

LOW ENERGY OPERATORS

The basic design concept for all LCN power operator systems is door control of both the opening and closing motion of the door. Our designs allow the system to be easily retrofitted into existing doors and frames as well as new construction.

A basic LCN electrohydraulic/pneumatic system consists of a power operator based on a heavy duty LCN 4040 Series door closer and peripheral actuators.

Our electromechanical automatic operators utilize a motor gearbox and a control box to perform the opening and closing function.

LCN offers a choice of either electrohydraulic, electromechanical or pneumatic low energy automatic operators.

APPLICATIONS

- ▶ Electrohydraulic and pneumatic systems are used primarily for manual opening with available push button automatic opening.
- ▶ Electromechanical systems are used primarily for automatic openings.
- ▶ For dedicated handicap access.
- ▶ Stand alone or integrated into larger multi-door systems.
- ▶ Surface and concealed mountings.
- ▶ Installation accessories available for unusual conditions.
- ▶ **Caution! For exterior doors exceeding 3'0" wide by 7'0" tall, interior doors exceeding 4'0" wide by 8'0" tall, or any door exceeding 225 pounds, consult factory before specifying or installing LCN electrohydraulic or pneumatic automatic operators.**
- ▶ **Caution! For exterior doors exceeding 4'0" wide by 7'0" tall, interior doors exceeding 4'0" wide by 8'0" tall, or any door exceeding 200 pounds, consult factory before specifying or installing LCN Electromechanical automatic operators.**

A156.19 SYSTEM DESIGN PARAMETERS

- ▶ Cycle test standard of 300,000 full load operating cycles.
- ▶ Power opening plus full door control.
- ▶ Open to backcheck no faster than 3 seconds.
- ▶ Opening time to fully open is no faster than 4 seconds.
- ▶ Remain fully open for at least 5 seconds.
- ▶ Closing time from 90° to 10° is no faster than 3 seconds.
- ▶ Less than 15 lbf to stop doors motion.
- ▶ Kinetic energy must not exceed 1.25 lbf-ft.
- ▶ In event of failure, less than 15 lbf to release latch, less than 30 lbf to put door in motion, less than 15 lbf to fully open door system.

COMMON SYSTEM FEATURES

- ▶ Power opening plus full door control.
- ▶ No guide rails or safety devices required due to low energy design.
- ▶ Adjustable opening force.
- ▶ Adjustable closing power.
- ▶ Operators meet ADA reduced manual opening force requirements, this includes 4630 and 4810.
- ▶ Electrohydraulic and pneumatic systems feature adjustable backcheck that slows opening swing at about 70°.
- ▶ Electromechanical systems feature electronic backcheck that slows opening swing at about 70°.
- ▶ Systems allow for separate adjustment of general closing and latch speed.
- ▶ Electrohydraulic and pneumatic systems are available in seven standard or a wide selection of optional custom powder coat finishes to blend with door and frame.
- ▶ Electromechanical systems are available in two standard anodized finishes or optional custom anodized and custom paint finishes to blend with door and frame.
- ▶ UL & NEC compliant.
- ▶ Compatible with most security and safety systems.
- ▶ Capable of full integration with high security keypads and card readers.
- ▶ Wiring allows for sequential operation for vestibule applications. Electromechanical systems require additional components.
- ▶ Modular design simplifies installation and maintenance.

WARRANTY

- ▶ 2 year limited warranty. See General Section for complete details.

MAINTENANCE

- ▶ Operators mounted according to the LCN installation instructions require no periodic maintenance or adjustments.
- ▶ Monthly, quarterly and annual visual inspections are recommended.

TOP JAMB (PUSH SIDE) MOUNTING

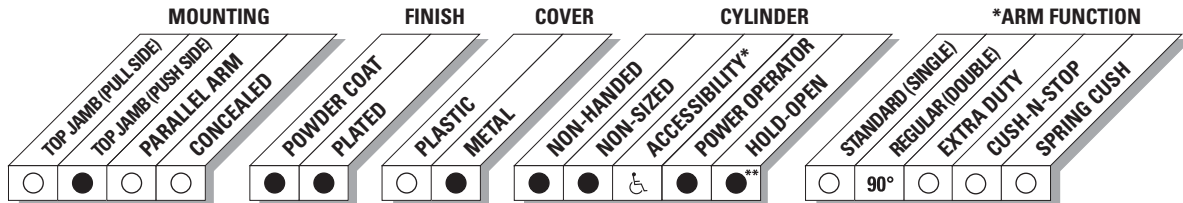


The 4640 AUTO EQUALIZER™ is LCN's SMART & RELIABLE electrically powered low-energy power operator. It provides easy access for people with disabilities, the elderly, or the frail. Designed primarily for manual opening applications that occasionally require automatic opening.

- ▶ Standard, top jamb (push side) mounted 4640 series closer shipped with regular arm, metal cover, and wood and machine screw pack. Actuators available separately, see pages 199-215.
- ▶ Meets ADA, requirements (power mode).
- ▶ Non-sized cylinders for interior doors to 4'6" and exterior doors to 3'6".
- ▶ Non-handed for either right or left swinging door.
- ▶ 4640 has easily accessible switches to provide on/off and continuous hold open functions. 4640CS provides concealed on/off power switch. Control module provides all timing and sequential door functions, electric strike controls and adjustments for opening speed and force.
- ▶ Standard or optional custom powder coated finish, end caps are black.
- ▶ Optional plated finish on cover, arm, and fasteners.

- ▶ **NEW Digital Control Suite**
- ▶ **Utilizes a 10,000,000 Cycle Heavy Duty Door Closer**
- ▶ **On-Board Diagnostics**
- ▶ **On-Board Power Supply**
- ▶ **Factory-Default Memory**
- ▶ **Plug-and-Play Connections**
- ▶ **No Destruct Feature**
- ▶ **No Guard Rails or Safety Mats Required**

The 4640 Series is UL and cUL listed with regular arm for self-closing doors and meets the provisions of ANSI Standards A117.1, A156.19, and the Americans with Disabilities Act.



- AVAILABLE
- NOT AVAILABLE
- ♿ Meets ADA requirements (power mode).
- * See individual series for maximum manual opening.
- ** Switch provided for continuous Hold-Open (4640 only).

LCN 4640 SERIES

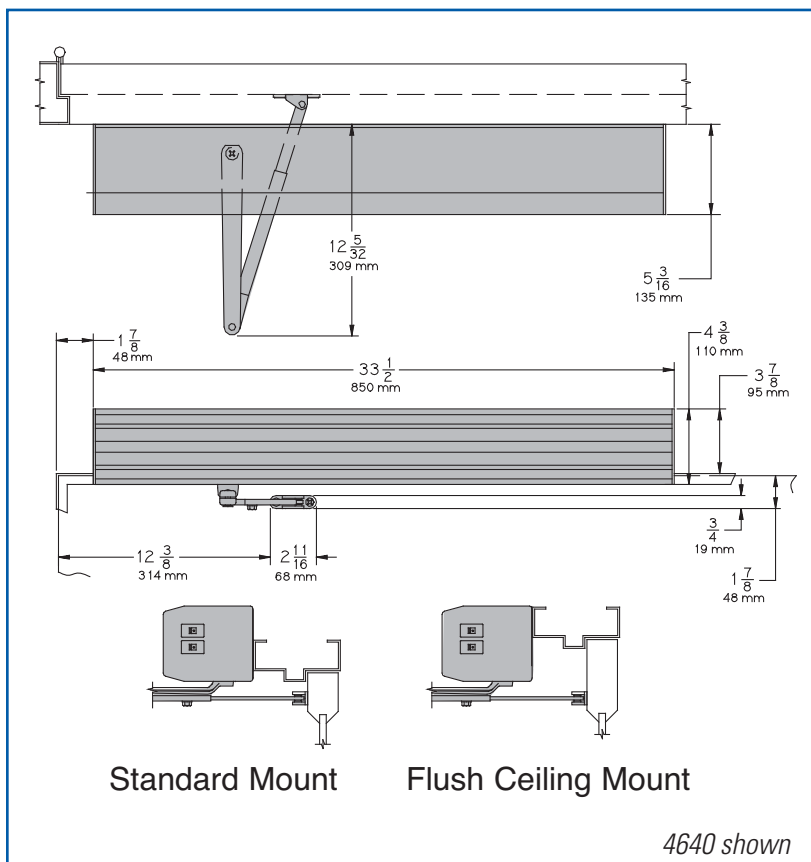
MOUNTING DETAILS

TOP JAMB (PUSH SIDE) MOUNTING

MAXIMUM OPENING

Templating allows 90° power opening and 100° manual opening.

Consult factory for all pivot mounted installations.



- ▶ **Butt Hinges** should not exceed 5" (127 mm) in width.
- ▶ **Auxiliary Stop is recommended.**
- ▶ **Reveal** of 4 1/2" (114 mm) allows up to 90° power opening and 100° manual opening. 8" (203 mm) allows up to 90° power opening and 100° manual opening with LONG ARM where standard rod and shoe is replaced with optional LONG ROD AND SHOE, 4640-79LR.
- ▶ **Head Frame** minimum 1 3/4" (44 mm). The standard mounting plate is also used to meet flush ceiling conditions.
- ▶ **Top Rail** minimum 1 3/4" (44 mm).
Flush ceiling installation requires 3 3/4" (95 mm) minimum.
- ▶ **Opening Time and Force** are variable by adjustments to the electronic control module located on the operator assembly. Maximum hold open time adjustable up to approximately five minutes.
- ▶ **System Diagram** See "AUTOMATIC OPERATORS" section page 37 for typical system wiring and pages 38-39 for electrical data.

Options

- ▶ Long arm.

Special Templates

Customized installation templates or products may be available to solve unusual applications. Contact LCN for assistance.

CYLINDERS

CYLINDER ONLY, 4642-3971

Standard, non-handed, cast iron cylinder.

CYLINDER ASSEMBLY, 4642-3071

Standard, non-handed, cast iron cylinder and mounting plate. Includes; 4640-3454 Motor Clutch, 4640-3180 I/O Board Assembly and 4640-3462 Controller.

CYLINDER ASSEMBLY, 4642-3071CS

Standard, non-handed, cast iron cylinder and mounting plate. Includes; 4640-3454 Motor Clutch, 4640-3180 I/O Board Assembly and 4640-3462 Controller. Same as a 4640-3071 assembly except on/off switch is concealed in endcap and no hold open switch is included. (separate key switches suggested)

COVERS

COVER, 4640-72MC

Standard, non-handed metal cover.

ARMS

REGULAR ARM, 4640-3077

Non-handed arm.

LONG ARM, 4640-3077L

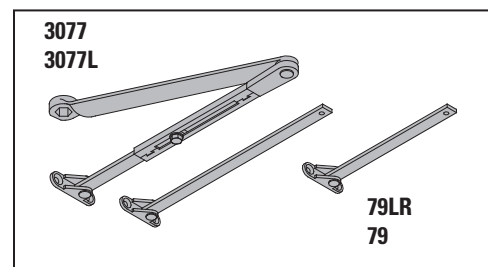
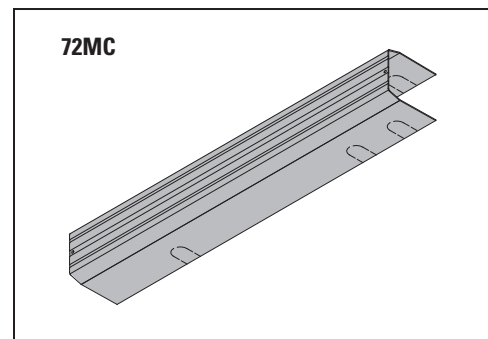
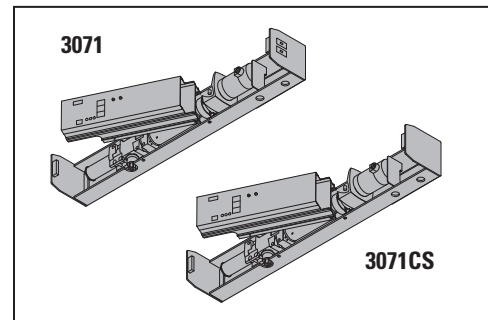
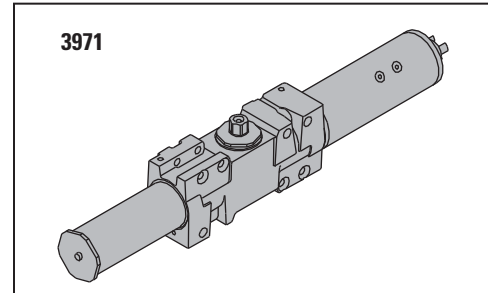
Arm includes LONG ROD AND SHOE, 4640-79LR for deep reveals.

ROD & SHOE, 9140-79

Rod for use with regular arm.

LONG ROD & SHOE, 9140-79LR

Long rod for use with long arm.

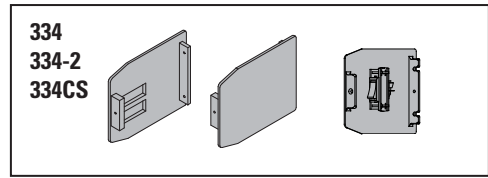


LCN 4640 SERIES

INSTALLATION ACCESSORIES

SWITCH END CAP, 4640-334

End cap (black powder coat only) with cut outs for installing on/off and hold open switches.

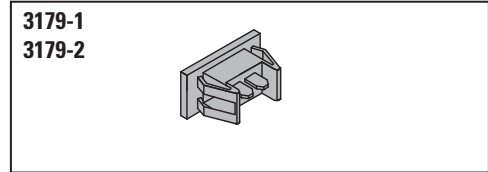


BLANK END CAP, 4640-334-2

Black powder coat only.

SWITCH END CAP, 4640-334CS

End cap and switch (black powder coat only) for concealed switch option.

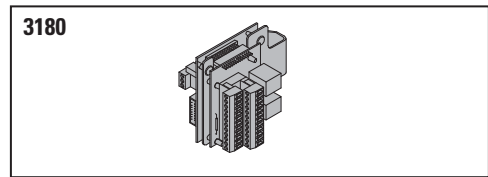


ON/OFF SWITCH ASSEMBLY, 4640-3179-1

Red rocker switch. Plugs into high voltage PC board.

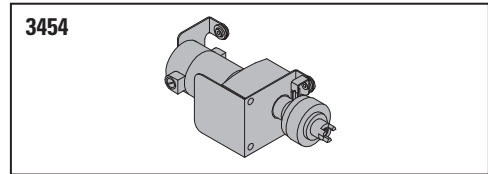
HOLD-OPEN SWITCH ASSEMBLY, 4640-3179-2

Black rocker switch. Plug into low voltage PC board.



PC BOARD ASSEMBLY, 4640-3180

High and low voltage PC boards connected to mounting bracket.

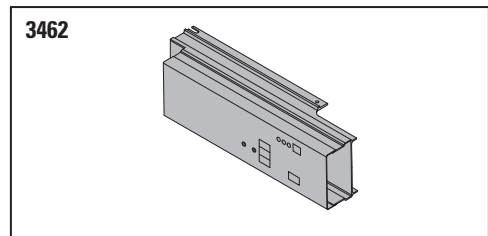


MOTOR/CLUTCH ASSEMBLY, 4640-3454

A geared assembly in an LCN power operator that incorporates a "no destruct" feature.

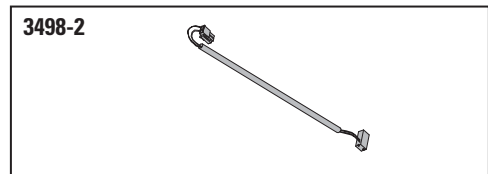
CONTROL BOX ASSEMBLY, 4640-3462

Digital controller with built-in 12/24 VDC power supply. Programming and timing functions are adjusted on controller.



AC POWER CABLE, 4640-3498-2

2 wire cable to connect 120 VAC from PC board assembly to controller.



RIBBON CABLE CONNECTOR, 4640-3498-1

16 wire ribbon cable connecting 1-24 pin terminal connectors to controller.

