

# 8600 SERIES

## Exterior and Interior Automatic “Low Energy” Swing Door Operator



Cal-Royal Products, Inc. local manufacturing makes it easy to create automated entrances in a timely manner. Let us demonstrate our superior quality, service, support and custom capabilities on your next project.

Cal-Royal brings you the professional support as the manufacturer.

Whether your application involves a single automatic operator or a complete facility access, you can expect all phases of the project to be handled professionally.

Introducing our 8600 Series Automatic Swing Door Operator. A swing door operator is beneficial for any commercial, retail or industrial environment, bestowing any manual door with the complete effortless convenience of an automatic door.

Whether you need a door operator for ADA compliance, to improve traffic flow, or simply to heighten your patrons' experience, Cal-Royal Products, Inc. can provide a door operator system that is customized to suit your specific requirements.

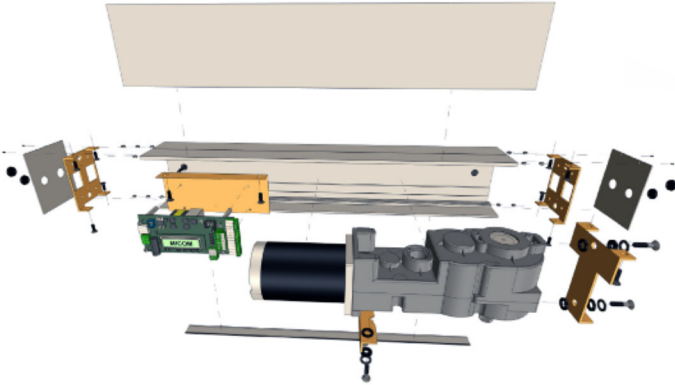
With our door operators, you can turn virtually any swing door into an automatic door. Our swing door operators are perfect for transforming a manual door to an ADA compliant low energy automatic door.

Compatible with wood, metal and glass doors. Allow for fast and easy retrofit installation.

Cal-Royal's mission is to make our customers' business as successful and profitable as possible. We want to be the preferred partner for distributors and the number one choice of end user customers by providing innovative products and technical expertise.

### MAIN FEATURES

- Optional Exterior / Interior Operations
- Interior Operator with Clutch System but without Wind Dampening feature
- Exterior Operator with Wind Dampening and Power Close with 5 force settings feature
- ADA Compliant and conforms to ANSI A156.19 / UL325 standards for door operators
- **700 lbs door capacity and 48" wide**
- Easy non-handed conversion, specify hand when ordering
- Programmable Controller with easy set up & programming
- Push & Go feature opens a door when pushed manually
- Obstacle Detection feature for open & closing ensures the safest use possible
- On Board Power Supply, 12/24 VDC 1.2A for strikes & latches
- Adjustable Closing & Opening Speeds
- Adjustable Closing Force
- Adjustable Latching Speed & Position
- Electrified Lock Input and Delay



## OPERATOR FEATURES

- Programmable controller with digital LED display. Simple easy to use interface for installation setup and programming.
- Selectable PUSH & GO feature with separate adjustable hold-open times engages automatic opening after pedestrian has manually moved the door.
- Built-in Obstacle Detection safety on opening and closing door operations that reverts direction of door to prevent pedestrian entrapment with up to 4 attempts.
- Selectable with 5 separate force settings during **Power Close\*** operation from fully open 90° position to fully closed.
- Electrified Lock Input option for selectable Fail Safe or Fail Secure electric strike operation.
- Electric Lock delay provides adjustable time delay of 0.2 to 2.0 sec. between activating the electric lock and the start of the opening cycle.
- **Wind Force Dampening\*** feature engages motor to reduce abrupt door speed to prevent damage to door, hinges and operator arms.
- Stack Pressure Compensation or adjustable force stack pressure feature engages power close operation during last 30° of swing.
- Before Open Latch Assist feature provides selectable power close of 2.0 sec "before open" latch assist to prevent binding of electric strike.
- Digital Impulse Signal Connection enables wet input for 12/24 VDC accessories providing impulse signals can connect direct to control board without costly relays.
- Blow Open for Smoke feature enables door to open when a signal is received from an alarm system allowing for air and smoke to be ventilated out.
- Electronic & Mechanical Stop feature are adjustable to prevent damage to door hinges, walls and operator arms.
- Presence Detector Input feature enables the operator to input 2 external safety sensors.
- Extendable Spindle feature makes it easy to extend spindle up to 3" for unique installations where the operator has to be mounted higher than typical installations.
- Reveal Push Side 14" Standard.
- 2-year warranty.

\* Not applicable for Interior Operator

## OPTIONS

- Single, pair (double swing) or double egress door operation
- Choice of in-swing, out-swing, left or right handed operation
- Header with complete front access
- Preset for left or right hand operation as ordered
- Finish options, Aluminum & Dark Bronze. Non stock finishes available with factory lead time, subject to minimum order. Consult factory.



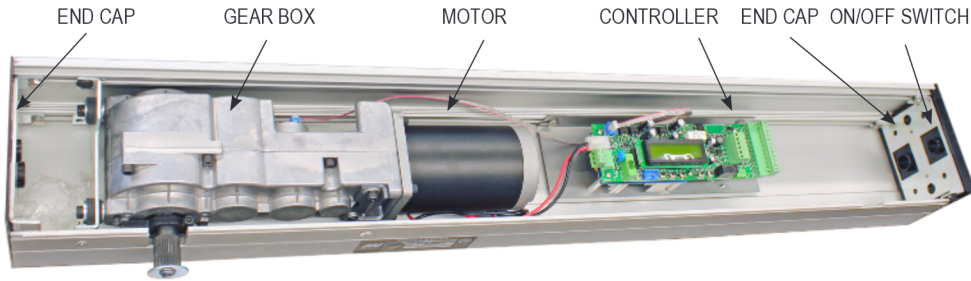
## TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS	
Application	Low Energy
Door Weight	<b>700 lbs (317kg) per leaf, 48" wide</b>
Dimensions (height & width)	5.5" (140mm) H x 4.5 (115mm) D
Standard Dimensions (length)	Single: 39", 45", & 51"; Double: 75", 87" & 99"
Net weight	16 kg (35 lbs) Approx
On Board Power Supply	On board 1.2A 12/24VDC
Consumption	100W Max
Motor rating	1/4 hp, 24VDC, 3A max
Rated operation	Continuous opening and closing cycles
Closing force	Adjustable pressure by spring tension
Operation during power failure	Low manual resistance when opened by hand. Door closing by spring.
Motor type	Low revolution, DC motor
Braking (Open back check & close latch)	Adjustable by Control Unit
Before Open Latch Assist	Selectable power close of 2.0 sec. "before open" latch assist to prevent binding of electric strike
Opening time, Full Closed to Back Check	Adjustable (Open Speed in 20 Steps)
Opening time, Back check to full open	Adjustable (Back Check Speed in 5 Steps / Back Check Distance in 15 Steps)
Closing time, Full open to latch	Adjustable (Close Speed in 15 Steps)
Closing time, Latch to full closed	Adjustable (Latch Speed in 5 Steps / Latch Distance in 15 Steps)
Hold open	Pulsed Energy to Motor. No overheating. Continuous Hold Open
Obstacle detection (without safety sensor)	Opening: If door detects an obstacle, power is cut to motor. (Sensitivity adjustable by 'Current Overload' setting) Door will close by spring power at low speed.
Obstacle detection (with safety sensor)	Safety sensor connected to Safety 1 input will prevent a door opening or prevent the door to go in the closing cycle when the safety sensor is active. Safety sensor connected to Safety 2 input will stall or crawl (Installer selectable) the door when the safety sensor is active.
Operating environment	Ambient temperature -18 deg ~ +50 deg. (no condensation or icing)
	Ambient humidity 30% to 85%RH (no hazardous materials must be present in the atmosphere)

For Interior Operator, prefix INT + Item No. + Length + Finish.

# 8600 SERIES

## MAJOR COMPONENTS DIAGRAM



## ARM AND TRACK ASSEMBLIES

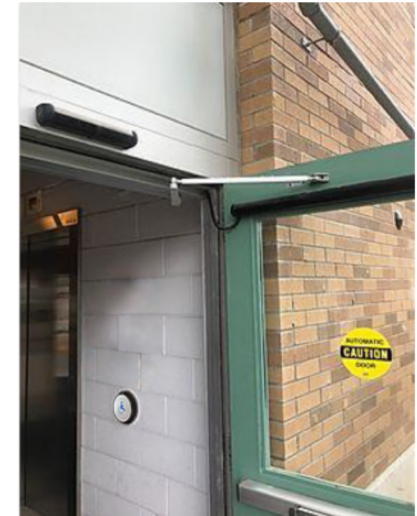
ILLUSTRATION	DESCRIPTION	ITEM NO
	STANDARD PUSH ARM NON-HANDED FOR 0" TO 14" REVEAL	8622-ARM
	PUSH ARM EXTENSION NON-HANDED FOR 14" TO 20" REVEAL	8623-EXT
	ANGLE PULL ARM (RIGHT) HANDED FOR 0" TO 4" REVEAL	8624-RH
	ANGLE PULL ARM (LEFT) HANDED FOR 0" TO 4" REVEAL	8625-LH
	OPTIONAL STRAIGHT PULL ARM NON-HANDED FOR 0" TO 6" REVEAL	8626-ARM

### STICKERS

Comes with every purchase of an operator.



ACTIVATE SWITCH  
TO OPEN DOOR



AVAILABLE FOR BOTH EXTERIOR AND INTERIOR OPERATIONS

UNIQUE FEATURES	EXTERIOR	INTERIOR
Wind Force Dampening feature engages motor to reduce abrupt door speed to prevent damage to door, hinges and operator arms.	YES	NO
Selectable with 5 separate force settings during Power Close operation from fully open 90° position to fully closed.	YES	NO
Clutch System allows motor to disengage in the event of power failure resulting in a smooth and light manual opening and closing of door.	NO	YES

## COMPETING PRODUCTS COMPARISON

Cal-Royal	Dorma	Norton	Assa Abloy	Hager	LCN	LCN	Record
8600	ED900	6000/6300	SW200i	8400	4630/4640	9540/9130	6100/6200

APPLICATIONS: GOVERNMENT ♦ HEALTHCARE ♦ EDUCATION ♦ RETAIL ♦ MULTI-FAMILY ♦ SECURITY ENTRANCES ♦ HOTELS ♦ RESTAURANTS ♦ OFFICE BUILDINGS ♦ BANKS

# 8600 SERIES APPLICATION

ITEM NO	HANDING	TYPE	ILLUSTRATION	DESCRIPTION
8601	LHR	Single		<b>SINGLE OPERATOR STANDARD PUSH ARM, 0" - 14" REVEAL</b> (must order 8622EXT for 14"-20" reveals) Length: 39" , 45" and 51" Handing: LHR or RHR Finish: Alum or Dark Bronze
8602	RHR			
8603	LH			<b>SINGLE OPERATOR STANDARD PULL ANGLE ARM, 0" - 4" REVEAL</b> Length: 39" , 45" and 51" Handing: LH or RH Finish: Alum or Dark Bronze
8604	RH			
8605	LH			<b>SINGLE OPERATOR OPTIONAL PULL STRAIGHT ARM, 0" - 6" REVEAL</b> Length: 39" , 45" and 51" Handing: LH or RH Finish: Alum or Dark Bronze
8606	RH			
8607	LHR/RHR	Simultaneous or Independent Pair		<b>SIMULTANEOUS or INDEPENDENT PAIR STANDARD PUSH ARM, 0" - 14" REVEAL</b> (must order 8622EXT for 14"-20" reveals) Length: 75" , 87" and 99" Handing: RHR and LHR; Finish: Alum or Dark Bronze
8608	LH/RH	Simultaneous or Independent Pair		<b>SIMULTANEOUS or INDEPENDENT PAIR PULL ANGLE ARM, 0" - 4" REVEAL</b> Length: 75" , 87" and 99" Handing: LH and RH Finish: Alum or Dark Bronze
8609	LH/RH	Simultaneous or Independent Pair		<b>SIMULTANEOUS or INDEPENDENT PAIR PULL STRAIGHT ARM, 0" - 6" REVEAL</b> Length: 75" , 87" and 99" Handing: LH-RH Finish: Alum or Dark Bronze
8610	LH/RHR	Simultaneous or Independent Pair		<b>DOUBLE EGRESS PAIR STANDARD PUSH ARM - PULL ANGLE ARM (Left or Right)</b> Length: 75" , 87" and 99" Handing: LH-RHR, LHR-RH Finish: Alum or Dark Bronze
8611	LHR/RH			
8612	LH/RHR	Simultaneous or Independent Pair		<b>DOUBLE EGRESS PAIR STANDARD PUSH ARM - PULL STRAIGHT ARM</b> Length: 75" , 87" and 99" Handing: LH-RHR, LHR-RH Finish: Alum or Dark Bronze
8613	LHR/RH			

Pairing selection (Simultaneous or Independent) performed electronically at time of installation.

\*\* Must specify **ITEM NO + LENGTH + FINISH** when ordering. EXAMPLE: **8601-39 ALUM**

\*\*for Optional Interior Operator, prefix "INT" before item #. EXAMPLE: **INT8601-39 ALUM**

**LENGTH = door width + 3" in most applications**

## ACTUATORS & ACCESSORIES

PUSH PLATES 4.5" SQUARE  
HARD WIRED or WIRELESS



8636-SW

- 4.5 inch square stainless steel push plate
- Blue handicap logo only
- Available in Pair, Hard Wired, Item No 8650-KIT
- Available in Pair with Wireless Radio Kit, Item No 8651-KIT
- (1) 8636-SW, Stainless steel push plate
- (1) 8636-SM, 4.5" square surface mount box



PUSH PLATES 6" ROUND  
HARD WIRED or WIRELESS

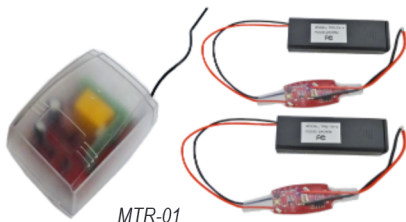


8637-SW

- 6 inch round stainless steel push plate
- Blue handicap logo
- Available in Pair, Hard Wired, Item No 8650-KIT
- Available in Pair with Wireless Radio Kit, Item No 8651-KIT
- (1) 8637-SW, 6" Stainless steel push plate
- (1) 8637-SM, 6" round surface mount box



WIRELESS RADIO KIT



MTR-01

- RADIO KIT eliminates the hassle of wiring from actuator to controller.
- Federal Communications Commission (FCC) Approved
- For use with 8636-SW and 8637-SW for conversion or replacement
- (1) Receiver, 433 Mhz
- (2) Transmitters, 433 Mhz

VERTICAL ACTUATOR BAR  
HARD WIRED OR WIRELESS



ACT-36

- Exceeds California Building Code Section 1117B.6
- Weather Resistant, stainless steel construction
- Membrane switches provide quiet & reliable activation
- Entire surface provides activation from any angle
- Can be mounted on a wall or to a bollard
- 6" W x 36" H x 1" Thick
- ACT-36, 36" Hardwired, txt & logo
- ACT-900, 36" Wireless, 900 MHz

INFRARED SAFETY SENSOR, HARD WIRED



SCAN-8660

- Low profile design reduces accidental damage
- Can be mounted horizontal or vertical
- Detects the presence of a pedestrian, while the door is opening or closing using triangulation
- Length: 34.5 inches
- Power: 12/24 VAC / VDC
- SCAN-8660, Door Mounted, active infrared safety sensor

## ACTUATORS & ACCESSORIES

<p>TOUCHLESS SWITCH, HARD WIRED</p>  <p>CTB-01</p> <ul style="list-style-type: none"> <li>• Touchless, wave to open switch</li> <li>• Active Infrared Sensing Technology, 1"- 5" range</li> <li>• 2" x 4", Stainless Steel</li> <li>• Fits in a single gang electrical box</li> <li>• Power: 12/24V DC</li> <li>• <b>CTB-01, 2.75" x 4.5", 1-gang, Text, Logo &amp; Hand</b></li> </ul>	<p>TOUCHLESS SWITCH, HARD WIRED</p>   <p>CTB-02</p> <ul style="list-style-type: none"> <li>• Touchless, wave to open switch</li> <li>• Active Infrared Sensing Technology, 1"- 5" range</li> <li>• 4.5" x 4.5", Stainless Steel plate with surface mount plastic box</li> <li>• Power: 12/24V DC</li> <li>• <b>CTB-02, 4.5" x 4.5" Square, Text, Logo &amp; Hand</b></li> </ul>	<p>TOUCHLESS SWITCH, HARD WIRED</p>   <p>CTB-03</p> <ul style="list-style-type: none"> <li>• Touchless, wave to open switch</li> <li>• Active Infrared Sensing Technology, 1"- 6" range</li> <li>• 4.5" x 4.5", Stainless Steel &amp; Glass plate with surface mount plastic box</li> <li>• Power: 12/24V AC/DC</li> <li>• <b>CTB-03, 4.5" x 4.5" Square, Text &amp; Hand</b></li> </ul>
<p>TOUCHLESS SWITCH, HARD WIRED</p>  <p>CTB-05</p> <ul style="list-style-type: none"> <li>• Infrared Photoelectric Reflective Sensor Switch</li> <li>• 2"- 8" range, With Red/Green LED indicator</li> <li>• Adjustable timer delay function, 0.5 to 20 sec.</li> <li>• 1.5" x 4.5", Stainless Steel</li> <li>• Fits in a standard jamb size electrical gang box</li> <li>• Power: 12/24V DC</li> <li>• <b>CTB-05, 1.5" x 4.5", single gang, Text &amp; Hand</b></li> </ul>	<p>TOUCHLESS SWITCH, HARD WIRED</p>   <p>CTB-07</p> <ul style="list-style-type: none"> <li>• Infrared Photoelectric Reflective Sensor Switch</li> <li>• 2"- 8" range, With Red/Green LED indicator</li> <li>• Adjustable timer delay function, 0.5 to 20 sec.</li> <li>• 4.5" x 4.5", Stainless Steel plate with surface mount plastic box</li> <li>• Power: 12/24V DC</li> <li>• <b>CTB-07, 4.5" x 4.5" Square, Text, Logo &amp; Hand</b></li> </ul>	<p>TOUCHLESS SWITCH, WIRELESS</p>   <p>CTW-02</p> <ul style="list-style-type: none"> <li>• Touchless, wave to open switch</li> <li>• Active Infrared Sensing Technology, 1"-3" range</li> <li>• 4.5" x 4.5", Composite Surface</li> <li>• With built in radio transmitter</li> <li>• Sold per pair (2 Switches &amp; 1 Receiver)</li> <li>• Power: 12/24V DC</li> <li>• <b>CTW-02, 4.5" x 4.5" Square, Logo</b></li> </ul>
<p>TOUCHLESS SWITCH, HARD WIRED</p>  <p>8630SW 8631SW 8632SW</p> <ul style="list-style-type: none"> <li>• Utilizes microwave motion technology</li> <li>• 2" to 24" detection range</li> <li>• Audible and visual alert indications of activation</li> <li>• Power: 12/24V AC/DC</li> <li>• <b>8630SW, 4.5" x 4.5", double gang, Text &amp; Hand</b></li> <li>• <b>8631SW, 4.5" x 2.75", single gang, Text &amp; Hand</b></li> <li>• <b>8632SW, 4.5" x 1.68", Text &amp; Hand</b></li> <li>• <b>8640-SM, double gang, surface mount box</b></li> <li>• <b>8641-SM, single gang, surface mount box</b></li> <li>• <b>8642-SM, 1.5" x 4.75" jamb surface mount box, Hardwired solutions only</b></li> </ul>	<p>TOUCHLESS SWITCH, HARD WIRED</p>  <p>8633-SW</p> <ul style="list-style-type: none"> <li>• Utilizes microwave motion technology</li> <li>• Adjustable from 4" to 24" range</li> <li>• Microwave cell can be mounted behind drywall</li> <li>• Comes with both single gang and double gang faceplates</li> <li>• Power: 12/24V AC/DC</li> <li>• <b>8633-SW, Microwave Cell Switch, with Single and Double gang BLACK faceplate, Text &amp; Hand</b></li> <li>• <b>8641-SM, Single gang, surface mount box</b></li> <li>• <b>8640-SM, Double gang, surface mount box</b></li> </ul>	<p>TOUCHLESS SWITCH, SHORT RANGE HARD WIRED</p>   <p>8634-SW 8635-SW</p> <ul style="list-style-type: none"> <li>• Utilizes capacitance technology</li> <li>• Short range detection zone reduces unwanted activations</li> <li>• Touchless design reduces the spread of bacteria, disease and contamination</li> <li>• Power: 12/24V AC/DC</li> <li>• <b>8634-SW, 6" Round, Text, Logo &amp; Hand</b></li> <li>• <b>8635-SW, 4.75" Square, Text, Logo &amp; Hand</b></li> </ul>

Cal-Royal Products, Inc. reserves the right to, and may, on occasions, make changes and/or improvements in design, dimensions and technical specifications without prior notice.