SECTION 08731

AUTOMATIC DOOR OPERATORS - COMMERCIAL



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

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\*\* NOTE TO SPECIFIER \*\* LiftMaster Commercial Automatic Door Operators.

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

 300 Windsor Drive

 Oakbrook, 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 325safety 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

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

* + 1. Hoist-Type Door Operators:
			1. Hoist-type door operators for high or vertical lift sectional doors and small rolling doors or grilles (LiftMaster Model MH).
	1. RELATED SECTIONS

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

* + 1. Section 06100 - Rough Carpentry: Installation and requirements for blocking and nailers.
		2. Section 16050 - Basic Electrical Materials and Methods: Installation and 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. International Electrotechnical Commission (IEC).
		2. National Electrical Manufacturers Association (NEMA): NEMA ICS 6 - Industrial Control and Systems: Enclosures.
		3. Underwriters Laboratories (UL): UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.
	1. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: 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.
			4. Cleaning methods.
		3. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, edge conditions, and accessories.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer’s unopened packaging with labels intact until ready for installation.
		2. Schedule delivery of door operator so that spaces are sufficiently complete that door operators can be installed immediately upon delivery.
	3. WARRANTY
		1. Manufacturer’s standard limited 2-year warranty against material and manufacturing defects.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: LiftMaster; 300 Windsor Drive; Oakbrook, IL 60523. 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.

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

* 1. HOIST-TYPE DOOR OPERATORS
		1. Medium-Duty Operator: LiftMaster MH Medium-Duty Logic Hoist Operator, limited-duty (recommended duty of 12 cycles per hour), high-starting torque motor with overload protection and emergency chain hoist with electric interlock.
			1. Electric Operator: Medium-duty assembly, cULus listed and cULus labeled, with electric motor and factory-prewired motor controls, emergency floor-level manual chain hoist mechanism with electrical interlock, electric solenoid-actuated brake, 3-button open/close/stop control station, conduit-encased wiring from control circuit to motor, and accessories required for proper operation; operator shall provide a door speed of approximately 8 to 9 inches (203 to 229 mm) per second.
				1. Primary Speed Reduction: Heavy-duty 4L V-belt and #41 chain and sprocket with sprocket reduced secondary; operator shall be equipped with adjustable friction clutch and output and door driven sprockets.
				2. Brake: Electric solenoid-actuated brake capable of stopping and holding a door at any position.
				3. Limit Switches: Fully adjustable, linear-driven limit mechanism synchronizing operator with door; low-friction nylon limit nuts fitted on threaded steel shaft that rotates on oil-tight self-lubricating bronze bushings; motor shall be removable without affecting limit switch settings.
				4. Electric Motor: High-starting torque, 115V, single-phase, 1/2 HP motor with an internal automatic reset thermal overload device to protect against overload.
				5. Motor Control and Enclosure: LiftMaster medium-duty Logic motor control shall be a microprocessor solid-state type PCB; the control board shall provide the capability to select one of 2 wiring types, diagnostic LEDs for operator status and troubleshooting, programmable Timer-to-Close with timer defeat capabilities and a maximum run timer to provide motor overrun protection; motor control shall be housed in a NEMA 1 enclosure integral to the operator and shall conform to ANSI/NEMA ICS 6.

 Radio Receiver: LiftMaster medium-duty Logic on-board, 3-channel receiver external antenna; equipped to accept Security+ Rolling Code Technology remote controls and trinary DIP switch remote controls, with memory for up to 20 Security+ remote controls or an unlimited number of trinary DIP switch remote controls.

* + - * 1. 3-Button Control Station: 3-button station providing open/close/stop within a NEMA 1 Type enclosure.
				2. Door Drive: Full #41 roller chain; operator shall be equipped with an electrically interlocked, floor level disconnect and chain hoist for manual operation.
			1. Primary Entrapment Protection Devices:

\*\* NOTE TO SPECIFIER \*\* For any type of operating mode or features beyond basic constant contact on the 3-button station “Close” button to lower the door, one of the following UL-approved and listed monitored entrapment protection devices must be connected directly to the LiftMaster Logic 5.0 Operator. Select one of the following and delete options not required.

* + - * 1. NEMA 1 Monitored Photo Sensors: LiftMaster CPS-U Monitored Photo Eyes fully monitored, non-contact, infrared beam photo sensor system shall reverse, in conjunction with the medium-duty Logic operator, a closing door to the full open position when an obstruction is sensed; photo sensors shall be mounted no higher than 6 inches (152 mm) maximum above the floor.
				2. NEMA 4 Monitored Photo Sensors: LiftMaster CPS-UN4 Monitored Photo Eyes (industrial thru-beam) fully monitored, non-contact, photo beam reversing photo sensor system with NEMA 4 watertight enclosure shall reverse, in conjunction with the medium-duty Logic operator, a closing door to the full open position when an obstruction is sensed; photo sensors shall be mounted no higher than 6 inches (152 mm) maximum above the floor.
				3. NEMA 4X Monitored Photo Sensors: LiftMaster CPS-OPEN4 Monitored Photo Eyes (commercial thru-beam) and CPS-RPEN4 Monitored Retro-reflective Photo Eyes, fully monitored, non-contact, photo beam reversing photo sensor system with NEMA 4X watertight/corrosion-resistant enclosure shall reverse, in conjunction with the medium-duty Logic operator, a closing door to the full open position when an obstruction is sensed; photo sensors shall be mounted no higher than 6 inches (152 mm) maximum above the floor.

\*\* NOTE TO SPECIFIER \*\* Delete options for motor specification not required.

* + - * 1. NEMA 6 Monitored Optical Edge System (OES): Shall provide a means to attach a 2-wire monitored sensing edge to a medium-duty Logic operator for continuous monitoring purposes; the edge, in conjunction with the medium-duty Logic operators, shall reverse a closing door to the full open position when an obstruction is sensed; sensing edge ordered separately and can be field-cut to required length.
				2. Monitored Sensing Edge Interface:

LiftMaster CPS-MEI Monitored Sensing Edge Interface shall provide a means to attach a 2-wire monitored sensing edge to a medium-duty Logic operator for continuous monitoring purposes; the edge, in conjunction with the medium-duty Logic operators, shall reverse a closing door to the full open position when an obstruction is sensed; sensing edge ordered separately.

LiftMaster CPS-EI Monitored Sensing Edge shall provide a means to attach a 4-wire monitored sensing edge to a medium-duty Logic operator for continuous monitoring purposes; the edge, in conjunction with the medium-duty Logic operators, shall reverse a closing door to the full open position when an obstruction is sensed; sensing edge ordered separately.

* + - * 1. Additional monitored primary entrapment protection devices may be added with the appropriate interface device or plug-in accessory card.
			1. Ancillary Entrapment Protection Devices:

\*\* NOTE TO SPECIFIER \*\* Ancillary entrapment protection devices are optional and can be used to supplement, but not replace, primary entrapment protection devices. Select one of the following and delete options not required.

* + - * 1. Light Curtains: LiftMaster LC-36A light curtains to provide 36 inches of cross- beam infrared detection. When beams are interrupted, door will stop and reverse. Must be used with a primary monitored entrapment device. Can be used in pairs and separated along the plane of the door for maximum vertical coverage. Can be powered off the operator's A/C accessory power supply or with an optional 100MAPS External DC Power Supply as applicable.
				2. Retro-reflective Photo Sensors: LiftMaster CPS-RN4 Retro-reflective Photo Eyes non-monitored, non-contact, infrared beam photo sensor with polarized reflector for use in conjunction with the LiftMaster CPS-EI Monitored Sensing Edge and monitored 4-wire sensing edge, shall reverse a closing door to the full open position when an obstruction is sensed; photo sensor shall be mounted no higher than 6 inches (152 mm) maximum and no lower than 4 inches (102 mm) minimum above the floor.
				3. NEMA 6 Optical Edge System (OES): 2-wire non-monitored electric edge shall reverse a closing door to the full open position when an obstruction is sensed.
				4. Non-Monitored Electric Sensing Edge: 2-wire non-monitored electric edge shall reverse a closing door to the full open position when an obstruction is sensed.
				5. Pneumatic Sensing Edge: Pneumatic (air hose) sensing edge shall reverse a closing door to the full open position when an obstruction is sensed.
1. EXECUTION
	1. EXAMINATION AND PREPARATION
		1. Do not proceed with installation until substrates have been properly prepared and deviations from manufacturer’s recommended tolerances are corrected.
		2. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer’s recommended installation tolerances and conditions. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. Commencement of installation constitutes acceptance of conditions.
	2. INSTALLATION
		1. Install in accordance with manufacturer’s instructions and in proper relationship with adjacent construction. Test for proper operation and adjust until satisfactory results are obtained. Demonstrate operation to owner’s personnel.
	3. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch up, repair or replace damaged products before Substantial Completion.

END OF SECTION