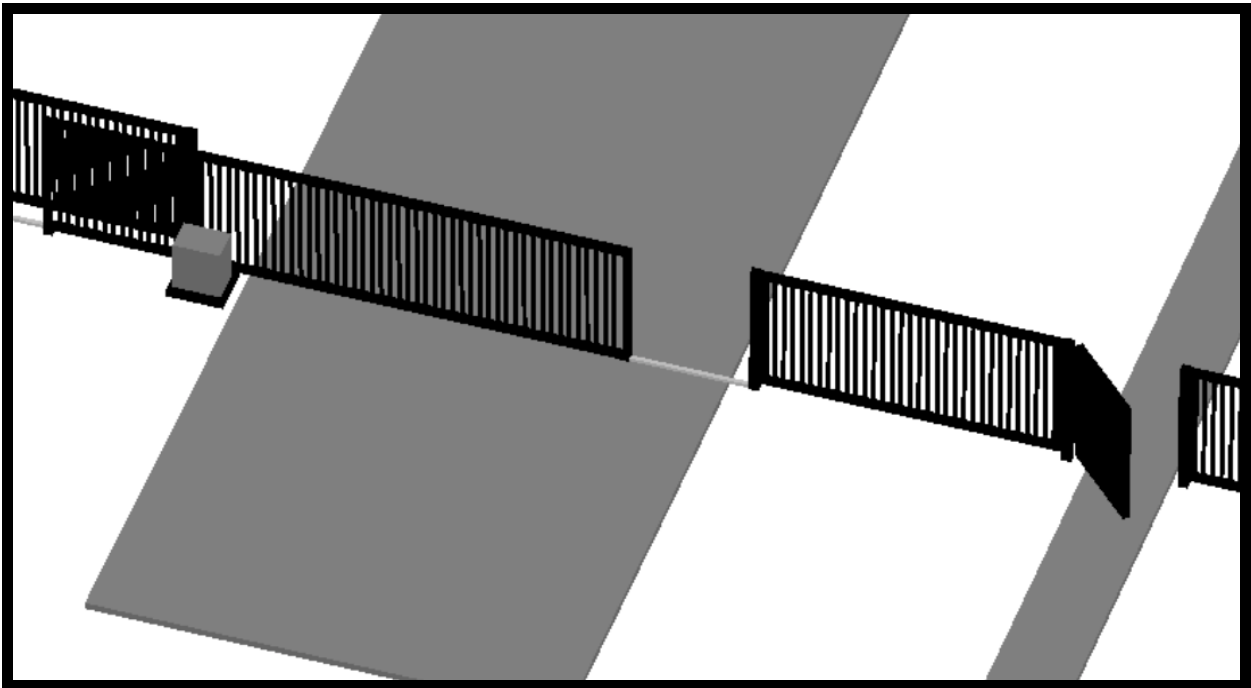


APOLLO Gate Operators

**UL 325 Safety Information
For
Apollo Gate Operators**

**1550UL, 1650UL
7000UL, and 7100UL**



APOLLO Gate Operators, Inc.

**12902 Delivery Drive
San Antonio, TX 78247
(800) 226-0178**

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. **NO ONE SHOULD CROSS THE PATH OF THE 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 operator properly can increase the risk of injury or death.
5. Use the emergency release only when the gate is not moving.
6. **KEEP GATES PROPERLY MAINTAINED.** Read the owner's manual. Have a qualified service person make repairs to gate hardware.
7. The entrance is for vehicles only. Pedestrians must use separate entrance.
8. **SAVE THESE INSTRUCTIONS.**

Install the gate operator only when:

- 1) The operator is appropriate for the construction of the gate 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 2-1/4 inch (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 openings located between 48 inches (1.22 m) and 96 inches (2.44 m) above the ground shall be designed, guarded or screened to prevent a 4 inch (102 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 that position.
- 4) All exposed pinch points are eliminated or guarded, and
- 5) Guarding is supplied for exposed rollers.

The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening.

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.

The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.

For gate operators utilizing Type D protection: (an actuating device requiring continuous pressure to maintain opening or closing motion of the gate).

- 1) The gate operator controls must be placed so that the user has full view of the gate area when the gate is moving,
- 2) The placard (Warning Sign) as required shall be placed adjacent to the controls,
- 3) An automatic closing device (such as a timer, loop sensor, or similar device) shall not be employed, and
- 4) No other activation device shall be connected.

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.

All warning signs and placards must be installed where visible in the area of the gate.

For gate operators utilizing a non-contact sensor in accordance with 30A.1.1:

- 1) See instructions on the placement of non-contact sensors 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 is 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.

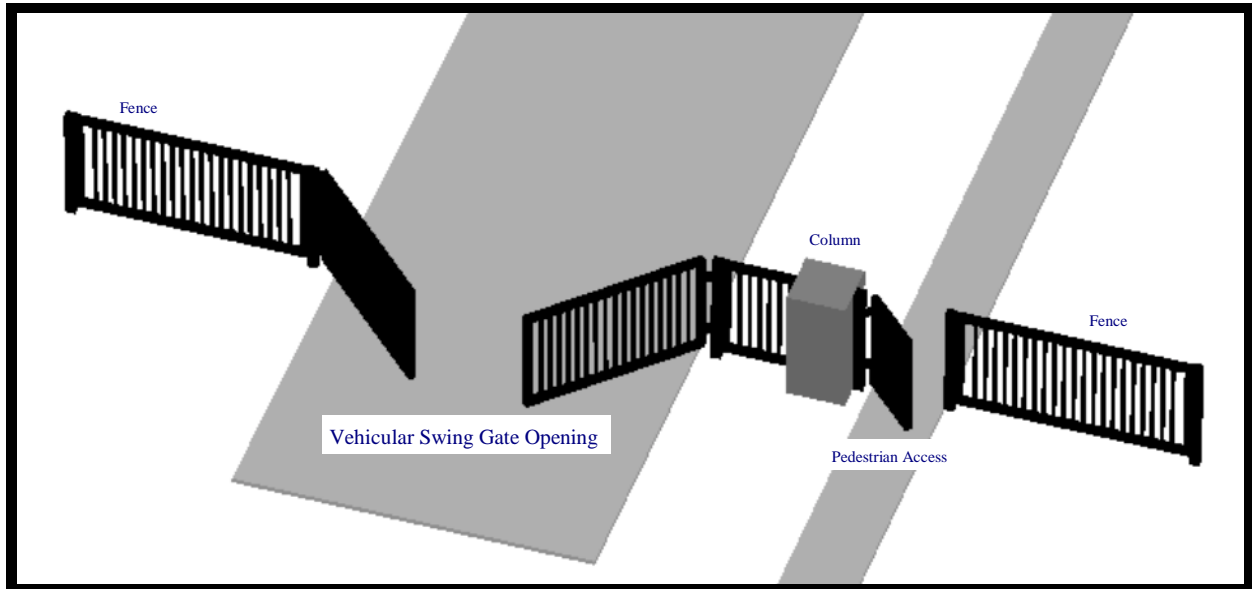
For a gate operator utilizing a contact sensor:

- 1) One or more contact sensors shall be located at the leading edge, trailing edge, and post mounted 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 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

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.

Typical Applications for Apollo 1550UL/1650UL Swing Gate Operators

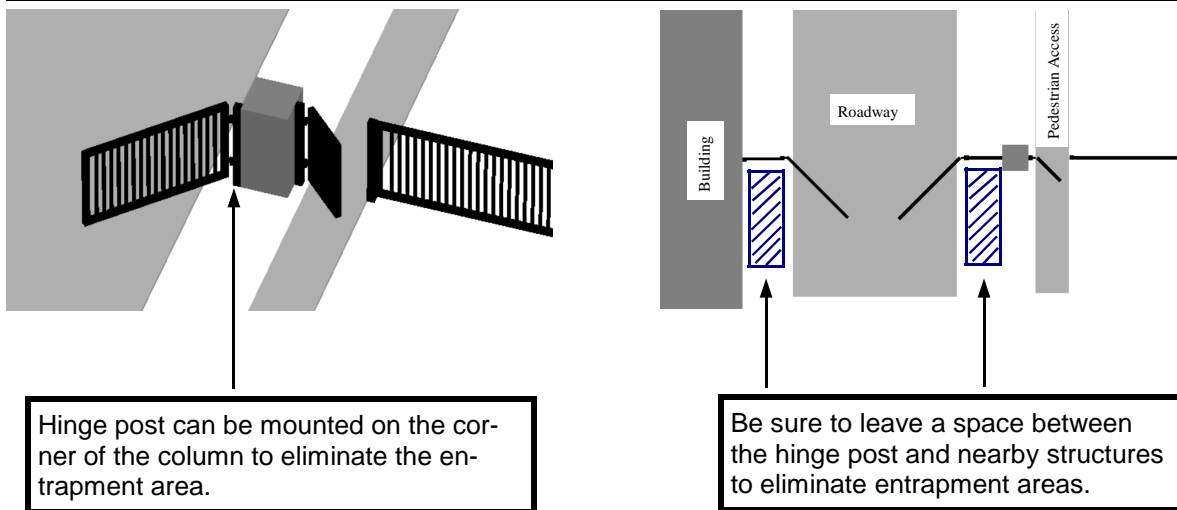


Apollo 1550UL (Single Gate) and 1650UL (Dual Gate) swing gate operators are designed for gates that are 14' long and 400lbs each.

They are to be used in UL 325 Class I - Residential and Class - II Commercial/General Access. The above diagram represents a typical installation using Apollo 1550UL and 1650UL swing gate operators.

Note: UL 325 specifies that operators are intended for installations only on gates used for vehicles.

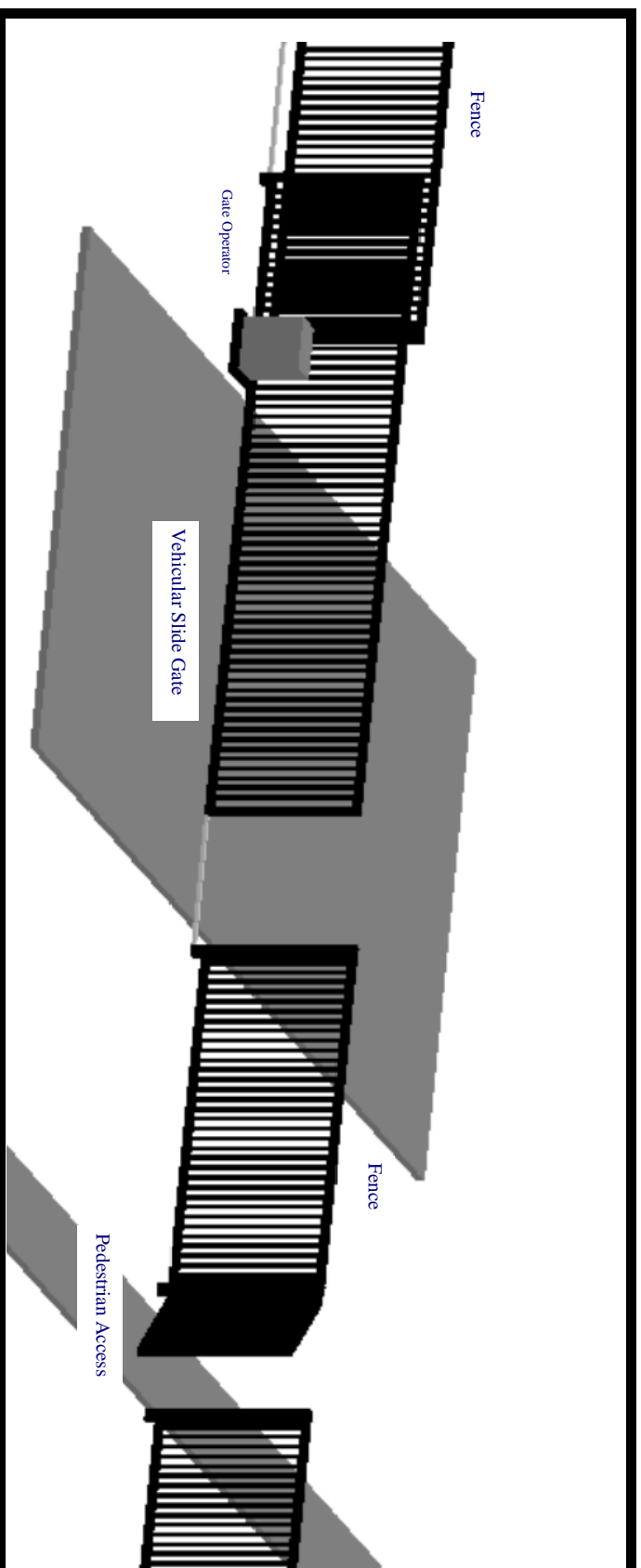
Swing Gate Operator Requirements



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.

Swing gate operators will be able to use a Type B1 (photoelectric sensor or the equivalent), Type C (Inherent adjustable clutch or pressure relief device), or Type D (an actuating device requiring continuous pressure to maintain opening or closing motion of the gate) as secondary entrapment protection.

Typical Applications for Apollo 7000UL/7100UL Slide Gate Operators

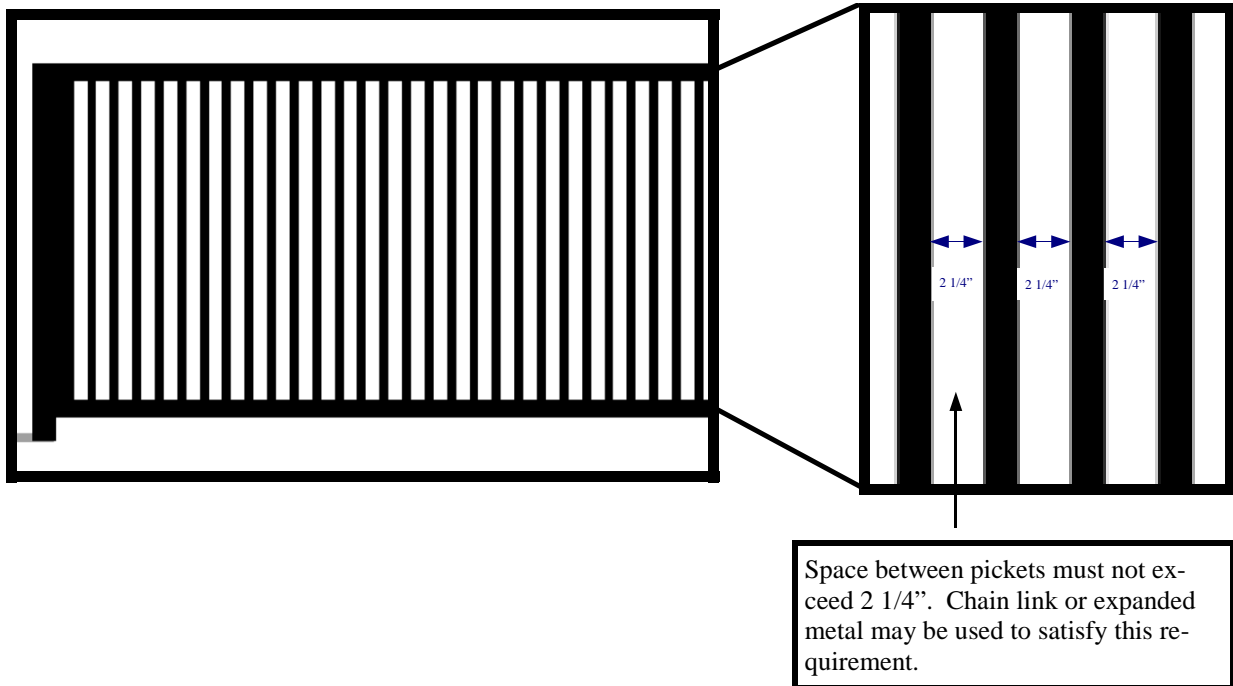


Apollo 7000UL and 7100UL are rated for gates 25' long 400lbs.

They are to be used in UL 325 Class I - Residential & Class II - Commercial/General Access. The above diagram represents a typical installation using an Apollo slide gate operator.

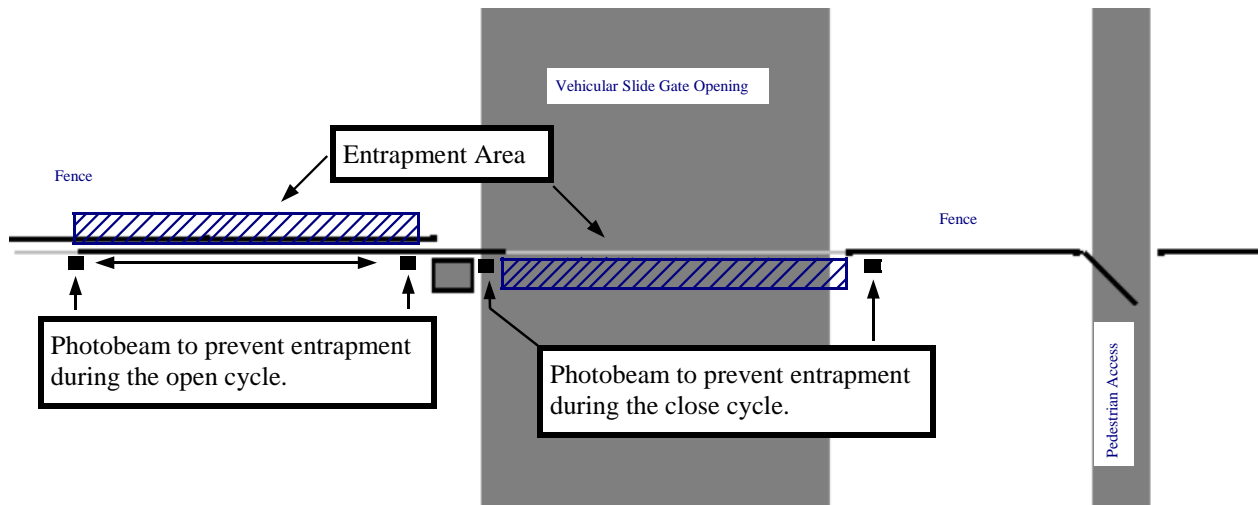
Note: UL325 specifies that operators are intended for installations only on gates used for vehicles. Pedestrians must be supplied with a separate access opening.

Slide Gate Operator Requirements



All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 4 feet above the ground to prevent a 2-1/4 inch 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.

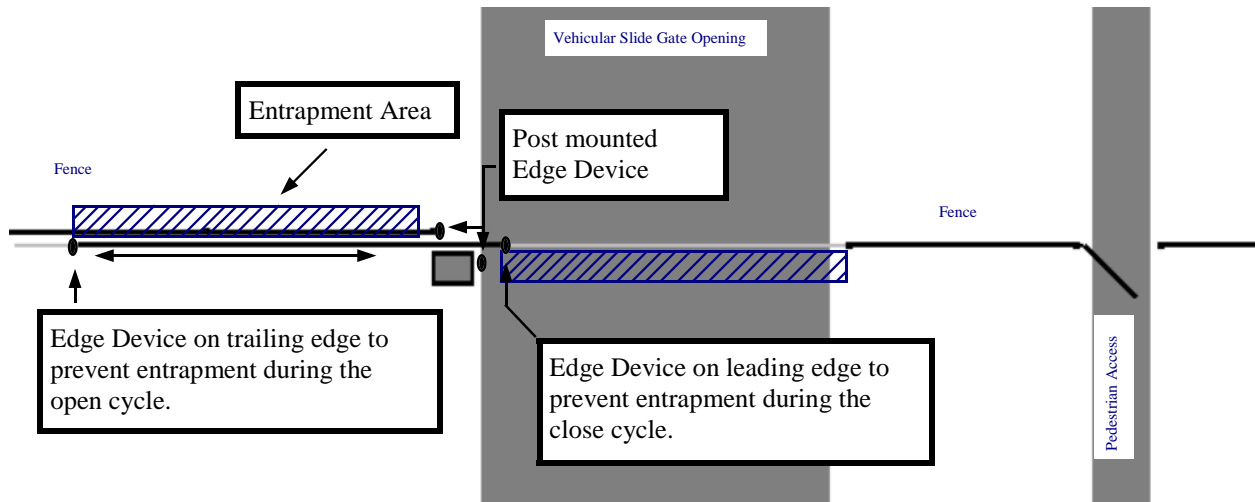
Non-Contact Sensors



The above diagram represents a typical slide gate installation. The entrapment areas shown should be protected with one or more photobeams.

Photobeams are considered a Secondary Entrapment Protection B1 (Photoelectric sensors or the equivalent) and can be used on UL Class I & II Operators.

Contact Sensors



The above diagram represents a typical slide gate installation. The entrapment areas shown should be protected with one or more Edge Devices.

Edge Devices are considered Secondary Entrapment Protection B2 and can be used on UL Class I & II Operators. Contact sensors should be placed at the leading edge, trailing edge, and post mounted both inside and outside of a vehicular horizontal slide gate.

Entrapment Protection Features

All Apollo operators use the inherent current sensitivity feature as the primary entrapment protection type.

Slide gate operators will also be able to use a Type B1 (photoelectric sensor or the equivalent), Type B2 (edge device or the equivalent), or Type D (an actuating device requiring continuous pressure to maintain opening or closing motion of the gate) as secondary entrapment protection.

For more information on the installation and set-up of secondary entrapment devices, see the individual product instructions.

833/834 Control Board Information

The Apollo 833/834 circuit board has additional features that the installer needs to familiarize himself/herself with.

According to UL 325 Safety Regulations, the 833/834 shall stop and initiate the reversal of the gate within a maximum of 2 seconds. The gate operator shall reverse the gate a minimum of 2 inches. The gate operator shall require a renewed, intended input (via wired or wireless control or integral control, a loop sensor, a card reader, or similar device) prior to enabling any automatic actuation devices such as a timer or any other maintained input that was present when the reversing function occurred.

The timer to close will become inactive whenever the gate senses an obstruction, allowing the user to control when the gate will restart. This is the primary shutdown feature of the 833/834.

The 833/834 will also stop the gate upon sensing a second sequential obstruction. The gate operator shall require a renewed, intended input (via an integral control or a wired remote intended to be in the line of sight of the gate) prior to enabling any automatic actuation devices such as a timer or any other maintained input that was present when the reversing function occurred.

This feature is the Secondary Shutdown. It becomes active when the operator senses two obstructions before it contacts a limit. The gate operator will require an input from a wired control that is to be placed in the line of sight of the gate. This wired control should be connected to the firebox inputs of the 833/834.