### Specifications

<table>
<thead>
<tr>
<th>Surface Mount</th>
<th>Holding Force</th>
<th>Current Draw</th>
<th>Optional Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>10003S</td>
<td>300 lbs (136 Kg)</td>
<td>300mA@12VDC</td>
<td>L-150 bracket for narrow door frames.</td>
</tr>
<tr>
<td>10001ST</td>
<td>600 lbs (272 Kg)</td>
<td>280mA@12VDC</td>
<td>L-01ST bracket for narrow door frames.</td>
</tr>
<tr>
<td>GL-600S</td>
<td>600 lbs (272 Kg)</td>
<td>500mA@12VDC</td>
<td>L-GL600 bracket for narrow door frames.</td>
</tr>
<tr>
<td>10006S</td>
<td>800 lbs (363 Kg)</td>
<td>340mA@12VDC</td>
<td>L-400 bracket for narrow door frames.</td>
</tr>
<tr>
<td>EM-750</td>
<td>800 lbs (363 Kg)</td>
<td>340mA@12VDC</td>
<td>L-750 bracket for in-swinging door frames.</td>
</tr>
<tr>
<td>10010ST, 10020ST</td>
<td>1200 lbs (545 Kg)</td>
<td>460mA@12VDC</td>
<td>L-600 bracket for narrow door frames.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Face Mount</th>
<th>Holding Force</th>
<th>Current Draw</th>
<th>Optional Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>10003F</td>
<td>300 lbs (136 Kg)</td>
<td>300mA@12VDC</td>
<td>Z-150 bracket for in-swinging door.</td>
</tr>
<tr>
<td>GL-600F</td>
<td>600 lbs (272 Kg)</td>
<td>500mA@12VDC</td>
<td>Z-750 bracket for in-swinging door.</td>
</tr>
<tr>
<td>EM-750-1</td>
<td>800 lbs (363 Kg)</td>
<td>340mA@12VDC</td>
<td>Z-400 bracket for in-swinging door.</td>
</tr>
<tr>
<td>GL-850</td>
<td>800 lbs (363 Kg)</td>
<td>340mA@12VDC</td>
<td>Z-600 bracket for in-swinging door.</td>
</tr>
<tr>
<td>GL-1200</td>
<td>1200 lbs (545 Kg)</td>
<td>460mA@12VDC</td>
<td>Z-600 bracket for in-swinging door.</td>
</tr>
<tr>
<td>DGL-2400</td>
<td>1200 lbs (545 Kg)X2</td>
<td>460mA@12VDC</td>
<td>Z-600 bracket for in-swinging door.</td>
</tr>
</tbody>
</table>

### Holding Force Curve & Accessories

The holding force of the electromagnetic lock is depending on the voltage of the power supply. The graph below illustrates the change of the holding force under different voltage. The holding forces of the electromagnetic lock used here by the manufacture here "Colinear" force.

Please note that the actual accessory pack varies according to the electromagnetic lock model.

### Optional Bracket

Identify the door swinging direction and inspect the door frame header to determine if bracket is required. A L-bracket, LZ-bracket, Z-bracket or U-bracket (optional) may be required for the electromagnet depending on the frame header and swinging direction.

---

**Regular Installation**

- **With L-bracket for narrow door frames**
- **With U-bracket for frameless glass door leaf**
- **With LZ-bracket or Z-bracket for in-swinging door frames**

---

Copyright Gianni Industries, Inc. All Rights Reserved.
P-MU-WP-EM Ver. B Publish: 2004.10.18
Fold the mounting template along the dotted line to a 90-degree angle.

Close the door, find a mounting location on the door frame near the upper free-moving corner of the door, as close to the corner of the door frame as possible.

Place the template against the door and frame. Be sure the centerline of the armature template matches the centerline of the magnet template.

Drill and tap holes as indicated.

Insert two Blind Nuts into separate holes, one for each fixing screw.

Use the allen wrench. To slowly tighten the Blind Nut. (Don't turning over)

This compress the Blind Nut so that it remains permanently fixed in the frame.

Remove the tool.

Use the screws to permanently mount the mounting plate, mount the magnet with hardware provided.

Make sure the Guide Pins are in the two guide pin holes.

Put one rubber washer between two washers, and place them over the armature screw between the armature plate and the door.

This will allow the armature plate to pivot slightly around the armature screw in order to compensate for door misalignment.

Connect the power lead, and test the unit.

Close the door, use the Allen wrench or add washers to adjust the gap of Armature plate and the magnet.

Insert the anti-tamper caps into the mounting screw access holes. This should be the last step, as once the tamper caps are in place, they will be difficult to remove.

With L bracket for narrow door frames

L bracket is used as extension on narrow door frames to provide adequate mounting surface.

With U bracket for frameless glass doors

Universal glass door kits are compatible with lock models, except 1200 lbs serial.
Installation Steps of LZ or Z bracket for In-swinging doors

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

2. Face Mount

3. Close the door. Measure the correct position by bringing the armature plate close to the contact surface of the electromagnetic lock.

4. Insert the guide pins into the armature plate. The guide pins will prevent the armature plate to pivot around.

5. Put one rubber washer between armature plate and the Z bracket, and place them over the 8mm armature screw.

6. Surface Mount

7. Power

Finish

The "X" value in the table below for each bracket to mount on the door frame, shows the minimum requirement width of the door frame for different electromagnetic lock model.

<table>
<thead>
<tr>
<th>Bracket</th>
<th>Application</th>
<th>X Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LZ-150</td>
<td>10003S</td>
<td>37mm</td>
</tr>
<tr>
<td>LZ-01ST</td>
<td>10001ST</td>
<td>48mm</td>
</tr>
<tr>
<td>LZ-GL600</td>
<td>GL-600S</td>
<td>50mm</td>
</tr>
<tr>
<td>LZ-750</td>
<td>EM-750-1, EM-750-2</td>
<td>48mm</td>
</tr>
<tr>
<td>LZ-400</td>
<td>10006S</td>
<td>48mm</td>
</tr>
<tr>
<td>LZ-600</td>
<td>10010ST, 10020ST</td>
<td>76mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bracket</th>
<th>Application</th>
<th>X Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-150</td>
<td>10003F</td>
<td>32mm</td>
</tr>
<tr>
<td>Z-GL600</td>
<td>GL-600F</td>
<td>44mm</td>
</tr>
<tr>
<td>Z-750</td>
<td>EM-750-1, EM-750-2</td>
<td>45mm</td>
</tr>
<tr>
<td>Z-400</td>
<td>GL-480</td>
<td>45mm</td>
</tr>
<tr>
<td>Z-600</td>
<td>GL-1200F, DGL-2400</td>
<td>42mm</td>
</tr>
</tbody>
</table>

Connecting Diagram

2C Wire Leads: Single Voltage Input

12 VDC: Black, Red

Control Device
N.C. contact or Access Relay

Voltage Selection: 12 VDC

Red

Green

White

Blue

Control Device
N.C. contact or Access Relay

Voltage Selection: 24 VDC

Red

Green

White

Blue

Control Device
N.C. contact or Access Relay

Voltage Selection: 12 VDC

Red

Green

White

Blue

Control Device
N.C. contact or Access Relay

Voltage Selection: 24 VDC

Red

Green

White

Blue

Control Device
N.C. contact or Access Relay

Voltage Selection: 12 VDC

Red

Green

White

Blue

Control Device
N.C. contact or Access Relay

Voltage Selection: 24 VDC

Red

Green

White

Blue

Control Device
N.C. contact or Access Relay

Voltage Selection: 12 VDC

Red

Green

White

Blue

Magnet bond sensor output, remotely monitors the door lock/unlock status.

(Rating: 0.25A@12VDC)

Copyright Gianni Industries, Inc. All Rights Reserved.

P-MU-WP-EM Ver. B Publish:2004.10.18
### Problem Possible Cause Solution

**Door does not lock**
- **No power**
  - Check to make sure the wires are securely tightened to the correct terminal block.
  - Check that the power supply is connected and operating properly.
  - Make sure the lock switch is wired correctly.

**Reduced holding force**
- **Poor contact between electromagnet and armature plate**
  - Make sure the lock switch is wired correctly.
  - Make sure the electromagnet and armature plate are properly aligned.
  - 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 electromagnetic lock is set for the correct voltage.
  - 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 electromagnet**
  - Remove any diode installed across the magnet for "spike" suppression. (The magnet is fitted with a ferite oxidized varistor to prevent back EMF).
- **Misalignment between the reed switch and its magnet**
  - Check the installation of armature with supplied template.

---

#### Distance in feet from power source to farthest locking device

<table>
<thead>
<tr>
<th>AMPS</th>
<th>25f</th>
<th>50f</th>
<th>75f</th>
<th>100f</th>
<th>150f</th>
<th>200f</th>
<th>250f</th>
<th>300f</th>
<th>400f</th>
<th>500f</th>
<th>1000f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Wire Gauge for 12VDC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>16</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>0.50</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>0.75</td>
<td>18</td>
<td>16</td>
<td>18</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>18</td>
<td>16</td>
<td>18</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1.50</td>
<td>18</td>
<td>16</td>
<td>18</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

---

#### Trouble Shooting

**Important Notes**
- During the installation procedure, it is important to make sure that the working direction of the armature plate has to be facing toward the contact surface of the electromagnetic lock intend to have the maximum holding force.
- Be aware that it is better to install the electromagnet lock inside the house and hide the cable inside the door frame in order to against the unlawful entry.
- 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.

**Trouble Shooting**

- **Reduce holding force**
  - Make sure the contact surfaces of the electromagnet and armature plate are clean and free from dust.
  - Ensure the electromagnetic lock is set for the correct voltage.
  - 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 electromagnet**
  - Remove any diode installed across the magnet for "spike" suppression. (The magnet is fitted with a ferite oxidized varistor to prevent back EMF).
  - Check the installation of armature with supplied template.

**Distance in feet from power source to farthest locking device**

<table>
<thead>
<tr>
<th>AMPS</th>
<th>25f</th>
<th>50f</th>
<th>75f</th>
<th>100f</th>
<th>150f</th>
<th>200f</th>
<th>250f</th>
<th>300f</th>
<th>400f</th>
<th>500f</th>
<th>1000f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Wire Gauge for 24VDC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>0.50</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>0.75</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1.50</td>
<td>18</td>
<td>16</td>
<td>18</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

---

**Reduce holding force**
- Make sure the lock switch is wired correctly.
- Make sure the lock switch is wired correctly.
- 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 electromagnet**
  - Remove any diode installed across the magnet for "spike" suppression. (The magnet is fitted with a ferite oxidized varistor to prevent back EMF).
  - Check the installation of armature with supplied template.