Single and Bi-Parting Electric Sliding Doors

Installation

with Automatic Operator (ICC-5)

Release Date: 11-2011

R-PLUS Cold Storage Doors
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IMPORTANT

1. Read all instructions!
2. Please review all illustrations and drawings before installing the door.
3. Inspect and report any damage and/or missing parts, before installing. The vendor will not be responsible for costs of installing or removing damaged doors.
4. Confirm the opening for the door matches the size on the packing list.
Warnings and Cautions

We have provided many important safety messages in this manual about your Door. Always read and obey all safety messages.

This is the safety alert symbol. This symbol alerts you to potential hazards that can kill, injure, or damage equipment. All safety messages will follow the safety alert symbol and either the word “Warning” or “Caution.” These words mean:

**WARNING** You can be killed or seriously injured if you don’t follow instructions.

**CAUTION** Equipment can be damaged or destroyed if you don’t follow instructions.

All safety messages will tell you how to proceed to reduce the chance of death, injury, or damage to the Door.

Important Safety Instructions – Read Prior to Installation

This installation must be performed by a qualified installer. To avoid injury from sharp metal edges, the installer must be equipped with protective clothing, gloves, and eyewear.

To reduce the risk of fire, electrical shock, injury, death, or damage when installing or repairing the Door, follow basic precautions, including the following:

**WARNING:** Improper wiring or lack of proper ground can result in fire, electrical shock, injury or death. Disconnect power to the Door before performing any electrical repairs. Field wiring or electrical repair should be done by a licensed professional electrician. Follow all local building codes and laws for electrical installation.

**WARNING:** Control panel and anti-frost heaters operate on two different circuits. Make sure to turn power off to both circuits prior to servicing the Door.

**WARNING:** Avoid installing the Door on windy days. The door panel or sections are difficult to handle in windy situations and could fall during installation.

**WARNING:** When installing or servicing the Door, clear the area of children and unnecessary adults.

**WARNING:** Do not stand or walk in front of a moving Door. Do not permit anybody to stand or walk in front of an electric Door.

**WARNING:** In case of electrical fire, disconnect the power supply. Do not use water on electrical fires. Smother the fire with an extinguisher rated for C-class fires.

**WARNING:** Always keep your hands clear of the drive chain and other moving parts when door is powered or when it is to be moved manually. Use handles when moving the Door manually. Avoid loose fitting or hanging clothing. An electric door can start moving automatically, such as when the auto-close timer is activated.

**CAUTION:** After changing any parts on the Door, always check that door tightness, anti-jump devices and safety edge sensors are working properly.

**CAUTION:** Per NEC 300-7, all raceways passing from different temperatures shall be sealed with putty or other method to stop the travel of moisture. Furthermore, all junction box cover plates shall be sealed. Verify these seals are in place and functioning properly after performing any service on the Door.

**CAUTION:** If a Door becomes hard to operate, inoperative, or damaged, do not operate the Door until necessary adjustments or repairs have been made.

**CAUTION:** Do not operate the Door if ice has accumulated that might hinder its movement. De-ice first.

**CAUTION:** Inspect the Door regularly for proper operation and maintenance. Follow instructions listed in the Periodic Maintenance section.
Attaching Door Frames to Wall

1. Verify that the door opening and wall are plumb, and the opening is square. Adjust as necessary.
2. Before installing the door frame, check for proper backing in the wall. See Figure 1.

3. At job site, drill 5/16” holes in the frames and headers for mounting to the backing in the wall. Space holes 6” in from the end, then every 36”. See Figure 2.

4. Stand the left and right frames up against the wall, one on each side of the door opening so they are located correctly. Check to see that the frames are plumb and square to the door opening.

**NOTE:** When installing a freezer door, a thermal break is required. Add Silicone caulking behind the side frames and Header Assembly before fastening to the wall.

Attach the frames to the wall with the #18 x 4” Phillips flat head sheet metal screws and finish washers that are provided. Verify that the frames are still plumb and square to the door opening. See Figure 2.

5. Mount the Sliding Door Track and Header assembly above the door frame. See Figure 3. For a single door, mount the end of the Track flush with the edge of the side frame. For a bi-parting door, the center stops on the Door Track should be centered above the door opening. In all cases, anchor the Door Header with the #18 x 4” Phillips flat head sheet metal screws and finish washers.

6. Seal with Silicone caulking around the side frames and header after tightening the screws.
Joining Door Sections with Cam Locks

CAUTION: All parts have been pre-assembled at the factory. No Drilling should be required. Be careful to not overdrive any fasteners.

Doors larger in width must be field assembled as follows:

1. Begin by laying the sections of the door face down on a clean and level surface. Block as needed so the door sections are aligned. See Figure 4.

2. Apply silicone caulk to both long edges, then slide the door sections together. Cam lock the sections with a 3/8\" hex wrench (supplied). Turn clockwise until the lock is engaged with the Hinging pin. See Figure 5.

3. Note that interior and exterior surfaces of the door sections along the joint should be flush and smooth. Install cam hole covers. Add Silicone caulking to the seams between the panels on both interior and exterior sides.

4. Remove the Adjuster Rod and Jam Nuts. Install the 10 gauge Metal Plate at the top and the bottom of the door. Anchor the strips with #8 x 1-1/2\" Phillips pan head screws that have been provided. Reinstall the Adjuster Rod. See Figure 6.
Assemble and Install Door and Door Hanger

1. Install the Door Hanger on top of the door. Fasten it to the door with the Square Washers, flat washers, Jam Nuts, nylon Lock Nuts, and 3/4” Adjuster Rods. Make sure the Adjuster Rod comes through the nylon Lock Nut on the Square Washer no more than 1/16”. Adjust the Door Hanger temporarily to 3-3/4” from the top of the door to the bottom of the Channel. Final adjustment is made after the Door is hanging on the Door Track. See Figure 7.

2. Place the door section next to the door opening and lean it against the steel Door Track. Be careful to not damage the Sweep Gasket at the bottom of the door section.

3. Lift the door and place the Track Rollers on the Round Welded Rod of the Door Track.

4. Install the Anti-Jump Bolt or Anti-Jump Roller to keep the door on the track. Adjust to a gap of 1/16”. See Figure 8.

Adjusting the Door Height

The Sweep Gasket should lift free of the floor when the Door is opened.

1. For a single slide door, set the door in the closed position and adjust the door height so the Sweep Gasket lightly touches the floor and the door lines up with the side frames. See Figure 9. To adjust the height, loosen the top and bottom Jam Nuts on both Adjuster Rods and raise or lower the door with the welded nut on the Adjuster Rod. Tighten the Jam Nuts to lock the door in position. See Figure 7.

2. For a bi-parting door, set the doors in the closed position and adjust the door height so the Sweep Gasket lightly touches the floor. Use the Adjuster Rod to align the two door leaf sections for a proper seal where the doors come together. The door leaves should be parallel and have a uniform seal from top to bottom. See Figure 9. To adjust the height, loosen the top and bottom Jam Nuts on both Adjuster Rods and raise or lower the door leaf with the Adjuster Rod. Tighten the Jam Nuts to lock the door in position. See Figure 7.

WARNING: Anti-Jump Bolts must be adjusted properly and Adjuster Rod Jam Nuts must be tightened against the Door Hanger Channel prior to operating the Door, even during the door leaf adjustment process, or damage may occur.
Stay Roller Installation

1. The purpose of the Stay Roller is to keep the bottom of the door against the gaskets in the closed position and to keep the door from kicking out at the bottom when moving.

2. If not found in the hardware box, the Stay Roller assemblies are secured to a piece of wood located on the front side of the Door Header. Remove them for installation. See Figure 10.

3. Be sure each Stay Roller Lock Nut is centered in the adjustment slot. Note the distance from the wall for your door size and type. See Figure 11. With Bi-Parting door(s) fully closed, position the center of the Trailing Edge Stay Roller 3/4" in from the end of the Door Snubber Wedge. For Single Slide Doors, center the Leading Edge Stay Roller on the flat spot on the Door Snubber. See Figure 11.

4. Use four 3/8" x 2-3/4" concrete wedge anchors to fasten each Stay Roller to the floor. See Figure 12.

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**Figure 10**

**Figure 11**

**Figure 12**

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SINGLE SLIDE DOOR (Left Shown)

BI-PARTING DOOR

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Door Opening

14 1/2" on 3 1/2" Door
16" on 5" Door

13 1/2" on 3 1/2" Door
15" on 5" Door

14 1/2" on 3 1/2" Door
16" on 5" Door

14 1/2" on 3 1/2" Door
16" on 5" Door

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Door Snubber Wedge

Leading Edge Stay Roller

Door Snubber Flat

Trailing Edge Stay Roller

Door Snubber Wedge

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Stay Roller Assembly

Concrete Wedge 3/8" x 2 3/4"
Installation
Single and Bi-Parting Electric Sliding Doors

Door Gasket Adjustment

1. With the door in the closed position, the gasket should be compressed 1/8". Check the gasket at the four corners of the door for proper compression. See Figure 13.

   **CAUTION:** Do not adjust the door so tight that it becomes hard to open. If electric doors are adjusted too tight, the motor drive will fault while opening the door.

2. To adjust the gasket compression at the top of the door, loosen the top Jam Nut and push the door in until the gasket is properly compressed. Lock the door in place by tightening the top Jam Nut. See Figure 14.

3. To adjust the gasket compression along the side frames, loosen the Lock Nut securing the UHMW Stay Roller to the Floor Bracket. Move the Stay Roller in the slotted hole until proper gasket compression is achieved. Tighten the Lock Nut to secure the Roller in position. On a Single Slide door, adjust the trailing edge first, then the leading edge. See Figure 15.

4. After the door has been hung and the gaskets have been adjusted for compression, go inside the room, close the door, and check all four sides for proper seal. Make sure no daylight is coming through. Check the center if you have a bi-parting door.
Connect the Door Cables

The Signal Cable(s) (thin cable) and the thicker Heater Cable (if equipped) are attached to the Control Panel and Door Header when shipped.

Door Signal Cable(s)

**CAUTION:** The cables are mated. Do not force the cable plugs into the receptacles. Align the plug with the receptacle and insert the plug until it bottoms — twist the locking ring clockwise, by hand, until it locks.

**Single Sliding Doors only.** Connect the 8-pin Signal Cable (thin cable) to the corresponding receptacle on the Door Leaf Junction Box. **See Figure 16.**

**Bi-Parting Doors only.** Connect the 8-pin Signal Cable (thin cable) twist plug to the corresponding receptacle on the Door Master Leaf Junction Box. In a similar fashion as above, connect the 4-pin Signal Cable (thin cable) to the Junction Box on the Door Slave Leaf. **See Figure 16.**

Door Heater Cable(s)

Freezer doors are equipped with a Door Heater Module mounted on the Door Header. Bi-Parting doors have a Door Heater Module mounted on each end of the Door Header. **See Figure 16.**

1. Switch off the power to the Door Heater Module(s).
2. Connect the 3-pin Door Heater Cable(s) (thick cable already connected to the Door Heater Module), to the corresponding receptacle(s) on the Door Leaf Junction Box(es). **See Figure 16.**

Verify the Door Cable Installation

1. Verify after connection that the Door Signal and Door Heater cables have enough slack to move freely and not get stretched tight when the door operates.

   In the open position, the cable loop from the Door Heater Module(s) on the Header to the Door Leaf Junction Box should extend approximately half way down the door. **See Figure 17.**

2. Verify that each cable is firmly attached to the end of the Door Track with a zip tie. **See Figure 17.**
Connect the Drive Release

1. Align the threaded holes in Drive Release Tube and the holes in the Cable Bracket with the pre-drilled holes in the Door Hanger channel. Fasten both securely to the channel with the cap-screws and lockwashers supplied. See Figure 18.

2. Feed the Drive Release Cable through the tube in the Cable Bracket. Strip 2” of the covering from the cable; then, slide the cable through the hole in the Release Latch and into the Cable Clamp.

3. The cable should be stretched tight from the Door Release Handle to the Release Latch. The Latch should be at “rest” on the Drive Release Tube and the Door Release should be in the “latched” position. Tighten the setscrew in the Cable Clamp.

4. For bi-parting doors, the Slave Leaf is bolted directly to the chain. Slide the Door Bracket into alignment with the Chain Bracket and fasten with the capscrews provided. See Figure 19.

NOTE: If door is later adjusted for gasket compression at the floor, the Drive Release Cable and Cable Clamp may need to be readjusted.

Drive Chain Adjustment

The Drive Chain is pre-adjusted at the factory. If adjustment becomes necessary, at the time of installation or later, it can be accomplished at the Drive Release without disconnecting the Chain. See Figure 20.

1. Pull the Drive Release Cable to release the Door from the Drive Chain.

2. Manually slide the door to disengage the Drive Chain Bullet from the Drive Release Tube.

3. Loosen the Lock Nuts on both Threaded Rods.

4. Turn the Drive Chain Bullet clockwise to tighten the Chain. When making a large adjustment, it may be necessary to remove a link from the Chain. This can be done at a Threaded Rod Master Link.

5. When the Drive Chain is properly adjusted, slide the door back to reconnect it to the Chain. The Drive Chain Bullet will automatically engage the Release Latch when the Drive Release Tube and the Bullet align. Move the door sideways until the door catches and free movement stops.
Install the Door Wiring

NOTE: Per NEC 300-7, all raceways passing from different temperatures shall be sealed with putty or other method to stop the travel of moisture.

Main Power to the Door

The main power connects to the circuit breaker located inside the Control Panel, on the left side.

1. Install conduit and wire from the breaker panel to the left side of the control panel. See Figure 21.

2. Connect ground wire to the ground terminal.

3. On 3-phase systems, connect each phase to breaker poles 1, 3, and 5. On single phase systems, connect each Phase to breaker poles #1 and #3 (breaker pole #5 is not used). See Figure 21.

NOTE: Power supply wiring to the operator must comply with NEC and all local electrical codes. We recommend using a surge protector.

Door Control Signals

Door control signal wiring is done at the terminal blocks located inside the Control Panel, on the right side. See Figure 21. There are many signals used to control the door Operator. The most common are pull cord switches or stations, three button stations (i.e. open, close, stop) and radio control. All three may be used separately, in combination, or all together. The control circuit is 24 VDC. Consult local electrical codes before proceeding with permanent installation.

Pull Cord Installation

Locate the Switches

1. Do not mount the pull cord switch in the air flow of the coils. Air flow will move the cord and activate the switch. If the pull cord switch must be mounted in front of the coils, provide an air baffle (by others) to prevent icing of the switch. The air baffle must be of adequate size to protect the pull cord itself, but not obstruct function of the coils. Consult the cold storage contractor. See Figure 22.

2. Mount the pull cord switch to the wall or ceiling using the switch mounting holes or the mounting plate provided. Locate the switches at least 24” from the conduit penetration through the ceiling or wall. See Figure 23.

WARNING: Drilling of the pull cord switch will void any and all Warranties of the complete door.

Installation Tip: Once power is connected, the door can be operated using the Test button. Provide temporary power to the door prior to the arrival of the installer. This will allow the installer to complete the door installation and adjustments prior to an electrician performing the permanent wiring, thus saving the installer a return trip.
Pull Cord Installation (Continued)

3. Locate the pull cord switch away from the door and out of the way of lift trucks and loads. It is most common to locate one pull cord at the interior and one at the exterior of the door opening.

4. Fasten the switch securely to the wall or ceiling and attach the pull cord to the switch arm. Allow the pull cord to hang straight; do not use guide rings or screw eyes to reposition the cord. Such items can hinder operation of the cord or switch.

Pull Cord Wiring

5. Install conduit and wire (according to code) from the pull switch through the external wiring port of the Control Panel. See Figures 24 and 25.

6. Remove the covers from the pull cord switches.

7. Connect the wires of one of the pull cord switches to terminal blocks #5 and #9. See Figure 21.

8. Connect the wires of the other pull cord switch in parallel with the first one (shown) or to terminal blocks #6 and #10. Replace the Switch covers.

9. Seal the interior and exterior of conduit at all cooler penetrations. Seal the conduit at its attachment to the pull cord switch. Use watertight fittings.

Other Input/Output Signals

Input devices other than a pull cord switch or single-button stations can be used to control the door. These devices include:

- Three-button stations
- Open and close switches
- Tap switches
- Magnetic loops
- Optical sensors
- Motion sensors
- Interlock signal
- Emergency stop

Output signals are:

- Interlock OUT
- Alarm

Connect Input/Output wires in a manner similar to the pull cord wires (above). Refer to the Terminal Blocks section of the R-Plus Doors ICC-5 Operator Quick Reference manual and to the Input/Output Guidelines sheets to know where and how to connect these devices. See Figure 21.

Installation Tip: Just as the pull cord switches must be protected from air currents, the Operator may require the same protection. Standard Operators are designed to be operated in above freezing environments. These Operators must be protected from cold air currents such as those from refrigeration coils. A low temperature Operator is available for below freezing environments.
Door Travel Adjustment

When shipped from the factory, the Door is preset with temporary Door Travel limits. Open the Door to check the limits and adjust as necessary. The Test pushbutton, on the side of the Control Panel, functions in the same manner as a Pull Cord switch. Use it to control the Door until the travel limits are verified or adjusted. See Figure 26.

1. Door travel limits are adjusted by sliding the Open and Close Sensor Brackets. One is located near the motor, the other near the idler sprocket (double idler sprocket on bi-parting doors). Lights on the Control Panel show sensor activation as the Magnet Slide passes a Sensor Bracket. If adjustment is necessary, proceed as follows: See Figure 27.

Adjust the Door Open travel limit (for Single and Bi-Parting Doors)

The stop locations (travel limits) will shift in the opposite direction the Sensor Bracket is moved. When properly adjusted, the leading edge of the door, in the Open position, is flush with the room opening.

1. With the Door in the full Open position, measure the distance the Door must move to reach the desired Open stop location. See Figure 28.

2. Loosen the Sensor Bracket and slide it the same distance, and the opposite direction, as the desired new Open position. See Figure 29.

3. Operate the Door through a complete Open/Close cycle to test the new Open stop location. Tighten the Sensor Bracket in place.
Adjust the Door Close travel limit
The Door Close Sensor Bracket on Single Sliding Doors is not used in the same fashion as it is used on Bi-Parting Doors. The procedure is different. Refer to the following section appropriate to your door type.

Single Doors
With the Door Open travel limit set, proceed in a similar manner to set the Door Close travel limit. In the closed position, a single door should be centered on the Side Frames with equal distance from the Door edge to the edge of the Side Frame. This will allow the Door to overlap the Side Frame Gasket equally. See Figure 30.

The stop locations (travel limits) will shift in the opposite direction the Sensor Bracket is moved.

1. With the Door in the full Closed position, measure the distance the Door must move to reach the desired Closed stop location. See Figure 29.
2. Loosen the Sensor Bracket and slide it the same distance, and the opposite direction, as the desired new Closed position.
3. Operate the Door through a complete Open/Close cycle to test the new Closed stop location. Tighten the Sensor Bracket in place.

Bi-Parting Doors

<table>
<thead>
<tr>
<th>Door closing sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Door starts slowing as it passes the Close Decel Sensor. See Figure 31.</td>
</tr>
<tr>
<td>• Door safety edge gets disabled. This happens just before the leading edges come into contact (or door movement will reverse) in order to limit exposure to pinch risk.</td>
</tr>
<tr>
<td>• After the travel speed slows, door leaves contact and stop moving. This happens before the Stop Sensor is reached so gasket pressure, between the leaves, will be maintained. (In normal bi-parting door operation, the Stop Sensor is being used for emergency stop only.)</td>
</tr>
<tr>
<td>• The Operator stops driving the door, but applies continuous pressure (at reduced power) for a positive gasket seal. A slight motor hum may be heard.</td>
</tr>
</tbody>
</table>
**Bi-Parting Doors** (Continued)

With the Door Open travel limit set, proceed in a similar manner to set the Door Close travel limit. A properly adjusted bi-parting door, in the closed position, will have 1/8" compression at the center gaskets. See Figure 32.

The stop locations (travel limits) will shift in the opposite direction the Sensor Bracket is moved.

1. Move the Sensor Bracket fully away from the motor. Close the Door. The Door will stop prior to contact of the leading edge gaskets. Measure the distance between the Door Hanger Channels. See Figure 33.

2. Loosen the Sensor Bracket and slide it toward the motor by one-half the distance, plus 1/2".

3. Operate the Door through a complete Open/Close cycle to test the new closing sequence.
   - Check the Control Panel; if the Close Stop Sensor red light is ON, the Stop Sensor has been reached and the Door has stopped too soon. Move the Sensor Bracket toward the motor and re-test. See Figure 34.
   - If the Door closes, then reverses immediately, the Sensor Bracket is too close to the Close location and the Safety Edge was still enabled when the Door leaves came into contact. Move the Sensor Bracket slightly away from the motor and re-test.

4. Once satisfied with the closing sequence and adjustment, verify the proper gasket compression and tighten the Sensor Bracket.
Test the Door travel limits
When both door travel limits have been set, open and close the door to test the operation.
1. Test run the door by using the Pull Cord, Remote Control, or Test pushbutton.
2. Note the position the door stops in both directions, and readjust the travel limits as necessary.

NOTE: If the door starts to close then stops and opens immediately, or closes fully and reopens immediately, the Door Safety Edge may be set too sensitive and must be adjusted.

Adjust the Door Safety Edge
Locate the Door Leaf Junction Box. Remove the junction box cover plate. Optimum sensitivity can be achieved using a simple two step process. See Figure 35.
1. With the power on and the Door open, insert a small screwdriver in the hole marked +/–. Turn the screw clockwise (toward the −) to increase sensitivity. Turn the screw counterclockwise (toward the +) to decrease sensitivity.

WARNING: Turn the screw 1/8 turn at a time and test the door (see below). Do not turn too far — the Air Switch can be damaged.

2. Test the sensitivity. Start the Door closing with the Pull Cord or Test pushbutton. Touch the Safety Edge with a tool to reverse the Door and verify the proper sensitivity. See Figure 36.

Test the Door travel limits and adjust as necessary.

CAUTION: The Door Safety Edge is disabled when the bi-parting doors reach the close stop location.
Door Auto-Close Function

The door is equipped with an Auto-Close function. When enabled, the auto-close timer starts when the door stops moving. When it reaches the end of a preset auto-close delay, the door closes automatically.

If equipped with the optional siren and/or strobe light alarm system, the alarm will activate 3 seconds prior to the start of the auto-close cycle. The alarm is always active when the door is closing. See Figure 37.

Two distinct auto-close functions are available:

- Auto-Close when the door is fully open.
- Auto-Close when the door is partially open.

By default, the Auto-Close functions are disabled.

To enable the Auto-Close function, press Right Arrow (P3) on the Rocker button until the desired menu is selected. Use Arrow Down (P4) to select a time between 10 and 60 seconds. See below.

To disable the Auto-Close function, press the Right Arrow (P3) on the Rocker button until the desired menu is selected. Use Arrow Down (P4) to select a time less than 10 seconds. See below.

**CAUTION:** The Door will close when the time has elapsed. Do not block the Door.

To adjust the time delay:

1. Using the Rocker button, press Right Arrow (P3) until the desired menu is selected (FULL OPEN or PARTIAL OPEN). See Figures 38 and 39.
2. Press Arrow Down (P4) to select a value between 10 to 60 seconds. A single press will add 1 second. Press and hold to add time rapidly. At 60 seconds the counter will start again at zero.
3. When done, and if desired, press Right Arrow (P3) several times to return to the default screen. The menu system will automatically return to the default screen two minutes after having moved away from it.

Door Cycle Counter

To see the number of cycles the operator has performed, press Right Arrow (P3) until the TOTAL CYCLES screen is displayed. The first row of numbers (H) indicates 10,000s. The second row (L) indicates ones. In the example shown, the total count is 20,234. See Figure 40.
PERIODIC MAINTENANCE

Lubrication
Perform the following tasks on a regular basis. The frequency will be determined by the operating conditions at the installation site. In no case should the frequency be greater than 5000 cycles.

1. Track Rollers – Grease axles as needed with food grade machinery grease type NLGI #2 (Mobilgrease FM102 or the equivalent).
2. Idler Sprocket – Grease as needed with food grade machinery grease NLGI #2 (Mobilgrease FM102).
3. Drive Chain – Lightly oil chain as needed with a suitable chain oil. Also check for proper tension.
4. Drive Chain Bullet Assembly – Silicone spray the pivot on the Release Latch and the internal tube for the Cable in the Cable Bracket. See Figures 18 and 20.
5. Drive Release Handle – Lightly spray pivot inside J-Box with silicone. Check release handle for free play.

Gaskets
1. Inspect the Bottom Neoprene Sweep Gasket for proper light-tight seal. Adjust or replace as needed.
2. Inspect the Sliding Door Gasket for proper 1/8” compression and light-tight seal. See Figure 13.

Track Rollers
1. Check for undue wear and proper alignment, tighten or replace as needed.
2. Inspect track(s) for ice and debris. Clean track(s) thoroughly.

Track Header, Gasket Header, and Side Frames
1. Check for loose Headers, Frames, and mounting screws. Tighten, replace or add screws as needed.
2. Inspect and tighten the chain as needed. This may require removing a chain link.
3. Check for ice formation. Remove ice and adjust gaskets as needed. Verify door heaters are working properly.

Door Safety Edge
1. Check periodically for proper operation. Repair or replace as needed.

CAUTION: Some troubleshooting procedures require testing inside the control box. This should be performed by a qualified service technician only. Testing should be limited to checking circuit breakers and inspecting PLC display. Tampering with other wiring or components in the control box will void your warranty.

Maintenance Counter
When the Door has completed 5000 cycles, the message “TIME FOR MAINTENANCE” will appear on the PLC screen. Perform the above inspections and lubrications, then reset the Counter.

1. To reset the Counter, with the TIME FOR MAINTENANCE message displayed on the screen, press and hold Arrow Up (P2) for 4 seconds. The counter will reset and the message will erase.
   See Figure 41.

The maintenance counter can be accessed any time to check the number of cycles accrued. Press Right Arrow (P3) several times until the CYCLES SINCE MAINTENANCE screen is displayed. See Figure 42.
**WARRANTY**

**Imperial Manufacturing Ice Cold Coolers, Inc.** warrants to the original purchaser of its products that the foamed-in-place urethane panels purchased from Imperial Manufacturing Ice Cold Coolers, Inc. are free from defects in material and workmanship for a period of five (5) years and a one (1) year warranty on all other parts from the date of original shipment under normal use and service. This warranty is limited to replacement (FOB Imperial) of malfunctioning parts and does not include damage resulting from accident or malicious misuse.

**Exclusive Warranty - No Implied Warranties**
This written and expressed warranty is the only warranty provided by Imperial Manufacturing Ice Cold Coolers, Inc. on the products they sell.

All warranties, which might otherwise be implied in this contract, are hereby excluded from this contract. This includes excluding the implied warrant of merchantability and fitness for a particular purpose. There are no warranties, which extend beyond the description of the warranties on the face hereof.

**Exclusive Remedies**
The buyer’s exclusive remedy under this warranty or for the breach of this warranty shall be the repair or the replacement of the defective part by Imperial Manufacturing Ice Cold Coolers, Inc. Imperial Manufacturing Ice Cold Coolers, Inc. shall repair, or at its option replace, F.O.B. the factory, any part of the product which their examination shall disclose, to their satisfaction, to be defective.

No other remedy, including rejection of goods, revocation of acceptance, nor consequential damages for personal or property damage, nor incidental damages shall be allowed to the buyer of this product.

**Hardware, Electrical Components and Accessories**
All hardware, electrical components and accessories are warranted to be free of defects in materials and workmanship under normal use and service for one (1) year from the date of original shipment.

**Voidability of Warranty**
This warranty is void and of no force or effect, and the buyer shall have no expressed or implied warranties against defects, nor remedies for defects, if any of the following events occur:

- The door(s) are not installed within 120 days of original shipment
- The door(s) are not installed by a factory authorized installer
- The door(s) have been subjected to improper installation, misuse, abuse, neglect, alteration, accident, fire, flood, earthquake or other natural disasters.

This warranty does not include food or product loss, labor or transportation charges for replacement or repair of defective parts. This warranty is nontransferable. The original purchaser is the firm or individual to whom Imperial Manufacturing Ice Cold Coolers, Inc. originally sold this product.

*R-Plus doors are designed to operate within the following temperature ranges:

- Interior Freezer: -10 degrees F. to 32 degrees F.
- Interior Cooler: 33 degrees F. to 100 degrees F.
- Exterior Ambient Temperature: 65 deg F. to 80 deg F.

WE MUST BE NOTIFIED UPON PLACEMENT OF THE ORDER IF OPERATING TEMPERATURES ARE OUTSIDE THE ABOVE NORMAL DESIGN TEMPERATURES TO PROPERLY DESIGN THE PRODUCT OR THE WARRANTY MAY BE VOIDED.
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Electrical Specifications

Control Panel
Control Panels are available in a variety of voltages and phases. The table below indicates current draw and service required for each one of them.

<table>
<thead>
<tr>
<th>Voltage</th>
<th>208V</th>
<th>230V</th>
<th>460V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phases</td>
<td>1 Ø</td>
<td>3 Ø</td>
<td>1 Ø</td>
</tr>
<tr>
<td></td>
<td>208V</td>
<td>230V</td>
<td>460V</td>
</tr>
<tr>
<td>Minimum Circuit Amps (MCA)</td>
<td>7.5A</td>
<td>6A</td>
<td>7.5A</td>
</tr>
<tr>
<td>Service</td>
<td>15A</td>
<td>15A</td>
<td>15A</td>
</tr>
<tr>
<td></td>
<td>15A</td>
<td>15A</td>
<td>15A</td>
</tr>
</tbody>
</table>

Heater Module
Doors equipped with heat cables include a minimum of (1) Heater Module. Current drawn by each Heater Module varies depending on heat cable size, but will not exceed 6A.

<table>
<thead>
<tr>
<th>Voltage</th>
<th>110V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Draw</td>
<td>6A</td>
</tr>
<tr>
<td>Service</td>
<td>15A</td>
</tr>
</tbody>
</table>

External Devices
External devices like traffic sensors, radio control receivers or alarms may be powered using the 24VDC power provided by the ICC-5 Control Panel. Maximum current available for external devices is 1.25A.
# Terminal Blocks

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Master leaf STOP IN</td>
<td>Factory use only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jump 1 &amp; 2 to bypass Master leaf STOP loop</td>
</tr>
<tr>
<td>2</td>
<td>Master leaf STOP OUT</td>
<td>Factory use only</td>
</tr>
<tr>
<td></td>
<td>Slave leaf STOP IN</td>
<td>Jump 2 &amp; 3 to bypass Slave leaf STOP loop</td>
</tr>
<tr>
<td>3</td>
<td>Slave leaf STOP OUT</td>
<td>Factory use only</td>
</tr>
<tr>
<td></td>
<td>Field STOP IN</td>
<td>Jump 3 &amp; 4 to bypass field installed STOP signal loop (required if loop does not exist)</td>
</tr>
<tr>
<td>4</td>
<td>Field STOP OUT</td>
<td>Always +24Vdc OUT</td>
</tr>
<tr>
<td>5</td>
<td>Pull switch #1</td>
<td>Input, N/O, +24Vdc to activate</td>
</tr>
<tr>
<td>6</td>
<td>Pull switch #2</td>
<td>Input, N/O, +24Vdc to activate</td>
</tr>
<tr>
<td>7</td>
<td>Open switch</td>
<td>Input, N/O, +24Vdc to activate</td>
</tr>
<tr>
<td>8</td>
<td>Close switch</td>
<td>Input, N/O, +24Vdc to activate</td>
</tr>
<tr>
<td>9</td>
<td>+24VDC</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>+24VDC</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>+24VDC</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>+24VDC</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>+24VDC</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>+24VDC</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Door Enabled</td>
<td>Input, N/O, +24Vdc to activate</td>
</tr>
<tr>
<td>16</td>
<td>Interlink IN</td>
<td>Input, N/O, +24Vdc to activate – Connect to Interlink OUT signal from (1) other door</td>
</tr>
<tr>
<td>17</td>
<td>Interlink OUT</td>
<td>Output, N/O, +24Vdc when activated – Connect to Interlink IN signal or (1) other door</td>
</tr>
<tr>
<td>18</td>
<td>Alarm</td>
<td>Output, N/O, +24Vdc when activated – Connect to external alarm</td>
</tr>
<tr>
<td>19</td>
<td>-24VDC</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>-24VDC</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>-24VDC</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Door Edge</td>
<td>Input, N/O, +24Vdc to activate</td>
</tr>
<tr>
<td>23</td>
<td>Traffic</td>
<td>Input, N/O, +24Vdc to activate</td>
</tr>
<tr>
<td>24</td>
<td>Spare</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>OPEN STOP light</td>
<td>Factory use only</td>
</tr>
<tr>
<td>26</td>
<td>OPEN DECEL light</td>
<td>Factory use only</td>
</tr>
<tr>
<td>27</td>
<td>CLOSE DECEL light</td>
<td>Factory use only</td>
</tr>
<tr>
<td>28</td>
<td>CLOSE STOP light</td>
<td>Factory use only</td>
</tr>
</tbody>
</table>
Door Settings

Use the Programmable Logic Computer (PLC) “P” buttons to adjust door settings (see PLC Inputs, Outputs and Buttons Layout section). Press the P3 (▼) button to scroll through each menu. Follow on-screen instructions to change settings.

<table>
<thead>
<tr>
<th>Menu</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>...4.6......</strong></td>
<td>This is the default screen. Top line shows input numbers that are ON. Bottom line shows output numbers that are ON.</td>
</tr>
<tr>
<td><strong>RE I P</strong></td>
<td><strong>SU 17 12</strong></td>
</tr>
<tr>
<td><strong>R-PLUS DOORS</strong></td>
<td><strong>800-238-4093</strong></td>
</tr>
<tr>
<td><strong>PARTIAL OPEN CLOSE DELAY</strong></td>
<td>00000s</td>
</tr>
<tr>
<td><strong>FULL OPEN CLOSE DELAY</strong></td>
<td>00000s</td>
</tr>
<tr>
<td><strong>PED. CYCLE LENGTH</strong></td>
<td>000000ms</td>
</tr>
<tr>
<td><strong>TRAILING SAFETY EDGE</strong></td>
<td><strong>DISABLED</strong></td>
</tr>
<tr>
<td><strong>CYCLES SINCE MAINTENANCE</strong></td>
<td>XXXXX</td>
</tr>
<tr>
<td><strong>TOTAL CYCLES</strong></td>
<td>H: XXXXX</td>
</tr>
</tbody>
</table>

Error Messages

<table>
<thead>
<tr>
<th>ERROR / MAINTENANCE MESSAGES</th>
<th>Menu</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TIME FOR MAINTENANCE</strong></td>
<td>=&gt;Hold ▲ to reset msg</td>
<td></td>
</tr>
<tr>
<td><strong>DOOR EDGE ERROR</strong></td>
<td>=&gt;Adjust air switch</td>
<td></td>
</tr>
</tbody>
</table>

Indicates the program operating mode (SINGLE or BIPART) and the version number. If the wrong program operating mode is displayed, please contact R-Plus Customer Service department.

Adjustable from 0s to 60s. If value is less than 5s, then function is disabled. Door will close by itself after indicated amount of seconds, when partially opened. Press P4 (▼) to change a value. Value will go up to 60s and roll back to 0s.

Adjustable from 0s to 60s. If value is less than 5s, then function is disabled. Door will close by itself after indicated amount of seconds, when fully opened. Press P4 (▼) to change a value. Value will go up to 60s and roll back to 0s.

Adjustable from 0s to 3000ms in 10ms increments. If value is less than 500ms, then pedestrian cycle* is disabled. Press P4 (▼) to change a value. Value will go up to 3000ms and roll back to 0ms. When pressing the OPEN button briefly with pedestrian cycle enabled, the door opens for the indicated amount of milliseconds. When pressing the OPEN button for more than half a second, or if the pedestrian cycle is disabled, the door opens fully.

Indicates whether the door is equipped with a trailing safety edge or not. Select ENABLED only if door leaf is equipped with a trailing edge. Press P4 (▼) to change a value.

Indicates the amount of cycles performed since last maintenance. Maintenance is due every 5000 cycles on standard doors.

Indicates the amount of cycles performed since operator was programmed. "L" is the low portion of the cycle counts (0-9999) and H is the high portion of the cycle count. L counter carries over into H counter. Total amount of cycles = H x 10000 + L

Indicates the program operating mode (SINGLE or BIPART) and the version number. If the wrong program operating mode is displayed, please contact R-Plus Customer Service department.

Adjustable from 0s to 60s. If value is less than 5s, then function is disabled. Door will close by itself after indicated amount of seconds, when partially opened. Press P4 (▼) to change a value. Value will go up to 60s and roll back to 0s.

Adjustable from 0s to 60s. If value is less than 5s, then function is disabled. Door will close by itself after indicated amount of seconds, when fully opened. Press P4 (▼) to change a value. Value will go up to 60s and roll back to 0s.

*When pressing the OPEN button briefly with pedestrian cycle enabled, the door opens for the indicated amount of milliseconds. When pressing the OPEN button for more than half a second, or if the pedestrian cycle is disabled, the door opens fully.

Indicates whether the door is equipped with a trailing safety edge or not. Select ENABLED only if door leaf is equipped with a trailing edge. Press P4 (▼) to change a value.

Indicates the amount of cycles performed since last maintenance. Maintenance is due every 5000 cycles on standard doors.

Indicates the amount of cycles performed since operator was programmed. "L" is the low portion of the cycle counts (0-9999) and H is the high portion of the cycle count. L counter carries over into H counter. Total amount of cycles = H x 10000 + L
PLC Inputs, Outputs and Buttons Layout

The Programmable Logic Computer buttons serve the following functions:

- **P1 (Left):** Not used.
- **P2 (Top):** Used to reset “Time for Maintenance” message.
- **P3 (Right):** Used to scroll through the door Settings menus.
- **P4 (Bottom):** Used to change settings values.
## PLC Inputs

<table>
<thead>
<tr>
<th>Input</th>
<th>Function</th>
<th>NO / NC(^{(1)})</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I1</td>
<td>Pull Cord</td>
<td>NO</td>
<td>Pull-cord switch connects here. Raising edge of signal successively issues Open, Stop &amp; Close commands.</td>
</tr>
<tr>
<td>I2</td>
<td>Open</td>
<td>NO</td>
<td>The Open button connect here. The Open button is typically part of a 3-button station, that comes as an option. Press the Open button briefly to open door. If Pedestrian Cycle Length is set to 500ms or more, then door will stop after opening for this amount of time. In this case, press the Open button for more than ½ s and the door will open fully.</td>
</tr>
<tr>
<td>I3</td>
<td>Close</td>
<td>NO</td>
<td>The Close button is typically part of the 3-button station, that comes as an option. Press the Close button to close the door.</td>
</tr>
<tr>
<td>I4</td>
<td>Stop</td>
<td>NC</td>
<td>The Stop button is typically part of the 3-button station, that comes as an option. Press the Stop button to stop the door. NOTE: If contact is not made, door will not operate. Door lock hasp may be connected to this input, as well as any other contacts designed to disable the door. These contacts are &quot;normally close&quot; contacts and connect in series.</td>
</tr>
<tr>
<td>I5</td>
<td>Door Edge</td>
<td>NO</td>
<td>The door leading safety edge air switch connects here. The air switch issues a contact pulse when safety edge is being hit. Contacts does not hold, even if door edge remains pressed. Door may be equipped with an optional trailing safety edge. It connects in parallel with the leading safety edge. Trailing safety edge will not operate properly unless it is enabled as shown in Door Settings.</td>
</tr>
<tr>
<td>I6</td>
<td>Door Enabled</td>
<td>NC</td>
<td>This input must be ON or door will not operate. Bullet sensor connects here if door is equipped with one. Optional Door Lock contact may be connected here.</td>
</tr>
<tr>
<td>I7</td>
<td>Open Decel</td>
<td>NO</td>
<td>Magnetic sensor on track. Tells the door to slow down when it is opening and it enters the slow down zone.</td>
</tr>
<tr>
<td>I8</td>
<td>Open Stop</td>
<td>NO</td>
<td>Magnetic sensor on track. Tells the door to stop immediately.</td>
</tr>
<tr>
<td>I9</td>
<td>Close Decel</td>
<td>NO</td>
<td>Magnetic sensor on track. Tells the door to slow down when it is closing and it enters the slow down zone.</td>
</tr>
<tr>
<td>I10</td>
<td>Close Stop</td>
<td>NO</td>
<td>Magnetic sensor on track. Tells the door to stop immediately. Not used in bi-parting doors under normal operation (emergency stop only).</td>
</tr>
<tr>
<td>I11</td>
<td>Traffic</td>
<td>NO</td>
<td>Connect photo-eyes, infrared sensors, card readers, etc. to this input. When input is ON, door opens fully. Door cannot close until input is OFF. Traffic signal overwrites Pedestrian cycles. Pressing on Close or Stop button while Traffic signal is ON will stop the door until both buttons are released. If door trailing edge is enabled and the door trailing edge hits an obstacle, then door movement reverses briefly and then stops. Door cannot close until Traffic signal is OFF. Select a Traffic sensor that outputs a continuous signal for as long as traffic is detecting.</td>
</tr>
<tr>
<td>I12</td>
<td>Interlink IN</td>
<td>NO</td>
<td>Connect Interlink OUT signal from another door serving the same room here. If input is ON, door will not acknowledge OPEN requests. Door will close normally. Activating the leading safety edge while door is closing will still reverse the door movement. To link more than 2 doors together, external relays (by others) must be used.</td>
</tr>
</tbody>
</table>

\(^{(1)}\)Normally Open / Normally Close contact
PLC Outputs

<table>
<thead>
<tr>
<th>Output</th>
<th>Function</th>
<th>NO / NC(1)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>Drive Open</td>
<td>NO</td>
<td>See Drive Commands table.</td>
</tr>
<tr>
<td>Q2</td>
<td>Drive Close</td>
<td>NO</td>
<td>See Drive Commands table.</td>
</tr>
<tr>
<td>Q3</td>
<td>Drive Speed 1</td>
<td>NO</td>
<td>See Drive Commands table.</td>
</tr>
<tr>
<td>Q4</td>
<td>Drive Speed 2</td>
<td>NO</td>
<td>See Drive Commands table.</td>
</tr>
<tr>
<td>Q5</td>
<td>Interlink OUT</td>
<td>NO</td>
<td>Connect Interlink IN signal from another door serving the same room here. Output will be ON whenever the door is opened.</td>
</tr>
<tr>
<td>Q6</td>
<td>Alarm</td>
<td>NO</td>
<td>Output is ON whenever the door is closing, and in ON in the 3s period preceding an Auto-Close command.</td>
</tr>
</tbody>
</table>

(1) Normally Open / Normally Close contact

Drive Commands

<table>
<thead>
<tr>
<th>Q1 Drive Open</th>
<th>Q2 Drive Close</th>
<th>Q3 Speed 1</th>
<th>Q4 Speed 2</th>
<th>Drive Display</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>--</td>
<td>Door not moving</td>
</tr>
<tr>
<td>O</td>
<td>●</td>
<td>O</td>
<td>O</td>
<td>20</td>
<td>Door closing slow</td>
</tr>
<tr>
<td>O</td>
<td>●</td>
<td>●</td>
<td>O</td>
<td>--</td>
<td>N/A</td>
</tr>
<tr>
<td>O</td>
<td>●</td>
<td>●</td>
<td>O</td>
<td>78</td>
<td>Door closing at normal speed</td>
</tr>
<tr>
<td>O</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>5</td>
<td>Holding pressure on bi-part door leaves</td>
</tr>
<tr>
<td>●</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>20</td>
<td>Door opening slow (error clearing)</td>
</tr>
<tr>
<td>●</td>
<td>O</td>
<td>O</td>
<td>●</td>
<td>120</td>
<td>Door opening fast</td>
</tr>
<tr>
<td>●</td>
<td>O</td>
<td>●</td>
<td>O</td>
<td>--</td>
<td>N/A</td>
</tr>
<tr>
<td>●</td>
<td>O</td>
<td>●</td>
<td>●</td>
<td>--</td>
<td>N/A</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>O</td>
<td>--</td>
<td>N/A</td>
</tr>
</tbody>
</table>

O: OFF - ●: ON - ®: Status does not matter
### Signal Cable Wire Legend

<table>
<thead>
<tr>
<th>#</th>
<th>Wire Color</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White [WHT]</td>
<td>+24VDC</td>
</tr>
<tr>
<td>2</td>
<td>Brown [BRN]</td>
<td>Safety Edge</td>
</tr>
<tr>
<td>3</td>
<td>Green [GRN]</td>
<td>Stop Loop IN</td>
</tr>
<tr>
<td>4</td>
<td>Yellow [YEL]</td>
<td>Stop Loop OUT</td>
</tr>
<tr>
<td>5*</td>
<td>Gray [GRY]</td>
<td>Pull Cord</td>
</tr>
<tr>
<td>6*</td>
<td>Pink [PNK]</td>
<td>Open</td>
</tr>
<tr>
<td>7*</td>
<td>Blue [BLU]</td>
<td>Close</td>
</tr>
<tr>
<td>8*</td>
<td>Red [RED]</td>
<td>-24VDC</td>
</tr>
</tbody>
</table>

*Master Leaf signal cable only

### Heat Cable Wire Legend

<table>
<thead>
<tr>
<th>#</th>
<th>Wire Color</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Black [BLK]</td>
<td>110VAC Phase</td>
</tr>
<tr>
<td>2</td>
<td>White [WHI]</td>
<td>110VAC Neutral</td>
</tr>
<tr>
<td>3</td>
<td>Green [GRN]</td>
<td>Ground</td>
</tr>
</tbody>
</table>

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## Device Description / Usage

**Pull Cord Switch**

- The pull cord switch is the standard ICC-5 door actuator. Pull cords hang in the way of traffic, one on each side of the door. Pedestrians or forklift operators can pull on it to operate the door.
- Successive pulls on the cord cycle door operation between opening, stopping and closing.
  
  **Note:** The pull cord signal is acknowledged when the cord is released.

**Push-To-Operate switch**

- The push-to-operate switch is a $2x4$, $4x4$ tap switch or any other push button type switch. It can be located in either side or both sides of the door leaf. It can also be field installed in any other places.
- It operates the door like the pull cord switch does.
  
  **Note:** The push-to-operate switch is generally used in conjunction with the Auto-Close function. The door is opened by using the switch and the door closes automatically after a preset amount of time.

**Push-To-Open switch**

- The push-to-open switch is a $2x4$, $4x4$ tap switch or any other push button type switch. It can be located in either side or both sides of the door leaf. It can also be field installed in any other places.
- When actuated, the door opens.
  
  **Note:** The push-to-open switch connects to Terminal Block (TB) #5 and a +24VDC terminal block.

**3-Button Station (open/close/stop)**

- The 3-button station includes an Open, a Close and a Stop button. It can be located in either side or both side of the door leaf. It can also be field installed in any other places.
- The Open button opens the door. The Close button closes the door. The Stop button stops the door.

<table>
<thead>
<tr>
<th>Device</th>
<th>Description / Usage</th>
<th>Device Specification</th>
<th>Connection to the Control Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull Cord Switch</td>
<td>The pull cord switch is the standard ICC-5 door actuator. Pull cords hang in the way of traffic, one on each side of the door. Pedestrians or forklift operators can pull on it to operate the door. Successive pulls on the cord cycle door operation between opening, stopping and closing. <strong>Note:</strong> The pull cord signal is acknowledged when the cord is released.</td>
<td>Momentary switch with normally open contact.</td>
<td>The first pull-cord switch connects to Terminal Block (TB) #5 and a +24VDC terminal block. The second pull-cord switch connects to Terminal Block (TB) #6 a +24VDC terminal block. Other pull cord switches may be connected in parallel.</td>
</tr>
<tr>
<td>Push-To-Operate switch</td>
<td>The push-to-operate switch is a $2x4$, $4x4$ tap switch or any other push button type switch. It can be located in either side or both sides of the door leaf. It can also be field installed in any other places. It operates the door like the pull cord switch does.</td>
<td>Momentary switch with normally open contact.</td>
<td>Push-to-operate switches mounted in the door leaf are pre-wired at the factory. Those mounted in the field connect between TB #5 or TB #6 and a +24VDC terminal block.</td>
</tr>
<tr>
<td>Push-To-Open switch</td>
<td>The push-to-open switch is a $2x4$, $4x4$ tap switch or any other push button type switch. It can be located in either side or both sides of the door leaf. It can also be field installed in any other places. When actuated, the door opens. <strong>Note:</strong> The push-to-open switch is generally used in conjunction with the Auto-Close function. The door is opened by using the switch and the door closes automatically after a preset amount of time.</td>
<td>Momentary switch with normally open contact.</td>
<td>Push-to-open switches mounted in the door leaf are pre-wired at the factory. Those mounted in the field connect between TB #7 and a +24VDC terminal block.</td>
</tr>
<tr>
<td>3-Button Station (open/close/stop)</td>
<td>The 3-button station includes an Open, a Close and a Stop button. It can be located in either side or both side of the door leaf. It can also be field installed in any other places. The Open button opens the door. The Close button closes the door. The Stop button stops the door.</td>
<td>All switches in the 3-button station are momentary push switches. The Open and Close switches must have normally open contact. The Stop switch must have a normally close contact.</td>
<td>3-button stations mounted in the door leaf are pre-wired at the factory. Those mounted in the field must be connected as follow: -Open button connects to TB #7 and a +24VDC terminal block. Other Open switches may be connected in parallel. -Close button connects to TB #8 and a +24VDC terminal block. Other Close switches may be connected in parallel. -Stop button connects to TB #4 and a +24VDC terminal block. If more than one field-installed Stop button is used, then they must be connected in series.</td>
</tr>
</tbody>
</table>
### Stop/Emergency Stop button
- Stop buttons can be basic switches, be part of a 3-button station or be of the Emergency Stop type.
- Stop buttons stop the door immediately. Door will not operate as long as a stop button is actuated (open circuit).
- **Note:** All Stop/Emergency Stop buttons connect in series.
- Switch with a normally close contact.
- Stop button connects to TB #4 and a +24VDC terminal block. If more than one field-installed Stop button is used, then they must be connected in series with one another. Terminal Block jumper locating between TB #3 and TB #4 must be cut off or removed.

### Traffic Sensor
- Traffic sensors detect pedestrian or vehicle presence or motion. When actuated, the door opens. The door will not close as long as a traffic sensor is ON.
- Sensor with normally open contact. Contact must remain close as long as traffic is being detected (no impulse type sensor).
- Traffic sensor connects between TB #23 and a +24VDC terminal block.
- Traffic sensor may use its own power source. If using power from the ICC-5 Control Panel, sensor must be 24 VDC compatible and power input must be connected to the -24VDC and +24VDC terminal blocks.

### Alarm
- The alarm is an audio (siren), visual (flashing light, stroboscopic light) or an audiovisual device. The alarm in ON when the door is closing. When the Auto-Close function is enabled, the alarm turns ON 3 seconds before the door starts closing automatically.
- Alarm must be 24VDC compatible.
- Alarms connects between TB #18 and a +24VDC terminal block.
- Alarm sensor may use its own power source. If using power from the ICC-5 Control Panel, sensor must be 24 VDC compatible and power input must be connected to the -24VDC and +24VDC terminal blocks.

### Notes:
1. +24VDC signal is available at terminal blocks #9 through #14. -24VDC is available at terminal blocks #19 through #21.
2. When the Pedestrian Cycle function is enabled, pressing the OPEN button briefly opens the door for a short distance and pressing the OPEN button for more than half a second opens the door fully.
3. Do not mount the pull cord switch in the air flow of the coils. Air flow will move the cord and activate the switch. If the pull cord switch must be installed in front of the coils, provide an air baffle (by others) to prevent icing of the switch.
4. Per NEC 300-7, all raceways passing from different temperatures shall be sealed with putty or other method to stop the travel of moisture.
1. **DOOR DOES NOT MOVE AT ALL**

1.1. **Control panel white POWER light is OFF**
   a. Control Panel breaker tripped - Try resetting the control panel breaker back ON.
   b. Facility breaker tripped - Try resetting any breaker located ahead of the Control Panel.
   c. Faulty wiring - Check main power wiring to control panel.
   d. Call for service.

1.2. **Control panel white POWER light is ON**
Try pushing the Test pushbutton located on the side of the Control Panel.

1.2.1. **Control Panel Test Button works**
Jump to Section 2 (“Door can move, but is not fully functional”).

1.2.2. **Control Panel Test Button does not work**
   a. Door is disabled - Check the PLC screen. Inputs #4 and #6 must be ON or the door will not operate.
      • STOP buttons and lock hasp switches connect in series to input #4. If this loop is broken, then input 4 is OFF. If a door leaf does not include any STOP button or lock hasp, then a jumper must be installed as necessary on specific terminal blocks #1 through #4. Refer to the *Terminal Blocks* section in the *R-Plus Doors ICC-5 Operator Quick Reference* manual and check that the jumpers are in place. Check for STOP loop continuity. Look for defective switches or wiring.
      • Sensors that are designed to disable door movement may be connected in series to input #6. (Note that active sensors, like a Bullet Sensor, cannot be wired in series with other sensors. Only one active sensor can be connected to input #6.) If the loop is broken, then input #6 is OFF. Check for defective switches, sensors or wiring. If none of these devices/sensors exist, then make sure that a wire jumper is installed between terminal block #15 and a +24 VDC terminal block, like terminal block #14.
   b. Door is stuck – Detach the door leaf from the chain and check that it can move freely.
   c. Bad motor cable connection between the operator and the motor – Check.
   d. Bad motor – Check.
   e. Bad motor drive – Look for any error that may be displayed on the drive (device with red LED display).
   f. Seized sprocket or gearbox – Check. Grease sprockets or replace gearbox if necessary.

2. **DOOR CAN MOVE, BUT IT IS NOT FULLY FUNCTIONAL**

2.1. **Pull Cord does not work**

   **NOTE:** Door activates when pull cord is released.
   a. Pull the pull cord down and check that PLC input #1 turns ON. If it does, then jump back to Section 1 (“Door does not move”). Call for service if Section 1 does not help solve the problem.
   b. Check that the pull cord switch is not stuck in either the OPEN or CLOSED position.
      • If ice has build up in the switch, use a hair dryer or heat gun to melt the ice and seal conduit penetration in the switch. Re-test the switch.
      • If no ice or obstruction can be found in the switch, replace the switch.
   c. Check the wiring between the Control Panel and the Pull Cord switch.
2.2. OPEN button does not work
   a. Check PLC input #12 ("Interlink IN"). If ON, then door opening function is disabled because another door
      serving the same room is opened. Close the other door and try again. If input #12 is still ON when the other
      door is closed, then check Interlink OUT signal from other door, and check wiring and any relay interposed
      between doors Interlink signals.
   b. CLOSE button is stucked ON – Check PLC input #3. If ON, then jump to Section 2.3.
   c. Check wiring between OPEN button and PLC input #2.
   d. Replace OPEN switch.

2.3. CLOSE button does not work
   a. Check PLC input #11 ("Traffic"). If ON, then door closing function is disabled because an object is being
      detected in the door way or in proximity of the door. This signal is generally issued by sensors like magnetic
      loops, photo-eyes or motion sensors. Clear the obstruction and try again. If input #11 remains ON, please
      check sensors and wiring to input #11.
   b. OPEN button is stucked ON – Check PLC input #2. If ON, then jump to Section 2.2.
   c. Check wiring between CLOSE button and PLC input #3.
   d. Replace CLOSE switch.

2.4. STOP button does not work
   a. Check PLC input #4. It should be ON by default. If not, then jump to section 1.2.2.
   b. Press on STOP switch. If input #4 does not turn OFF, replace STOP switch.

2.5. Safety Edge does not work

   NOTE: Single doors are equipped with one single safety edge and air switch. Bi-parting doors are equipped with two safety
   edges and two air switches connected in parallel to PLC input #5. Door leaves equipped with a trailing safety edge
   include two air switches connected in parallel inside the door leaf junction box.

   a. Door safety edge is not sensitive enough. Adjust (see Adjust the Door Edge section in the Single and Bi-
   b. Inspect the vertical and horizontal air hoses against cuts and holes. Replace as necessary.
   c. Check that the vertical air hose is closed tightly at the bottom and that it connects tightly to the horizontal
      hose.
   d. Check signal cable between door leaf junction box and control panel. You may short-circuit the leads of the
      air switch located in the junction box and check that PLC input #5 turns ON.
   e. Test air switch located in door leaf junction box. Replace if defective.

2.6. Trailing Safety Edge does not properly

   NOTE: Door leaves equipped with a trailing safety edge include two air switches connected in parallel inside the door leaf junction box.

   a. Check all steps included in section 2.6.
   b. Make sure that the Trailing Safety Edge function is enabled in the control panel. See Door Settings section

2.7. A sensors, like a magnetic loop, a photo-eye, a motion sensor or a card reader does not work
   a. Check the wiring between the sensor and its corresponding input. Most traffic sensors (magnetic loop,
      photo-eye, motion sensor, etc.) connect to PLC input #11 ("Traffic"). Card readers or other similar sensors
      may connect to Input #2 ("Open") or #1 ("Pull Cord").
   b. Clean sensor, if applicable (photo-eyes may be fogged up or dirty).
c. Adjust sensor, if applicable (motion sensors sensitivity and orientation may need adjustment).
d. Replace sensor.

2.8. Door movement is rough
   a. Chain is loose and it jumps teeth on sprockets. Tighten the chain.
   b. Check for obstruction in door track. Clean track as necessary.
   c. Check for items stuck under the door leaf(ves).
   d. Check the roller wheels and bearing for proper greasing and potential wear.

2.9. Door does not close normally
   2.9.1. Door does not close at all
      a. Door jammed - Verify by manually operating the door.

   2.9.2. Door starts to close, then stops and opens immediately
      a. Door pathway obstructed - Clear the door pathway and try again.
      b. Door safety edge too sensitive - Adjust (see Adjust the Door Edge section in the Single and Bi-Parting Manual/Electric Sliding Doors with Automatic Operator (ICC-5) manual).

   2.9.3. Door does not close fully
      b. On bi-parting doors, check that door leaves are symmetric. Measure the distance between each door hanger and the middle of the track. Relocate slave door leaf as necessary.

   2.9.4. Door closes very slowly
      a. Safety edge air switch stuck in the ON position. PLC will detect this problem and will limit door speed for safety. Check the PLC screen for a "DOOR EDGE ERROR" message. Adjust the air switch. See Adjust the Door Edge section in the Single and Bi-Parting Manual/Electric Sliding Doors with Automatic Operator (ICC-5) manual.

   2.9.5. Door closes fully, and then re-opens at slow speed nearly immediately (bi-parting door only)
      a. Operator in “SINGLE” mode. Check “R-PLUS DOORS” screen on the PLC. See the Door Settings table, second screen. If screen indicates "***SINGLE**", then call R-Plus Doors for instructions on how to switch back to "**BIPART**" mode.
      b. Safety Edge disabled too late – Move the Close Sensor Bracket about ½" away from the close position and re-test.

   2.9.6. Door slams closed (not slowing down)
      b. Check Close Decel Sensor. Close Decel Sensor orange light on control panel must turn on when Magnet Slide passes under the Close Decel Sensor. If the light turns on, check that PLC input #9 also turns on.

   2.9.8. Motor keeps driving for a while when door is closed
      a. This is normal on bi-parting doors, as long as driving speed does not exceed 5 Hz (see red LED display on drive).
      b. On single slide doors, check the Close Stop Sensor. Verify that the matching Close Stop Sensor red light on the control panel is ON. If the light turns on, check that PLC input #10 also turns on.
2.10. Door does not open normally
   2.10.1. Door does not open at all
      a. Door jammed. Verify by manually operating the door.
   2.10.2. Door starts to open, then stops and closes immediately
      2.10.2.1. Door is equipped with a trailing safety edge
         a. Door pathway obstructed. Clear the door pathway and try again.
      2.10.2.2. Door is not equipped with a trailing safety edge
         a. Make sure that the “Trailing Edge Enabled” parameter is set to Disabled in the program (See Door Settings section in the R-Plus Doors ICC-5 Operator Quick Reference manual).
   2.10.3. Door opens very slowly
      a. Door is clearing an obstacle - Not an issue.
      b. Safety edge air switch stuck in the ON position. PLC will detect this problem and will limit door speed for safety. Check the PLC screen for a “DOOR EDGE ERROR” message. Adjust the air switch. See Adjust the Door Edge section in the Single and Bi-Parting Manual/Electric Sliding Doors with Automatic Operator (ICC-5) manual.
   2.10.4. Door does not open fully
   2.10.5. Door slams opened (not slowing down)
      b. Check Open Decel Sensor. Open Decel Sensor orange light on control panel must turn on when Magnet Slide passes under the Open Decel Sensor. If light turns on, check that the corresponding PLC input #7 also turns on.
   2.10.6. Door does slow down when towards the open position but opens past the Open Stop sensor
      a. Main power voltage too high. Measure and note voltages at the control panel circuit breaker for each phase. If voltages measured are too high (for example, 480V or more for a 460V operator), please contact R-Plus Doors for guidance.
   2.10.7. Motor keeps driving for a while when door is opened
      a. Check the Open Stop Sensor. Verify that the matching Open Stop Sensor red light on the control panel is ON. If light in ON, check that the corresponding PLC input #8 is also ON.
   2.11. Door moves unexpectedly
   2.11.1. Door closes by itself after a certain amount of time
2.11.2. *Door opens by itself randomly*


2.11.3. *Door opens and closes at regular interval*

a. Door in Auto-Cycle mode – This is a factory testing mode. In this mode, the PLC screen display “AUTO-CYCLE” along with the total cycle count. Press on ▼ to return to normal operating mode or turn OFF the operator power for 15 seconds and turn power back ON.

**NOTE:** The Auto-Cycle mode has been removed from PLC software versions 5.0.4 and higher.

3. **MECHANICAL ISSUES**

3.1. Chain master link keeps breaking

a. Chain too tight or too loose – Repair and properly adjust chain. See *Drive Chain Adjustment* in the *Single and Bi-Parting Manual/Electric Sliding Doors with Automatic Operator (ICC-5)* manual.

3.2. Chain rubs against some header components

a. Check and adjust all sprockets.

4. **THERMAL ISSUES**

4.1. Jambs Sweating

4.1.1. *Door Heaters Module light is ON*

a. Gasket not sealing – Check for proper 1/8” compression.

b. Heat cable wiring defective – Check that 110VAC is present in the door leaf J-box.

c. Defective heat cable/thermostat assembly – Replace.

4.1.2. *Door Heaters Module light is OFF*

a. Reset Door Heaters Module breaker or replace fuse (depending on model).

b. Reset any breaker installed ahead or the Door Heaters Module.

c. Check power wiring to the Door Heaters Module.

4.2. Sweating or ice forming at door leaf(ves) panel joints

a. Check for cracked panels joints. Clean cracked joints and fill with silicone caulk.

4.3. Motor is hot

a. This is normal for bi-parting doors. When bi-parting doors are closed, motor is being driven at a slow frequency to maintain a positive seal on leading edge gaskets. This leads to the motor heating up.

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