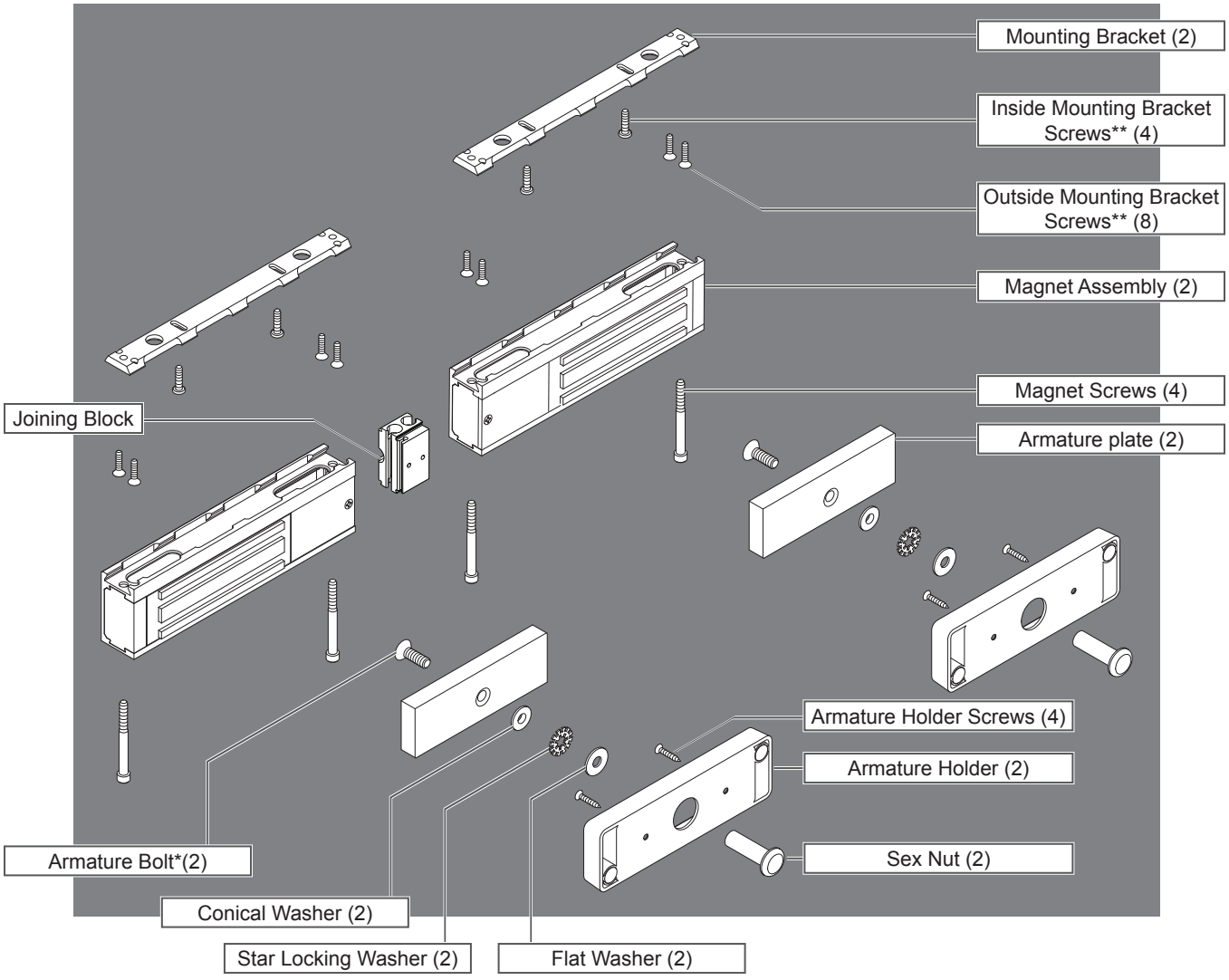
M400 Series Double Locks

44487304

Double Electromagnetic Locks: M422, M452, M492

Installation Instructions



Features

Automatic Voltage Selection (AVS)
Magnet immediately detects 12VDC or 24VDC when power is connected.

Anti-Tamper Switch (ATS)
An indication is provided should the magnet cover become unsecured from lock.

Magnetic Bond Sensor (MBS)
Detects proper bond between magnet and armature. It can be monitored remotely and locally with an LED.

LED
Provides local indication of MBS status.

Door Position Switch (DPS)
Indicates whether door is open or closed. This feature is used in conjunction with the MBS.

Relock Time Delay (RTD)
Relock time can be changed. Range is 1 - 30 seconds.

Models

M422 (Traffic Control)
UL1034 and 10C/500 lb and 3 hr rating

M452 (High Security)
UL1034 and 10C/1000 lb and 3 hr rating

M492 (Max Security)
UL1034 and 10C/1500 lb and 3 hr rating

Trims

Basic
Auto Voltage Selection (AVS) for 12 or 24VDC

Plus
Basic features + Door Position Switch (DPS), Magnetic Bond Sensor (MBS), Relocking Time Delay (RTD), LED Status Indicator (LED) and Anti-Tamper Switch (ATS)

UL Requirements

- Units shall not impair operation of panic hardware mounted on door.
- Units shall not impair intended operation of an emergency exit.
- Not to be used without UL approved latching hardware.
- Units/Models are intended to be connected to UL Listed Equipment, not intended for Burglar or Fire Alarm Initiating or Indicating Devices.
- Ambient Conditions - “For Indoor Use Only”.
- Wiring methods shall be in accordance with the National Electrical Code, ANSI/NFPA 70.
- **This device complies with part 15 of FCC rules.**

Operation is subject to following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received, including any interference that may cause undesired operation. Changes or modifications not expressly approved by party responsible for compliance could void user’s authority to operate equipment.

Electrical Specifications

Model	Amps (12VDC) Per Lock	Amps (24VDC) Per Lock	Holding Force (lbs) Per Coil
M422	1.500	0.760	500
M452	1.500	0.760	1000
M492	1.300	0.700	1500

Warnings and Cautions

WARNING

Warnings indicate potentially hazardous conditions, which if not avoided or corrected, may cause death or serious injury.

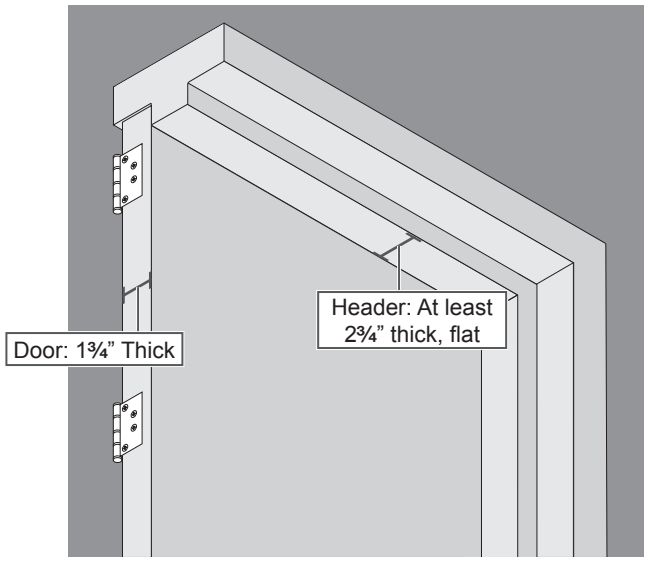
CAUTION

Cautions indicate potentially hazardous conditions, which if not avoided or corrected, may cause minor or moderate injury. Cautions may also warn against unsafe practices.

Caution: Cautions indicate a condition that may cause equipment or property damage only.

Pre-Installation Considerations

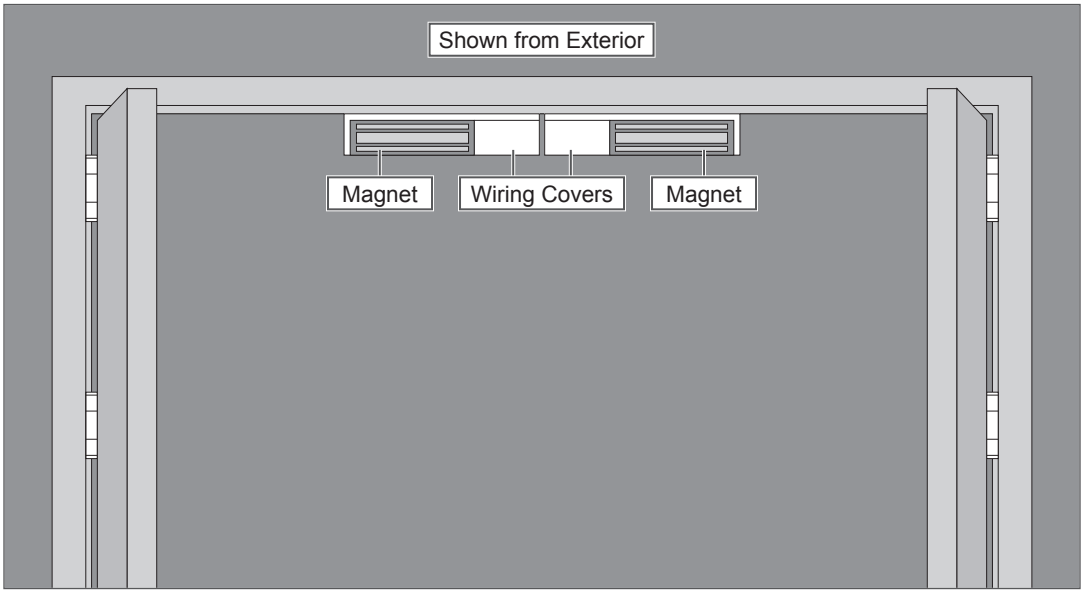
- Use ONLY the hardware provided for mounting this product (NOTE: Non-standard Door thickness may require different sex nut hardware - see specific instructions for required hardware).
- Follow the installation procedure as described in this manual.
- Check door thickness. If the door is not 1¾” thick, a different sex nut will be required. Contact customer service at 1-877-671-7011.
- Check door header. A minimum 2¾” thick, flat surface is needed to securely mount all screws for the magnet. If you do not have the required surface, you will need filler plates and/or angle brackets to properly mount the magnet.
  Contact customer service at 1-877-671-7011.



1 Prepare for installation.

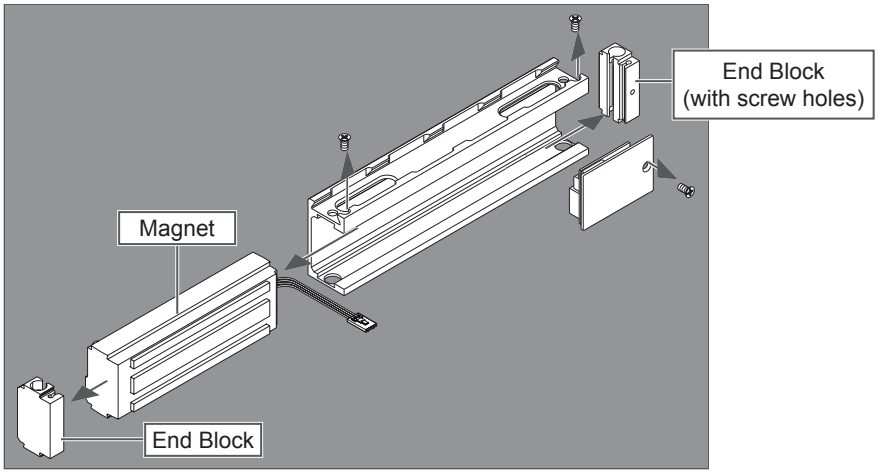
1a Determine proper magnet orientation.

Locks should be installed with wiring covers in the middle, so the magnet in one of the locks must be reoriented.

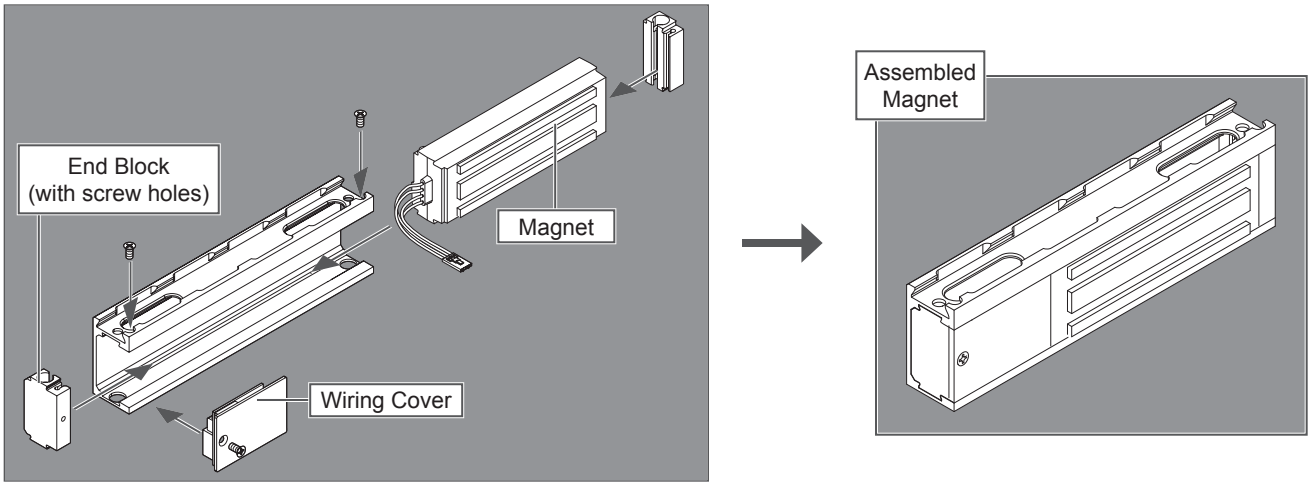


1b Reorient magnet (if necessary).

a. Remove screws, wiring cover and end blocks.

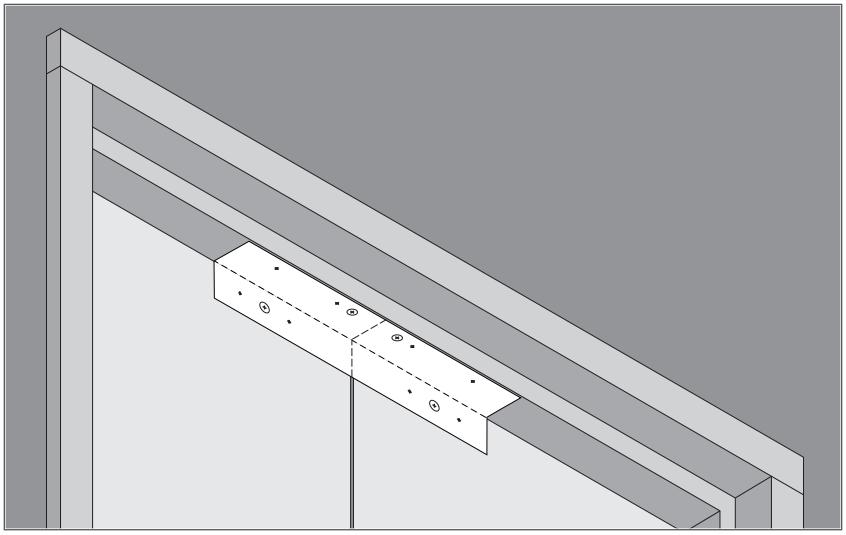


b. Rotate magnet, end blocks and wiring cover as shown, then reassemble.



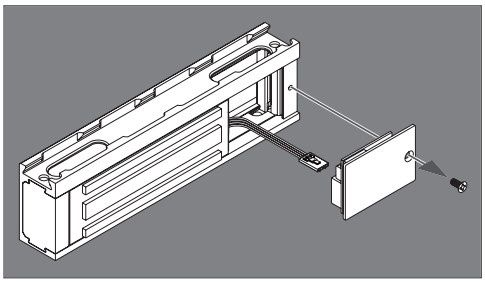
1c Place template and mark holes.

a. Place template on top centerline of doors.
b. Mark holes and prepare them per template.

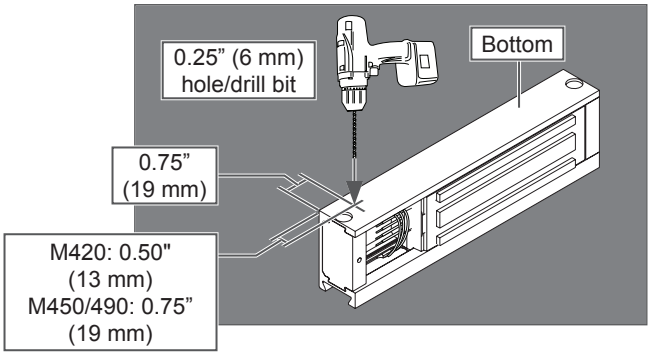


2 Install MBS indicator (optional, plus models ONLY).

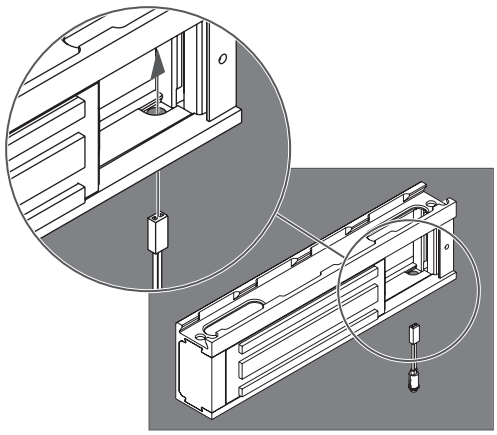
2a Remove cover.



2b Drill hole for MBS indicator.

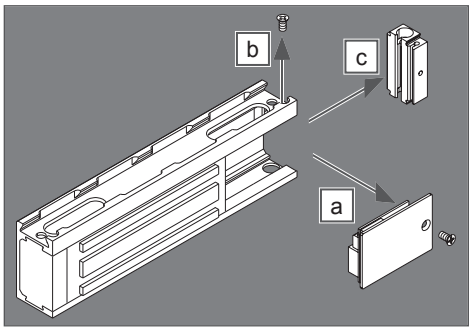


2c Install MBS indicator.

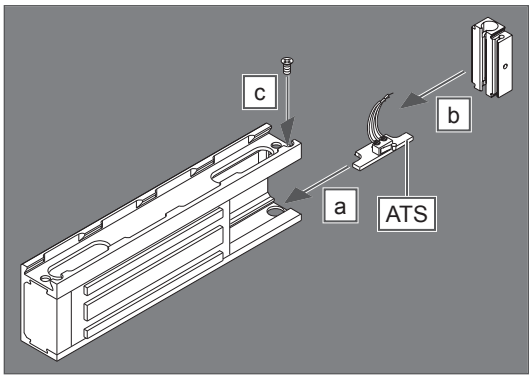


3 Install ATS (optional, plus models ONLY)

3a Remove end block and wiring cover.

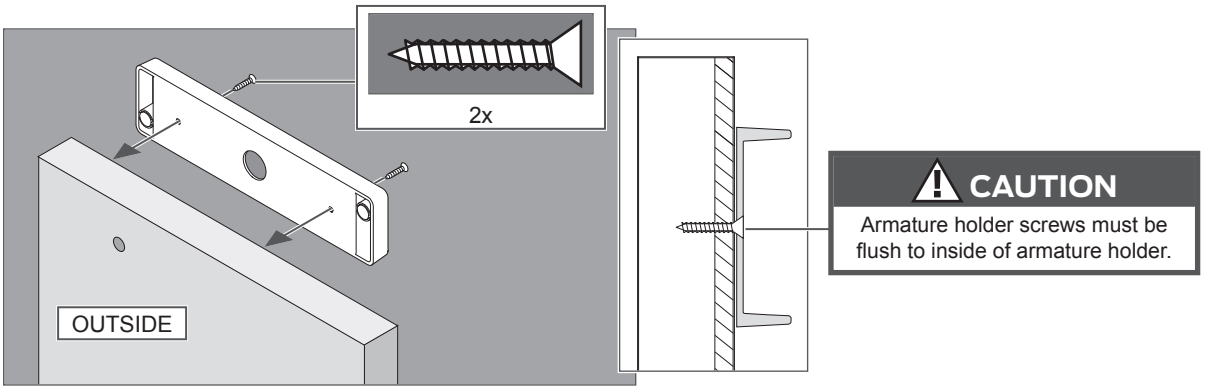


3b Install ATS and Reassemble



4 Attach armatures to doors.

4a Install armature holder.



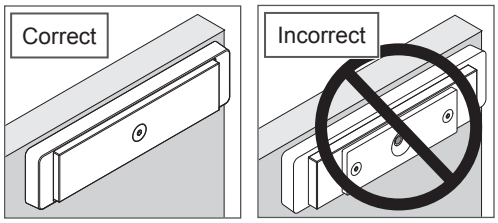
4b Install armature plate as shown for door type (M420/M450 shown).

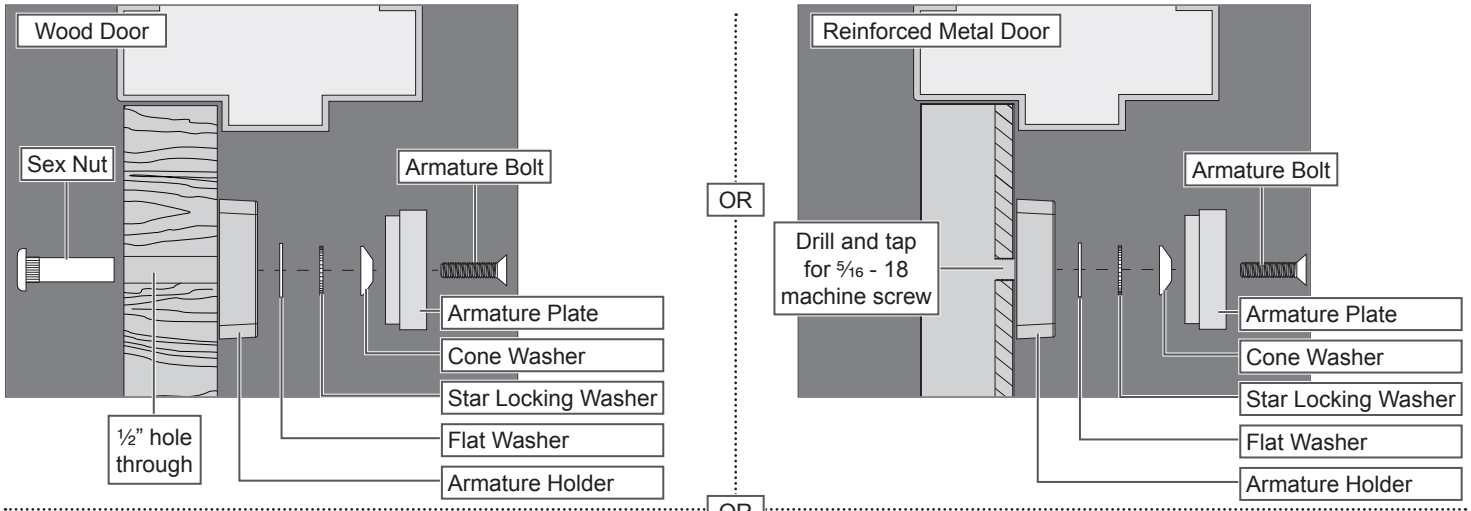
WARNING

Armature bolt must be tightened to at least 120 in.-lbs. for all doors except composite wood doors. For composite wood doors, tighten only to tight and flush. 120 in.-lbs. may damage composite wood doors.

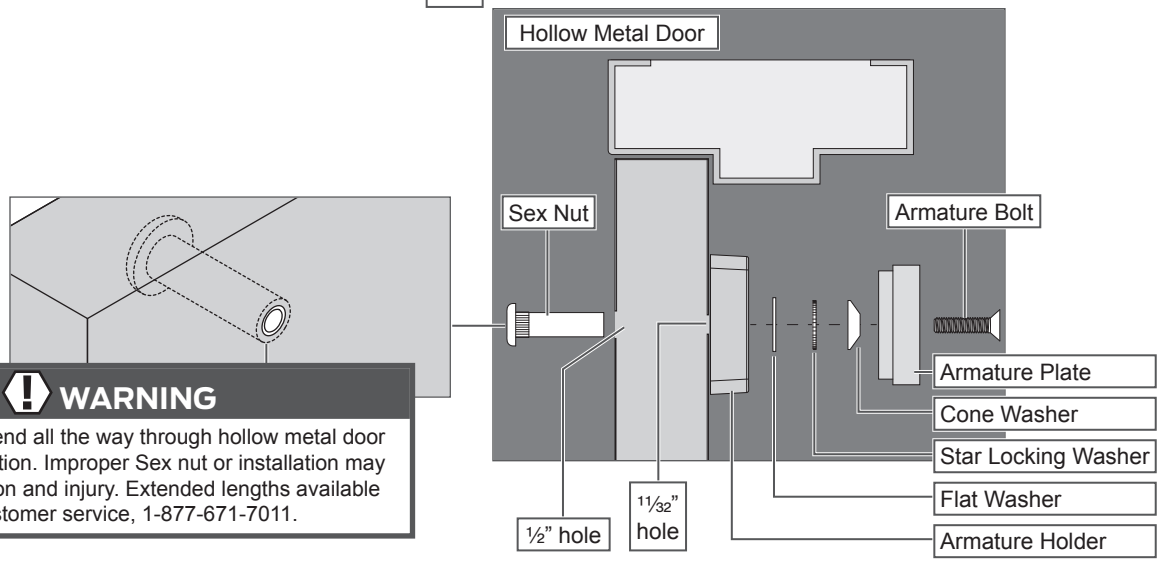
DO NOT back off bolt after tightening! Backing off the bolt after tightening will loosen the thread-locking patch, which may allow the bolt to loosen over time.

The included sex nut is for 1¾" (45 mm) doors ONLY. For other door thicknesses, please contact customer service, 1-877-671-7011. Using the incorrect sex nut for your door thickness will lead to improper function and possible injury.





OR



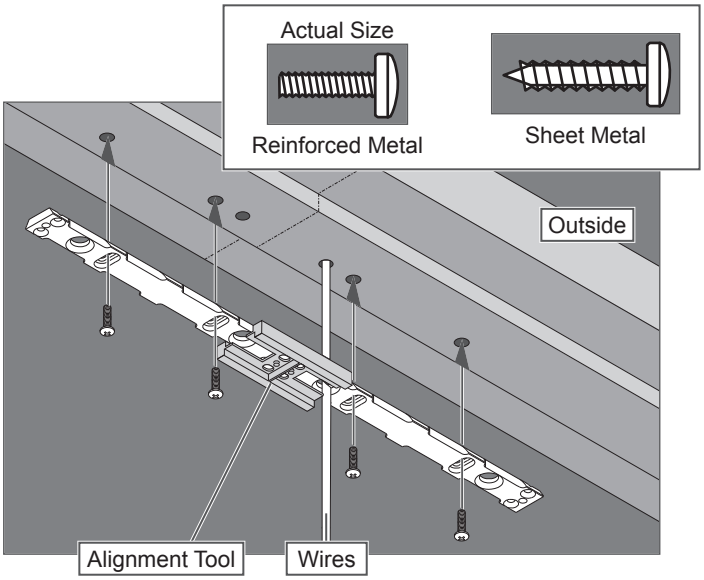
WARNING

Sex nut must extend all the way through hollow metal door for proper installation. Improper Sex nut or installation may lead to malfunction and injury. Extended lengths available from customer service, 1-877-671-7011.

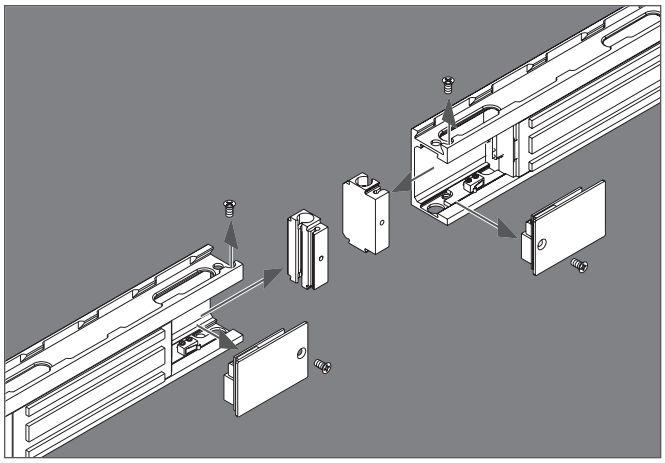
5 Install mounting brackets into frame.

5a Attach mounting brackets temporarily.

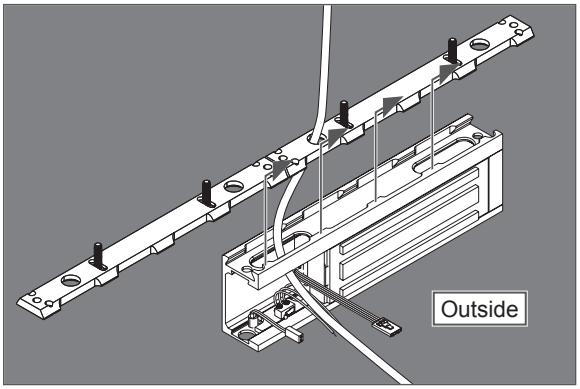
a. Install alignment tool onto brackets.
b. Install four (4) screws into slotted holes and partially tighten.



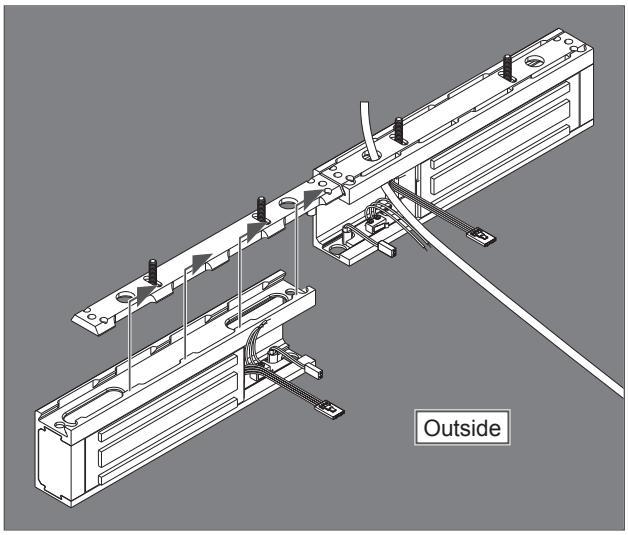
5b Remove wiring covers and end blocks.



5c Slide one magnet onto bracket.

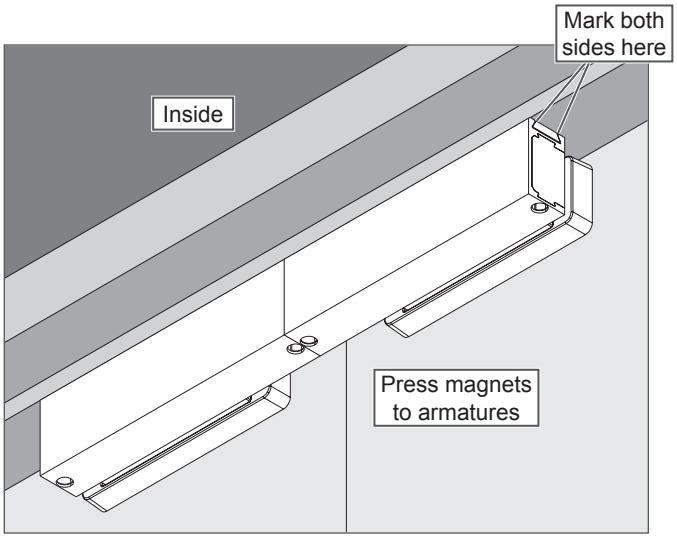


5d Slide second magnet onto bracket.

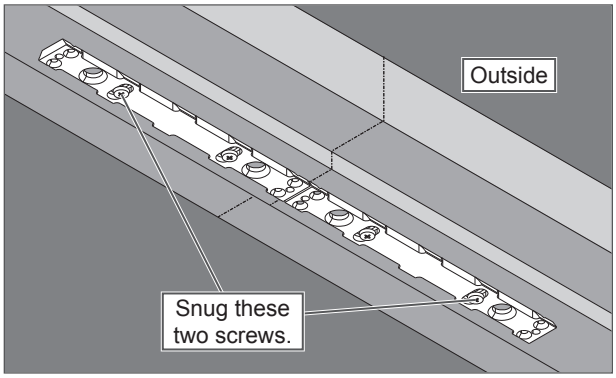


5e Align magnets to armatures

a. Close doors.
b. Press magnets to fully engage with armatures.
c. Mark brackets on ends.

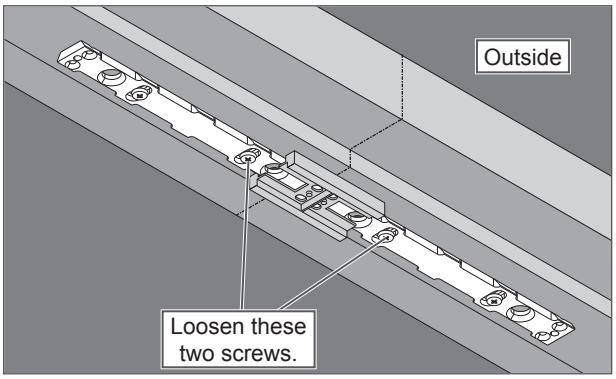


5f Remove magnets and snug two (2) outer screws.



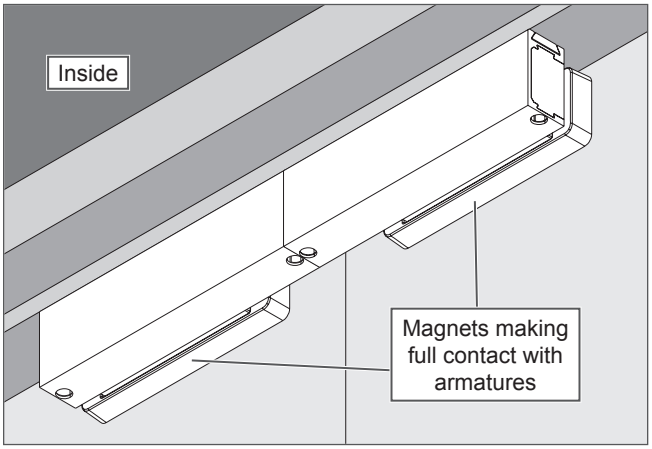
5g Align Center of Brackets Using Alignment Tool

a. Loosen two (2) innermost screws.
b. Place alignment tool over brackets.
c. Tighten all four (4) screws.



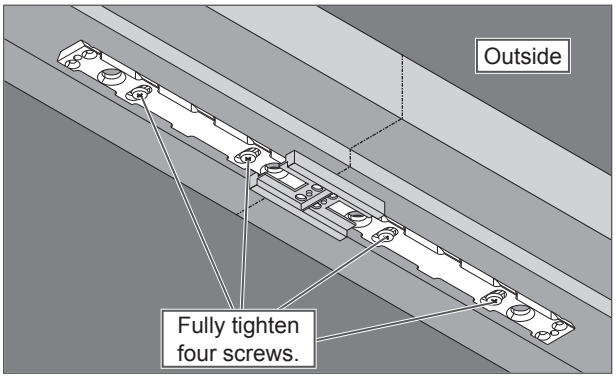
5h Verify magnet adjustment.

a. Close door and verify magnets make full contact with armatures.
b. If alignment is satisfactory, go to step 5i.
c. If further adjustment is required, repeat steps 5e through 5h.



5i Prepare additional holes.

a. Install alignment tool on brackets.
b. Fully tighten four (4) screws.
c. Drill eight (8) remaining holes. Use #10-24 tap if metal is reinforced.



5j Install eight (8) screws

a. Remove alignment tool.
b. Install and fully tighten eight (8) screws.

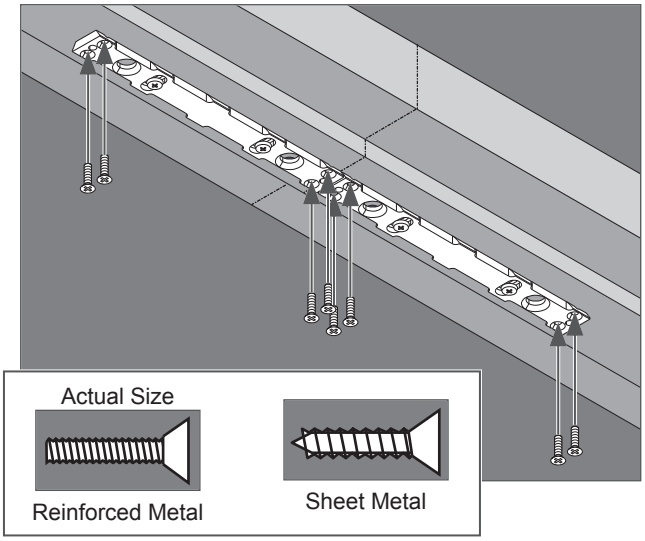
⚠ CAUTION

All eight screws MUST be installed for proper operation and safety!

If you do not have enough room to securely fasten all screws, you will need filler plates and/or angle brackets to properly mount the magnet.

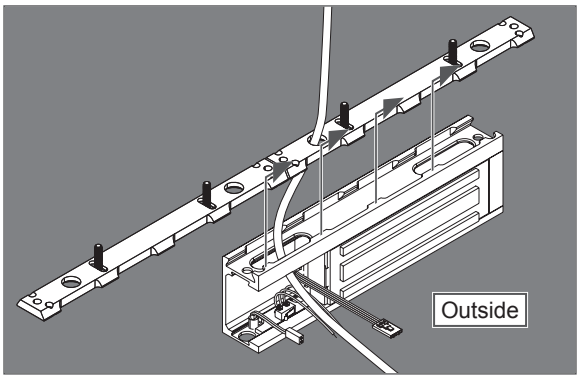
Failure to properly install the screws may lead to injury or property damage.

Contact customer service at 1-877-671-7011.

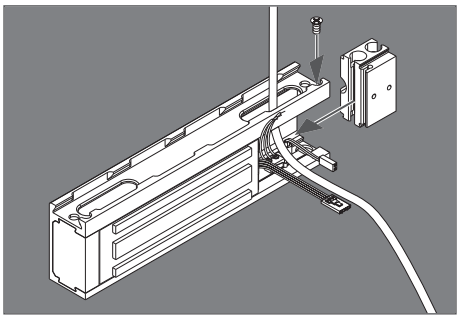


6 Attach magnets to mounting brackets.

6a Slide one magnet onto bracket.

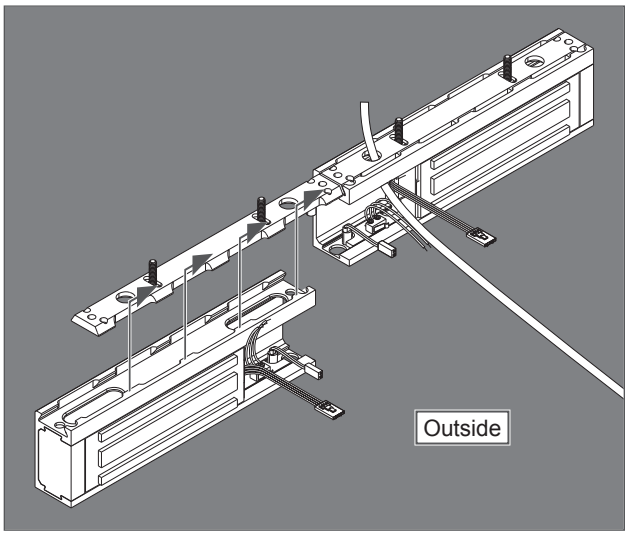


6b Install joining block into magnet.

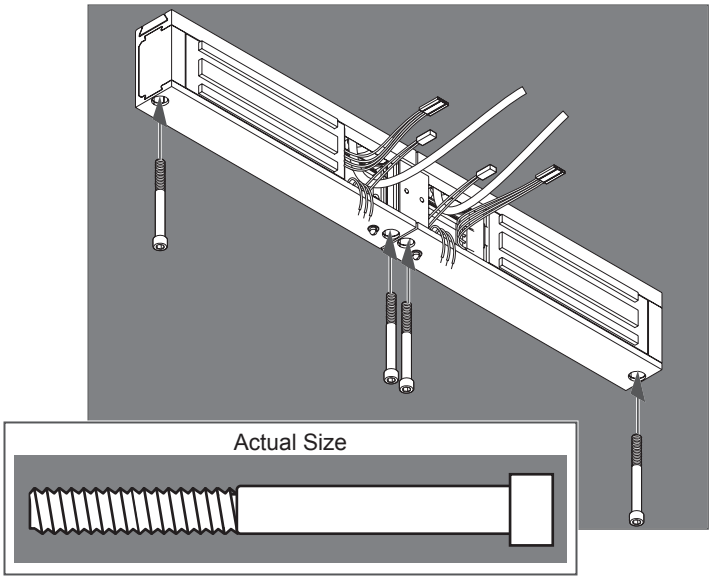


6c Slide second magnet onto bracket.

- Align with joining block.

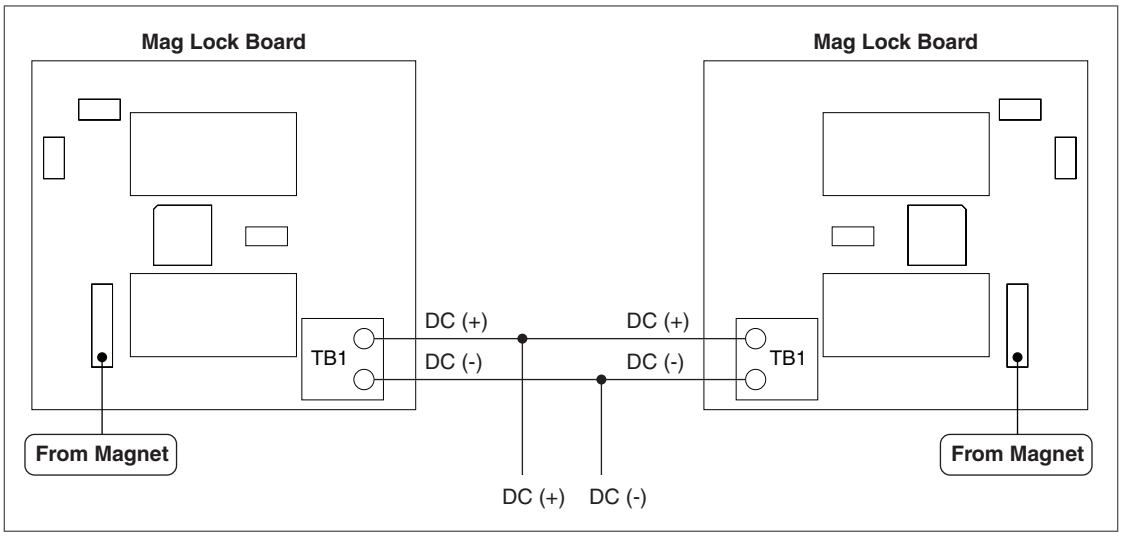


6d Secure locks with four (4) screws

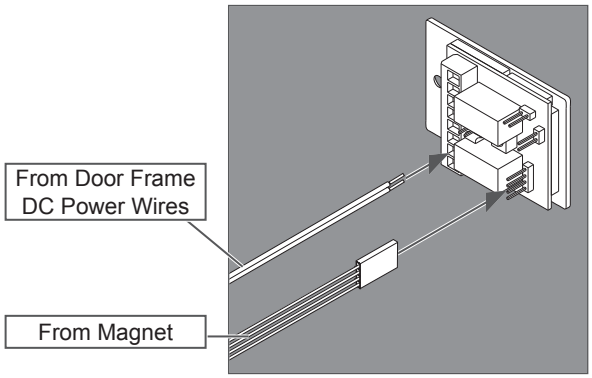


7 Correct wiring to board (standard model)

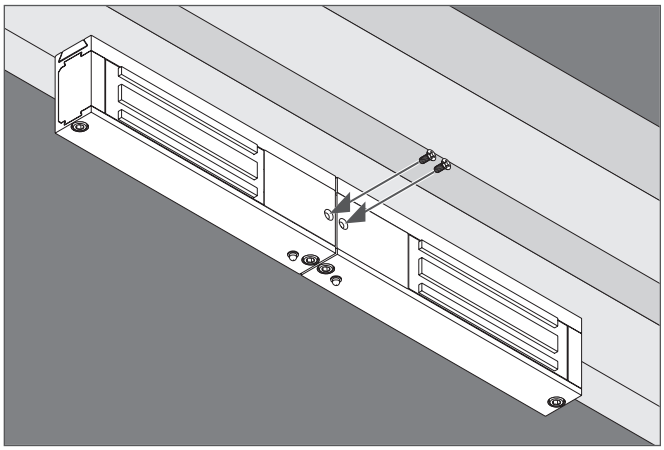
7a Review wiring connections.



7b Connect wires to boards.



7c Install covers.



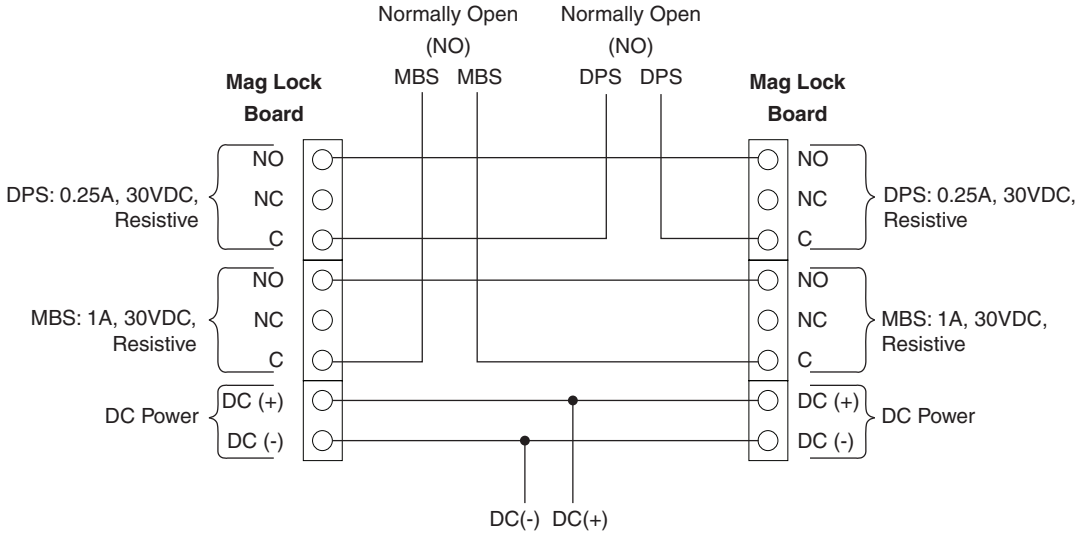
8 Connect wiring to board (Plus model)

8a Connect outside wires to boards.

- Choose between NO or NC.

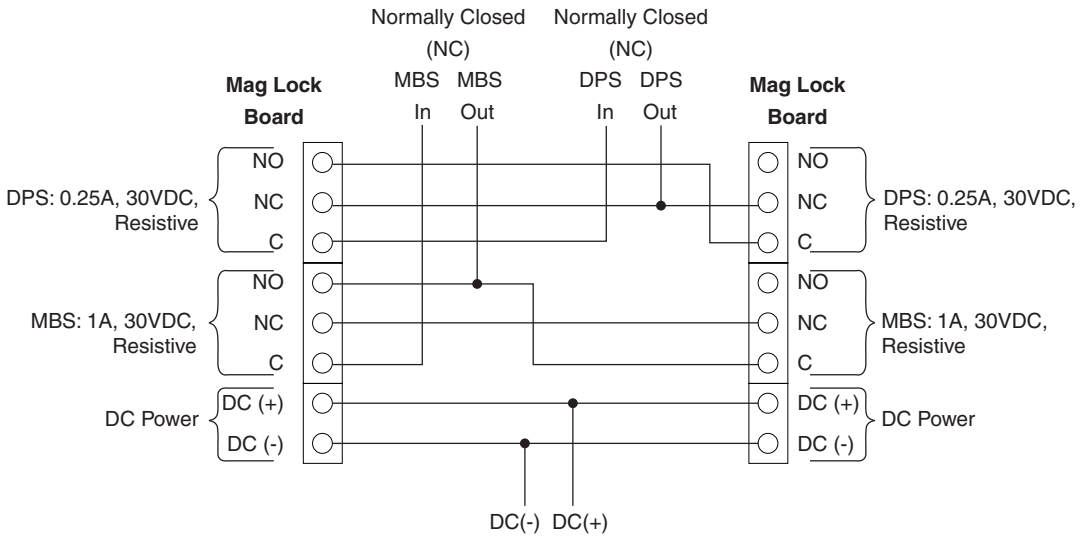
Normally Open (NO) Wiring in Parallel

Switch position will be closed when doors are closed and locked.
To be used with normally open terminals

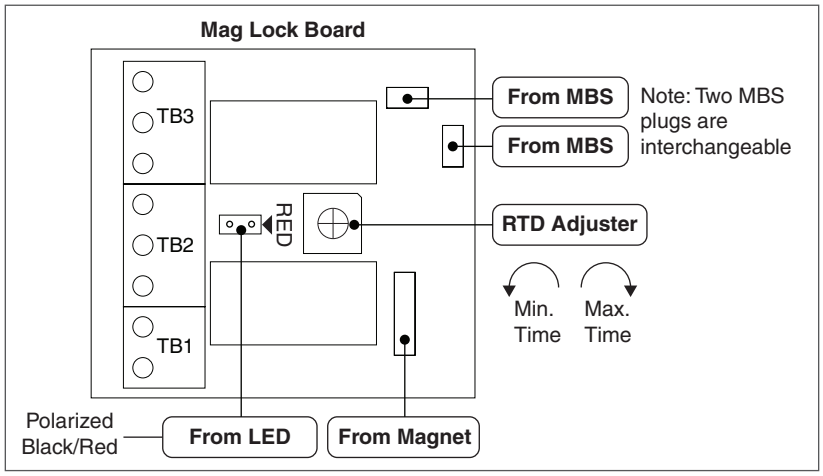


Normally Closed (NC) Wiring in Parallel

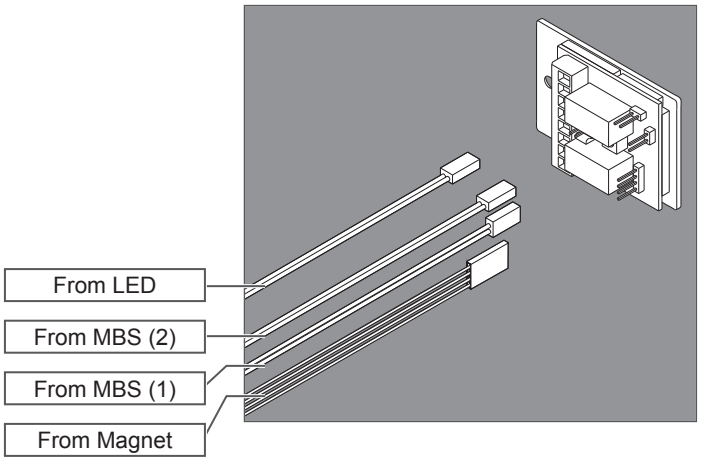
Switch position will be open when doors are closed and locked.
To be used with normally closed terminals



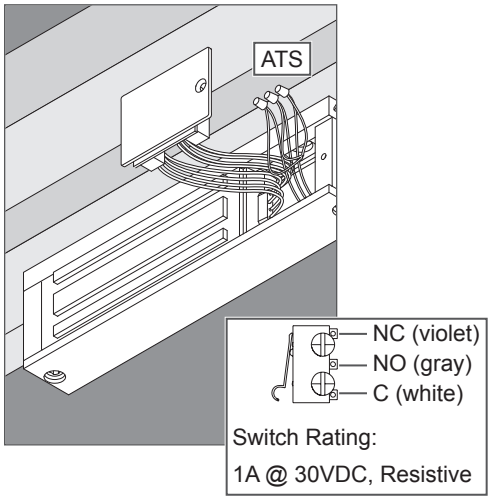
8b Review plug locations.



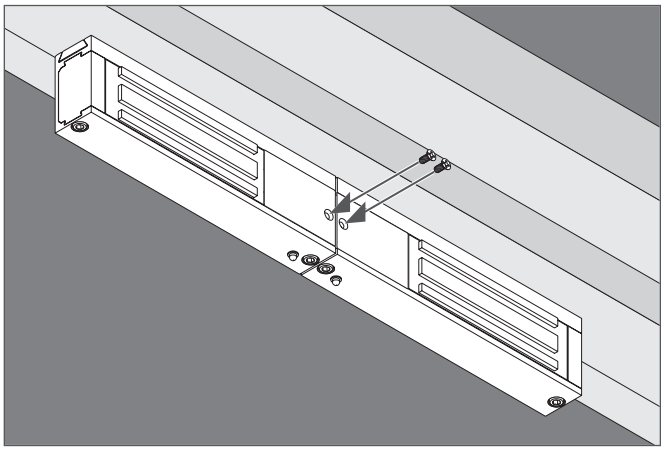
8c Connect plugs to boards.



8d Connect ATS wires.



8e Install covers.



ⓘ **Note: Some warming of the device under routine operation is normal.**

Customer Service

1-877-671-7011 www.allegion.com/us

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