LiftMaster

**SECTION 08 71 23 – COMMERICAL DOOR OPERATORS**

 GENERAL

 Closeout Submittals:

 Operation and Maintenance Data.

 QUALITY ASSURANCE

 Installer Qualifications: Firm specializing in work of this Section, with minimum [2] years’ experience.

 WARRANTY

 Manufacturer’s [2] year warranty against material and manufacturing defects.

 PRODUCTS

 MANUFACTURERS

 LiftMaster. [www.LiftMaster.com](http://www.liftmaster.com)

 ELECTRIC DOOR OPERATORS

 Industrial Duty Operator: LiftMaster MAXUM TDC Trolley DC Operator, slow start, slow stop DC motor with overload protection and emergency disconnect for manual door operation.

1. Electric Operator: Industrial-duty assembly, cULus listed and cULus labeled, complete with DC electric motor and factory-prewired motor controls, internal auxiliary reversal circuit, floor level 3-button wall controller including open/close/stop control station with 4-line LCD display, conduit-encased wiring from control circuit to motor, and accessories required for proper operation; operator shall be capable of driving door at a speed of approximately 8 to 12 inches per second.
a. Drive Reduction: 65:1 gearbox with #48 chain output on 700 units and #41 chain output on

 1200 and 2200 units. Operator shall be equipped with a quick-disconnect door arm to facilitate manual operation.

b. Brake: Standard dynamic braking from the motor on 700, 1200 units capable of stopping and

 holding a door at any position. 2200 has the standard Solenoid powered-off brake, which is

 capable of stopping and holding a door at any position.

c. Electronic Limits: Fully adjustable from the wall control menu. Options to set the open and close limit in any increments to allow for very tight limit settings. All limit settings are stored in

 the master board at the power head and are stored even if the unit restarts. Factory reset or

 changing main board is only way the system will lose already programmed limit settings.

d. Electric Motor: 78% High efficiency quiet DC motor that runs at 5000 RPM with a reduced

profile of 2.7 inches OD and only 7 lbs. One model number is field selectable to meet requirements for incoming voltage matching single phase 120V or 240V, or 3 phase 240V. 480V is also available with a unique model number for only 480V applications. 700 lb is ½ HP equivalent, 1200 lb is ¾ hp equivalent, and 2200 lb is 1 and 1.5 HP equivalent. 208V and 600V can be achieved with an external step-down transformer accessory.

e. Gearbox: Custom aluminum gearbox with upgraded bearing system. Integrated mechanical

 structure providing high strength and low vibration. Integrated mounting for encoder system

 eliminating chains and sprockets. Custom worm design with high grade carbonized material.

 Seal Design is a high-grade Viton material with double seal.

f. Wall Controller: 2-wire non-polarity-sensitive floor level wall controller for easy operator/door

 commissioning and setup. 2 wires connect to WALL CTL inputs dedicated on the main board

 for easy wiring. Limit setup, Door Motion control, Operation modes: C2, B2, B2/T, B2/TS,

 D1, E2 and FSTS. Programming connectivity (Wi-Fi, remotes, myQ), cycle counter and

 maintenance cycle counter. Programmable timer-to-close with timer defeat option, mid-stop

 programming capabilities and a max run timer to provide motor overrun protection (based on

 cycles per hour). Wall Controller is housed in a NEMA 1 enclosure except for our NEMA4X

 versions, which are NEMA4X. Wall Controller provides 4-line display of information including

 diagnostics and system information for ease of troubleshooting.

g. Battery Backup Capable: Operators are equipped with the electronics to hook up (2) 12V

 batteries for a minimum of 20 cycles on battery backup. Optional battery kit DC7AH includes

 battery enclosure and (2) 7 Ah batteries. Battery enclosure can be secured directly onto the

 operator chassis or can be mounted near the operator for flexibility of applications. Battery

 backup door control can be set up to open or close upon AC failure and Low Battery. Setting

 must be chosen in the menu depending on customer requirements.

h. Input terminals for 3 monitored safety entrapment protection devices. Can be programmed to

 protect the close or the open direction. Defaults to protect the close, but can be changed in

 the menu.

i. Programmable Inputs: 4 programmable inputs for dry contact accessories including non-

 monitored entrapment protection devices, car dealer input, timer defeat, all fly, truck presence

 sensors, dock sensors.

j. Wi-Fi Connectivity: Wi-Fi-enabled operator with built-in Wi-Fi chip to access over-the-air updates for system upgrades. Operator must be connected to Wi-Fi to receive updates.

k. myQ Technology: 900 MHz and Wi-Fi, LiftMaster 828LM Internet Gateway, enable you to

 monitor and control door operators via smartphone, tablet, or computer. You can connect to

 the myQ residential app or myQ Facility, which provide different features depending on your

 application need.

l. Door Drive: Full #48 or #41 roller chain with emergency disconnect for manual door operation.

m. Track: Heavy duty, double angle, 2” H X 2” W galvanized steel angle rails.

n. Trolley Assembly: Cast aluminum trolley including plated steel rail spacers with a nylon chain-

 guide assembly.

o. Standard Duty Cycle: 20 cycles per hour/90 cycles per day (S in part number) and Extended

 Duty (X in part number) is 30 cycles per hour/150 cycles per day.

2. Primary Entrapment Protection Devices:

 a. CPS-U Monitored Photo Eyes included with the operator. Other monitored photo eyes

 available including LMTBUL (Through Beam), LMRRUL (Retro Reflective), CPS-UN4, CPS-

 RPEN4, CPS-OPEN4

 b. Monitored Wireless Edge Kit (LMWEKITU) and Monitored Wireless Edge Transmitter (LMWETXU)

 c. Monitored Optical Edge System (OES-SD16) for sectional doors

 d. ASO Monitored 4-wire and 2-wire Sentir Series Edges

 e. Monitored Light Curtains (LM36M)

3. Accessories

 a. Auxiliary Relay Board (AUXREL) for auxiliary limit switches, for switching on/off auxiliary

 devices such as lights, bells, horns/strobes and other warning devices

 b. Pluggable Loop Detector Board (LMEXP) for use with LOOPDETLM for power-efficient

 maximum cycles on battery backup

 EXECUTION

 INSTALLATION

 Install in accordance with manufacturer’s instructions.

 CLOSEOUT ACTIVITIES

 Test and adjust operators for proper operation.

 Demonstration: Demonstrate operation and programming of operators to Owner.

END OF SECTION