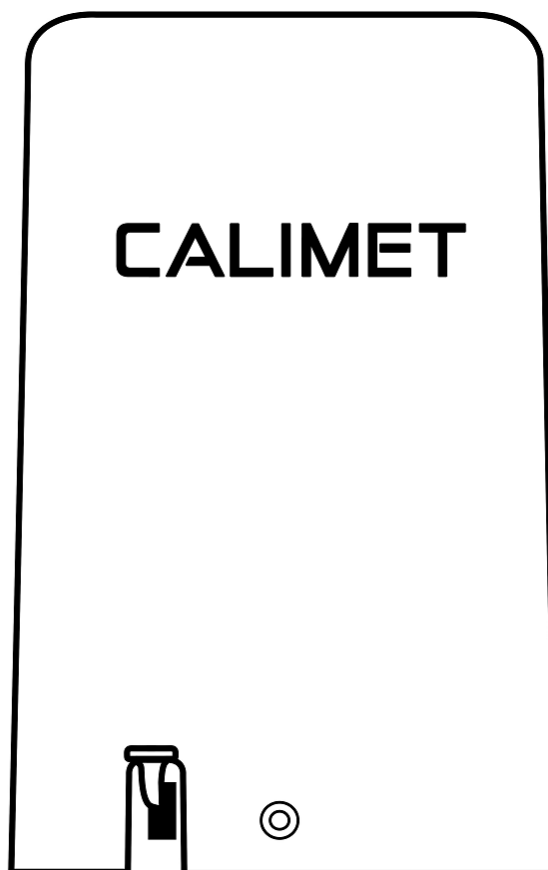


CALIMET

Access Control Systems

CM3

Sliding Gate Operator



Installation and Owner's Manual

GATE OPERATOR OVERVIEW

PRODUCT SPECS

| | |
|---------------------------------------|--|
| Main AC Supply | 110V AC \pm 10V, 7 Amps |
| System Operating Voltage | 24V DC |
| Maximum Output Current | 30 amp, Fuse: 24V DC 30 amp |
| Dimensions | 13 x 20 x 24" (L x W x H) |
| Gate Type | Slide |
| Application | Residential/Commercial |
| Maximum Gate Weight | 1800 lbs |
| Maximum Gate Length | 26 Feet |
| Operating Temperature | -20°F to 140°F |
| Maximum Gate Travel Speed | Approximately 1 foot/sec |
| Maximum Duty Cycle | Continuous |
| Inherent Entrapment Protection Device | Inherent Reverse Sensor System (Type A) |
| External Entrapment Protection Device | Photoelectric Sensor (Type B1) |
| Solar Ready | Model CM3-DCNB: No CM3-DCFP: Solar Ready |
| Emergency Release | Foot Pedal Manual Release |
| UL Classes | I, II, III, IV |
| Warranty | 5 Year Residential, 3 Year Commercial |

LANGUAGES

To download this user manual in a different language, visit calimetco.com/manuals

Para descargar este manual de usuario en otro idioma, visite calimetco.com/manuals

SAFETY

Carefully read and follow all safety precaution and warnings before attempting to install and use a gate operator, incorrect installation can lead to severe injury or death.

- Never let children operate the gate or play around the gate. Keep the remote control away from children.
- Always keep people and objects away from the gate. Cars, people, and other objects should never enter when the gate is closing.
- Verify that this operator is proper for the type, weight, and size of the gate.
- Make sure the gate has been properly installed and slides freely in both directions. Repair or replace all worn or damaged gate hardware prior to installation.
- Test gate operator monthly. The gate must reverse when it comes in contact with a solid object, or stop when an object activates the non-contact sensors. After adjusting the force or travel limit, re-test the gate operator. Failure to maintain the gate operator properly can increase the risk of injury or death.
- Use the emergency release only when the gate is not moving.
- Keep the gate properly maintained. Read the owner's manual on how to maintain your gate. Have a certified service technician make repairs or install gate operator hardware.
- The gate entrance should be used for vehicles only. Pedestrians should use a separate entrance.
- Keep these instructions.
- Gate operators can use a huge amount of force to open and close a gate. Therefore, safety features must be taken into consideration when installing and using a gate operator. Specific safety features include: photoelectric sensors, edge sensors (contact), moving gate warning signs, guards for exposed rollers, screen mesh, vertical posts.
- 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.
- A minimum of two (2) WARNING SIGNS shall be installed in the area of the gate. Each placard should be visible by persons located on the side of the gate on which the signs are installed.
- Access controls intended for users must be located at least 6 feet (1.8m) away from any moving part of the gate and where the user is prevented from reaching over, under, around, or through the gate to operate the controls.

Requirements for UL Compliant Installation

UL 325 standard is a safety standard for electric gate openers. If the gate operator installation requires a UL325 installation, follow these instructions. For full instructions, visit the UL325 website.

REQUIRED ENTRAPMENT PROTECTION

- A - Inherent (built-in) Entrapment protection System
- B1 - Non-contact sensor such as a photo-eye or equivalent
- B2 - Contact sensor such as edge sensor or equivalent
- C - Inherent adjustable clutch or pressure relief device
- D - Actuation device requiring continuous pressure to maintain gate motion
- E - Inherent Audio Alarm

Class I - Residential Locations & Class II - Commercial Locations / Multi-family housing

Slide Gates: Primary Device: A | Secondary Device (one required): B1, B2, D

Swing Gates: Primary Device: A, C | Secondary Device (one required) A, B1, B2, C, D

Class II - Commercial Locations / Multi-family housing

Slide Gates: Primary Device: A | Secondary Device (one required): B1, B2, D

Swing Gates: Primary Device: A, C | Secondary Device (one required) A, B1, B2, C, D

Class III - Industrial Locations / Limited Access Vehicular Gates

Slide Gates: Primary Device: A, B1, B2 | Secondary Device (one required): A, B1, B2, D, E

Swing Gates: Primary Device: A, B1, B2, C | Secondary Device (one required) A, B1, B2, D, E

Class IV- Guarded Industrial / Restricted Access Locations

Slide Gates: Primary Device: A, B1, B2, D | Secondary Device (one required): A, B1, B2, D, E

Swing Gates: Primary Device: A, B1, B2, C, D | Secondary Device (one required) A, B1, B2, C, D, E

NOTE: The same type of device shall not be utilized for both the primary and secondary entrapment protection means. Use of a single device to cover both the opening and closing directions is in accordance with the requirement; however, a single device is not required to cover both directions.

Additional UL Requirements

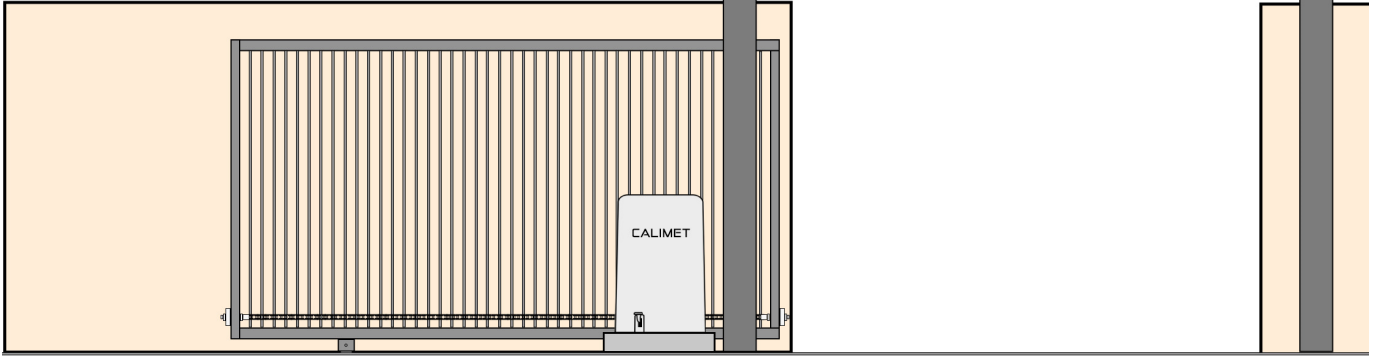
- A minimum of two (2) warning signs shall be installed, one on each side of the gate where easily visible.
- The gate must have sufficient room when opening and closing. Swinging gates should open inwards and not into public access areas. The gate must be properly installed and move freely in both directions.
- 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 exposed pinch points are eliminated or guarded, and 4) Guarding is supplied for exposed rollers, could be UL approved
- The gate must be properly installed and work freely in both directions prior to the installation of the gate operator. Do not over-tighten the operator clutch or pressure relief valve to compensate for a damaged gate.
- For gate operators utilizing Type d protection: 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 as required by 52.1.1.6 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 (at least six feet) 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.
- 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 in accordance with 30A.1.1: 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 obstruction. A wireless contact sensor shall function under the intended end-use conditions.

Step 1: Determine Location for the Gate Operator

Front Position

This is the standard position. We recommend installing the gate operator near the front.

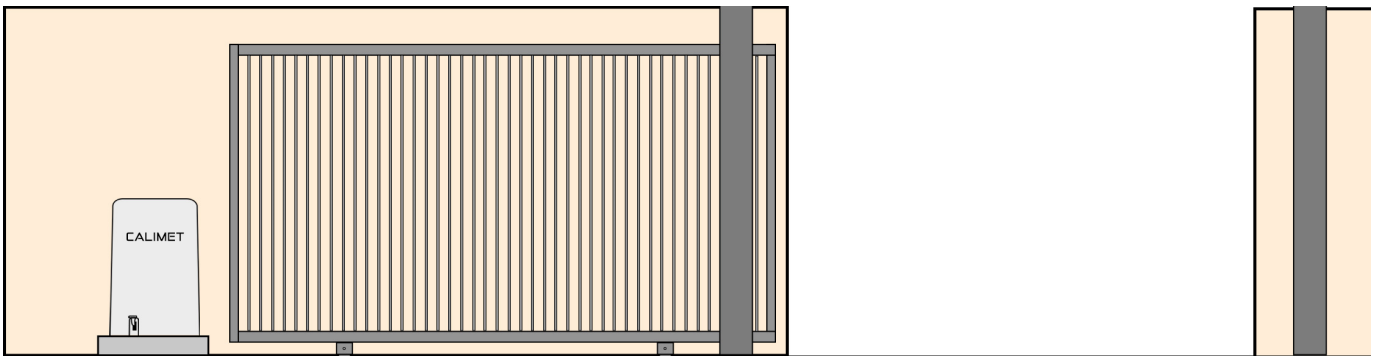
The gate operator should be installed near the front roller of the gate.



Rear Position

The gate operator should be installed near the back of the gate while it is open.

Note: An additional idler pulley is required in this position.



Install the operator INSIDE the property

Install the gate operator on the inside of the property and behind the gate. **DO NOT** install the operator on the outside of the gate where the public has access to it.

Step 2: Installing the Concrete Pad

It is recommended to install a concrete pad in order to maintain proper stability.

1. Lay out a concrete pad.

-Requires 24"(length) x 24"(width) x 28"(24" depth below ground, 4" above ground)

2. Install the electrical conduit.

3. Pour the concrete pad.

4. Use Wedge Anchors 1/2" x 3-1/2" to secure the gate operator to the concrete. Figure C

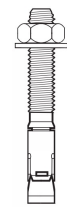
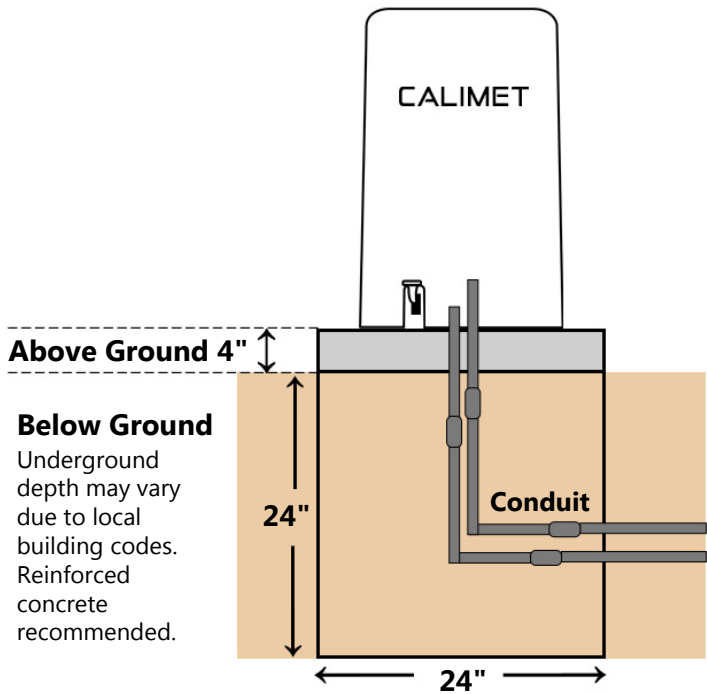
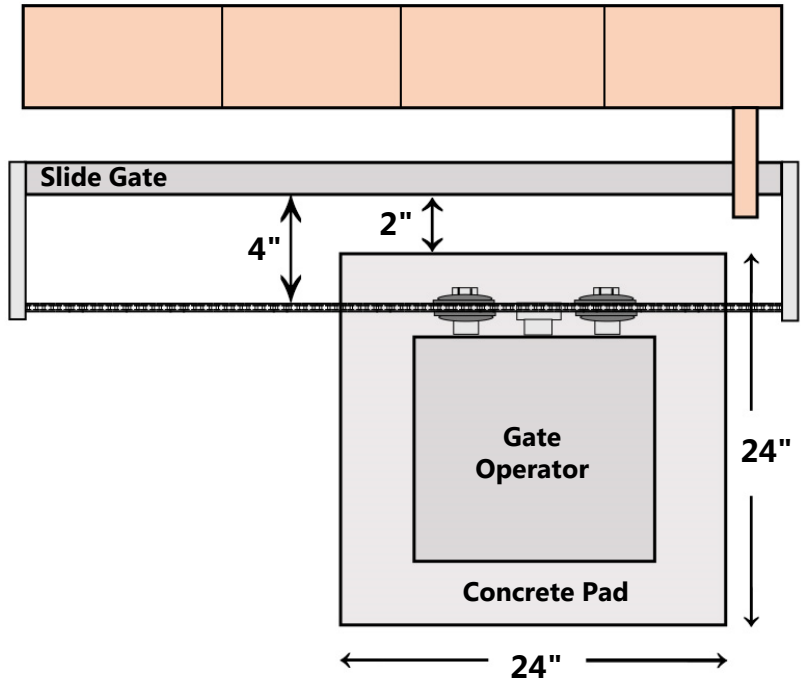


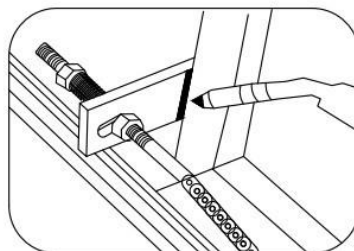
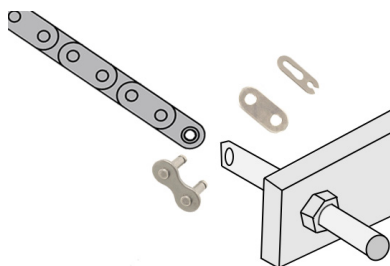
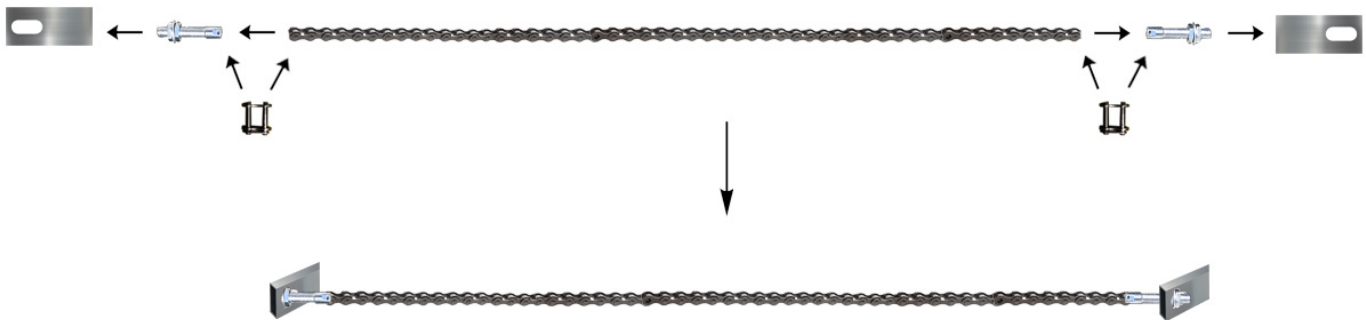
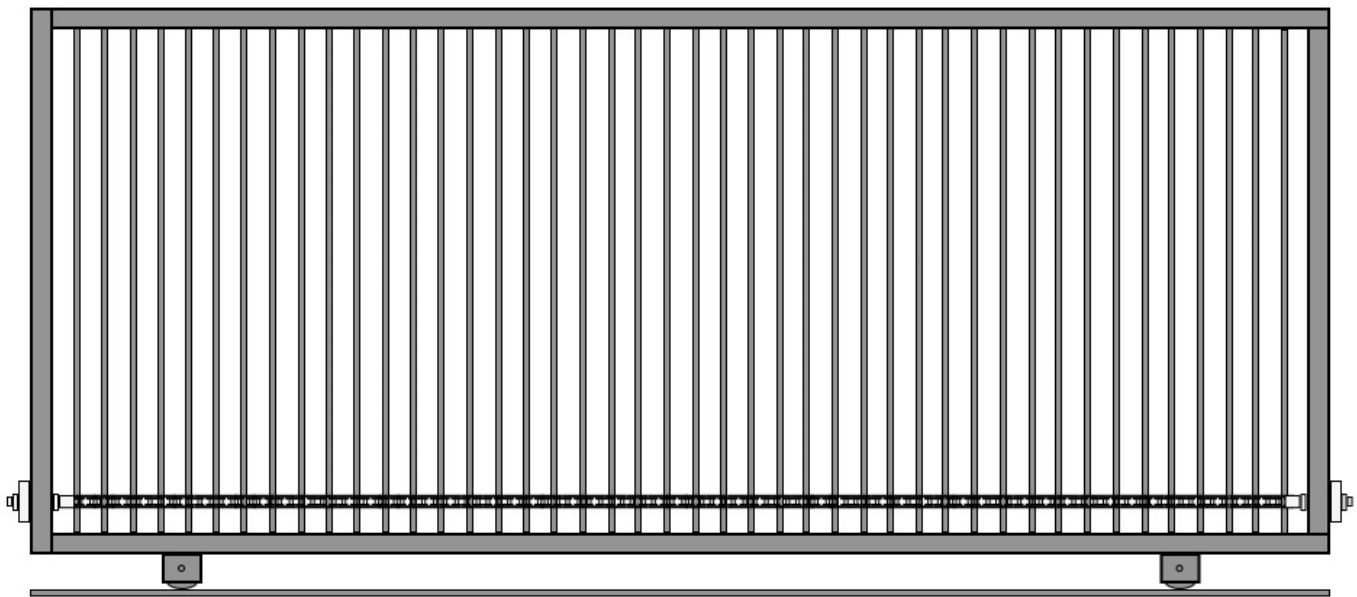
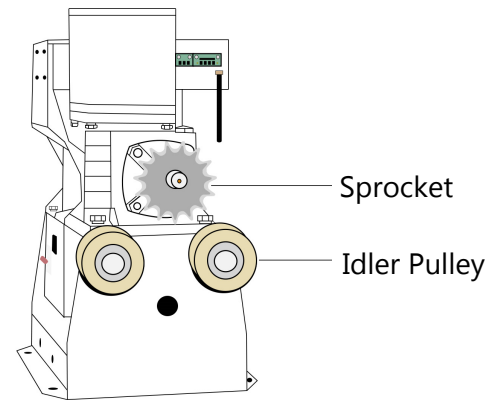
Figure C
Wedge Anchor
1/2" x 3 1/2"

⚠ CAUTION

Contact local underground utility locating companies before digging more than 12 inches deep to avoid damaging underground power, gas or other utility lines.

Step 3: Installing the Bracket and Chain

1. Open the gate and line up the front bracket so the chain is at the same level as the idler pulley and parallel to the ground. Weld the front bracket.
2. Close the gate and line up the rear bracket so the chain is at the same level as the idler pulley and parallel to the ground. Weld the rear bracket in this position.
3. Position the chain through the operator.
4. Connect the chain to the brackets using the chain bolt.



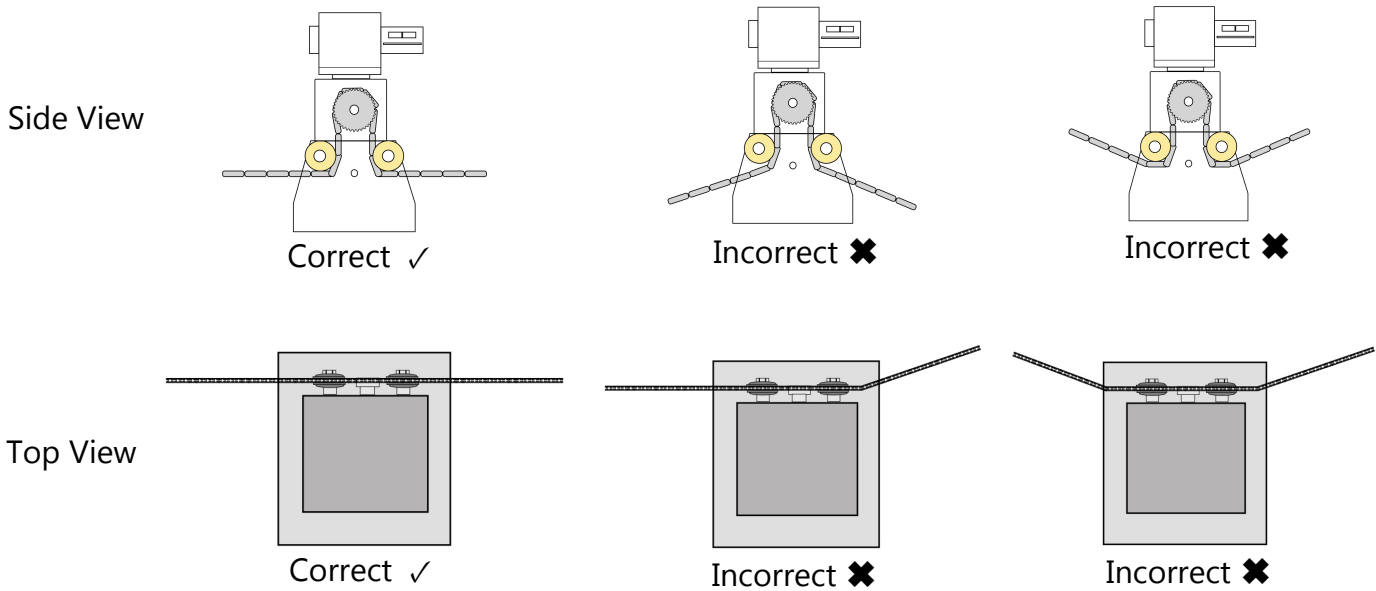
Weld the steel bracket to the gate

Chain Position

The chain should have no more than 1 inch (2.5 cm) of sag (bend) for every 10 feet (3m) of chain length.

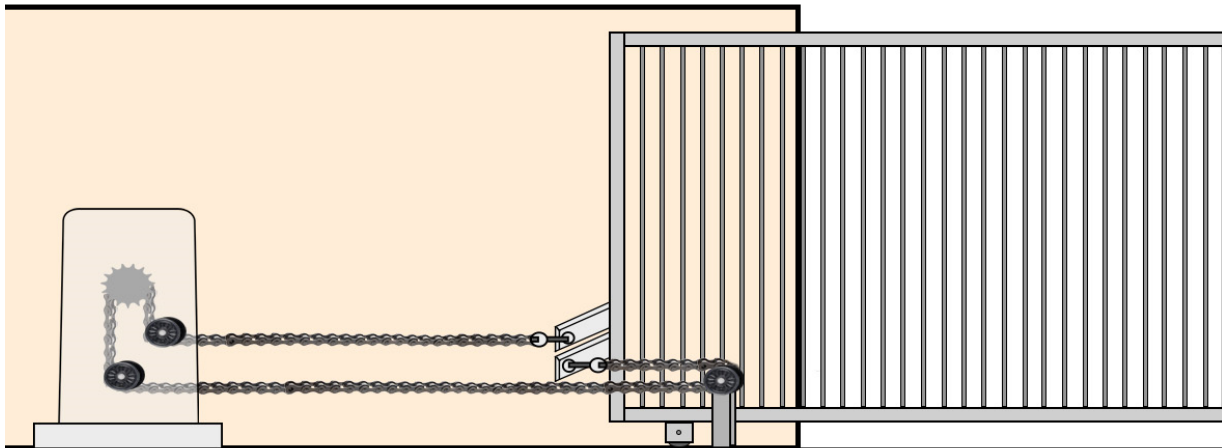
Chain should not be too tight or too loose. Chain should be straight and not bent at an angle. If the chain is too loose, remove links from the chain until you get your desired length.

Make sure the chain is straight and not bent. Incorrect installation can cause the gate operator to malfunction.



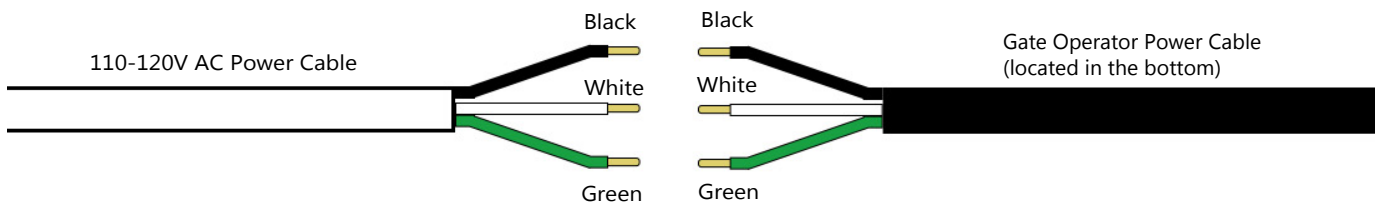
Rear Gate Installation

If installing from the rear position, follow these instructions. Move a idler pulley on the gate operator to the center. Route the chain and bracket like the image below. This requires an additional idler pulley to be installed near the gate.



Step 4: Connecting the Power

1. MUST use UL approved power wires, power wires MUST have a minimum capacity for 15 Amp current.
2. Turn off the AC power from the main power source circuit breaker.
3. Connect the green wire to the green wire (GROUND) wire using a wire nut (Figure A).
 - a. Alternative: connect the green wire to the earth ground rod and AC ground wire nut. Note: The earth ground rod can be grounded to the chassis.
4. Connect the white wire to the white wire (NEUTRAL) using a wire nut.
5. Connect the black wire to the black wire (HOT/LINE) using a wire nut.



6. All operators MUST be properly grounded in order to prevent an electrical charge. Must use a dedicated circuit for power supply.
7. Turn ON AC power from the main power source.
8. Turn the power switch on the gate operator to the ON position. Turn the battery switch to the ON position.

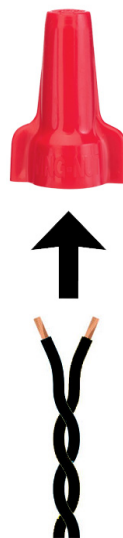
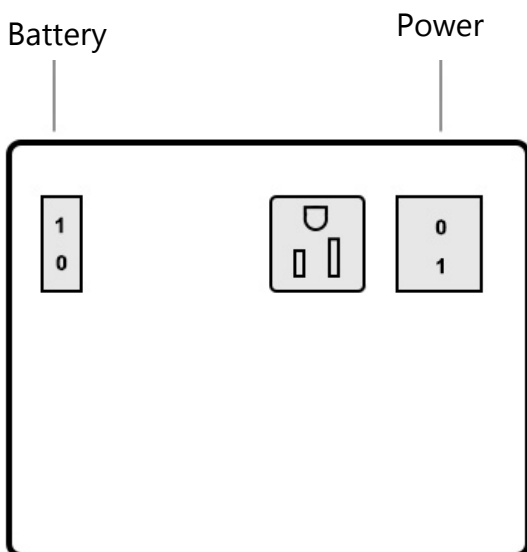


Figure A

Maximum Wire Length
 14 AWG - 1,150 ft
 12 AWG - 1,850 ft
 10 AWG - 2,950 ft

Step 5: Open Direction

Determine which direction your gate opens when viewed from the inside (exit side).

Dip Switch #6 (Figure 10) on the bottom of the gate operator circuit board controls the open direction.

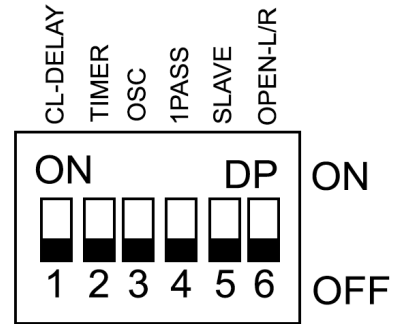


Figure 10

ON = opens to the right, **OFF** = opens to the left

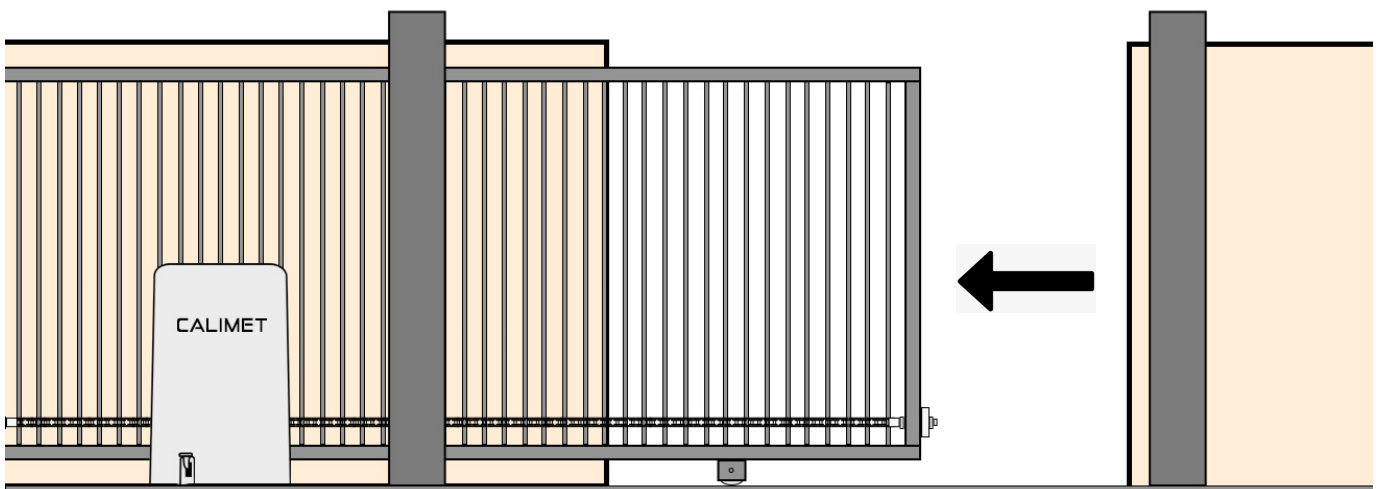


Figure A: Inside view, Gate opens to the left

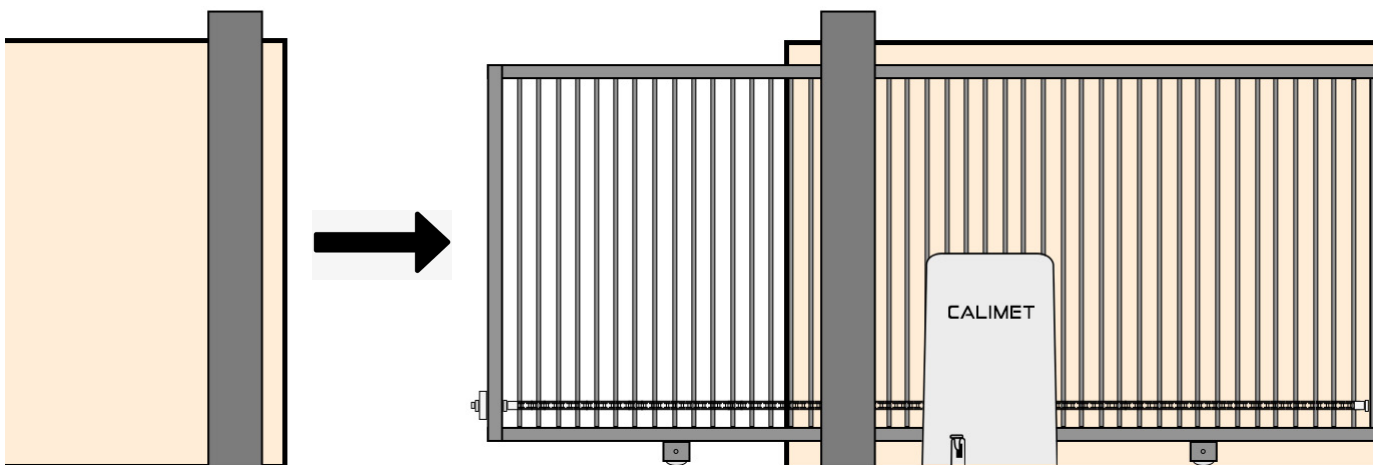
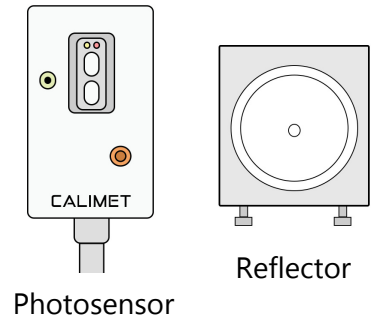


Figure B: Inside view, Gate opens to the right

Step 6: Installing the Photocell Sensor

The photocell sensor is a safety device that prevents the gate from hitting a car when a gate is closing. The photocell sensor emits an invisible infrared beam that detects when objects passes through.



1. Plug the photocell sensor cable to the back of the gate opener, behind the circuit board. Figure 11
2. Press the reset button on the gate operator control board.
3. Mount the photocell sensor on a post or wall INSIDE your gate, 21" from the ground.
4. Press the orange button on the photo eye to turn on the align.
5. Mount the reflector to the opposite side. Make sure the red beam hits inside the circle of the reflector. Figure 12

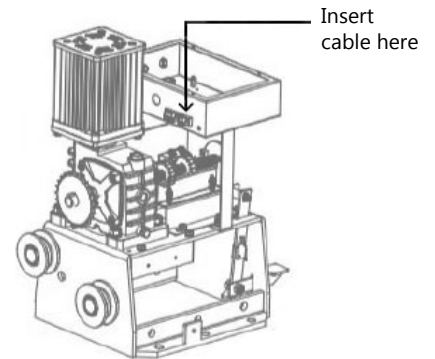


Figure 11

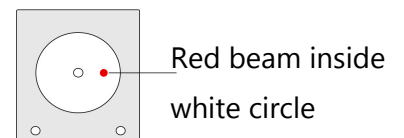
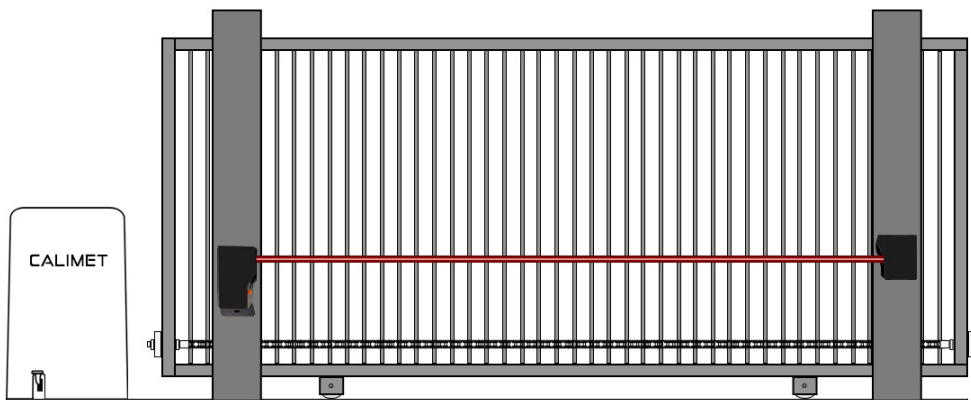
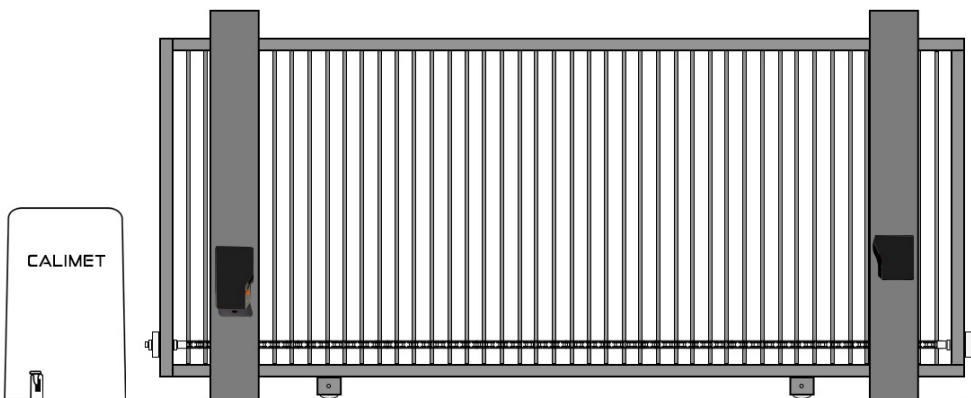


Figure 12

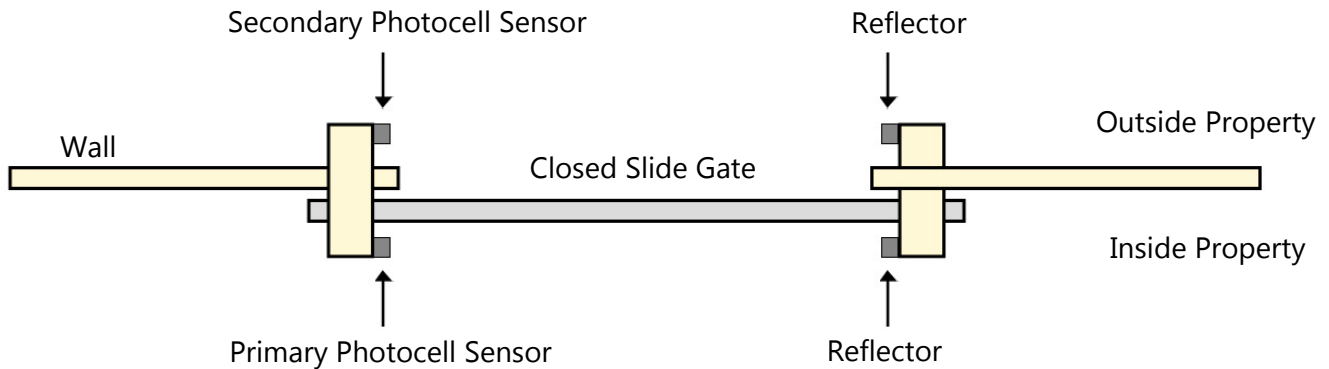
6. Press the orange button on the photo eye to turn off the infrared beam.



Installing a Secondary Photocell Sensor (Optional)

A second photocell sensor can be installed outside the gate to monitor the OPEN cycle.

If the cable isn't long enough, you will need to extend (splice) the wires by joining them with another 20-22 AWG wire for the secondary photocell sensor to be able to reach the gate operator input.



Secondary Photocell Sensor Wiring

Use the same green terminal block input as your primary photocell sensor. Each input can have more than 1 wire inserted.

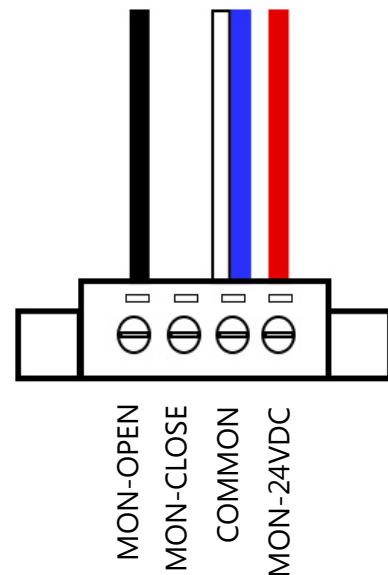
Different model photocell sensors contain 3 or 4 wires. Depending on how many your photocell sensor contains, follow the wiring diagram below.

4 Wires:

Red/Brown > MON_24VDC
 Blue and White > COMMON
 Black > MON_OPEN

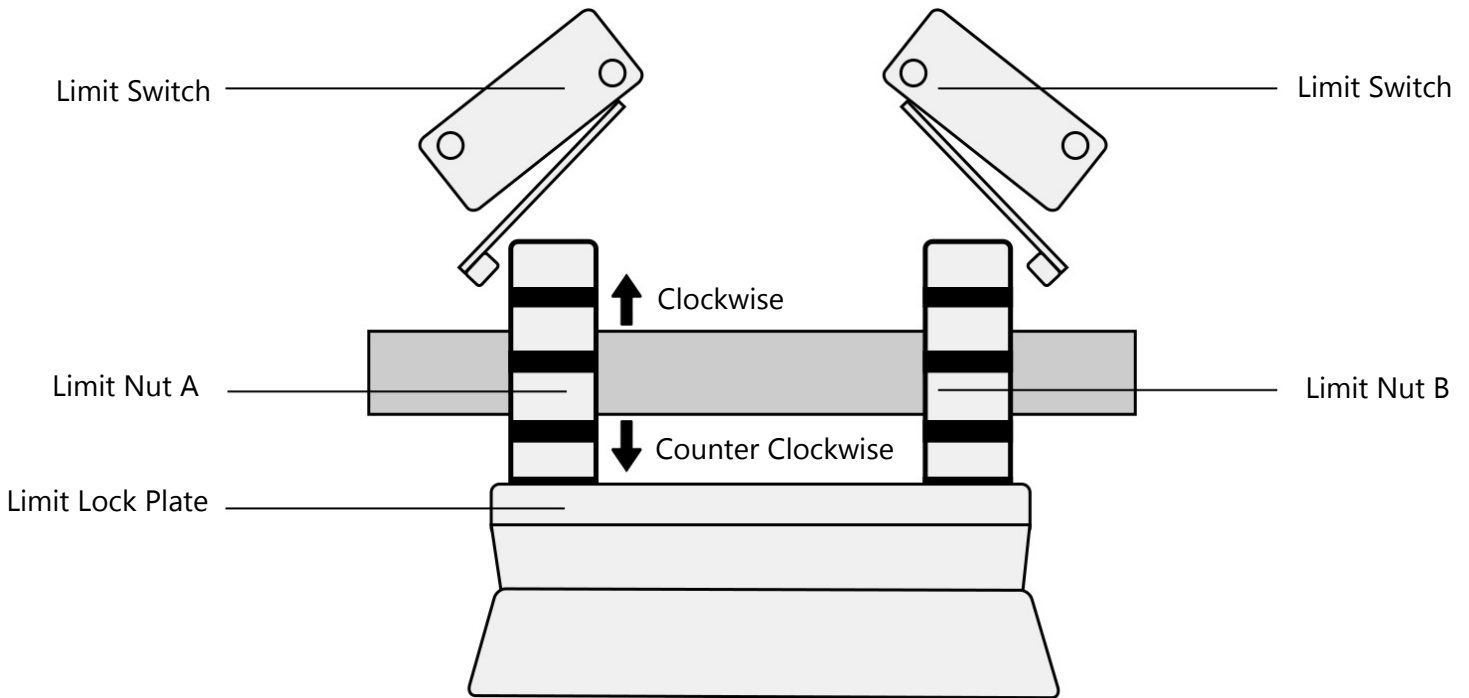
3 Wires:

Red/Brown > MON_24VDC
 Blue > COMMON
 Gray > MON_OPEN



Step 7: Gate Travel Limit

The limit switches control the position of where the gate stops when it opens and closes.



1. Push and hold the limit lock plate outwards.
2. Follow the instructions below based on which direction your gate opens:

If your gate opens from right to left:

Open Limit Position: To make your gate position open further, turn Limit Nut A counterclockwise. To make the gate position open less, turn Limit Nut A clockwise.

Close Limit Position: To make your gate close further, turn limit Nut B counterclockwise. To make the gate close less, turn Limit Nut B clockwise.

If your gate opens from left to Right:

Open Limit Position: To make your gate position open further, turn Limit Nut B counterclockwise. To make the gate position open less, turn Limit Nut B clockwise.

Close Limit Position: To make your gate close further, turn limit Nut A counterclockwise. To make the gate close less, turn Limit Nut A clockwise.

Use the OPEN, CLOSE, STOP buttons on the circuit board for efficient testing to get your desired open and close limit positions.

3. When finished, place the limit lock plate back into the grooves of both limit nuts.

Step 8: Warning Signs

Warning signs are to alert people that a possible hazard exists with moving gates, so that appropriate action can be taken to avoid injury.

Install the 2 supplied warning signs in locations where the signs are visible by people on both sides of the gate. They may be installed directly on the gate, or a nearby wall or post.

Use screws (not supplied) to install the warning signs.

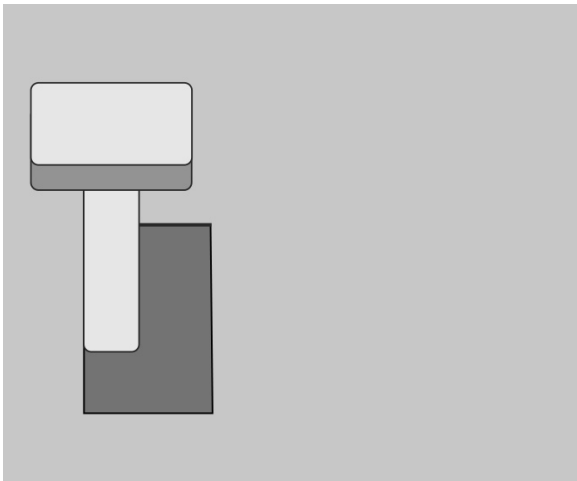
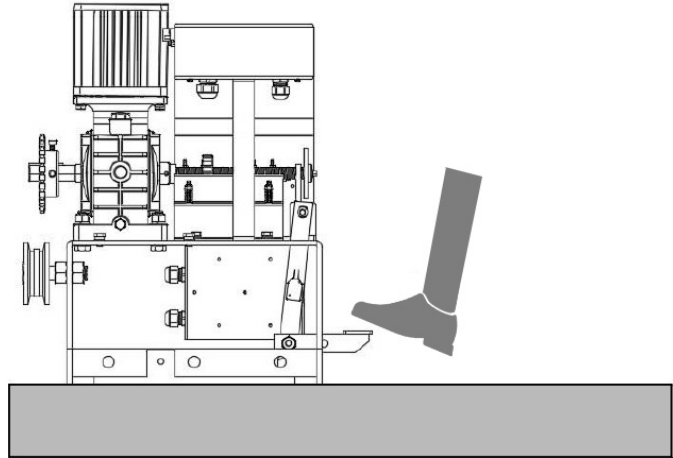


Finished! You are now finished installing your gate operator.

EMERGENCY RELEASE

The emergency release foot pedal allows you to open the gate manually, such as in cases during a power outage and there is no electricity.

1. Turn off power.
2. Step on the release pedal with your foot and move it down to the right until it is locked in. Figure C.
3. Hold and push gate to desired open direction.



Normal Position - the emergency release is not being used. The gate is locked in this position.

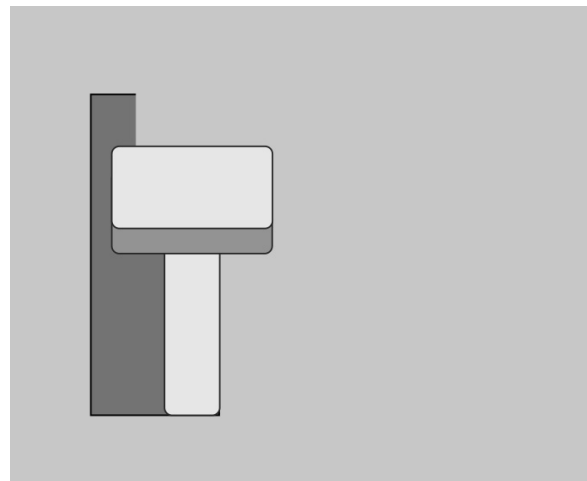


Figure C: Emergency Release - The emergency release is pressed down, allowing you to manually push open the gate.

Lock

A lock may be installed on the emergency foot pedal. There is a hole on the side of the pedal that allows a lock to be installed there to prevent unauthorized use of the foot pedal.

Connecting Additional Remote Controls

By default, the remote controls are already connected to the gate operator. You do not need to do any of the following steps unless you are adding more remote controls.

There are two ways to connect your remote control: Learn & Dip Switch.

Learn

This method can fit up to 60 different remote controls.

Connect using Learn On your gate operator circuit board, look for the study key (Page 15, #4). Press and hold the button on the remote control. Press and hold the study key until the flashing light turns solid, about 2 seconds. Done, the remote is now connected to the gate opener.

Removing all existing remote controls Press the STUDY key on the gate operator circuit board and hold for 8 seconds. Done. All remote controls are now removed.

Dip Switch

Only the CM9-509 red remote controls can be installed using the dip switch method.

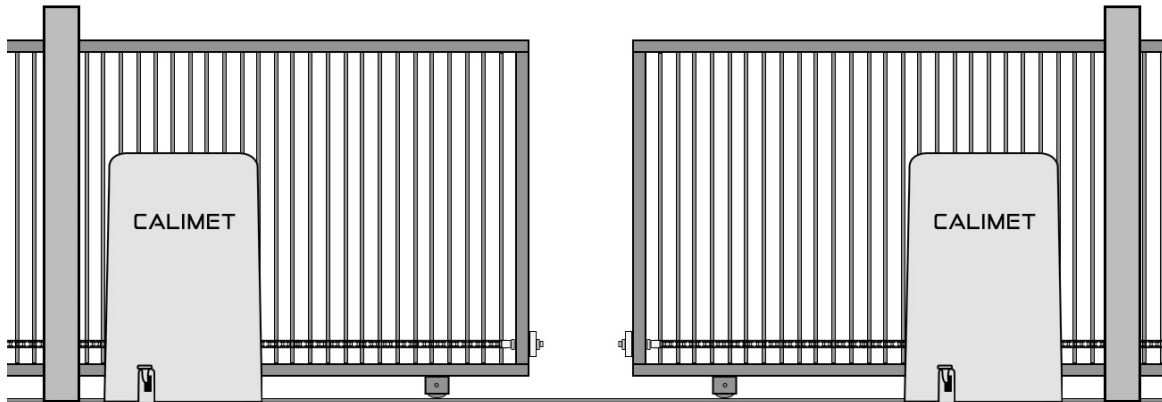
- A. On your circuit board find the Dip Switch setup (Page 15, #3), turn the OFF/ON switch to the ON position.
- B. Unscrew the back of the remote control to gain access to the control board. You should see 1-8 dip switches. Each switch has 3 positions: up, middle, bottom. Flip these 1-8 switches to any random position you'd like.
- C. On the gate opener control board, look for the same 1-8 dip switches (Page 15, #3), and set the same combination as you did on the remote.
- D. Finished.



Youtube

Youtube video that explains more on remote control programming:
<https://youtu.be/QfT6O4apTI8>

Dual Gate Setup



This setup is for dual slide gates. A single button press of the remote control can open both gates. This requires 2 gate operators. One gate operator is the "Master", and the other is the "Slave".

1. On the SLAVE gate operator circuit board, set dip switch #5 to ON (Figure 1).
2. Press the reset button on the SLAVE gate operator circuit board.
3. A 20 awg cable (or higher gauge) with two conductors is required.

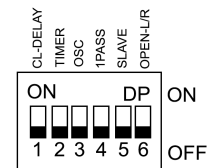


Figure 1

- A. Locate the DATA- and DATA+ green terminal on the bottom left of the circuit board. (Figure 2)
- B. Use a flathead screwdriver to release the 2 locks on the top of the green terminal.
- C. For conductor 1, connect the DATA+ on the MASTER circuit board to the DATA+ on the SLAVE circuit board.
- D. For conductor 2, connect the DATA- on the MASTER circuit board to the DATA- on the SLAVE circuit board. The M/S link LED light should now be lit on both circuit boards.
- E. Use the flathead screwdriver to close the two locks on the top of the green terminal.

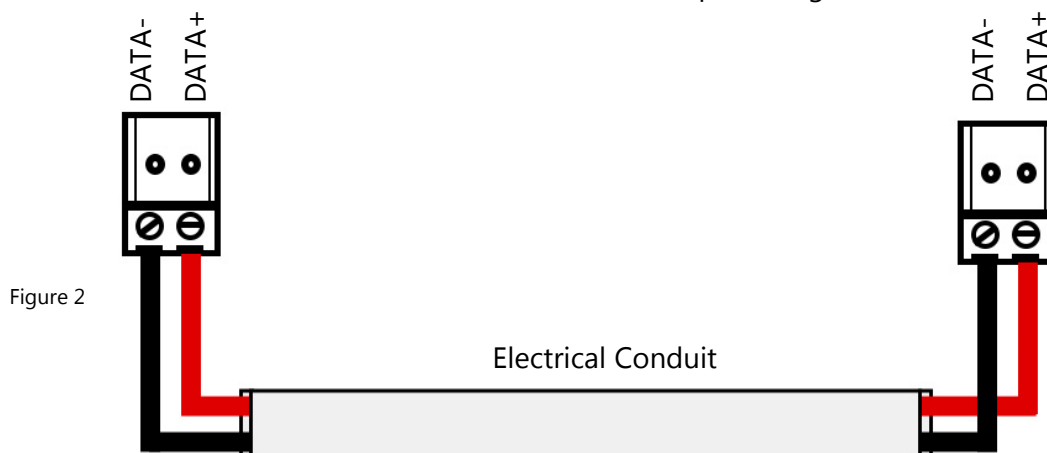


Figure 2

4. Place the cable underground in an electrical conduit. This conduit must separate from the main electricity Conduit.
5. Make sure all remote controls, photosensors, loop detectors, and any other accessories are installed on the MASTER gate operator, and not the SLAVE. The setup is now complete.

Exit Loops

An exit loop is an optional device that opens the gate automatically when a car approaches the gate.

A reverse loop is a loop that reverses the direction of the gate if a car is approaching or is parked close to the entrance of the gate. The reverse loop prevents the gate from closing in on the car.

If you purchased a Calimet Brand Loop Detector Plugin, it is installed in the brackets below (figure A). The loop wires are installed in the LOOPDETECTOR Relay. See the loop detector instruction manual for more installation instructions.

If using the Calimet Exit WAND, follow these wiring instructions: Black wire: 24V-COM, Red wire: 24-VDC, Blue wire: Exit Loop, Green wire: 24V-COM. See the exit wand instruction manual for more detailed installation instructions.

For other brand exit loops or exit wands, use the Exit Loop relay, and the 24-VDC and 24V-COM if using the gate operator to power the device.

For reverse loops located on the inside of the gate, use the PHANTOM relay. For reverse loops located on the outside of the gate, use the SAFETY relay.

The exit loop relays are located on the bottom right of the gate operator circuit board.

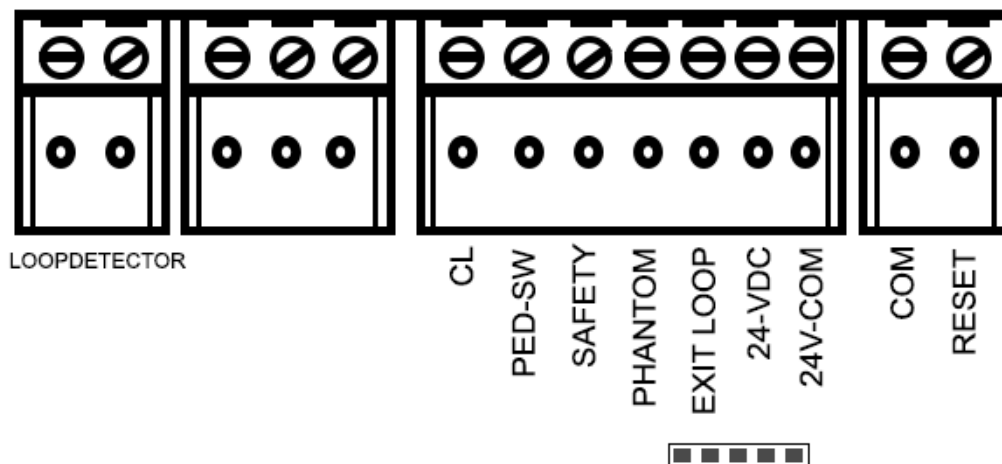


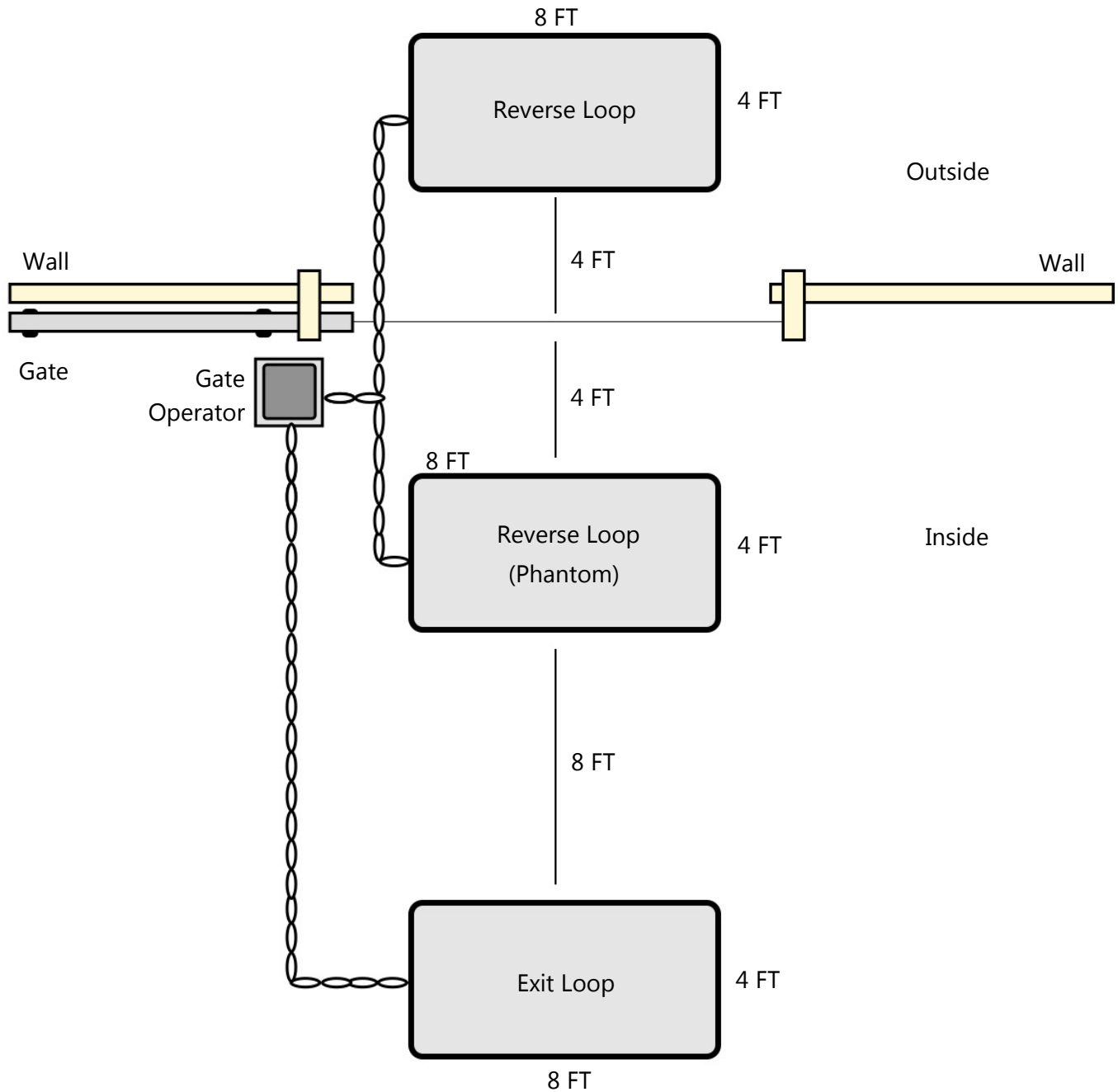
Figure A

Exit Loops

Loop wires are installed 1.5" underground by cutting the concrete with a circular saw. The typical size loop is 8x4'. Common loop wire size is 18 AWG. 3 layers of turns are required for a typical 4x8' loop. Place a plastic foam above the loop wire turns to hold it in place. The ends must be twisted back into the gate operator with a minimum of 6 twists per foot. The twisted ends must be placed inside a PVC conduit. Use sealant to close the ground once finished.

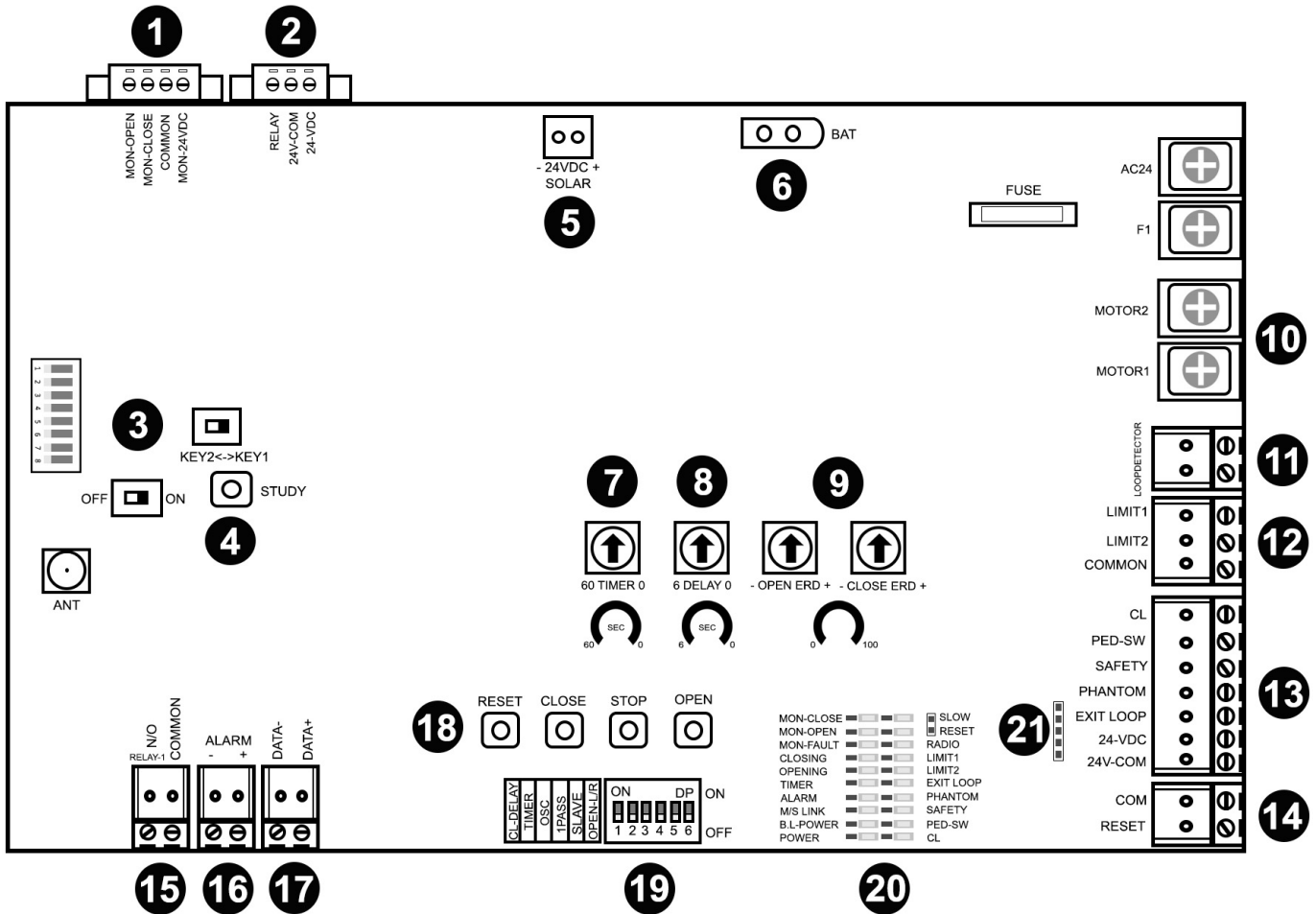
Loop to Gate Operator Wiring Diagram

- Reverse Loop (outside) → SAFETY
- Reverse Loop (Phantom) (inside) → PHANTOM
- Exit Loop → EXIT LOOP



Control Board Layout

This is a picture of the control board. Use this for reference.



- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Photocell Sensor Input 2. External Keypad Input 3. Remote Control Dip Switch Settings 4. Remote Control Learn (Study) Setup 5. Solar Panel Wire Input 6. Backup Battery Wire Input 7. Auto Close Timer Knob 8. Delay Timer Knob 9. Open and Close ERD Knob 10. Electric Lock Input | <ol style="list-style-type: none"> 11. Loop Wire for Loop Detectors 12. Open/Close Limit Relay 13. Loop Detector Wire Relay Inputs 14. Common Global Input 15. Strobe Light Relay 16. Alarm Relay 17. Master/Slave Dual Gate Relay Inputs 18. Open/Close/Stop/Reset Buttons 19. Dip Switches 20. Status Light Indicator 21. Calimet Loop Detector Plugin Input |
|--|---|

DIP Switch Features

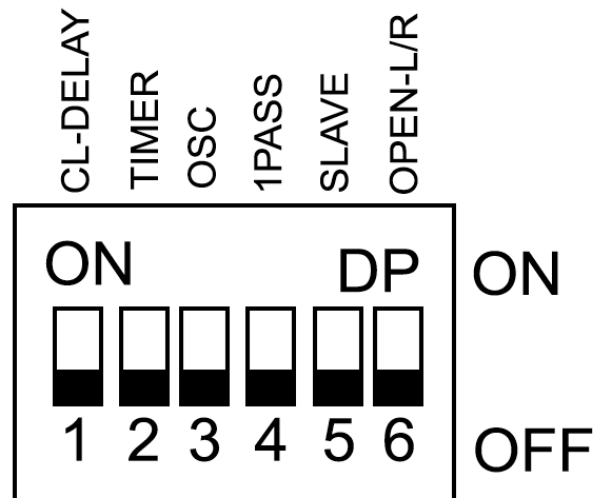


Figure 17 DIP switch

There are 6 dip switches located at the bottom of the circuit board. Each switch has a different feature.

1. CL-DELAY: Gate Closing delay, switch to ON position, turn timer to 1- 6 seconds.
- 2.TIMER: 1-60 Timer: Auto activated to close gate upon set time (1~ 60 seconds).
3. OSC: Remote control priority. Allow remote control to direct gate movement whenever gate is moving in any direction. Use first signal to stop gate, use second signal to move gate to opposite direction.
4. 1 PASS: Anti-tailgating system - When ON, after a vehicle has cleared the safety loop, the gate will start to close immediately. If a second vehicle crosses the loop while the gate is closing, the gate will stop. The second vehicle must get off the loop before the gate closes completely.
5. SLAVE: Secondary operator activation
6. OPEN L/R: Choose gate open direction Left or Right.

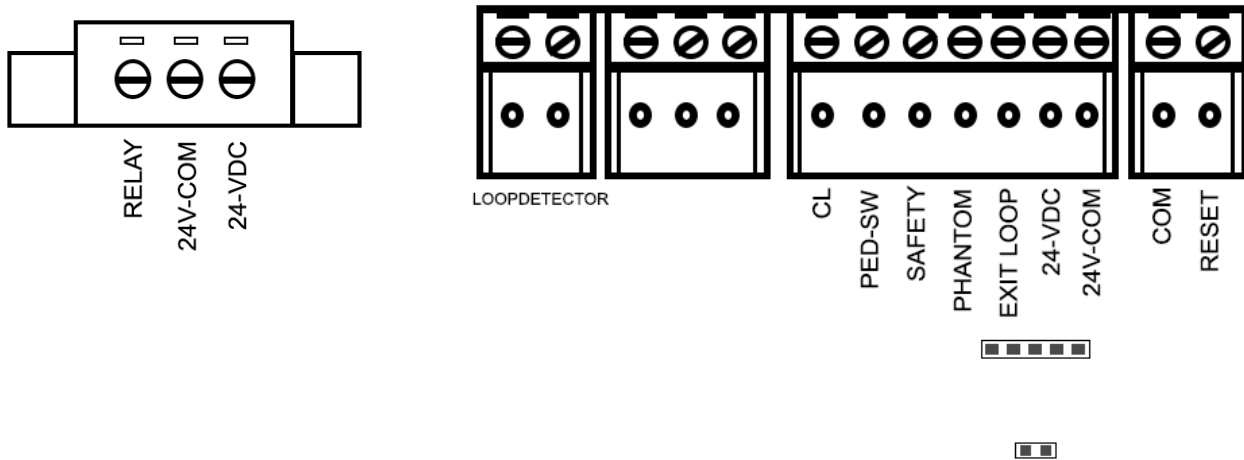
General Wiring Inputs

Most accessories can be wired into the relay input.

Use Exit loop for Normal Open (N/O).

Use the CL Input for Normal Close (N/C).

If using the gate operator to power the accessory, use 24-VDC and the 24V-COM input.



Electric Lock

Use Motor2 and Motor1.

Solenoid Lock

Most accessories can be wired into the relay input.

Use Exit loop for Normal Open (N/O).

Use the 24V-Com Input for Normal Close (N/C).

MagLock

A separate transformer is required for a maglock.

Use Exit loop for Normal Open (N/O) and CL for Normal Close (N/C).

Push To Exit Button

Most accessories can be wired into the relay input.

Use Exit loop for Normal Open (N/O).

Use the CL Input for Normal Close (N/C).

If using the gate operator to power the accessory, use 24-VDC and the 24V-COM input.

Fire Access Box

Use 14-20 gauge awg wire (not included) and splice (join) with the white and black wires.

White wire → 24V-COM

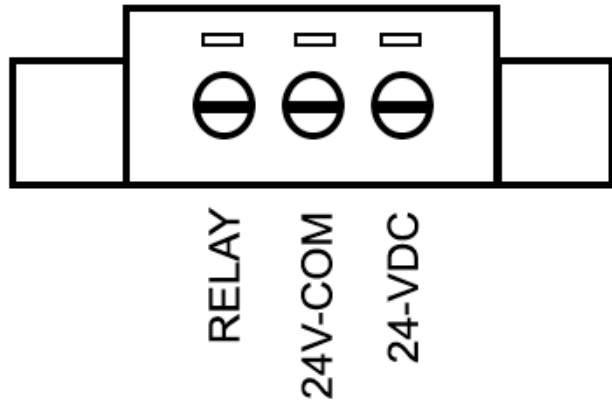
Black wire → EXIT LOOP

Safety Edge / Edge Sensor

The Calimet CM9-934 Safety Edge is wireless and requires no wiring.

For other brand safety edges, typically, the MON-CLOSE or MON-OPEN input is used depending on if you are monitoring the opening or closing cycle., but generally safety edges are used to monitor the closing cycle as a third form of entrapment protection. Use COMMON and MON-24VDC if the safety edge requires electricity.

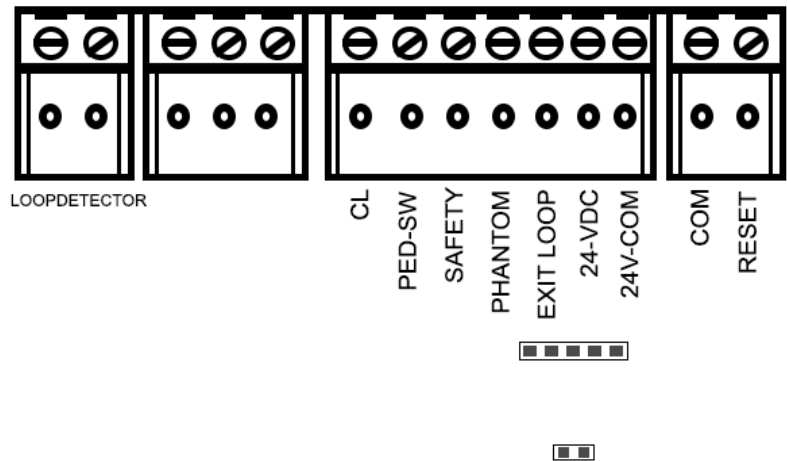
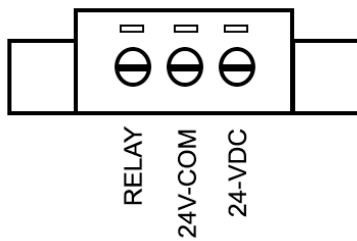
Keypad Installation



For the Calimet CM9-535 Wireless keypad, follow the separate instruction manual for installation details.

For wired and non-calimet brand keypads, use the RELAY, 24V-COM, and 24-VDC Inputs on the top left of the circuit board. 24V-COM and 24-VDC provide electricity to the keypad. This requires a 20 AWG wire.

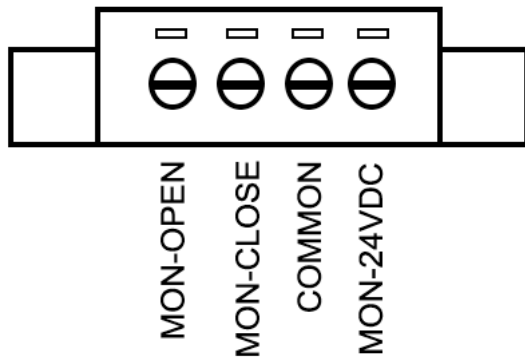
Access Controllers/Intercoms



For access controllers or intercoms with a single relay, use the input on the top left of the circuit board with the RELAY input. Use the 24V-COM and 24-VDC if the access controller/intercom requires electricity.

Alternatively, if the intercom/Access Controller has a dedicated Normal Open/Normal Close input, use the EXIT LOOP input on the bottom left of the circuit board for Normal Open, and the CL input for Normal Close. The 24-VDC and the 24V-COM can supply electricity to the intercom/Access Controller.

Non-Calimet Brand Photocell Sensor Installation



On your gate operator circuit board, top-left side, there are input relays for photocell sensors.

Use MON-CLOSE to monitor the gate when closing. Use COMMON and MON-24VDC for electrical power.

Note: check the photocell sensor connection if you hear a long beep from the circuit board the when the motor is ON.

Receiver Installation

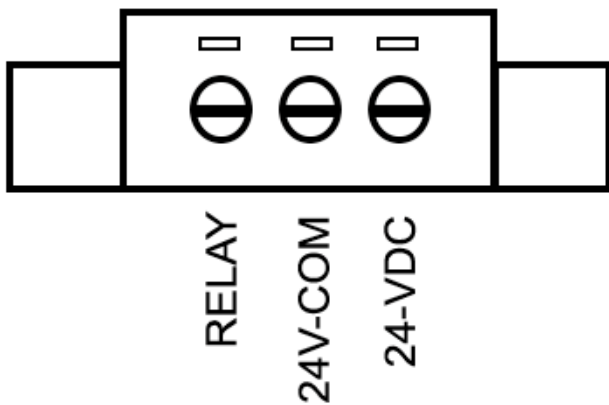


Figure 19

Relays for external receivers are installed on the top-left side of the circuit board.

Battery Installation

Batteries are added to the battery compartment on the bottom of the gate operator. There is a separate battery circuit board that connects to the BAT input on the main gate operator circuit board.

Batteries degrade over time depending on usage. Battery performance may decrease in extremely cold temperatures - performance can be increased by adding insulation to the inside of the gate operator battery compartment or adding a heater. The batteries should be replaced every 3-4 years.

Gate Operator Model Battery Compatibility:

- CM3-DCNB - Not included, will require a battery and battery circuit board upgrade
- CM3-DCFB - Included, already installed

Solar Panel Installation

Solar Panels can be wired into the 24VDC SOLAR input on the gate operator circuit board.

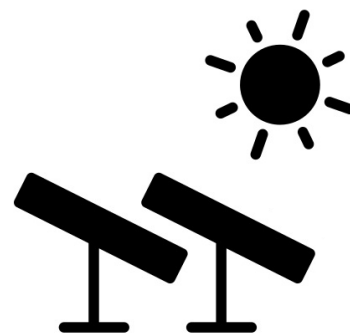
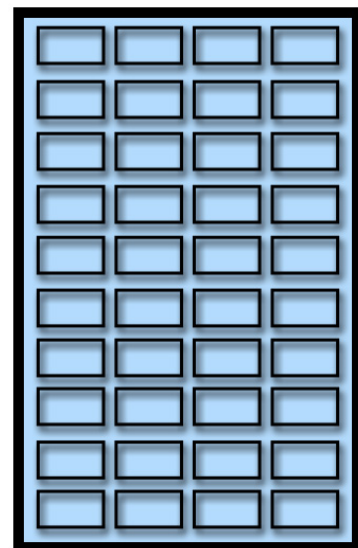
Multiple solar panels may be wired together to charge the battery faster. We recommend two 24VDC solar panels for optimal charging.

Place solar panel at a 45 degree angle, facing SOUTH.
Note: optimal angle and orientation may vary based on your location and season.

Make sure the solar panel can receive direct sunlight. If a tree, or other forms of shade blocks the solar panel, move the solar panel to a different location.

Gate Operator Model Solar Compatibility:

- CM3-DCNB - not solar ready, will require a battery and battery circuit board upgrade
- CM3-DCFB - solar ready



Force Adjustment - ERD (Electronic Reversing Device)

The Electronic Reversing Device (ERD) is a feature on the circuit board which detects when the gates comes in contact with an obstruction, causing the gate to reverse. These are the 2 blue knobs on the circuit board.

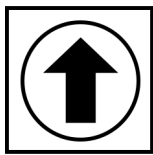
The open and close knobs determine the amount of force required to reverse the gate (figure 21). We generally recommend leaving the knob at 50. You may adjust the positions based on your needs.

If the gate reverses without touching an obstruction, the ERD is set too low. If the gate does not reverse when it hits an obstruction, the ERD is set too high.

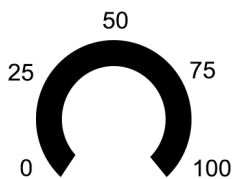
Test ERD every 6 months.



- OPEN ERD +



- CLOSE ERD +



Normal = 50 is the default ERD force and is suitable for most gates

Turn Left/Counter-Clockwise = Less force to stop the gate.
Recommended for lighter/small sized gates.

Turn Right/Clockwise = More Force required to stop the gate.
Recommended for heavier/long gates.

Obstruction Test

1. Place a light object (ex. chair or trash can) between the open gate and the post.
 2. Close the gate. The gate should stop and reverse when it touches the object. If the gate does not reverse when it touches the object, reduce the force ERD by turning the knob counter clockwise.
 3. Do the same test again for the open direction.
 4. Test the gate operator after any adjustments are made.
-

WARNING

- Never increase force beyond the minimum amount required to move the gate. Too much force may seriously injure or kill people.
- Never use force adjustments to compensate for a improperly installed, improperly maintained, or a damaged gate. The gate must normally move freely with no obstructions.
- The ERD must be tested after making any changes. The gate must reverse when it comes in contact with an object.

Remote Control & Timer Delay Closing

Remote Control Delay Closing

Activate the remote control delay when closing.

1. On your gate operator circuit board in the bottom, turn Dip Switch #1 to the ON position. Figure 22
2. On the gate operator circuit board, adjust the delay by turning the DELAY knob from 0-6 seconds. Figure 23

Auto Close

This allows your gate to automatically close after opening it.

1. On your gate operator circuit board in the bottom, turn Dip Switch #2 to the ON position. Figure 22
2. On the gate operator circuit board, adjust the time by turning the TIMER knob from 1-60 seconds. Figure 23

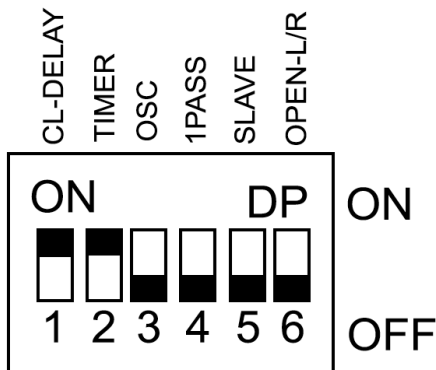


Figure 22

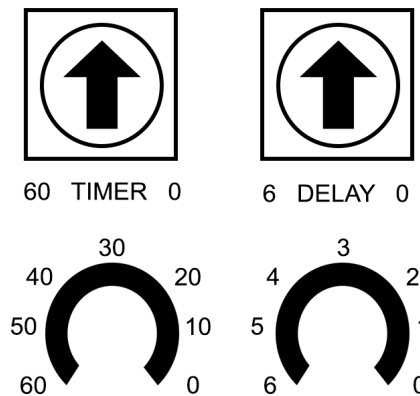


Figure 23

Control Board Light Status Chart

| No. | Name | Status/Light |
|-----|------------------|--|
| 1 | CL | ON when CLOSE input is activated |
| 2 | PED-SW | ON when STAND BY, OFF when the STOP input is activated or foot pedeal is pressed down. |
| 3 | SAFETY | ON when Stand By, OFF when SAFETY LOOP input is activated |
| 4 | PHANTOM | ON when incoming signal is detected |
| 5 | EXIT LOOP | ON when EXIT LOOP input is activated |
| 6 | LIMIT1 | ON when limit nut is activating the limit 1 switch |
| 7 | LIMIT2 | ON when limit nut is activating the limit 2 switch |
| 8 | RADIO | ON when the RADIO input is activated |
| 9 | RESET | ON when circuit board is RESET |
| 10 | POWER | ON when STAND BY, blinks when motor is on |
| 11 | B.L-POWER | ON when back up battery is fully charged, blinks when low battery |
| 12 | M/S LINK | Blinks when master/slave communication is active |
| 13 | TIMER | Blinks when TIMER is counting down to close automatically |
| 14 | OPENING | ON when gate is in the open cycle |
| 15 | CLOSING | ON when gate is in the close cycle |
| 16 | MON-FAULT | ON when photo eye has malfunctioned |
| 17 | MON-OPEN | ON when photo eye is functioning during open cycle |
| 18 | MON-CLOSE | ON when photo eye is functioning during close cycle |

Troubleshooting

| Problem | Possible Causes | Solution |
|---|--|--|
| Gate operator has no power | <ul style="list-style-type: none"> A. Electrical Outage B. Circuit Breaker Tripped C. If using solar panel only (no AC electrical power), battery level may be depleted D. If using solar panel only, battery may need to be replaced E. Conduit and/or power cables are damaged or have corrosion F. Fuse Blown due to electrical overload or faulty wiring G. Circuit Board Malfunction | <ul style="list-style-type: none"> A. Wait until the power comes back on B. Reset Circuit Breaker C. Recharge the battery by not using the gate operator for 2-3 days, or connect a power cable to the side of the gate operator to recharge the battery. D. Replace battery. E. Replace wiring. F. Replace fuse G. Replace circuit board. |
| Gate operator does not open | <ul style="list-style-type: none"> A. No Power B. Gate is damaged, misaligned, or obstructed. C. Foot pedal is set to manual release D. Circuit board Malfunction | <ul style="list-style-type: none"> A. Check to make sure electricity is working. If using solar only, give the gate operator 2-3 days to recharge the battery. B. Check for any damages, obstruction, or misalignment on the gate. C. Step on the foot pedal and move it to the upper-left. D. Replace circuit board |
| Gate operator can open but does not close | <ul style="list-style-type: none"> A. Photocell Sensor is not aligned B. Foot pedal is set top manual release C. Open direction is reversed | <ul style="list-style-type: none"> A. Align photosensor. Press the reset button on the gate operator circuit board. Press the orange button to turn on the alignment laser. Align the photocell sensor so the red laser hits inside the white circle on the reflector the other side. Press the orange button again to turn off the alignment laser. B. Step on the foot pedal and move it to the upper-left. C. Dip Switch #6: OPEN-L/R on the circuit board - set to the opposite position. |

Troubleshooting

| Problem | Possible Causes | Solution |
|---------------------------------|--|--|
| Gate does not close all the way | <ul style="list-style-type: none"> A. Limit positions not adjusted properly B. Chain too tight C. Limit nuts damaged | <ul style="list-style-type: none"> A. Readjust limit position by turning the limit nuts B. Loosen chain by turning the chain bolt C. Replace limit nuts |
| Gate operator opens on its own | <ul style="list-style-type: none"> A. Radio Frequency Interference from another nearby gate operator or garage door operator B. Loop Detector may be too sensitive to environmental vibrations | <ul style="list-style-type: none"> A. Erase all remote controls on the system by holding the study button on the circuit board for 8 seconds. Manually re-add the remote controls back in by pressing the remote control and the study button until the flashing light turns solid (about 2 seconds) B. Downgrade sensitivity on the loop detector |
| Gate reverses when traveling | <ul style="list-style-type: none"> A. Not enough force B. Low Battery | <ul style="list-style-type: none"> A. Increase force by turning the third (open) and fourth (close) blue knob labeled "ERD" slightly clockwise. B. Charge battery using solar panel or 110VAC electricity |

Maintenance

| Description | Task | Check every: |
|------------------------|---|--------------|
| Gate | Inspect guide rollers, fasteners, v-track, posts, and other for wear, damage or misalignment. Lubricate if necessary. There should be no squeaking. | 1 month |
| Photocell Sensor check | Place your hand over the photocell sensor infrared beam when the gate is closing. The gate must stop and reverse. | 1 month |
| Warning Signs | Two signs should be installed. One is visible to people on the outside of the gate, and one is visible to people on the inside of the gate. | 1 month |
| Emergency Release | Turn off power and step down on the foot pedal to move it to the right. Manually push the gate to ensure that it can fully open and close. | 2 months |
| Free Movement Check | Step on foot pedal and move it to the right. Manually push the gate with your hands. Gate should move freely and easily with little to no resistance. | 2 month |
| Chain | Check to make sure chain is lubricated. Check to make sure it's not too tight, and make sure there isn't excessive slack. Check for wear or damage. | 6 months |
| ERD Force | Gate should reverse when it comes in contact with object. Test both open and close ERD force. | 6 months |
| Accessories | Check all gate operator accessories including remotes, loop detectors, keypad, etc. to make sure they are all operating properly. | 1 year |
| Electrical | Check wiring connections to make sure none are loose or damaged | 1 year |
| Chassis Sleeve Anchors | Check to make sure the anchors are not loose or damaged. | 1 year |
| Battery | Replace battery | 3 years |

CALIMET

9949 Hayward Way South El Monte, CA 91733

Tel: 626-452-9009 Alternate: 626-482-3066 Fax: 626-452-9010

Email: info@calimetco.com

www.calimetco.com

