SECO-LARM®

Magnetic Lock

Installation Manual

E-941SA-1200 shown

Auxiliary Lock
10JP

Model	Holding force	Material	Color
E-941SA-600	600-lb (272kg)	Anodized Aluminum	Aluminum
E-941SA-1200	1,200-lb (545kg)	Anodized Aluminum	Aluminum
E-941SB-600	600-lb (272kg)	Anodized Aluminum	Black
E-941SB-1200	1,200-lb (545kg)	Anodized Aluminum	Black
E-941SD-600	600-lb (272kg)	Anodized Aluminum	Dark Bronze
E-941SD-1200	1,200-lb (545kg)	Anodized Aluminum	Dark Bronze

The E-941Sx series of magnetic locks provides an effective solution to secure a door against unauthorized entry. When power is applied, its extremely strong magnetic field attracts the steel armature plate mounted on the secured door. When deactivated, there is no residual magnetism, and the door functions normally. Now available in multiple colors.

- MOV surge protection built in
- Adjustable mounting bracket
- Complete mounting hardware for typical installations
- "L" bracket and "Z" brackets available for easy mounting
- Detachable faceplate
- 12/24VDC selectable

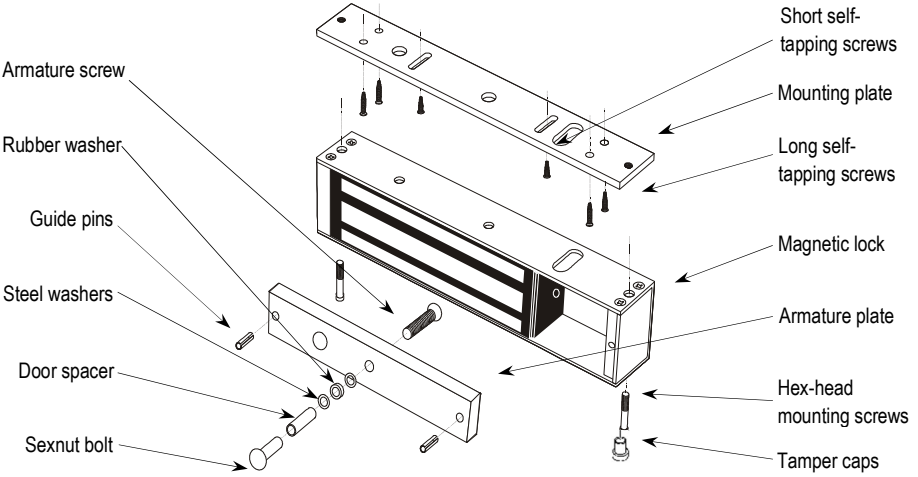
Parts List

1x **Mounting plate**
1x **Magnetic lock**
1x **Door spacer**
4x **Long self-tapping screws**
2x **Hex-head mounting screws**
1x **Armature plate**
1x **Armature screw**
1x **Sexnut bolt**
2x **Short self-tapping screws**
2x **Hex wrenches**
2x **Steel washers**
1x **Rubber washer**
2x **Guide pins**
2x **Tamper caps**
1x **Manual**

Specifications

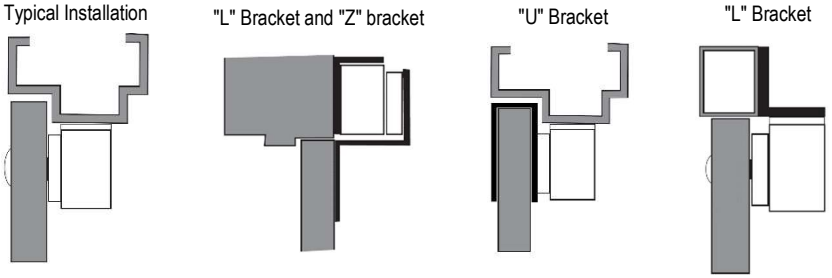
Model		E-941Sx-600	E-941Sx-1200
Operating voltage		12 or 24 VDC	
Current draw	12VDC	500mA	
	24VDC	250mA	
Door thickness (max.)		2" (50mm)	$1\frac{13}{16}$" (46mm)
Holding force		600-lb (272kg)	1,200-lb (545kg)
Dimensions	Magnetic lock	$9\frac{13}{16}$"x$1\frac{11}{16}$"x1" (250x43x25 mm)	$10\frac{1}{2}$"x$2\frac{5}{8}$"x$1\frac{9}{16}$" (267x67x40 mm)
	Armature plate	$7\frac{1}{4}$"x$1\frac{1}{2}$"x$\frac{1}{2}$" (185x38x12 mm)	$7\frac{1}{4}$"x$2\frac{3}{8}$"x$\frac{5}{8}$" (185x61x16 mm)
Operating humidity		0~85 (non-condensing)	
Operating temperature		32°~120° F (0°~49° C)	
Lock surface temperature		≤ Ambient temperature ± 68° F (20° C)	
Destructive attack		Level I	
Line security		Level I	
Standby power		Level I	
Endurance		Level IV	
UL 1034 Rating			
Static strength		500-lb	1,000-lb
Dynamic strength		50 ft-lb	70 ft-lb
Endurance		250,000 cycles	

Overview



Typical Applications

NOTE: When mounting the magnetic lock, it may be necessary to use a "Z"-bracket, 1 or 2 "L"- brackets, depending on the location and the type of door and frame. Use the diagram below to help decide whether or not an optional bracket will be necessary for installation.

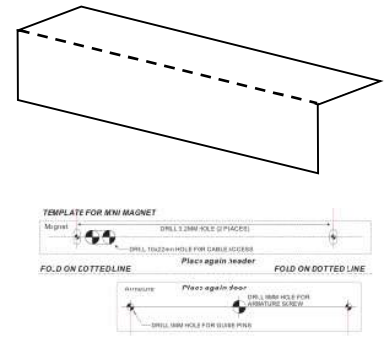


Installation Notes

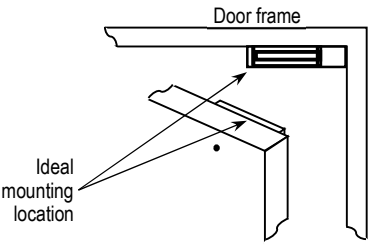
1. Read this installation manual thoroughly. A clear understanding of the product and this manual will make installation much easier.
2. The magnetic lock is designed for indoor use ONLY.
3. The most suitable mounting location for the magnetic lock may require the use of additional SECO-LARM accessories such as Z-brackets, and L-brackets. Please see the diagram on page 3 to decide if a particular application requires any mounting accessories.
4. Do not run power wires and signal wires in the same conduit as this may cause interference.
5. Do not install a diode in parallel with the magnetic lock as this may cause a delay when releasing the door as well as cause residual magnetism.
6. The best location to install the magnetic lock is on the inside of the door that is being secured with the wiring concealed in the frame to prevent tampering with the unit.

Installation

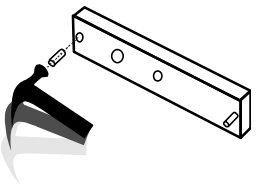
1. Fold the mounting template along the dotted line to form a 90-degree angle.



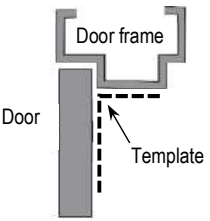
2. Close the door. Find a mounting location on the door frame near the upper free-moving corner of the door, or as close as possible to the upper corner of the door frame opposite the hinges.



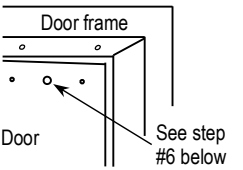
3. Use a hammer to lightly tap the two guide pins into the guide pin holes on the armature plate.



4. Place the template against the door and frame. Mark where the holes are to be drilled.

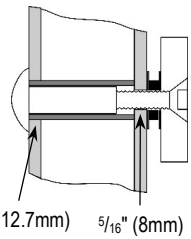


5. Drill holes in the frame and the door as shown on the template and in step #6 below. The smaller holes on the door should not go all the way through.



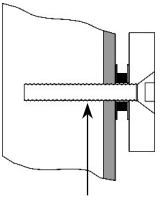
6. Depending on the type of door being protected, drill holes according to the diagrams below:

Hollow metal door



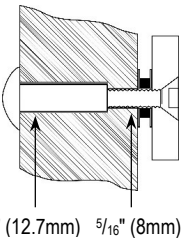
Drill a 5/16" (8mm) dia. hole through the armature-plate side of the door for the armature screw. Then drill a 1/2" (12.7mm) dia. hole for sexnut screw on the opposite side of the door.

Reinforced door



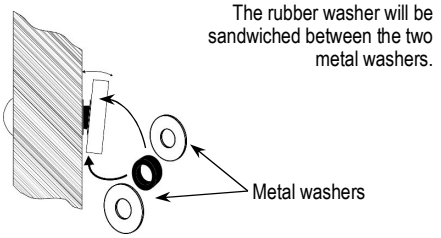
Drill a 1/4" hole (6.8mm) diameter and 1" (25mm) deep hole, tap for M8x1.25 thread.

Solid-core door

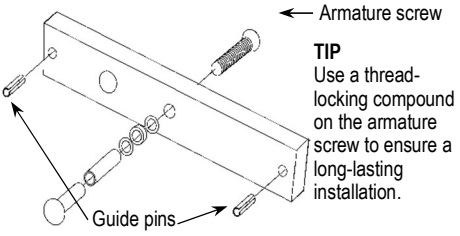


Drill a 5/16" hole (8mm) diameter hole in the door for the armature screw and drill a 1/2" (12.7mm) diameter and 1" (25mm) deep hole from the opposite side for the sexnut screw

7. Put a rubber washer between the two metal washers and place them over the armature screw between the armature plate and the door. This allows the plate to pivot around the screw to compensate for door misalignment.

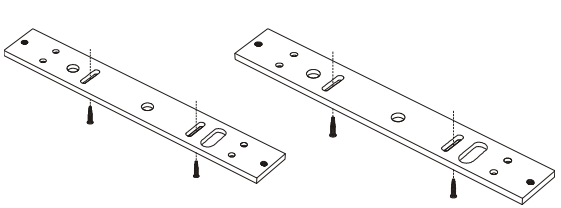


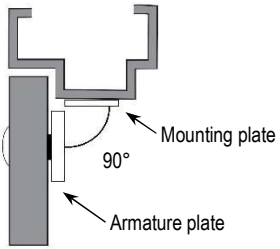
8. Tighten the armature screw enough so that the armature plate can withstand a break-in attempt, but loose enough so that the armature plate can pivot slightly. Make sure the anti-spin guide pins are in the two guide pin holes.



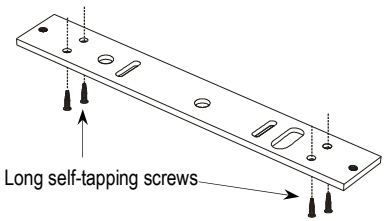
TIP
Use a thread-locking compound on the armature screw to ensure a long-lasting installation.

9. Screw the two short self-tapping screws through the mounting plate's slotted holes, but do not over-tighten them. Keeping them loose will allow for adjustment of the plate so that the long edge of the mounting plate and the armature plate are parallel. See the diagram below.

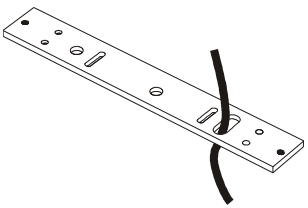




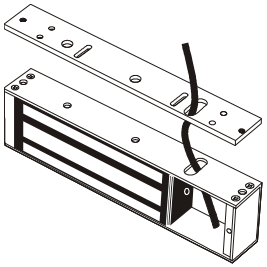
10. Once the position of the mounting plate is correct, use the four long self-tapping screws to permanently mount the mounting plate.



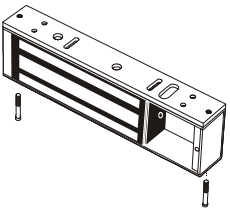
11. Drill the cable access hole. Run the power leads through the cable access hole in the mounting plate and through the hole in the door frame.



12. Remove the cover from the front of the magnetic lock. Run the power leads through the large cable access hole.



13. Push the magnetic lock against the mounting plate so the magnetic lock ends are flush with the ends of the mounting plate. Use the Hex wrench to screw the hex-head mounting screws through the bottom of the magnetic lock into the mounting bracket.



14. Cut the wires so they are long enough to connect with the terminal block. Set the voltage using the selection jumpers based on your input voltage.

Voltage Selection Jumpers

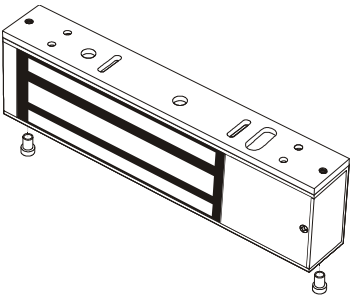
Position 2 jumpers on all four pins for 12VDC operation (default)

Position a jumper on the two center pins for 24VDC operation

NOTES

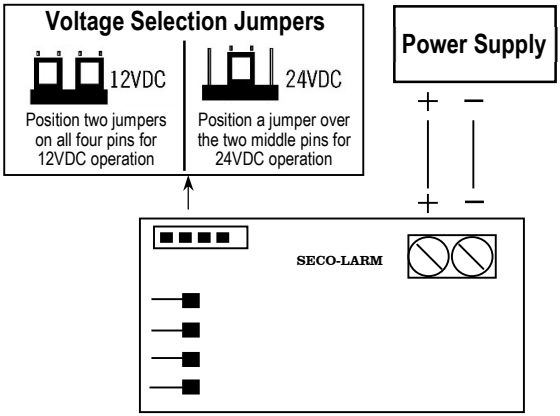
- Failure to correctly set the input voltage may cause damage to the lock.
- Connect switching devices like push-to-exit switches between the power source and the positive terminal on the lock. Connecting switching devices to the negative terminal may cause a delay in unlocking.

15. Connect the power and other wires according to the wiring diagram on page 7. Test the unit. Then replace the front cover and install the hex-head tamper caps (x2).



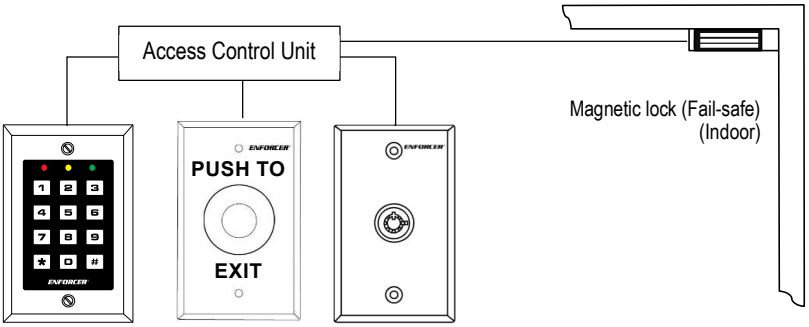
NOTE: This should be the very last step after all steps are confirmed, since once the tamper caps are in place, they are very difficult to remove.

Wiring Diagram



POWER SUPPLY: The product must be powered from a UL-listed, regulated, power-limited, power supply. If power switch is not wired between DC source voltage (+) and magnet, it will take a longer time to de-energize the magnet, simulating residual magnetism. The minimum permissible wire size to be used shall not be less than 22 AWG.

Sample Wiring



NOTES

- All the field wiring shall be in a protected area.
- Connect switching devices like push-to-exit switches between the power source and the positive terminal on the lock. Connecting switching devices to the negative terminal may cause a delay in unlocking.
- The magnetic lock has a built-in MOV. Therefore, do not install a diode/varistor (MOV) in line with the lock. Doing so will void the warranty.

Maximum Distance from Power Source to Magnetic Lock

For a complete chart, please visit www.seco-larm.com

12VDC Minimum Wire Gauge

Wire Length	25ft.	50ft.	75ft.	100ft.	150ft.	200ft.	250ft.	500ft.	1000ft.
Wire Gauge@500mA	20	18	18	18	16	14	14	--	--

24VDC Minimum Wire Gauge

Wire Length	75ft.	100ft.	150ft.	200ft.	250ft.	300ft.	400ft.	500ft.	1000ft.
Wire Gauge@250mA	22	20	18	18	16	16	14	14	14

Troubleshooting

Maintenance	• Wipe the surface of the magnetic lock with anti-rust oil regularly.
Door does not lock	• Check to make sure the wires are securely tightened to the terminal block. • Check that the power supply is connected and operating. • Make sure the rubber washer is installed and free from damage.
Door locks, but can easily be forced open	• Make sure the magnetic lock and armature plate are properly aligned. • Make sure the contact surfaces of the magnetic lock and armature plate are clean and free from rust. • Check the power leads with a meter and make sure 12VDC or 24VDC is present. • Make sure the rubber washer is installed and free from damage.

PRODUCT KEYWORDS: Maglocks, electromagnetic locks, magnetic locks

SECO-LARM® U.S.A., Inc.

16842 Millikan Avenue, Irvine, CA 92606 Website: www.seco-larm.com

Phone: (949) 261-2999 | (800) 662-0800 Email: sales@seco-larm.com