SECTION 32 31 00

ELECTRIC GATE OPERATORS



Display hidden notes to specifier by using “Tools”/“Options”/“Display”/“Hidden Text”.

\*\* NOTE TO SPECIFIER \*\* LiftMaster; Electric Gate Operators.

This section is based on the products of The LiftMaster Group, Inc., which is located at:

 300 Windsor Drive

 Oak Brook, IL 60523

 Tel: 800.282.6225

 Email: specs@LiftMaster.com

 Web: LiftMaster.com

 [{click Here} for additional information.](http://www.arcat.com/arcatcos/cos42/arc42485.html?src=spec)

LiftMaster’s full commercial and residential garage door operator/gate operator/access control product lines meet the needs of Architects, Designers, Engineers, and Specifiers in any design or conceptual plan, while offering 100 percent compliance with UL 325 safety and construction codes. Our entire product line also contributes to energy-efficiency credits for LEED green building certification from the U.S. Green Building Council. LiftMaster is a registered presenter of the American Institute of Architects and is approved to present any of our AIA CEUs at your firm’s location. For learning objectives and to schedule a Lunch & Learn for your firm, please send a request to specs@LiftMaster.com. To find a complete library of architectural specifications, shop drawings, CSI format 3-part specs, CAD, and BIM product renderings, visit LiftMaster.com.

1. GENERAL
	1. SECTION INCLUDES
		1. Electric Gate Operators:
			1. Residential/Light Commercial DC Linear Actuator (LiftMaster Model LA500DC).
		2. Monitored Photo Eyes

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + - 1. Monitored Retro-Reflective Photo Eyes (LiftMaster Model LMRRUL)
			2. Monitored Through-Beam Photo Eyes (LiftMaster Model LMTBUL)
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 02820 - Fences and Gates: Adjoining fences and gates.
		2. Section 03300 - Cast-in-Place Concrete: Concrete mounting pads.
		3. Section 11150 - Parking control equipment.
		4. Division 16 - Requirements for electrical connections.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. National Electrical Manufacturers Association (NEMA): NEMA ICS 6 - Industrial Control and Systems: Enclosures.
		2. Underwriters Laboratories (UL): UL 325 - Standard for Safety for Door, Drapery, Gate, Louver, and Window Operators and Systems.
		3. Underwriters Laboratories (UL): UL 991 - Standard for Tests for Safety-Related Controls Employing Solid-State Devices.
		4. International Organization for Standardization: ISO 9001 - Quality Management Systems.
	1. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: Equipment list, system description, electrical wiring diagrams for installation, and manufacturer’s data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, edge conditions, and accessories.
			1. Operation, installation, and maintenance manuals including wiring diagrams.
			2. Risers, layouts, and special wiring diagrams showing any changes to standard drawings.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Deliver, store, and handle materials and products in strict compliance with manufacturer’s instructions and industry standards.
		2. Store products indoors in manufacturer’s original containers and packaging, with labels clearly identifying product name and manufacturer. Protect from damage.
	3. QUALITY ASSURANCE
		1. Manufacturer Qualifications: ISO 9001 Certified Manufacturer.
		2. Installer Qualifications: Installation performed by factory authorized contractor specifically trained in gate operation systems of the type found within this section.
			1. Provide documentation of maintenance and repair service availability for emergency conditions.
			2. Provide quarterly maintenance for one year following Substantial Completion of the Project.
	4. WARRANTY
		1. Manufacturer’s Standard Limited Warranty:
			1. Warranty Period: 2 years.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: LiftMaster; 300 Windsor Drive; Oak Brook, IL 60523. ASD. Toll-Free: 800.282.6225. Email: specs@LiftMaster.com. Web: LiftMaster.com.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01600.
	1. GATE OPERATORS
		1. Gate Operators: LiftMaster LA500DC Residential/Light Commercial DC Linear Actuator.
			1. LiftMaster LA500PKGUL Single Actuator Arm package contains:
				1. LA500DC Single Actuator Arm

Full length commercial housing corrosion resistant aluminum.

Molecular bonded self-lubricating drive screw.

* + - * 1. LA500CONTUL Control Box for single or master/second application.
			1. LiftMaster LA500DCS Second Actuator Arm with junction box and 40 foot (12.2 m) direct burial cable for primary/secondary applications.
			2. LiftMaster LA500CONTXLMUL Alternate Control Box for single or master/second applications desiring more room for accessories or two 33 Ah batteries for solar applications.
			3. Compliance: UL Listed. Compliant to the UL 325, UL 991 and CSA C22.2 No. 247 standards.
				1. This model is intended for use in Class I, II, III and IV vehicular swing gate applications.
			4. Monitored Safety Inputs: 3 inputs per board (main board and expansion board) totaling 6 inputs with any combination of up to:
				1. Main Board:

1 Monitored Close Photo Eye input

1 Monitored Open Photo Eye input

1 Monitored Open Safety Edge or Open Photo Eye input

* + - * 1. Expansion Board

2 Monitored Safety Edge or Photo Eye inputs (selectable for Open or Close).

1 Monitored Photo Eye input (selectable for Open or Close).

* + - * 1. 8 Monitored edges available when Transceiver is added.
			1. Electrical Power Requirements:

\*\* NOTE TO SPECIFIER \*\* Delete power option not required.

* + - * 1. 115V AC, single phase
				2. 230V AC, single phase.
			1. Motor: 24V DC, with soft start/stop operation.
				1. Duty cycle: Continuous duty.
			2. Capacity: 12 foot (3658 mm) gate at 1,200 pounds (554 kg) or 18-foot (5486 mm) gate at 600 pounds (272 kg).
			3. Recommended Cycles per Day: 300.
			4. Gate Travel Speed: 90-degree opening in 15 to 18 seconds.
			5. Warranty: 2 years.
			6. Wormgear Reduction: Precision machined metal gears contained in lubrication housing.
			7. Battery Backup: Power Management system draws 14.8 mA when gate is idle. Provides 500 cycles on Battery Backup with two 7 Ah batteries with remote controls programmed.
			8. Standby Time: Provides up to 24 days of standby power in the event of a power loss (excluding accessories).
			9. Solar Capable: See daily solar cycle chart.
			10. Accessory Electrical Power Requirements: 24V DC 500 mA output, switched and unswitched power.
			11. Chassis: Commercial-duty die cast aluminum housing.
			12. Internet Connectivity: MyQ Technology
				1. 902 to 928 MHz
				2. 50-channel FHSS (Frequency Hopping Spread Spectrum).
				3. LiftMaster 828LM Internet Gateway enables monitoring and control of gate operators via internet-enabled smartphone, tablet or computer.
				4. Provides two-way communication between gate operator and MyQ accessories to enable remote open, close and monitoring of gate.
			13. Receiver:
				1. Security+ 2.0 3-channel on-board receiver, holds up to 50 remote controls (unlimited with use of 811LM/813LM), HomeLink compatible
				2. Transmits 310 MHz, 315 MHz, 390 MHz.
			14. Inherent Reversing Sensor: Detects obstructions or increased loads. Reverses gate when closing or stops/reverses the gate when opening.
			15. Electronic Limits: Maintains accurate limit position throughout travel, even after using the manual release handle.
			16. Dual-gate operation capabilities to allow 2 separate gate operators to operate in unison at a single entrance. Standard control box compatible with single or dual gates with no extra parts.
			17. Wireless Dual-Gate Operation:
				1. Built-in wireless communication will operate primary and secondary operator without having to run a communication wire.
				2. Support for Through-beam photo eye in the wireless dual-gate setup. Can attach emitter and receiver to each operator, eliminating the communication wire between them.
			18. Bi-Part Delay: Selectable feature for dual-gate applications. Firmware monitors speed and position of each gate and adjusts speed as necessary to ensure primary gate closes last, avoiding potential damage to the gate.
			19. Synchronized Close: Selectable feature for dual-gate applications with curved driveways. Monitors the speed and position of each gate and adjusts speed as necessary to ensure both the gates close at the same time. Only available if two control boxes are used.
			20. LED Diagnostic Display: Simplifies installation and troubleshooting.
			21. Colored Terminal Blocks: Provides easy identification of safety and fire department inputs.
			22. Programmable Auxiliary Relays: 2 programmable relays with 6 settings each
				1. Pre-warning or gate-in-motion sounder.
				2. Switch on/off devices at open or Close Limits or while gate is in motion..
				3. Tamper detection if gate is pushed off Close Limit.
				4. Cycle quantity feedback.
				5. Red/Green light to control gate traffic.
			23. Quick Close, Anti-Tailgate: Quickly secures property, preventing unauthorized access.
			24. Sequenced Access Management: Capable of sequentially controlling the operator in tandem with barrier gate.
			25. Plug-in Loop Detector Inputs: Programmed inputs for shadow, interrupt and exit.
			26. Alarm Reset Button: Instantly resets the built-in safety alarm siren.
			27. Fire Department Compliant: Selectable settings allow gate to auto open on power failure or battery depletion.
			28. Surge Suppression: Industrial strength on high and low voltage outputs. Protects against lightning strikes at a 50-foot (15240 mm) radius.
			29. Emergency Release: Simple-to-use keyed release handle allows gate to be operated manually and maintain limit position once re-engaged.
			30. Chassis: Commercial-duty die cast aluminum housing.
			31. Operating Temperature Range: -4 degrees F (-20 degrees C) to 140 degrees F (60 degrees C)

\*\* NOTE TO SPECIFIER \*\* Unit comes with MyQ Enabled Technology built in. Pair it with MyQ Enabled accessories to maximize the capabilities of MyQ Enabled Technology. Delete optional accessories if not required.

* + - 1. MyQ Enabled Accessories:
				1. LiftMaster 828LM Internet Gateway: Allows remote monitoring from Internet-enabled computer or smartphone.
				2. LiftMaster 829LM Garage and Gate Monitor: Allows remote monitoring and operation.
				3. LiftMaster 823LM Remote Light Switch: Controls light remotely.
				4. LiftMaster 825LM Remote Light Control: Allows remote monitoring and operation.

\*\* NOTE TO SPECIFIER \*\* Delete optional accessories if not required.

* + - 1. Accessories: Safety Monitoring Devices:
				1. Monitored Photo Eyes and Wireless Edge Kits.

LiftMaster LMRRUL Reflective Photo Eyes.

LiftMaster LMTBUL Thru-Beam Photo Eyes.

LiftMaster LMWEKITU Wireless Edge Kith with Transmitter and Receiver.

LiftMaster LMWETXU Wireless Edge Transceiver

* + - * 1. Wired Monitored Edges (all require use of LMWEKITU)

LiftMaster S Small Profile Monitored Edge

LiftMaster L50 Large Profile Monitored Edge

LiftMaster WS4 Wrap-Around 4 foot (1219 mm) square monitored edge

LiftMaster WS5 Wrap-Around 5 foot (1524 mm) square monitored edge

LiftMaster WS6 Wrap-Around 6 foot (1829 mm) square monitored edge

LiftMaster WR4 Wrap-Around 4 foot (1219 mm) square monitored edge

LiftMaster WR5 Wrap-Around 5 foot (1524 mm) square monitored edge

LiftMaster WR6 Wrap-Around 6 foot (1829 mm) square monitored edge

* + - 1. Accessories: Provide the optional accessories listed below.
				1. LiftMaster LOOPDETLM Plug-in Loop Detector
				2. LiftMaster KPW5 Wireless Commercial Keypad
				3. LiftMaster KPW250 – Wireless Commercial Keypad
				4. LiftMaster SP10W12V – 10W Solar Panel Kit
				5. LiftMaster MG1300 Maglock – 1,300 pound (590 kg) holding force.
				6. LiftMaster 892LT 2-button Security+ 2.0 Learning Remote Control
				7. LiftMaster 894LT 4-Button Security+ 2.0 Learning Remote Control
				8. LiftMaster 811LM 1-Button Encrypted DIP Remote Control
				9. LiftMaster 813LM 3-Button Encrypted DIP Remote Control
				10. LiftMaster EL1SS Stainless Steel Single/Multi-Tenant Telephone Entry System
1. EXECUTION
	1. EXAMINATION AND PREPARATION
		1. Inspect and prepare substrates using the methods recommended by the manufacturer for achieving best result for the substrates under project conditions.
		2. Do not proceed with installation until substrates have been prepared using the methods recommended by the manufacturer and deviations from manufacturer’s recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
		3. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer’s recommended installation tolerances and conditions.
	2. INSTALLATION
		1. Install in accordance with manufacturer’s instructions. Test for proper operation and adjust until satisfactory results are obtained.
	3. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

 END OF SECTION