

GATE ARMS+

LED SAFETY LIGHT SYSTEMS



LED BARRIER ARMS

INSTALLATION MANUAL

www.GateArms.com



IMPORTANT SAFETY INFORMATION

For safe installation and trouble-free operation, YOU MUST:

- Carefully read this installation manual before beginning.
 - Always use appropriate PPE during installation including safety glasses, gloves and hearing protection as needed.
 - Follow each installation step exactly as shown.
 - Observe all local, state, and national electrical codes.
 - Pay close attention to all danger, warning, and caution notices given in this manual.
 - Always use the parts supplied by the manufacturer or other prescribed parts unless directed otherwise.
- NOTE:** Use of non-prescribed parts can cause serious accidents such as the unit to fall, electric shock, or fire.

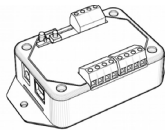
USE CAUTION WHEN WIRING: ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY QUALIFIED & EXPERIENCED INSTALLERS SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and connections are completed or reconnected and checked.
- Highly dangerous electrical voltages and moving parts are used in the operator. Carefully refer to the wiring diagram and these instructions when performing any wiring.
- Ground the unit following local electrical codes.
- Connect all wiring tightly. Loose connections can become disconnected due to vibrations from the equipment.
- Install as directed. GateArms+ LED Barrier Arms and LED Controllers are intended for use as described herein and by the product literature available for download at www.GateArms.com.
- Any use of non-approved components, alteration, or modification of GateArms+ branded products beyond what is described in the available product literature will void all warranties.

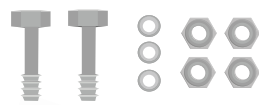
KIT COMPONENTS

- White Barrier Arm (8ft-17ft) w/pre-installed LED Strip(s) [ARM##LED]
- 4ft LED Harness Cable [HARNESS4]
- Counterweight [CTRW] ARM17LMKIT only + ARM17LMLEDCTR
- Parts Kit [INSTKITGATE-24V] containing:
 - (1) Gate LED Controller [CONTROL-GATE]
 - (1) 24VDC Power Supply [PS24VIN-2.5A]
 - (2) 5/16" x 3 1/2" Stainless-Steel Bolts
 - (4) 5/16" Black Nylon Nuts (2 extra)
 - (3) 5/16" Stainless-Steel Washers (1 extra)
 - (1) Cable Strain Relief Fixture
 - (1) 4ft Signal Cable (4-wire 18AWG)
 - (1) Installation Manual

LED CONTROLLER



SIGNAL CABLE



POWER SUPPLY



LED HARNESS CABLE

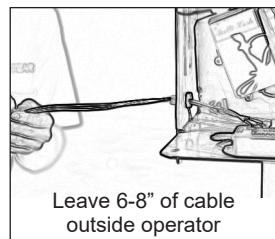
RECOMMENDED TOOLS & SUPPLIES (not included)

- 1/2" Open End Wrench
- 1/2" Wrench or Socket
- 9/16" Wrench or Socket (for Counterweight)
- 5/8" Drill Bit (Metal Drilling for Dual LED)
- 1/2" Drill Bit (Metal Drilling for Single LED)
- Wire Stripper
- Power Drill
- Small Flat Screwdriver
- Voltmeter (AC & DC)
- Rat-tail file (optional)
- Zip Ties

7. INSTALL CABLE RELIEF FITTING

Remove outer (tension) nut from cable relief fitting, then insert fitting into the new hole. Tighten the back nut onto the fitting inside the operator housing. This nut holds the fitting to the operator wall.

8. PULL LED HARNESS CABLE(S) INTO OPERATOR



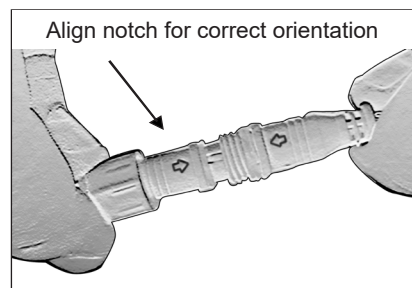
Slide the raw wire end of the LED Harness Cable through the cable relief tension nut entering through the narrowest side.

If Dual LED, slide both cables through the same fitting. Leave 6-8" of cable outside of the operator. It is essential that the cable always has some slack in it, regardless of the arm position.

9. CONNECT LED STRIP TO LED HARNESS CABLE

Plug one end of the connector into the other using the arrow alignment notch. Tighten nut onto the connector.

There is dielectric grease inside the connector that ensures longevity of your connection points and creates a proper seal.



NOTE: Connector cap is cut on both sides to ensure it does not grab too tightly. This is by design so it will detach if gate arm is hit by a car.

INSTALLATION OVERVIEW

1. PROGRAM THE LED CONTROLLER

The Gate LED Controller is a programmable device. Change settings using 1 of 3 methods:

1. Mode Button
2. Jumper wire(s)
3. USB port & PC Configuration Tool (Download from website)

1.1 LED Controller ships set to Mode 3. Scan LED Controller Programming QR code for full details. Scan Wiring Schematics QR code for wiring to the most common gate operators.

2. TURN OFF OPERATOR POWER



WARNING: Serious injury could occur if power is not disconnected prior to installation.

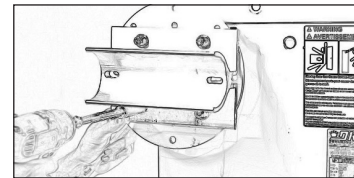
3. REMOVE EXISTING ARM

Remove existing gate arm from operator and replace existing bolts and washers with the new stainless-steel parts included.

NOTE: Always throw away used nylon nuts. Used nylon nuts should never be reused.

4. INSTALL NEW GATEARMS+ BRACKET PART NO: [BRACKMULTI]

If there is not a 3" arm bracket already installed on the operator, install it now. Brackets are available for all common gate operators.



10. INSTALL POWER SUPPLY AND CONTROLLER INSIDE CABINET

Connect DC power plug from the 24V power supply into the power port of LED Controller located on the side near the USB port. Zip tie the 24V plug to the controller's loop.

Place the 24V power supply and LED Controller inside the gate arm operator chassis where they will remain safe and dry. Route power supply power cord to an available receptacle on the operator's 120VAC outlets.

NOTES:

1. **Do not connect power source into the outlet yet!**
2. **IMPORTANT:** The controller can only accept power voltage of 24VDC. Higher voltage may irreversibly damage the LED Controller. **THIS WILL VOID WARRANTY.**

11. CONNECT LED HARNESS CABLE(S) TO CONTROLLER

Route LED Harness Cable through the inside of gate operator chassis until the end is located near where the LED Controller will be positioned.

Connect LED Harness Cable's wires to the press-on header(s). Match wire colors to labels on the LED Controller cover.

Push press-on header(s) vertically onto the LED Controller pins with screw heads facing outwards.

WARNING: Do not connect more than 30' of LEDs per header. More than 30' may cause LED dimming.

NOTE: Ensure all cables will always avoid the operator's pulley and other moving parts or sharp edges.

5. INSTALL NEW GATE ARM

Install bolts from front of bracket towards the operator (unless using GateArms+ bracket).

LiftMaster: Operator, Nylon Nut, Washer, Bracket, Arm, Washer, Bolt head. Bolt facing toward operator.

GateArms+: Operator, Bracket, Bolt head, Arm, Washer, Nylon Nut. Bolt facing away from operator.

Black nylon nuts are UV-protected. Do not over-tighten nuts. They should be snug, but they are easy to strip. Stop tightening once the bolt exits the nut.

IMPORTANT: Arm must not wiggle at all inside the bracket or it may crack due to unequal stress loads. **THIS WILL VOID THE WARRANTY.** If arm wiggles, replace the pivot pin or operator bracket with a new 3" bracket.

5.1 Install Counterweight - (ARM17LM ONLY)

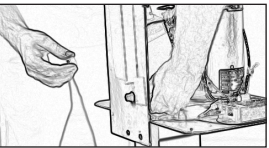
If installing an ARM17LM, insert counterweight into the end of arm near bracket.

6. DRILL HOLE FOR CABLE RELIEF FITTING

Decide how to route the Harness Cable to the operator chassis, and where to penetrate the chassis. Position the hole so that the cable will be as hidden and short as possible. Try to be directly behind the new gate arm's connector.



- a. Drill hole in gate arm operator chassis. (Single LED – 1/2", Dual LED – 5/8")
- b. Deburr hole with drill bit or metal rattail file.



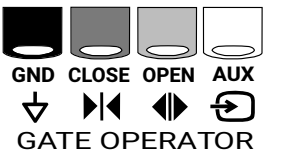
12. CONNECT SIGNAL CABLE TO LED CONTROLLER

The installation kit includes a 4-wire Signal Cable for connecting to the signal wire posts on the gate operator's control board.

Remove the upper-right 4-pin press-on wire header from the LED Controller.

Connect one end of the Signal Cable's wires to the press-on header. Note pin definitions on the LED Controller cover.

- Black = Ground
- Red = Close
- Green = Open
- White = Aux



Plug press-on header into the LED Controller with screw heads facing OUT. Route the Signal Cable from the LED Controller to the gate operator's control board.

13. CONNECT SIGNAL CABLE TO OPERATOR

Connect the Signal Cable to the gate operator's control board. Scan Wiring Schematics QR code for details.



WARNING - OVER-VOLTAGE WILL VOID WARRANTY
Signals entering the LED Controller cannot exceed 30VDC.

Higher voltage may cause irreversible damage.

D/C SIGNALS ONLY: The LED Controller can only accept D/C. A/C signals may damage the LED Controller.

NOTE: We offer an optional **A/C Signal Converter board** that allows the use of A/C signals with this LED Controller.

14. **CONFIRM WIRING**

- Take a moment to reconfirm all connections on each of the cables.
- Check both sides of the power cable.
 - Check the gate operator's signal wire posts where the Signal Cable is connected. Ensure you are tied into the correct circuits for Open & Close, and that Common (Ground) is well connected.
 - Check the LED strip(s) to ensure the wire colors correspond correctly to the colors printed on the LED Controller.

15. **REVIEW WIRE MANAGEMENT**

Use zip ties to secure all wiring inside the gate operator housing so the pulley and belt will never touch any wires.

16. **TURN ON OPERATOR POWER**

First, turn on the power source switch and then plug the 24V power supply into the 110VAC outlet located inside the operator.
NOTE: Adapter can accept 100-240VAC.

17. **TURN LED CONTROLLER POWER-SWITCH TO ON**

Turn LED Controller switch on. The Status LED by the switch should immediately light up. The LED strip should turn on (red) after 1 second.

18. **TEST OPEN HEAVY GATE (IF INTERLOCK)**

- Open the heavy gate.
- LED Lights should flash amber while heavy gate is opening.

19. **TEST OPEN BARRIER ARM - ARM GOES UP GREEN**

- Raise the gate arm by triggering Open.
- LED Lights should flash red when the arm begins to go up.
 - LED Lights should turn solid green when arm is fully open.

Barrier Arm goes GREEN when heavy gate begins to open, but should stay RED or FLASH AMBER until barrier arm goes up

Possible Issue: Aux Wire disconnected

- Connect the LED Controller's Aux signal wire to the Interlock post on the operator board.

NOTE: You may need to change the default Auto Close Timer setting (30 sec).

LEDs stay Green too long

Possible Issue: Close Signal Wire disconnected/Timer to Close

- Connect the Controller's Close signal wire to the close output post on the operator board.
- Check Close signal wire connection at the Signal Header.
- Check Close signal wire connection at the gate operator control board post.
- If no close port is used (timer to close), change the Auto-Close Timer duration to match the gate-close timer.

20. **TEST CLOSE BARRIER ARM - ARM GOES DOWN RED**

- Lower the gate arm by triggering Close.
- LED Lights should flash red when the arm begins to descend.
 - LED Lights should turn solid red when arm is fully closed.

21. **FINALIZE**

- Close and secure gate operator case.
- Check the gate operator belt. If it is loose, tighten it.
- Add oil to gearbox if needed.

Still need help? Call our Tech Support line at (786)339-9840.

There are many subtle configuration settings that can be tweaked to get your project working. We are eager to help you ensure that EVERY PROJECT IS A SUCCESS!

CONGRATULATIONS!

You have completed the installation.

Run into an issue? No worries we have you covered.

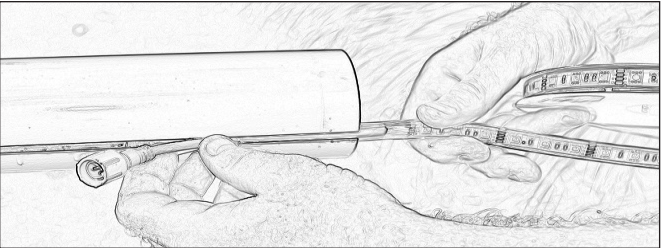
Appendix A will help guide you with the installation or replacement of the LED Strip(s) within the Barrier Arm.

Appendix B will help guide you through some common issues.

Scan QR codes in this manual if you need assistance with Wiring Schematics, Troubleshooting or LED Controller Programming.

APPENDIX A: REPLACING LED STRIPS

1. Disconnect the LED strip wiring connector.
2. Remove the white end cap from gate arm (far end only).
3. One person should gently pull on the LED strip from the far end, while another person gently pushes the LED strip towards the far end.
4. The LED strip will slide out of the track.
5. Unroll replacement LED, or have a partner hold it.
6. Hold LED strip by the connector with LED chips facing out. Gently insert the new LED strip into the track from the far end. One person can push from the end while the other gently pulls the cable.
7. Pull LED strip into track until the wire is nearby the gate arm bracket. Leave at least an inch of space by bracket.
8. Cut the LED strip at the cut lines if necessary. Remove LED end cap from scrap piece. Glue end cap onto LED with silicone glue.
9. Replace the white gate arm cap on the gate arm end.
10. Put some dielectric grease inside both sides of the connector.
11. Connect the LED to the harness cable.
12. Put a dab of silicone glue near the bracket-end of the LED strip to prevent it from moving.
13. Test to ensure the LEDs function correctly.



Wiring Schematics



Troubleshooting



LED Controller Programming

APPENDIX B: TROUBLESHOOTING

No gate arm lights on/wiring disconnect

Possible Issue: Power Supply problems

- Check if the LED Controller's Status LED is on.
- Verify the power source is on. Check wiring at the gate operator and trace back to the LED Controller.
- Inspect Press-on Headers: wires fully seated, screws facing outward, and color-matched to labels.
- Confirm the external LED Harness Cable to LED Strip connector is fully plugged in; inspect connector pins.
- Use a multimeter to verify 24VDC at the power supply.
- Use a multimeter to verify 24VDC at the LED Controller (black lead to Operator GND, red lead to LED Black).

Red lights stay on, No Green when gate goes up

Possible Issue 1: Open Signal Wire disconnected

- If red stays on, the LED Controller is not receiving the Open signal.
- Check the Open (green) signal wire at the LED Controller.
- Check the Open signal wiring at the gate operator's control board. Scan the Wiring Schematics QR code and confirm wiring.
- Use a multimeter to confirm voltage or continuity changes when the gate opens.
- If multiple posts are used for Open devices (guard/RFID/clicker), tie all Open posts together with jumper wires so the LED Controller sees the signal on all posts.

Possible Issue 2: Controller Mis-programmed

- Confirm the LED Controller is programmed correctly for your gate operator and configuration. Scan the Wiring Schematics QR code and confirm wiring.



TECH SUPPORT HOURS
MONDAY - FRIDAY
9:00AM - 5:00PM EST

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