ASI DOORS

OWNER'S MANUAL

Single and Paired Swing Doors

MODELS 120/125, 130/135, 220/225, 230/235

MANUAL PART #: 17A144

NOTE

For ASI DC Swing Power Operator see Addendum 17A324

For ASI AC Swing Power Operator see Addendum 17A325

Manual last updated on: September 11, 2023 4:24 PM

Safety Practices

This is a safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION used without a safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

NOTE explains general information.

⚠ WARNING

Warning read these safety practices before installing, operating or servicing. Failure to follow these safety practices could result in property damage, death or serious injury.

READ AND UNDERSTAND ALL WARNING LABELS AND OPERATING INSTRUCTIONS IN THIS MANUAL BEFORE OPERATING. If you do not understand the instructions, ask your supervisor to teach you how to use the product.

Safety Practices (cont'd)

1. Do not operate the door while under the influence of drugs or alcohol.
2. Do not use the door if it looks broken or does not seem to work properly. Advise your supervisor at once.
3. Stay clear of the door when it is moving.
4. Keep hands, feet and head clear of the door at all times.
5. Do not operate the door with equipment, material or people directly inside door opening.
6. Disconnect power before performing any electrical or mechanical service, cleaning or other maintenance on the door. OSHA requires disconnect to be properly tagged and locked out during all maintenance or service of equipment. With the power supply disconnected, always verify using a volt meter.
7. All electrical troubleshooting or service must be completed by a qualified electrician or service person and must meet all applicable local, state, federal, international and other governing agency codes.
8. When it is necessary to service the control box with power on, USE EXTREME CAUTION. Do not place fingers or uninsulated tools inside the control box. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.
9. It is your responsibility to keep all warning labels and instructional literature legible, intact and kept with the door. Replacement labels and literature are available from ASI Doors, Inc. or its representatives.
10. If you have any questions, contact your supervisor or your local ASI Doors, Inc. representative for assistance.
11. Train all service and personnel using or near door on intended use(s) and operation of the door.
12. Failure to operate the door as intended, as described, or heed any warning may result in equipment damage, property damage, serious bodily injury or death.

Warranty Policy

ASI Doors (herein called "ASI") warrants solely for the benefit of its customer that each door system manufactured by ASI (each a "Door System") will be free from defects in material and manufacture for a period of one (1) year from the date of original shipment by ASI. The following models receive a similar two (2) years from date of shipment warranty: 109, 209, 120-125, 1240-125-, 1240SS-1250SS, 1260-1270, 1260SS-1270SS, 130-135, 140-150, 160-170, 220-225, 220SS-225SS, 230-235, 230SS-235SS. In all instances warranty labor is covered for a period of one (1) year from the date of original shipment.

The foregoing limited warranty shall not apply to defects that result from improper installation, abuse, misuse, alteration, modification, or failure to maintain the Door System in accordance with the ASI Owner's Manual. Periodic maintenance and adjustment of the Door System as described in the ASI Owner's Manual are the sole responsibility of the customer. All claims for defects must be made to ASI within thirty (30) days after the defect is discovered or should, with reasonable care, have been discovered. **THE FOREGOING LIMITED WARRANTY CONSTITUTES THE EXCLUSIVE WARRANTY OF ASI WITH RESPECT TO THE DOOR SYSTEM. ASI EXPRESSLY DISCLAIMS ALL OTHER GUARANTEES OR WARRANTIES—WHETHER EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

If a Door System does not comply with the foregoing limited warranty, and a claim is made by customer within the warranty period, ASI will, at the option of ASI, either repair or replace any defective equipment or parts free of charge and pay the reasonable labor costs to repair or replace the defective equipment or parts if within the defined warranty period. The remedy of repair or replacement shall be the exclusive and sole remedy for any breach of the foregoing limited warranty.

ASI SHALL NOT IN ANY EVENT BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING WITHOUT LIMITATION ANY LOST PROFITS, ARISING FROM THE SALE OR USE OF THE DOOR SYSTEM, OR FROM ANY OTHER CAUSE WHATSOEVER, WHETHER THE CLAIM GIVING RISE TO SUCH DAMAGES IS BASED UPON BREACH OF WARRANTY (EXPRESSED OR IMPLIED) BREACH OF CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF A PARTY HAS BEEN ADVISED OF THE POSSIBILITY THEREOF, AND REGARDLESS OF ANY ADVISE OR REPRESENTATION THAT MAY HAVE BEEN RENDERED BY ASI CONCERNING THE SALE OR USE OF THE DOOR SYSTEM.

At ASI's request, customer shall return to ASI for inspection any Door System for which a warranty claim has been made, F.O.B. ASI's facility with freight prepaid. The customer is responsible for any removal costs.

The customer shall comply with the following procedures in filing a warranty claim with ASI:

1. Notify ASI of any and all defects in writing with photographic evidence. ASI will review the warranty request and issue a Returns Merchandise Authorization (RMA) form if the defective parts need to be returned to ASI for inspection and verification. The RMA form must accompany any materials returned for warranty consideration.

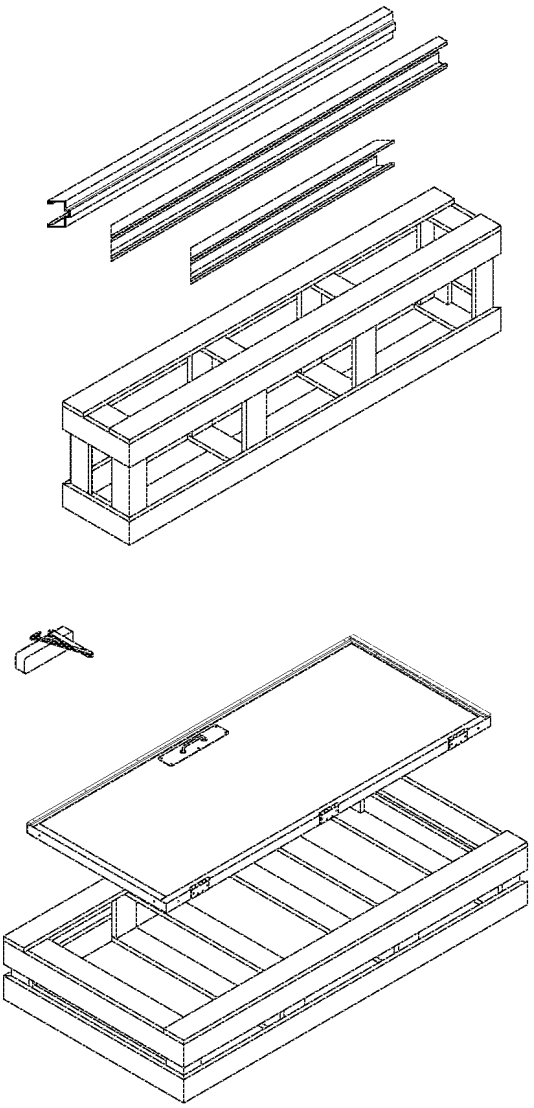
2. All replacement parts or equipment will be invoiced to the customer. Upon verification by ASI that the Door System is defective, ASI will issue a full credit to customer for the replacement parts or equipment.

3. If outside labor is needed to install the replacement parts or equipment, ASI requires a written estimate of the labor charges in advance so ASI may approve the labor charges and issue a purchase order. ASI will not accept any labor charges unless previously approved in writing and accompanied by the ASI purchase order number.

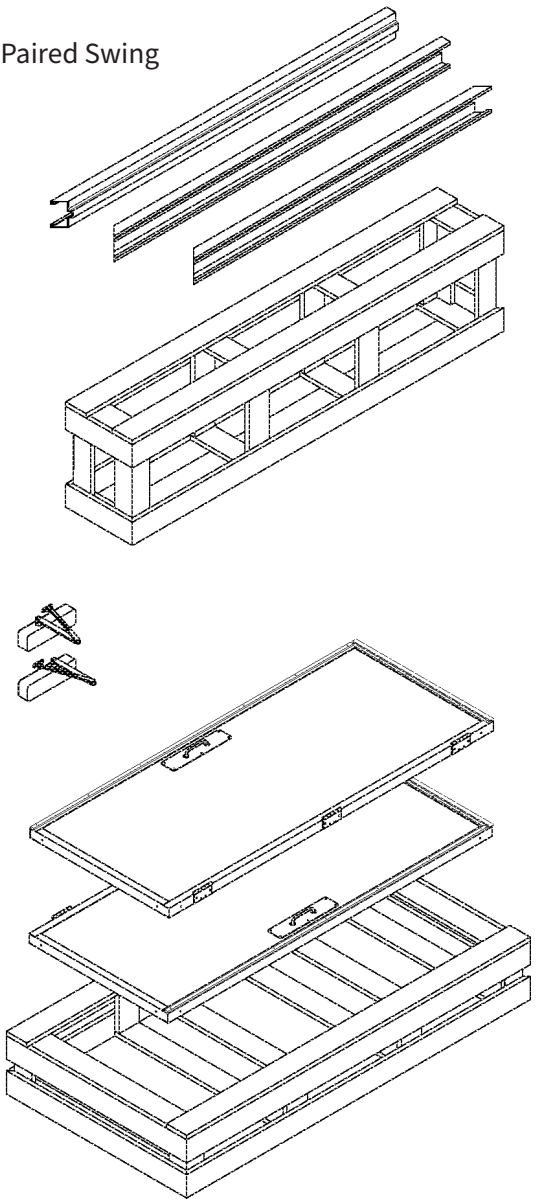
(Rev 12/21)

Crates and Contents

Single Swing



Paired Swing



Upon receipt of the shipment, check that you have received the correct number of pieces as shown in (Figure 1). Crate one will contain the door panel(s). Crate two will contain the frame, operator and loose parts. For your protection, note any damages or shortages on the carrier's bill of lading before signing the bill for receipt.

The installation of this door will require at least a two man crew and a fork lift. Select a fork lift with lifting height based upon the height of the door plus a minimum additional two feet.

NOTE

NOTE DO NOT remove door sections from crate until you encounter the step in which they are to be installed.

NOTE Unless specifically called out as "Provided by ASI", installer is to provide all necessary mounting hardware, anchors, inserts, hangers, supports and equipment needed to install door in accordance with final shop drawings and manufacturer's instructions.

Storage at Building Site

1. Frames shall be stored under cover on the Building site on 4” wood sills or on floors in a manner that will prevent rust and damage. Avoid the use of non-vented plastic or canvas shelters which create a humidity chamber (Figure 2).
2. Assembled frames shall be stored in a vertical positions, five units maximum in a stack. Provide a 1/4” space between frames to promote air circulation (Figure 3).
3. Doors shall be stored in an upright position at the building site, under cover. Place the units on at least 4” wood sills or on floors in a manner that will prevent rust and damage. Avoid the use of non-vented plastic or canvas shelters which create a humidity chamber. Provide a 1/4” space between frames to promote air circulation.

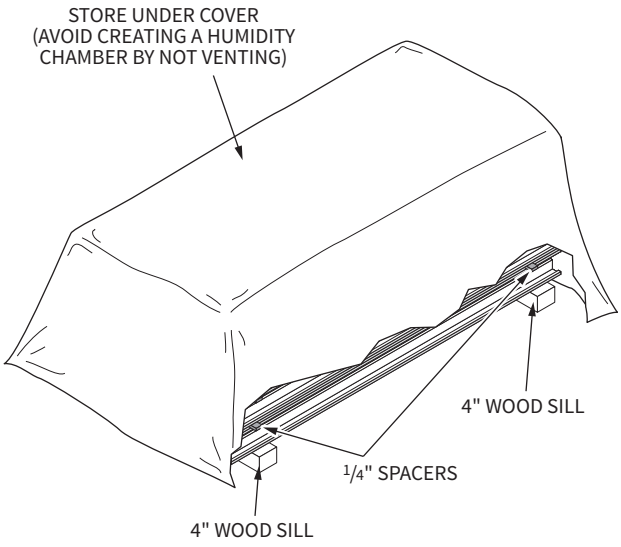


Figure 2: Storage of Knocked Down Frames

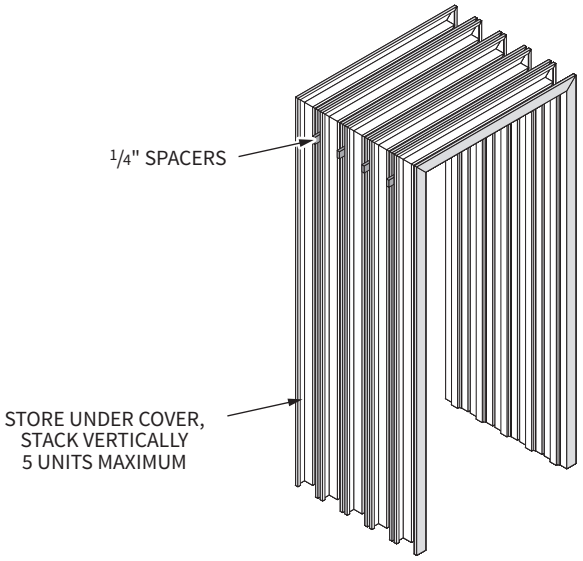


Figure 3: Storage of Assembled Frames

Door Frame Measurements

1. The detailed description of frame installation techniques that follow speak of plumbing, squaring and aligning the frame. The details in Figure 4 indicate the maximum allowable tolerance in this area.

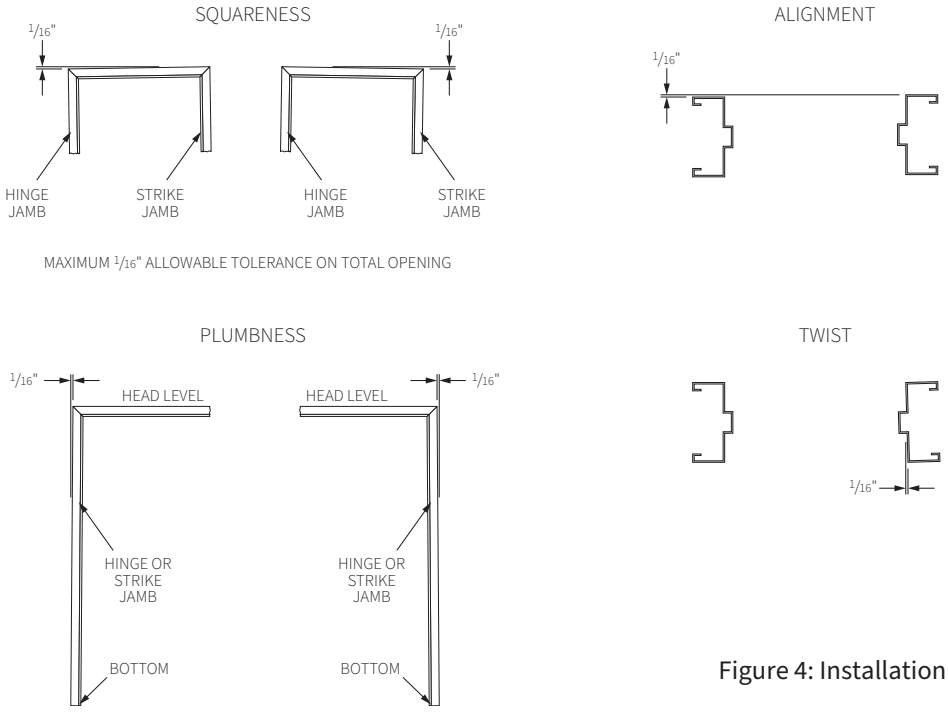


Figure 4: Installation Tolerances

Slip-On Frame Installation

1. Size Opening (Figure 5) DW-Series frames are designed for installation after the studs and drywall are completed. Install double steel studs at all jambs. See Figure 10 for recommended practice at head and jamb stud intersections. It is important to ensure that the rough stud opening for double rabbet profiles is sized as follows:
   a. Rough Stud Opening Width
      RSOW = Door width + $1^1/_2$" ($+^1/_4$ / –0)
   b. Rough Stud Opening Height
      RSOH = Door height + $^3/_4$" ($+^1/_4$ / –0)
2. Install Head (Figure 6)
   a. For fire rated pairs only, install snap-in anchors in each face at the center line of the head. See Figures 7, 8 & 9 for installation of anchors.
   b. Slide head into position in center of rough stud opening (wedges may be used to temporarily hold head in position).

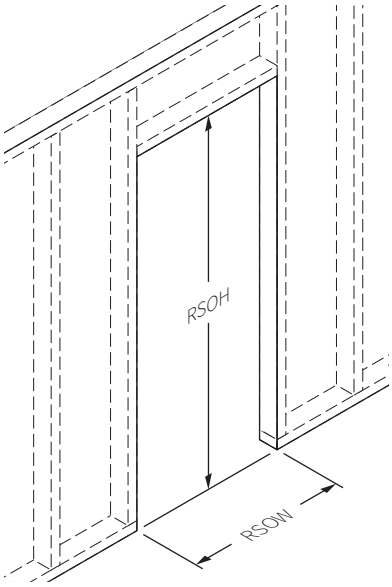


Figure 5: Size Opening

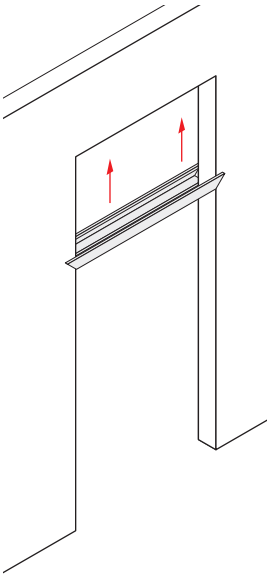


Figure 6: Install Head

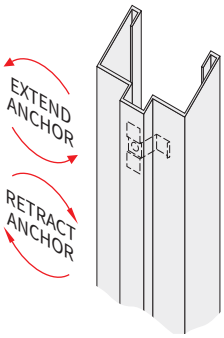


Figure 8: Drywall Tension Anchor

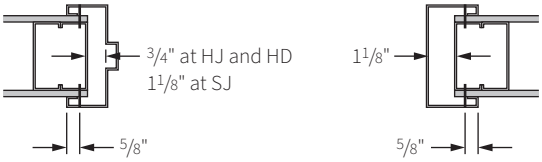


Figure 7: Anchorage at Base of Frame

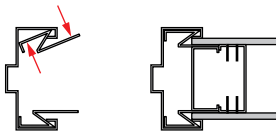


Figure 9: Snap-In Anchor

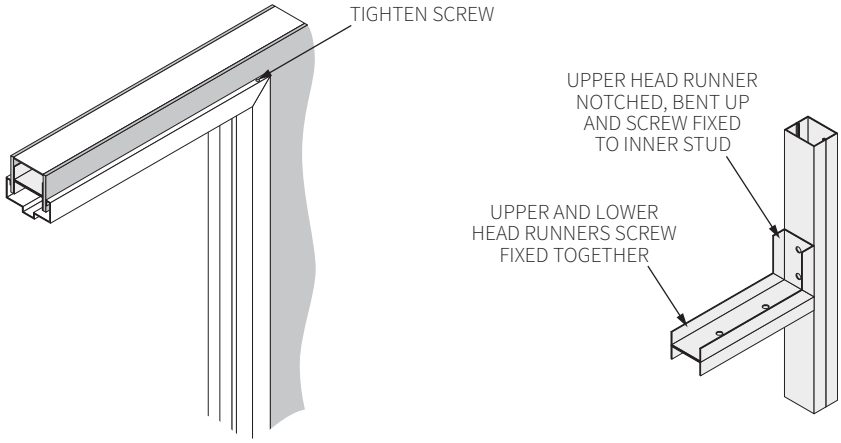


Figure 10: Head and Jamb Stud Intersections

Slip-On Frame Installation Continued

3. Install Hinge Jamb (Figure 11)
   a. Retract tension anchor at top of jamb by turning screw clockwise.
   b. Insert the integral soffit tab on the jamb slot in the head. Pivot jamb into place over the wall.
   c. Insert screws into top corners of the head. Do not fully tighten at this time.
4. Install Strike (or 2nd hinge) Jamb (Figure 12)
   a. For fire rated singles only, install snap-in anchor in each face of strike jamb immediately above strike reinforcing.
   b. Repeat Steps 3a through 3c.
5. Anchor Frame (Figure 13)
   a. Place a temporary wooden spreader between jambs at the floor to ensure the correct frame rabbet width at the base of the frame. The spreader must be square, at least 1" thick, almost as wide as the frame jamb depth with clearance notches for the frame stops.
   b. Shim the bottom of the jambs to the same elevation so head will be level.
   c. Secure the bottom of the frame through the dimpled holes at the base of each jamb with standard drywall screws into the stud sill plate/ runner. (Both jamb rabbets must be parallel)
6. Set Frame (Figure 14)
   a. Plumb and square-up frame by adjusting tension anchors at the top of each jamb ensuring that anchors press tightly against studs.
   b. On fire rated frames, secure snap-in anchors at strike jamb or head to studs with 2 standard drywall screws per anchor.
   c. Tighten screws at corners of the head.
   d. Remove temporary wooden spreader.

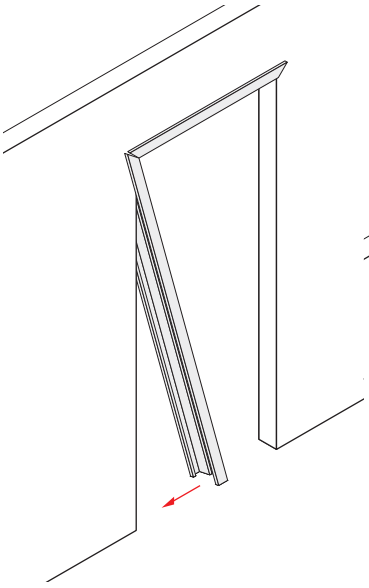


Figure 11: Install Hinge Jamb

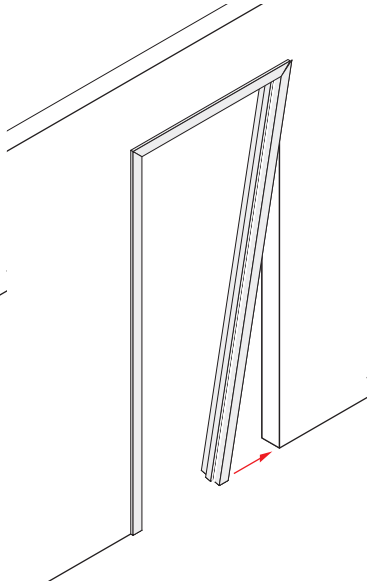


Figure 12: Install Strike Jamb

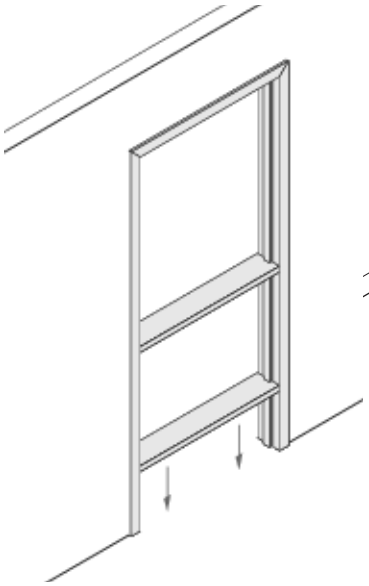


Figure 13: Anchor Frame

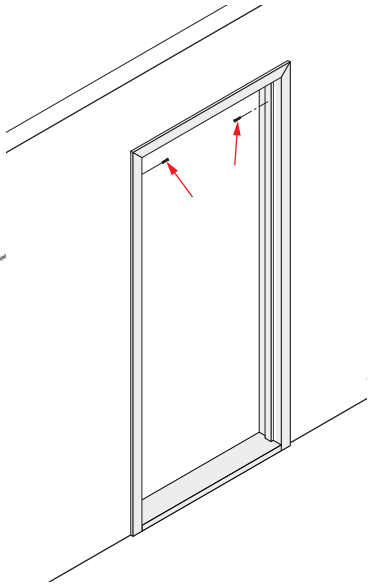


Figure 14: Set Frame

Welded or Knocked-Down Frame Installation

NOTE

Note for knock-down frames, start at step 1. For welded frames, start at step 2.

1. Assemble Frame (Figure 15)
   a. Insert jamb corner clip tabs into 2 slots at each end of head. Insert screws into frame at 2 corners at each end of head.
   b. Ensure that face miters on jambs and head are tight and corners are square.
   c. Bend the tabs at each head rabbet slot downwards away from door opening and tighten 2 screws at each corner of head.
2. Remove Temporary Spreaders (Figure 16)
   a. Welded frames are provided with temporary steel spreaders to maintain alignment and minimize other damage during shipping and handling. They are not intended to be used during installation and must be removed.

NOTE

Note for new unit masonry or steel stud partitions, proceed to step 3. For existing unit masonry or poured concrete walls proceed to step 7.

3. Place and Anchor to Floor (Figure 17)
   a. Stand frame in position.
   b. Place a wooden spreader between the jambs at the floor. The spreader must be square, at least 1" thick, almost as wide as the frame jamb depth with clearance notches for the frame stops.
   c. Level the frame head, placing shims under the jamb base anchors as necessary.
   d. Adjust frame for alignment and twist. Rabbets must be parallel.
   e. Fasten jambs to the floor through the floor anchors.

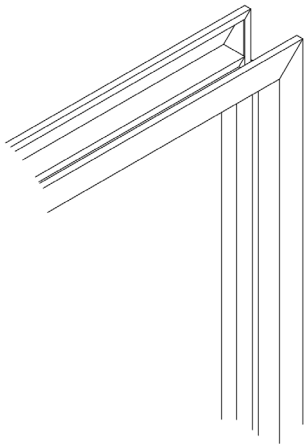


Figure 15:Assemble Frame

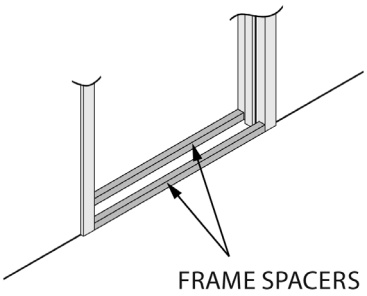


Figure 16: Remove Temporary Spreaders

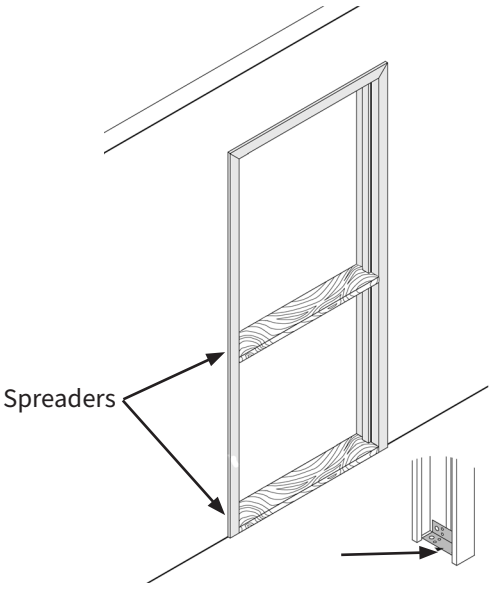


Figure 17: Place and Anchor to Floor

Welded or Knocked-Down Frame Installation Continued

4. Set Frame (Figure 18)
   a. Brace frame as shown. Do not brace in the direction of the adjacent wall.
   b. Install a second wooden spreader at the mid height of the frame to maintain correct frame rabbet width and to prevent bowing of the jambs.
5. New Unit Masonry Wall Anchorage (Figure 19)
   a. As wall is laid up, embed wire, T-stop or masonry fire anchors in mortar coursing immediately above or below hinges and directly opposite on strike jamb.
   b. Although not mandatory, even for fire rated frames, grouting of the jambs is recommended in all units to endure a more secure and stable installation.
6. Steel Stud Partition Anchorage (Figure 20)
   a. Where loose combination stud anchors are provided, install in frame throat opening.
   b. Remove or bend legs of combination stud anchors back inside frame profile.
   c. Place and secure floor and ceiling steel runners.
   d. Place, plumb and secure first vertical steel stud inside floor and ceiling runners with stud fitting snug against wall anchors in each jamb. Open webs of studs should be facing away from the frame.
   e. With standard $^1/_2$" long pan head sheet metal screws, secure studs to each anchor.
   f. Check plumb and square of frame, alignment and twist of jambs.
   g. Place and secure a second vertical steel stud inside floor and ceiling runners with stud returns abutting the first steel stud returns.
   h. Install and secure steel lintel runners at head of frame.

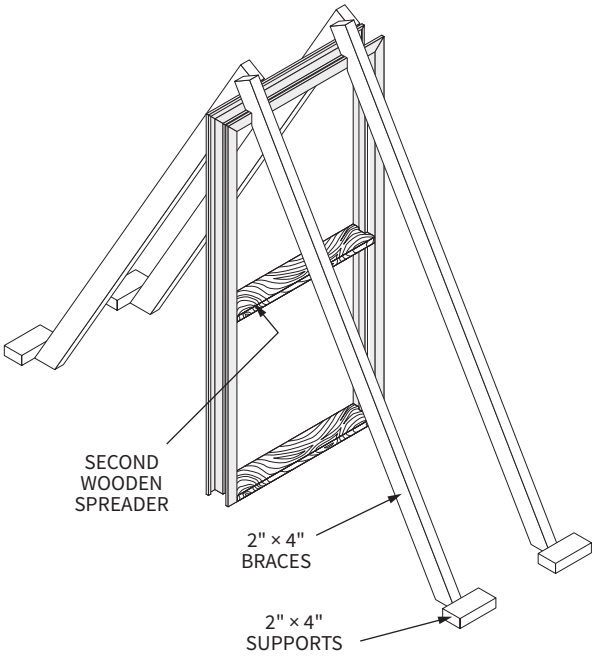


Figure 18: Set Frame

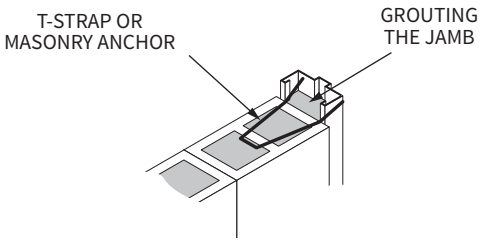


Figure 19: New Unit Masonry Wall Anchorage

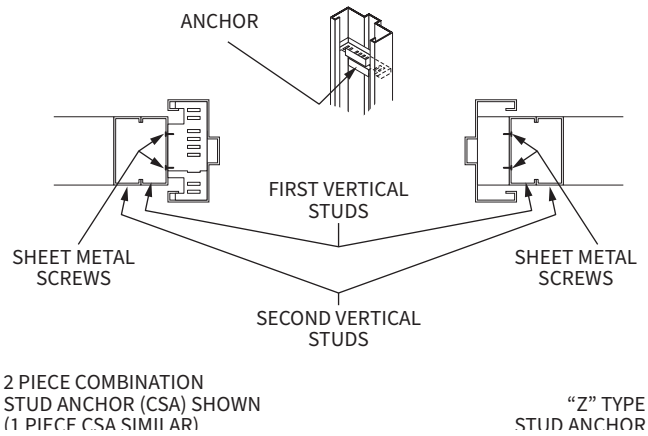


Figure 20: Steel Stud Partition Anchorage

Door Hardware and Accessories

7. Existing Masonry or Poured Concrete Wall Anchorage (Figure 21)
   a. Set the assembled frame centered in the completed opening.
   b. Place wooden spreaders between the jambs at the floor and at mid height of the frame.
   c. Level the head by placing shims under the jambs as necessary.
   d. Adjust the frame for plumb, square, alignment and twist. Rabbets must be parallel.
   e. Mark the wall through the dimpled holes in the jamb soffits to locate the anchor points.
   f. Drill the wall for appropriate holes at the marks.
   g. Install sleeve or expansion shell anchors in the wall holes.
   h. Insert anchor bolts through the dimpled holes into the wall sleeve anchors.
   i. Place shims snugly between the frame and the wall, above each anchor bolt.
   j. Tighten bolts, checking plumb, square, alignment and twist.

1. Door Panel: (Figure 22)
   a. The door is shipped with all hinges mounted on door frame.
   b. Match door panel with correct frame.
   c. Line door hinges up with frame cutouts and secure hinges with supplied fasteners.
2. Sweep Gasket: (Figure 23)
   a. Position sweep gasket at the door bottom of desired side such that gasket will just touch the floor through full range of door travel. Positioning gasket too close to floor will wear gasket out prematurely.
   b. Trim length as needed.
   c. Mark holes on panel and secure with supplied #6-32 screws.

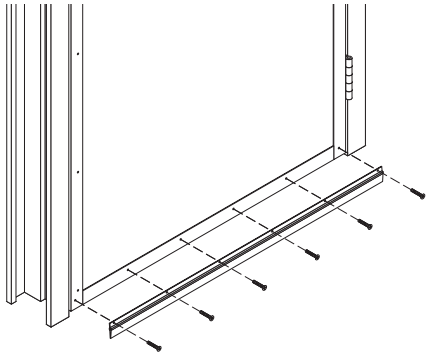


Figure 23: Sweep Gasket Installation

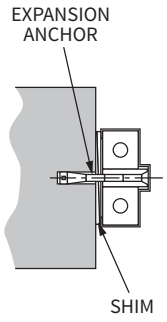


Figure 21: Existing Masonry or Poured Concrete Wall Anchorage

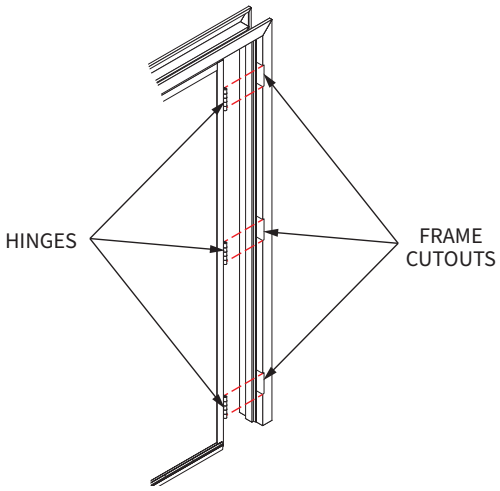


Figure 22: Panel Installation

Door Hardware and Accessories Continued

3. Frame Gasket: (Figure 25)
   a. Remove adhesive backing and adhere gasket to frame.
4. Astragal Gasket: (Figure 24
   a. Position gaskets on pull side of panel such that the (2) gaskets just touch in the center of the gap between the panels, the full height of the panels.
   b. Trim as needed.
   c. Mark holes on panel and secure with supplied #6-32 screws.

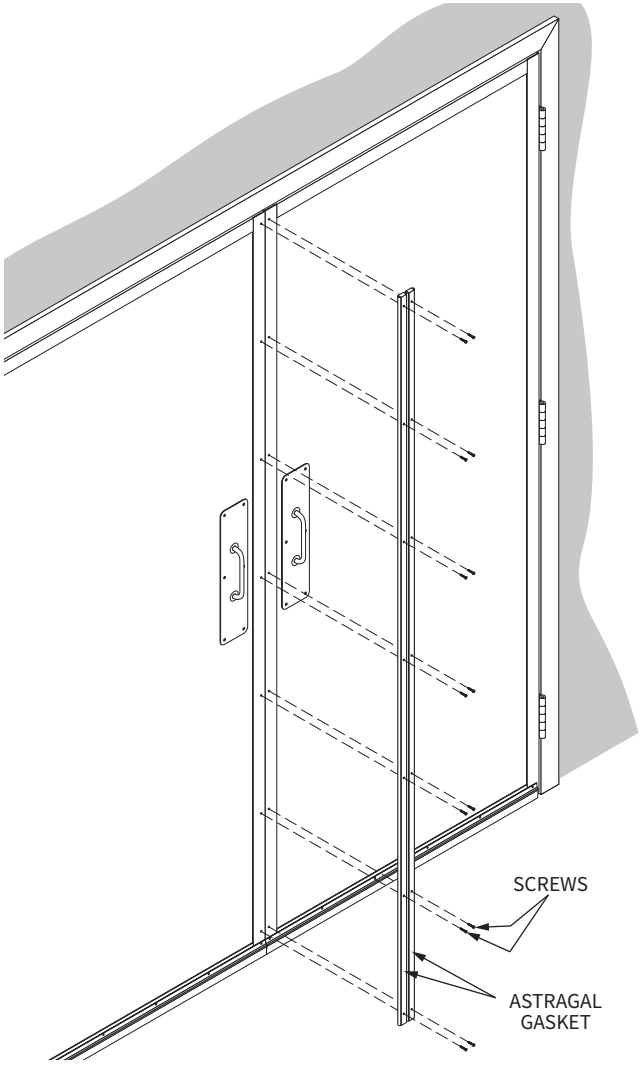


Figure 24: Astragal Gasket Installation

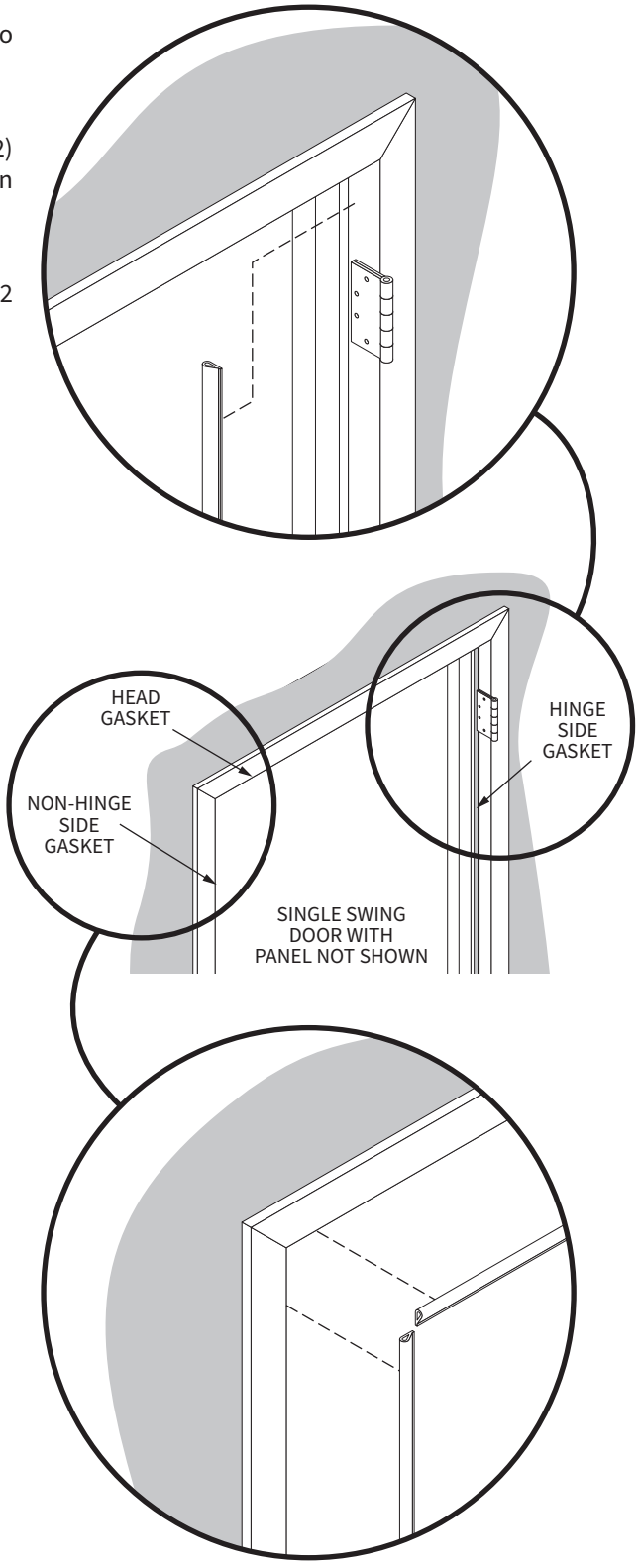


Figure 25: Frame Gasket Installation

Door Hardware and Accessories Continued

MagLock

Figure 26 shows detail of MagLock installation. Refer to the manufactures instructions and mounting templates supplied with MagLock when mounting to door and frame.

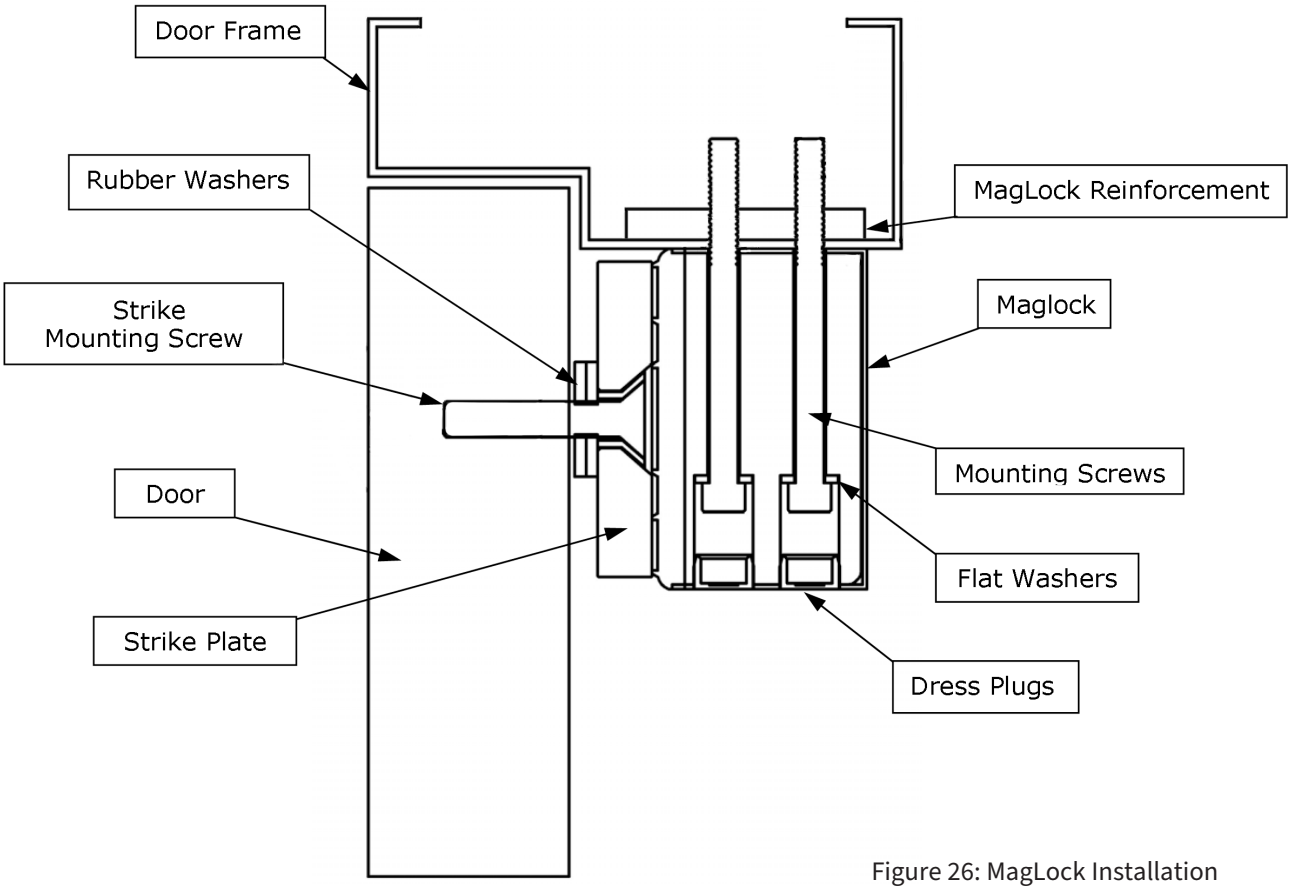


Figure 26: MagLock Installation

NOTE

Note do not thru-bolt Maglock hardware.

Manual Door Closers

The following figures show 3 types of closers available:

- Regular pull side mount
- Parallel arm push side mount
- Top jamb push side mount

Refer to the manufactureres instruction and mounting templates supplied with closer when mounting these closers.

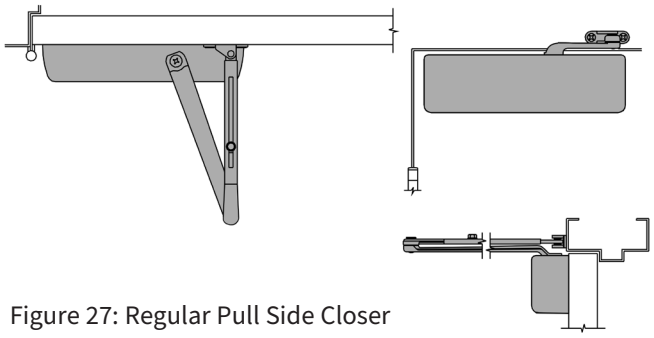


Figure 27: Regular Pull Side Closer

NOTE

Note do not thru-bolt any door closer hardware

INSTALLATION

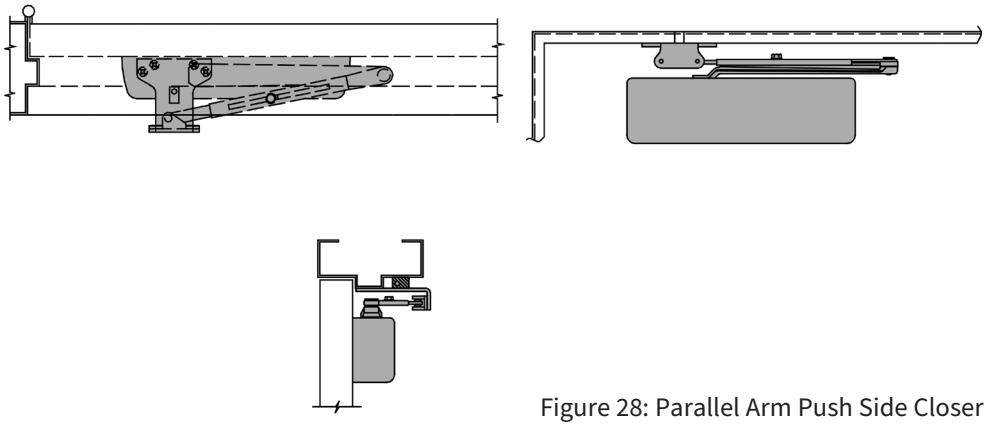


Figure 28: Parallel Arm Push Side Closer

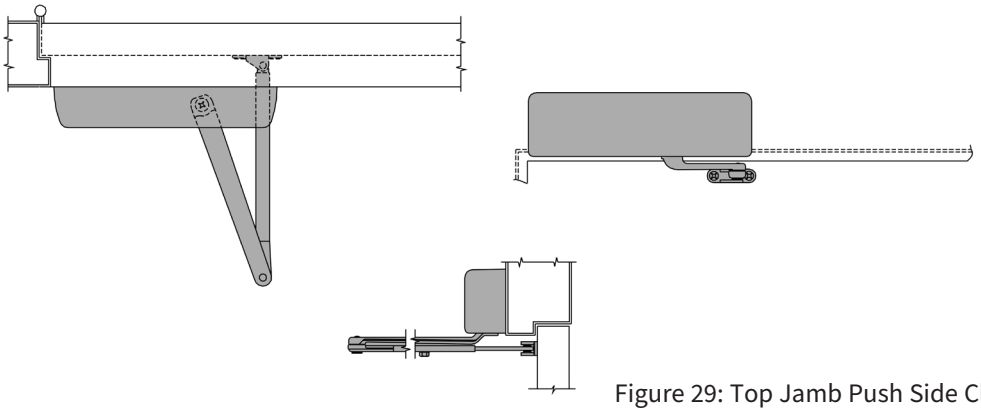


Figure 29: Top Jamb Push Side Closer

Instructions for Ordering

This parts manual is intended to assist in the correct identification of the more commonly replaced parts; covering, generally, all models and styles offered within the marathon pharm. Line. The manual will also help identify obsolete parts, part design changes and current production parts. For more specific parts information, please contact an authorized representative or consult the factory's customer service or engineering departments. Asi doors reserves the right to discontinue any part and make design changes without notice.

General Instructions for Ordering Door Parts

Accurate information is always necessary to serve you correctly and promptly. Several steps should be followed to determine exactly the parts that are needed.

Refer to the information tag on your door and record the:

1. Door model number
2. Job number
3. Door number
4. Manufacturing date.

Use part numbers referenced in this manual.

If the item is not found in the manual, the product code on the back of the item is helpful.

If your door has no information label, the approximate purchase date is helpful.

Call

1-800-558-7068

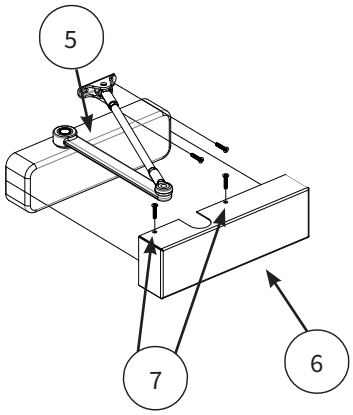
or visit

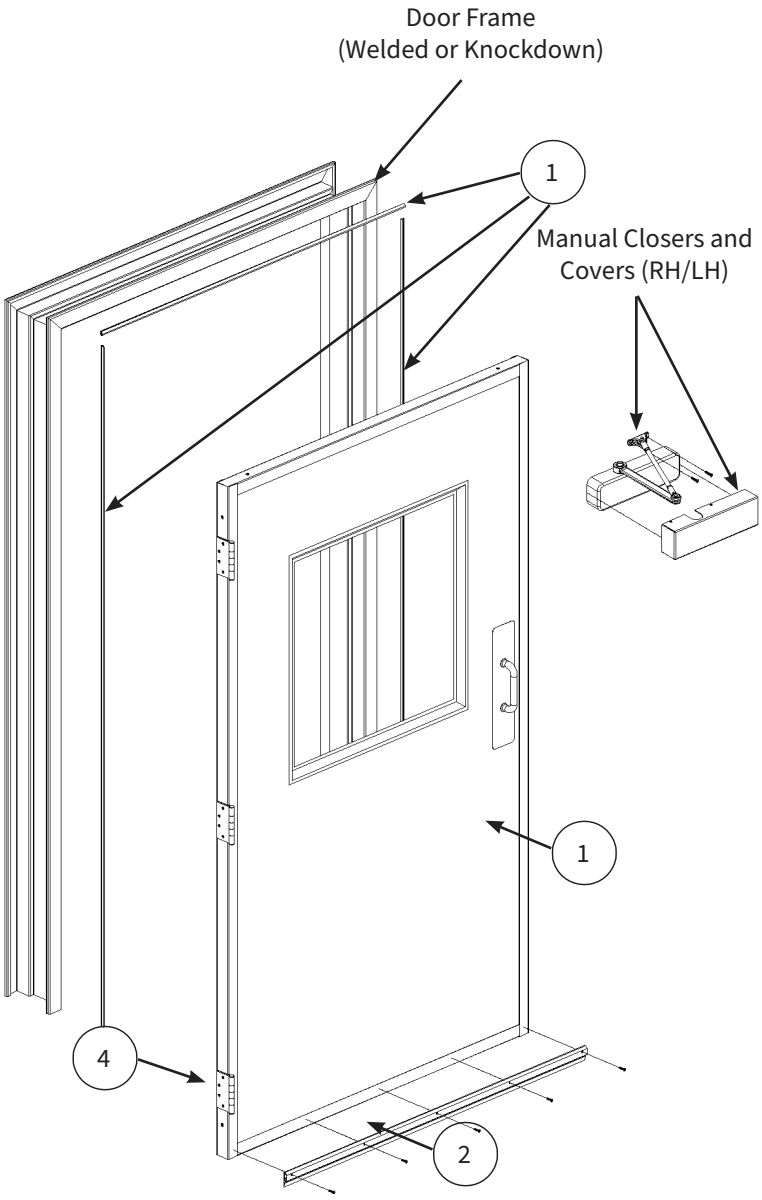
asidoors.com/parts

to order parts

Door Assembly, Single

All Single Doors, Manual



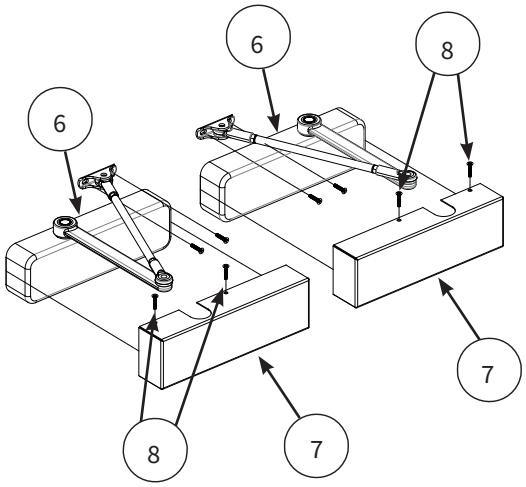


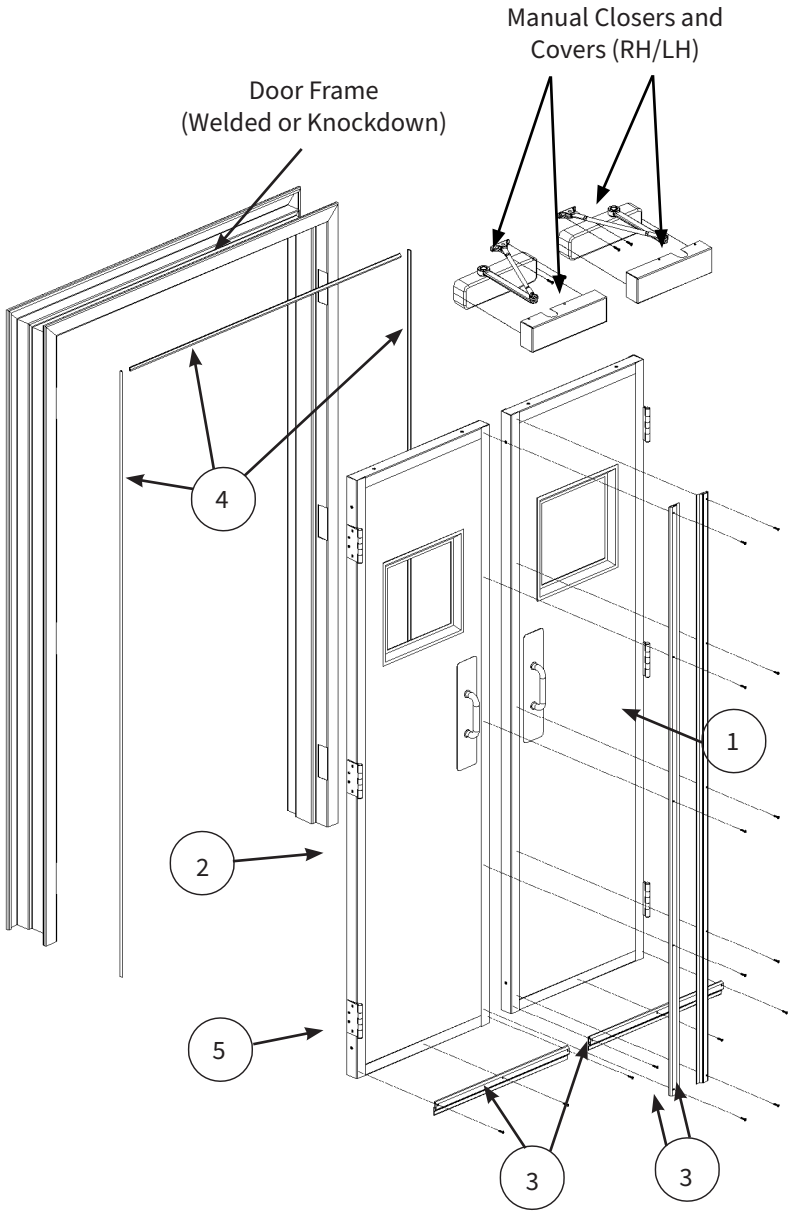
Description	PART#	ITEM#
Door Panel Assembly, LH/RH	Consult Factory	1
Gasket, Sweep (L = WIC)	Consult Factory	2
Gasket, Perimeter (L = 2* HIC +WIC)	Consult Factory	3
Hinge	Consult Factory	4
Manual Closer, RH/LH	Consult Factory	5
Closer Cover, S/S	Consult Factory	6
Screw, #10-24X .500,PH PHMS,SS	41A618	7

When ordering parts, specify Job Number, Door Number and Manufacture Date

Door Assembly, Paired

All Paired Doors, Manual & Power

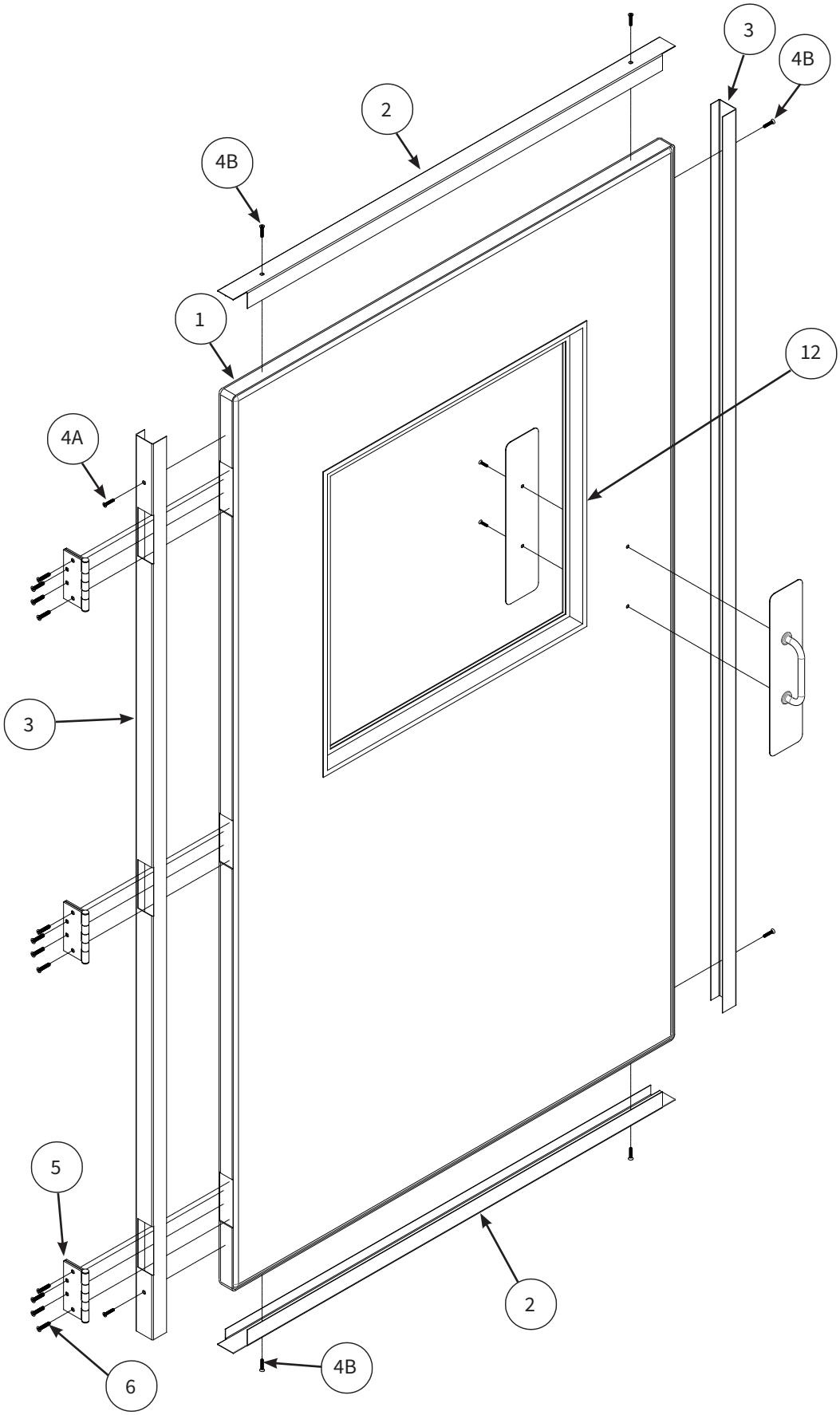




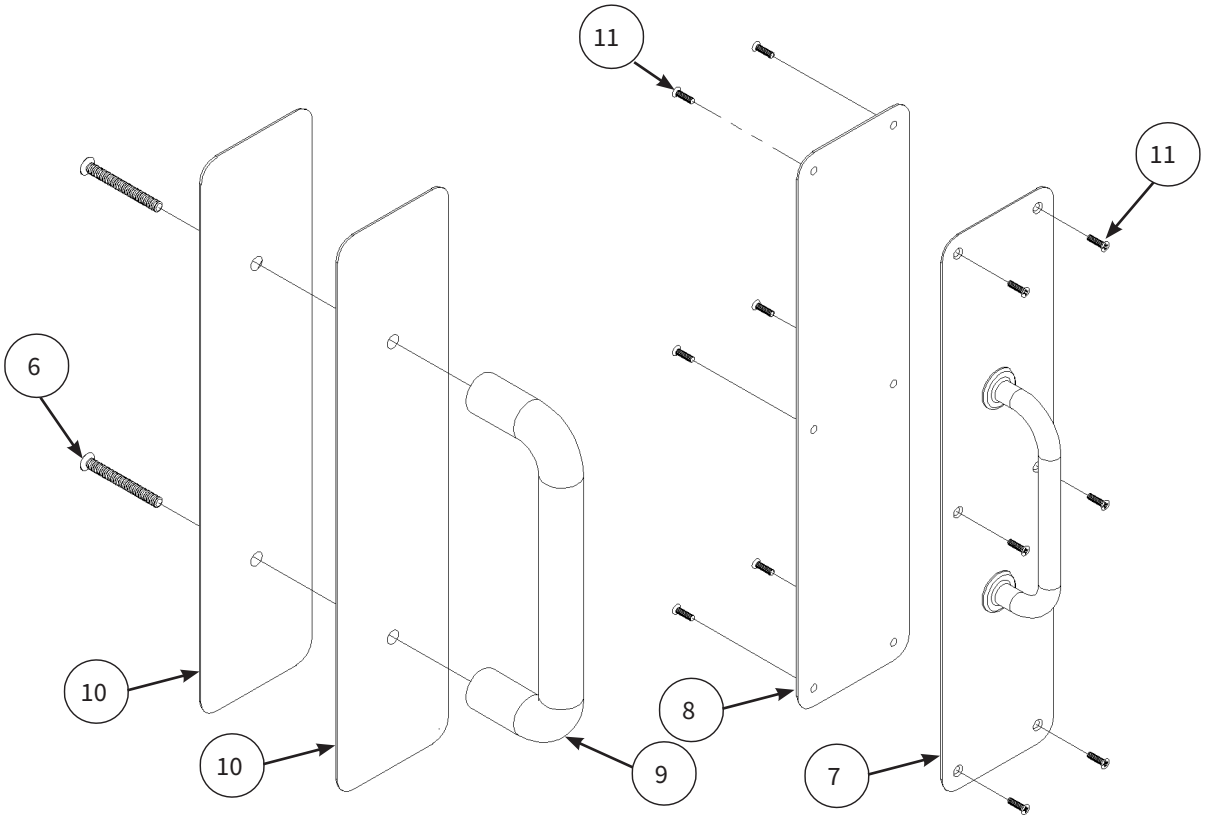
Description	PART#	ITEM#
Door Panel Assembly, RH	Consult Factory	1
Door Panel Assembly, LH	Consult Factory	2
Gasket Sweep (L=WIC/2)	Consult Factory	3
Gasket, Perimeter (L = 2* HIC +WIC)	Consult Factory	4
Hinge	Consult Factory	5
Manual Closer, RH/LH	Consult Factory	6
Closer Cover, S/S	Consult Factory	7
Screw, #10-24X .500,PH PHMS,SS	41A618	8

When ordering parts, specify Job Number, Door Number and Manufacture Date

Door Panel



Door Panel Continued



Description	PART#	ITEM#
Door Panel Assembly, RH	Consult Factory	1
Door Panel Assembly, LH	Consult Factory	1
Capping, Panel, Top/Bottom (As Required)	Consult Factory	2
Capping, Panel, Side (As Required)	Consult Factory	3
Screw, #10-24 x 1.00, PH FH MS, S/S (Hinge Side)	41A199	4A
Screw, #10-24 x 1.00, PH FH SMS, S/S (Non-Hinge Side)	41A794	4B
Hinge	Consult Factory	5
Screw, #12-24 x 1.00, PHL FHMS, S/S	41A656	6
Push Plate, W/ Handle (Optional, Pre-2010)	16B017	7
Push Plate (Optional, Pre-2010)	16B016	8
Handle, Stainless (STD)	16B0085NN	9
Push Plate, Stainless (STD)	16B022	10
Screw, #6-32 x 0.75, PHL FHMS, S/S	41A655	11
Window Asm, 1-3/4", Pharm Panel (Optional)	55B575	12
Window Asm, 1-3/4", Cleanview (Optional)	55B400	12

When ordering parts, specify Job Number, Door Number and Manufacture Date

OPEN UP TO WHAT'S POSSIBLE

AN ASI DOORS BRAND

AN ASI DOORS BRAND

AN ASI DOORS BRAND

asidoors.com

ASI DOORS, INC. 5848 North 95th Court, Milwaukee, WI 53225 (800) 558-7068

Swing Door Operator Addendum

ASI DC Swing Operator

For MODELS 125, 135, 225, 235

MANUAL PART #: 17A324

Manual last updated on: September 5, 2023 10:03 AM

Safety Practices

This is a safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER OR

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

ELECTRICAL VOLTAGE indicates that electrical voltage is present and that caution should be taken to prevent injury or property damage.

WARNING OR

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION OR

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION used without a safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

NOTE explains general information.

Optional Components indicates components that are not installed in all systems.

⚠ WARNING

Read these safety practices before installing, operating or servicing. Failure to follow these safety practices could result in property damage, serious injury, or death.

READ AND UNDERSTAND ALL WARNING LABELS AND OPERATING INSTRUCTIONS IN THIS MANUAL BEFORE OPERATING THE DOOR. If you do not understand the instructions, ask your supervisor to teach you how to use the door.

Safety Practices (cont'd)

1. Do not operate the door while under the influence of drugs or alcohol.
2. Do not use the door if it looks broken or does not seem to work properly. Advise your supervisor at once.
3. Stay clear of the door when it is moving
4. Keep hands, feet and head clear of the door at all times.
5. Do not operate the door with equipment, material or people directly inside door opening.
6. Disconnect power before performing any electrical or mechanical service, cleaning or other maintenance on the door. OSHA requires disconnect to be properly tagged and locked out during all maintenance or service of equipment. With the power supply disconnected, always verify using a volt meter.
7. All electrical troubleshooting or service must be completed by a qualified electrician or service person and must meet all applicable local, state, federal, international and other governing agency codes.
8. When it is necessary to service the control box with power on, USE EXTREME CAUTION. Do not place fingers or uninsulated tools inside the control box. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.
9. It is your responsibility to keep all warning labels and instructional literature legible, intact and kept with the door. Replacement labels and literature are available from ASI Doors, Inc. or its representatives.
10. If you have any questions, contact your supervisor or your local ASI Doors, Inc. representative for assistance.
11. Train all service and personnel using or near door on intended use(s) and operation of the door.
12. Failure to operate the door as intended, as described, or heed any warning may result in equipment damage, property damage, serious bodily injury or death.

Warranty Policy

ASI Doors (herein called "ASI") warrants solely for the benefit of its customer that each door system manufactured by ASI (each a "Door System") will be free from defects in material and manufacture for a period of one (1) year from the date of original shipment by ASI. The following models receive a similar two (2) years from date of shipment warranty: 109, 209, 120-125, 1240-125-, 1240SS-1250SS, 1260-1270, 1260SS-1270SS, 130-135, 140-150, 160-170, 220-225, 220SS-225SS, 230-235, 230SS-235SS. In all instances warranty labor is covered for a period of one (1) year from the date of original shipment.

The foregoing limited warranty shall not apply to defects that result from improper installation, abuse, misuse, alteration, modification, or failure to maintain the Door System in accordance with the ASI Owner's Manual. Periodic maintenance and adjustment of the Door System as described in the ASI Owner's Manual are the sole responsibility of the customer. All claims for defects must be made to ASI within thirty (30) days after the defect is discovered or should, with reasonable care, have been discovered. **THE FOREGOING LIMITED WARRANTY CONSTITUTES THE EXCLUSIVE WARRANTY OF ASI WITH RESPECT TO THE DOOR SYSTEM. ASI EXPRESSLY DISCLAIMS ALL OTHER GUARANTEES OR WARRANTIES—WHETHER EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

If a Door System does not comply with the foregoing limited warranty, and a claim is made by customer within the warranty period, ASI will, at the option of ASI, either repair or replace any defective equipment or parts free of charge and pay the reasonable labor costs to repair or replace the defective equipment or parts if within the defined warranty period. The remedy of repair or replacement shall be the exclusive and sole remedy for any breach of the foregoing limited warranty.

ASI SHALL NOT IN ANY EVENT BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING WITHOUT LIMITATION ANY LOST PROFITS, ARISING FROM THE SALE OR USE OF THE DOOR SYSTEM, OR FROM ANY OTHER CAUSE WHATSOEVER, WHETHER THE CLAIM GIVING RISE TO SUCH DAMAGES IS BASED UPON BREACH OF WARRANTY (EXPRESSED OR IMPLIED) BREACH OF CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF A PARTY HAS BEEN ADVISED OF THE POSSIBILITY THEREOF, AND REGARDLESS OF ANY ADVISE OR REPRESENTATION THAT MAY HAVE BEEN RENDERED BY ASI CONCERNING THE SALE OR USE OF THE DOOR SYSTEM.

At ASI's request, customer shall return to ASI for inspection any Door System for which a warranty claim has been made, F.O.B. ASI's facility with freight prepaid. The customer is responsible for any removal costs.

The customer shall comply with the following procedures in filing a warranty claim with ASI:

1. Notify ASI of any and all defects in writing with photographic evidence. ASI will review the warranty request and issue a Returns Merchandise Authorization (RMA) form if the defective parts need to be returned to ASI for inspection and verification. The RMA form must accompany any materials returned for warranty consideration.

2. All replacement parts or equipment will be invoiced to the customer. Upon verification by ASI that the Door System is defective, ASI will issue a full credit to customer for the replacement parts or equipment.

3. If outside labor is needed to install the replacement parts or equipment, ASI requires a written estimate of the labor charges in advance so ASI may approve the labor charges and issue a purchase order. ASI will not accept any labor charges unless previously approved in writing and accompanied by the ASI purchase order number.

(Rev 12/21)

Power Operator Installation

1. **Power Operator reinforcement:**
   When using a power door operator, the wall must have adequate reinforcement to support the operator(s).
2. **Remove material from packages and check contents:**
   Remove all contents from the crate. Check all items to ensure you have the material you need before beginning the actual installation.
3. **Remove access panel from header housing assembly:**
   Carefully remove the header housing assembly from the crate. Using a Phillips screwdriver, remove the two access panel retaining screws.
4. **Remove paperwork:**
   Remove all decals, paperwork and parts bag from inside header and set to one side.
5. **Operator handing:**
   Determine door handing and match with corresponding operator.....
6. **Operator:**
   - Determine swing type and arm type.
   - Position operator per instructions in this manual.
   - Secure operator to wall with appropriate fasteners.
   - If required, fill gap between finished wall and operator with shim material. (Note position of door arm shoe on door panel before proceeding with next step)
   - Position and secure arms / tracks to door panel.

CAUTION

CAUTION do not tighten arm shaft to operator until told to do so during start-up/programming!

⚠ WARNING

Failure to observe the information in this manual may result in personal Injury or damage to equipment. To reduce the risk of injury of persons use this operator only with pedestrian swing doors.

Save these instructions for future reference.

Power Operator Installation Continued...

General Installation and Applications

Installation and Service

All equipment must be installed, serviced and inspected by an AAADM Certified technician, to meet the current ANSI A156.10 and/ or ANSI A156.19 standard and any local or state building codes.
The person responsible for the daily operation and maintenance of the system is referred to as “End-User**”.**

It is the technicians responsibility to:

1. Review the functions of the equipment with the end-user. Failure to do so, may lead to the improper use, could cause injury to persons and/ or damage to the equipment.
2. Familiarize the end-user with the Daily Safety Check Decal and how to perform the walk test procedures.
3. Illustrate to the end-user how to place the door out of service (turn off power or place in P mode or OFF mode of operation), if the equipment does not perform as described in the Daily Safety Check Decal.
4. Recommend to the end-user to have their equipment inspected annually by an AAADM certified technician.

Glazing

The glazing material of all doors shall comply with the requirements of ANSI Z97.1, American National Standard Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings.

Intended Installation Environment

The ASI DC Swing Operator is a non-handed swing door operator that can be used on interior or exterior doors.

The operator is mounted above the door on the inside of the building. Any other use, or any use exceeding this aim, is deemed as not used in accordance with its intended purpose.

The manufacturer will not be liable for damages resulting from such applications or warranty the product. Arbitrary changes to the system will exempt the manufacturer from any liability for damage resulting from this.

The ASI DC Swing Operator can be utilized as a Low Energy operator and comply with ANSI A156.19 standard, or setup to operate as a Power Operated Pedestrian Door and comply with ANSI A156.10 standard.

Upon completion of the installation the technician should perform an AAADM inspection to ensure that the door complies to the appropriate standard ANSI A156.10 Power Operated Pedestrian Doors or ANSI A156.19 Low Energy Power Operated Doors.

Power Operator Installation Continued...

Door Operation

The mode of operation is controled by a 3-position switch (standard) or a (FCP) Functional Control Panel (optional). The primary mode of operations are:

Off - The door remains in the closed position with lock engaged, but can be opened by the Key Switch activating input.

Automatic - Two-way traffic, typical setting for normal operation. Allows the interior & exterior sensors, Key switch and safety devices (if applicable) to operate the door.

Hold Open - The door goes to the open position and remains there until the switch is taken out of this position.

Upon a power loss the operation of the ASI DC Swing operating system will function according to specifications:

If the door is open, it will immediately spring closed. The operator functions as a manual door closure. Lock function will operate to specification (fail secure/ fail safe). Continued operation, if equipped with a battery backup.

ANSI/ BHMA A156.10, A156.19 standards - Knowing Act Switch

Doors activated by a manual switch must have the switch installed in a location from which the operation of the door can be observed by the person operating the switch. Refer to the latest revision of ANSI/ BHMA A156.10 or A156.19 for location of Knowing Act switch and time delays.

Operator Applications

The ASI DC Swing Operator is a Surface Applied (SA) operator and is power open and spring close. Basic configuration adjustments will be made with an on-board programming button.

The operator has 2 standard applications:

Outswing - The operator pushes the door open.
Inswing - The operator pulls the door open.

Within each standard application there are important points to know and consider during the installation process.

Outswing:

8-10 lbs. of manual opening force (Low Energy ANSI A156.19) or Knowing Act Door Activation (Power Operated Pedestrian Door ANSI A156.10)
18-20 lbs. of manual opening force (Power Operated Pedestrian Door ANSI A156.10)

InSwing:

0” reveal, non-handed arm 0“ - 6” reveal, handed arm

Country Code
Country code 7/1 on-board button or code 031 with FCP is available in firmware V3.02 and above. Push-n-go turned OFF codes 860 & 870.
Country code 7/2 on-board button or code 032 with FCP is available in firmware V4.00 and above. Push-n-go turned ON codes 861 & 871 and 3 second hold open time code 163.

Additional presets values:
Opening and closing - speeds codes 203, 214 and forces codes 311, 320, 5 seconds of hold open time code 105,
Safety function of BDM input 4 for safety closing code 602 Pair of doors astragal activation delay off code 830

The country code allows commissioning of the door with the on-board button to assist in the compliance with ANSI Standard A156.19. This does not eliminate the need for an AAADM inspection to be performed for compliance. Additional adjustments may need to be made with FCP upon inspection.

“U” User Mode on FCP
The User mode has two options:
UR - Ability to read specific programming parameters without changing the parameter.
UP - Ability to change programming parameters within a limited range.

Refer to programming table for specifics.

Note: Installer/ Service technician use “P” programming mode to have full range of adjustments on all parameters.

Power Operator Installation Continued...

Modes of Door Operation

Modes of operation can be selected with either the standard 3-position switch or the optional 6 position Functional Control Panel (FCP).

The technician will review the appropriate mode switch with the end-user.

Standard Switch:

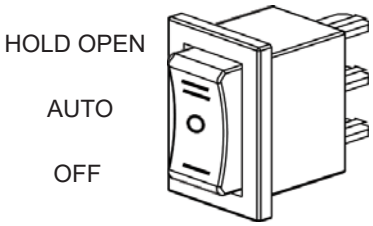


Figure 1: Standard 3-Position Switch.

Optional FCP Control Panel:

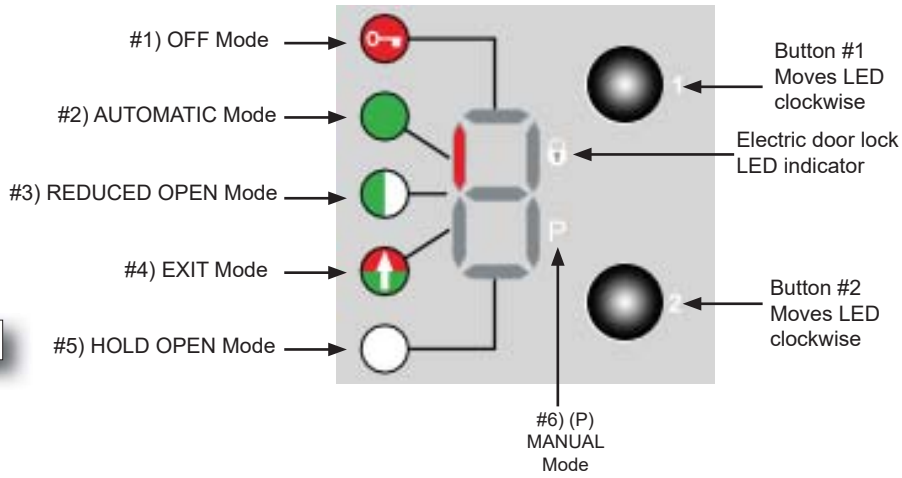


Figure 2: 6-Position Functional Control Panel.

1. **OFF** - The interior and exterior activators are inhibited after the door reached the fully closed position, if an electric lock is present it will be activated. Door will cycle open, if a signal is sent to the key switch input.

2. **AUTOMATIC** - Typical setting for normal 2-way traffic operation with interior and exterior activators, key switch input and safety devices operating the door.

3. **REDUCED OPERATING** - Allows the door to open with a reduced opening width. Activators and safety devices operate the same as automatic mode.

4. **EXIT** - (1-way traffic) Allows interior activator and key switch inputs to operate the door. The exterior activator input is inhibited from opening the door while the door is closed. When the door is opened/ closing the exterior activator becomes operational and will re-open a closing door.

5. **HOLD OPEN** - Hold and maintains the door in the open position.

6. **(P) MANUAL OPERATION** - Allows the door to be used manually without the use of sensors. Push and pull motion applied to the door to open and close the door.

Power Operator Installation Continued...

Door Applications

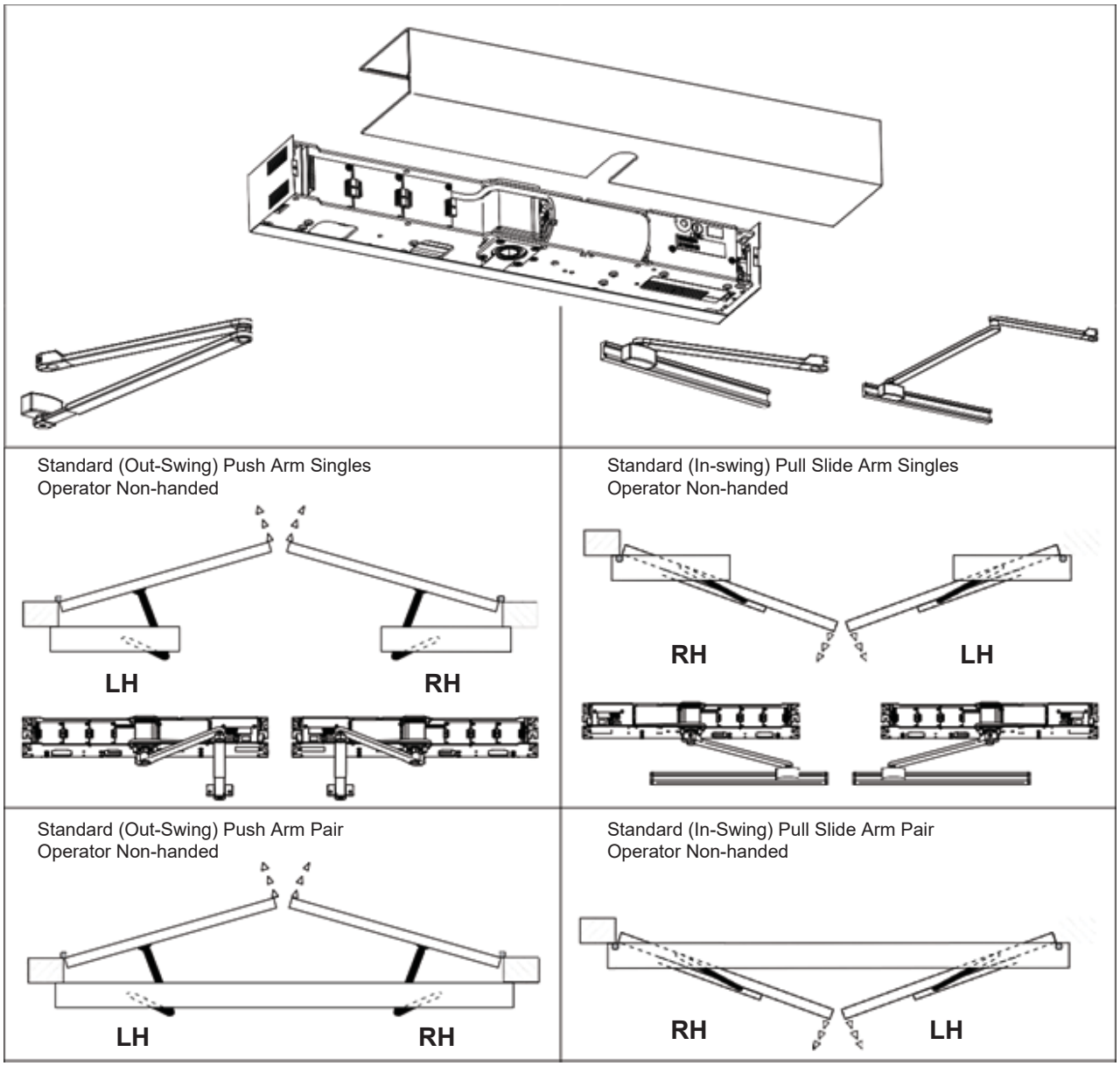


Figure 3: Door Operator Layouts.

Power Operator Installation Continued...

On-Board Programming Configuration Tool - Description

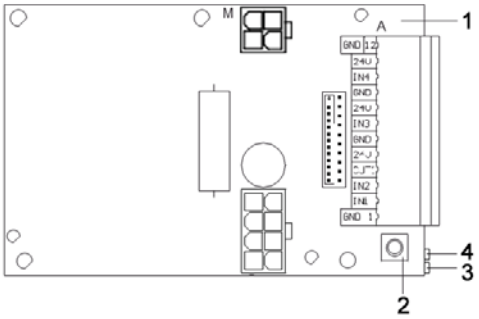
Overview

The On-board programming tool allows the installer to commission the operator without the use of the FCP. If additional changes are needed i.e. time delay, push-n-go the FCP will be required.

The on-board programming tool utilizes the programming button, green & yellow LEDs and an audible tone device to aid the installer during the commissioning process. During the commissioning process, the LED's flashing sequence and audible tone will continually repeat until a selection is made, then the audible tone and flashing sequence changes for the next parameter selection.

INSTALLATION

On-board Configuration Tool Familiarization



1. Base door module BDM
2. Programming Button
3. LED GREEN: status display (control system ready for operation) or configuration parameter display.
4. LED YELLOW: error display or configuration setting display

Figure 4: Configuration tool.

Programming Procedure – General

Programming functions can be launched by means of the programming button (2) above.

The GREEN LED supports parameter selection codes 1-7 below. Press and hold the button for the appropriate number of flashes for the code then release the button.

The YELLOW LED indicates the setting by a series of flashes. Press and release the button at the appropriate flash for the setting.

Example: Code 5 "Factory Reset" (see below for codes)

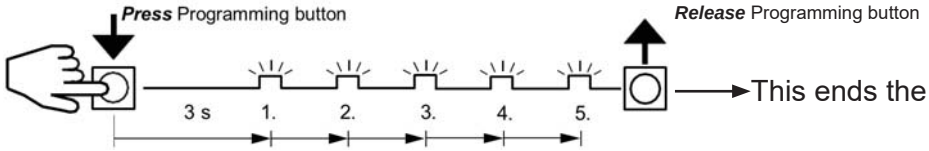


Figure 5: Factory Reset example.

Programming Codes

In order to ensure the safety of the system, please follow the details of the programming steps in the following pages.

Code 1: Commissioning (enter system values, preloads, performs learn)
Code 2: (Consult factory)
Code 3: Detecting/mask out safety features. Refer to page 28 for more details.
Code 4: Spring pre-tension parameter
Code 5: Factory reset (Reset all values, excluding operator type)
Code 6: Repeat commissioning (without entering system values, door preloads, performs learn)
Refer to pages 16 or 18 for more details.
Code 7: Country Code
value 1 = Low Energy without push-n-go
value 2 = Low Energy with push-n-go

Power Operator Installation Continued...

System Values

After installing the operator, determine the 3 system values. Measure the dimensions shown in the illustrations below, and select each system value listed below the measurement. Write these down as they are referenced during commissioning.

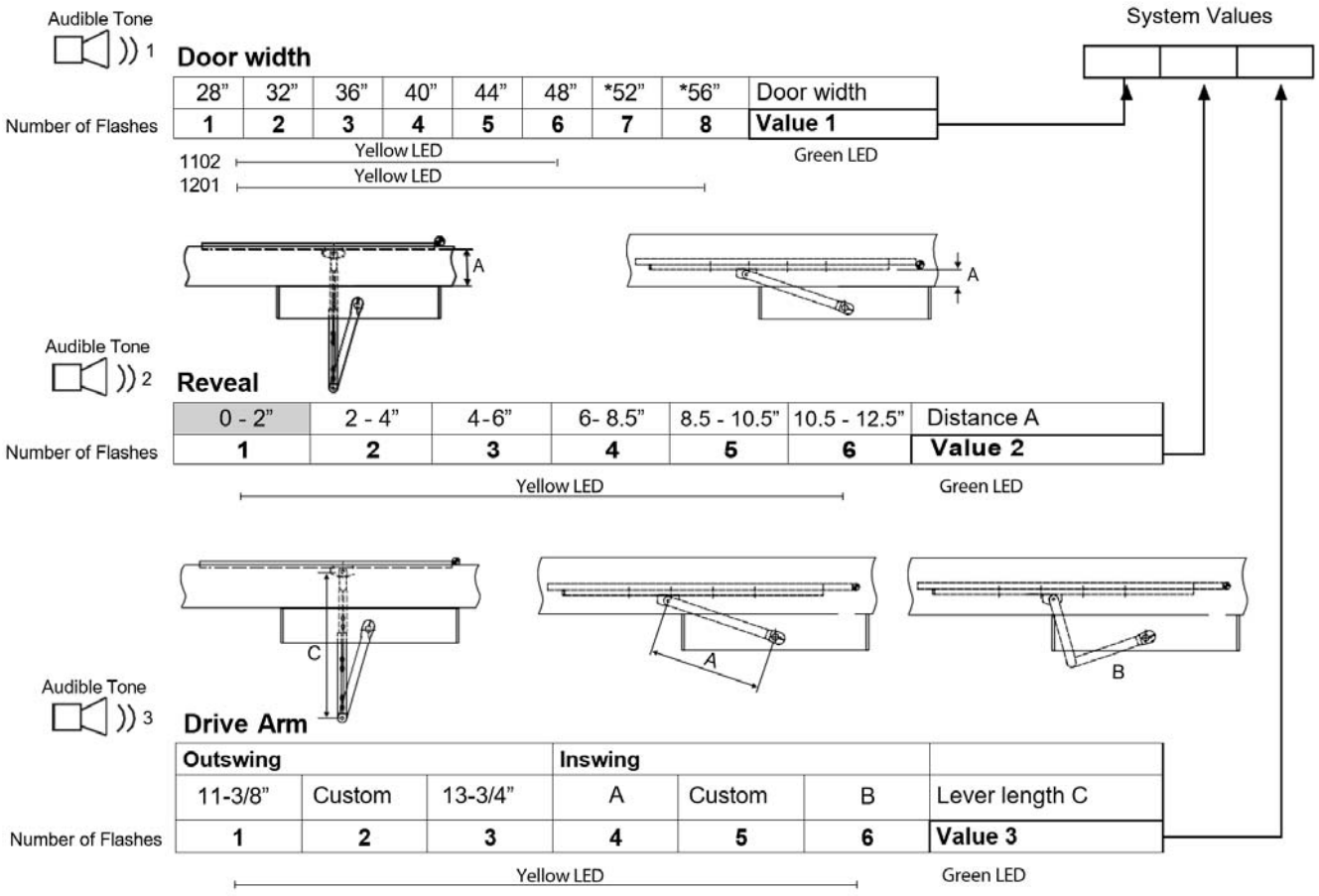


Figure 6: Determining System Values.

Power Operator Installation Continued...

Outswing Installation

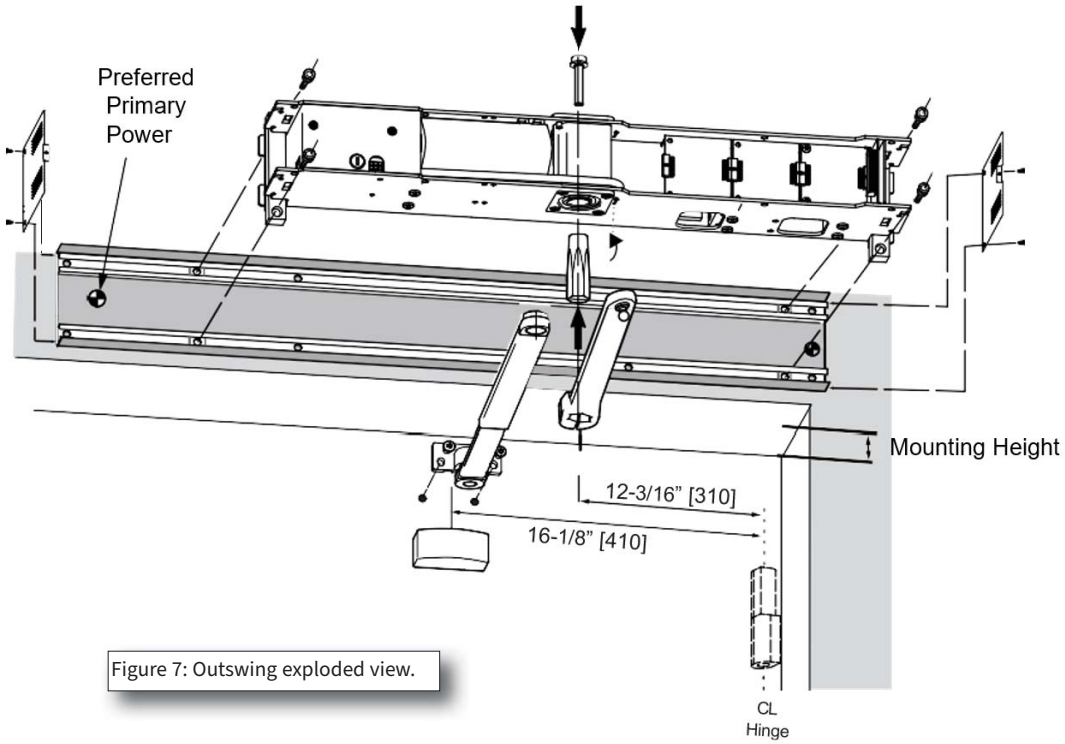


Figure 7: Outswing exploded view.

1. Determine the handing of the operator according to the door. Note that arrow on operator indicates opening direction of rotation.
2. Locate & mark output shaft location 12-3/16" from CL of hinge onto door frame.
3. Align header at the bottom of the door frame and CL of the shaft location as shown below.
4. Secure header to the wall with appropriate hardware
5. Locate and mount the door arm mounting bracket to the door at a height of Y dimension for shaft used and 16-1/8" from CL of hinge as shown below.
6. Assemble both arm pieces, attach to door arm mounting bracket, and attach to output shaft.
7. Insert shaft into the operator, leave shaft bolt loose until appropriate step during commissioning procedure.
8. Proceed to page 16 to perform commissioning.

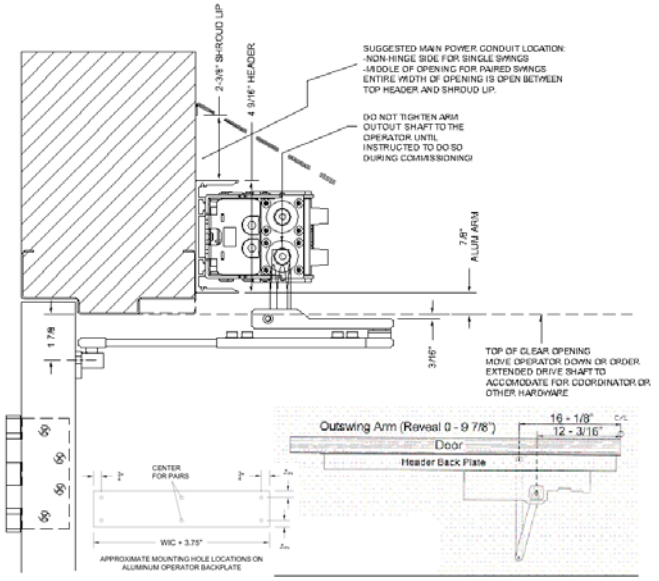


Figure 8: Standard Aluminum Outswing Arm.

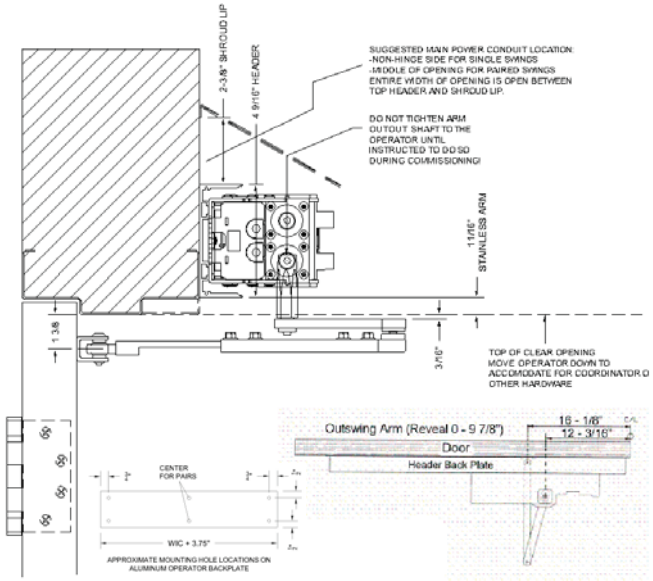


Figure 9: Stainless Steel Outswing arm.

Power Operator Installation Continued...

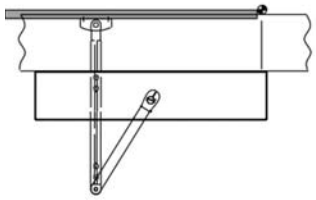
Outswing Commissioning

Requirements:

1. Shaft should be loose in the drive unit. Drive arm connected to door and shaft.
2. Determine system values for your application based on the illustrations on page 14.

Commissioning Example: (3) = 36” door width, (1) = 0-2” reveal, (1) = Standard outswing Arm 11 3/8 =

3	1	1



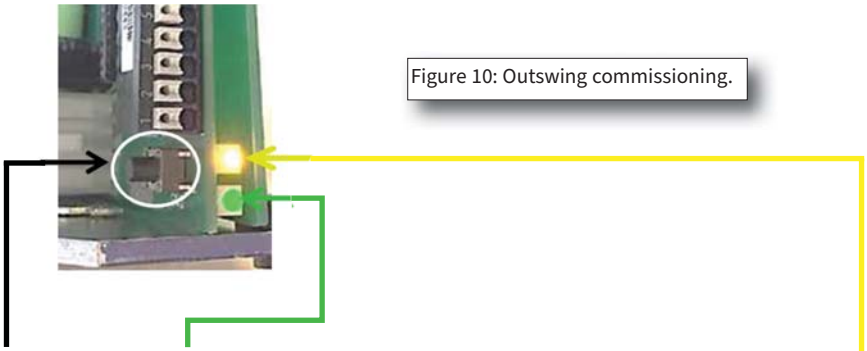


Figure 10: Outswing commissioning.

Press & Hold Programming Button, **Release** after 1 **Green LED Flash**. The operator will make 1 beep and immediately begin to flash the **Yellow LED**.

PAUSE

WHILE LOOKING AT THE **YELLOW LED**, WAIT FOR THE OPERATOR TO **BEEP 1X**, then after 3 yellow flashes, **Press & Release** Programming Button

PAUSE

WHILE LOOKING AT THE **YELLOW LED**, WAIT FOR THE OPERATOR TO **BEEP 2X**, then after 1 yellow flashes, **Press & Release** Programming Button

PAUSE

WHILE LOOKING AT THE **YELLOW LED**, WAIT FOR THE OPERATOR TO **BEEP 3X**, then after 1 yellow flashes, **Press & Release** Programming Button

MADE AN ERROR? DON’T WORRY: To start over Disconnect Power for 10 seconds, Reconnect Power, then **Press & Hold** Programming Button and **Release** after **5 Green LED** Flashes.

The operator will open 20 degrees stop and **BEEP 2X**. Place the Door in the Closed Position, and NOW Tighten the shaft to the operator, tighten shaft retaining bolt (6mm) with a torque wrench at 25 ft-lbs. REMOVE POWER from Operator and adjust open door stop to desired position, refer to page 21 for adjusting internal Open Door Stop.
RECONNECT POWER (operator beeps 1x), then **Press & Hold** programming button & **Release** after **6 Green LED** Flashes. The operator will open 20 degrees stop and beep 2x. **Press & Release** programming button. Operator will slowly close and beep 2x, next slowly fully open & beep 2x, then close (beep 1x) followed by 5 beeps, and will cycle fully open & close at normal speed.

Commissioning is complete for High Energy Applications. For additional adjustments with FCP refer to page 21 or Programming Tables.

(Read Entire Step BEFORE attempting to enter Country Code)

Enter Country Code 7 1 Or 7 2 - Refer To The Top Of Page 10 For Info On Which Code To Use

PERFORM THIS STEP WHILE LOOKING AT BOTH GREEN & YELLOW LEDS.

Press & Hold programming button, **Release** after **7 Green** flashes then immediately **Press & Release** programming button after 1 Yellow or 2 Yellow flashes.

Commissioning is complete for Low Energy Applications. For additional adjustments with FCP refer to page 21 or Programming Tables.

Power Operator Installation Continued...

Inswing Installation

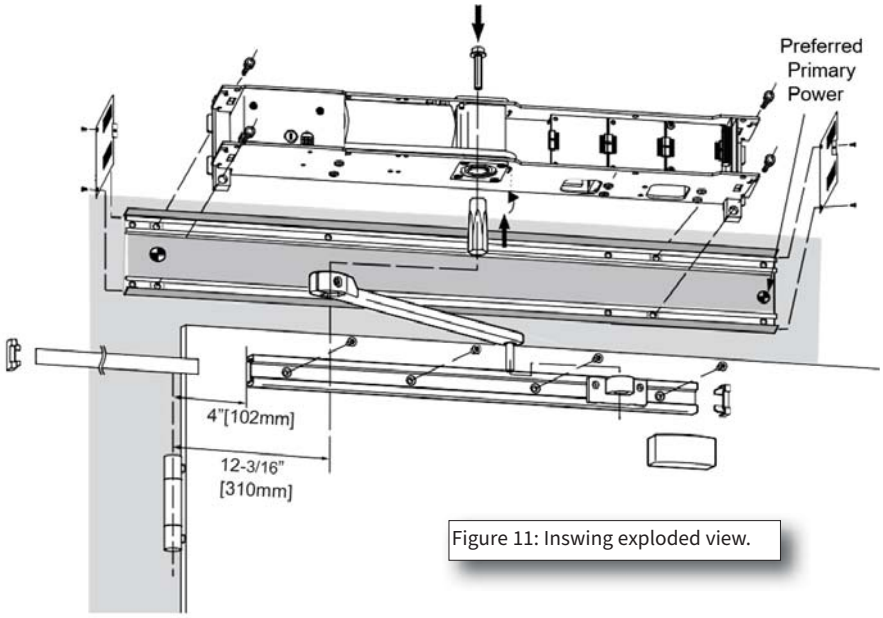


Figure 11: Inswing exploded view.

1. Determine the handing of the operator according to the door. Note that arrow on operator indicates opening direction of rotation.
2. Locate & mark output shaft location 12-3/16” from CL of hinge onto door frame as
3. Determine header mounting height = X. See below.
4. Bolt header to the wall with appropriate hardware.
5. Locate and mount door arm slide track onto the door at 4” from C/L of pivot, mounting holes 5/8” from top of the door as shown below.
6. Attach slide block to door track, attach arm to the slide block and shaft.
7. Insert shaft into the operator, ***leave shaft bolt loose until appropriate step during commissioning procedure.***
8. Proceed to page 18 to perform commissioning.

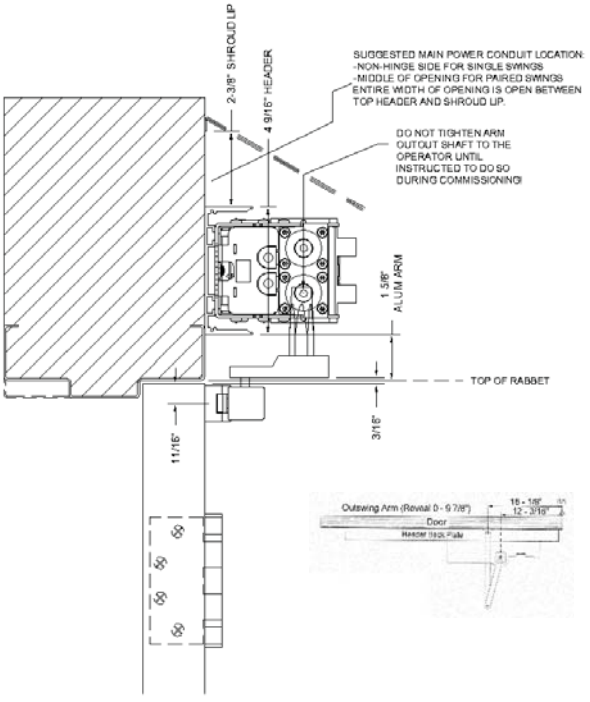


Figure 12: Standard Aluminum Inswing Arm.

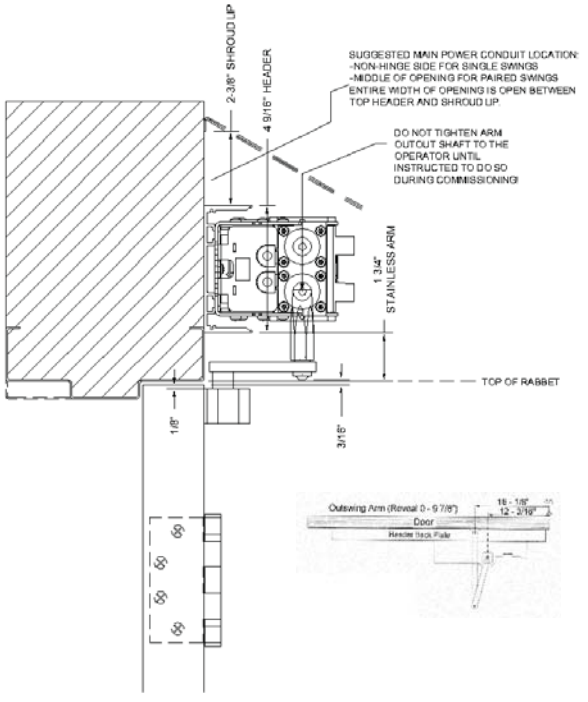


Figure 13: Stainless Steel Inswing arm.

Power Operator Installation Continued...

Inswing Commissioning

Requirements:

1. Shaft should be loose in the drive unit. Drive arm connected to door and shaft.
2. Determine system values for your application based on the illustrations on page 14.

Commissioning Example: (3) = 36” door width, (1) = 0-2” reveal, (4) = Standard Inswing "A" =

3	1	4

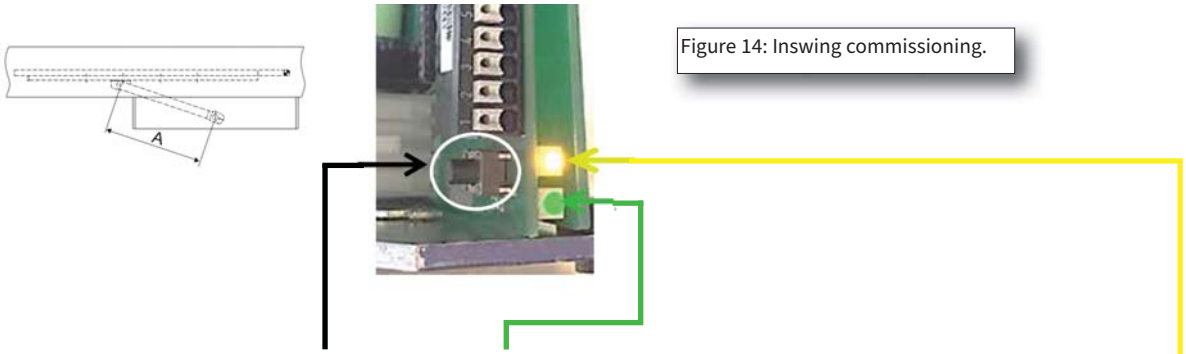


Figure 14: Inswing commissioning.

Press & Hold Programming Button, **Release** after 1 **Green LED Flash**. The operator will make 1 beep and immediately begin to flash the **Yellow LED**.

PAUSE

WHILE LOOKING AT THE **YELLOW LED**, WAIT FOR THE OPERATOR TO **BEEP 1X**, then after **3 yellow** flashes, **Press & Release** Programming Button

PAUSE

WHILE LOOKING AT THE **YELLOW LED**, WAIT FOR THE OPERATOR TO **BEEP 2X**, then after **1 yellow** flash, **Press & Release** Programming Button

PAUSE

WHILE LOOKING AT THE **YELLOW LED**, WAIT FOR THE OPERATOR TO **BEEP 3X**, then after **4 yellow** flashes, **Press & Release** Programming Button

MADE AN ERROR? DON’T WORRY: To start over Disconnect Power for 10 seconds, Reconnect Power, then **Press & Hold** Programming Button and **Release** after **5 Green LED** Flashes.

The operator will open 20 degrees stop and **BEEP 2X**. Place the Door in the Closed Position, and NOW Tighten the shaft to the operator, by tightening the shaft retaining bolt (6mm) with a torque wrench at 25 ft-lbs. REMOVE POWER from Operator and adjust open door stop to desired position, refer to page 21 for adjusting internal Open Door Stop.

RECONNECT POWER (operator beeps 1x), then **Press & Hold** programming button & **Release** after **6 Green LED** Flashes. The operator will open 20 degrees stop and beep 2x. **Press & Release** programming button. Operator will slowly close and beep 2x, next slowly fully open & beep 2x, then close (beep 1x) followed by 5 beeps, and will cycle fully open & close at normal speed.

Commissioning is complete for High Energy Applications. For Low Energy Applications, complete the last step below program the country code into the controller. For additional adjustments with FCP refer to page 21 or Programming Tables.

Electrical Controls

Pair Application Wiring

1. Determine which operator will be the primary drive as this will have the 3-position switch connection.

The FCP is an option in place of the 3-position and will be connected to the primary drive with appropriate module, Exterior Door module EDM or Programming Interface module PIM.

2. Check and/ or install jumpers between GND pin 1 - IN1 pin 2 and GND pin 1 - IN2 Pin 3 in place of the 3-position switch on the secondary drive as shown below.

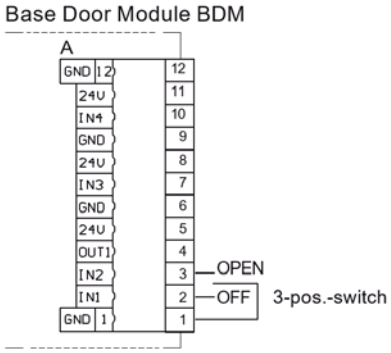


Figure 15: Primary Drive Wiring.

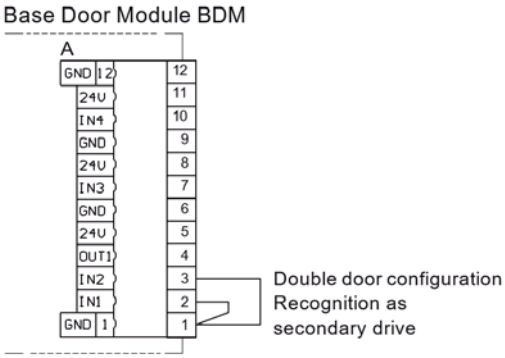


Figure 16: Secondary Drive Wiring.

3. Install Multi-Door Module MDM-B into each operator.

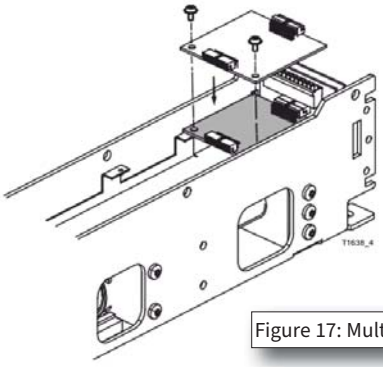


Figure 17: Multi-Door Module.

4. Connect Sync Cable to both drives & Multi-Door Module MDM-B as shown below:

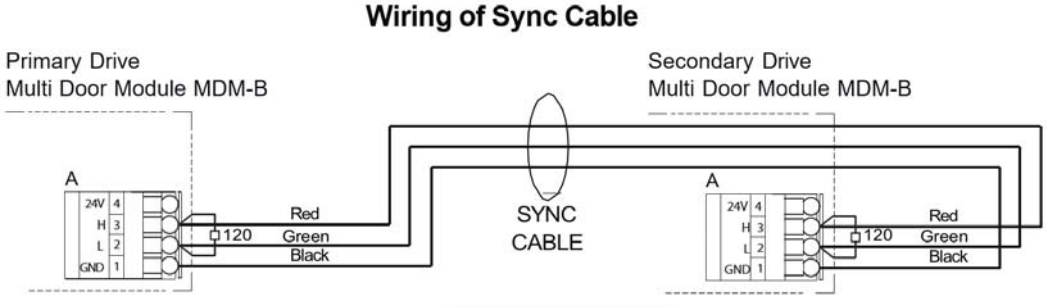


Figure 18: Sync Cable.

Do not apply primary power to the drive units until the appropriate step.

Electrical Controls Continued...

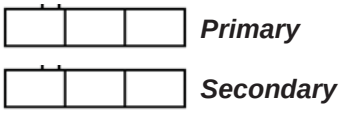
Pair Application

For a pair of doors the firmware of each operator must match. This is important when installing new and old operators to build a pair or when replacing an operator after the installation.

Requirements for both Operators

1. An MDM module Installed in both operators along with optional modules (PIM, EDM, PDM) prior to start-up. Refer to Technical Specifications section.
2. Operator firmware must match.
3. Refer to application's commissioning page to determine shaft condition. (loose or secured)
4. Determine system values based on the illustrations on page 14.

Commissioning



1. Connect primary power 120vAC to Primary operator first, then the Secondary operator this will configure the operators (Primary/ Secondary).

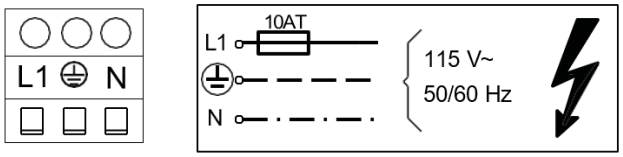


Figure 19: Commissioning Operators.

2. Commissioning sequence - Perform Commissioning of Primary operator first, then perform Commissioning of Secondary operator.
3. Refer to the applications Commissioning page:

Outswing 14-15 lbs. Spring Holding Force (Full Power)
Refer to page 16 for commissioning.

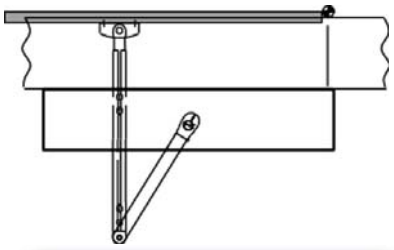


Figure 20: Outswing Commissioning.

Inswing 0" Reveal. Refer to page 18 for commissioning

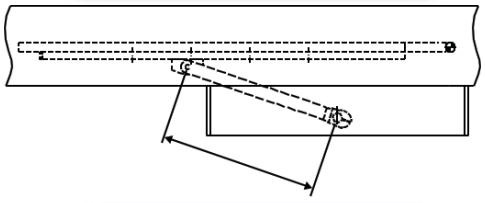


Figure 21: Inswing Commissioning.

4. Adjustments: Pairs - Turn OFF delayed activation of secondary operator = Code 830 Frequently used adjustments are listed on page 22.

Electrical Controls Continued...

Adjustments - Door Stop & Spring Tension

Internal Open Door Stop Adjustment

The internal stop must be adjusted on all Inswing applications to prevent the slide block from traveling beyond the end of the slide track or impacting the endcap.

Adjust internal stop clockwise to increase open door angle, adjust counter clockwise to decrease door open angle.

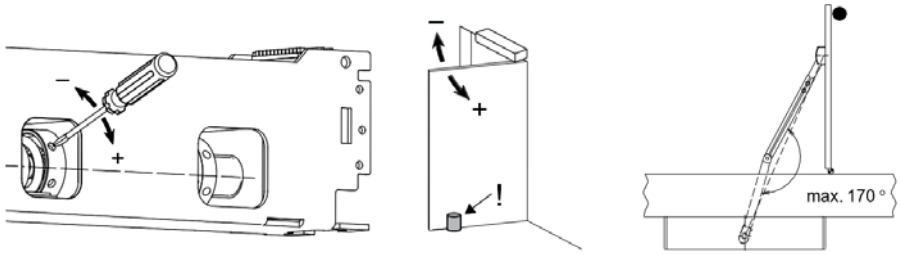


Figure 22: Adjust Internal Stop.

An external door stop may be needed depending on application (abuse, excessive wind...)..

Mechanical Spring Pre-Tension Adjustment (Optional)

Adjust spring tension to close the door in adverse applications with no primary power applied.

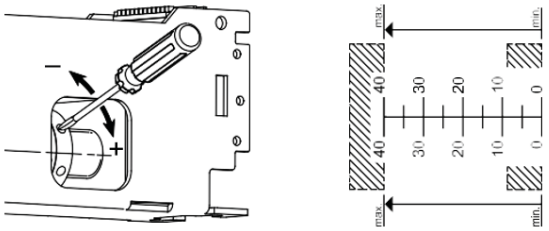


Figure 23: Adjust Spring Tension.

1. Adjust spring tension on the operator, note Tension length of the adjustment. Refer to the chart below to determine code to be entered.

   Example 20mm = Code 5.

	0	5	10	15	20	25	30	35	40	Tension length in mm
Number of Flashes	**1 ***	**2**	**3**	4	5	6	7	8	9	Code

Figure 24: Tension Code Chart.

2. Programming spring pre-tension parameter (FCP= code 09?) or with On-Board Button perform next step:

   (Read Entire Step BEFORE attempting to enter Spring Pre-Tension parameter)

   PERFORM THIS STEP WHILE LOOKING AT BOTH GREEN & YELLOW LEDS.

   Press & Hold programming button, **Release** after **4 Green** flashes then immediately **Press & Release** programming button after **# Yellow** flashes for code value.

3. Changing the spring tension will require a commissioning process to be performed with On-Board button Code 6 Green flashes or entering Code 021 with FCP.

Electrical Controls Continued...

Adjustments - Frequently Used

Country Code

The Country code 7/1 is available in firmware V3.02 and above. Code 7/2 is available in firmware V4.0 and above. The country code provides preset values to aid the technician in installing the door to comply with ANSI Standard A156.19. Country code can be set with On-board button Code 7/1 or 7/2. FCP code 031 or 032. To remove the country code adjustments perform a factory reset.\ Functions changed are listed below:

V3.02 and above Code 7/1	Hold Open Time=105 Closing Force=311 Safety Function PDM IN4=651	Opening Speed=203 Close Check Force=320 Pair without Overlap=830	Closing Speed=214 Safety Function BDM IN4=602 Push N Go OFF=860
V4.0 Code 7/2	Hold Open Time=105 Closing Force=311 Safety Function PDM IN4=651	Opening Speed=203 Close Check Force=320 Pair without Overlap=830	Closing Speed=214 Safety Function BDM IN4=602 Push N Go ON=861

Additional adjustments may be made after commissioning with FCP/ USIN-7 if an EDM Exterior Door Module is installed. If EDM is not required for door operation use of a PIM Program Interface module.

V4.0 and above, FCP/ USIN-7 will register into the control configuration after 30 minutes. E21 is displayed when cable is removed. Enter code 024 prior to removing the cable.

Listed below are the most common adjustments. For a complete list of adjustments refer to the Programming Charts.

*Hold open time = Code 10?
*Push-N-Go OFF = Code 860
Push-N-Go 3 Second Hold Open Time = Code 163
*Close Check Force OFF = Code 320
**Power Close for Lock Release ON = Code 581
**Delay Time to Open = Code 591
Power Pulse when Opening = Code 43? Over come wind stack pressure or lock
*Simultaneous pairs = Code 830
Turn OFF delayed activation of secondary operator for pair applications.
Detecting/ mask out safety functions details on page 28: On-Board Button = Code 3
FCP = Code 023
Repeat commissioning without system values details on page 28.
On-Board Button = Code 6
Power Assist in AUTO ON = Code 862 Power Assist Hold open Time = Code 150
* Adjustments have been changed by entering Country code 7.
** Adjustment 591 needs to be made in conjunction with 581.

Testing

Test the door in accordance with ANSI A156.19 Power Assist and Low Energy Power Operated Doors or ANSI A156.10 Power Operated Pedestrian Doors standards before putting the door into service and handing it over to the End-User.

Electrical Controls Continued...

Programming with the FCP - Overview

Programming with the Functional Control Panel FCP/ USIN-7 refer to T1757 in Technical Specification section requires at least one of the following modules to be installed: PIM shown below refer to T1691 or EDM T1638.

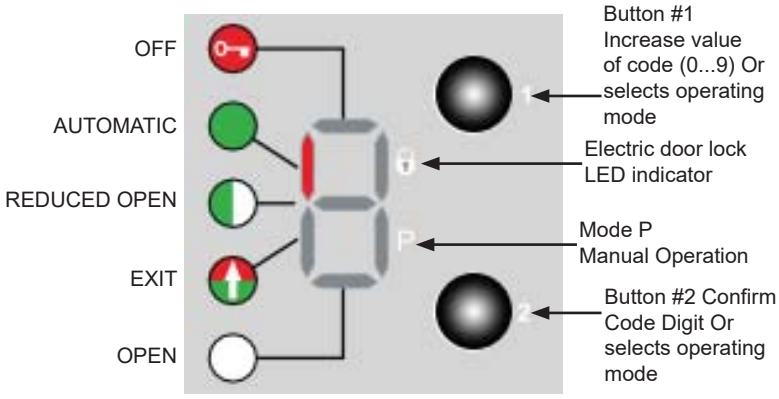


Figure 25: 6-Position Functional Control Panel.

The Functional Control Panel (FCP) has 2 function levels:

Level 1 - End user

- Select operating modes
- Display three-digit fault codes.
- Access protected eliminates unauthorized programming.

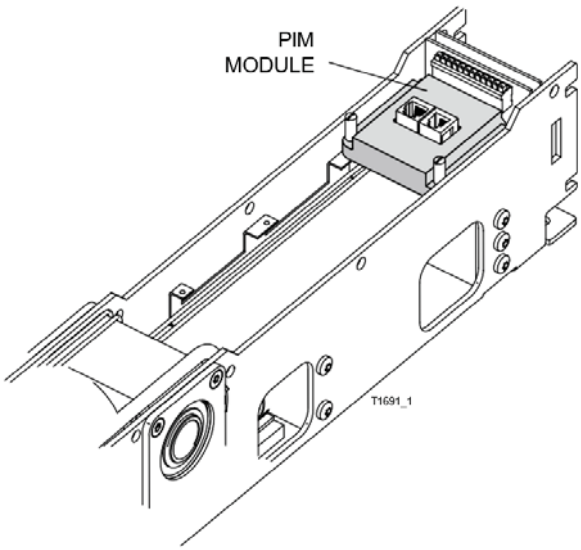


Figure 26: PIM Module.

Level 2 - AAADM Certified Technician

- "U" = User readable parameter - allows technician to read specific parameters. See programming chart for parameters.
- Access protection, access code (111)
- Programming door system to comply with the current ANSI A156.10 or ANSI A156.19 standard.
- Displays currently set parameter.
- 10 min time out after the last programming entry is made. The technician will be required to enter the access code (111) to make further adjustments.
- V4.0 and above, FCP/ USIN-7 will register into the control configuration after 30 minutes. E21 is displayed when cable is removed. Enter code 024 prior to removing the cable.

Electrical Controls Continued...

Button 1: - Changes the number or letter by increments of one (0, 1, 2, 3 - 9, a, b, c,... back to 0)
Button 2: - Confirms / enters displayed number or letter into the control.

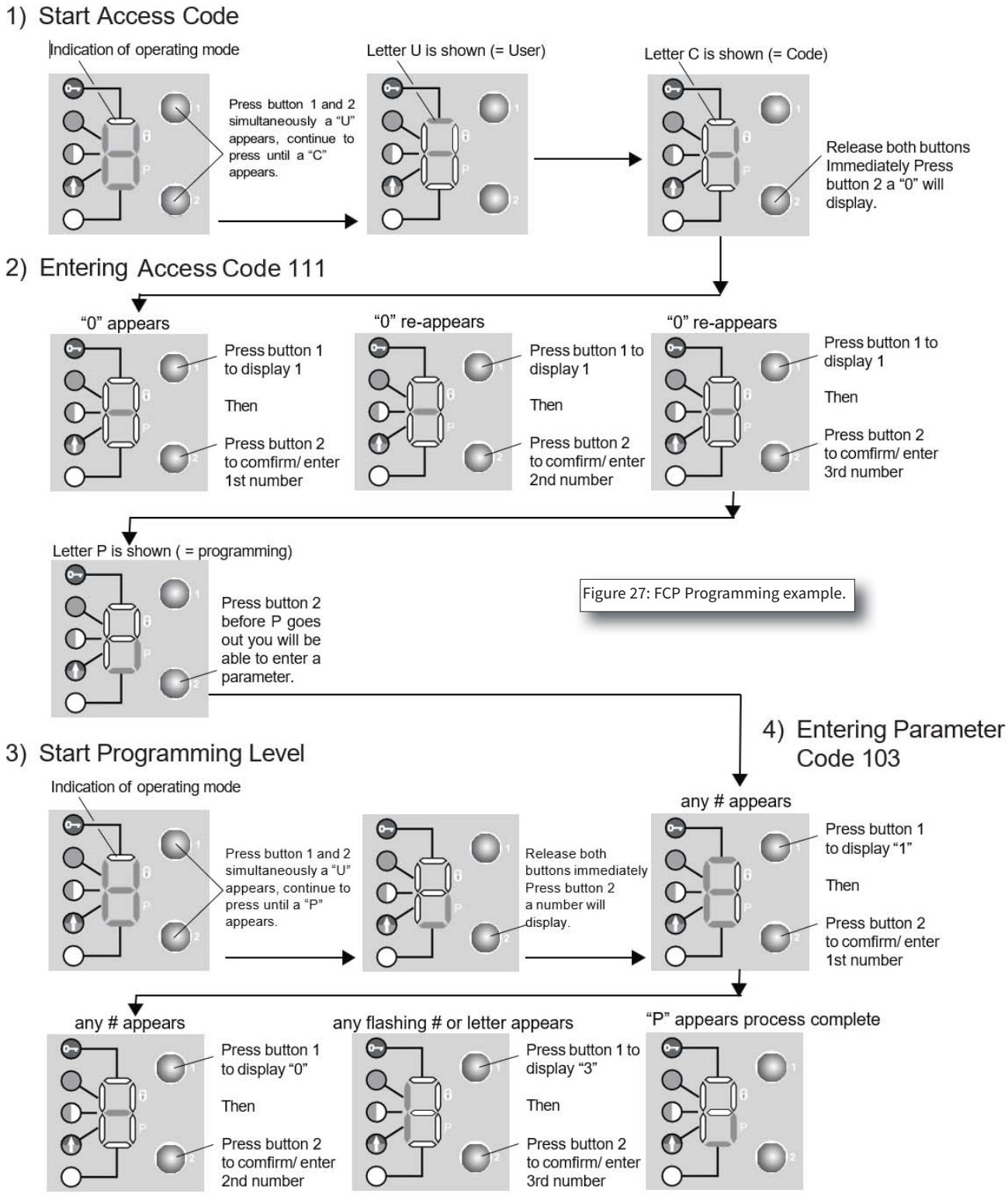


Figure 27: FCP Programming example.

If a number is entered incorrectly, stop and let the process time out. (no change made)

Electrical Controls Continued...

Programming with the FCP

Example 1: Enter access code 111

	Display on FCP	
Press both buttons simultaneously a	U	will display
continue to press both buttons and a	C	will display, release both buttons
*Press button 2 and	0	will display
Press button 1 to display	1	press Button 2 to confirm/enter
	0	will display
Press button 1	1	press Button 2 to confirm/enter
	0	will display
Press button 1	1	press Button 2 to confirm/enter
	P	will display, Operator is ready to be programmed.

Example 2: Enter code 103 to adjust the Hold Open time for 2 sec

	Display on FCP	
Press both buttons simultaneously a	U	will display
continue to press both buttons and a	P	will display, release both buttons
Press button 2 and	?	a number will be displayed
Press button 1 to display	1	press Button 2 to confirm/enter
	?	a number will be displayed
Press button 1 to display	0	press Button 2 to confirm/enter
a slow flashing	?	number or letter is displayed
Press button 1 to display	3	press Button 2 to confirm/enter
	3	will rapidly flash for 1 sec
	P	will display for 10 sec then operating mode will display

Hold Open time for Automatic 1 is now set for 2 sec

Within 10 minutes you can enter the programming mode by pressing both keys simultaneously and P will display. If no further adjustments are made after 10 minutes the FCP will time out and require access code re-entry. Repeat example 1.

After confirming/ entering the 2nd number of the code, the 3rd flashing value (number or letter) of the code is the parameter setting. If the value is confirmed the FCP will rapidly flash for 1 sec then display “P” again.

Quickly pressing and releasing both buttons simultaneously the FCP will return to displaying the mode of operation.

Electrical Controls Continued...

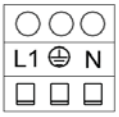
Commissioning with the FCP

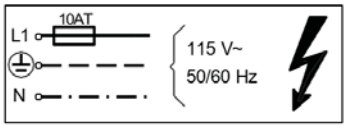
Requirements:

1. Programming with the Functional Control Panel FCP/ USIN-7 requires at least one of the following modules to be installed PIM refer to T1691 or EDM T1638. If optional modules (MDM, PDM) are required install prior to start-up.
2. The drive arm is connected to the door and the drive arm shaft has not been tightened, exception outswing 8 - 10 lbs .
3. Pair of doors - the sync cable and additional wiring outlined on page 19 has been completed.
4. Connect safety sensors to door control, adjust in accordance to manufacturer's specifications.

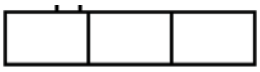
Start-Up:

For Simultaneous pairs: applying power in the wrong sequence will cause configuration problems.

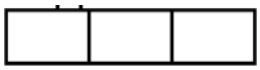




1. Apply primary power to the operator, for pair of doors apply power to the Primary operator first, then to the Secondary operator.
2. Enter System Parameters - Refer to page 14 to determine values. Complete sequence for Primary operator first.
   Enter Code 06? Door Width
   Enter Code 07? Reveal
   Enter Code 08? Drive Arm length



3. Arm Preload
   Enter Code 021 operator will rotate 20 degrees, with the door arm connected to the door, place the door in the closed position, tighten shaft retaining bolt to 25 ft. lbs.
   Remove primary power plug from operator, door will close.



4. For pair applications - repeat process for secondary operator beginning at step 2.

5. Adjusting Open door stop
   Determine opening angle required for application adjust internal stop accordingly.

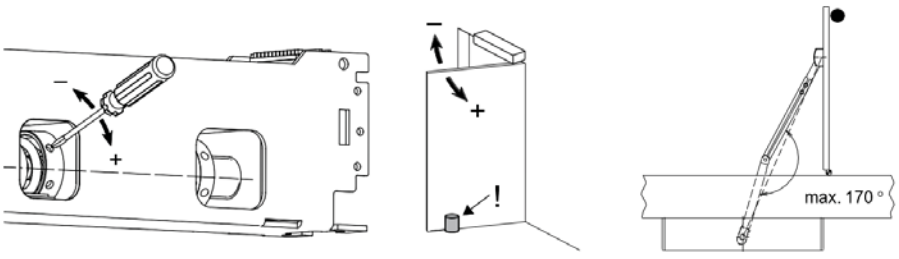


Figure 28: Adjust Internal Stop.

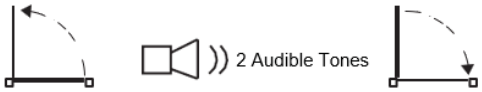
An external door stop may be needed depending on application (abuse, excessive wind).

Proceed to page 27

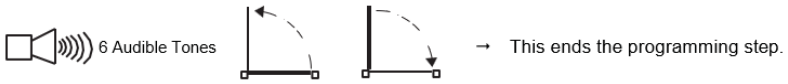
Electrical Controls Continued...

Commissioning:

1. Apply primary power to the operator, for pair of doors apply power to the Primary operator first, then to the Secondary operator.
2. Commissioning - Enter Code 021 Start commissioning, for pairs complete primary operator sequence first.
3. Door will automatically open and hold open at 20 degrees.  2 Audible Tones
4. Exit Preload - Enter Code 020 door closes.
5. Door will automatically begin opening until the open door stop is reached, door will immediately close.(Checking door weight/ momentum)



6. Escalating 6 tones will occur before door begins opening. (Door mounted safety sensor inhibiting)



7. For pair applications, repeat sequence for secondary operator, begin at step 2. Primary operator will go to the open position until commissioning is completed.

ELECTRICAL CONTROLS

Additional Adjustments

Additional adjustments may need to be made after commissioning. Listed below are the most common adjustments. For additional adjustments refer to the Programming Charts.

*Hold open time = Code 10?
*Push-N-Go OFF = Code 860
*Close Check Force OFF = Code 320
**Power Close for Lock Release ON = Code 581
**Delay Time to Open = Code 591
Power Pulse when Opening = Code 43? Over come wind stack pressure
*Simultaneous pairs = Code 830
Turn OFF delayed activation of secondary operator for pair applications.
Detecting/ mask out safety functions details on page 28 = Code 023
Power Assist in AUTO ON = Code 862
Power Assist Hold open Time = Code 150
Repeat commissioning without system values details on page 28.
On-Board Button = Code 6
* Adjustments have been changed by entering Country code 7.
** Adjustment 591 needs to be made in conjunction with 581.

V4.0 and above, FCP/ USIN-7 will register into the control configuration after 30 minutes. E21 is displayed when cable is removed. Enter code 024 prior to removing the cable.

Testing

Test the door in accordance with ANSI A156.19 Power Assist and Low Energy Power Operated Doors or ANSI A156.10 Power Operated Pedestrian Doors standards before putting the door into service and handing it over to the End-User.

Electrical Controls Continued...

Detecting safety features (optional)

If the safety sensor's in the opening and/or closing direction were not detected correctly or have been connected for the first time, they can be subsequently detected. Detect and save safety features 1–2
Code 3 on-board configuration (FCP code = 023)

Procedure according to Code 023 or OB Code 3	Conditions	Result
Waiting time 5 seconds (rising motor signal tone). The safety sensor connection type is detected. The door opens and closes again. After the door reaches the open position, the number of testable safety sensors is indicated by the number of times the green LED (0–2 times).	Sensors must be correctly connected. Do not enter the detection area of the moving safety sensors.	If the testing of the safety feature "open" is successful, the door opens at full power. If the testing of the safety feature "close" is successful, the door closes at full power. The safety feature "open" is automatically suppressed if the door moves against a wall.

Repeat commissioning (without system values)

If the door arm or shaft position was changed or glass was installed in the door after commissioning.

Code 6 on-board configuration

Procedure according to OB Code 6	Conditions	Result
Operator rotates 20°, beeps 2x, Press & Release the OB button, operator will close slowly, automatically opens slowly & fully open & beeps 2X, close (beep 1x) followed by 5 beeps. and will fully open & close at normal speed.	Door travel path un-obstructed, no physical contact with the door during the learn cycles. Minimal wind load.	Door open & closed positions detected. Door weight detected. Safety functions detection according to Code 023, OB Code 3.

Displays

Troubleshooting codes displays as E / H on the user interface. See the Troubleshooting Codes Chart in this manual for their meaning.

LED displays on the base door module BDM

Yellow LED off	OK
Yellow LED on	Error (E). See the user interface or Skipper for the error display. See the Trouble shooting chart in this manual.
Green LED on	Power supply and module OK
Green LED off	No power supply or power supply overloaded.
Green LED flashes	A programming step was started via the on-board programming button. The process is on going. Press the button briefly to stop the process.
The Green LED flashes after the open position is reached	0 x = No testable safety features available. Door moves with low energy. × = 1 testable safety feature available. Door moves with low energy. × = 2 testable safety features available. Door moves with full energy.

Electrical Controls Continued...

Programming Table

Code		Function															Note
01	2	UR Door Operator Type ASI DC Swing															Remains After Factory Reset
02	0	End Procedure "Spring Preload"															
02	1	Start Commissioning															Only Possible After Entering System Parameters 06x, 07x, 08x
02	2	Start Teach-In															
02	3	Detecting And Storing Of Safety Functions															Safety functions on terminals in3+4 PDM and in4 BDM
02	4	Delete Registration of Unplugged Modules MDM, PDM, EDM															Modules Are Registered Automatically At Power-Up
02	5	Reset Double Door On Single Door															
03	1	Country Code Setting 1 (=P105,203,214,311,320,602,651,830,860,870)															Reverse With Factory Reset
03	2	Country Code Setting 2 (=P105,163,203,214,311,320,602,651,830,861,871)															Reverse With Factory Reset
04	0	UR Reset															Starts Program With Calibration Run
04	1	Factory Reset															All Adjustments Back To Default Values (see *)
04	2	UR Display Firmware Version															Example: r06-00 = V06.00
04	3	UR Display Number Of Cycles															Example: c10_302 = 10'302 cycles (max. 99'999'999)
04	4	UR Display Number Of Operating Hours															Example: h4_002 = 4002 hours (max.99'999'999)
04	5	Delete Fault Protocol															
04	6	UR Address Of Control Unit For Network															Example: A1 = address no. 1
05	0	Display Registration Module EDM															A0 =not registered, A1 =registered
05	1	Display Registration Module PDM															A0 =not registered, A1 =registered
05	2	Display Registration Module MDM															A0 =not registered, A1 =MDM-A registered, A2 =MDM-B registered
05	3	Display Registration Secondary Door Operator															A0 =Single Door, A1 =Primary Door, A2 =Secondary Door
05	4	Display Voltage Intermediate Circuit 40VDC															Example: u22_8 = 22,8V
05	5	Display Voltage 24VDC Supply															Example: u22_8 = 22,8V
05	6	Display Registration User Interface USIN-7															A0 =not registered, A1 =registered
05	7	Display CAN Node ID															n=15/25 (single door) n=35/45 (add. door) primary/secondary
05	8	Display Temperature Transformer (Calculated) (From FW V03.10)															Example: t39_5 = 39,5 degree C
05	9	Display Temperature Motor (Calculated) (From FW V03.10)															Example: t39_5 = 39,5 degree C
06	0...8	Door width															
		0*	1	2	3	4	5	6	7	8							Code
		0	28"	32"	36"	40"	44"	48"	52"	56"							Inches
07	0...6	Reveal															
		0*	1	2	3	4	5	6									Code
		0	1-2"	2-4"	4-6"	6-8.5"	8.5-10.5"	10.5-12.5"									Inches
08	0...6	Drive Arm Length															
		0*	1	2	3	4	5	6									Code
		0	11-3/8"	Custom	13-3/4"	13-3/4"	Custom	Custom									Inches (Out-Swing Arm/Push 1,2,3) (In-Swing Arm/Pull 4,5,6)
09	1...9	Spring Tension															
		1 *	2	3	4	5	6	7	8	9							
		0	5	10	15	20	25	30	35	40							mm
10	0...F	UP Hold-Open Time For Auto Mode															Is also determined by the teach-in.
		0	1 *	2	3	4	5	6	7	8	9	A	B	C	D	E	F	code
		0	1	2	3	4	5	6	8	10	12.5	15	17.5	20	40	60	>/>	sec. (>/>=step control)
11	0...F	UP Hold-Open Time Of Activator For Beds															
		0	1	2	3	4	5	6	7 *	8	9	A	B	C	D	E	F	code
		0	1	2	3	4	5	6	8	10	12.5	15	17.5	20	40	60	>/>	sec. (>/>=step control)
13	0...9	UP Delay Time Mode Of Op. OFF															
		0	1	2 *	3	4	5	6	7	8	9							code
		1	3	5	7.5	10	15	20	30	45	60							sec.

Electrical Controls Continued...

Programming Table

Code	Function																Note
14 0...9	UP out3 EDM: Bell Active Time																0 = Off
	0	1	2 *	3	4	5	6	7	8	9							code
	0	0.5	1	2	3	4	5	6	8	10							sec.
15 0...F	Power Assist Hold-Open Time After Opening																0 = Off
	0	1 *	2	3	4	5	6	7	8	9	A	B	C	D	E	F	code
	0	1	2	3	4	5	6	8	10	12.5	15	17.5	20	40	60	>/>	sec. (>/>=step control)
16 0...F	UP Push N Go / Hold Open Time																
	0	1 *	2	3	4	5	6	7	8	9	A	B	C	D	E	F	code
	0	1	2	3	4	5	6	8	10	12.5	15	17.5	20	40	60	>/>	sec. (>/>=step control)
20 0...9	UP Opening Speed																
	0	1	2	3	4	5	6 *	7	8	9							Code
	10	25	40	55	70	85	100	110	120	130							%
21 0...9	UP Closing Speed																
	0	1	2	3	4	5	6 *	7	8	9							Code
	10	25	40	55	70	85	100	110	120	130							%
22 0...9	Close Check Speed																Low Energy max 67N / F (+0 to -30%)
	0 *	1	2	3	4	5	6	7	8	9							Code
	2	5	8	11	14	17	20	23	26	30							(no = no limit)
30 1...9	UP Motor Force Opening																Low Energy max 67N / F (+0 to -30%)
	1	2	3	4	5	6 *	7	8	9								code
	40	55	67	80	95	120	150	175	no								(no = no limit)
31 0...9	UP Motor Force Closing																Low Energy max 67N / F (+0 to -30%) / S= only force of spring
	0	1	2	3	4	5	6 *	7	8	9							code
	S	40	55	67	80	95	120	150	175	no							N (S= only spring force)
32 0...8	UP Motor Force At Close Check																Low Energy max 67N / F (+0 to -30%) / S= only force of spring
	0	1	2	3**	4	5	6 *	7	8								code
	S	40	55	67	80	95	120	150	175								N (S= only spring force)
33 0...6	Motor Holding Closed Force (New Comissioning Required! >H14)																% of the set spring force.
	0	1	2	3 *	4	5	6										code
	-90	-60	-30	0	+30	+60	+90										%
34 0...5	Power Assist Closing Force After Opening																Force On Door Edge
	0 *	1	2	3	4	5											code
	S	5	10	15	20	25											N (S= only spring force)
35 0...9	Reversing time obstacle opening																
	0	1	2	3	4	5	6 *	7	8	9							code
	5	4.5	4	3.5	3	2.5	2	1.5	1	0.5							sec.
36 0...9	Reversing time obstacle closing																
	0	1	2	3	4	5	6 *	7	8	9							code
	5	4.5	4	3.5	3	2.5	2	1.5	1	0.5							sec.
37 0...4	Power Assist Opening Resistance																
	0	1	2	3 *	4												code
	5	10	15	20	25												N
38 0...6	Push-N-Go Start Angle																
	0	1	2	3 *	4	5	6										code
	1	2	3	5	8	12	16										degree

UP=(U) User Mode Limited Programming. UR=(U) User Mode Readable Parameter ** = Default value * = Default value

Electrical Controls Continued...

Programming Table

Code		Function	Note
39	0...5	Push-And-Close Start Angle	0 = 5 degrees before the closed position
		0 | 1 | 2 | 3 | 4 | 5 *	code
		- | 8 | 10 | 12 | 14 | 16	degree
40	0...9	Correction Open Position	Stop = open against end-stop (not if H17 is displayed)
		0 | 1 | 2 | 3 | 4 * | 5 | 6 | 7 | 8 | 9	code
		95 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 105 | Stop	%
41	1...9	Advance Angle For Unlocking	For safe unlocking when reopening
		1 | 2 | 3 | 4 | 5 | 6 | 7 * | 8 | 9	code
		1 | 1,5 | 2 | 3 | 3 | 4 | 4 | 4.5 | 5	degree
42	0...9	Close Check Angle	Note the context of the parameters P22x, P32x, P42x
		0 * | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9	code
		0 | 1 | 2 | 2 | 3 | 3 | 3.5 | 4 | 4.5 | 5	degree
43	0 *...3	Power Pulse When Opening	0 = off, 3 = maximum
50	0	No Switch Off Safety Sensors	
50	1	Switch Off Safety Sensors In: P	Connect power of sensor to Gnd ct (PDM)
50	2 *	Switch Off Safeties In: P, OFF If Door Closed >60s, OPEN If Open >60s	Connect power of sensor to Gnd ct (PDM)
51	0	No Switch Off Activator Sensors	
51	1	Switch Off Sensor In: P	Connect power of sensor to Gnd ct (EDM)
51	2 *	Switch Off Sensor In: P, OFF If Door Closed, OPEN	Connect power of sensor to Gnd ct (EDM)
51	3	Switch Off Sensor In: P, OFF And EXIT If Door Closed, OPEN	Connect power of sensor to Gnd ct (EDM)
52	0	No Switch Off Of LED On User Interface USIN-7	
52	1 *	Switch Off LEDs On User Interface USIN-7 1 Min. After Use	LEDs switch on when needed
55	0	Locks In Operating Mode OFF	When using electric. strikes: 100% duty ratio required
55	1	Locks In Operating Mode OFF, EXIT	When using electric. strikes: 100% duty ratio required
55	2	Locks In Operating Mode OFF, AUTO, EXIT	When using electric. strikes: 100% duty ratio required
55	3 *	Locks In All Operating Modes OFF, AUTO, EXIT,P	
56	0 *	out2 EDM: Holding Magnet Without Function	
56	1	out2 EDM: Holding Magnet Active In Closed Position	
56	2	out2 EDM: Holding Magnet Active In Open Position	
57	0 *	out1B EDM: Electric Strike: Current-Free Locked - Fail Secure	
57	1	out1B EDM: Electric Strike/Maglock: Current-Free Unlocked - Fail Safe	Only For Electric Strike with 100% Duty Ratio
57	2	out1B EDM: No Lock	
57	3	Out1B EDM: Motorized lock	With Return Signal: Program P59A Or B
58	0 *	No Power Close For Electric Strike Release	
58	1	Power Close For Electric Strike Release	Requires min. unlocking time of 0,2s (P591)
59	0...b	Delay Time To Open (Or Until Response "R" Of Motorized Lock	Only valid if electric strike has to unlock
		0 * | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B	code
		0,1 | 0.2 | 0.4 | 0.8 | 1.2 | 1.6 | 2 | 2.5 | 3 | 4 | R/NO | R/NC	sec. / Response
60	0	in4 BDM: No Function	Safety functions use only once with 60x, 64x, 65x!
60	1 *	in4 BDM: Safety Swing Area	Contact Tpe NO, NC Detect With Code P023 Or OB 3
60	2	in4 BDM: Safety Closing With Reversing Function	Contact Tpe NO, NC Detect With Code P023 Or OB 3
60	3	in4 BDM: Safety Closing With Creeping Function	Contact Tpe NO, NC Detect With Code P023 Or OB 3
60	4	in4 BDM: Safety Opening With Stop Function	Contact Tpe NO, NC Detect With Code P023 Or OB 3
60	5	in4 BDM: Safety Opening With Creeping Function	Contact Tpe NO, NC Detect With Code P023 Or OB 3
60	6	in4 BDM: Power-Assistance Pre-Triggering	Function depending of op. mode and P85x-87x, x>=2

UP=(U) User Mode Limited Programming. UR=(U) User Mode Readable Parameter * = Default value

Electrical Controls Continued...

Programming Table

Code		Function	Note
61	0	out1 BDM: No Function	
61	1 *	out1 BDM: Message “General Fault”	
61	2	out1 BDM: Message “Door Is Opening Or Open”	
61	3	out1 BDM: Message “Door Closed”	
61	4	out1 BDM: Message “Door Closed And Locked”	
61	5	out1 BDM: Message “Door Open”	
61	6	out1 BDM: Message “Mode Of Operation OFF”	
61	7	out1 BDM: Message “Mode Of Operation AUTOMATIC”	
61	8	out1 BDM: Message “Mode Of Operation EXIT”	
61	9	out1 BDM: Message “Mode Of Operation OPEN”	
61	A	out1 BDM: Message “Mode Of Operation MANUAL”	
61	B	out1 BDM: Message “Battery In Service”	
62	0 *	in1 PDM: No Function	
62	1	in1 PDM: Emergency Closing	Contact type is NC
62	2	in1 PDM: Emergency Opening	Contact type is NC
64	0 *	in3 PDM: Safety Opening With Stop Function	Contact type NC+test, NC, NO Detect With P023 Or OB 3
64	1	in3 PDM: Safety Opening With Function “Low-Energy”	Contact type NC+test, NC, NO Detect With P023 Or OB 3
64	2	in3 PDM: Safety Stop	Contact type NC+test, NC, NO Detect With P023 Or OB 3
64	3	in3 PDM: Safety Swing Area	Contact type NC+test, NC, NO Detect With P023 Or OB 3
65	0 *	in4 PDM: Safety Closing With Reversing Function	Contact type NC+test, NC, NO Detect With P023 Or OB 3
65	1	in4 PDM: Safety Closing With Function “Low-Energy”	Contact type NC+test, NC, NO Detect With P023 Or OB 3
65	2	in4 PDM: Safety Stop	Contact type NC+test, NC, NO Detect With P023 Or OB 3
65	3	in4 PDM: Safety Swing Area	Contact type NC+test, NC, NO Detect With P023 Or OB 3
70	0	out1 MDM: Message “Door Ready For Operation”	MDM- A (Non Stocking Part, Special Order)
70	1	out1 MDM: Message “General Fault”	MDM- A (Non Stocking Part, Special Order)
70	2	out1 MDM: Message “Door Is Opening Or Open”	MDM- A (Non Stocking Part, Special Order)
70	3	out1 MDM: Message “Door Closed”	MDM- A (Non Stocking Part, Special Order)
70	4	out1 MDM: Message “Door Closed And Locked”	MDM- A (Non Stocking Part, Special Order)
70	5 *	out1 MDM: Message “Door Open”	MDM- A (Non Stocking Part, Special Order)
70	6	out1 MDM: Message “Mode Of Operation OFF”	MDM- A (Non Stocking Part, Special Order)
70	7	out1 MDM: Message “Mode Of Operation AUTOMATIC”	MDM- A (Non Stocking Part, Special Order)
70	8	out1 MDM: Message “Mode Of Operation EXIT”	MDM- A (Non Stocking Part, Special Order)
70	9	out1 MDM: Message “Mode Of Operation OPEN”	MDM- A (Non Stocking Part, Special Order)
70	A	out1 MDM: Message “Mode Of Operation MANUAL”	MDM- A (Non Stocking Part, Special Order)
70	B	out1 MDM: Message “Battery In Service”	MDM- A (Non Stocking Part, Special Order)
71	0…B 3*	out2 MDM: Same Choice Of Functions As On out1 MDM	MDM- A (Non Stocking Part, Special Order)
72	0…B 4*	out3 MDM: Same Choice Of Functions As On out1 MDM	MDM- A (Non Stocking Part, Special Order)
73	0…B 0*	out4 MDM: Same Choice Of Functions As On out1 MDM	MDM- A (Non Stocking Part, Special Order)
74	0	in1 MDM: No Function	MDM- A (Non Stocking Part, Special Order)
74	1 *	in1 MDM: Mode Of Operation OFF	MDM- A (Non Stocking Part, Special Order)
74	2	in1 MDM: Mode Of Operation AUTO	MDM- A (Non Stocking Part, Special Order)
74	3	in1 MDM: Mode Of Operation EXIT	MDM- A (Non Stocking Part, Special Order)
74	4	in1 MDM: Mode Of Operation OPEN	MDM- A (Non Stocking Part, Special Order)
74	5	in1 MDM: Mode Of Operation MANUAL	MDM- A (Non Stocking Part, Special Order)
74	6	in1 MDM: Emergency Opening	Not permitted by EN16005, UL325 / Contact type is NC
74	8	in1 MDM: Passage For Beds	MDM- A (Non Stocking Part, Special Order)
75	0...8 4*	in2 MDM: Same Choice Of Functions As On in1 MDM	MDM- A (Non Stocking Part, Special Order)
76	0...8 3*	in3 MDM: Same Choice Of Functions As On in1 MDM	MDM- A (Non Stocking Part, Special Order)
77	0...8 8*	in4 MDM: Same Choice Of Functions As On in1 MDM	MDM- A (Non Stocking Part, Special Order)

UP=(U) User Mode Limited Programming. UR=(U) User Mode Readable Parameter * = Default value

Electrical Controls Continued...

Programming Table

Code		Function					Note
78	0	User Interface: in1: No Function					
78	1*	User Interface: in1: User Interface Lock					
78	2	User Interface: in1: Key Switch					
78	3	User Interface: in1: Activator Inside					
78	4	User Interface: in1: Activator Outside					
79	0...4 0*	User Interface: in2: Same Choice As On User Interface: in1					
80	0*	UP out3 Bell Trigger: Activator Outside					
80	1	UP out3 Bell Trigger: Activator Inside					
80	2	UP out3 Bell Trigger: Key Switch					
81	0...4	UP Button pressed time for handicapped					Valid For Inside/Outside And Key Switch Activations
		0 *	1	2	3	4	code
		0	1	2	3	4	sec.
82	0*	Emergency Operation In Case Of Faulty Safety, For Low Risk					At E31-36: Creep speed with force <67N
82	1	Safety Operation In Case Of Faulty Safety, For High Risk					At E31-36: Manual operation
82	2	No Change, Except In OFF, In Case Of Faulty Safety, For High Risk					At E31-36. In OFF: Emergency operation
83	0	Double Wing Door Without Overlapping, Synchronous					Application see T-1763, T-1753
83	1*	Double Wing Door With Overlapping 10°, Small Motion Offset					Application see T-1763, T-1753
83	2	Double Wing Door With Overlapping 15°, Small Motion Offset					Application see T-1763, T-1753
83	3	Double Wing Door With Overlapping 25°, Small Motion Offset					Application see T-1763, T-1753
83	4	Double Wing Door With Overlapping 40°, Small Motion Offset					Application see T-1763, T-1753
83	5	Double Wing Door With Overlapping 10°, Large Motion Offset					Application see T-1763, T-1753
83	6	Double Wing Door With Overlapping 15°, Large Motion Offset					Application see T-1763, T-1753
83	7	Double Wing Door With Overlapping 25°, Large Motion Offset, For MDC					Application see T-1763, T-1753
83	8	Double Wing Door With Overlapping 40°, Large Motion Offset, For MDC					Application see T-1763, T-1753
84	0*	Battery switches off after 10 s >					
84	1	Battery operation in all modes of operation >					
84	2	Battery operation in AUTO, EXIT, OPEN >					In all other modes, the battery switches off
84	3	Opens and stays open with battery in OFF, AUTO, EXIT, OPEN >					In all other modes, the battery switches off
84	4	Opens and stays open with battery in AUTO, EXIT, OPEN >					In all other modes, the battery switches off
85	0*	No opening assistance in MANUAL >					
85	2	Power assist. in MANUAL incl. pre-trigger by activator in-/outside >					Triggered by angle or IN4 BDM with P606, note also P51x
85	3	Power assistance in MANUAL >					Triggered by angle or IN4 BDM with P606, note also P51x
86	0	No opening assistance in AUTO >					
86	1*	Push-and-Go in AUTO, OPEN >					At OPEN: Reopening after Push-and-Close
86	2	Power assistance in AUTO , OPEN (reopening) >					Triggered by angle or IN4 BDM with P606, note also P51x
87	0	No opening assistance in EXIT >					
87	1*	Push-and-Go in EXIT >					
87	2	Power assistance in EXIT >					Triggered by angle or IN4 BDM with P606, note also P51x
90	0*	Programming button (BDM) enabled >					
90	1	Programming button (BDM) disabled >					
91	0...4	UP Code lock for control unit >					Protection is activated after 60 s / 0 = off
		0 *	1	2	3	4	code
		--	111	222	333	123	code
92	0*	User parameter UP UR enabled >					
92	1	User parameter UP UR disabled >					

UP=(U) User Mode Limited Programming. UR=(U) User Mode Readable Parameter

Electrical Controls Continued...

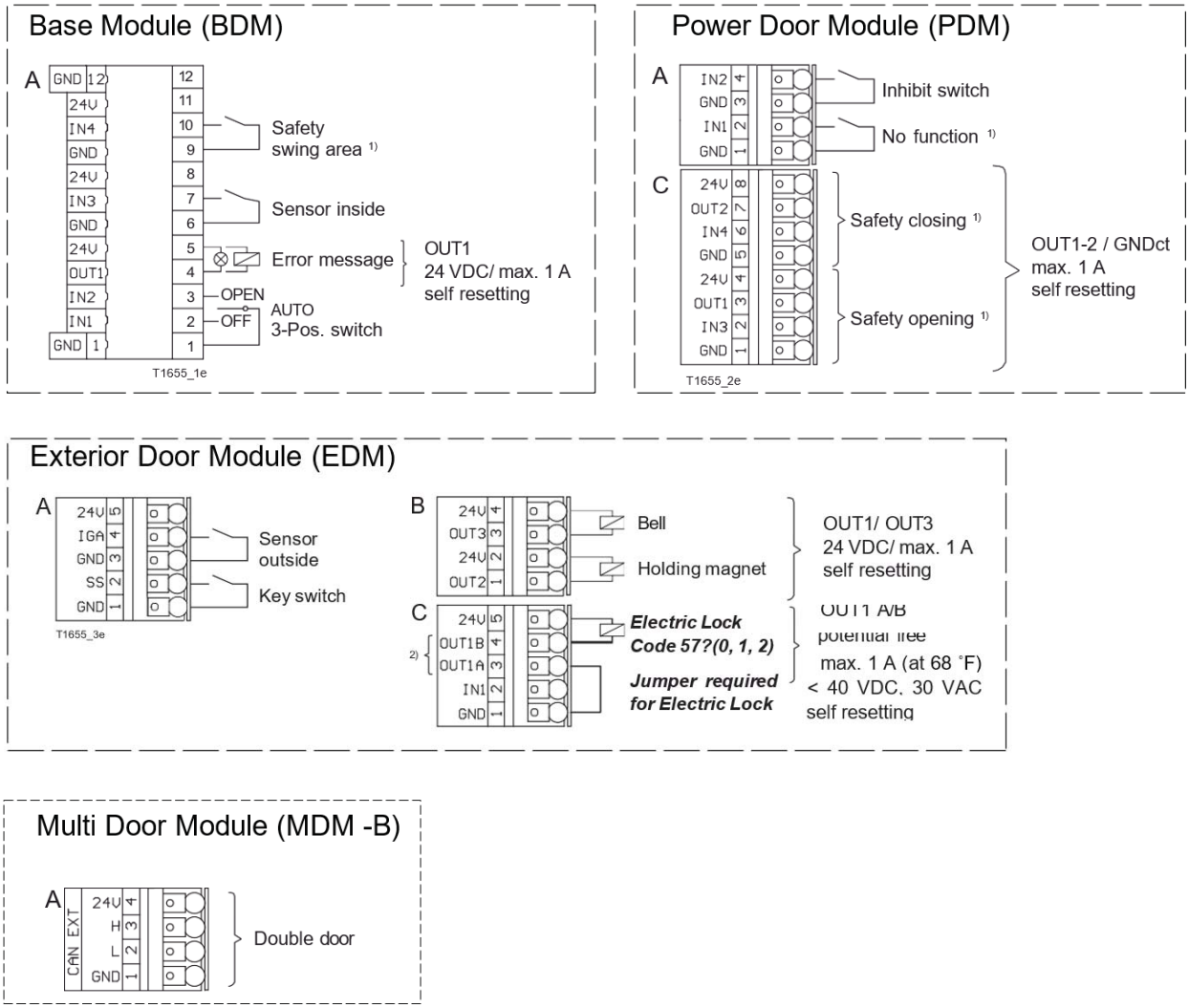
Troubleshooting Codes

* No.	Fault	Behavior of System	Reset
E0x	Internal test negative. Fatal error.	Safety operating	Power OFF-ON. Possibly press button 5s
E11	Motorized lock not unlocked	Door blocked	Automatically if OK
E12	Motorized lock not locked		Automatically if OK
E23	CAN connection EDM interrupted	Safety operating mode	
E24	CAN connection PDM interrupted	Safety operating mode	
E25	CAN connection MDM interrupted	Safety operating mode	
E26	CAN connection primary - second. interrupted	Primary continues, second. stays closed	
E31	Safety open > 1 min. active, test neg.	According safety function	Automatically if OK
E32	Safety closing > 1 min. active, test neg.	According safety function	Automatically if OK
E33	Safety stop > 1 min. active, test neg.	According safety function	Automatically if OK
E34	Safety swing area > 1 min. active, test neg.	According safety function	Automatically if OK
E35	Safety open creep > 1 min. active, test neg.	According safety function	Automatically if OK
E36	Safety close creep > 1 min. active, test neg.	According safety function	Automatically if OK
E37	Safety open Low En. > 1min. active, test neg.	According safety function	Automatically if OK
E38	Safety clos. Low En. >1min. active, test neg.	According safety function	Automatically if OK
E41	Activator inside > 1min. active	Door remains open	Automatically if OK
E42	Activator outside > 1min. active	Door remains open	Automatically if OK
E43	Key switch > 1min. active	Door remains open	Automatically if OK
E45	Emergency open > 1 min. active	Door remains open	Automatically if OK
E46	Emergency close > 1 min. active	Door closes and remains closed	Automatically if OK.
E47	Inhibit switch > 1 min. active	Door closes without hold open time	Automatically if OK.
E48	Activator bed passage > 1min. active	Door remains open	Automatically if OK
E51	Encoder not working	Safety operating mode	Reset
E61	Power supply 40V outside of admissible range	Safety operating mode	Automatically if OK
E62	Power Supply 24V outside of permissible range	Safety op. mode	Automatically if OK
E63	Power Supply 24V short circuit	Safety op. mode	Automatically after 20s if OK
E64	Motor hot	Safety operating mode	Automatically after cooling down
E66	Motor faulty. Interruption of motor control.	Safety operating mode. No braking!	Replace motor
E68	Power failure (Power on)		
E99	Error at secondary drive unit		
H01	System was started	Safety op. mode	Reset
H02	Factory reset required (VEE unreadable)	Safety mode	Factory reset
H11	Parameter 06... not yet programmed	Safety operation	Enter parameter
H12	Parameter 07... not yet programmed	Safety operation	Enter parameter
H13	Parameter 08... not yet programmed	Safety operation	Enter parameter
H14	Commissioning not executed	Safety operation	Start commissioning
H15	Timeout moving. Door blocked. Motor faulty	Commissioning is canceled	Restart commissioning
H16	Mass detection faulty (wind, opening angle)	Automatic. detection is terminated	Restart automatic detection
H17	Open end-stop too soft. Motor may overheat		
H18	Safety function is used more than once		See P60x, P64x, P65x
H19	Detection of safety functions pending		P023 or OB code 3
H21	Teach-In: Door moves >25 s before start	Abort Teach-In	New Teach-In
H22	Teach-In: No start within 60s	Abort Teach-In	New Teach-In
H23	Teach-In: Movement to slow. >60 s	Abort Teach-In	New Teach-In
H31	Obstacle detection at opening	Door reverses	Automatically, Display 20s.
H32	Obstacle detected at closing	Door reverses	Automatically, Display 20s.
H33	Permanent obstacle at opening	Safety operation	Reset
H34	Permanent obstacle at closing	Safety operation	Reset
H46	FW mismatch in primary and secondary		
H62	Calibration run in closing direction	Searches closed position	At the end of movement
H67	Absolute position not found yet	Slow opening movement	
H71	Battery mode	Door moves slowly	Power supply return
H74	Motor current in open position too high	E64 can trigger later	P404. Avoid wind load. Install HM

Control Connection Diagram

Remove primary power to connect additional modules and connections of lock, activation and safety devices.

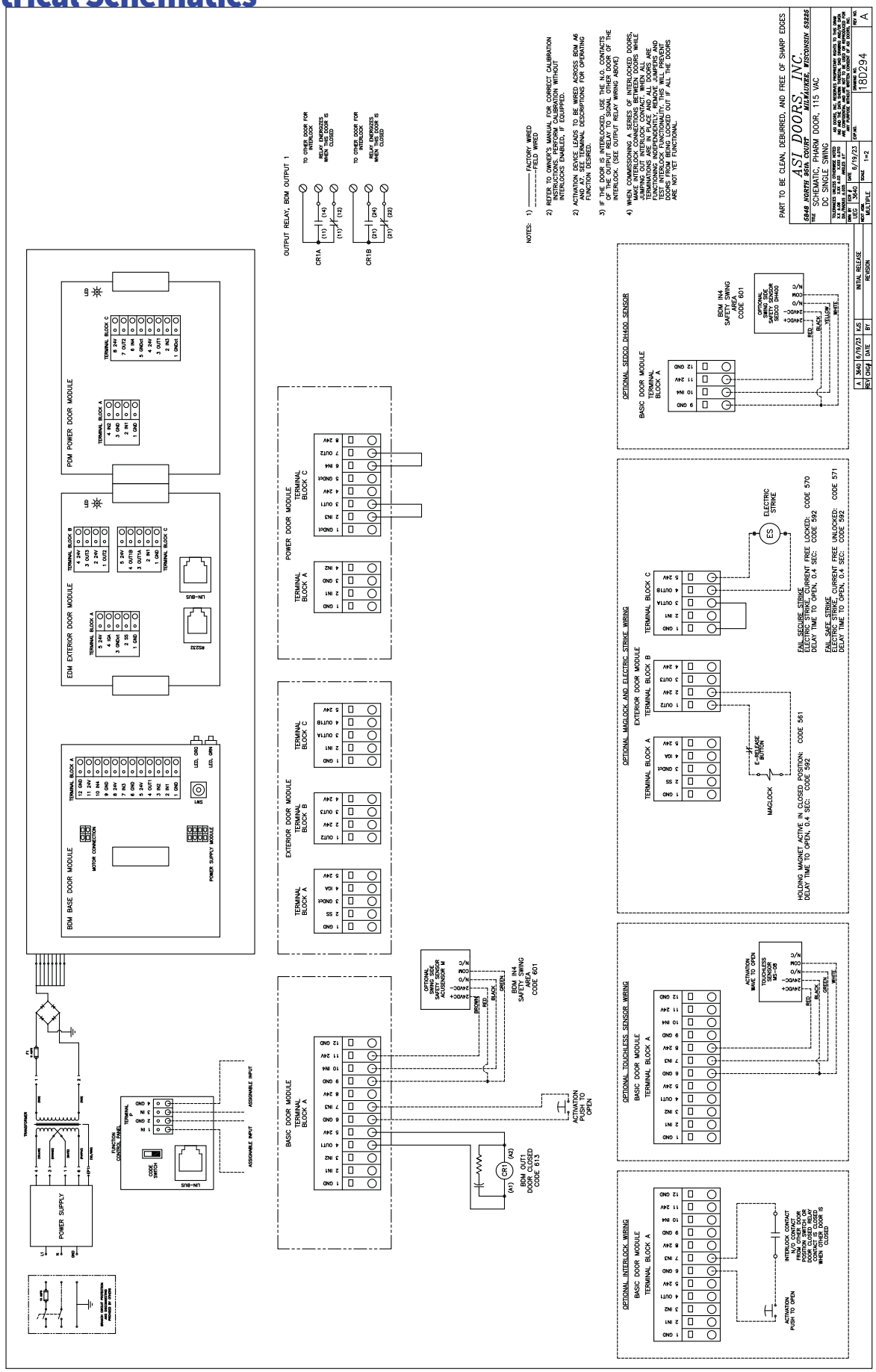
Terminal Allocation in Default Programming



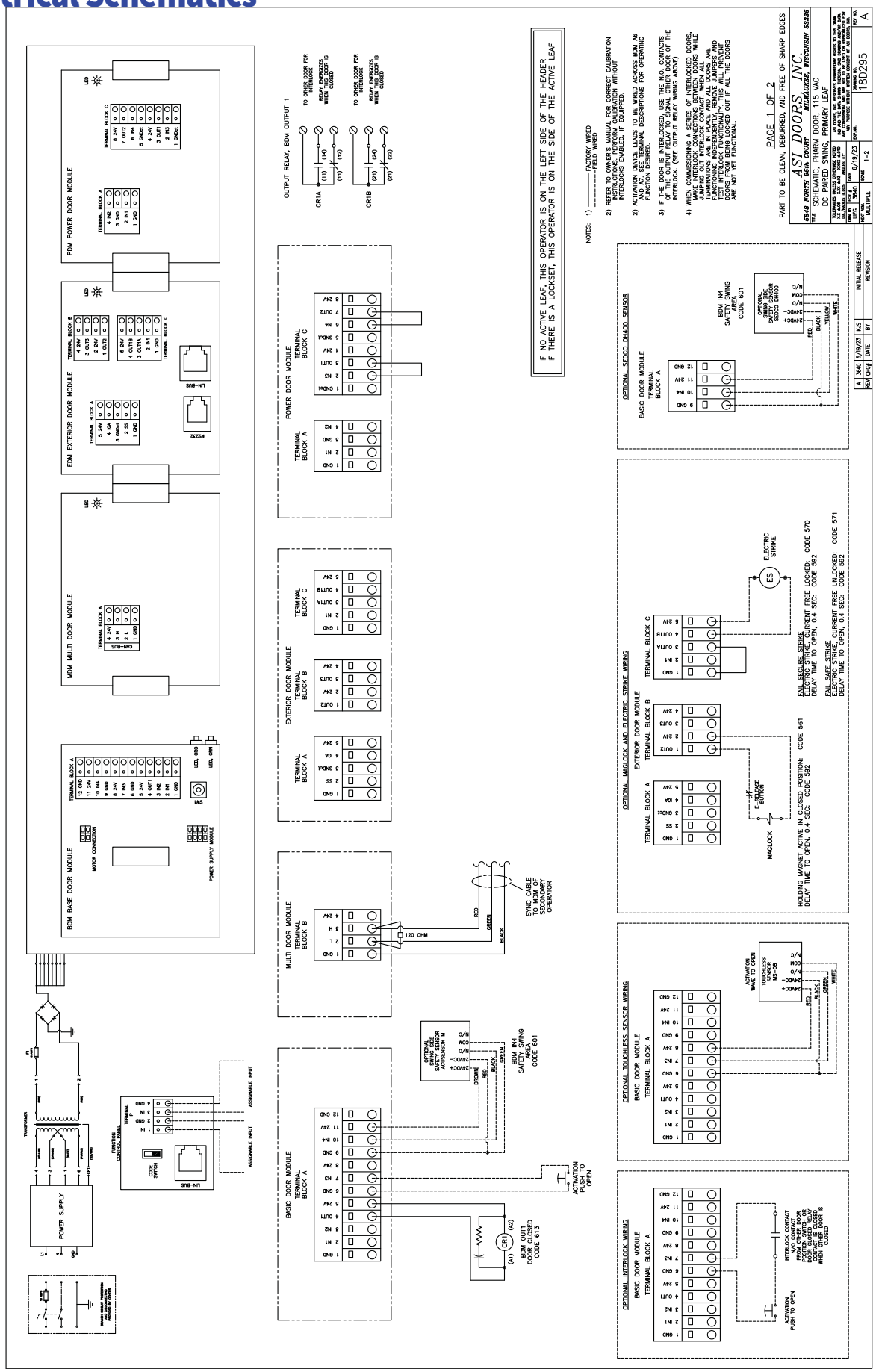
1) Function programmable

2) OUT 1A & OUT 1B are Normally Open dry contact
Load on power supply 24 VDC max. 1.5 A/36 W

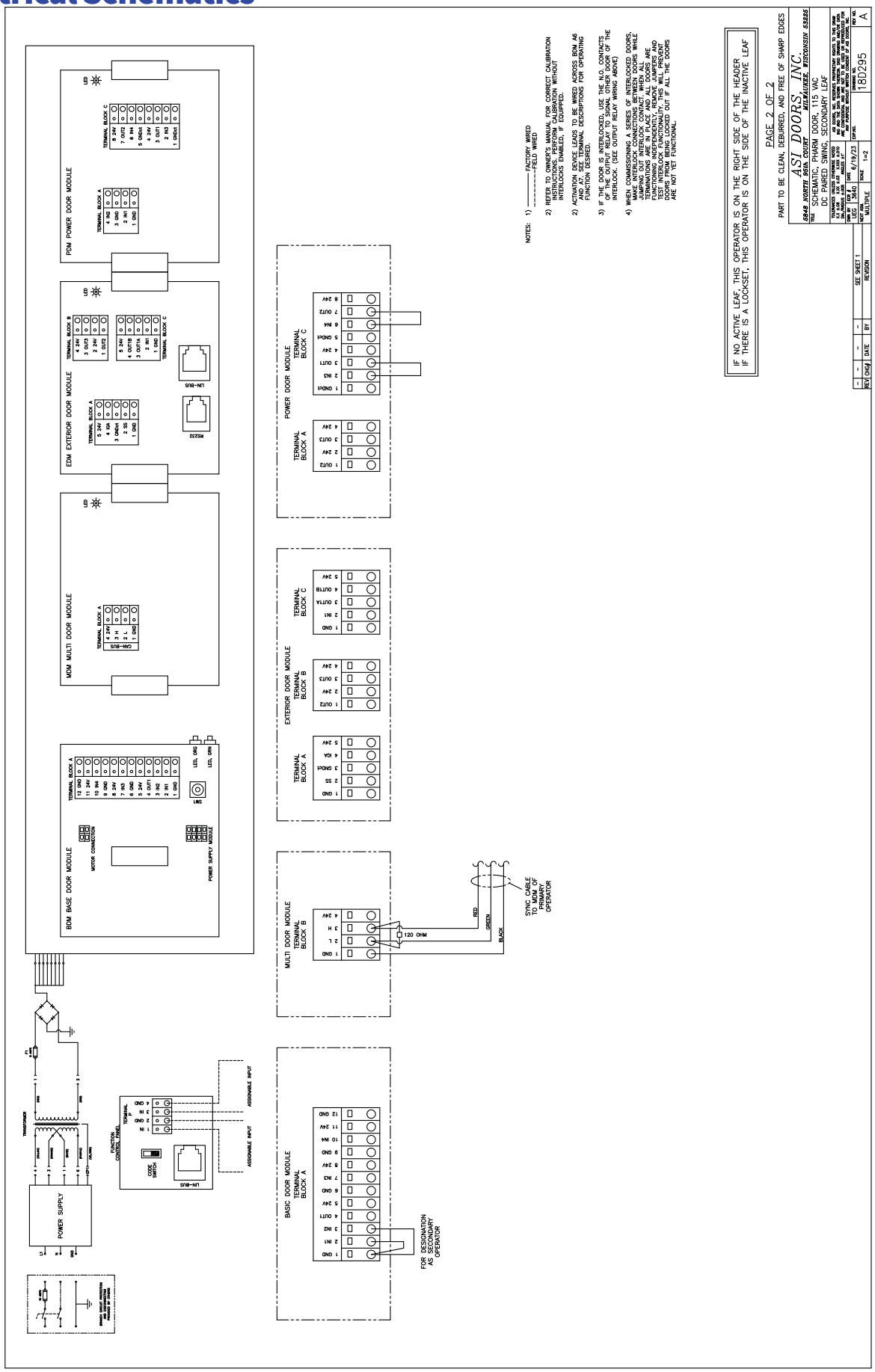
Electrical Schematics



Electrical Schematics



Electrical Schematics



Instructions for Ordering

This parts manual is intended to assist in the correct identification of the more commonly replaced parts; covering, generally, all models and styles offered within the marathon pharm. Line. The manual will also help identify obsolete parts, part design changes and current production parts. For more specific parts information, please contact an authorized representative or consult the factory's customer service or engineering departments. Asi doors reserves the right to discontinue any part and make design changes without notice.

General Instructions for Ordering Door Parts

Accurate information is always necessary to serve you correctly and promptly. Several steps should be followed to determine exactly the parts that are needed.

Refer to the information tag on your door and record the:

1. Door model number
2. Job number
3. Door number
4. Manufacturing date.

Use part numbers referenced in this manual.

If the item is not found in the manual, the product code on the back of the item is helpful.

If your door has no information label, the approximate purchase date is helpful.

Call

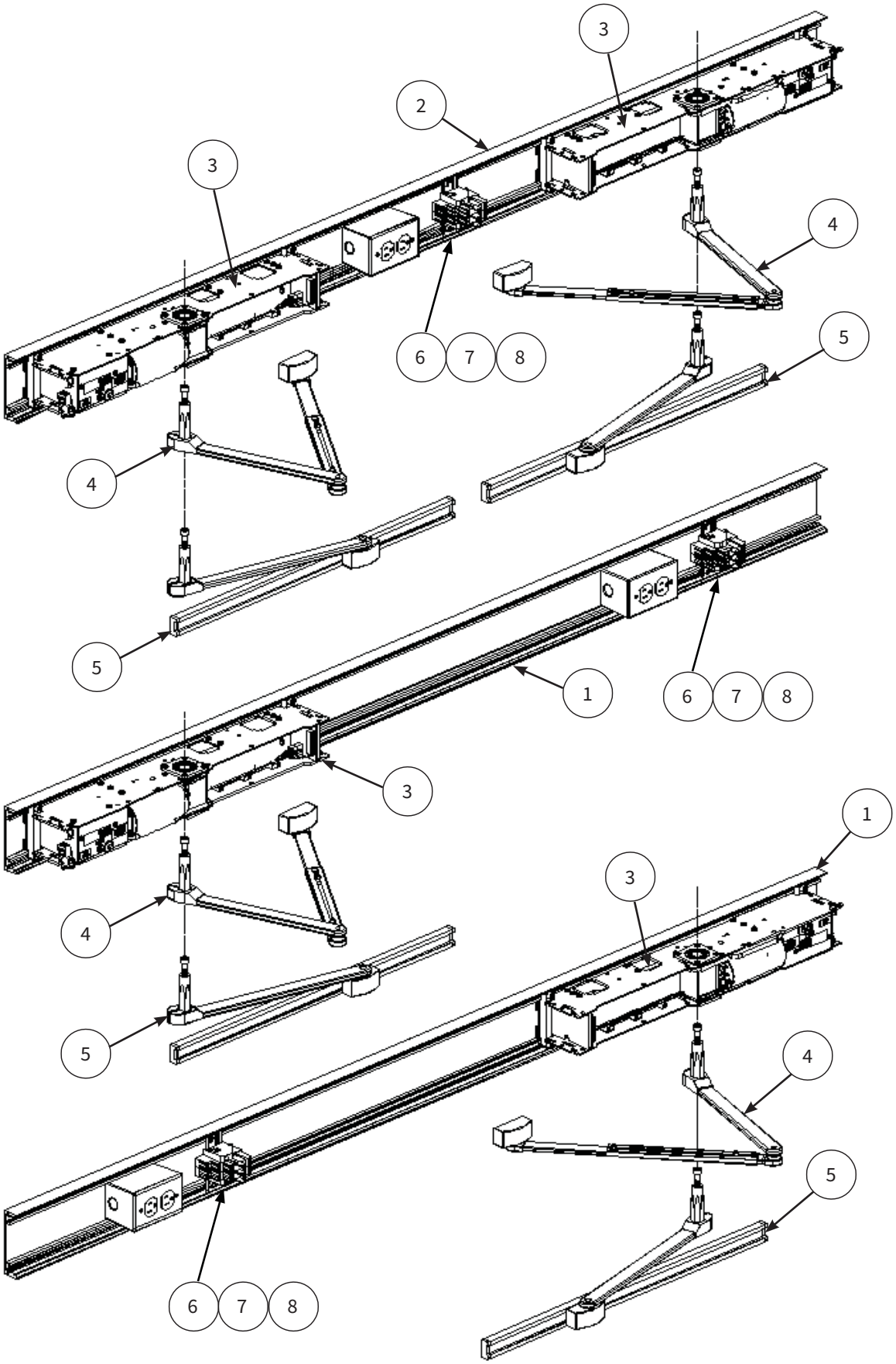
1-800-558-7068

or visit

asidoors.com/parts

to order parts

Operators



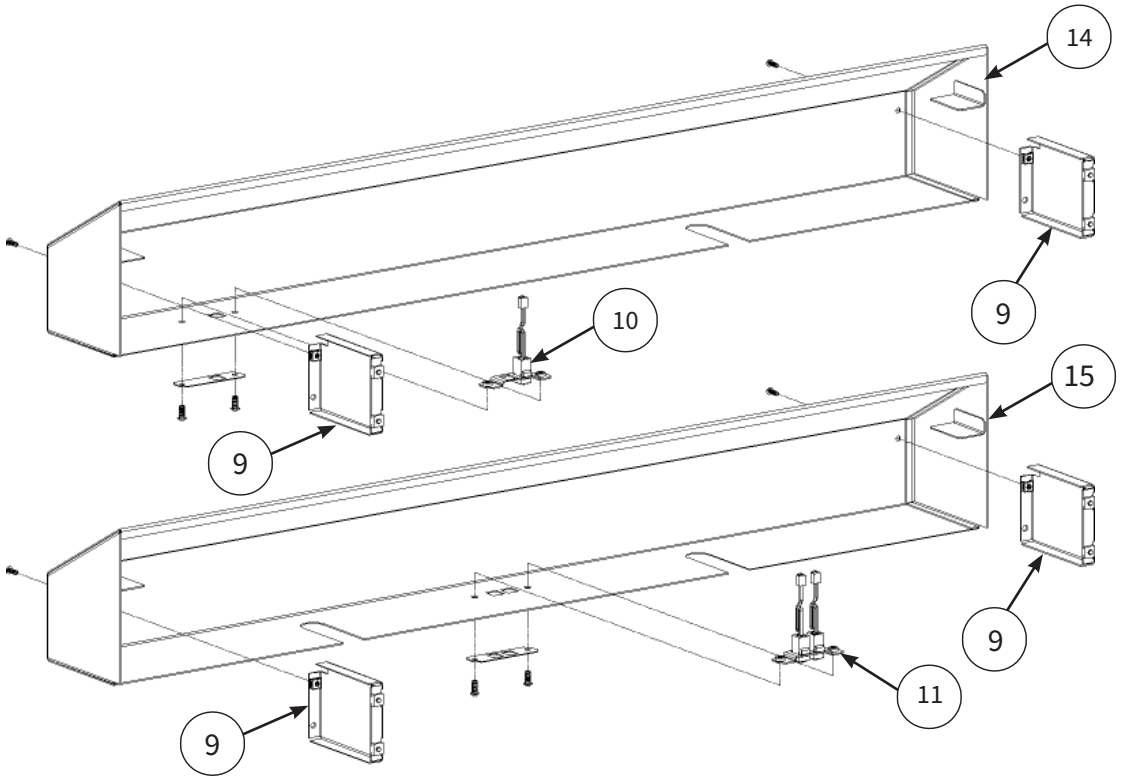
Shrouds

DESCRIPTION	PART#	ITEM#
Asm, Operator, Inswing, Single, LH	30D0040LV	1
Asm, Operator, Inswing, Single, RH	30D0040RV	1
Asm, Operator, Outswing, Single, LH	30D0041LV	1
Asm, Operator, Outswing, Single, RH	30D0041RV	1
Asm, Operator, Inswing, Paired	30D0042NV	2
Asm, Operator, Outswing, Paired	30D0043NV	2
Operator, ASI DC Swing	23B0206NN	3
Outswing Arm Assembly, 0" - 4", Aluminum	16B0094NN	4
Outswing Arm Assembly, 4" - 10", Aluminum	16B0104NN	4
Outswing Arm Assembly, 0"- 4", Stainless	16B0097NN	4
Outswing Arm Assembly, 4"- 10", Stainless	16B0098NN	4
Inswing Arm & Track Assembly, Aluminum	16B0095NN	5
Inswing Arm & Track Assembly, Stainless	16B0096NN	5
Relay, 24VDC, 2P, Finder #40.52.9.024.0000	23A126	6
Suppressor, RC, Finder #99.02.0.024.09	23A241	7
Socket, Relay, Finder #95.05	23A232	8
Bracket, Shroud, Power Swing, 304 / 316 Stainless	13B2485NN20 / 25	9
Asm, Single RJ12 Connector	24B0725	10
Asm, Paired RJ12 Connectors	24B0726	11
Cable, LIN BUS, 7 FT	23A0371NN	12
Programming Keypad (Loose)	23A0363	13
Shroud, 30°, Single Swing	55B0125	14
Shroud, 30°, Paired Swing	55B0126	15
Shroud, 0°, Single Swing	55B0127	16
Shroud, 0°, Paired Swing	55B0128	17

When ordering parts, specify Job Number, Door Number and Manufacture Date

NOTE

Sloped shrouds shown for reference. Shrouds are also available in flat top design. Consult factory for specific Shroud P/N's.



OPEN UP TO WHAT'S POSSIBLE

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AN ASI DOORS BRAND

asidoors.com

ASI DOORS, INC. 5848 North 95th Court, Milwaukee, WI 53225 (800) 558-7068

Swing Door Operator Addendum

ASI AC Swing Operator

For Models 125, 135, 225, 235

MANUAL PART #: 17A325

TABLE OF CONTENTS

Manual last updated on: August 15, 2023 10:23 AM

Safety Practices

This is a safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION used without a safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

NOTE explains general information.

⚠ WARNING

Warning read these safety practices before installing, operating or servicing. Failure to follow these safety practices could result in property damage, death or serious injury.

READ AND UNDERSTAND ALL WARNING LABELS AND OPERATING INSTRUCTIONS IN THIS MANUAL BEFORE OPERATING. If you do not understand the instructions, ask your supervisor to teach you how to use the product.

Safety Practices (cont'd)

1. Do not operate the door while under the influence of drugs or alcohol.
2. Do not use the door if it looks broken or does not seem to work properly. Advise your supervisor at once.
3. Stay clear of the door when it is moving
4. Keep hands, feet and head clear of the door at all times.
5. Do not operate the door with equipment, material or people directly inside door opening.
6. Disconnect power before performing any electrical or mechanical service, cleaning or other maintenance on the door. OSHA requires disconnect to be properly tagged and locked out during all maintenance or service of equipment. With the power supply disconnected, always verify using a volt meter.
7. All electrical troubleshooting or service must be completed by a qualified electrician or service person and must meet all applicable local, state, federal, international and other governing agency codes.
8. When it is necessary to service the control box with power on, USE EXTREME CAUTION. Do not place fingers or uninsulated tools inside the control box. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.
9. It is your responsibility to keep all warning labels and instructional literature legible, intact and kept with the door. Replacement labels and literature are available from ASI Doors, Inc. or its representatives.
10. If you have any questions, contact your supervisor or your local ASI Doors, Inc. representative for assistance.
11. Train all service and personnel using or near door on intended use(s) and operation of the door.
12. Failure to operate the door as intended, as described, or heed any warning may result in equipment damage, property damage, serious bodily injury or death.

Warranty Policy

ASI Doors (herein called "ASI") warrants solely for the benefit of its customer that each door system manufactured by ASI (each a "Door System") will be free from defects in material and manufacture for a period of one (1) year from the date of original shipment by ASI. The following models receive a similar two (2) years from date of shipment warranty: 109, 209, 120-125, 1240-1250, 1240SS-1250SS, 1260-1270, 1260SS-1270SS, 130-135, 140-150, 160-170, 220-225, 220SS-225SS, 230-235, 230SS-235SS. In all instances warranty labor is covered for a period of one (1) year from the date of original shipment.

The foregoing limited warranty shall not apply to defects that result from improper installation, abuse, misuse, alteration, modification, or failure to maintain the Door System in accordance with the ASI Owner's Manual. Periodic maintenance and adjustment of the Door System as described in the ASI Owner's Manual are the sole responsibility of the customer. All claims for defects must be made to ASI within thirty (30) days after the defect is discovered or should, with reasonable care, have been discovered. **THE FOREGOING LIMITED WARRANTY CONSTITUTES THE EXCLUSIVE WARRANTY OF ASI WITH RESPECT TO THE DOOR SYSTEM. ASI EXPRESSLY DISCLAIMS ALL OTHER GUARANTEES OR WARRANTIES—WHETHER EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

If a Door System does not comply with the foregoing limited warranty, and a claim is made by customer within the warranty period, ASI will, at the option of ASI, either repair or replace any defective equipment or parts free of charge and pay the reasonable labor costs to repair or replace the defective equipment or parts if within the defined warranty period. The remedy of repair or replacement shall be the exclusive and sole remedy for any breach of the foregoing limited warranty.

ASI SHALL NOT IN ANY EVENT BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING WITHOUT LIMITATION ANY LOST PROFITS, ARISING FROM THE SALE OR USE OF THE DOOR SYSTEM, OR FROM ANY OTHER CAUSE WHATSOEVER, WHETHER THE CLAIM GIVING RISE TO SUCH DAMAGES IS BASED UPON BREACH OF WARRANTY (EXPRESSED OR IMPLIED) BREACH OF CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF A PARTY HAS BEEN ADVISED OF THE POSSIBILITY THEREOF, AND REGARDLESS OF ANY ADVISE OR REPRESENTATION THAT MAY HAVE BEEN RENDERED BY ASI CONCERNING THE SALE OR USE OF THE DOOR SYSTEM.

At ASI's request, customer shall return to ASI for inspection any Door System for which a warranty claim has been made, F.O.B. ASI's facility with freight prepaid. The customer is responsible for any removal costs.

The customer shall comply with the following procedures in filing a warranty claim with ASI:

1. Notify ASI of any and all defects in writing with photographic evidence. ASI will review the warranty request and issue a Returns Merchandise Authorization (RMA) form if the defective parts need to be returned to ASI for inspection and verification. The RMA form must accompany any materials returned for warranty consideration.

2. All replacement parts or equipment will be invoiced to the customer. Upon verification by ASI that the Door System is defective, ASI will issue a full credit to customer for the replacement parts or equipment.

3. If outside labor is needed to install the replacement parts or equipment, ASI requires a written estimate of the labor charges in advance so ASI may approve the labor charges and issue a purchase order. ASI will not accept any labor charges unless previously approved in writing and accompanied by the ASI purchase order number.

(Rev 12/21)

Power Operator Installation

1. **Power operator reinforcement**
   When using a power door operator, the wall must have adequate reinforcement to support the operator(s).
2. **Remove material from packages and check contents:**
   Remove all contents from the crate. Check all items to ensure you have the material you need before beginning the actual installation.
3. **Remove access panel from header housing assembly:**
   Carefully remove the header housing assembly from the crate. Using a Phillips screwdriver, remove the two access panel retaining screws.
4. **Remove paperwork:**
   Remove all decals, paperwork and parts bag from inside header and set to one side.
5. **Operator handing:**
   Determine door handing and match with corresponding operator per figure #01.
6. **Operator:**
   - Determine swing type and arm type.
   - Position operator per figures #02-05.
   - Secure operator to wall with appropriate fasteners.
   - If required, fill gap between finished wall and operator with shim material.
     (Note position of door arm shoe on door panel before proceeding with next step)
   - Position and secure arms / tracks to door panel.

CAUTION

CAUTION do not tighten arm shaft to operator until told to do so during start-up/programming!

Operator Handing

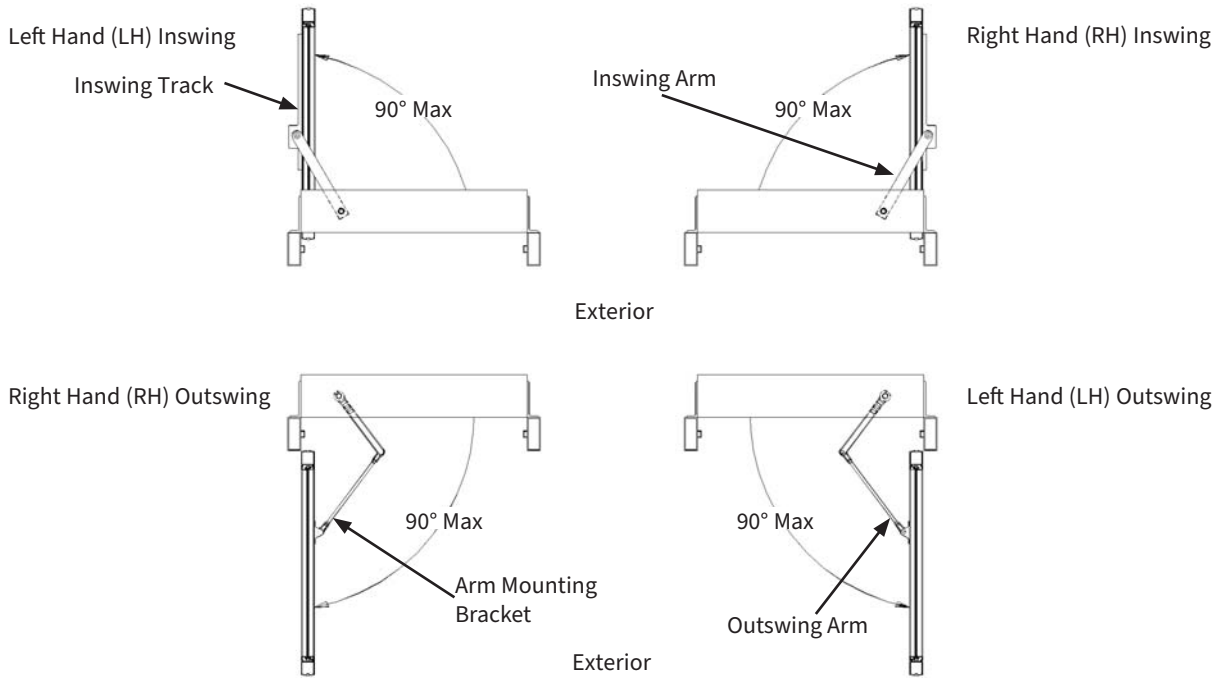


Figure 01: Operator Handing Options

Power Operator Installation Continued

Consult end user and follow provided installation instructions and templates for desired mounting style.

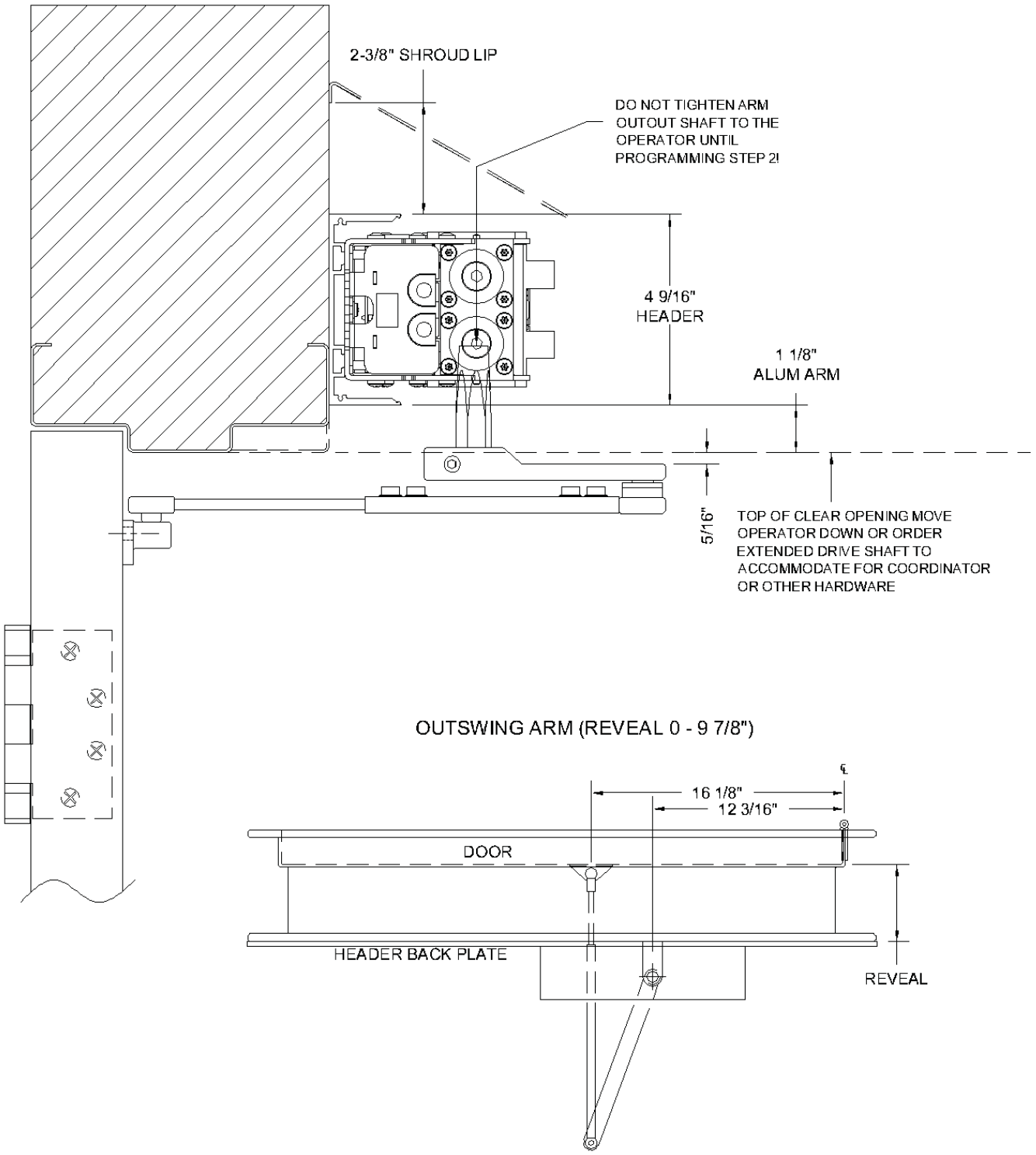
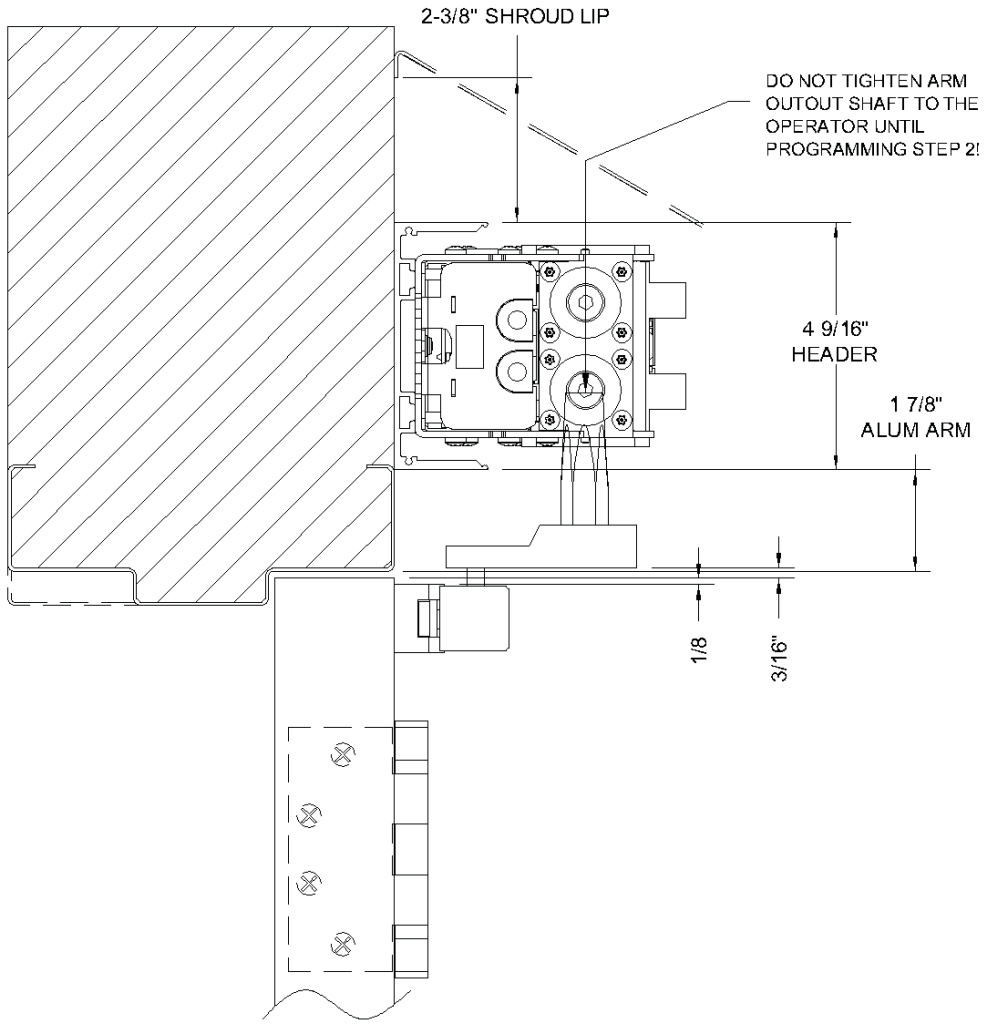


Figure 02: Outswing Operator, W/Aluminum Arm



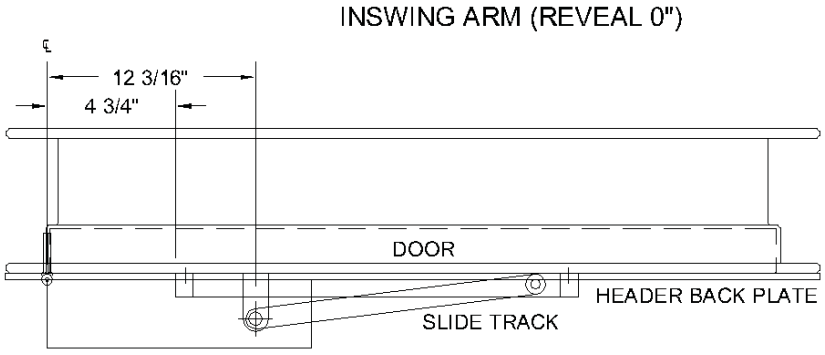


Figure 03: Inswing Operator, W/Aluminum Arm

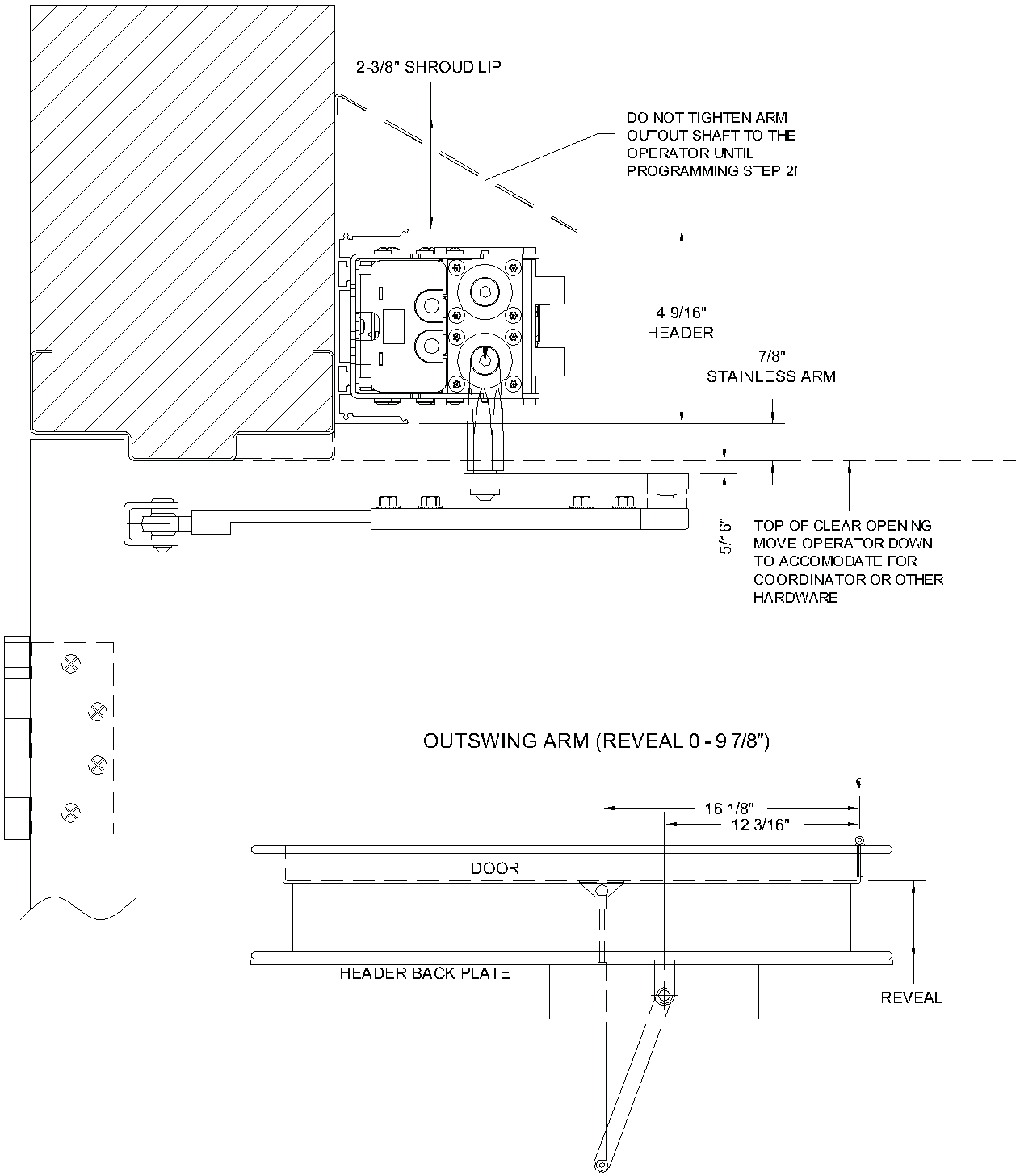
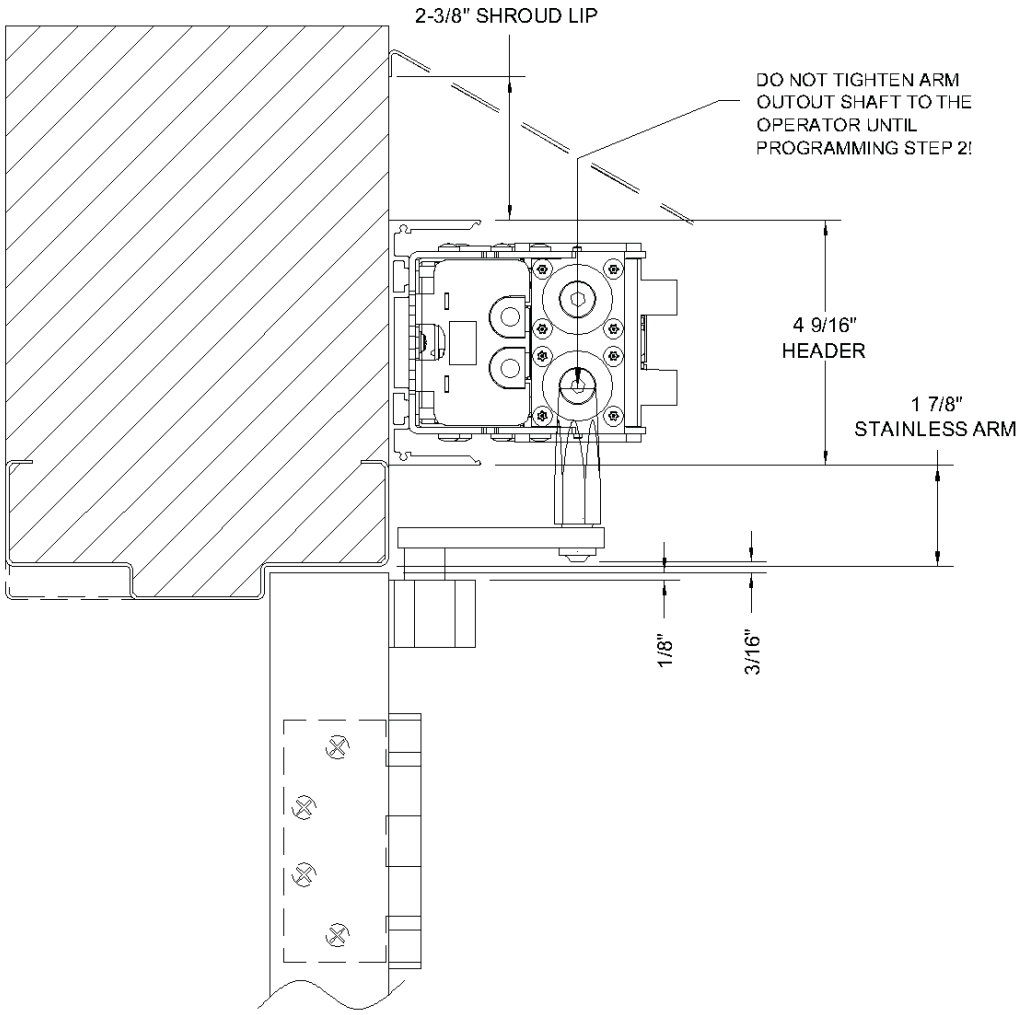


Figure 04: Outswing Operator, W/SS Arm

Power Operator Installation Continued



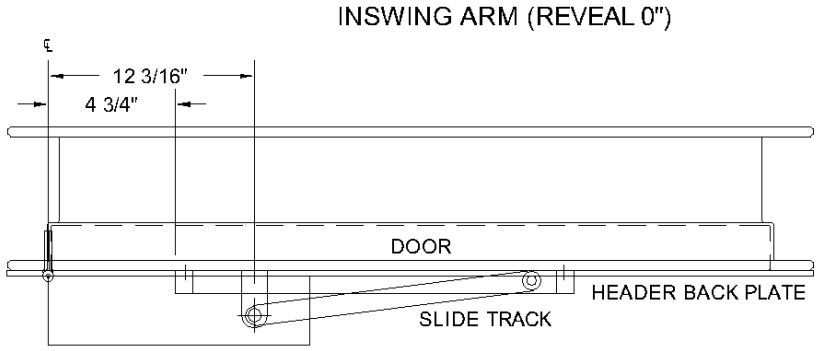


Figure 05: Inswing Operator, W/SS Arm

Electrical Controls

Safety/Warning Symbols

NOTE indicates important information specific to the process or steps being performed.

ELECTRICAL VOLTAGE indicates that electrical voltage is present and that caution should be taken to prevent injury or property damage.

CAUTION indicates failure to follow instructions may result in personal injury and/ or property damage.

OPTIONAL COMPONENTS indicates components that are not installed in all systems.

⚠ WARNING

WARNING failure to observe the information in this manual may result in personal Injury or damage to equipment. To reduce the risk of injury of persons use this operator only with pedestrian swing doors. Save these instructions for future reference.

Installation and Service

Any and all equipment must be installed, serviced and inspected by an AAADM Certified technician, to meet the current ANSI A156.10 and/ or ANSI A156.19 standard and any local or state building codes.

The person responsible for the daily operation and maintenance of the system is referred to as “End-User”.

It is the technicians responsibility to:

1. Review the functions of the equipment with the end-user. Failure to do so, may lead to the improper use, could cause injury to persons and/ or damage to the equipment.
2. Familiarize the end-user with the Daily Safety Check Decal and how to perform the walk test procedures.
3. Illustrate to the end-user how to place the door out of service (turn off power or place in P mode or OFF mode of operation), if the equipment does not perform as described in the Daily Safety Check Decal.
4. Recommend to the end-user to have their equipment inspected annually by an AAADM certified technician.

ANSI/ BHMA A156.10, A156.19 standards - Knowing Act Switch

Doors activated by a manual switch must have the switch installed in a location from which the operation of the door can be observed by the person operating the switch. Refer to the latest revision of ANSI/ BHMA A156.10 or A156.19 for location of Knowing Act switch and time delays.

Electrical Requirements for Installation Personnel

Have a licensed electrician:

Make all mains primary power connections in accordance to federal, state and local regulations. Route mains primary power from power distribution panel (10 amp circuit breaker minimum per operator) to the operator.

Install a service switch or emergency shut OFF switch, if required by customer or per regulations.

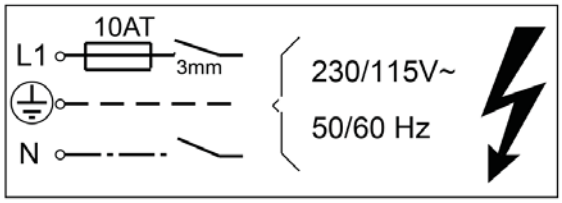
This is in addition to the mains circuit breaker to interrupt power, switch must be rated @ 10 amp minimum.

Mains Connection

Connection: N + L1 + PE protected on site with 10 AT, protective earth necessary

Power rating: 1 x 230 / 1 x 115 V AC (+5 %/ – 10 %) 50– 60 Hz, max. 250 W

Supply cable: Type H05VV-F, H05RR-F or flexible cord of type S, SO, SJ, SJO, ST, STO, SJT, SJTO or AFS



Electrical Controls Continued

Before beginning the work described below, check that the mains primary power is switched off. If required place “Out of Service” tag on circuit breaker or service switch.

- Route the mains connection to the operator along the side of the power supply.
- The edges must be rounded off on all bushings for the mains connection.
- Loosen power supply bar (3) and pull out power supply.
- Route mains cable either through the header end cap or through header back plate.
- Use only cable bushings made from synthetic materials. Metallic bushings must be grounded.
- Connect mains cable to terminal (1) as shown in the illustration.
- Check the correct setting of the voltage selector switch (2). Re-insert power supply and tighten screw.
- Secure mains cable with a cable strap at a synthetic lug on the base plate.
- Do not apply power to the door until ready for commissioning.
- A system switch (FCP or 3-position switch) must be on site.

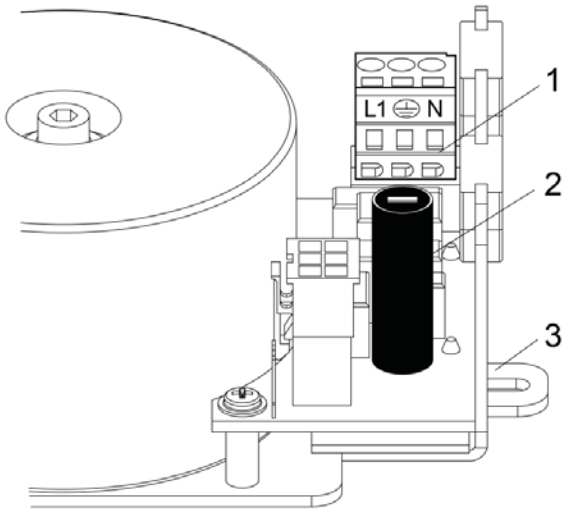


Figure 06: Main Power Connection

Make sure that the mains cable is secured properly to prevent it from getting into the moving parts of the operator or door system.

The commissioning of the system may only take place through a qualified person and under consideration of the required documents for commissioning and examination!

Modes of Door Operation

Modes of operation can be selected with the 6 position Functional Control Panel (FCP). The technician will review the appropriate mode switch with the end-user.

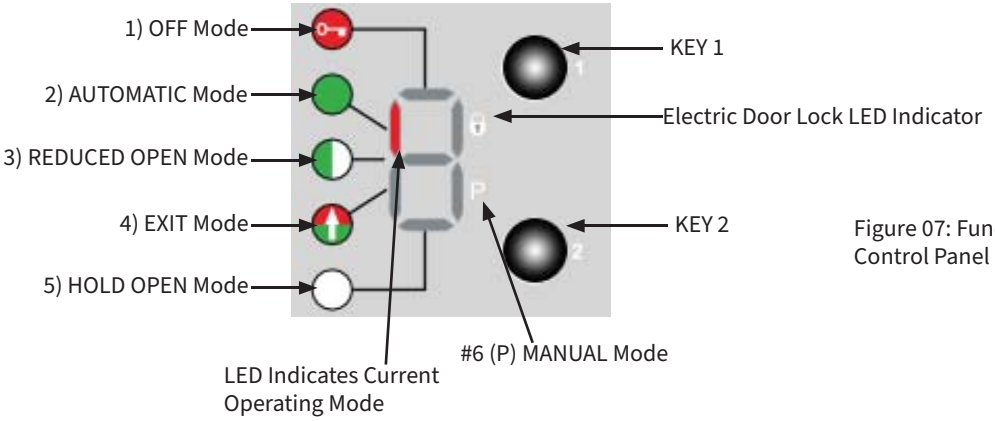


Figure 07: Functional Control Panel (FCP)

Electrical Controls Continued

1. OFF - The interior and exterior activators are inhibited after the door reached the fully closed position, if an electric lock is present it will be activated. Door will cycle open, if a signal is sent to the key switch input.

2. AUTOMATIC - Typical setting for normal 2-way traffic operation with interior and exterior activators, key switch input and safety devices operating the door.

3. REDUCED OPERATING - Allows the door to open with a reduced opening width. Activators and safety devices operate the same as automatic mode.

4. EXIT - (1-way traffic) Allows interior activator and key switch inputs to operate the door. The exterior activator input is inhibited from opening the door while the door is closed. When the door is opened/ closing the exterior activator becomes operational and will re-open a closing door.

5. HOLD OPEN - Hold and maintains the door in the open position.

6. (P) MANUAL OPERATION - Allows the door to be used manually without the use of sensors. Push and pull motion applied to the door to open and close the door.

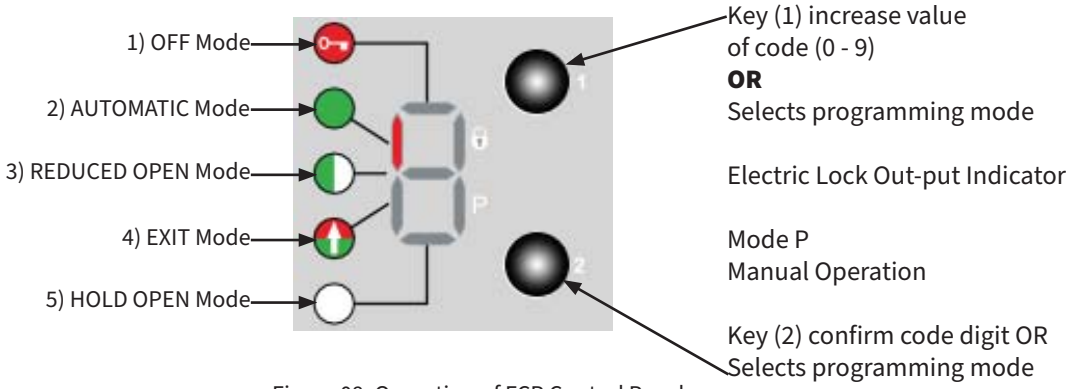
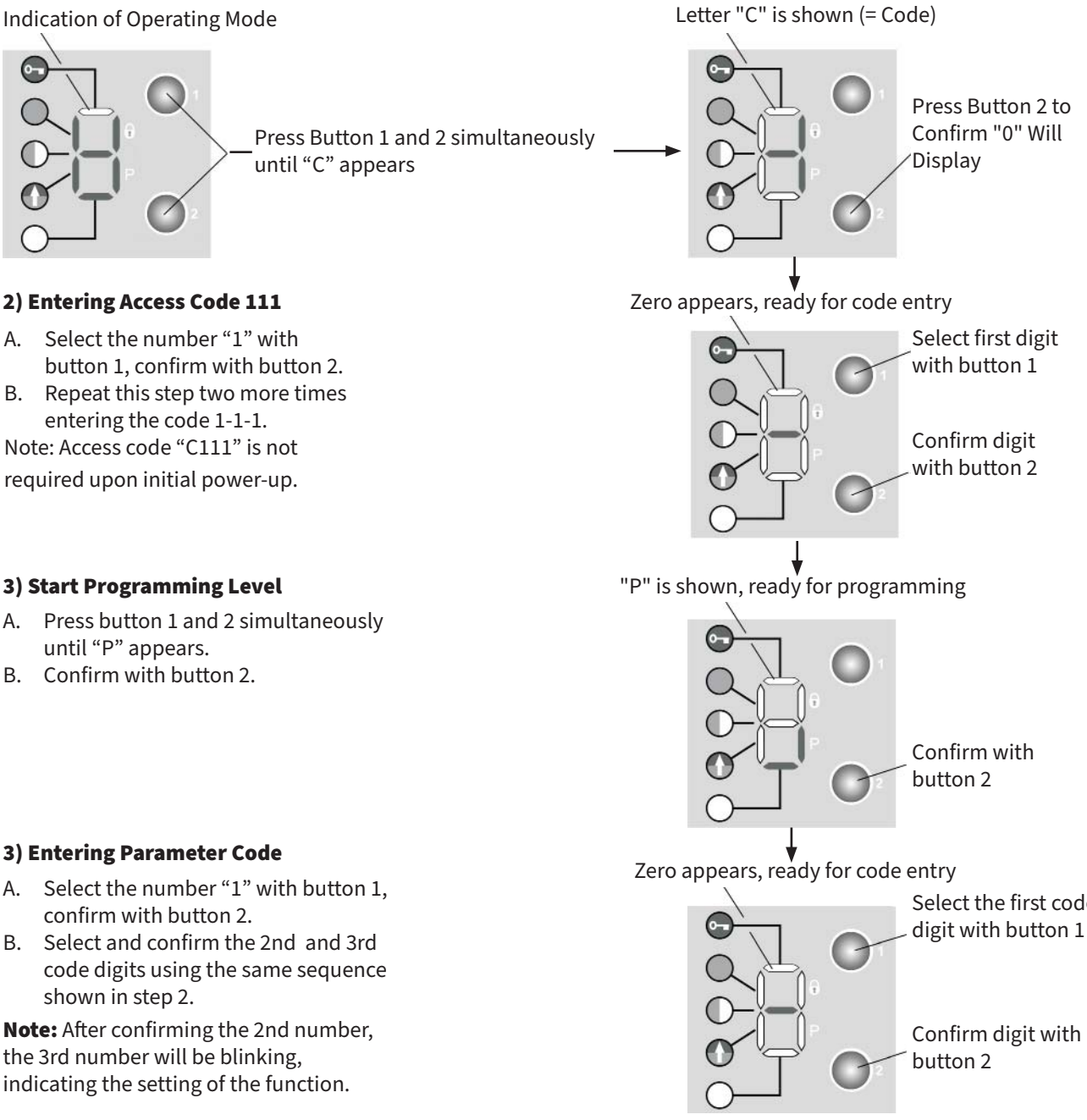


Figure 08: Operation of FCP Control Panel

Electrical Controls Continued

Button 1 - The value of the number / letter is increased by one (0 - 9,a,b,c,...back to 0) Button 2 - Displayed character is confirmed / sent to control

1) Start Access Code



2) Entering Access Code 111

A. Select the number “1” with button 1, confirm with button 2.
B. Repeat this step two more times entering the code 1-1-1.

Note: Access code “C111” is not required upon initial power-up.

3) Start Programming Level

A. Press button 1 and 2 simultaneously until “P” appears.
B. Confirm with button 2.

3) Entering Parameter Code

A. Select the number “1” with button 1, confirm with button 2.
B. Select and confirm the 2nd and 3rd code digits using the same sequence shown in step 2.

Note: After confirming the 2nd number, the 3rd number will be blinking, indicating the setting of the function.

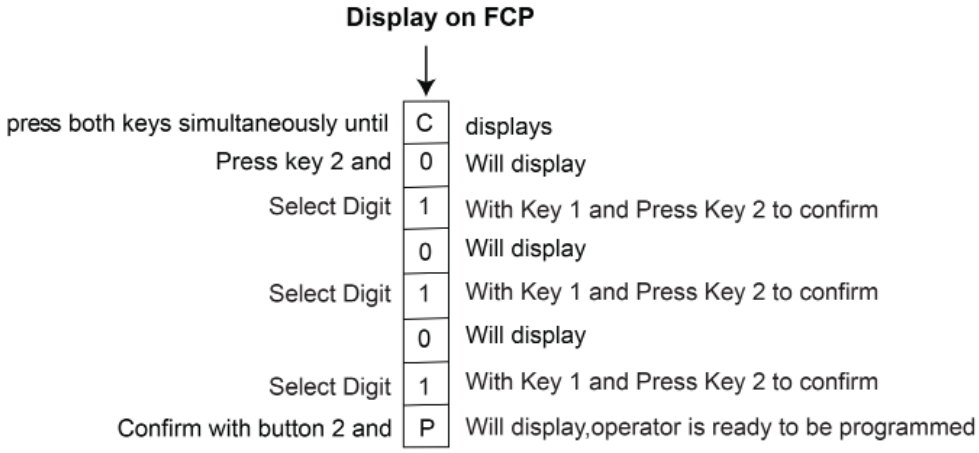
Figure 09: Entering codes on the FCP Control Panel

Time out occurs if no input is made during 10 seconds, the FCP reverts back to displaying “P”, and then displays the operating mode.

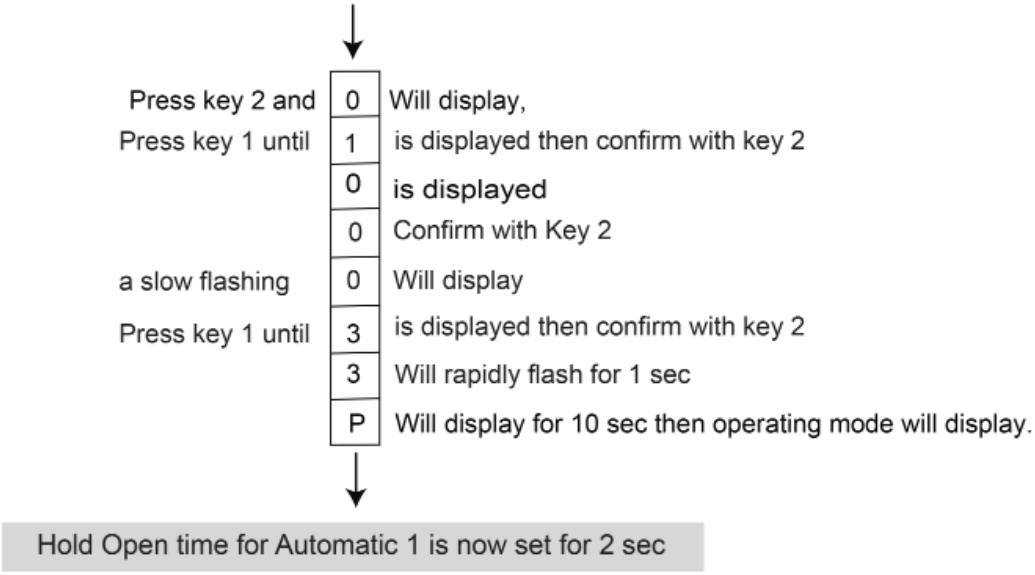
Electrical Controls Continued

Programming with the FCP

Example 1: Enter access code 111



Example 2: Enter access code 103 to adjust the hold open time for 2 seconds



Hold Open time for Automatic 1 is now set for 2 sec

Within 10 minutes you can enter the programming mode by pressing both keys simultaneously and P will display. If no further adjustments are made after 10 minutes the FCP will time out and require access code re-entry. Repeat example 1.

After the 2nd code digit has been confirmed, the flashing digit show set value of the parameter (= 3rd digit of the parameter code). If the value is confirmed the FCP will rapidly flash for 1 second then display “P” again.

Quickly pressing and releasing both buttons simultaneously the FCP will return to displaying the mode of operation.

Customer/Installer Start Up Procedure

Operator set up

(If unfamiliar with key pad programming, please review “programming with FCP page” above)

1. Enter door weight per installation manual
   For 27-36 inch wide door panels enter the code P072
   For 37-42 inch wide door panels enter the code P073
   For 43-48 inch wide door panels enter the code P074

2a. Pre-load arm for out-swing operators
   Enter code P092 then select hold open mode (white circle on key pad). NOTE, motor will rotate 20 degrees then stop.

   Place the arm to the configuration illustrated, while the door is in the full closed position. Tighten the shaft 6mm bolt to 25 ft. lbs. Enter code P090 to terminate the preload procedure.
   OR

2b. Pre-load arms for in-swing operators
   Enter code P091 then select hold open mode (white circle on key pad). NOTE, motor will rotate 20 degrees then stop.

   Place the arm to the configuration illustrated, while the door is in the full closed position. Tighten the shaft 6mm bolt to 25 ft. lbs. Enter code P090 to terminate the preload procedure.

3. Begin Automatic Configuration
   Enter code P021. Change the operating mode on FCP to park (Letter "P") mode.

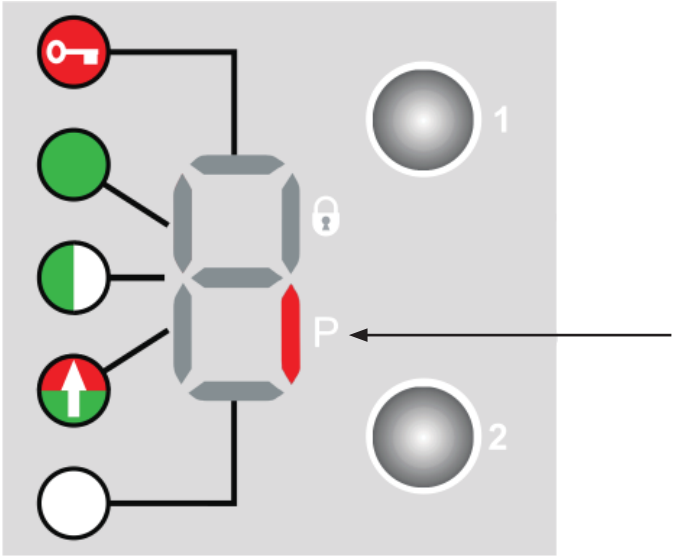


Figure 10: FCP “Park” Mode

Electrical Controls Continued

Teach-In Process, Single Swing

1. Door stop adjustment

a. Adjust the internal door stop as shown in Figure #11 to achieve 90 door angle. The door arm should not pass beyond 90.

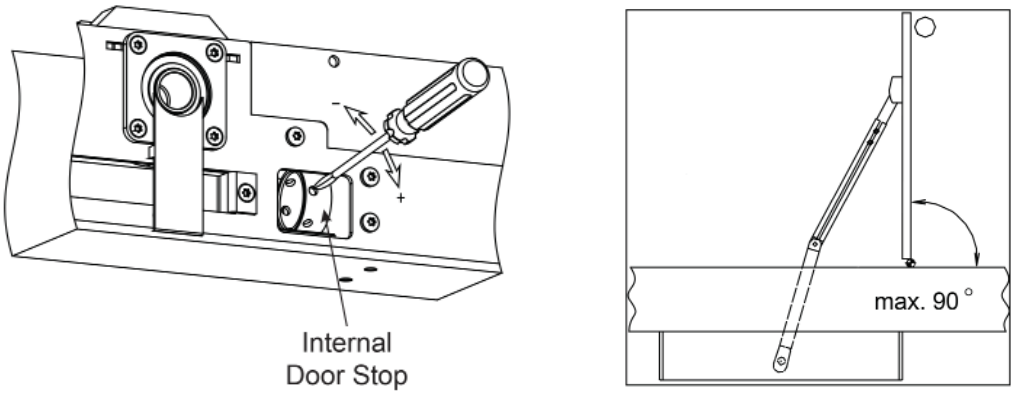


Figure 11: Set Door stop (90° Maximum)

b. Change the operating mode on FCP to Automatic (solid green circle on keypad) as shown below.

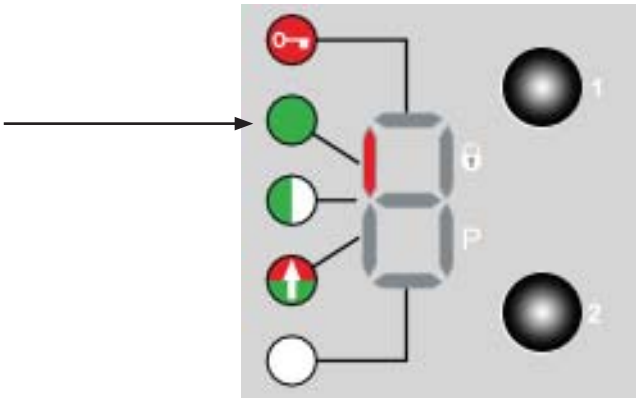


Figure 12: FCP “Automatic” Mode

c. Momentarily press and release SW2 switch on the control see figure #13. The first cycle will be slow as the door will look for a positive full open door stop. Continue to activate the door with the SW2 button until an audible tone and the learning code (H66) is no longer displayed on FCP. Learning procedure lasts between 5-14 cycles.

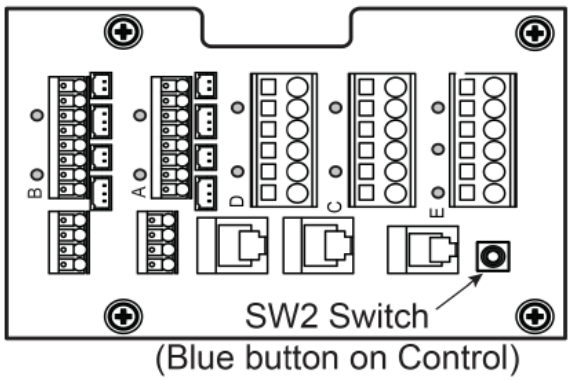


Figure 13: “SW2” switch on Control

Primary / Secondary Function

The purpose of this wiring is to synchronize a pair of AC operators. The door leaves open at the same time when an activation signal is given (interior & exterior sensors or key switch) or by push- pull on the primary. If the door leaves overlap, the secondary drive (Overlapped leaf) should have a delay (See programming table).

- The hold open time of both the operators is determined by the primary.
- The mode of operation is selected by the FCP connected to the primary.
- The opening and closing speeds are adjusted individually to prevent interference between doors with an astragal (overlap).
- During the loss of primary power, closing speeds are controlled by the spring.

ASI Doors, customer/installer start up procedure.
Primary Operator set up
(If unfamiliar with key pad programming, please review "programming with FCP page" above)
Note: Insert FCP Keypad cable into primary operator port.

1. Enter Door Weight per installation manual
   a. For 27-36 inch wide door panels enter the code P072
   b. For 37-42 inch wide door panels enter the code P073
   c. For 43-48 inch wide door panels enter the code P074

2a. Pre-load arm for out-swing operators
   a. Enter Code P092 then select Hold Open mode (white circle on key pad). NOTE, motor will rotate 20 degrees then stop.
   b. Place the arm to the configuration illustrated, while the door is in the full closed position.
   c. Tighten the shaft 6mm bolt to 25 ft. lbs.
   d. Enter Code P090 to terminate the Preload procedure.

OR

2b.Pre-load arms for in-swing operators
a. Enter Code P091 then select Hold Open mode (white circle on key pad). NOTE, motor will rotate 20 degrees then stop.
   b. Place the arm to the configuration illustrated, while the door is in the full closed position.
   c. Tighten the shaft 6mm bolt to 25 ft. lbs.
   d. Enter Code P090 to terminate the Preload procedure.
3. Begin Automatic Configuration
   a. Enter Code P021
   b. Change the operating mode on FCP to Park (Letter "P") mode.

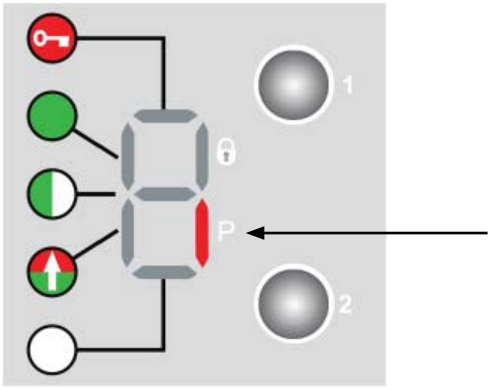


Figure 14: FCP "Park" Mode

Electrical Controls Continued

Secondary Operator Set Up

Note: Insert FCP Keypad cable into secondary operator port.

1. Enter Door Weight per installation manual
   a. For 27-36 inch wide door panels enter the code P072
   b. For 37-42 inch wide door panels enter the code P073
   c. For 43-48 inch wide door panels enter the code P074

2a. Pre-load arm for out-swing operators
   a. Enter Code P092 then select Hold Open mode (white circle on key pad). NOTE, motor will rotate 20 degrees then stop.
   b. Place the arm to the configuration illustrated, while the door is in the full closed position.
   c. Tighten the shaft 6mm bolt to 25 ft. lbs.
   d. Enter Code P090 to terminate the Preload procedure.

OR

2b. Pre-load arms for in-swing operators
   a. Enter Code P091 then select Hold Open mode (white circle on key pad). NOTE, motor will rotate 20 degrees then stop.
   b. Place the arm to the configuration illustrated, while the door is in the full closed position.
   c. Tighten the shaft 6mm bolt to 25 ft. lbs.
   d. Enter Code P090 to terminate the Preload procedure.

3. Begin Automatic Configuration
   a. Enter Code P021
   b. Change the operating mode on FCP to Park (Letter “P”) mode.

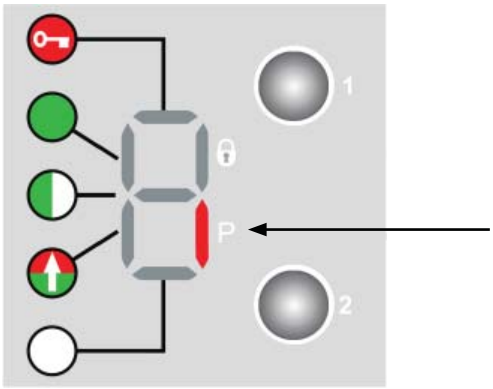


Figure 15: FCP “Park” Mode

Teach-In Process, Paired Swing

1. Door stop adjustment
   a. Adjust the internal door stop as shown in Figure #16 to achieve 90 door angle. The door arm should not pass beyond 90. Adjust both operators.

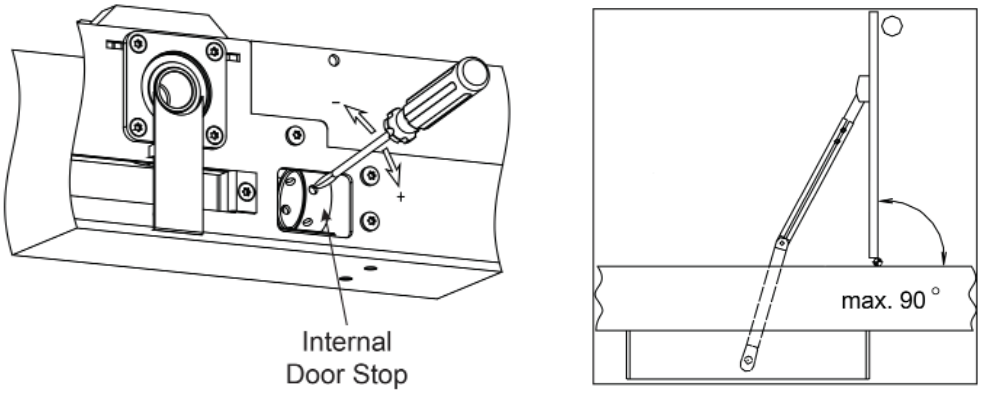


Figure 16: Set both Door Stops (90° Maximum)

   b. Change the operating mode on FCP to Automatic (solid green circle on keypad) as shown below. Do this for both operators.

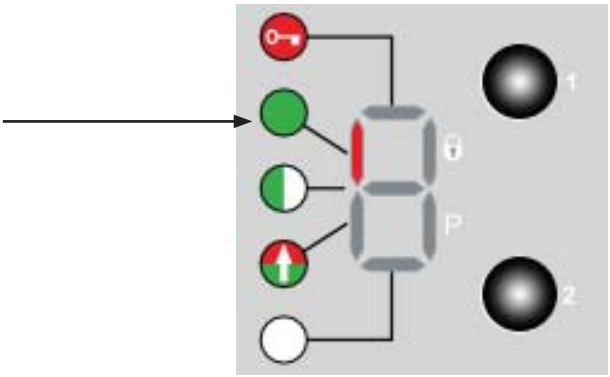


Figure 17: FCP “Automatic” mode (both Operators)

   c. On the primary controller, momentarily touch a jumper wire between terminals C1 and C2. The first cycle will be slow as the door will look for a positive full open door stop. Continue to activate the door with the jumper between C1 and C2 until an audible tone and the learning code (H66) is no longer displayed on FCP. Learning procedure lasts between 5-14 cycles.
   d. See programming table for other functions or parameters as required.
   e. Set Hold Open timer on Primary controller only. Secondary controller Hold Open timer should be set to 0.

Programming Parameter Codes Continued

Most common parameters used are highlighted. *Indicates Default Value

Code	Function	Note
01 5	Door operator type AC	
02 1	Automatic configuration (SW2: till 1. beep)	Performs functions 030, 031,032,...7
02 3	Start Teach-In 1 (AUTO 1)	
02 4	Start Teach-In 2 (AUTO 2)	
03 0	--Delete and restart "Reference run" or "Teach-In 1 & 2"	
03 1	--Detecting and storing of safety facilities 1-4 (SW2: till 3.sign)	Safety inactive
03 2	--Detecting and storing MCU Lock Module 1	Only with code 572, Check coding on module
03 3	--Detecting and storing of MCU Battery Module	
03 4	--Detecting and storing of MCU I/O- Module 1+2	Check coding on module
03 5	--Detecting and storing of MCU Power supply Module	
03 7	--Detecting and storing of MCU User interface 2	Check coding on module
03 8	Terminal Module: Detecting, storing "in 1-4" (NO,NC,100Hz)	Pulse generators inactive
03 9	I/O Module 1: Detecting, storing of "in 1-4" (NO, NC)	Pulse generators inactive
04 0	Reset	Software reset - Starts program with calibration run
04 2	Firmware version	Example: r06_00 = V06.00
04 3	Number of cycles	Example: c10_302 = 10'302 cycles (max. 99?999?999)
04 4	Number of operating hours	Example: h4_002 = 4002 hours (max.99'999'999)
04 5	Delete fault protocol	
04 6	Address of control unit for network	Example: A1 = address no. 1
07 0...9	--Door mass	
09 0	End procedure "Spring preload"	
09 1	Spring closing, sliding lever, preload 10°	End with code 090
09 2	Spring closing, standard linkage, preload 30°	End with code 090

Code	Function																Note
10 0...F	Hold open time of activator in mode of op AUTO1																
	0	1	2*	3	4	5	6	7	8	9	A	b	C	d	E	F	code
	0	0.5	1	2	3	5	7.5	10	12.5	15	17.5	20	25	30	45	60	sec.
11 0...F	Hold open time of activator in mode of op. AUTO2																
	0	1	2*	3	4*	5	6	7	8	9	A	b	C	d	E	F	code
	0	0.5	1	2	3	5	7.5	10	12.5	15	17.5	20	25	30	45	60	sec.
12 0...F	Hold open time of key switch																
	0	1	2	3	4*	5	6	7	8	9	A	b	C	d	E	F	code
	0	0.5	1	2	3	5	7.5	10	12.5	15	17.5	20	25	30	45	60	sec.
13 0...9	Delay time Mode of op. OFF																
	0	1	2*	3	4	5	6	7	8	9							code
	1	3	5	7.5	10	15	20	30	45	60							sec.
14 0...9	Bell active time																0 = Duration identical to trigger duration
	0	1	2*	3	4	5	6	7	8	9							code
	=imp	0.5	1	2	3	4	5	6	8	10							sec.
15 0...9	Bell intermission																
	0	1	2	3	4	5	6*	7	8	9							code
	0	0.5	1	2	3	4	5	6	8	10							sec.

Electrical Controls Continued

Most common parameters used are highlighted. *Indicates Default Value

Code	Function										Note
17 0...9	Runtime Battery in mode of op. 2-6										Door opens after switch-off battery
	0	1	2	3*	4	5	6	7	8	9	code
	10s	1	5	10	30	60	120	240	360	480	sec./min.
18 0...9	Runtime Battery in mode of op. OFF										
	0*	1	2	3	4	5	6	7	8	9	
	10s	1	5	10	30	60	120	240	360	480	sec./min.
19 0...9	Airlock timeout										0 = No timeout for airlock function
	0*	1	2	3	4	5	6	7	8	9	code
	--	10	15	20	25	30	45	60	90	120	sec.
20 0...9	Opening Speed										0 = No timeout for airlock function
	0	1	2	3	4*	5	6	7	8	9	code
	10	20	30	40	50	60	70	80	90	100	degree/s
21 0...9	Closing Speed										Limitation only valid for "Teach-In 1 + 2"
	0	1	2	3	4*	5	6	7	8	9	code
	8	16	24	32	40	48	56	64	72	80	degree/s
22 0...9	Close check speed										Angle see 42x
	0*	1	2	3	4	5	6	7	8	9	code
	2	3	5	8	12	17	23	30	38	47	degree/s
23 0...9 2*	Manual opening speed limit										0=Limitation according to course of movement, 1-9=slow-fast
24 0...9 0*	Manual closing speed limit										0=Limitation according to course of movement, 1-9=slow-fast
26 0...9 2*	Braking distance opening										Non-applicable after Teach, 0 = short
28 0...9 4*	Braking distance closing										Non-applicable after Teach
30 0...9	Motor force opening										Net force on door edge
	0	1	2	3	4	5	6	7*	8	9	code
	5	11	22	33	44	55	66	77	88	100	%
31 0...9	Motor force closing										Net force on door edge
	0	1*	2	3	4	5	6	7	8	9	code
	5	11	22	33	44	55	66	77	88	100	%
33 0...9	Motor holding closed force										incl. discharge electric strike together with code 58x
	0*	1	2	3	4	5	6	7	8	9	code
	0	1	2	3	5	8	12	18	25	35	Nm
35 0...9 5*	Reversing sensitivity opening										9 = max
36 0...9 5*	Reversing sensitivity closing										9 = max
37 0...9 7*	Push-and-Go sensitivity										9 = max, 0 = off
39 0...9 5*	Travel distance tolerances (60..300%)										New Teach-In required
41 0...9	Opening width reduced										Non-applicable after Teach
	0	1	2	3	4	5	6*	7	8	9	code
	10	20	30	40	50	60	70	80	90	100	%
42 0...9	Close check angle										Close check speed see 22x
	0*	1	2	3	4	5	6	7	8	9	code
	0	1	2	3	5	7	10	15	20	30	degree
43 1...F	Crossing angle master										Application see T-1319
44 1...F	Crossing angle slave										Application see T-1319

Electrical Controls Continued

Most common parameters used are highlighted. *Indicates Default Value

Code	Function										Note
46 0...9 0*	Opening width scaling up 0...+9%										Non-applicable after Teach
51 1...6	Operating mode return to last setting on user interface										After terminal operating mode
	1	2	3	4	5	6					code
	OFF	AUT1	AUT2	EXIT	OPEN	Man.					Mode of operation
51 7	No operating mode return										After terminal operating mode
55 0	Locks in operating mode OFF										Only for electric strike with 100% duty ratio
55 1	Locks in operating mode OFF, EXIT										Only for electric strike with 100% duty ratio
55 2*	Locks in operating mode OFF, AUTO 1+2, EXIT, P										
57 0	Electric strike: current-free locked (Fail secure)										
57 1	Electric strike: current-free unlocked (Fail safe)										Only for electric strike with 100% duty ratio
57 2	Without electric strike										
57 3	Electric strike switch-on range 100%, until door is closed										Only for electric strike with 100% duty ratio
58 0...9	Delay time to open										Independent adjustment only with skipper
	0*	1	2	3	4	5	6	7	8	9	code
	0	0.2	0.4	0.8	1.2	1.6	2.0	2.5	3.0	4.0	sec.
59 0...6	Tension "pwm out" with connection to terminal 40V or 24V**										
	0	1	2	3	4*	5	6				code
	6	9	12	15	24	12**	24**				V DC
60 0	in1: Operation mode OFF										Contact NO. NC detect with code 038
60 1	in1: Operation mode MANUAL										Contact NO. NC detect with code 038
60 2	in1: Operation mode OPEN										Contact NO. NC detect with code 038
60 3*	in1: Activator inside										Contact NO. NC, 100Hz detect with code 038
60 4	in1: Activator outside										Contact NO. NC, 100Hz detect with code 038
60 5	in1: Key switch										Contact NO. NC, 100Hz detect with code 038
60 6	in1: Emergency opening except in OFF										Contact NO. NC, 100Hz detect with code 038
60 7	in1: Emergency opening in all modes of op.										Contact NO. NC, 100Hz detect with code 038
60 8	in1: Emergency closing (with locking)										Contact NO. NC, 100Hz detect with code 038
60 9	in1: Operation mode EXIT										Contact NO. NC detect with code 038
61 0...9 4*	in2: Same choice of functions as on "in1"										Contact type detect with code 038
62 0...9 5*	in3: Same choice of functions as on "in1"										Contact type detect with code 038
63 0...9 0*	in4: Same choice of functions as on "in1"										Contact type detect with code 038
64 0	sf1: Safety opening 1 with stop function										Type of connection NO,NC,test detect with code 031
64 1*	sf1: Safety opening 1 with creeping function										Type of connection NO,NC,test detect with code 031
64 2	sf1: Safety closing 1 with reversing function										Type of connection NO,NC,test detect with code 031
64 3	sf1: Safety closing 1 with creeping function										Type of connection NO,NC,test detect with code 031
64 4	sf1: Safety swing area										Type of connection NO,NC,test detect with code 031
64 5	sf1: Safety stop										Type of connection NO,NC,test detect with code 031
64 6	sf1: Emergency opening except in OFF										Contact NO. NC detect with code 031
64 7	sf1: Emergency opening in all modes of op.										Contact NO. NC detect with code 031
64 8	sf1: Emergency closing (with locking)										Contact NO. NC detect with code 031
64 9	sf1: Mode of op. MANUAL / Break out										Contact NO. NC detect with code 031
64 a	sf1: Safety opening 2 with stop function										Type of connection NO,NC,test detect with code 031
64 b	sf1: Safety opening 2 with creeping function										Type of connection NO,NC,test detect with code 031
64 c	sf1: Safety closing 2 with reverse function										Type of connection NO,NC,test detect with code 031

Most common parameters used are highlighted. *Indicates Default Value

Code	Function	Note
64 d	sf1: Safety closing 2 with creeping function	Type of connection NO,NC,test detect with code 031
64 e	sf1: Inhibit switch	Type of connection NO,NC,test detect with code 031
65 0...E 2*	sf2: Same choice of functions as on "sf1"	Type of connection detect with code 031
66 0...E 4*	sf3: Same choice of functions as on "sf1"	Type of connection detect with code 031
67 0...E 5*	sf4: Same choice of functions as on "sf1"	Type of connection detect with code 031
68 0	out1: Message "door closed"	
68 1	out1: Message “door closed and locked”	
68 2	out1: Message “door open”	
68 3	out1: Message “General fault”	
68 4*	out1: Bell	
68 5	out1: Message “Mode of operation OFF”	
68 7	out1: Battery in service	
68 9	out1: Message “door is opening or open”	Function visible after 1 door-opening cycle
69 0...9 2*	out2: Same choice of functions as on "out1"	
70 0*	I/O Module 1: in1: No function	
70 1	I/O Module 1: in1: Operating mode OFF	Contact NO. NC detect with code 039
70 2	I/O Module 1: in1: Operating mode AUTOMATIC 1	Contact NO. NC detect with code 039
70 3	I/O Module 1: in1: Operating mode AUTOMATIC 2	Contact NO. NC detect with code 039
70 4	I/O Module 1: in1: Operating mode EXIT	Contact NO. NC detect with code 039
70 5	I/O Module 1: in1: Operating mode OPEN	Contact NO. NC detect with code 039
70 6	I/O Module 1: in1: Operating mode MANUAL	Contact NO. NC detect with code 039
70 7	I/O Module 1: in1: Inhibit switch	Contact NO. NC detect with code 039
71 0...7 0*	I/O Module 1: in2: Same choice of functions as on I/O Module 1: in1	Contact NO. NC detect with code 039
72 0...7 0*	I/O Module 1: in3: Same choice of functions as on I/O Module 1: in1	Contact NO. NC detect with code 039
73 0...7 0*	I/O Module 1: in4: Same choice of functions as on I/O Module 1: in1	Contact NO. NC detect with code 039
74 0*	I/O Module 1: out1: No function	
74 1	I/O Module 1: out1: Operating mode OFF	
74 2	I/O Module 1: out1: Operating mode AUTOMATIC 1	
74 3	I/O Module 1: out1: Operating mode AUTOMATIC 2	
74 4	I/O Module 1: out1: Operating mode EXIT	
74 5	I/O Module 1: out1: Operating mode OPEN	
74 6	I/O Module 1: out1: Operating mode MANUAL	
74 7	I/O Module 1: out1: "Door is opening"	
74 8	I/O Module 1: out1: “Door is opening or open”	
74 9	I/O Module 1: out1: "Door is closing"	
75 0...9 0*	I/O Module 1: out2: Same choice of functions as on I/O Module 1: out1	
76 0...9 0*	I/O Module 1: out3: Same choice of functions as on I/O Module 1: out1	
77 0...9 0*	I/O Module 1: out4: Same choice of functions as on I/O Module 1: out1	
78 0	User Interface 1: in1: No function	
78 1*	User Interface 1: in1: User interface lock	Contact NO. Use User Interface from V1.07!
78 2	User Interface 1: in1: Operating mode OFF	Contact NO. Use User Interface from V1.07!
78 3	User Interface 1: in1: Operating mode AUTOMATIC 2	Contact NO. Use User Interface from V1.07!
78 4	User Interface 1: in1: Operating mode EXIT	Contact NO. Use User Interface from V1.07!
78 5	User Interface 1: in1: Operating mode OPEN	Contact NO. Use User Interface from V1.07!

Electrical Controls Continued

Most common parameters used are highlighted. *Indicates Default Value

Code	Function	Note
78 6	User Interface 1: in1: Operating mode MANUAL	Contact NO. Use User Interface from V1.07!
78 7	User Interface 1: in1: Emergency closing	Contact NO. Use User Interface from V1.07!
78 8	User Interface 1: in1: Emergency opening in all op. modes	Contact NO. Use User Interface from V1.07!
78 9	User Interface 1: in1: Key switch	Contact NO. Use User Interface from V1.07!
79 0...9 0*	User Interface 1: in2: Same choice as on User Interface 1: in1	Contact NO. Use User Interface from V1.07!
80 0	Bell trigger: Safety closing 1	
80 1	Bell trigger: Safety closing 2	
80 2*	Bell trigger: Activator inside	
80 3	Bell trigger: Activator outside	
80 4	Bell trigger: Key switch	
82 0*	No step-by-step control	
82 1	Step-by-step control only for key switch	
82 2	Step-by-step control only for activator inside and outside	
82 3	Step-by-step control for activator inside, outside and key switch	
83 0*	Single door	
83 1	Primary drive, double leaf door, type A	Application see T-1319
83 2	Secondary drive, double leaf door type A	Application see T-1319
83 3	Primary drive, double leaf door, nurse & bed passage	Application see T-1572
83 4	Secondary drive, double leaf door, nurse & bed passage	Application see T-1572
85 0*	No airlock function	
85 1	Airlock function for inner door	Application see T-1304
85 2	Airlock function for outer door	Application see T-1304

Trouble Shooting Codes - *E = Error - H = Hint

*No.	Fault	Behavior of System	Reset
E00	Firmware incompatible to MCU version /D	Safety operating mode or only display	Reset, new version MCU32-BASE
E0x	Internal test negative	Safety operating mode or only display	Reset
E21	LIN to User Interface 1 USIN interrupted	Last mode of operation remains	Automatically if OK
E22	LIN to User Interface 2 USIN interrupted	Last mode of operation remains	Automatically if OK
E23	LIN to s I/O-Module 1 INOU interrupted	Programmed function will be inactive	Automatically if OK
E24	LIN to s I/O-Module 2 INOU interrupted	Programmed function will be inactive	Automatically if OK
E25	LIN to Lock Unit 1 LOCU interrupted	Last status remains	Automatically if OK
E26	LIN to Lock Unit 2 LOCU interrupted	Last status remains	Automatically if OK
E30	Safety close. creep 2 >1min. active, test neg.	According safety function	Automatically if OK
E31	Safety open 1 >1min. active, test neg.	According safety function	Automatically if OK
E32	Safety op. creep 1 >1min. active, test neg.	According safety function	Automatically if OK
E33	Safety closing 1 >1min. active, test neg.	According safety function	Automatically if OK
E34	Safety close. creep 1 >1min. active, test neg.	According safety function	Automatically if OK
E35	Safety swing area >1min. active, test neg.	According safety function	Automatically if OK
E36	Safety stop >1min. active, test neg.	According safety function	Automatically if OK
E37	Safety open 2 >1min. active, test neg.	According safety function	Automatically if OK
E38	Safety op. creep 2 >1min. active, test neg.	According safety function	Automatically if OK
E39	Safety closing 2 >1min. active, test neg.	According safety function	Automatically if OK
E40	User-defined input > 1min. active	(Door remains open)	Automatically if OK

Electrical Controls Continued

Trouble Shooting Codes - *E = Error - H = Hint

*No.	Fault	Behavior of System	Reset
E00	Firmware incompatible to MCU version /D	Safety operating mode or only display	Reset, new version MCU32-BASE
E0x	Internal test negative	Safety operating mode or only display	Reset
E21	LIN to User Interface 1 USIN interrupted	Last mode of operation remains	Automatically if OK
E22	LIN to User Interface 2 USIN interrupted	Last mode of operation remains	Automatically if OK
E23	LIN to s I/O-Module 1 INOU interrupted	Programmed function will be inactive	Automatically if OK
E24	LIN to s I/O-Module 2 INOU interrupted	Programmed function will be inactive	Automatically if OK
E25	LIN to Lock Unit 1 LOCU interrupted	Last status remains	Automatically if OK
E26	LIN to Lock Unit 2 LOCU interrupted	Last status remains	Automatically if OK
E30	Safety close. creep 2 >1min. active, test neg.	According safety function	Automatically if OK
E31	Safety open 1 >1min. active, test neg.	According safety function	Automatically if OK
E32	Safety op. creep 1 >1min. active, test neg.	According safety function	Automatically if OK
E33	Safety closing 1 >1min. active, test neg.	According safety function	Automatically if OK
E34	Safety close. creep 1 >1min. active, test neg.	According safety function	Automatically if OK
E35	Safety swing area >1min. active, test neg.	According safety function	Automatically if OK
E36	Safety stop >1min. active, test neg.	According safety function	Automatically if OK
E37	Safety open 2 >1min. active, test neg.	According safety function	Automatically if OK
E38	Safety op. creep 2 >1min. active, test neg.	According safety function	Automatically if OK
E39	Safety closing 2 >1min. active, test neg.	According safety function	Automatically if OK
E40	User-defined input > 1min. active	(Door remains open)	Automatically if OK
E41	Activator inside > 1min. active	Door remains open	Automatically if OK
E42	Activator outside > 1min. active	Door remains open	Automatically if OK
E43	Key switch > 1min. active	Door remains open	Automatically if OK
E46	Emergency open >10min. active	Door remains open	Automatically if OK
E47	Emergency close >10min. active	Door closes and remains closed	Automatically if OK
E48	Wake up or Push button SW2 > 1min. active	Door remains open	Automatically if OK
E49	Inhibit switch> 1min. active	Door stand still	Automatically if OK
E51	Encoder not working	Safety operating mode	Automatically if OK
E53	Calibration run different from reference	Safety operating mode	Reset
E54	Driveway in op. longer than reference	Safety operating mode	Reset >automatic configuration
E55	Position drift. Shaft displacing	Only display, auto-correction stops	Automatically if OK / Reset
E56	Door blocked	Safety operation mode	Reset
E61	Voltage 40V outside of admissible range	Safety operation mode	Automatically if OK
E62	Power Supply 24V (Limit U, I)	Safety op. mode	Automatically if OK
E63	Current in power supply 40V to high	Safety operating mode	Automatically if OK
E64	Motor temperature > 90 ° C, cable interrupted	Safety operating mode	Automatically after cooling down
E65	Control end stage > 100 ° C	Safety operating mode	Automatically after cooling down
E66	Motor control faulty in MCU32-BASE	Safety operating mode	Reset
E67	Motor current to high in long-term	Normal operation	Automatically if OK
E8x	Memory or processor test negative	Safety operating mode	Reset
H11	Operator type not defined	Safety operating mode	Program operator type
H12	Door mass not defined	Safety operating mode	Program door mass
H13	Linkage type not defined	Safety operating mode	Configuration 09x and 090
H14	Automatic configuration not executed	Safety operating mode	Program 021
H18	Configuration error in trajectory	Safety operating mode	New Teach-In
H21	Teach-In: Door moves >15s before start	Abort Teach-In	New Teach-In

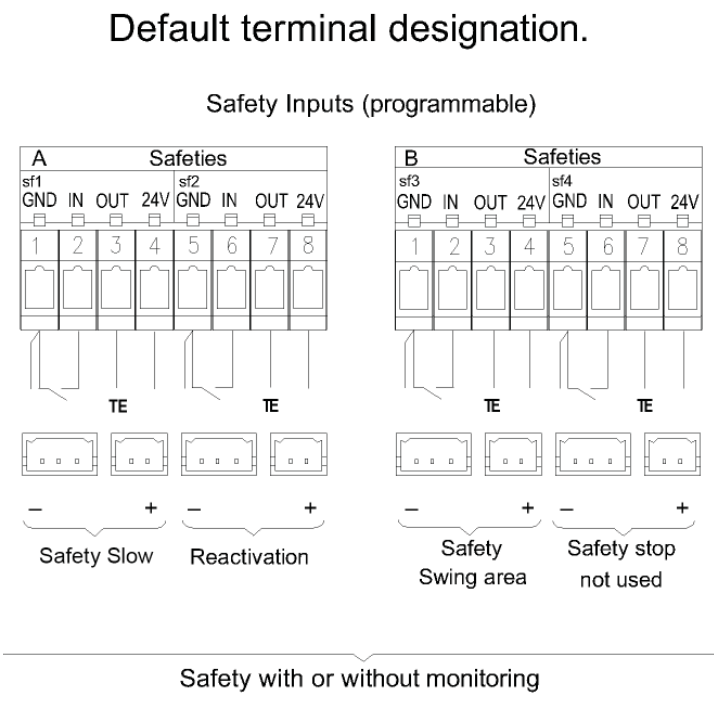
Electrical Controls Continued

Trouble Shooting Codes - *E = Error - H = Hint

*No.	Fault	Behavior of System	Reset
H22	Teach-In: No start within 15s	Abort Teach-In	New Teach-In
H23	Teach-In: Opening movement >15s	Abort Teach-In	New Teach-In
H24	Teach-In: Hold open time >60s	Abort Teach-In	New Teach-In
H25	Teach-In: Closing movement >15s	Abort Teach-In	New Teach-In
H26	Teach-In: Wrong direction at closing	Abort Teach-In	New Teach-In
H27	Teach-In: Differing close position	Abort Teach-In	New Teach-In
H29	Teach-In: Request	Abort Teach-In	Execute Teach-In
H62	Calibration run in closing direction	Searches closed position	At the end of movement
H63	Reference run opening	Measures reference run length	At the end of movement
H64	Reference run closing	Searches closed position	At the end of movement
H66	Learn mode (Force detection)	Normal operation	After max. 20 full opening cycles
H67	Absolute position not found yet	Slow opening movement	
H71	Battery mode	Door moves slowly	After max. 20 full opening cycles
H73	Motor current in closed position to high	Normal operation	Reset, reduce 33x
H91	Obstacle detection at opening	Door reverses	Automatically, Display 20s.
H92	Obstacle detected at closing	Door reverses	Automatically, Display 20s.
H93	Permanent obstacle at opening	Reset after 5 reversing's	Automatically, Display 20s.
H94	Permanent obstacle at closing	Reset after 5 reversing's	Automatically, Display 20s

Control Connection Diagram - Single Swing

All inputs and outputs are programmable, see programming table

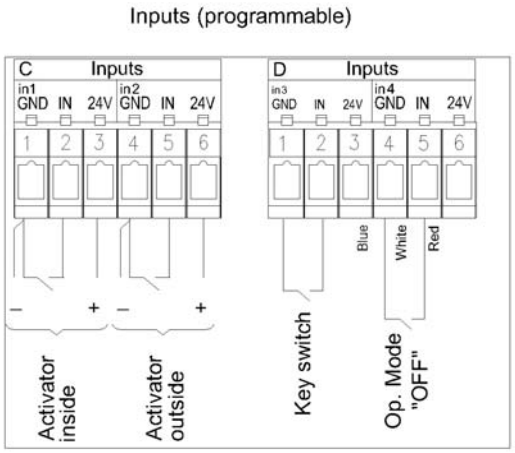


Safety Slow -
Will slow the door while opening.

Reactivation -
Will reactivate the door when activated and will inhibit after door is fully closed.

Safety Swing Area -
Will prevent the door from moving when fully open or fully closed.

TE: Test signal for SMR sensors
(Superscan, Quadscans)



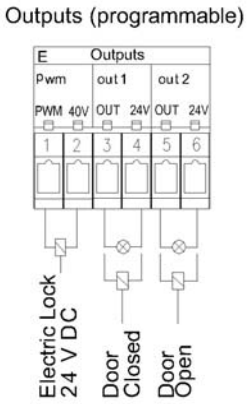


Figure 18: Single Swing Inputs & Outputs

Power output to Sensor is 0.75 amps Max.
Power output to Lock output is 1.00 amp Max.

Activator inside - Activation Signal

Activator outside -
Activation Signal - Inhibits when FCP is in 1-way mode and the door is fully closed.

Key switch -
Activates the door open in all modes, except (P) Manual mode

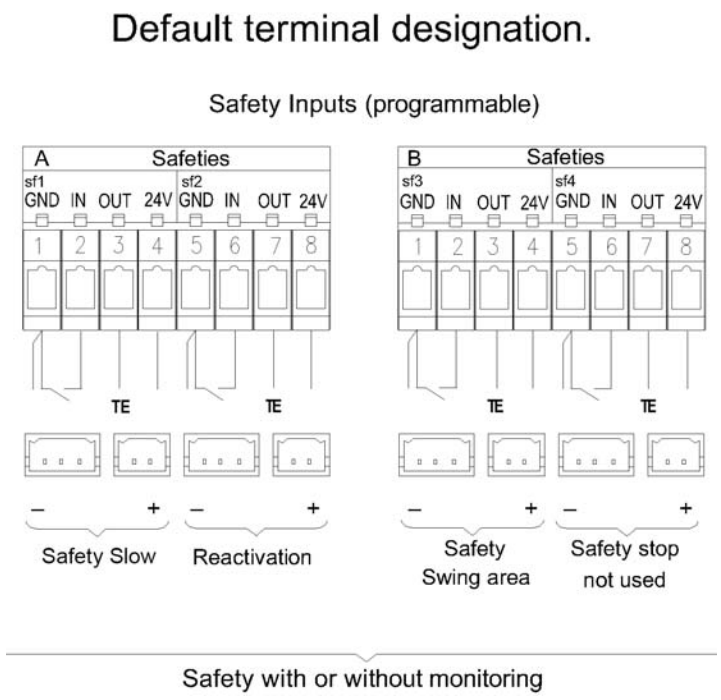
Off -
Inside and Outside sensors are inhibited unless door is activated by Key switch input.

Electric lock -
Can power up a magnetic lock or electric strike, 1A max output. Has selectable output voltages.

Outputs 1, 2 -
See programming table.

Control Connection Diagram - Paired Swing, Primary Leaf

All inputs and outputs are programmable, see programming table



Safety Slow -
Will slow the door while opening.

Reactivation -
Will reactivate the door when activated and will inhibit after door is fully closed.

Safety Swing Area -
Will prevent the door from moving when fully open or fully closed.

TE: Test signal for SMR sensors
(Superscan, Quadscans)

Electrical Controls Continued

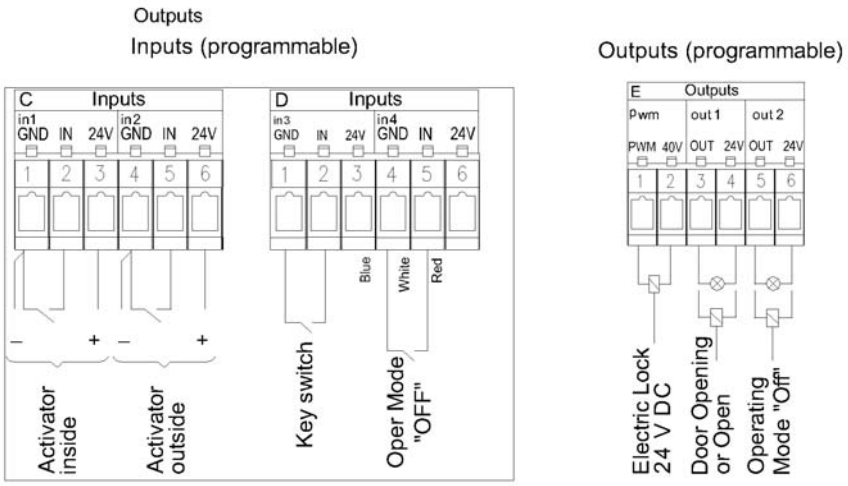


Figure 19: Paired Swing Primary Leaf Inputs & Outputs

Power output to Sensor is 0.75 amps Max.
Power output to Lock output is 1.00 amp Max.

Activator inside - Activation Signal

Activator outside -
Activation Signal - Inhibits when FCP is in 1-way mode and the door is fully closed.

Key switch -
Activates the door open in all modes, except (P) Manual mode

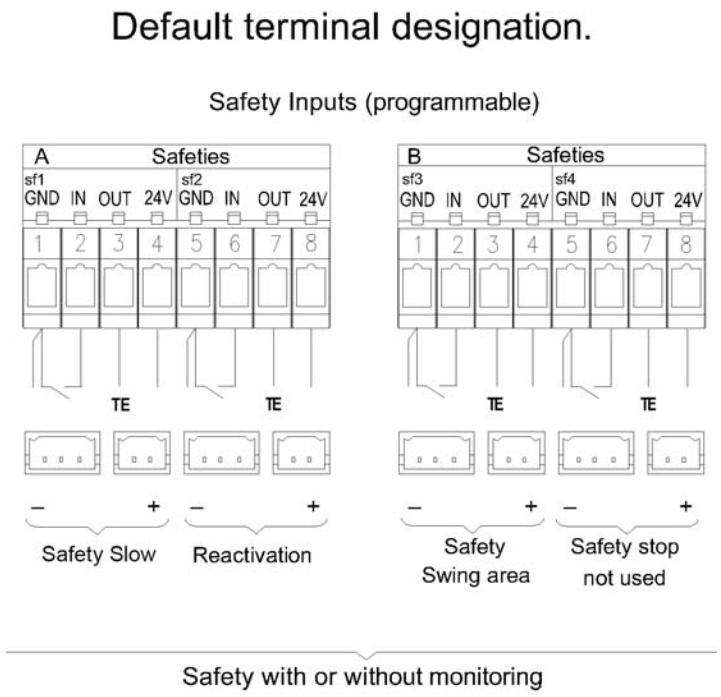
Off -
Inside and Outside sensors are inhibited unless door is activated by Key switch input.

Electric lock -
Can power up a magnetic lock or electric strike, 1A max output. Has selectable output voltages.

Outputs 1, 2 -
See programming table.

Control Connection Diagram - Paired Swing, Secondary Leaf

All inputs and outputs are programmable, see programming table



Safety Slow -
Will slow the door while opening.

Reactivation -
Will reactivate the door when activated and will inhibit after door is fully closed.

Safety Swing Area -
Will prevent the door from moving when fully open or fully closed.

TE: Test signal for SMR sensors
(Superscan, Quadscans)

Electrical Controls Continued

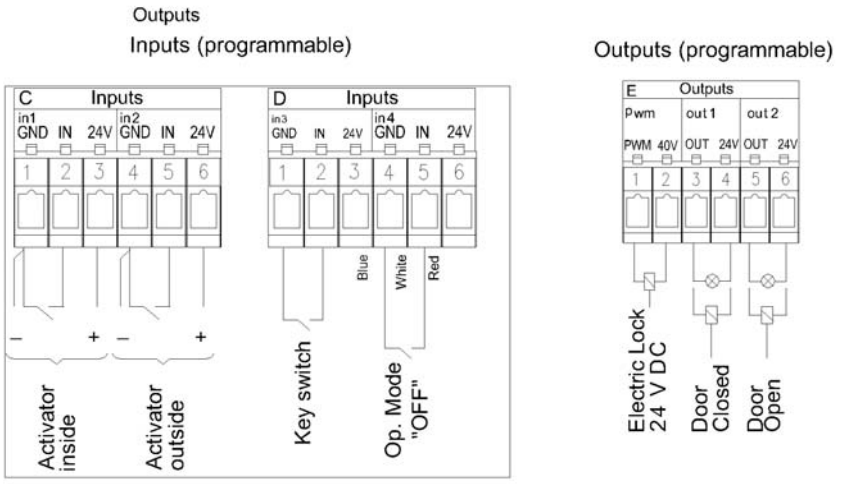


Figure 20: Paired Swing Secondary Leaf Inputs & Outputs

Power output to Sensor is 0.75 amps Max.
Power output to Lock output is 1.00 amp Max.

Activator inside - Activation Signal

Activator outside -
Activation Signal - Inhibits when FCP is in 1-way mode and the door is fully closed.

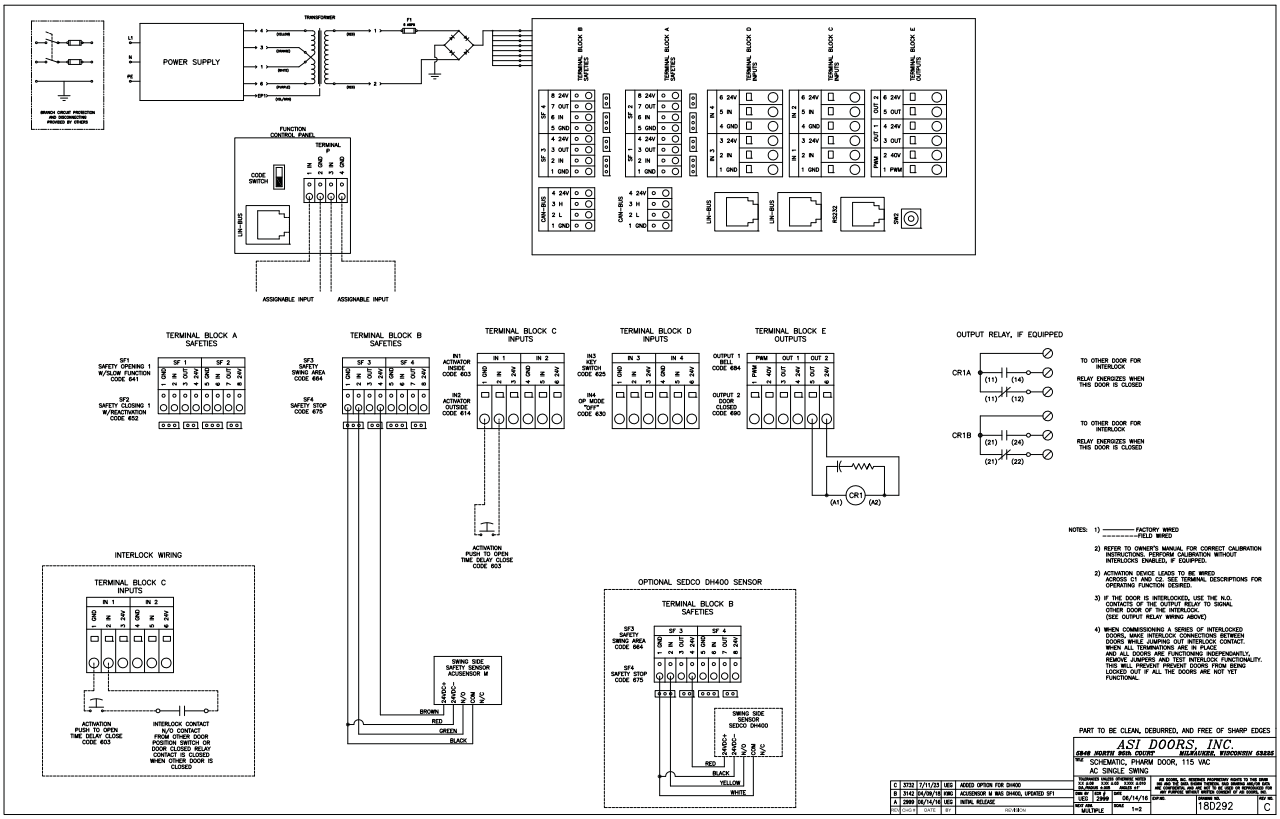
Key switch -
Activates the door open in all modes, except (P) Manual mode

Off -
Inside and Outside sensors are inhibited unless door is activated by Key switch input.

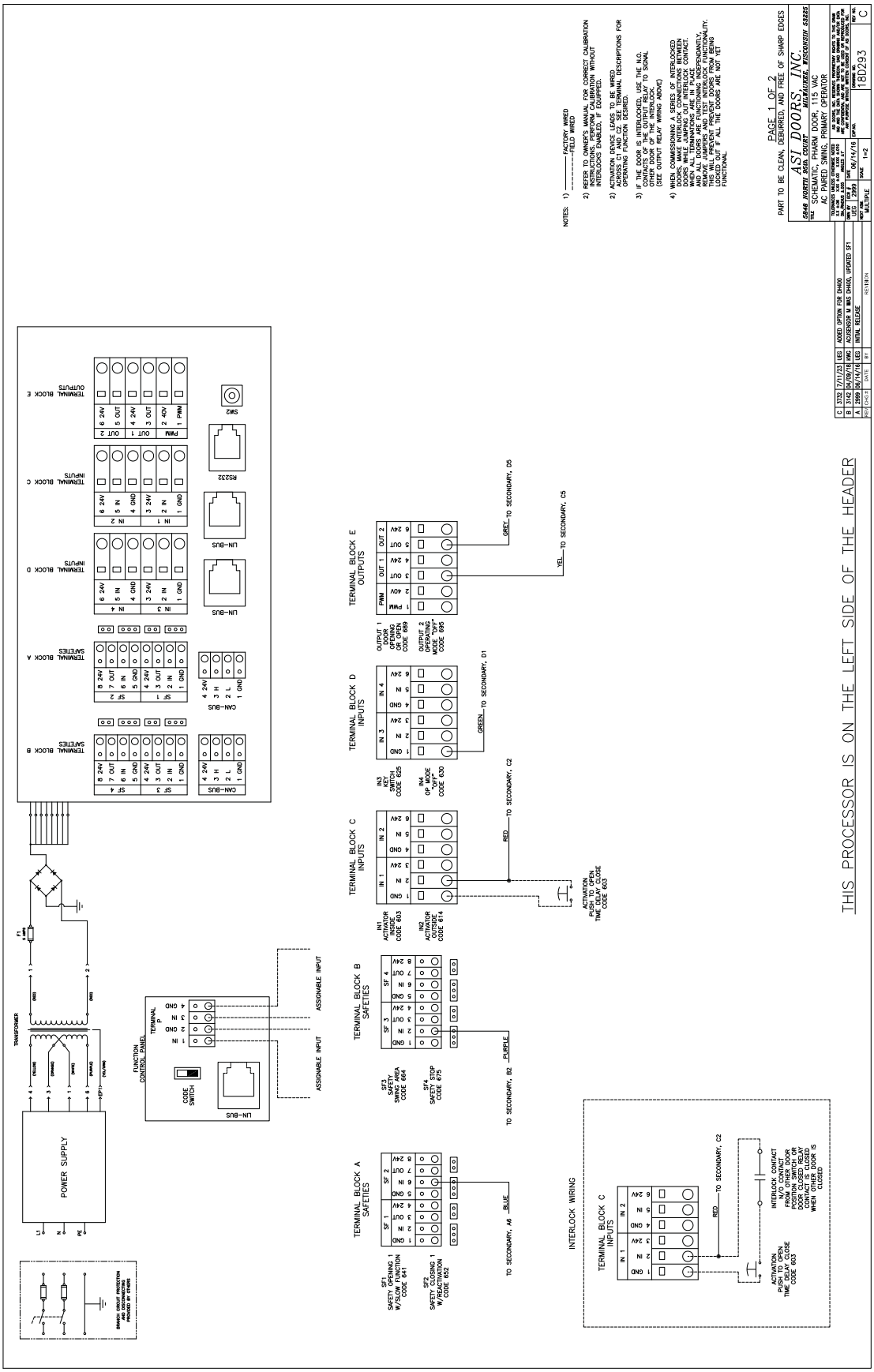
Electric lock -
Can power up a magnetic lock or electric strike, 1A max output. Has selectable output voltages.

Outputs 1, 2 -
See programming table.

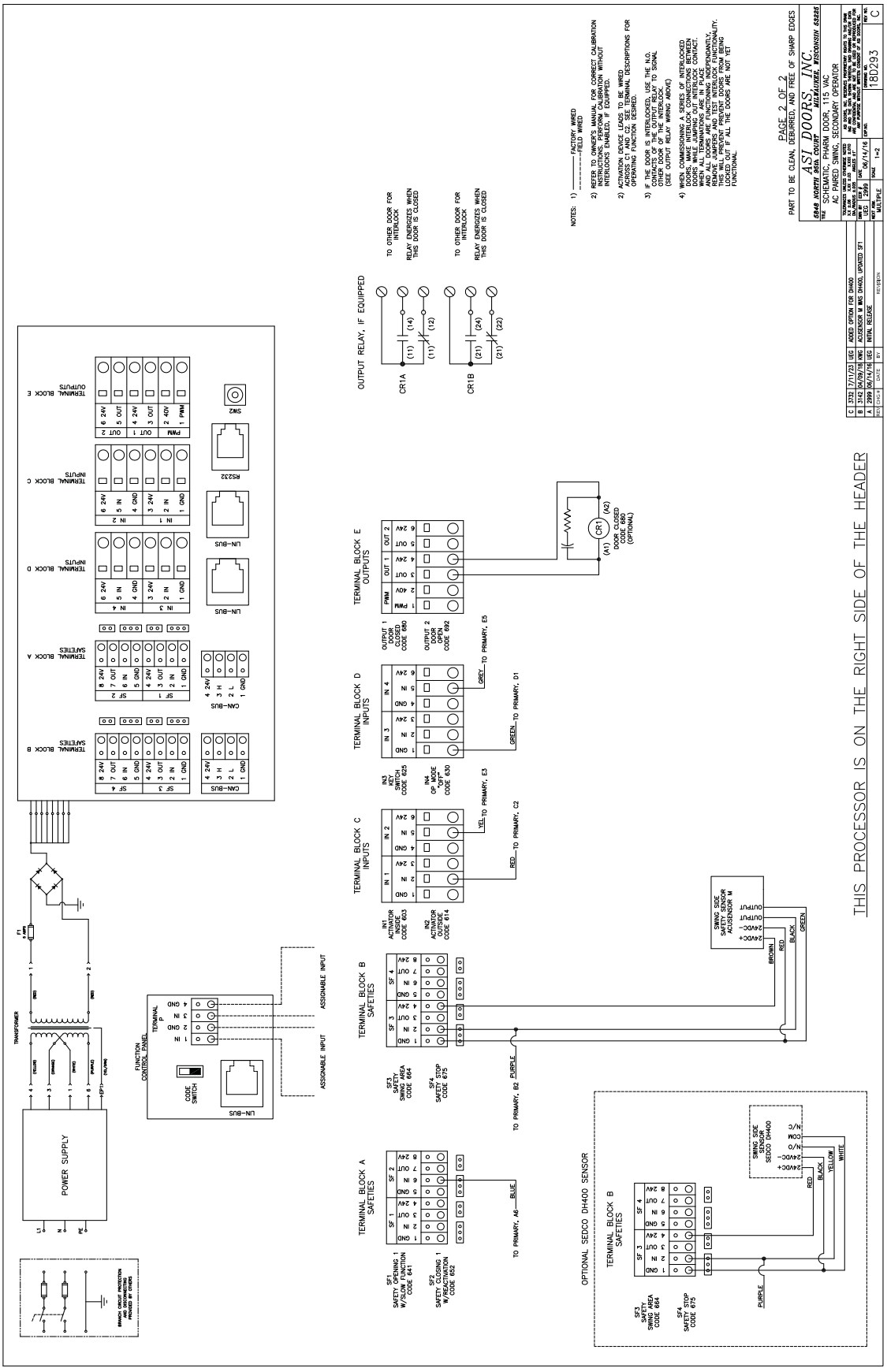
Schematic Diagram - Single Swing



Schematic Diagram - Paired Swing, Primary Leaf



Schematic Diagram - Paired Swing, Secondary Leaf



Instructions for Ordering

This parts manual is intended to assist in the correct identification of the more commonly replaced parts; covering, generally, all models and styles offered within the marathon pharm. Line. The manual will also help identify obsolete parts, part design changes and current production parts. For more specific parts information, please contact an authorized representative or consult the factory's customer service or engineering departments. Asi doors reserves the right to discontinue any part and make design changes without notice.

General Instructions for Ordering Door Parts

Accurate information is always necessary to serve you correctly and promptly. Several steps should be followed to determine exactly the parts that are needed.

Refer to the information tag on your door and record the:

1. Door model number
2. Job number
3. Door number
4. Manufacturing date.

Use part numbers referenced in this manual.

If the item is not found in the manual, the product code on the back of the item is helpful.

If your door has no information label, the approximate purchase date is helpful.

Call

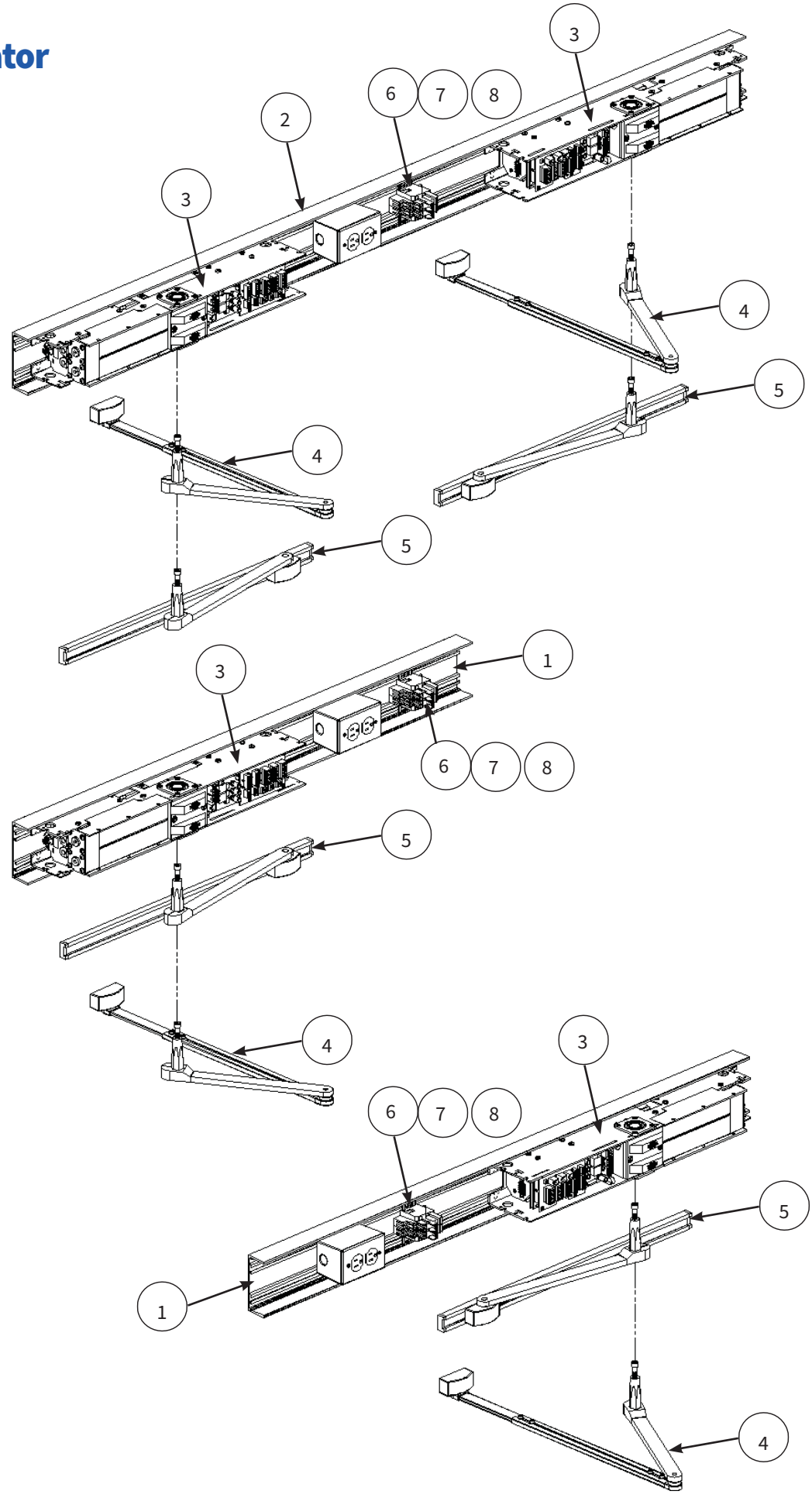
1-800-558-7068

or visit

asidoors.com/parts

to order parts

Operator



Operator and Shroud

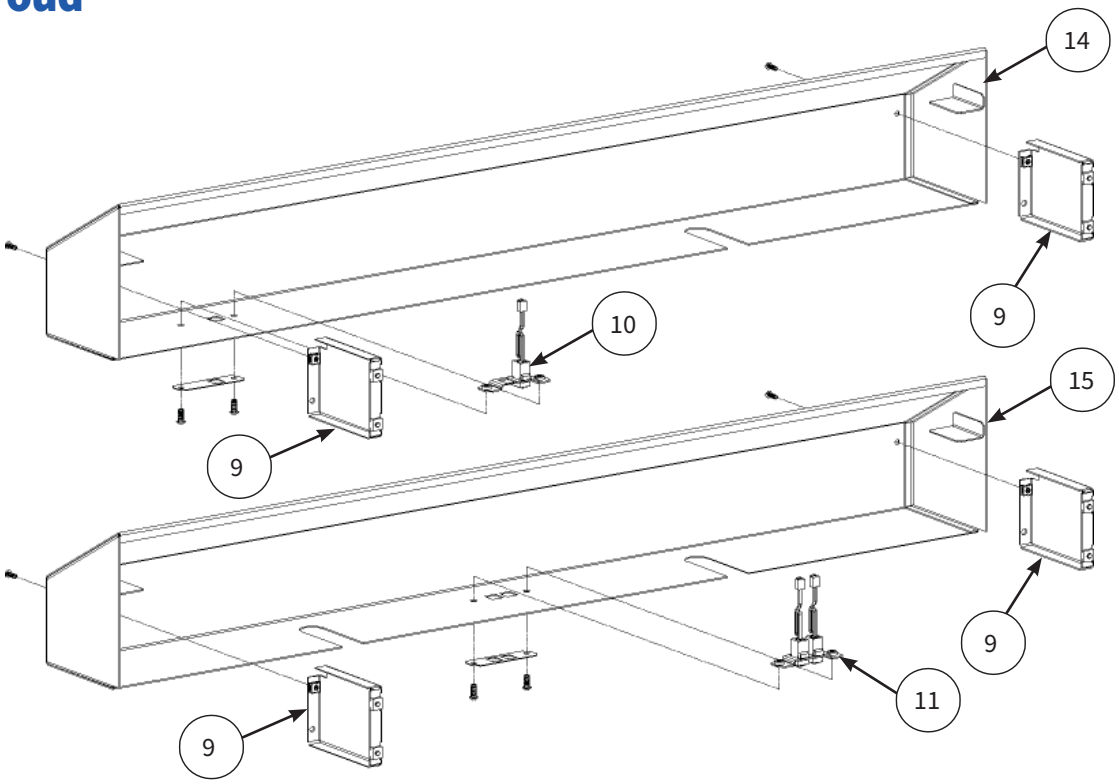
Description	PART#	ITEM#
Asm, Operator, Inswing, Single, LH	30D0040LV	1
Asm, Operator, Inswing, Single, RH	30D0040RV	1
Asm, Operator, Outswing, Single, LH	30D0041LV	1
Asm, Operator, Outswing, Single, RH	30D0041RV	1
Asm, Operator, Inswing, Paired	30D0042NV	2
Asm, Operator, Outswing, Paired	30D0043NV	2
Operator,	23B0147	3
Outswing Arm Assembly, 0"-4", Aluminum	16B0094NN	4
Outswing Arm Assembly, 4"-10", Aluminum	16B0104NN	4
Outswing Arm Assembly, 0"- 4", Stainless	16B0097NN	4
Outswing Arm Assembly, 4"- 10", Stainless	16B0098NN	4
Inswing Arm & Track Assembly, Aluminum	16B0095NN	5
Inswing Arm & Track Assembly, Stainless	16B0096NN	5
Relay, 24VDC, 2P, Finder #40.52.9.024.0000	23A126	6
Suppressor, RC, Finder #99.02.0.024.09	23A241	7
Socket, Relay, Finder #95.05	23A232	8
Bracket, Shroud, Power Swing, 304 / 316 Stainless	13B2485NN20 / 25	9
Asm, Single RJ12 Connector	24B0725	10
Asm, Paired RJ12 Connectors	24B0726	11
Cable, LIN BUS, 7 FT	23A0371NN	12
Programming Keypad (Loose)	23A0363	13
Shroud, 30°, Single Swing	55B0125	14
Shroud, 30°, Paired Swing	55B0126	15
Shroud, 0°, Single Swing	55B0127	16
Shroud, 0°, Paired Swing	55B0128	17

When ordering parts, specify Job Number, Door Number and Manufacture Date

NOTE

Note sloped shrouds shown for reference. Shrouds are also available in flat top design. Consult factory for specific Shroud P/N's.

Shroud



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