Instruction Manual
SL-3000-UL™ SERIES
HIGH TRAFFIC COMMERCIAL GATE OPERATOR

UL325  UL991
compliant  compliant

installation instructions and manual book for architects, general contractors and dealers

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Installation Instructions Regarding the Gate Operator

A) Install the gate operator only when:
1) The operator is appropriate for the construction and the usage Class of the gate.
2) All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 4 feet (1.2 m) above the ground to
   prevent a 2 1/4inch (57.15 mm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent
   fence that the gate covers in the open position.
3) All exposed pinch points are eliminated or guarded, and
4) Guarding is supplied for exposed rollers.
B) The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening.
C) The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to
   reduce the risk of entrapment. Swinging gates shall not open into public access areas.
D) The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
E) Controls must be far enough from the gate so that the user is prevented from coming in contact with the gate while operating the controls. Controls
   intended to be used to reset an operator after 2 sequential activations of the entrapment protection device or devices must be located in the line of sight
   of the gate outdoor or easily accessible controls shall have a security feature to prevent unauthorized use.
G) All warning signs and placards must be installed where visible in the area of the gate.
H) For a gate operator utilizing a non-contact sensor such as a photo beam:
   1) See instructions on the placement of non-contact sensor for each Type of application,
   2) Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the sensor while the gate still moving, and
   3) One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a
      moving gate or barrier.
I) For a gate operator utilizing a contact sensor such as an edge sensor:
   1) One or more contact sensors shall be located at the leading edge, trailing edge and postmounted both inside and outside of a vehicular
      horizontal slide gate.
   2) One or more contact sensors shall be located at the bottom edge of a vehicular vertical lift gate.
   3) One or more contact sensors shall be located at the pinch point of a vehicular vertical pivot gate.
   4) A hardwired contact sensor shall be located and its wiring arranged so that the communication between the sensor and the gate operator is
      not subjected to mechanical damage.
   5) A wireless contact sensor such as the one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions
      shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar
      obstruction. A wireless contact sensor shall function under the intended end-use conditions.

Important Safety Instructions

WARNING - To Reduce the Risk of Injury or Death:

1. READ AND FOLLOW ALL INSTRUCTIONS!
2. Never let children operate or play with gate controls. Keep the remote control away from children.
3. Always keep people and objects away from the gate while the gate is in operation. NO ONE SHOULD CROSS THE PATH OF A MOVING GATE.
4. Test the gate operator monthly. The gate MUST reverse-on-contact with a rigid object or stop when an object activates the non-contact sensors. After
   adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate-operaor properly can increase the risk of injury or
   death.
5. Use the emergency release only when the gate is not moving. Make sure the power for the gate operator is off.
6. KEEP GATES PROPERLY MAINTAINED. Read the manual. Have a qualified service person make repairs to the gate or gate hardware.
7. The entrance is for vehicles only. Pedestrians must use separate entrance.
8. SAVE THESE INSTRUCTIONS.
Gate – A moving barrier such as a swinging, sliding, raising lowering, rolling, or like, barrier, that is a stand-alone passage barrier or is that portion of a wall or fence system that controls entrance and/or egress by persons or vehicles and completes the perimeter of a defined area.

Vehicular horizontal slide-gate operator (or system) – A vehicular gate operator (or system) that controls a gate which slides in a horizontal direction that is intended for use for vehicular entrance or exit to a drive, parking lot, or the like.

Residential vehicular gate operator – Class I – A vehicular gate operator (or system) intended for use in a home of one-to four single family dwelling, or a garage or parking area associated therewith.

Commercial/General access vehicular gate operator – Class II – A vehicular gate operator (or system) intended for use in a commercial location or building such as a multi-family housing unit (five or more single family units) hotel, garages, retail store or other building servicing the general public.

Commercial/General access vehicular gate operator – Class III – A vehicular gate operator (or system) intended for use in a industrial location or building such as a factory or loading dock area or other locations not intended to service the general public.

Restricted access vehicular gate operator – Class IV – A vehicular gate operator (or system) intended for use in a guarded industrial location or building such as an airport security area or other restricted access locations not servicing the general public, in which unauthorized access is prevented via supervision by security personnel.
GATE POST WARNING

IMPORTANT! Because gate coasting distance varies with temperature, Elite DOES NOT recommend the installation of a catch post. This could cause the gate to collide with the post.

Incorrect Installation using a Catch Post!

Correct Installation with Catch Rollers

Gate in Fully Opened Position

Gate Clearances

Minimum Clearance of 5" Between Back of Gate and Wall or Other Objects in Gate’s Path

1/4" Clearance from Top of Gate

1/2" Clearance Between Gate and Rollers

For safety reasons, a physical stop MUST be installed on the gate prior to installation of the gate operator. This will assure that the gate does not exceed movement limits and derail while in motion.
IMPORTANT NOTICE!
Installers are required to adhere to this procedure: The UL required Warning Signs must be installed in plain view and on both sides of each gate installed. Each sign is made with fastening holes in each corner and should be permanently secured in a suitable manner. Also the warning sticker should be placed on the operator so it is clearly visible.

Moving Gate Can Cause Serious Injury or Death

KEEP CLEAR! Gate may move at any time without prior warning.
Do not let children operate the gate or play in the gate area.
This entrance is for vehicles only.
Pedestrians must use separate entrance.
Owners Must Never Let Pedestrians Cross the Path of a Moving Gate!

Owners Must Never Mount Any Gate Operating Devices Accessible In Between the Gate and the Wall!

Owners Must Never Mount Any Gate Operating Devices Accessible Through the Gate!
Warning Signs on Both Sides of Gate
Over-Travel Stops on Both Ends of Gate Rail
Guide Rollers
2" x 2" Mesh Wire Across Entire Gate
Guide Rollers
216x605

Warning Sign Clearly Visible on Gate Operator

Reinforced Concrete to Bolt Operator on 115 VAC for Each Gate Operator

U.L. Listed Underground Conduit for Wires

Pedestrians MUST have a Separate Walkway!

SL-3000-UL-DM
Two-1/2 hp Motors, 120 VAC, 4.7 amp.
Maximum Gate Length – 37 feet
Maximum Gate Weight – 800 lbs.

SL-3000-UL
1/2 hp Motor, 120 VAC, 4 amp.
Maximum Gate Length – 37 feet
Maximum Gate Weight – 1000 lbs.

SL-3000-UL-1HP
Two-1/2 hp Motors, 120 VAC, 8.4 amps.
Maximum Gate Length – 37 feet
Maximum Gate Weight – 2000 lbs.

Be sure to read and follow all Elite and UL instructions before installing and operating any Elite products. Elite Access Systems, Inc. is not responsible for improper installations or failure to comply with local building codes.
It is highly recommended installing over-travel stops at both ends of the gate rail in any type of installation, to prevent derailing.

**TYPE OF INSTALLATIONS**

**FRONT INSTALLATION**
Reason: Cost efficient

**REAR INSTALLATION**
Reason: Chain is not visible

**CEILING MOUNT UNDERGROUND**
Reason: Space efficient/chain is not visible

Idler Wheel must have Safety Cover
FRONT INSTALLATION

Weld front bracket with gate in open position.  Weld rear bracket with gate in closed position.

REAR INSTALLATION

Cut the cover 17 1/2 inches high.  Make sure the idler wheel has a safety cover.

REAR INSTALLATION COVER MODIFICATION

Cut the chain access slot on the one side of the cover to the exact specifications.

Important: For safe operation of the gate opener do not cut the slots any wider or longer than shown. DO NOT modify the housing in any way other than specified.
Concrete Pad and Gate Attachment

Concrete (Reinforced Recommended)
Suggested installation for dirt ground. The measurements depend on the type of ground (i.e., asphalt, cement, dirt)

Follow gate manufacturers specifications and local building codes for setting post.

Red Head Fastener
1/2" x 3 1/2"

Over-Travel Stops on Both Ends of Rail

Front Installation

Rear Installation
GATE AND OPERATOR DISTANCE

Minimum Distance Between Gate and Sprocket

Correct Installation

Incorrect Installation

CHOOSING MOVEMENT DIRECTION

Open to the Left

Open to the Right
**How to Connect Power**

**Do Not Use This Outlet Unless You Are An Authorized Service Technician**

**Suggestion:**
Seal all open holes of electronic box with sealant when finished wiring.

**Use U.L. Listed Conduit for Supplying Power to the Unit**

Before Adjusting, Do the Following:

1. Turn the Power OFF!
2. Push the plate inward. Roll the nut to the direction desired.
3. Place the plate back in the notch.
4. Turn the machine off.
5. If you need more adjusting, repeat the process.

**Adjusting Gate Traveling Distance**

**Wire Gauge Requirement for 120 VAC Power Supply: 1/2 HP and Dual Motor Only**

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>16 Gauge</th>
<th>14 Gauge</th>
<th>12 Gauge</th>
<th>10 Gauge</th>
<th>8 Gauge</th>
<th>4 Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feet</td>
<td>150</td>
<td>250</td>
<td>400</td>
<td>650</td>
<td>1000</td>
<td>2200</td>
</tr>
</tbody>
</table>

Minimum: 15-Amp Breaker Switch Per Operator Required

Caution: ELITE ACCESS SYSTEMS, INC. is not responsible for conflicts between the information listed in the above chart and the requirements of your local building codes. The information is for suggested use only. Check your local codes before installation.

Gate Operator MUST be properly grounded.
DO NOT Touch Alarm Sensor

The level of sensitivity has to do with the weight of the gate and the condition of installation.

Too sensitive if the gate stops or reverses by itself.

Not sensitive enough if the gate hits an object and does not stop or reverse.

CAUTION: If the power supply to the gate operator is less than 99 volts, adjust the alarm by turning the alarm adjustment counter-clockwise enough to actuate the alarm when obstructed but not sensitive enough for false triggering to occur.

Timer can be set from 1 to 60 seconds (Timer ON), or for push open/push close type operation (Timer OFF).

Adjusted by Qualified Service Personnel
1. Connect G from master to G of slave. (G is the shield or a ground wire)
2. Connect B from master to B of slave.
3. Connect A from master to A of slave.
4. Turn timers on BOTH Omni boards to the “ON” position
5. Turn the SLAVE Timer adjustment all the way Counterclockwise
6. Use MASTER timer ONLY to select the desired time
MASTER AND SLAVE WITH TIMER OFF

1. Connect G from master to G of slave.
   (G is the shield or a ground wire)
2. Connect B from master to B of slave.
3. Connect A from master to A of slave.
4. Turn timers on BOTH Omni boards to the “OFF” position

PARTIAL MASTER/INDIVIDUAL CONTROL

IN ORDER FOR THE FOLLOWING OPERATION TO OCCUR, FOLLOW THE INSTRUCTIONS.
EXAMPLE: There is a double gate, the entry gate is to be opened with a radio transmitter and the exit gate with a free exit loop. Only one safety loop system is to open both gates, and a fire department switch should open both gates at the same time.
1. Connect the radio receiver to entry gate only.
2. Connect the exit loop to exit gate only.
3. Connect the safety loop to both entry and exit gates.
4. Connect the fire department switch to both entry and exit gates.

Caution: 115 volts per operator required
Connection of a Solenoid or Magnetic Lock can be made using the J3 plug and three wires supplied with the unit.

**Solenoid Lock**

- #3 Normally Closed
- #7 Common
- Insert 2 supplied wires into J3 plug (#3 and #7) (Motor Harness)

**Magnetic Lock**

- #7 Common
- #8 Normally Open
- Insert 2 supplied wires into J3 plug (#7 and #8) (Motor Harness)
Instructions for Optional Systems

QCC is designed for slide gate operators only!

1-2 – Open Command
3-4 – Stop Command
5-6 – Close Command
7 – Common
8 – Normally Closed
9 – Normally Open

QCC Access ID (Top Positive) QCC Access Socket

QCC socket with QCC access ID inserted
QCC "Mode of Operation" switch

Mode A (switch off) If the gate is closing while a car is driving over the safety loop detector, the QCC will stop the gate for a second then open the gate while the car is over the safety loop detector. As soon as the car leaves the safety loop, the QCC will resume closing the gate.

Mode B (switch on) If the gate is closing, and a vehicle drives over the safety loop, the QCC will stop the gate. It will not open the gate. After the vehicle leaves the safety loop, the QCC will close the gate.
Use this socket (M/S LINK) if the Omni option board is being used, and Master/Slave option is needed.

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**House Alarm / Proximity Switch**

- Omni Control Board
- Use Low Voltage Wire 20 AWG
- 12VDC House Alarm System Dry Contact
- House Alarm
- Omni Option Board Elite Part # O-OMNI EXB
- Proximity Switch Elite Part # A PRS
CAUTION:
Use different frequencies for every single loop detector. Turn off gate operator (from switch on electrical box) during installation.

Three Push Button System
(OPEN-STOP-CLOSE)
Step 1 - Cut off jumper wire #W4.
Step 2 - Install Omni option board.
Step 3 - Connect OPEN push button to #1 & 2.
Step 4 - Connect STOP push button to #3 & 4.
Step 5 - Connect CLOSE push button to #5 & 6.

Note: If using the Master/Slave board configuration, unplug the Master/Slave link plug on main board and connect it into the Omni option board M/S link socket.
CAUTION: Make sure each push button is dry contact and there are no jumper wires between them.
TERMINAL INPUT CONNECTIONS

Output Power
Terminal 8 = Ground (-)
Terminal 10 = 24 DC (+)

Terminal 8 = 24 Volt
Terminal 9 = Relay
Terminal 10 = Radio Power

Output Power
Terminal 8 = 24 Volt
Terminal 9 = Relay
Terminal 10 = Radio Power

Fire or
Any Key
Switch

Card
Reader

Push
Button

Phone
Entry

Radio Receiver

External “Exit” Loop Detector

Photo Cell

External “Safety” Loop Detector
SAFETY LOOP SYSTEM

The safety loop prevents the gate from closing while a car or any other object remains in the gate's pathway.

EXIT LOOP SYSTEM

The exit loop automatically allows the gate to open when a car is exiting.
EMERGENCY RELEASE

Standard

1. Turn the power OFF!
2. Make sure the crank tool fits the crank input, as shown above. Turn the crank to open the gate. To speed up the process you may use a wireless power drill (6 °/sec).

Option 1: Elite Part # CP-17

Pull firmly on the "T" Handle to release the chain.

Turn the power OFF to the gate operator and unlock the fire box.

The chain is held in place by a spring loaded pin.

Option 2: Elite Part # DC-1000U-SL

Condition A:
In case of power failure the gate opens automatically one time and stays open. When power is restored the operator returns to normal condition.

Condition B:
In case of power failure the gate will not open automatically until activated by a key switch or push button.

for More Details
contact your Local Dealer
REPLACING THE CONTROL BOARD

Disconnect 2 wire harnesses from OmniControl board. Unscrew 3 nuts to remove board.

AUDIO ALARM

When one of the following events happens twice consecutively, an Alarm will Sound!

To turn alarm off, cut the power or use the optional stop button. Refer to “Stop Button Alarm”

1. The gate is too heavy.

2. Objects are on the gate’s track such as mud, rocks, dirt, etc.

3. The gate is hitting a wall or any other object.

4. The gate has one or more broken wheels.

5. A moving object has hit the gate and the gate is off the track.

Refer to the Troubleshooting Table
STOP BUTTON ALARM SHUT-OFF

Omni Option Board Needed

Install the stop button in a secure accessible place.

Cut off jumper wire #W4.

This is an important command required to stop the audio alarm in case it has been triggered. Otherwise the alarm will sound for 5 minutes and reset itself.

Use STOP Button:

• To stop the movement of the gate in case of potential entrapment.
• To reset the audio alarm, (check for obstructions).
• To stop the gate operator while traveling.

When using the Omni option board, use the "STOP" input to connect the stop button.
SECONDARY ENTRAPMENT PROTECTION

Wiring Installation

Mounting Installation

All of the installed edge sensors are connected in parallel at the sensor input terminals on the Omni control board.

Top View of Gate Operation Recommended Installation Locations

If you are going to use a contact sensor as a secondary entrapment protection you should use a recognized component to comply with the revised UL 325 for use in class I or class II gate operator.

Electric Sensing Edge, Miller Edge Models: MGR20 or MGS20
TROUBLESHOOTING LED INFORMATION

Resetting Motor
Reset Motor LED Light is "ON"

Motor Reset Button
Press firmly to reset thermal breaker on the motor.

Gate Will Not Close!
Symptom: The radio receiver LED on the control board remains "ON" when using the remote control.
Possible Solutions: Stuck remote control button. The radio receiver has malfunctioned in the "ON" position.

Gate Will Not Open!
Symptom: The radio receiver LED on the control board remains "OFF" when using the remote control.
Possible Solutions: Dead battery in the remote control. Remote control code switches are different from radio receiver code switches. The radio receiver has malfunctioned in the "OFF" position.
## TROUBLESHOOTING TABLE

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>POSSIBLE CAUSES</th>
<th>SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERLOAD LED ON And POWER LED OFF</td>
<td>1. Short circuit at terminals 8 and 10 2. Short circuit at any of the loop detectors in the board 3. Short circuit in the control board</td>
<td>1. Remove the short circuit condition at the terminals 2. Remove the defective loop detector 3. Send the board for repair</td>
</tr>
<tr>
<td>OVERLOAD LED ON And POWER LED ON</td>
<td>1. Excessive current draw at terminal 10 2. Over-voltage at the 120 VAC line input</td>
<td>1. Reduce the accessories load from terminal 10 2. Verify your electrical power</td>
</tr>
<tr>
<td>SYSTEM ON LED FLASHING</td>
<td>1. One limit switch is faulty 2. Motor thermal fuse has popped out</td>
<td>1. Test the limit switches and wiring connections, fix the fault 2. Reset the motor</td>
</tr>
<tr>
<td>REVERSE SENSOR LED ON</td>
<td>1. Gate has encountered an obstruction during traveling 2. Reverse sensor is extra sensitive</td>
<td>1. Remove the obstruction 2. Turn the reverse sensor switch counter clockwise a little more and try again</td>
</tr>
<tr>
<td>ALARM SENSOR LED ON</td>
<td>1. Gate encountered an obstruction during traveling 2. Alarm sensor is extra sensitive</td>
<td>1. Remove the obstruction 2. Turn the alarm sensor switch counter clockwise a little more and try again</td>
</tr>
<tr>
<td>ALARM SENSOR LED ON</td>
<td>1. Gate encountered an obstruction during traveling 2. Alarm sensor is extra sensitive</td>
<td>1. Remove the obstruction 2. Turn the alarm sensor switch counter clockwise a little more and try again</td>
</tr>
<tr>
<td>COMMAND PROCESSED LED ON</td>
<td>1. There is a command hold active</td>
<td>1. This is a normal response of the gate operator. It does not represent necessarily that there is a problem.</td>
</tr>
<tr>
<td>TIMER LED BLINKING And COMMAND PROCESSED LED BLINKING</td>
<td>1. There is a command holding the gate open</td>
<td>1. This is a normal response of the gate operator. It does not represent necessarily that there is a problem. Check inputs for command.</td>
</tr>
<tr>
<td>TIMER LED BLINKING, COMMAND PROCESSED LED BLINKING And REVERSE SENSOR LED ON</td>
<td>1. Gate has reopened because it encountered an obstruction while closing.</td>
<td>1. Any re-new command will resume normal operation. Check for obstructions.</td>
</tr>
<tr>
<td>AUDIO ALARM ON</td>
<td>1. Gate has encountered two consecutive obstructions while trying to close or open</td>
<td>1. Any re-new command will resume normal operation but not a radio command. Check for obstructions. 2. You can stop the alarm by using the stop button.</td>
</tr>
<tr>
<td>ANY &quot;LOOP LED&quot; ON And NO VEHICLE ON THE SENSING AREA</td>
<td>1. The loop detector needs to be reset. 2. The wire loop has been disrupted 3. The loop detector needs to work in a different frequency 4. The loop detector is too sensitive</td>
<td>1. Reset the loop detector (if you use Elite Plug-in Loop detectors, change the setting for sensitivity and come back to your original setting). 2. Verify and correct connections 3. Set a different working frequency 4. Decrease the sensitivity of the loop detector</td>
</tr>
</tbody>
</table>
Limit Switch Assembly

Power Back-Up

Electronic Box Assembly

Note: *
*Sold Individually, 2 Shown. For part names, refer to parts list.
## SL-3000 Parts List

### Idler Sprocket Assembly
- Q013

### Limit Switch Assembly
- Q024
  - Q010 - Limited Switch Box Cover
  - Q023 - Limit Switch Box
  - Q031 - Limit Switch / Shaft
  - Q032 - Limit Switch Adjustment Nuts
  - Q051 - Limit Switch / Shaft Bearing
  - Q101 - Limit Switch Bearing Holder

### Power Back-Up Unit
- O-DC-SL
- O-DC-SL DM
  - Q065 - Drive Belt (DM)
  - Q123 - Back-Up Motor DC 12V
  - Q143 - Chassis DC Back-Up
  - Q164 - Drive Belt
  - Q177 - Wire Harness DC-1000
  - Q209 - Pulley DC-1000 1/2 ID

### Electronic Box Assembly
- Q402 1/2 HP
- Q403 1 HP

### Flexible Assembly for 1/2 Horse Motor
- Q420
  - Wire Harness and Conduit

### Flexible Assembly for Dual Motor
- Q421
  - Wire Harness and Conduit

### Maintenance

1. Make sure the reversing sensor is functioning properly. *Refer to “Reverse Sensor”.*
2. Make sure the gate track is clear of dirt, rocks or other substances.
3. Make sure the wheels are operating smoothly on the track.
4. If you hear an Alarm, *Refer to “Audio Alarm”*.
5. Clean the cover on a regular basis.
6. For part illustrations, *Refer to “SL-3000 Parts”*. If you need further assistance, please contact your local service company.
EXTERNAL "SAFETY" LOOP DETECTORS
CARD READER
OUTDOOR DIGITAL LOCK
OUTDOOR INTERCOM SPEAKER
THREE PUSH BUTTON
REMOTE CONTROL SYSTEM
KEY SWITCH
PHOTO ELECTRIC EYE
OUTDOOR DIGITAL LOCK
KEY STATION
OUTDOOR DIGITAL LOCK WITH INTERCOM
INDOOR INTERCOM SPEAKER
OUTDOOR INTERCOM SPEAKER
AVAILABLE PRODUCTS