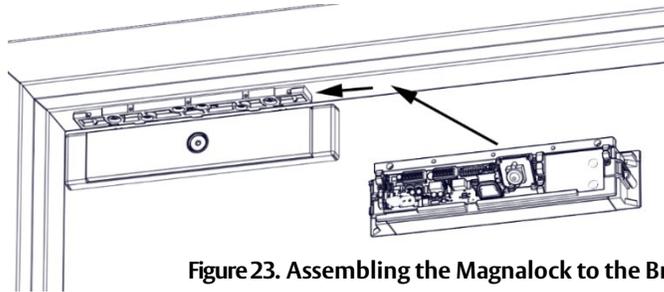


Figure 23. Assembling the Magnalock to the Bracket

3. SLIDE the lock forward or backward so that the entire face makes contact with the strike plate.
4. MARK back edge of mounting bracket at each end, and REMOVE the magnalock from the bracket (see Figure 24, "Marking the Back Edge of the Mounting Bracket").

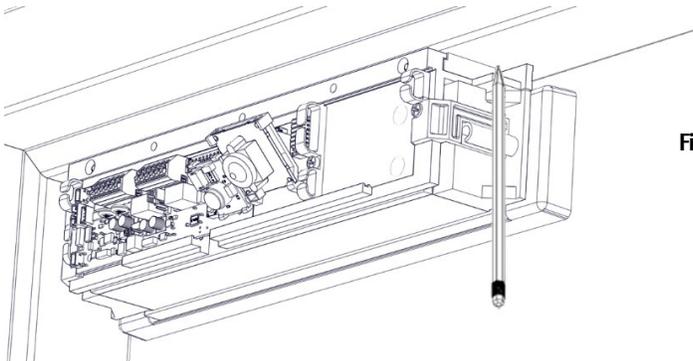


Figure 24. Marking the Back Edge of the Mounting Bracket

5. ENSURE that the mounting bracket aligns with the marks, and TIGHTEN the mounting screws (see Figure 25, "Tightening the Mounting Screws").

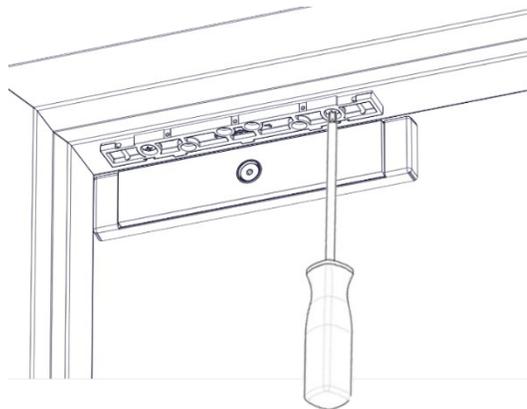


Figure 25. Tightening the Mounting Screws

6. Drill pilot holes as necessary then install and TIGHTEN the four (4) final mounting screws (see Figure 26, "Installing Final Mounting Screws"). For METAL DOORS drill 3/16" and use #12 X 1-1/2" Screws. For WOOD DOORS drill 7/32" and use #14 X 3" screws.

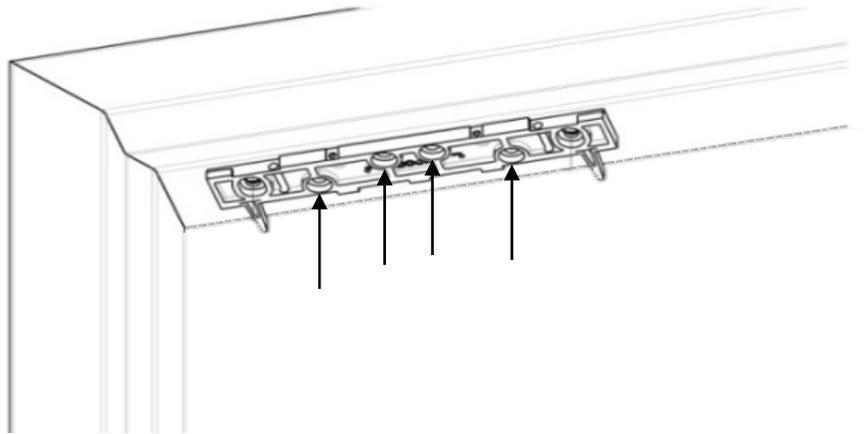


Figure 26. Installing Final Mounting Screws

MAGNALOCK ELECTRICAL INSTALLATION

Preparing the Magnalock

NOTE: Removing the cover provides access to the circuit board on the back of the magnet.

1. Using a Phillips screwdriver, REMOVE the two (2) screws securing the cover, as shown in Figure 27, "Removing the Cover Screws."
2. SET the screws aside to re-attach the cover later.

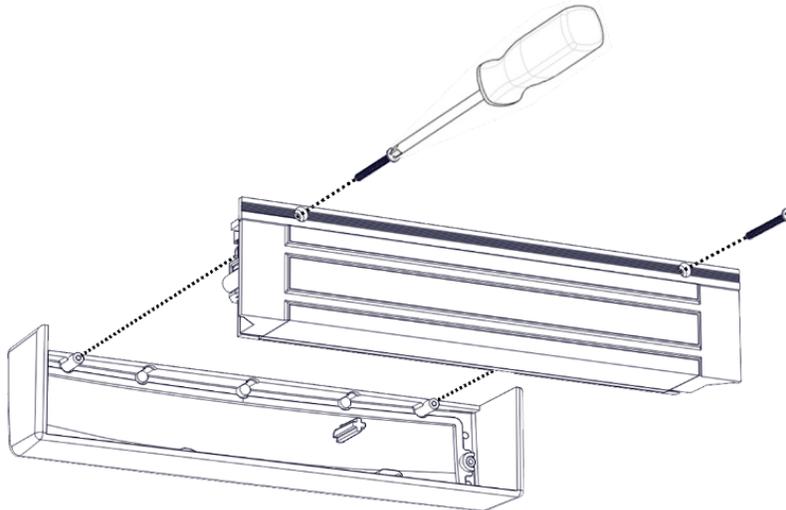


Figure 27. Removing the Cover Screws

Locating and Setting the Dip Switches on the Magnalock

1. LOCATE and SET the dip switches (see Figure 28, “Dip Switch Location”) using Table 1, “Dip Switch Selection and Position”.

SW 1 - SW 10

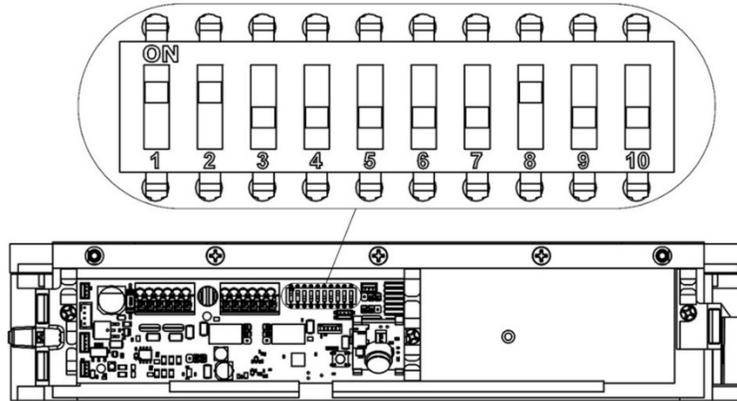


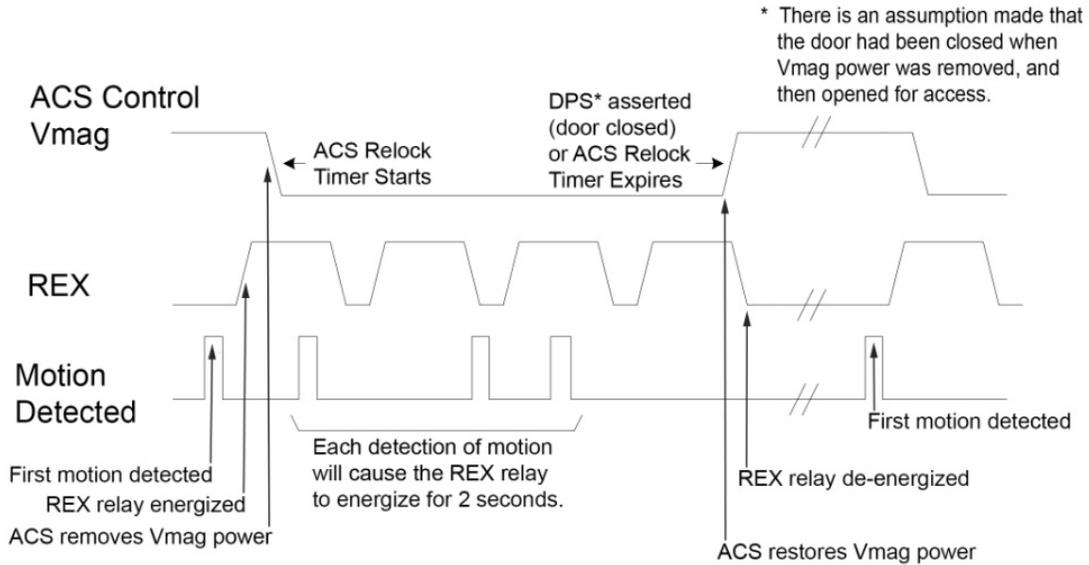
Figure 28. Dip Switch Location

Component Location	Function Description	Selection	Position
	LED Enable Switch 1 setting of the DIP switch enables or disables the display of the LED for lock status.	LED ENABLED	SW 1 ON (default)
		LED DISABLED	SW 1 OFF
	LED Color Select Switch 2 of the DIP switch controls the color of the LED when the door is secure.	SECURE = GREEN	SW 2 ON (default)
		SECURE = RED	SW 2 OFF
	Auto Relock Timer Enable and Delay Selection The Auto Relock Delay Timer is disabled by default. Delay can be enabled by setting the position 3 switch to ON, and selecting a time delay with Position 4 and Position 5. It is recommended to enable and set the relock timer if the unit is not being used with an access control system NOTE: Applies only to EBD and EBDX models. Model M680E does not have an auto relock timer	DISABLE Delay Timer	SW 3 OFF (default)
		ENABLE Delay Timer	SW 3 ON
		5 second delay	SW 4 OFF SW 5 OFF
		10 second delay	SW 4 OFF SW 5 ON
		20 second delay	SW 4 ON SW 5 OFF
		30 second delay	SW 4 ON SW 5 ON
	PIR Enable If the PIR functionality is no longer needed, it can be disabled.	PIR Enabled	SW8 ON (default)
		PIR Disabled	SW 8 OFF
	PIR Sensitivity The PIR sensitivity can be increased for doors taller than 8 ft if needed.	Normal Sensitivity	SW 9 OFF (default)
		High Sensitivity	SW 9 ON

NOTE: This setting may increase the chance of non-human activation of the PIR, such as airflow around the door. It is advised to not use BondSTAT for intrusion detection systems if SW9 is ON and instead be dependent on DPS for intrusion detection.

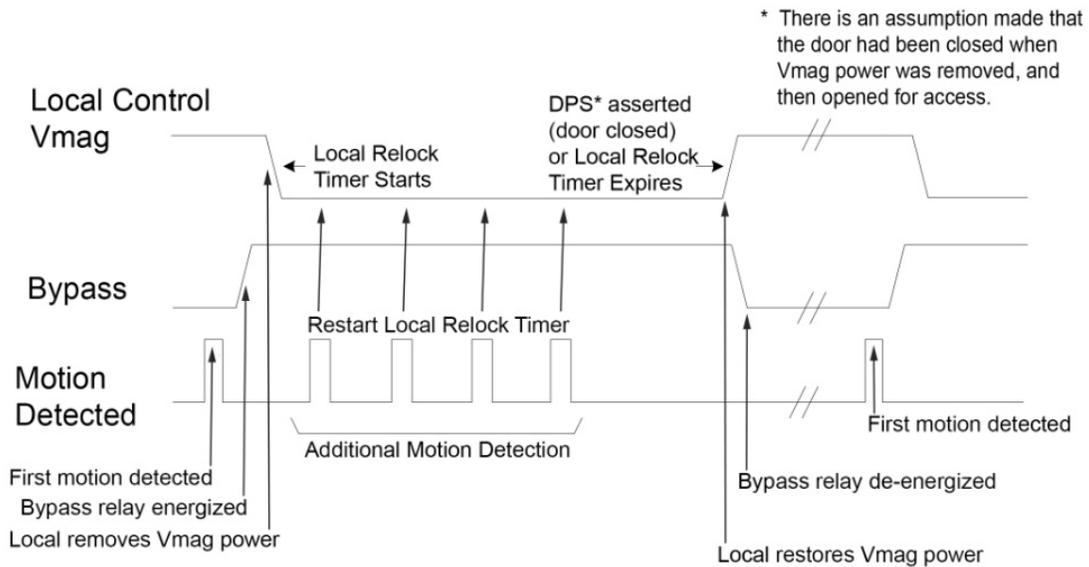
Magnalock Operation with Access Control System

NOTE: The Magnalock relock timer is recommended to be disabled when used with access control.



Magnalock Operation with Local Control

NOTE: The Magnalock relock timer is required to be enabled.



Locating and Setting the Jumpers on the Magnalock

1. LOCATE and SET the jumpers (see Figure 29, “Jumper Locations”).

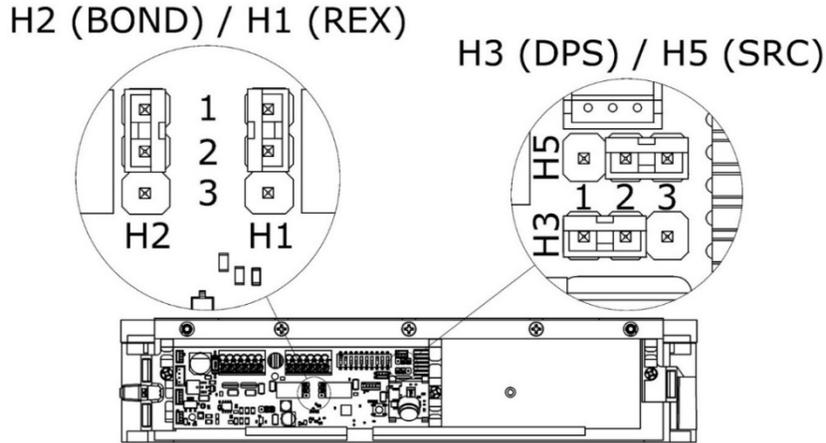
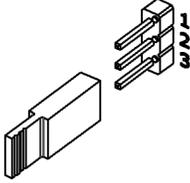
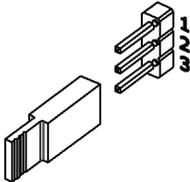
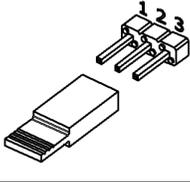
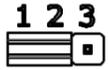
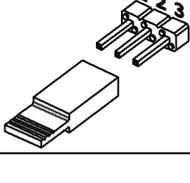
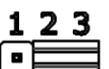


Figure 29. Jumper Locations

Jumper	Description	Position	Illustration
H1 	Request to Exit (REX) Mode Select A 3-pin jumper that controls the output setting for the REX signal. NOTE: Applies only to M380EBDX models.	(NC) Normally Closed Circuit Closed, Circuit opens when REX active (default setting)	
		(NO) Normally Open Circuit Open, Circuit closes when REX active	
H2 	BondSTAT Mode Select A 3-pin jumper that controls the output setting for the BondSTAT signal.	(NC) Normally Closed Circuit Opens when Bond is secure (default setting)	
		(NO) Normally Open Circuit Closes when Bond is secure	
H3 	Door Position Mode Select A 3-pin jumper that controls the output setting for the Door Position Switch (DPS) signal.	(NC) Normally Closed Circuit closed when Door is open (default setting)	
		(NO) Normally Open Circuit open when Door is open	
H5 	Synchronous Release Control Mode Select A 3-pin jumper that controls lock release behavior for the Synchronous Release Control (SRC) signal when two Magnalocks are to be operated together in a double door configuration.	For Dual Doors with influence from Access Control System	
		For Dual Doors isolated from Access Control System (default setting)	

Documenting the Configuration Settings

1. INDICATE the settings onto the adhesive-backed circuit board settings label from the Hardware Pack (see Figure 30, Settings”).

49-00891-1	Dip Switch 1 - LED Enable	ON=ENABLED	OFF=DISABLED
	Dip Switch 2 - LED SECURE Color Select	ON=GREEN	OFF=RED
	*Dip Switch 3 - Auto Relock Delay Enable	OFF=DISABLED	ON=ENABLE
	*Dip Switch 4 & 5 - Delay (in seconds)	5 10 20 30	
	*Dip Switch 8 - PIR Enable	ON=ENABLED	OFF=DISABLED
	*Dip Switch 9 - PIR Sensitivity	OFF= <8FT	ON= >8FT
	*Jumper 1 (H1) - Request to Exit (REX) Mode Select	1-2=NC	2-3=NO
	*Jumper 2 (H2) - BondSTAT Mode Select	1-2=NC	2-3=NO
	*Jumper 3 (H3) - Door Position Mode Select	1-2=NC	2-3=NO
	*Jumper 4 (H5) - Synchronous Release Mode Select	1-2=With ACS	2-3=Without ACS
*Available on BD and BDx models only		assaabloyesh.com	800.626.7590

Figure 30. Settings

- NOTE1: The figure above shows the default settings. Settings may vary based on checklist.
- NOTE2: The settings information is required if the Magnalock needs to be inspected, serviced, or replaced.
- NOTE3: The customer/installer can write on the label, as required.

2. COMPLETE the label and AFFIX it to the inside cover of the Magnalock (see Figure 31, “Settings Label”).

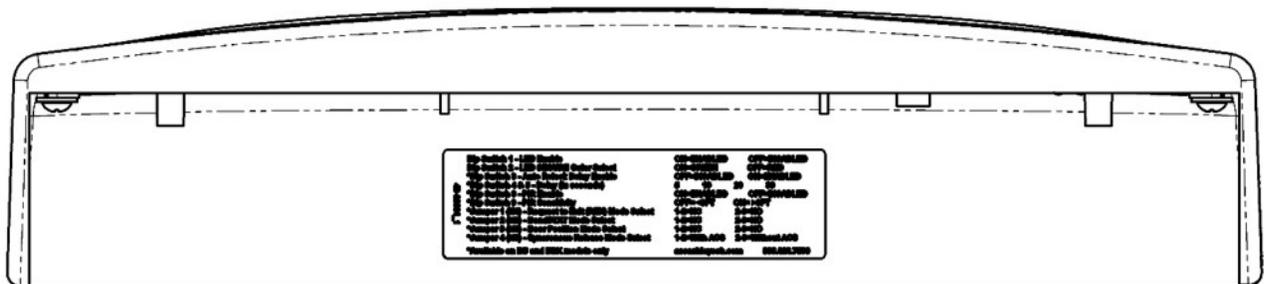


Figure 31. Settings Label

Pulling the Wiring

- NOTE1: End user and installer must comply with Fire and Building code.
- NOTE2: Models containing a REX require two separate 12 VDC/ 24 VDC wire pairs. CPU power must be continuously provided for proper operation.

1. PULL wires/cables through the wire feed-through hole(s) that are drilled in the frame.

Connecting the Final Wiring

1. CONNECT wiring using Figures 32 – 37 as guides and as applicable.

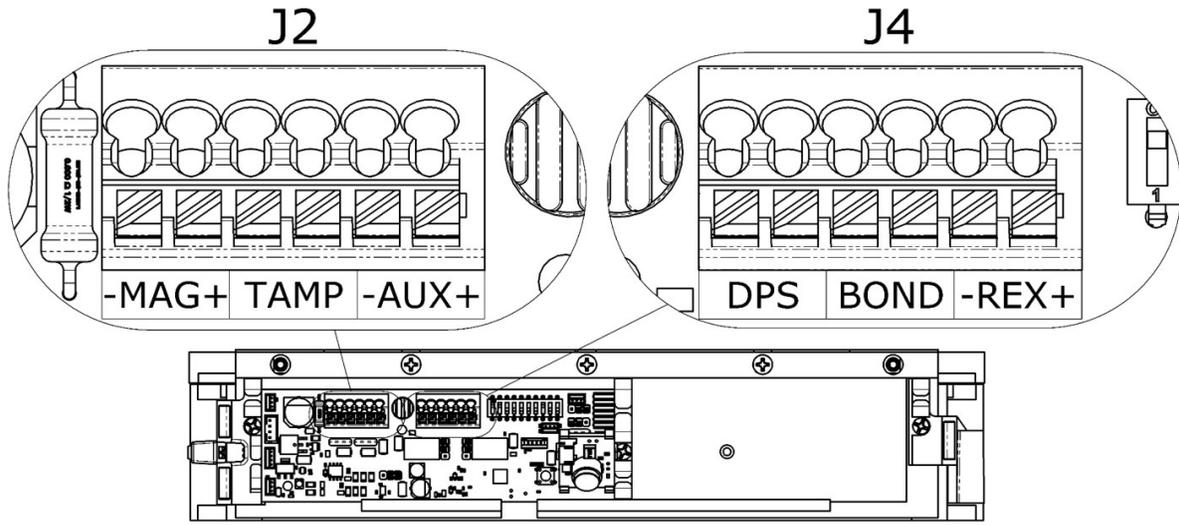


Figure 32. Location of J2 and J4 Terminals

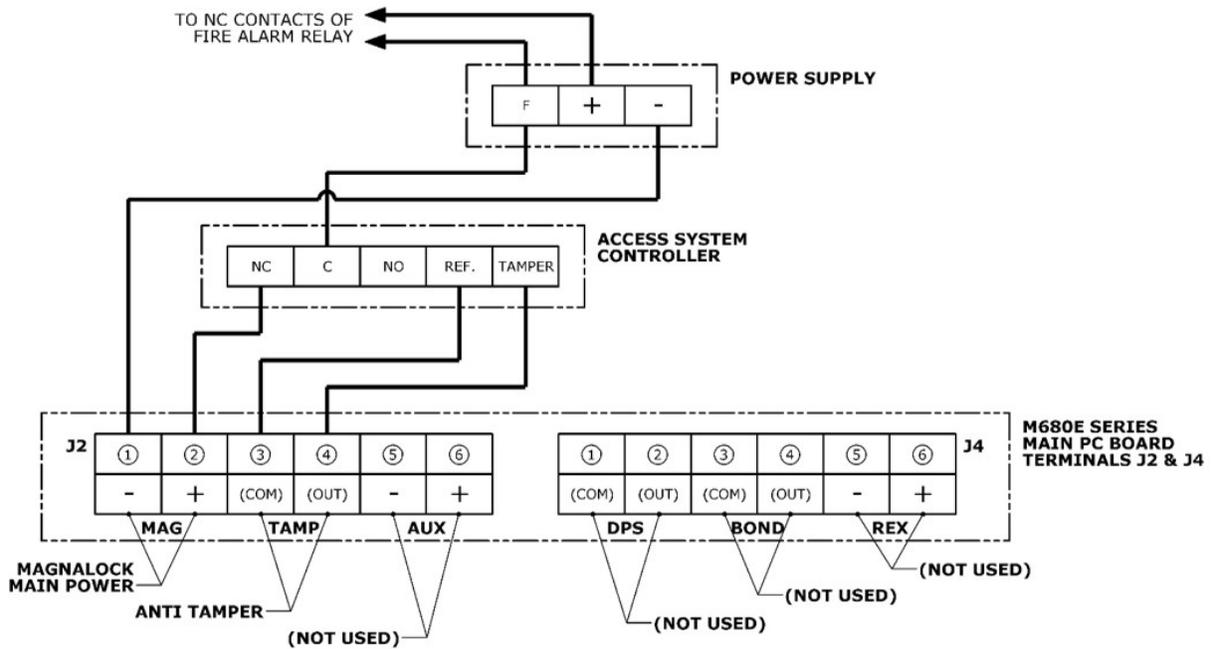


Figure 33. M680E Wiring Schematic

Dual Lock (Double Door) Wiring

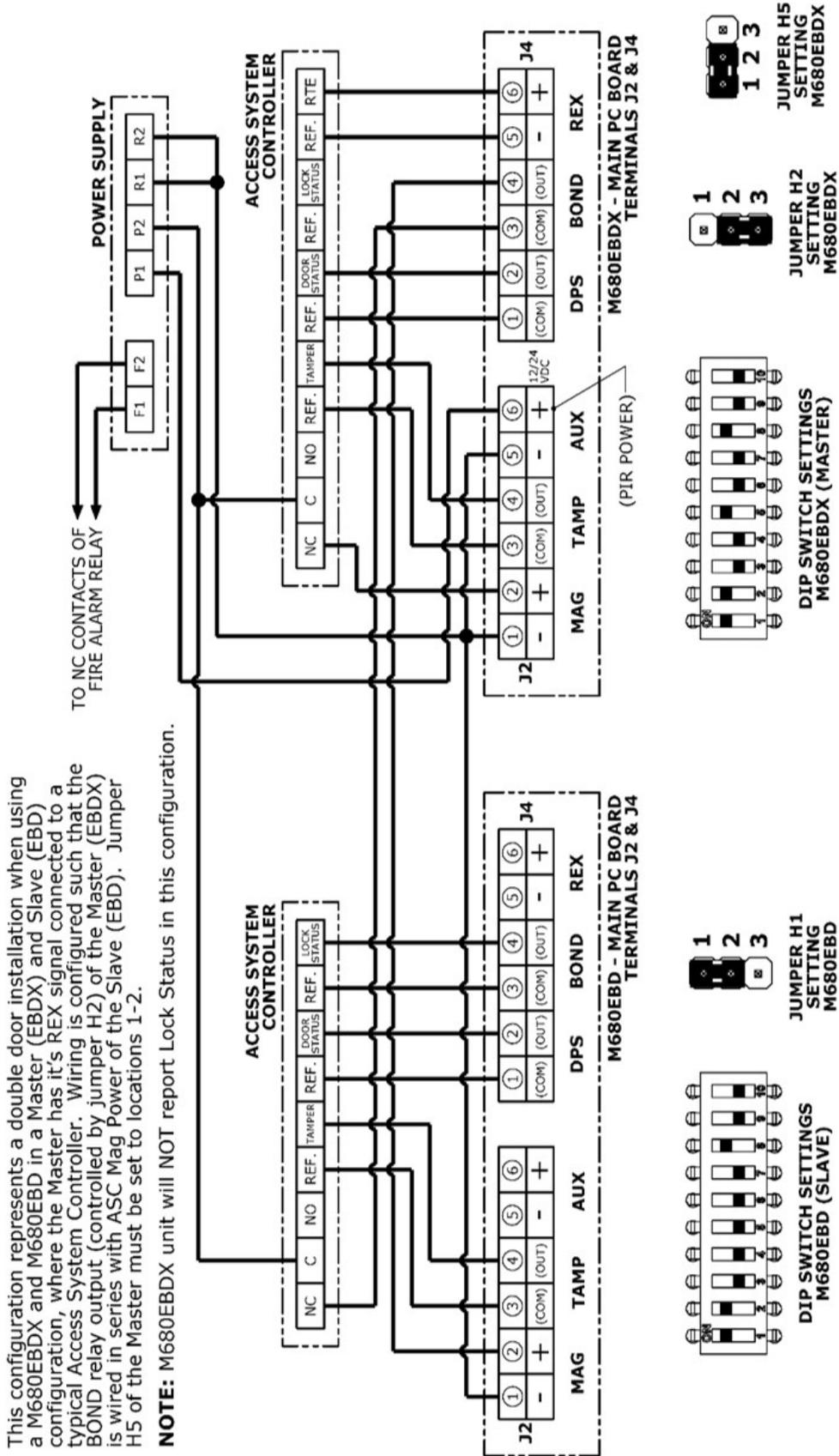


Figure 36. M680EBD and M680EBDX Dual Lock Wiring Schematic

This configuration represents a double door installation when using 2 M680EBDX units with their REX signal outputs wired in parallel to a typical Access System Controller. It is worth noting that both H2 jumpers MUST be set to the same (NC or NO) position on both units. Jumper H5 of both units must also be set to locations 1-2.

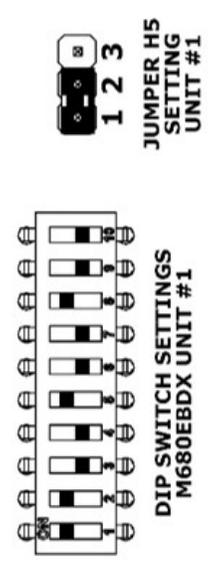
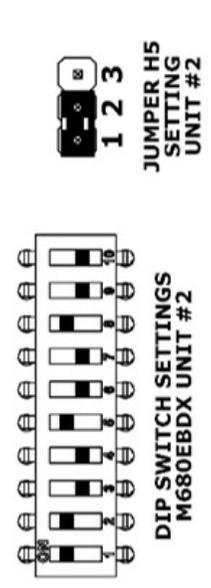
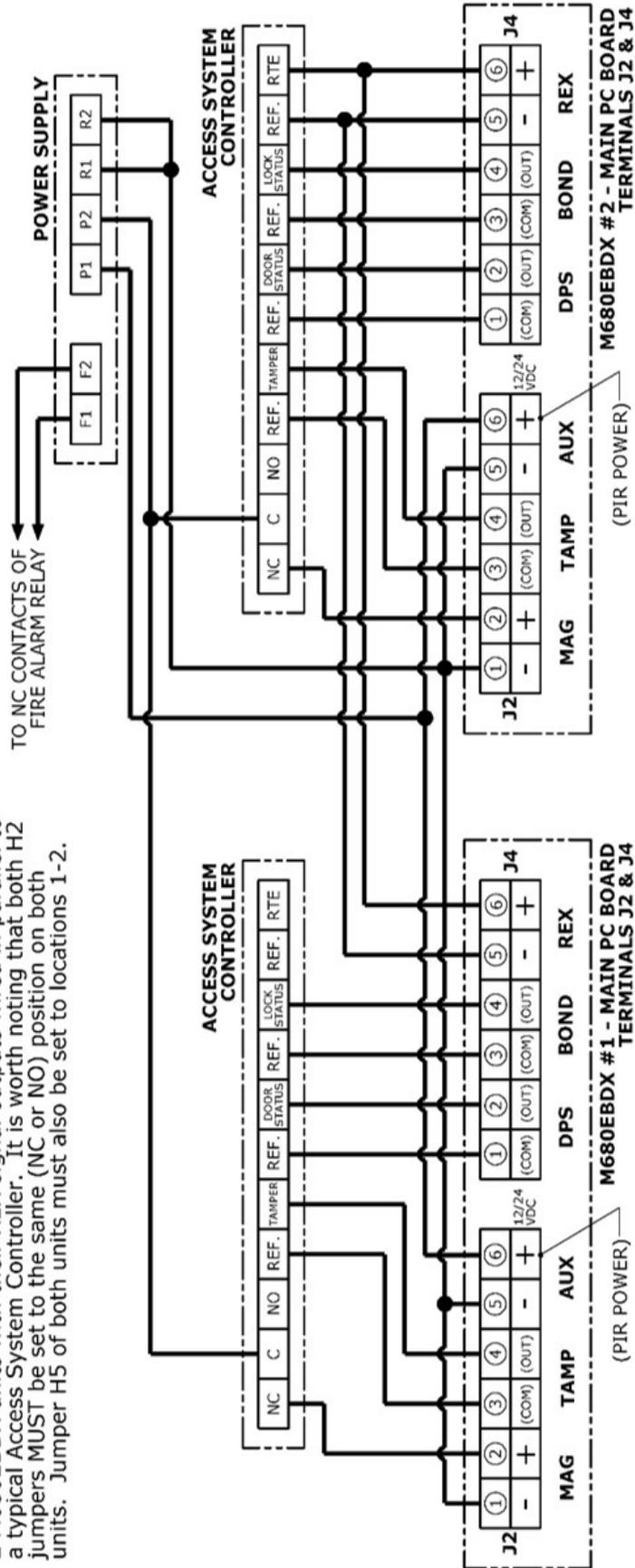


Figure 37. Dual M680EBDX Lock Wiring Schematic

Performing Initial Calibration

- NOTE 1:** If calibration does not proceed according to the instruction below, please see the troubleshooting section at the end of the manual.
- NOTE 2:** Initial calibration can be performed for installations in facilities that do not yet have commercial power available by using a 12V battery.
- NOTE 3:** During Calibration PIR will be put in a reset mode and will be reactivated when calibration complete (applies only to models with "X" in the part number).
- NOTE 4:** Access Control Systems will register *DPS* and/or *BOND* error conditions during calibration sequence.
- TECH TIP:** When an installation is being performed on a door without a currently installed door handle, a pull handle can be made from masking or other tape to pull the door closed for calibration.

1. M680EBD and EBDX models will perform an automatic calibration when the unit is initially powered up. This process will only proceed if the door is closed and the unit has received acceptable signals from the DPS and Bond sensors. If you have an M680E unit, or the LED continues to flash Amber after the unit is powered and the door is closed, a manual calibration will be required. Go to step 2 in this case
2. PERFORM Initial manual calibration immediately following installation if necessary.
 - a. ENSURE door is closed.
 - b. APPLY power to the Maglock.
 - c. VERIFY a slow one-second flash AMBER LED is occurring.
 - d. PRESS and HOLD the calibration button (see Figure 38, "Location of Calibration Button").

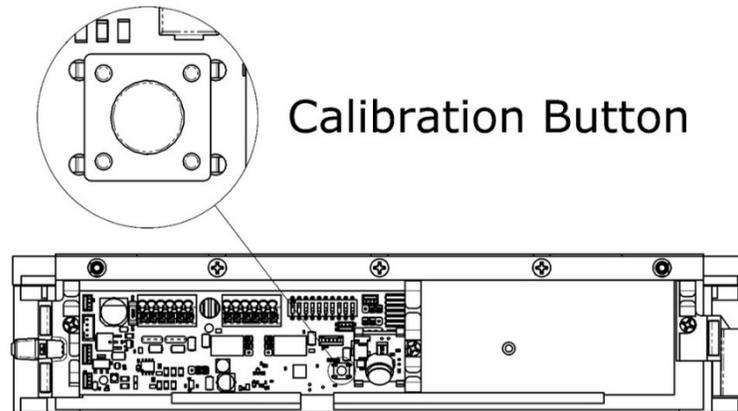


Figure 38. Location of Calibration Button

- e. VERIFY the LED changes from RED to AMBER to GREEN.
- f. WHEN the GREEN LED from the pattern above is observed, THEN RELEASE the calibration button.
- g. VERIFY the LED goes to and remains in the preset color set for secure mode, GREEN or RED.

Verifying PIR Coverage and Adjusting the PIR Coverage, as Needed

NOTE 1: ENSURE the maglock cover is in place when validating PIR coverage range.

1. VERIFY PIR coverage and ADJUST PIR coverage as desired (see Figure 39 and 40, "PIR Coverage" and Figure 41, "Changing the Fresnel Lens Orientation").

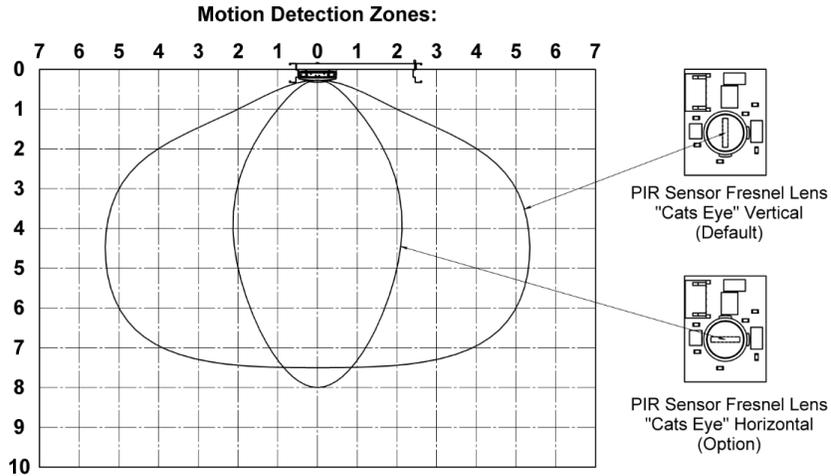


Figure 39. Normal Sensitivity PIR Coverage

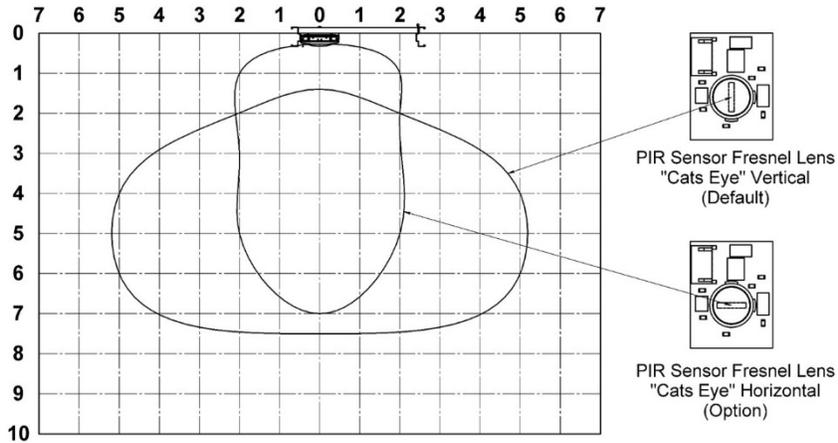


Figure 40. High Sensitivity PIR Coverage

Changing the PIR Fresnel lens orientation:

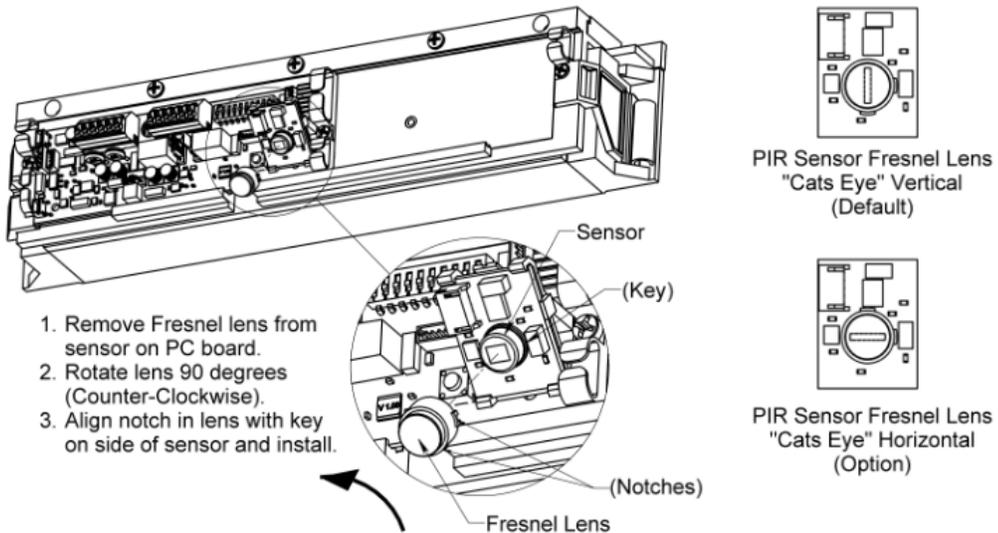


Figure 41. Changing the Fresnel Lens Orientation

- IF PIR coverage needs to be changed, THEN ADJUST shutter to desired opening (see Figure 42, “Adjusting the PIR Shutter”).
NOTE: The factory setting for the shutter is fully open, however it is possible for the shutter to close during shipment.

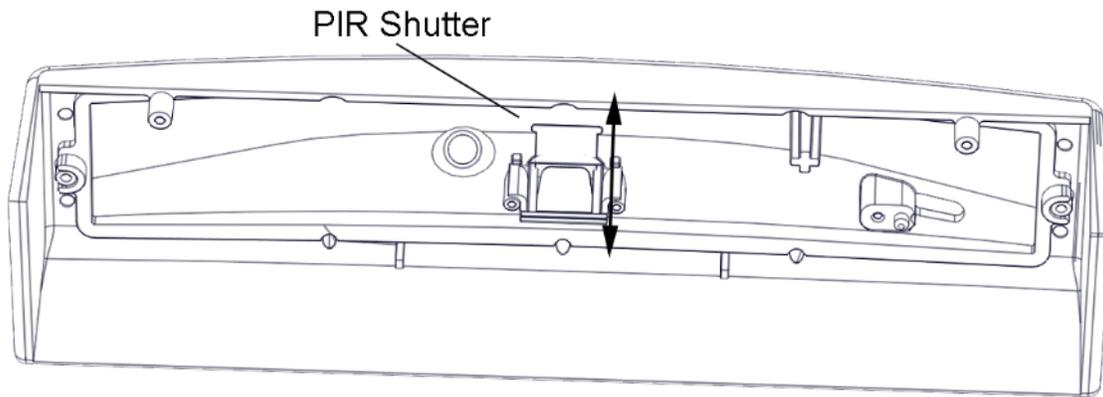


Figure 42. PIR Shutter

Re-Installing the Lock Cover

- After calibration is complete and PIR is verified and adjusted (if necessary), RE-INSTALL the lock cover over the lock chassis and SECURE using the two (2) phillips screws (see Figure 43, “Installing the Lock Cover”).

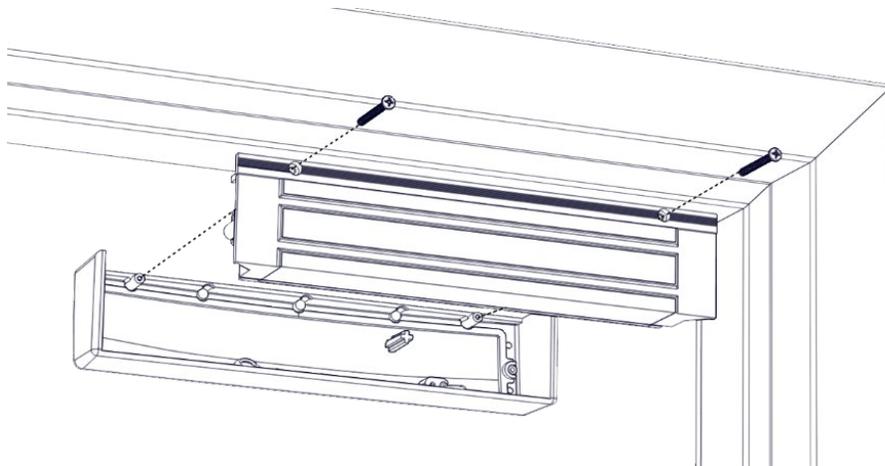


Figure 43. Installing the Lock Cover

TROUBLESHOOTING

LED Behavior

Note: The LED for the model M680E only indicates whether or not power has been applied and whether or not the unit is in need of initial calibration

LED Color	Possible Cause	Possible Action
Flashing Amber	Unit is awaiting calibration	If calibration button does not respond, see "Returning the Magnalock to Factory Default Settings" below.
Solid Red (Unsecure after calibration)	Failure* of both Bond Sensors	Ensure molex connectors are well seated.
	Failure* of DPS Sensor	Ensure DPS molex connector is well seated.
	Door is Open	Close door.
	Vmag < 8.5 VDC	Increase voltage to Vmag, check your power supply.
	Vcpu < 9 VDC (EBDX only)	Increase voltage to Vcpu, check your power supply.
	DPS Magnet missing from strike tray	Check strike tray for damage, replace if needed.
Solid Amber	Failure* of DPS Sensor	Ensure DPS molex connector is well seated.
	Failure* of 1 Bond Sensor	Ensure Bond molex connectors are well seated.
	Door Sag	Recalibration Required.
	Dirty Strike/Magnet Face	Check for obstructions between strike and magnet. Clean face of strike and magnet.
	Vmag < 10.8 VDC	Increase voltage to Vmag, check your power supply.
	DPS Magnet missing from strike tray	Check strike tray for damage, replace if needed.
Flashing Red	Strike tray installed upside down	Ensure the strike tray is mounted with alignment tabs facing up.
	Unit is returning to factory defaults	Ensure Dip Switch 10 is in the off position.
Blink Red/Green (Unsecure door before calibration)	Unit is uncalibrated and missing all 3 sensor signals	Check seating of sensor connections. Contact Technical Support.
	Door is Open	Close the door to enable calibration (flashing amber LED).
LED Off	LED disabled by dip switch 1	Turn SW1 to the ON position.
	Vmag < 5 VDC (E/EBD)	Increase voltage to Vmag, check your power supply.
	Vcpu < 5 VDC (EBDX only)	Increase voltage to Vcpu, check your power supply.

* Failure means that the PCB cannot see a signal from the sensor, check the seating of the sensor connector, check wires for damage, then call Technical Support for replacement.

IMPORTANT INFORMATION: The following procedure should only be used when it is absolutely necessary to return the Magnalock to factory default settings.

Returning the Magnalock to Factory Default Settings

1. REMOVE power from Magnalock.

NOTE: Removing the cover provides access to the circuit board on the back of the magnet.

2. Using a Phillips screwdriver, REMOVE the two (2) screws securing the cover
3. SET the screws aside to re-attach the cover later.
4. SET Dip Switch 10 to "ON" (see Figure 44, "Setting Dip Switch 10 to ON").

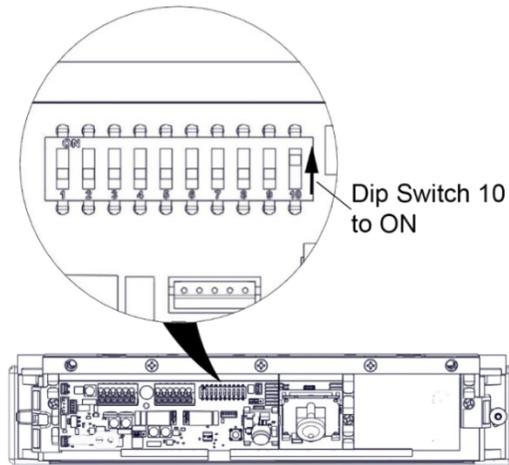


Figure 44. Setting Dip Switch 10 to ON

NOTE: When power is applied, the EEPROM contents containing previous calibration settings will be zeroed out, and the LED indicator will flash RED and then remain flashing RED until Switch 10 is moved to the “OFF” position.

5. APPLY Power and ENSURE LED indicator flashes RED and then remains flashing.
6. SET Dip Switch 10 to “OFF” (see Figure 45, “Setting Dip Switch 10 to OFF”).

NOTE: After Switch 10 has been set to OFF, the LED will indicate door unsecure, and the unit will wait for the conditions necessary for Calibration, i.e., DPS is in a closed door state and BOND is achieved. **Calibration will then be required.**

7. CALIBRATE, as required (see Page 26, “Performing Initial Calibration”).

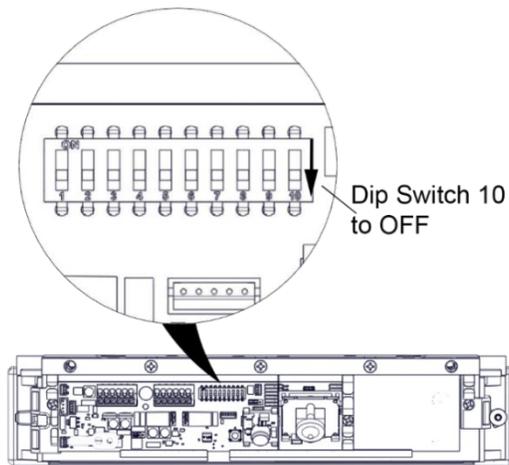


Figure 45. Setting Dip Switch 10 to OFF

WARRANTY

The Securitron M680E Series EcoMag Magnalocks are covered by the MagnaCare® lifetime replacement, no fault warranty. No registration is required. Product will be replaced forever, for any reason, including but not limited to installation error, vandalism, or act of God. Replacement product is shipped at Assa Abloy ESH's expense next day air if needed.

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