

SECO-LARM®

Electromagnetic Gate Locks with Face or Surface Mounting

Manual



Model	Holding Force
E-946FC-600Q	600-lbs (271kg)
E-946FC-1K2Q	1,200-lbs (544kg)

UL **us**
LISTED
Auxiliary Lock
10JP

- Now with face and surface mounting
- For sliding or swinging gates
- Water resistant and vandal resistant
- Maintenance-free, factory-sealed design
- Dual-threaded conduit fitting
- Attractive stainless-steel housing
- Dual voltage: 12/24 VDC Operation
- No residual magnetism
- MOV Surge protection
- Complete mounting hardware included

SLI®

CE **RoHS**

Note: Model numbers that end with "Q" or that have a round green "Q" sticker signify RoHS-compliant products.

SECO-LARM Electromagnetic Gate Locks with Face or Surface Mounting

Specifications:

Model		E-946FC-600Q	E-946FC-1K2Q
Holding force		600-lb (271kg)	1,200-lb (544kg)
Operating voltage		12VDC or 24VDC	
Current draw	12VDC	500mA	
	24VDC	250mA	
Operating temperature		14° ~ 131° F (-10° ~ 55° C)	
Dimensions	Magnet	8"x1 ¹¹ / ₁₆ "x1 ⁹ / ₁₆ " (203x43x40 mm)	8 ¹¹ / ₁₆ "x2 ¹ / ₂ "x1 ⁹ / ₁₆ " (220x63x40 mm)
	Armature plate	7 ¹ / ₄ "x1 ³ / ₈ "x ⁹ / ₁₆ " (185x41x14 mm)	7 ¹ / ₄ "x2 ³ / ₈ "x ⁵ / ₈ " (185x61x16 mm)
Weight (approx.)		6-lb (2.7kg)	11-lb (5kg)

Parts List:

E-946FC-1K2Q

- | | |
|-------------------|------------------------|
| 1x Electromagnet | 4x Long hex screws |
| 1x Armature plate | (for surface mounting) |
| 2x Metal washers | |
| 1x Rubber washer | 4x Short hex screws |
| 1x Sexnut bolt | (for face mounting) |
| 1x Armature screw | 1x Blind nut tool |
| 12x Tamper caps | 4x Blind nuts |
| 1x Hex wrench | 2x Long guide pins |
| | 2x Short guide pins |

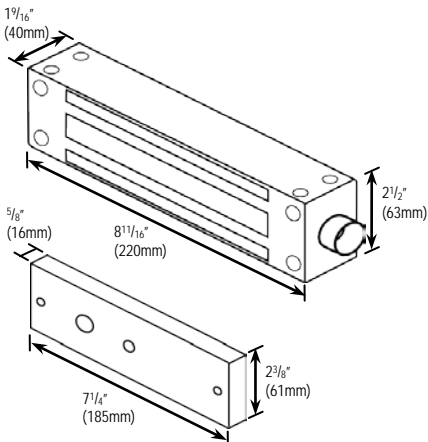
E-946FC-600Q

- | | |
|-------------------|-------------------|
| 1x Electromagnet | 1x Blind nut tool |
| 1x Armature plate | 2x Blind nuts |
| 2x Metal washers | 2x Guide pins |
| 1x Rubber washer | |
| 1x Sexnut bolt | |
| 1x Armature screw | |
| 6x Tamper caps | |
| 1x Hex wrench | |
| 2x Hex screws | |

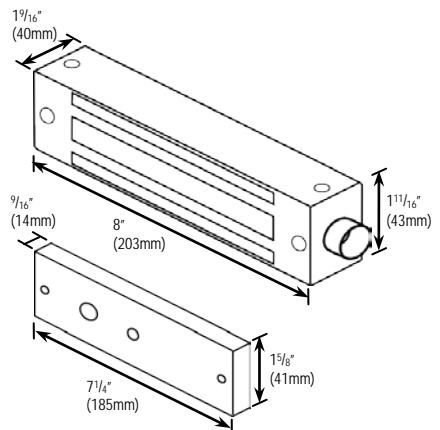
*When using the optional Z-bracket, do not use the door spacer and the sexnut bolt. Also, replace the armature screw with the short armature screw included with the bracket, or cover the exposed end of the long screw with the nut.

Dimensions:

E-946FC-1K2Q



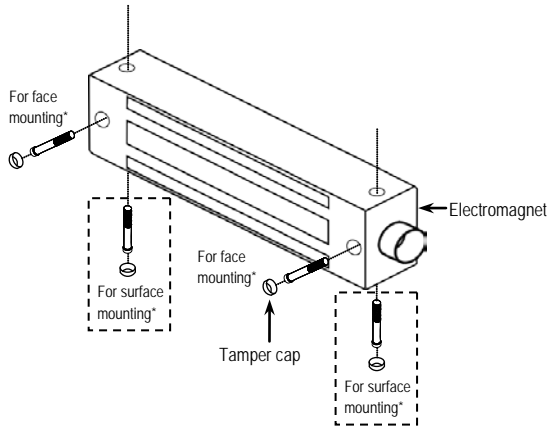
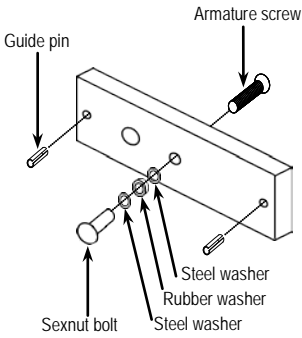
E-946FC-600Q



SECO-LARM Electromagnetic Gate Locks with Face or Surface Mounting

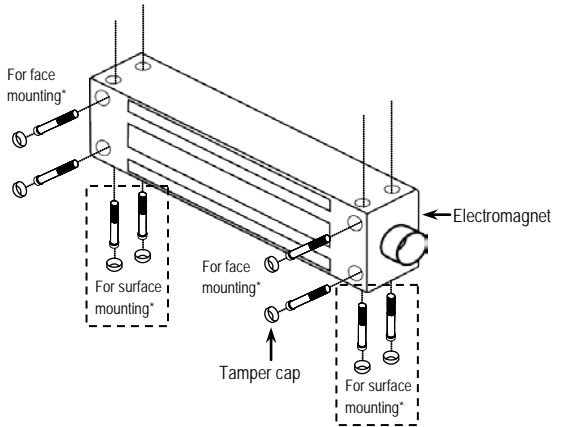
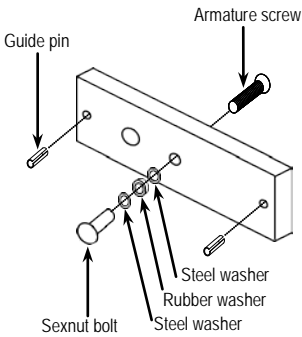
Overview:

E-946FC-600Q



*NOTE: Each installation will use either face mounting OR surface mounting. No installation will use both. For more information on which type of mounting method to use, please see page 5, *Installation*.

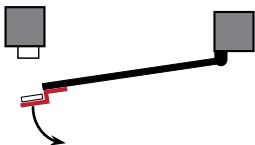
E-946FC-1K2Q



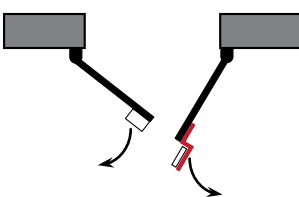
*NOTE: Each installation will use either face mounting OR surface mounting. No installation will use both. For more information on which type of mounting method to use, please see page 5, *Installation*.

Installation Applications:

Single-swing gate



Double-swing gate



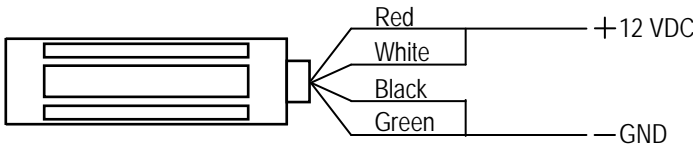
Sliding gate



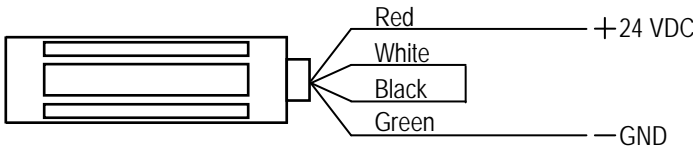
SECO-LARM Electromagnetic Gate Locks with Face or Surface Mounting

Wiring Diagram:

12VDC



24VDC



IMPORTANT:
 Damage caused
 by improper
 connection will
 void warranty.

Maximum Distance from Power Source to Electromagnetic Lock:

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



12VDC Minimum Wire Gauge:

Wire Length	25ft	50ft	75ft	100ft	150ft	200ft	250ft	300ft	400ft	500ft	1000ft
Wire Gauge @ 500mA	20	18	18	18	16	14	14	12	10	--	--

24VDC Minimum Wire Gauge:

Wire Length	25ft	50ft	75ft	100ft	150ft	200ft	250ft	300ft	400ft	500ft	1000ft
Wire Gauge @ 250mA	24	24	22	20	18	18	16	16	14	14	14

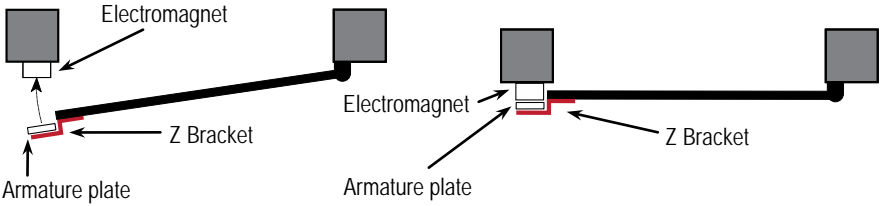
Optional SECO-LARM Electromagnetic Lock Accessories:

		
Description	Z Brackets	L Brackets
E-946FC-600Q	E-942F-600/Z	Not available
E-946FC-1K2Q	E-942F-1300/ZQ	E-946F-1K2/LQ

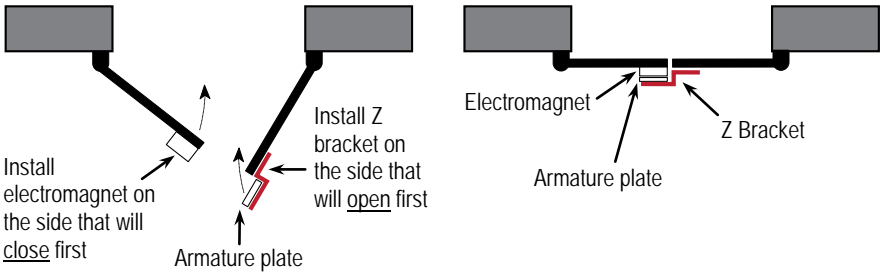
Installation:

1. Determine type of gate:

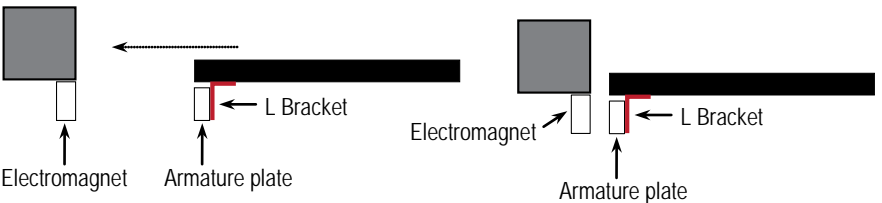
- a. **Single-swing gate:** Gate swings on one end, and comes to rest on a fixed gate post when closed. In this case, a typical installation has the electromagnet face mounted to the gate post, and the armature plate connected to the free end of the gate with a Z bracket.



- b. **Double-swing gate:** Two gates swing in the same direction when activated. The electromagnet is fixed to the free end of one gate, and the armature plate is fixed to the free end of the other via a Z bracket. It is important to coordinate the swing of the gates to prevent the armature plate from closing before the magnet.



- c. **Sliding gate:** The gate slides instead of swings away from a fixed gate post. In this case, surface mount the electromagnet to the gate post and use an L bracket to mount the armature plate perpendicular to it.

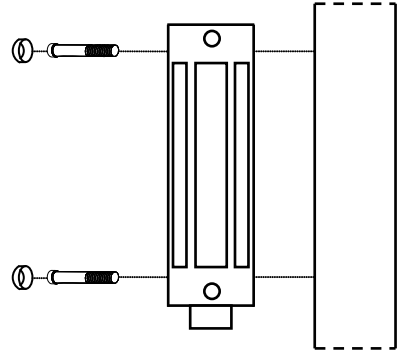


Note: An L bracket may also be used as a spacer for the electromagnet if the electromagnet and armature plate are not aligned properly.

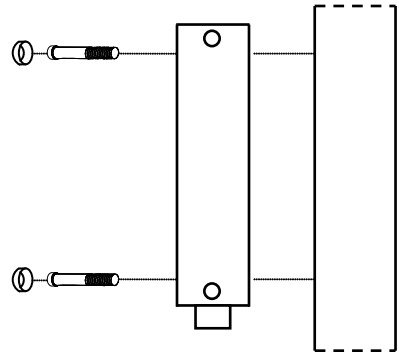
SECO-LARM Electromagnetic Gate Locks with Face or Surface Mounting

Installation, continued:

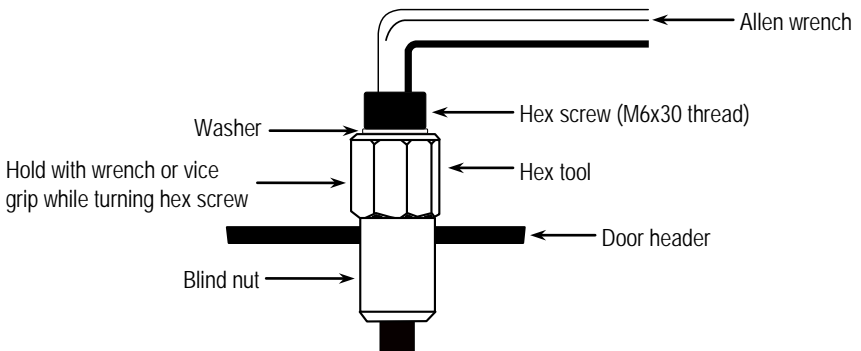
2. Mount the electromagnet. In most cases, the position of the electromagnet will determine the location of the armature plate. Make sure there is space to run the cable.
 - a. Tape the template to the appropriate location.
 - b. Drill four (E-946FC-1K2Q) or two (E-946FC-600Q) 9.5mm ($3/8$ ") holes, one for each short hex screw. **IMPORTANT:** The holes must be 9.5mm ($3/8$ "). No smaller or larger.
 - c. Insert a blind nut in one of the 9.5mm ($3/8$ ") holes.
 - d. Put the washer on the M6x30 screw. Then put the hex tool on the screw. Then turn the screw by hand into the blind nut.
 - e. Use a wrench or vice-grip to tightly hold the hex tool. Then use the included Allen wrench to slowly tighten the screw until it does not turn any further. This compresses the blind nut so that it remains permanently fixed in the hole.
 - f. Remove the screw.
 - g. Repeat steps c through f for the other blind nuts.
 - h. Push hex screws into each of the screw holes in the electromagnet. Use the Allen wrench to tighten the screws into the blind nuts.



Surface mounting
(E-946FC-600Q shown)

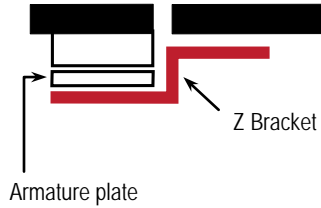


Face mounting.
(E-946FC-600Q shown)

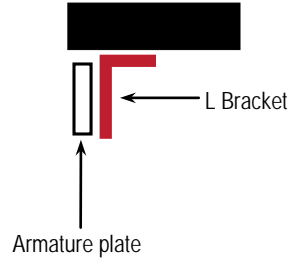


Installation, continued:

3. Mount the armature plate. Once the electromagnet is mounted, determine the correct position of the armature plate. Use the appropriate L bracket or Z bracket to position the armature plate so that it will lay against the electromagnet when activated. However, leave a slight gap between the two so that the armature plate does not slam against the electromagnet when the gate is closed.



- a. Place the steel and rubber washers over the armature screw between the armature and the bracket (see page 3, *Overview*). This will allow the armature to pivot slightly around the armature screw to compensate for gate misalignment.
- b. Make sure the guide pins are inserted loosely into guide holes to prevent the armature from spinning.



- c. Tighten the sexnut enough so the armature can withstand the force of someone attempting to pry the gate open while the electromagnet is engaged.
- d. Do not tighten the armature against the bracket. The armature must be able to pivot slightly around the armature screw.

4. Run the wires. Keep the wiring concealed.

- a. Run the wires into an out-of-sight location as close as possible to the electromagnet. Run them inside hollow posts if possible.
- b. Use standard armored cable to prevent the wires from being cut between the electromagnet and the out-of-sight location.
- c. The conduit fitting on the end is $\frac{3}{4}$ " outside and $\frac{1}{2}$ " on the inside. Use the appropriate fitting if using conduit.

5. Connect the wires and test the unit. See Wiring Diagram on pg. 4 for more information.

6. Insert the tamper caps into the mounting screw access holes of the electromagnet.

NOTE: This should be the last step, as once the tamper caps are in place, they are difficult to remove.

Troubleshooting:

The gate does not lock.	<ul style="list-style-type: none">• Check that the wires are secure.• Check that the power supply is connected and operating.• Check that the unit is wired correctly.
The gate locks, but can be easily forced open.	<ul style="list-style-type: none">• Check that the electromagnet and armature plate are properly aligned.• Check that the contact surfaces of the electromagnet and armature plate are clean and free from rust.• Check the power leads with a meter, and make sure the correct voltage is present.• Make sure that power supply is 12/24 VDC. Do not connect the electromagnet to VAC.
There is a delay in the gate releasing.	<ul style="list-style-type: none">• The electromagnet is fitted with a metal oxide varistor to prevent interference, so do not install a secondary diode.

Maintenance:

1. Clean the contact surfaces of the electromagnet or armature plate with a soft cloth and non-abrasive, non-corrosive cleaner.
2. Apply a light coat of a silicon lubricant to both contact surfaces and wipe away the excess to prevent rust.
3. Check that the armature plate is securely attached to the door, yet can pivot slightly around the armature screw.
4. Check that the electromagnet is securely attached to the gate or post.

LIMITED LIFETIME WARRANTY: This SECO-LARM product is warranted against defects in material and workmanship while used in normal service for the lifetime of the product. SECO-LARM's obligation is limited to the repair or replacement of any defective part if the unit is returned, transportation prepaid, to SECO-LARM. Under no circumstances will SECO-LARM be responsible for any costs or charges for removal, installation, or reinstallation. This Warranty is void if damage is caused by or attributed to acts of God, physical or electrical misuse or abuse, neglect, repair, or alteration, improper or abnormal usage, or faulty installation, or if for any other reason SECO-LARM determines that such equipment is not operating properly as a result of causes other than defects in material and workmanship. The sole obligation of SECO-LARM, and the purchaser's exclusive remedy, shall be limited to replacement or repair only at SECO-LARM's option. In no event shall SECO-LARM be liable for any special, collateral, incidental, or consequential personal or property damages of any kind to the purchaser or anyone else. This limited lifetime warranty is for products sold and installed in the United States and Canada. For all other countries the warranty is 1 (one) year.

NOTICE: The information and specifications printed in this manual are current at the time of publication. However, the SECO-LARM policy is one of continual development and improvement. For this reason, SECO-LARM reserves the right to change specifications without notice. SECO-LARM is also not responsible for misprints or typographical errors.

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