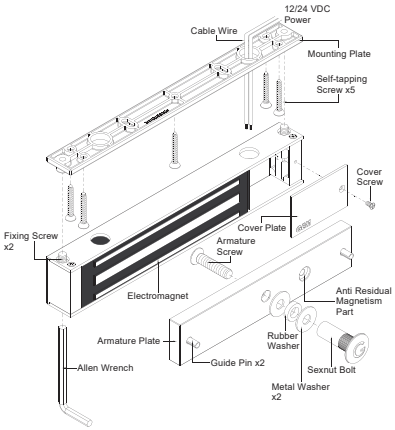
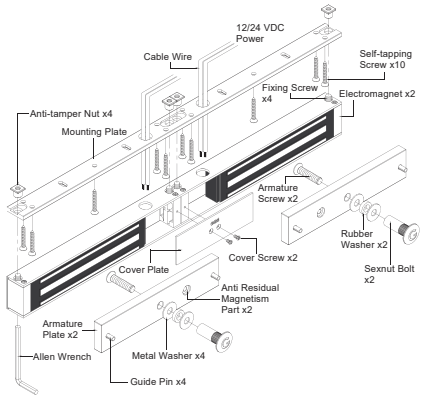
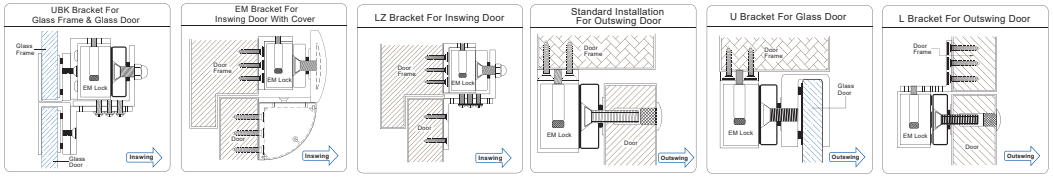
# GEM Indoor Series Electromagnetic Lock Installation Instruction

| Spec/Model | Single Door | | | | Double Door | | |
|---|---|---|---|---|---|---|---|
| | **GEM-300** | **GEM-600** | **GEM-800** | **GEM-1200** | **GEM-D600** | **GEM-D800** | **GEM-D1200** |
| Holding Force | 300lbs (136kg) | 600lbs (272kg) | 800lbs (363kg) | 1200lbs (545kg) | 600lbs (272kg)x2 | 800lbs (363kg)x2 | 1200lbs (545kg)x2 |
| Voltage Input | 12/24VDC | 12/24VDC | 12/24VDC | 12/24VDC | 12/24VDC | 12/24VDC | 12/24VDC |
| Current Draw | 500mA/12VDC<br>250mA/24VDC | 500mA/12VDC<br>250mA/24VDC | 500mA/12VDC<br>250mA/24VDC | 500mA/12VDC<br>250mA/24VDC | 500mA/12VDC x2<br>250mA/24VDC x2 | 500mA/12VDC x2<br>250mA/24VDC x2 | 500mA/12VDC x2<br>250mA/24VDC x2 |

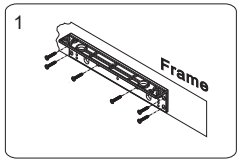
## Basic Installation Concept & Accessories



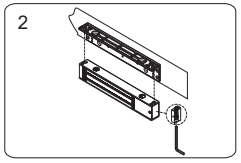



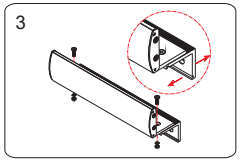

## LZ bracket for Inswing doors



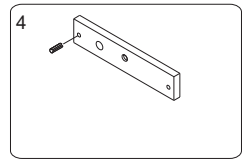

Find a mounting location on the door frame for the L bracket. Make sure that the door is still closeable.



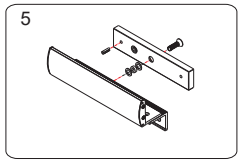

Use the fixing bolt to tighten the electromagnetic lock on L bracket



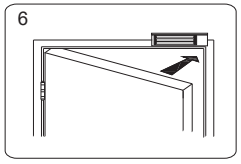

Assemble the Z bracket, and make sure that the position of the Z bracket is adjustable.



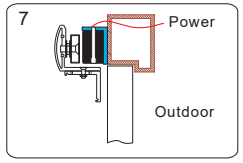

Insert the guide pins into the armature plate.



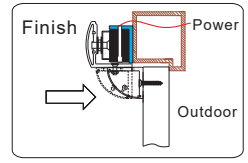

Fasten the armature plate to the Z bracket (Must add rubber washer)




Close the door and connect the power.

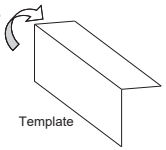



After the maglock attracts the armature plate, adjust the Z bracket to fit the door.

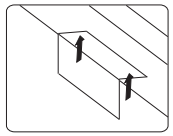



Fasten the Z bracket to the door

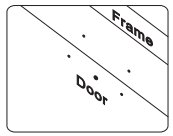
## Standard Installation



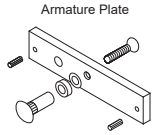

Fold the mounting template 90°



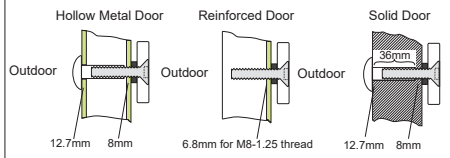

Place the template to the proper position of the door and frame. Mark the hole positions of the template on the door and frame.




Drill the holes according to the marks.




Please install the armature plate as illustrated here. (Dimensions of the holes depend on the door types illustrated below.)




Drill a Ø8mm hole through door, on closing side.Enlarge to Ø12.7mm by a sexnut blot on the opening side.

Drill a Ø6.8mm hole and tap on closing side a M8x12.5 thread.

Drill a Ø8mm hole through door on closing side.Enlarge to Ø12.7mm by a sexnut blot on the opening side. The depth is 36mm.

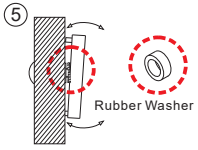
Recommendation:

For Micro EM-locks (300 LBS), maximum thickness of door is 44 mm.

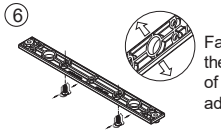
For Mini EM-locks (600 LBS), maximum thickness of door is 50 mm.

For Midi EM-locks (800 LBS), maximum thickness of door is 48 mm.

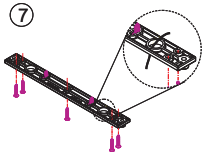
For Maxi EM-locks (1200 LBS), maximum thickness of door is 46 mm.



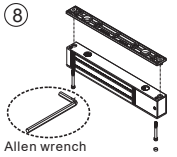

The rubber washer makes the surface of the armature plate adjustable in order to completely fit the surface of magnetic lock.



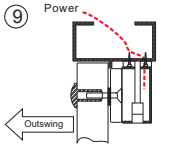

Fasten the mounting plate with the mounting screws. The position of the mounting plate should be adjustable.




Fix the mounting plate on the door with mounting screws



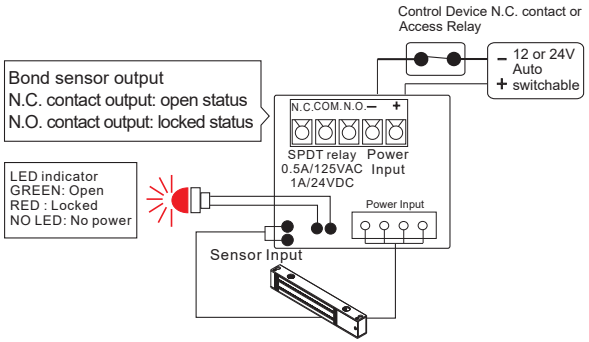

Use the Allen wrench and fixing bolts to tighten the electromagnetic lock to mounting plate



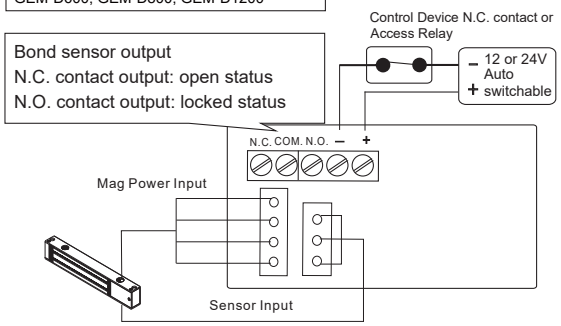

Connect the power and test the unit.

## Connecting Diagram

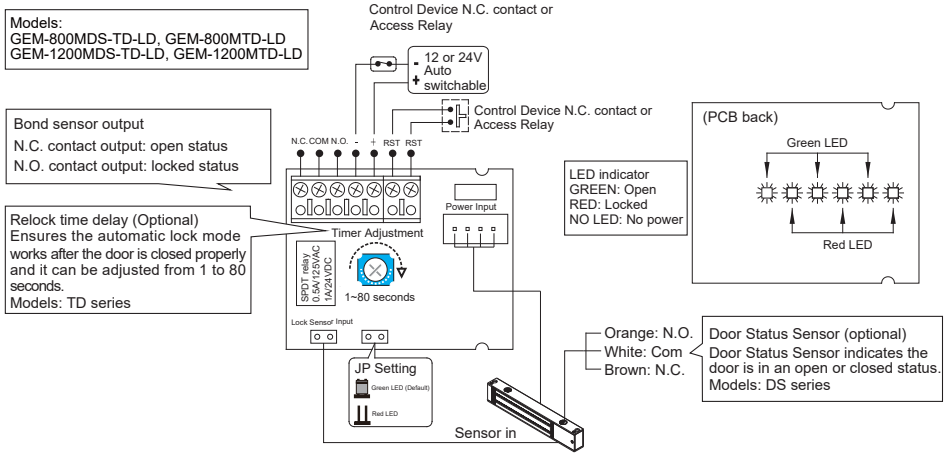
Model:GEM-300M



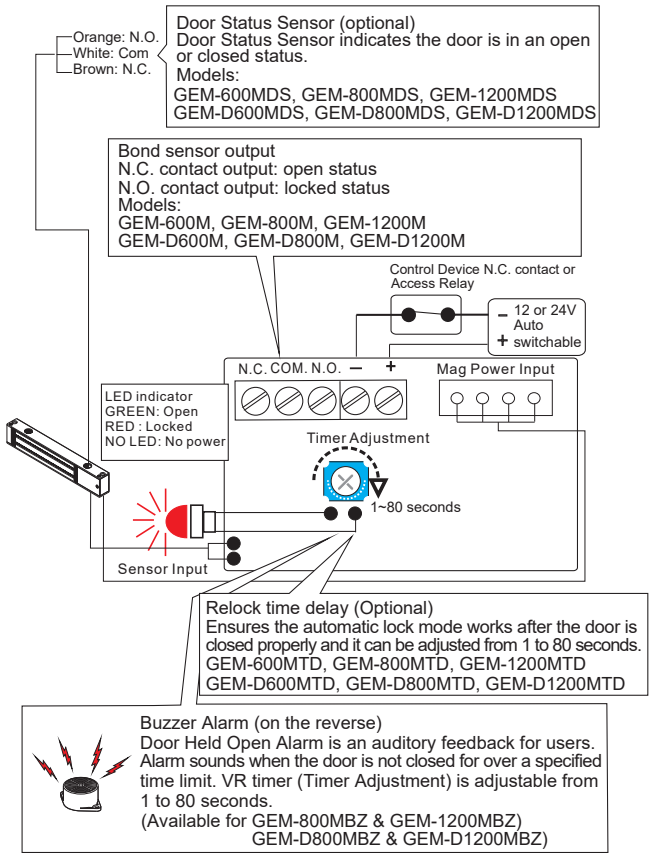

Models:
GEM-300, GEM-600, GEM-800, GEM-1200
GEM-D600, GEM-D800, GEM-D1200




Models:
GEM-800MDS-TD-LD, GEM-800MTD-LD
GEM-1200MDS-TD-LD, GEM-1200MTD-LD




## Connecting Diagram




## Trouble Shooting

| Problem | Possible Cause | Solution |
|---|---|---|
| Door does not lock | No power | Make sure the wires are connected properly<br>Check that the power supply is connected and works properly<br>Make sure the lock switch is wired correctly (N.C.) |
| Low holding force | Poor contact between electromagnet and armature plate | Make sure if the armature plate is deformed<br>Make sure if the rubber washer was used between magnet lock and armature plate<br>Make sure the contact surfaces of the electromagnet and armature plate are clean and free from dust |
| | Low voltage or incorrect voltage setting | Ensure the electromagnet lock is set for the correct voltage.<br>Check for proper voltage at the electromagnetic locks input. If low, determine if the correct wire gauge is being used to prevent excessive voltage drop. |
| Sensor output is not functioning | A secondary diode was installed across the electromagnetic lock | Remove any diode installed across the magnet for "spike" suppression. (The magnet is fitted with a metal oxide varistor to prevent back EMF) |
| | Misalignment between the armature plate and electromagnetic lock | Make sure the armature plate and electromagnetic lock are aligned correctly |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