

The 412 24v Operator and 424 MPS Control Panel: Installation Manual

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FAAC International, Inc.
303 Lexington Avenue
Cheyenne, WY 82007
www.faacusa.com



Important Safety Information

Both the installer and the owner and/or operator of this system need to read and understand this installation manual and the safety instructions supplied with other components of the gate system. This information should be retained by the owner and/or operator of the gate.

WARNING! To reduce the risk of injury or death

1. **READ AND FOLLOW ALL INSTRUCTIONS.**
2. Never let children operate or play with gate controls. Keep the remote control away from children.
3. Always keep people and objects away from the gate. **NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.**
4. Test the gate operator monthly. The gate **MUST** reverse on contact with a rigid object or stop when an object activates the non-contact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of injury or death.
5. Use the emergency release only when the gate is not moving.
6. **KEEP GATES PROPERLY MAINTAINED.** Read the owner's manual. Have a qualified service person make repairs to gate hardware.
7. The entrance is for vehicles only. Pedestrians must use separate entrance.
8. **SAVE THESE INSTRUCTIONS.**

There are three kinds of safety issues involved with an automatic gate operator: issues arising from the design of the gate, from the installation of the gate and the operator, and from the use of the gate operator. The following information is designed to help you be sure your gate and its operator are well-designed, installed correctly, and used safely.

Gate Design

1. A gate is a potential traffic hazard, so it is important that you locate the gate far enough away from the road to eliminate the potential of traffic getting backed up. This distance is affected by the size of the gate, how often it is used, and how fast the gate operates.
2. The operator you choose to install on your gate must be designed for the type and size of your gate and for the frequency with which you use the operator.
3. Your gate must be properly installed and must work freely in both directions before the automatic operator is installed.
4. An automatic operator should be installed on the inside of the property/fence line. Do not install the operator on the public side of the property/fence line.
5. Pedestrians should not use a vehicular gate system. Prevent such inappropriate use by installing separate gates for pedestrians.
6. Exposed, reachable pinch points on a gate are potentially hazardous and must be eliminated or guarded.
7. Outward swinging gates with automatic operators should not open into a public area.
8. The operating controls for an automatic gate must be secured to prevent the unauthorized use of those controls.
9. The controls for an automatic gate should be located far enough from the gate so that a user cannot accidentally touch the gate when operating the controls.
10. An automatic gate operator should not be installed on a gate if people can reach or extend their arms or legs through the gate. Such gates should be guarded or screened to prevent such access.

Installation

1. If you have any question about the safety of the gate operating system, do not install this operator. Consult the operator manufacturer.
2. The condition of the gate structure itself directly affects the reliability and safety of the gate operator.
3. Only qualified personnel should install this equipment. Failure to meet this requirement could

- cause severe injury and/or death, for which the manufacturer cannot be held responsible.
4. The installer must provide a main power switch that meets all applicable safety regulations.
 5. Clearly indicate on the gate with a minimum of 2 warning signs (visible from either side of the gate) that indicate the following:
 - The gate is automatic and could move at any time, posing a serious risk of entrapment.
 - Children should not be allowed to operate the gate or play in the gate area.
 - The gate should be operated only when it is visible to the operator and the when the area is free of people and obstructions.
 6. It is extremely unsafe to compensate for a damaged gate by overtightening a clutch or increasing hydraulic pressure.
 7. Devices such as reversing edges and photocells must be installed to provide better protection for personal property and pedestrians. Install reversing devices that are appropriate to the gate design and gate application.
 8. Before applying electrical power, be sure that the voltage requirements of the equipment correspond to your supply voltage. Refer to the label on your operator system.

Use

1. Use this equipment only in the capacity for which it was designed. Any use other than that stated should be considered improper and therefore dangerous.
2. When using any electrical equipment, observe some fundamental rules:
 - Do not touch the equipment with damp or humid hands or feet.
 - Do not install or operate the equipment with bare feet.
 - Do not allow small children or incapable persons to use the equipment.
3. If a gate system component malfunctions, turn off the main power before making any attempt to repair it.
4. Do not attempt to impede the movement of the gate. You may injure yourself as a result.
5. This equipment may reach high temperatures during operation; therefore, use caution when touching the external housing of the operator.
6. Learn to use the manual release mechanism according to the procedures found in this installation manual.
7. Before carrying out any cleaning or maintenance operations, disconnect the equipment from the electrical supply.
8. To guarantee the efficiency of this equipment, the manufacturer recommends that qualified personnel periodically check and maintain the equipment.

U.L. Class and FAAC Operator Model		Duty Cycle	Typical Use
Class I: Residential Vehicular Gate Operator			
402	750	Limited duty	<ul style="list-style-type: none"> • Home use • Small apartment building, for example, up to 4 units in a building, with limited public access
422	760		
412			
Class II: Commercial/General Access Vehicular Gate Operator			
400	640	Continuous duty	<ul style="list-style-type: none"> • Apartment buildings • Very public access
620			
Class III: Industrial/Limited Access Vehicular Gate Operator			
400	640	Continuous duty	<ul style="list-style-type: none"> • No public access
620			
Class IV: Restricted Access Vehicular Gate Operator			
620	640	Continuous duty	<ul style="list-style-type: none"> • Prison rated security

Technical Data

The 412 Low Voltage Operator

Parameter	Measure
Voltage required, VAC	22 VAC, +6% -10%, 50-60 Hz
Duty type	Residential duty
Maximum duty cycle	50 cycles/ hr
Maximum leaf length, ft (m)	14 (4.3)
Maximum leaf weight, lb (kg)	500 (225)
Maximum leaf swing, deg	110
Thrust and traction force, lb (N)	562.5 (2500)
Stroke, in. (cm)	11 3/8 (29)
Rod speed, in./sec (cm/sec)	5/8 (1.6)
Thermal cut out, deg F (deg C)	284 (140)
Operator dimensions, l × w × h, in. (cm)	39 5/16 × 3 3/4 × 7 9/16 (99.8 × 9.5 × 19.2)
Operator weight, lb (kg)	14.3 (6.5)
Current draw, A	3
Maximum amperage draw for accessories, mA	500

The Control Panel

The 412 low voltage operator must be installed with the 424 MPS control panel.

The 424 MPS control panel allows you to set these parameters:

- The sensitivity of the electronic clutch
- The operating logic (A or EP mode)
- The pause time
- How the gate responds to multiple activation signals
- The number of operators
- The reversing stroke function
- The behavior of triggered reversing devices
- The leaf delay for overlapping leaves

Power source: The 424 MPS requires 22VAC. A 40VA, Class 2 plug in transformer is provided with the system.

Batteries: Two 12 volt, 7.2 Amp/hour, maintenance free batteries are provided with the system. They should be connected in series to the 424 MPS to provide 24vdc to the control panel during normal operation and act as a source of power in the event of a loss of AC power.

Fuses:

Fuse	Protects
F1 = 3.15Amp, 250V	Accessory output
F2 = 10Amp, 250V	Motor
F3 = 3.15Amp, 250V	Logic

Operating logics available: A and EP.

Unpacking the Operator

When you receive your 412 Compact Operator, complete the following steps.

Inspect the shipping box for physical damage such as a torn carton. Then inspect the operator after you remove it from the box. Notify the carrier immediately if you note any damage because the carrier must witness the damage before you can file a claim.

As you unpack the box, insure that all the parts listed below are included (also see Figure 1). Your kit (a pair of operators) has these parts:

- 1- 14" x 16" fiberglass enclosure with 424 MPS control panel. Power input terminals, a power disconnect switch, a 110v receptacle, and a test button will be installed on the backplate. Two 12v batteries and a plug in transformer will also be included in the enclosure.

- 2- 412 Operator units. One is marked SX and one is marked DX. Be sure to install each on the proper gate leaf (see Figure 2).
- 2- Protective covers for the cylinder of the operator
- 1- Package of mounting hardware:
 - 2 Rear mounting brackets
 - 2 Rear mounting plates that attach to the gate post (or column)
 - 2 Front mounting brackets that attach the operators to the gate leaves
- 1- Parts package:
 - 2 End caps
 - 2 Plastic inserts for the protective cover
 - 2 Manual Release keys
 - 2 Plugs for covering the Manual Release keyhole
 - 8 Snap rings
 - 4 Screws for attaching the cover to the operator
 - 4 Pins for attaching the operator to the mounting brackets (each requires 2 snap rings)

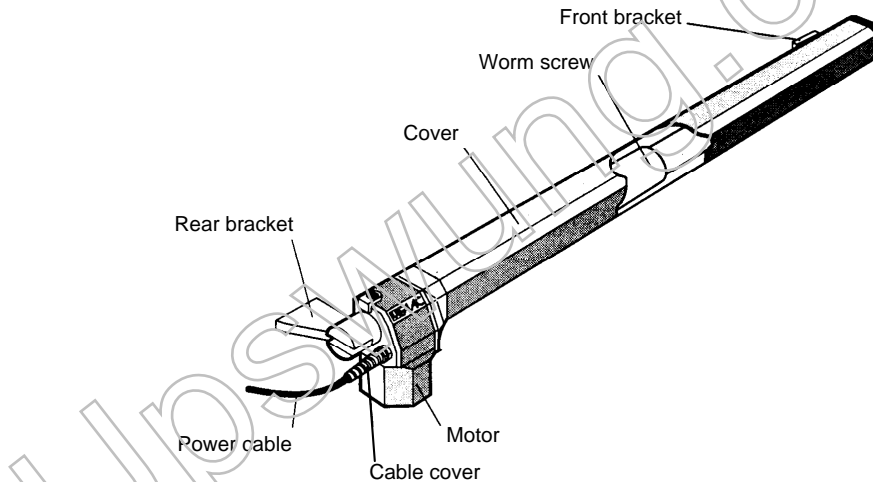


Figure 1. Parts of the 412 Compact Operator (SX model is shown)

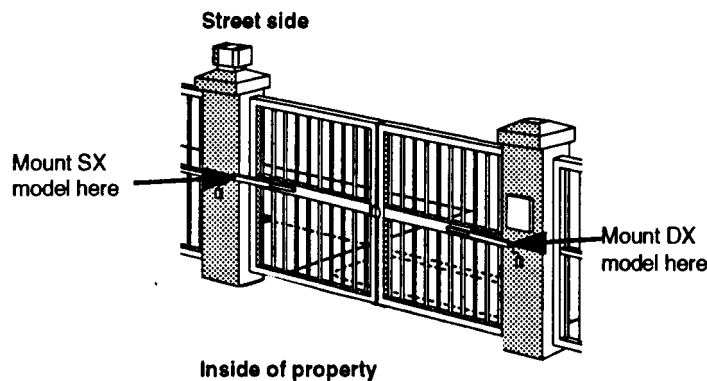


Figure 2. Mount the proper model (SX or DX) on the gate leaf whether the gate swings inward or outward.

