TERRA UNIVERSAL.COM
Critical Environment Solutions

Installation and Operating Guide *Document No. 1800-23*

Sliding Doors

Table of Contents

1. Safety

Proprietary Notice	**Safety Notice**
This manual pertains to proprietary devices manufactured by Terra Universal, Inc. Neither this document nor any portion of it may be reproduced in any way without prior written permission from Terra Universal. Terra Universal makes no warranties applying to information contained in this manual or its suitability for any implied or inferred purpose. Terra Universal shall not be held liable for any errors this manual contains or for any damages that result from its use.	A thorough familiarity with all operating guidelines is essential to safe operation of the product. Failure to observe safety precautions could result in poor performance, damage to the system or other property, or serious bodily injury or death. The following symbols are intended to call your attention to two levels of hazard involved in operation. CAUTION **Cautions are used when failure to observe instructions could result in significant damage to equipment.**  WARNING **Warnings are used when failure to observe instructions or precautions could result in injury or death.**
The information presented here is subject to change without notice.	

Critical Operation Conditions

- Ensure the rough opening is capable of providing proper structural support. Only a qualified service technician should make repairs to surrounding electrical cables and/or other surrounding structure to verify proper anchoring of unit before installation.
- Disconnect the power supply before servicing.
- Consult local building code official for applicable building codes and regulations. Local building code requirements supersede recommended installation instructions.
- Doors are intended for use in positive or negative pressure cleanrooms where air movement is acceptable.

2. General Information

Automatic sliding doors are ideal for high traffic areas and are intended for use in positive or negative pressure cleanrooms where air movement is acceptable. They include either an external or recessed mount with automatic or manual operation. External-mounted doors are well-suited for retrofit construction whereas recessed doors are ideal for room partitions or openings larger than the desired door size. They are available in aluminum or stainless steel frames with either tempered glass or static-dissipative polyvinyl chloride door panels. Doors include load-bearing wheels made of cast urethane for long-lasting, smooth and trouble-free operation. The doors are pre-hung to frames for quick and seamless installation

Figure 1: External-mounted automatic stainless steel sliding door with full view window

Figure 2: Recessed automatic powder coated aluminum sliding doors

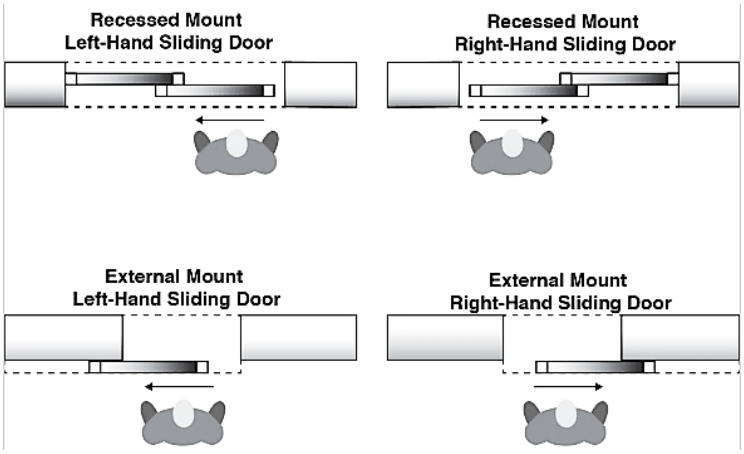


Figure 3: Door sliding direction

2.1 External Mount Doors

The door track is mounted externally to the wall surface and is well suited for retrofit construction and easy installation where a large opening is not possible for recessed door frames. The system requires enough empty wall space next to the opening to allow door(s) to slide completely open. The microprocessor controller continually monitors door position with adjustable features such as: opening and closing speed; distance and speed of braking; reducing opening and time delay. The unit arrives with the pre-assembled header and panel sub-assemblies. The adjustable anti-rise wheels lock each door in its overhead track and undergo life testing to a minimum of one million cycles.

Manual doors use 304 stainless steel and include left or right sliding options as well as load-bearing wheels made of cast urethane for long-lasting, smooth and trouble-free operation. 304 Stainless steel stands up to common disinfectants and the door assembly includes the frame and track that are installed inside the existing wall cutout/partition. BioSafe® windows forego shoddy spot-welding in favor of dual-pane glass installed flush on steel for a continuously smooth surface. The wall cut out size for the doors should be at least 81" height and 36" width.

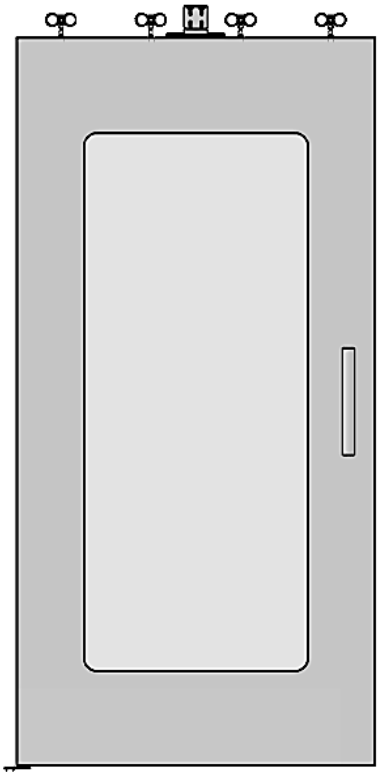


Figure 4: Stainless steel manual sliding door front view

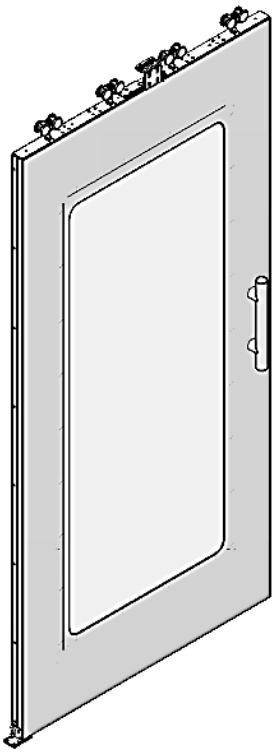


Figure 5: Stainless steel manual sliding door side view

Automatic doors include adjustable anti-riser wheels that lock each door in the overhead track as well as auto reverse and slow speed search for obstruction. The elastomeric door seals and fiberglass reinforced timing belt ensure cleanliness, durability and uniform closing. All automatic doors use the hand wave sensor to open the doors and the ESA II Revive kit to prevent the door from closing on someone when that person is entering or leaving. Static-dissipative PVC door panels enhance static and particle control, stand up to cleaning agents, minimize obstructive sight line and reduce claustrophobic sensation in small rooms. These doors are ideal for aseptic cleanrooms that require hands-free door operation available with several different styles.

Figure 6: Pre hung stainless steel automatic sliding door, externally mounted to wall

Figure 7: Pre hung powder coated aluminum right sliding door, externally mounted to wall

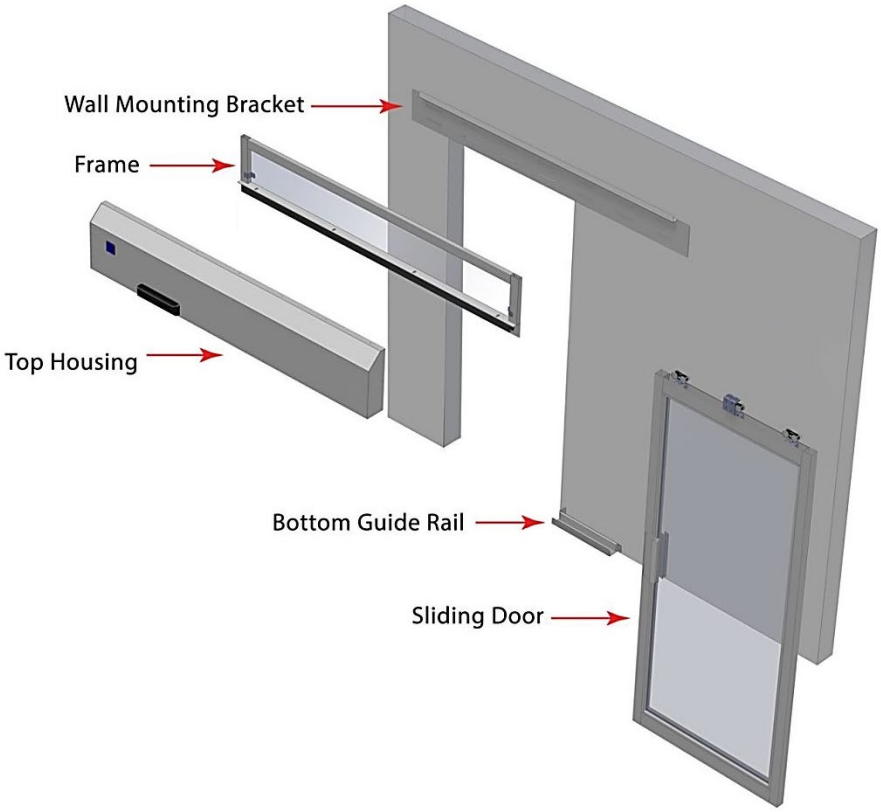


Figure 8: Exploded-view of external mount automatic sliding door

2.2 Pre-hung Recessed Doors

The door frame and track are installed inside existing wall cutout/partition with a touchless motion door pad for hands-free operation. These doors are well suited for room partitions or openings larger than desired door size and can be configured to include side lights for additional visibility. The toothed drive belt reinforced with fiberglass prevents slippage and ensures even closing. These doors arrive with a pre-assembled header and panel sub-assemblies. Recessed doors use an Optex X-Zone T sensor for door operation and a single point bottom rail deadlock(s) electric locking. Manual recessed doors include left/right sliding options and are pre-assembled. Doors purchased prior to March 2019 use a Stanley SU-100 motion sensor or Stan-Guard® Threshold sensor.

Figure 9: Automatic recessed sliding door

2.3 Part Numbers Covered by this Manual

Part Numbers	U-Frame Material	Door Panel	Operation	Opening Action	Wall Cut Out		Window Size	Mount
					Height	Width		
5555-00A-RS	Aluminum	Tempered Glass	Automatic	Right Sliding	84”	40”	Half	Recessed
5555-00B-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	46”	Half	Recessed
5555-00B-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	60”	Half	Recessed
5555-01A	Aluminum	Tempered Glass	Automatic	Bi-Part	84”	34”	Half	Recessed
5555-01B-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Double Bi-Parting	80”	40”	Half	Recessed
5555-02B-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	46”	Half	Recessed
5555-02B-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	60”	Half	Recessed
5555-03B-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	34”	Half	Recessed
5555-03B-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	40”	Half	Recessed
5555-04B-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Double Bi-Parting	80”	46”	Half	Recessed
5555-06B-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	60”	Half	Recessed
5555-06B-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	34”	Half	Recessed
5555-07B-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	40”	Half	Recessed
5555-07B-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	46”	Half	Recessed
5555-08B-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	60”	Half	Recessed
5555-08B-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	40”	Half	Recessed
5555-10B-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Double Bi-Parting	80”	46”	Half	Recessed
5555-11-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	40”	Half	Recessed
5555-11-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	46”	Half	Recessed
5555-12	304 SS	Tempered Glass	Automatic	Double Bi-Parting	80”	60”	Half	Recessed
5555-13-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	34”	Half	Recessed
5555-13-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	34”	Half	Recessed
5555-14-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	46”	Half	Recessed
5555-14-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	40”	Half	Recessed
5555-15	304 SS	Tempered Glass	Automatic	Double Bi-Parting	80”	80”	Half	Recessed
5555-16	304 SS	Tempered Glass	Automatic	Double Bi-Parting	80”	60”	Full	Recessed
5555-17	304 SS	Tempered Glass	Automatic	Double Bi-Parting	80”	80”	Full	Recessed
5555-18-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	40”	Full	Recessed
5555-18-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	40”	Full	Recessed
5555-19-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	34”	Full	Recessed
5555-19-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	34”	Full	Recessed
5555-20-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	46”	Full	Recessed
5555-20-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	46”	Full	Recessed
5556-00-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	40”	-	External
5556-00-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	40”	-	External
5556-01-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Double Bi-Parting	80”	60”	-	External
5556-02-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	34”	-	External
5556-02-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	34”	-	External
5556-03-LS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Left Sliding	80”	46”	-	External
5556-03-RS-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Right Sliding	80”	46”	-	External
5556-04-PC	Powder-Coated Aluminum	Tempered Glass	Automatic	Double Bi-Parting	80”	80”	-	External
5556-06-LS-PC	Powder-Coated Aluminum	Static-Dissipative PVC	Automatic	Left Sliding	80”	34”	-	External
5556-06-RS-PC	Powder-Coated Aluminum	Static-Dissipative PVC	Automatic	Right Sliding	80”	34”	-	External
5556-07-LS-PC	Powder-Coated Aluminum	Static-Dissipative PVC	Automatic	Left Sliding	80”	40”	-	External
5556-07-RS-PC	Powder-Coated Aluminum	Static-Dissipative PVC	Automatic	Right Sliding	80”	40”	-	External
5556-08-LS-PC	Powder-Coated Aluminum	Static-Dissipative PVC	Automatic	Left Sliding	80”	46”	-	External
5556-08-RS-PC	Powder-Coated Aluminum	Static-Dissipative PVC	Automatic	Right Sliding	80”	46”	-	External
5556-09-PC	Powder-Coated Aluminum	Static-Dissipative PVC	Automatic	Double Bi-Parting	84”	60”	-	External
5556-10-PC	Powder-Coated Aluminum	Static-Dissipative PVC	Automatic	Double Bi-Parting	80”	80”	-	External
5556-11-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	40”	Half	External
5556-11-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	40”	Half	External
5556-12	304 SS	Tempered Glass	Automatic	Double Bi-Parting	80”	60”	Half	External
5556-13-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	34”	Half	External
5556-13-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	34”	Half	External
5556-14-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	46”	Half	External

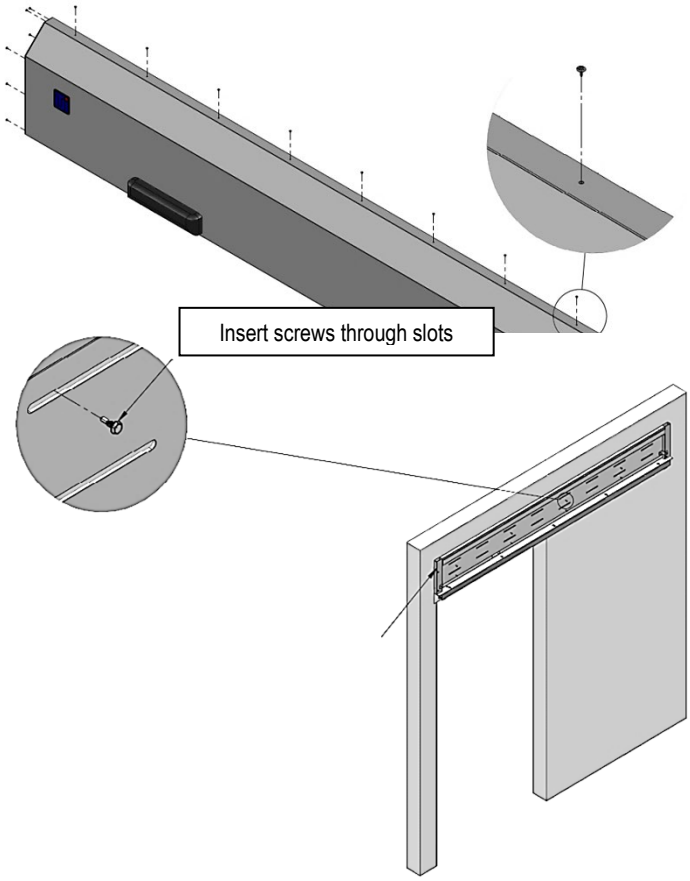
Part Numbers	U-Frame Material	Door Panel	Operation	Opening Action	Wall Cut Out		Window Size	Mount
					Height	Width		
5556-14-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	46”	Half	External
5556-15	304 SS	Static-Dissipative PVC	Automatic	Double Bi-Parting	80”	80”	Half	External
5556-16	304 SS	Tempered Glass	Automatic	Double Bi-Parting	80”	60”	Full	External
5556-17	304 SS	Static-Dissipative PVC	Automatic	Double Bi-Parting	80”	80”	Full	External
5556-18-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	34”	Full	External
5556-18-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	34”	Full	External
5556-19-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	40”	Full	External
5556-19-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	40”	Full	External
5556-20-LS	304 SS	Tempered Glass	Automatic	Left Sliding	80”	46”	Full	External
5556-20-RS	304 SS	Tempered Glass	Automatic	Right Sliding	80”	46”	Full	External
6603-50-LS	304 SS	Tempered Glass	Manual	Left Sliding	81”	36”	Half	Recessed
6603-50-RS	304 SS	Tempered Glass	Manual	Right Sliding	81”	36”	Half	Recessed
6603-51-LS	304 SS	Tempered Glass	Manual	Left Sliding	81”	36”	Full	Recessed
6603-51-RS	304 SS	Tempered Glass	Manual	Right Sliding	81”	36”	Full	Recessed

3. Installation

3.1 External Mount Sliding Door

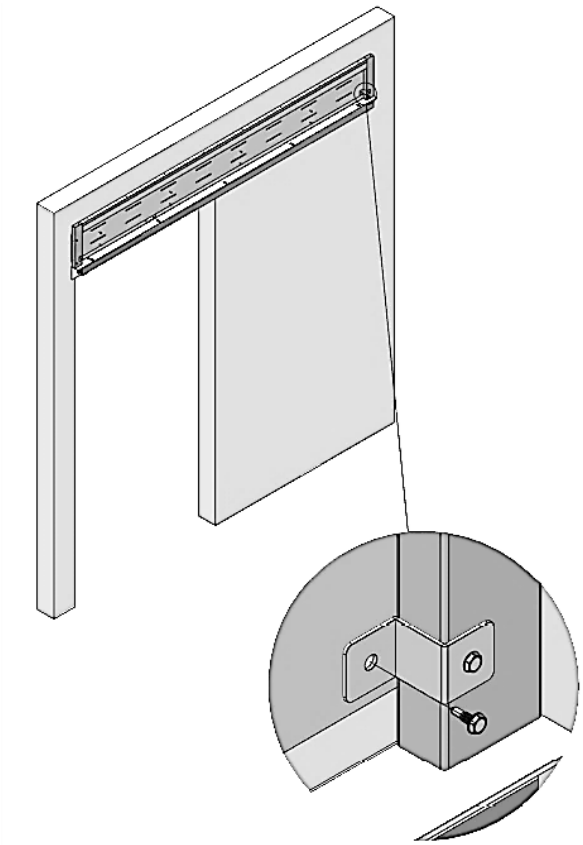
- **Note**: Carefully disconnect the wires for the logo, motion sensor, and the program switches.

1. Remove screws from the top and the sides of the cover to access the frame.

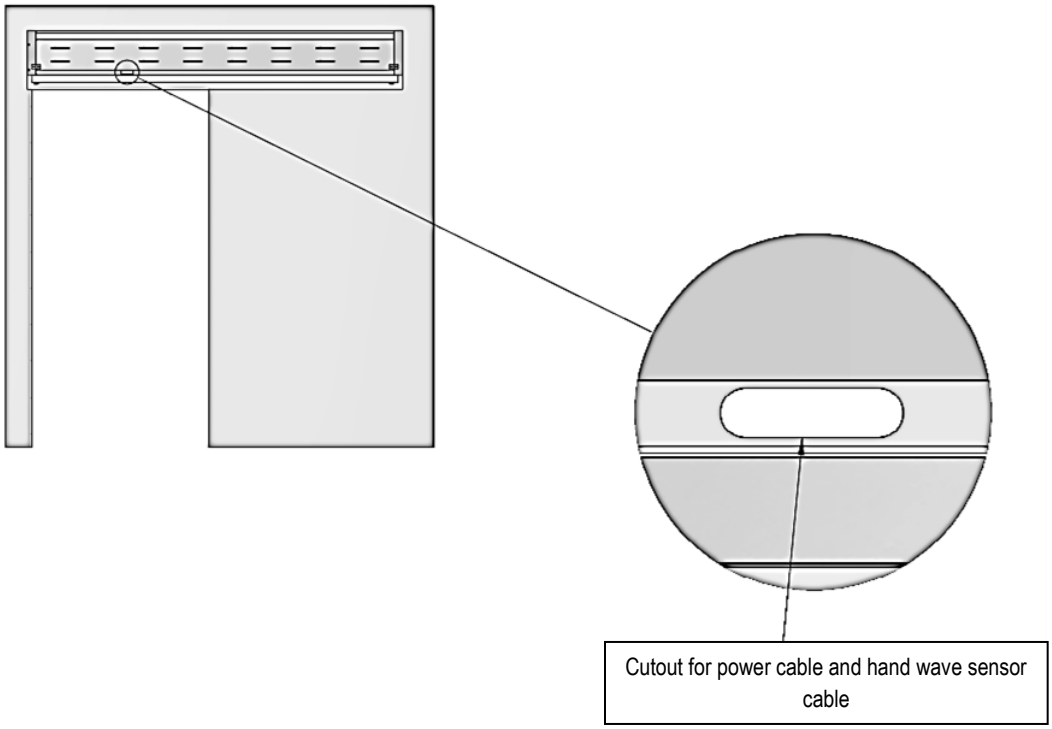


2. Locate the struts in the wall – insert screw through the designated slots.
3. Drop the frame onto the mounting bracket

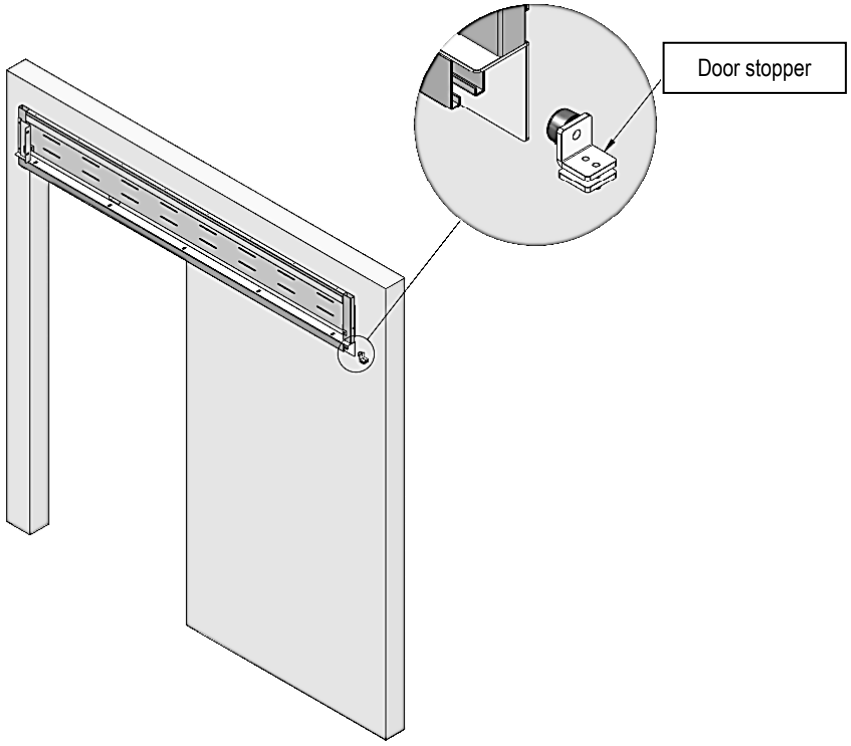
4. Fasten the Z bracket to the mounting bracket to prevent the frame from tilting.



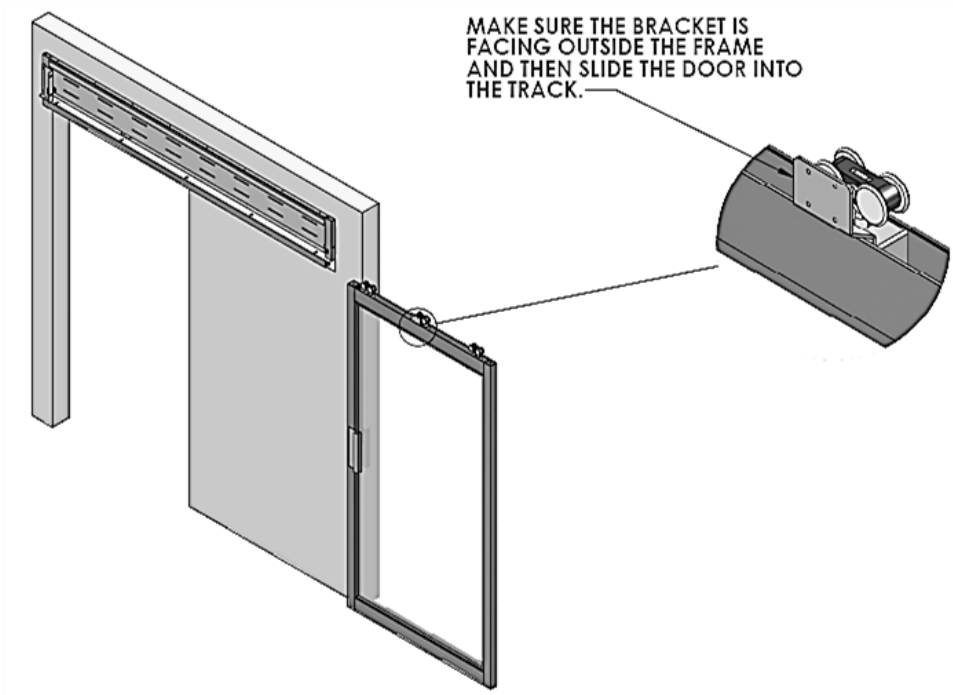
5. Create cutout on the wall for the power cables.



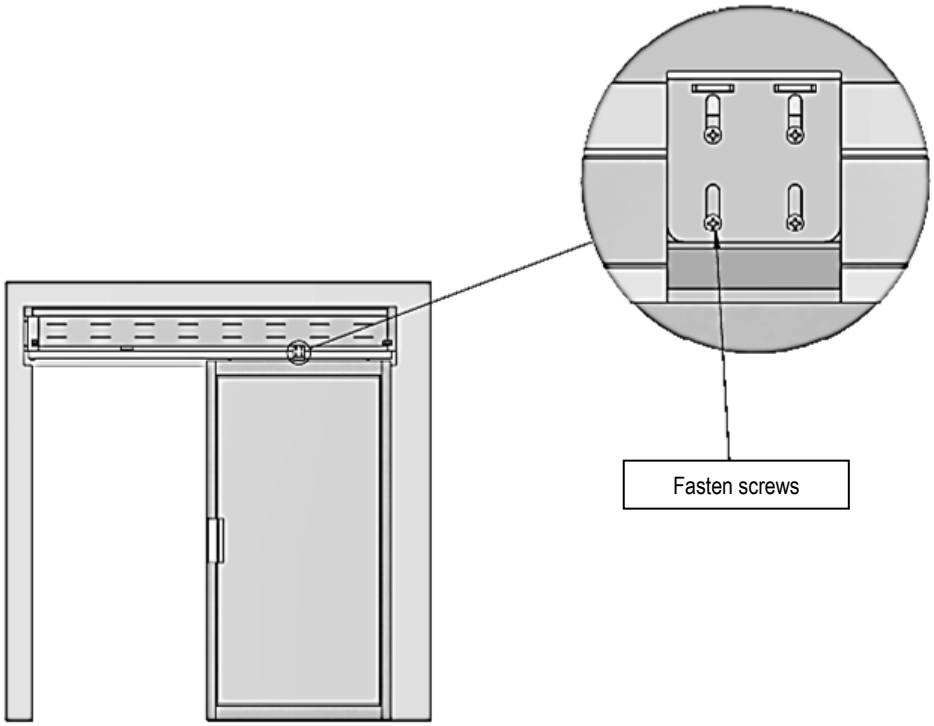
6. Unfasten the nuts that are underneath the door stoppers and remove from the track.



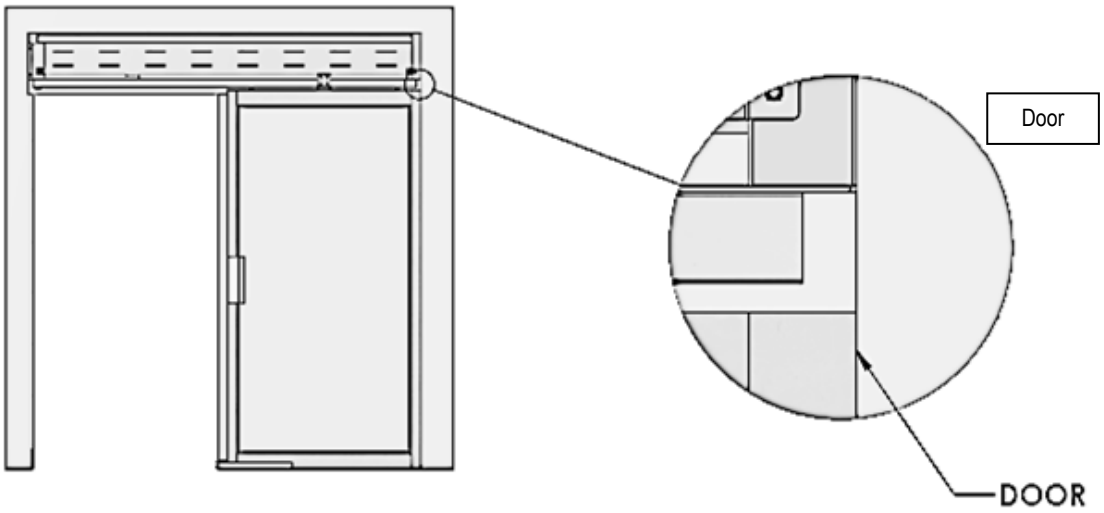
7. Carefully unwrap the door and remove the screws and nuts attached on the bracket.



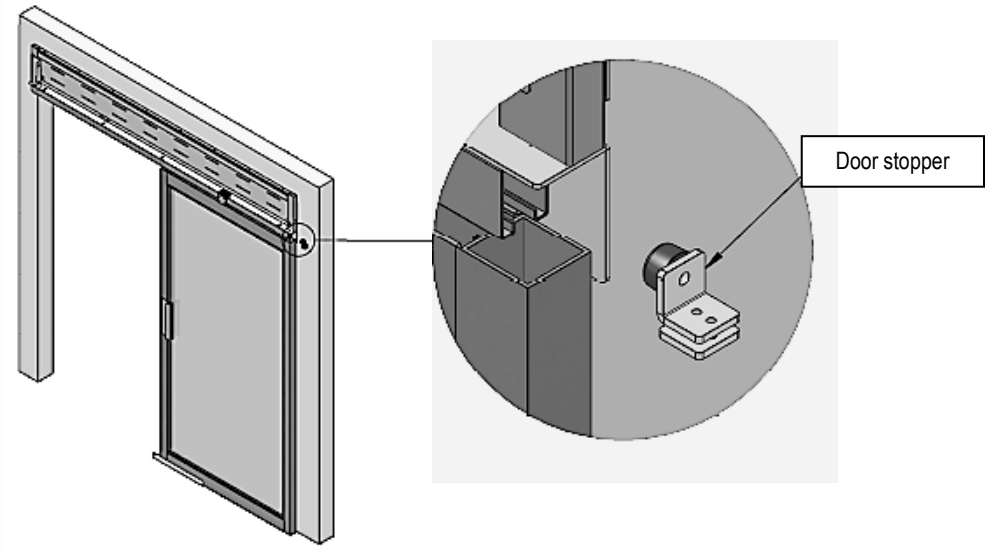
8. Align the bracket on the door with the bracket on the belt. Proceed to use the screws and nuts that were on the door to attach them together.



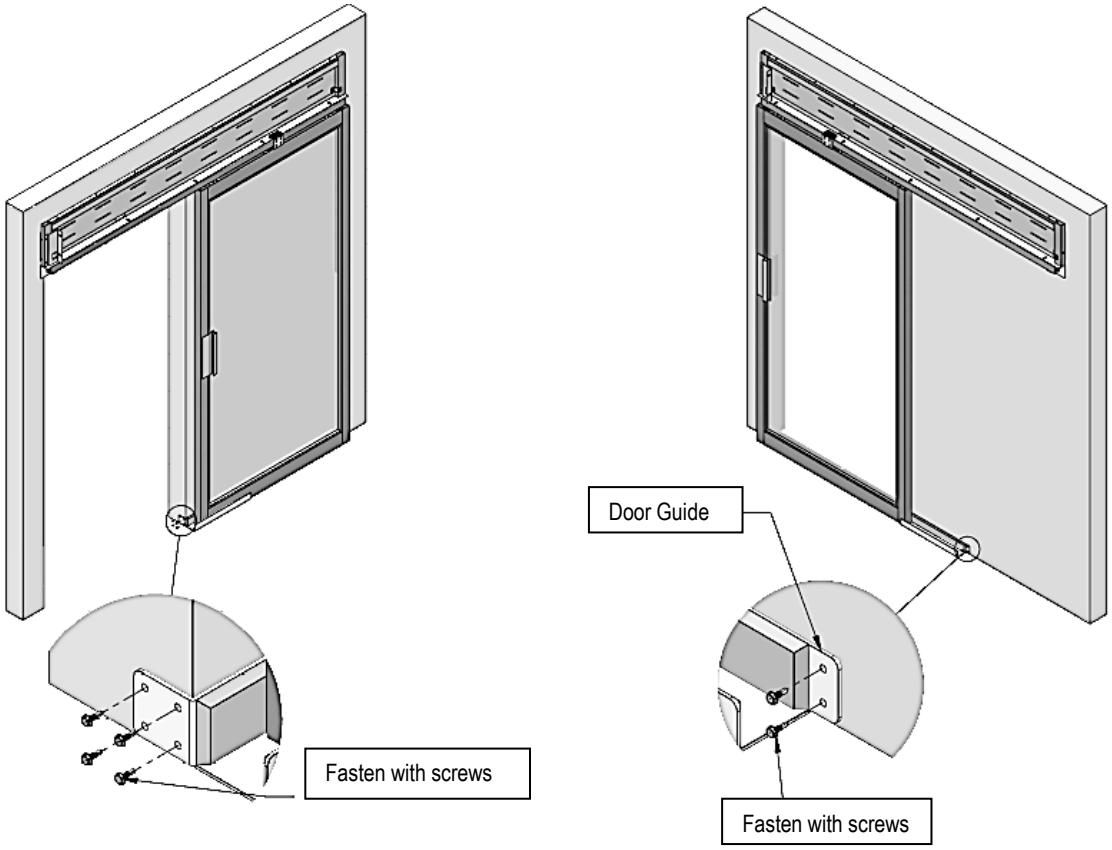
9. Slide the door open until door is flushed with the edge of the frame.



10. Reattach the door stopper and adjust its location until the door hits it when it is fully open. Secure the door stopper - tighten the nuts.



11. Adjust the door guide so the door will slide straight; fasten door guide to the wall with provided screws.



- **Note**: For stainless steel sliding doors refer to steps 12 and 13 below:

12. Close the door completely; place the sliding door guide halfway into the door and screw down to the floor.

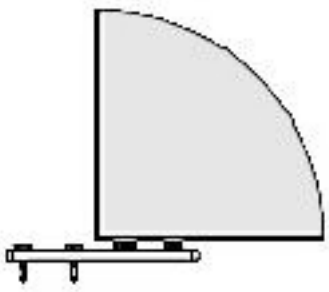
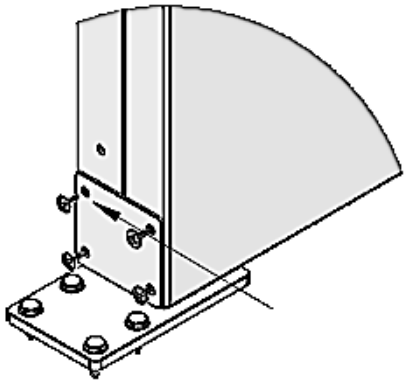
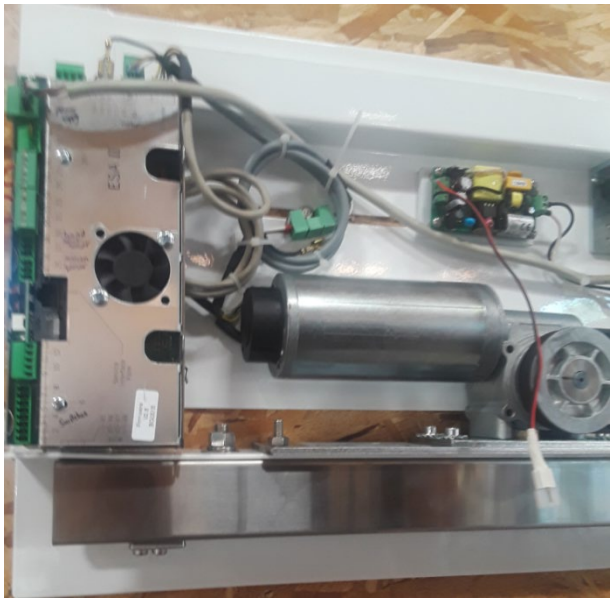


Figure 10: Bottom left corner of door

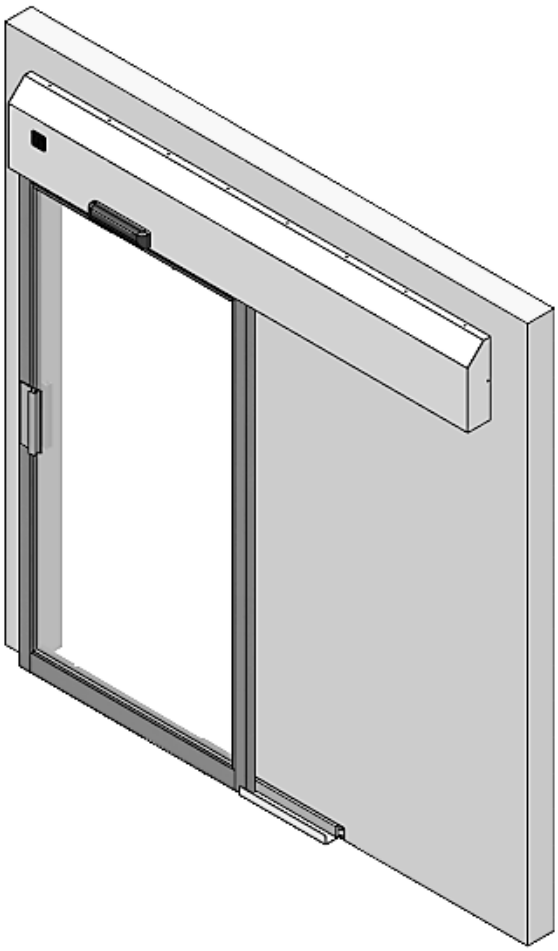
13. Install the provided cover plate.



14. Rewire any loose wires and tidy up with zip ties.

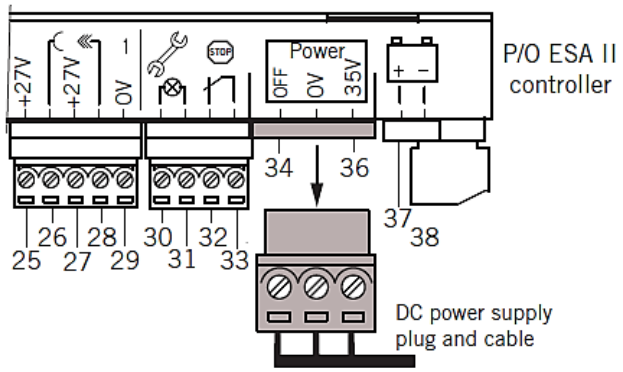


15. Put the cover back on. Hold the cover in place by putting the screws back on.

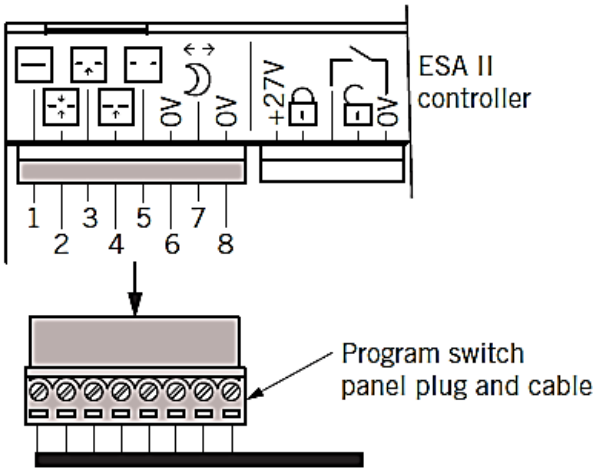


3.2 Door Operator – ESA II Revive Slider Conversion Kit

Step 1: Remove DC power supply plug from its socket on ESA II controller.



Step 2: Remove program switch plug from its socket on ESA II controller.
Note: Door will be in CLOSE (OFF) position.



WARNING

Electric shock hazard! 115VAC disconnect to branch circuit supplying power to ESA must be OFF prior to installing and during electrical wiring installation.

CAUTION

DC power supply plug must be removed from its socket (See step 1). Program switch plug must be removed from its socket (See step 2).

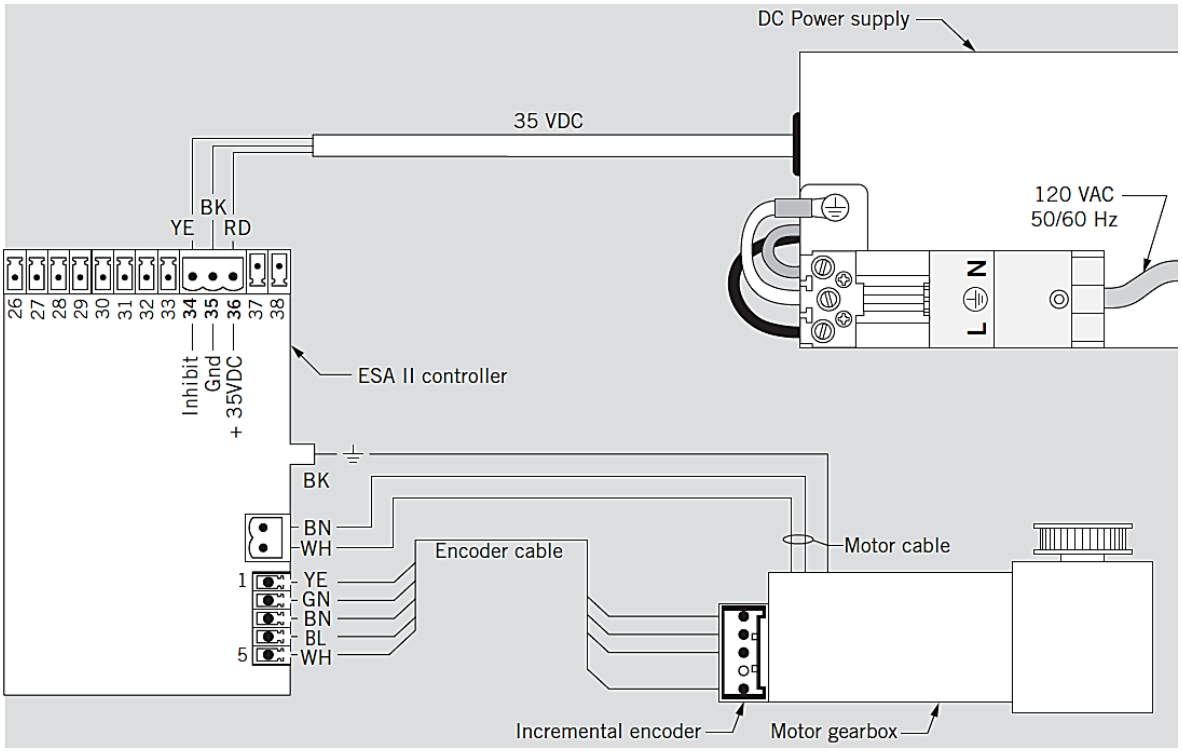
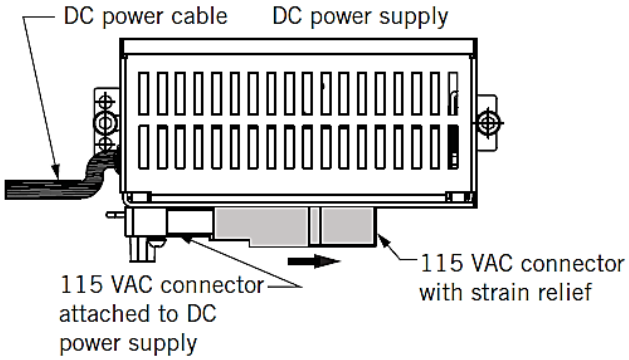
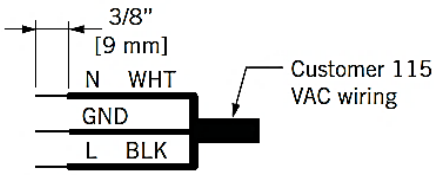


Figure11: Hardwiring set up for motor gearbox and power supply

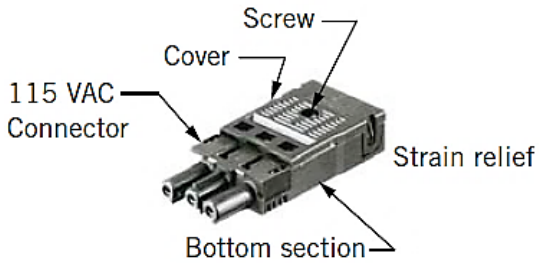
Step 3: Pull out 115 VAC connector with strain relief from connector attached to DC power supply.



Step 4: Cut jacket insulation from customer 115 VAC wiring.
Step 5: Strip 3/8" (9 mm) insulation from end of L and N wires.

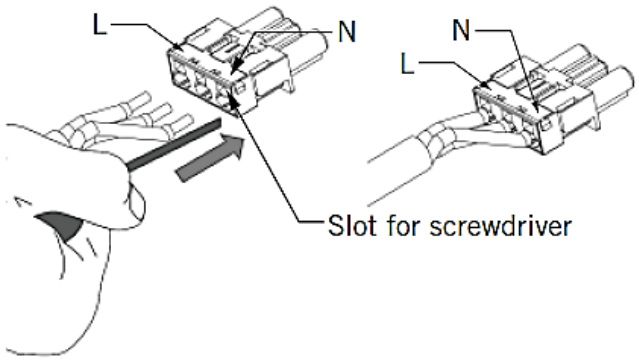


Step 6: Remove strain relief cover and bottom section (secured with screw) to access 115VAC connector.

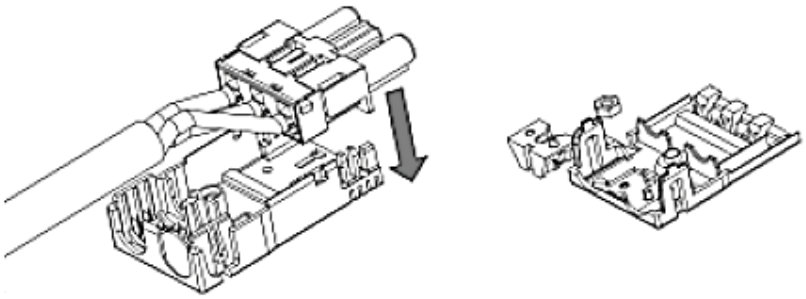


Step 7: Insert ends of all 3 wires into their respective L, N and GND terminals (spring loaded connectors) in the 115 VAC connector.

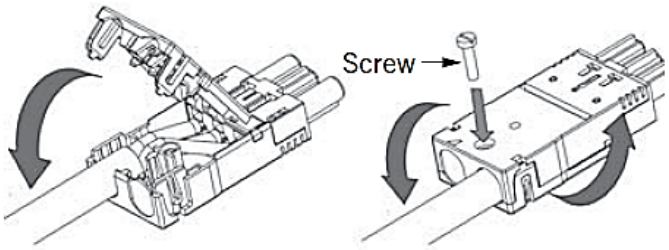
Note: If using stranded wire, insert screwdriver blade into respective slot to separate spring loaded connector.



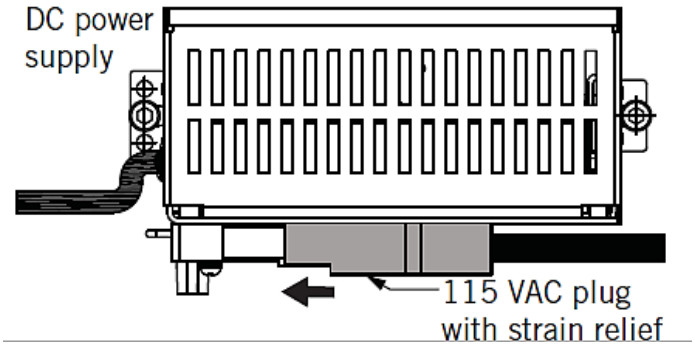
Step 8: Reinstall 115 VAC connector into strain relief bottom section.



Step 9: Reinstall strain relief cover; secure with screw.



Step 10: Reinsert 115 VAC connector, with strain relief attached, into connector that is attached to DC power supply.



3.3 Interlocks

Step 1: Install the interlock box on top of the ceiling and between the doors that will be interlocked.

Step 2: Verify that the cables from the doors and E-stop will reach the installation location with a minimum of 2" of slack.

Step 3: Twist the quick connectors on the ports on the interlock box without straining the cable ends.

Step 4: Plug the interlock box's power cable into a 120V / 60 Hz compatible outlet.

Step 5: Find a suitable location for E-Stop that is easily accessible in an emergency situation.

Step 6: Attach the quick-connector(s) from the door's electromagnetic locks and E-stop to the interlock box.

i. Verify the connectors are attached to the correct ports by their label identification.
ii. Wrap up extra cables length leaving the minimum 2" slack.

Figure 12: Interlock Box

4. Operation

4.1 Interlocks

The door interlock box will prevent interlocking doors from opening at the same time by using a small sensor, located on the upper region of the door, to communicate back to the interlock box. The sensor is used to determine which doors are open and which doors are closed so the interlock box can keep other doors closed when an interlocked door has been opened. The interlock box will send a signal to the interlocking door's operator to keep the door closed which reduces cross contamination. Pull and twist all E-Stops to disengage them and verify that the interlocking system is operational after installation. Test the interlocking mechanism by opening one of the interlocking doors and having another person try to open the other interlocking door. The second door should remain closed; if this is not the case, please refer to the troubleshooting section.

CAUTION

In the event of an emergency, the E-Stop can be pushed in to disable the interlocking. This will allow interlocking doors to open at the same time to aid in evacuation. When the door includes an automatic door closer, the interlock box will prevent the sensors from detecting and powering the motor and allow the doors to be pushed open at the same time with approximately 20lb of force.

4.1.1 Specifications

Specifications	
Voltage	120V, 0.5Amp, 50/60 Hz
Dimensions	11”L X 6”H X 15”D
Weight	5 lbs.

4.1.2 Troubleshooting

CAUTION

Disconnect the power supply before inspecting fuses.

- Inspect the two fuses that protect the interlock box.
  - The first fuse is for the high voltage main line and the other fuse is for the low voltage DC supply.
  - Verify the fuses are not burnt out. If they are, replace the broken fuses with the same rated fuse.

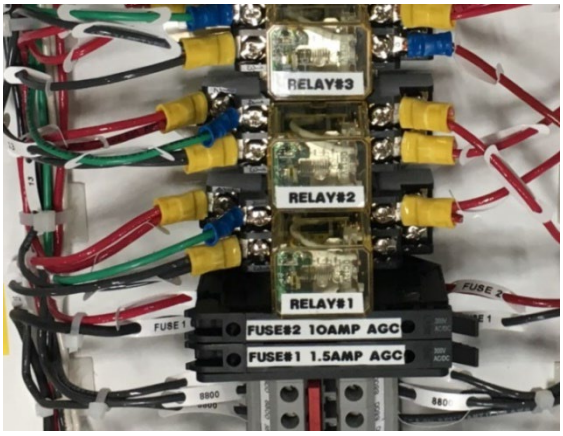


Figure 13: Fuse connections

- Check that the E-Stop is not pushed in and engaged.
  - Pull and twist the E-Stop to disengage.

Figure 14: Emergency Stop

- Verify all cable connections are fitted properly to the interlock box.
  - Removing the quick-connector(s) from the interlock port and check that the quick-connector's pins are not bent or broken; repair if necessary.
  - Reinsert the quick-connector and twist clockwise to lock the connection in place.

- Verify the door's operation mode is set correctly.
  - The switches are located on the left side of the upper housing.
  - Set the main switch to **AUTO** and the other switches to **OFF** position.

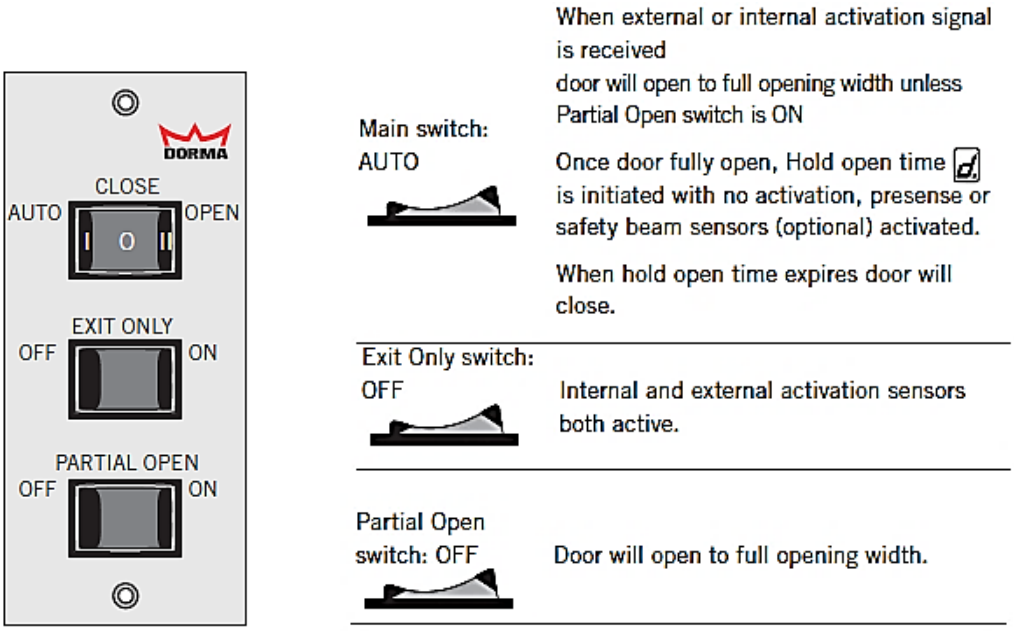


Figure 15: Door operation switches

4.2 Sensors

Note: For all doors purchased **prior to March 2019**, please refer to Stanley sensors information in below sections 4.3.1 and 4.3.2.

4.2.1 Stanley SU-100 Motion Sensor

SU-100 motion sensor provides a wide and deep activation zone ensure the automatic doors are fully opened while someone is entering or exiting.

- K Band microwave technology is universally compatible with all sliding automatic doors.
- 3-D adjustable antenna assures precise activation pattern position.
- Remote control adjustability for ease of installation and adjustment.

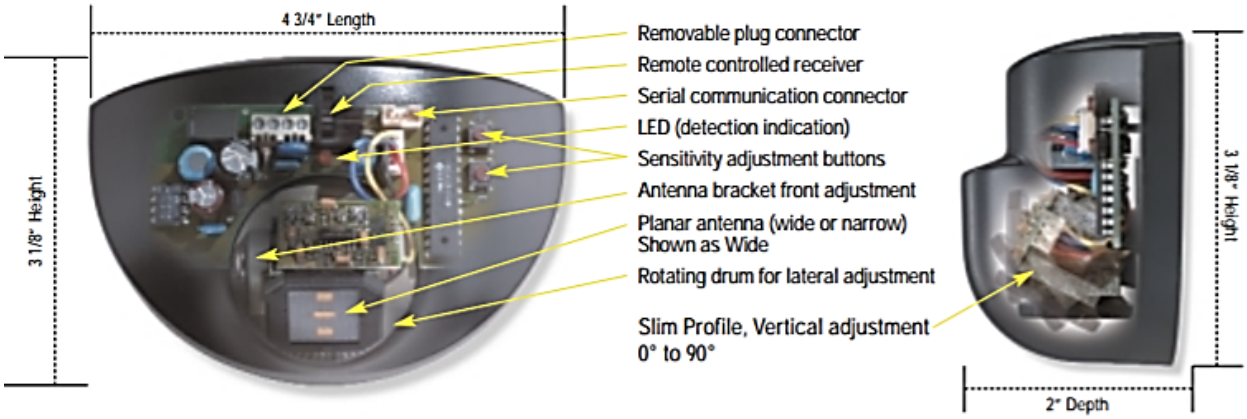


Figure 16: Stanley SU-100 Dimensions and features

Specifications		
Power Consumption		<2W
Relay Contact	**Max Contact Voltage**	60VDC/125V
	Max Contact Current	1 A(resistance)
	Max Switching Power	30 W
Minimum Direction Speed		2 inches/sec
Hold time		0.5 sec – 30 sec
Dimensions		4 ¾" W (120mm) X 3 ⅛"H (80mm) x 2"D (50mm)
Frequency Emitted		24.125 GHz
Supply Voltage		12 – 24V AC/DC ±10% (provided by Stanley controller)
Technology		Microwave and microprocessor
Temperature Range		-30°F (-35°C) to +131°F (55°C)
Weight		7oz. (198g)

4.2.2 Stanguard™ Sensor

Stan-Guard® threshold sensor and doorway holding beam detects people or objects in the door area and holds the doors open until the threshold area is clear. The sensor uses infrared (IR) light to detect when a person or object is in the detection zone and automatically maintains its calibration while making changes to its reference settings. When the door has been closed for a longer time or when a large variation in the detection zone occurs, the door may need to reinitialize. The drive system uses a ¼ HP DC gear driven motor.

Reinitialization occurs automatically after the door has been held open by the sensor for more than the selected wait time (1 minute of 5 minutes). The sensor can be set for triggered operation or continuous operation – triggered operation means the sensor must receive a signal from another device in order to activate and continuous operation means the sensor operates as long as power is applied. The detection zone can be adjusted to either narrow or wide and the sensitivity can be set to normal or high depending on the height of the door. A gain potentiometer is provided to increase or decrease the IR receiver sensitivity.

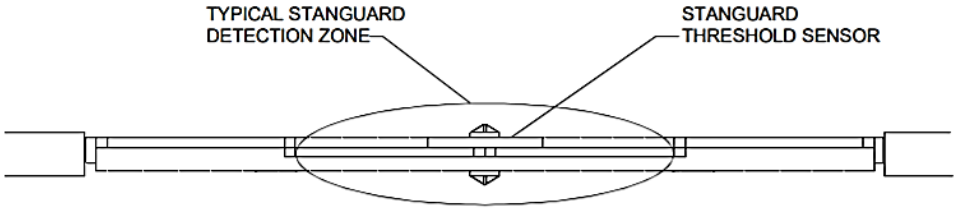


Figure 17: Stanguard™ sensor detection zone

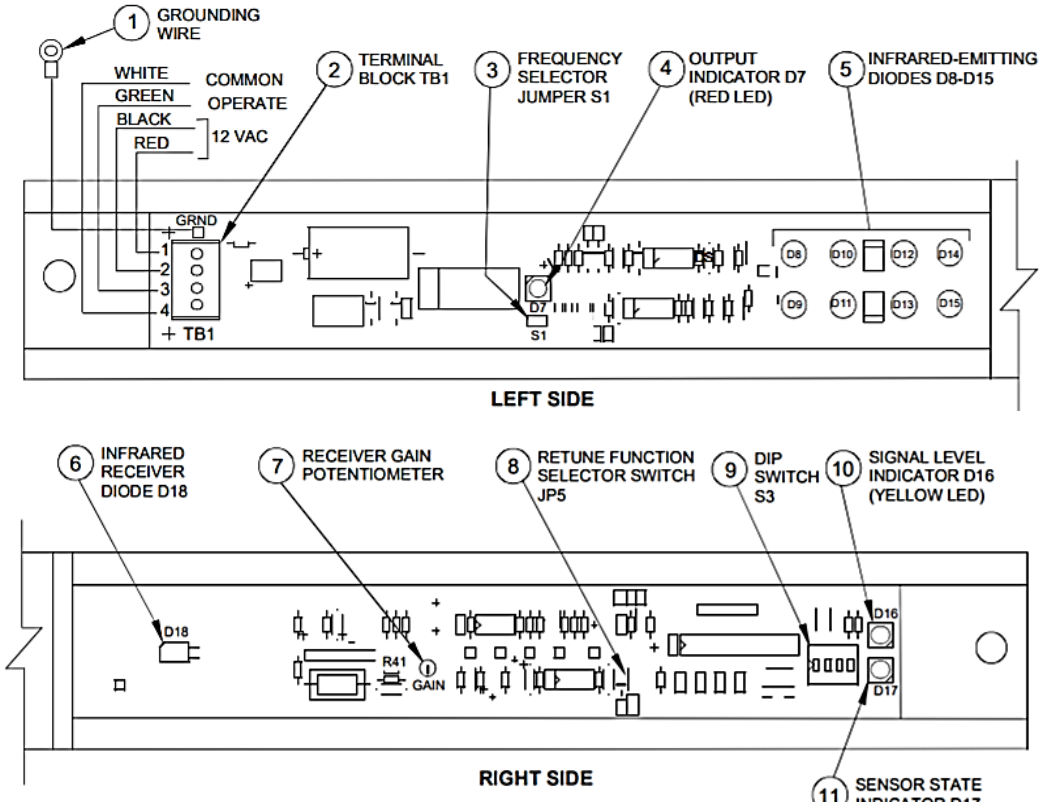


Figure 18: Stanguard™ sensor controls and indicators

Note: For all doors purchased **after March 2019**, refer to sensor information in below section 4.3.3.

4.2.3 Optex X-Zone T Sensor

The Optex sensor uses a DC gear driven motor at .24kW and has built-in monitoring capability which can be adjusted with a dial to ignore traffic moving away from the sensor. This allows the sensor to reset more quickly and reduce airflow between environmentally-controlled areas and the outside area. The approach area detects a person or object and the sensor will activate the door and turn on the "BLUE ZONE" which detects through the threshold. The sensor will remain in the open position as long as someone is in the detection area. Once the area is clear, the "BLUE ZONE" will ignore the door panels and allow the door to safely close.

For additional information see link below:
https://navi.optex.net/manual/31058/5923703_X-ZONE%20T%20MANUAL(ENG).pdf

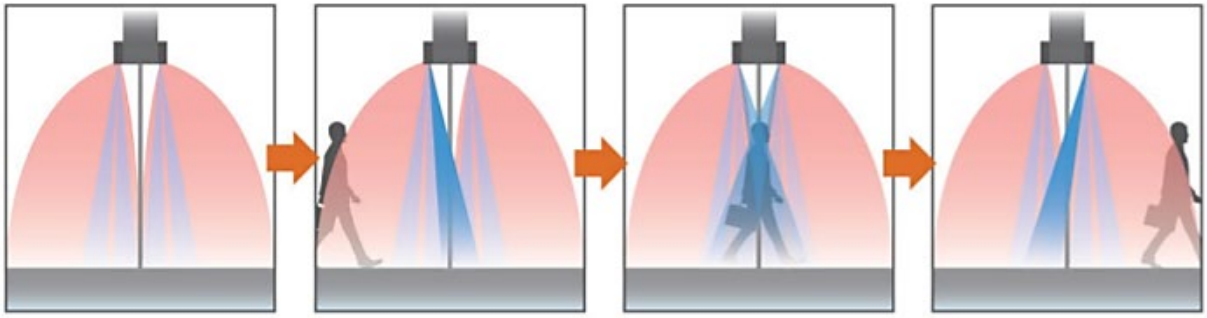


Figure 19: Sensor threshold shown with red and blue zones

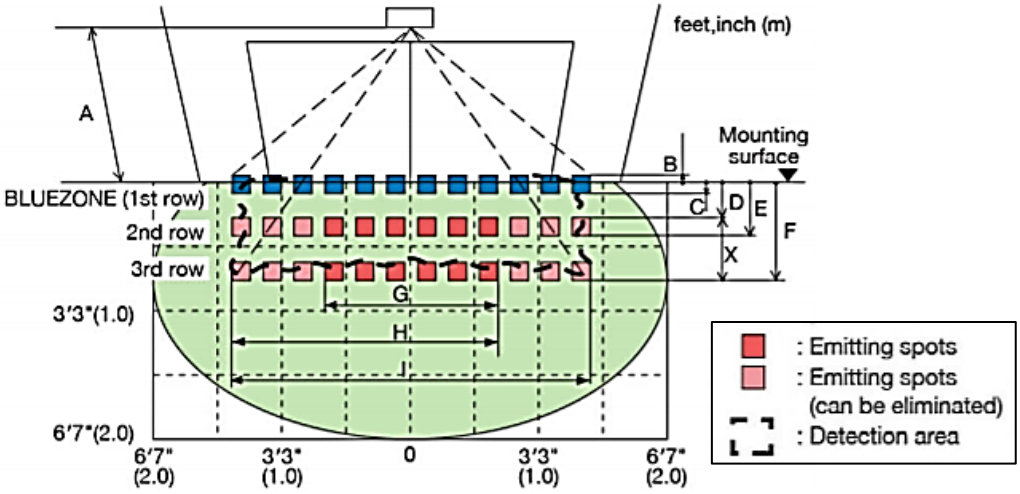


Figure 20: Infrared detection zone

- **Note**: The actual detection area may become smaller depending on the ambient light, the color/material of the object or the floor as well as the entry speed of the object. The sensor may not be activated when the entering speed of the object or a person is slower than 2" (50mm) / sec. or faster than 4'11" (1500mm) / sec.

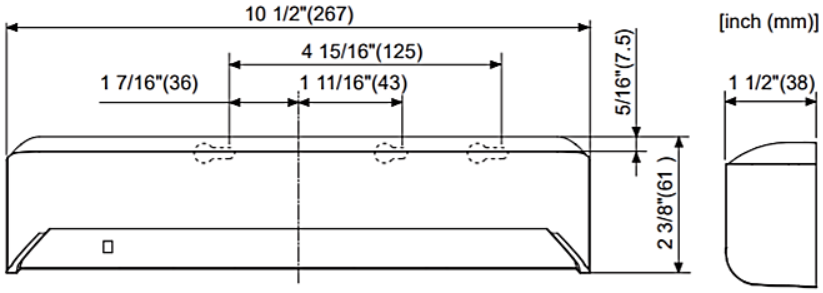


Figure 21: Optex sensor dimensions

Status	Operation indicator color
Set-up	Yellow blinking
Stand-by (Installation mode)	Yellow
Stand-by (Operation mode)	Green
BLUEZONE (1st row) detection(*2)	Blue
2nd row detection	Red blinking
3rd row detection	Red
Microwave detection	Orange
Communication Test output	Turn off 500ms(*3)
Signal saturation	Slow Green blinking
Sensor failure	Fast Green blinking

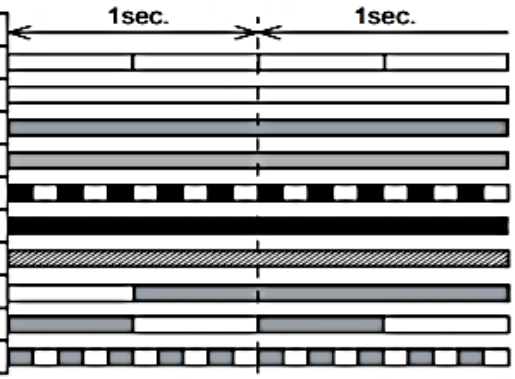


Figure 22: Operation indicator table for Optex sensor

Specifications	
Power Consumption	<2.5W (<4VA at AC)
Voltage	50V (0.3A)
Current	6mA Max. (30VDC)
Power	12 to 24VAC ±10% / 12 to 30VDC ±10%
Hold time	<0.5sec
Dimensions	10 ½"W(267mm) X 23/8"H (61mm) X 1½"D (38mm)
Supply Voltage	50/60 Hz
Technology	Active infrared technology – Microwave Doppler effect
Temperature Range	-31° to 131°F (-35°C to 55°C)
Weight	9.5oz (270g)
Minimum Direction Speed	2" (50mm) / sec

5. Cleaning

Stainless Steel

- Stainless steel should be cleaned with isopropyl alcohol (or similar cleaning agent).and a non-shedding wiper.
- Confirm other cleaning agents are compatible with stainless steel.
- For cleanroom environments, Terra recommends use of knitted polyester wipers or spun-lace, non-woven blends of cellulose and polyester manufactured and packaged specifically for cleanroom use.
    - These products are manufactured under tightly controlled conditions that restrict the use of binders or chemical treatments that can outgas, and cleanroom packaging and strict lot control ensure optimal cleanliness.

Powder Coated Metal Components

- Use only clean water with slight additives of neutral washing agents (pH 5-8) with the aid of non-abrasive soft cloths, rags or industrial cotton. Strong rubbing is to be avoided.
- Do not use solvents or similar diluents containing ester, ketones, alcohol, aromatics, ethylene glycol or halogenated hydrocarbon.
- Joint sealants and other aids such as glazing aids, lubricant agents, drilling and cutting lubricants which come into contact with coated surfaces, must be pH-neutral and free of paint damaging substances. They must be first subjected to a suitability test.
- Due to the danger of changes in a color tone or effect, a test for suitability is to be undertaken for metallic powder coatings.
- Do not use scratching or abrasive agents.
- Do not use strong acids, alkaline detergents or introfiers.
- Do not use detergents of unknown composition.
- Detergents must not be used at temperatures higher than 77 °F (25 °C).
- Do not use steam-jet devices.
- During cleaning, the façade components surface temperature must not exceed 77 °F (25 °C).
- The maximum exposure period of detergents must not exceed one hour. When necessary, the entire cleaning process can be repeated at least after 24 hours.
- Rinsing with clean cold water should take place immediately after every cleaning process.
- A thorough cleaning of coated components is required to conserve the façade decorative appearance and to reduce the corrosion strain.
- Powder coated surfaces proper maintenance and regular servicing are prerequisites for claims related to any guarantee and require regular cleaning at least once per year.
- Buildings must be cleaned more often when they are located in severe polluted environments such as, a region with increased salt contamination and/or chemical exhausts, a direct area of influence or within the vicinity of an industrial or chemical enterprise, the immediate vicinity of a sea coast or within a defined chemical/radioactive precipitation zone.
- When a coated component is soiled during transportation, storage or assembly, cleaning the component must take place immediately with clear cold or lukewarm water.
- A neutral or weak alkaline detergent can be used against severe soiling.
- Further Information for maintenance and cleaning can be obtained, among others, from the American Architectural Manufacturer's Association (AAMA 610-1979 Cleaning Procedures).

Track Rail

- Use a dry cloth to clean any debris in the track rail.

Presence Sensors

- Use a dry cloth when dust is observed on lens.

6. Troubleshooting

Note: Prior to performing any maintenance, disconnect the DC power supply plug and the Backup battery plug from the ESA II controller.

ESA II Revive Slider Kit		
Issue	***Cause***	***Solutions***
Controller does not turn on.	115 VAC power to controller is off	Check circuit breaker supplying power to DC. If OFF, turn ON.
	Defective DC power supply	• Remove DC power supply plug to controller and check for 35VDC. • If power not present, fuse may be blown or power supply is defective. • Replace DC power supply.
	• Male connector to DC power supply not firmly mated • 115VAC wiring in connector is loose	• Check 115VAC connector installation. • Check 115VAC connector wiring.
	Defective controller	Replace controller.
Doors remain open, will not close.	Main program switch set to OPEN.	Set switch to AUTO or close.
	Presence detection from sensor.	Adjust sensor pattern away from face of door.
	Door breakout.	Close the door/panel to operating position.
	Breakout switch wiring.	Check breakout magnet and reed switch on door and header.
	Presence sensor not set to N.C.	Adjust sensor settings.
Door will not open when approached.	Main program switch set to CLOSE.	Set switch to AUTO.
Door will not open when approached with main program set to AUTO.	Activation sensor not working or setup properly.	Adjust angle, adjust sensitivity, and change radar field from wide to narrow.
	Sensors not wired properly.	Check wiring diagrams.
	Faulty sensor	Replace sensor.
	Faulty motor gearbox	Replace motor gearbox.

For further details, refer to link below.
https://www.dormakaba.com/resource/blob/633708/fbad4ed79b6c936f5a025d97a0646f7e/dl2842-010-esaii-controller-commissioning-r052317-pdf-data.pdf

Optex X-Zone T		
Issue	***Cause***	***Solutions***
Door does not open when a person enters the detection area.	Wrong power supply voltage.	Set to the stated voltage.
	Wrong wiring or connection failure.	Check the wires and the connector.
	Wrong detection area positioning.	Adjust either AIR, area width or microwave sensitivity.
	Sensitivity is too low.	Set the sensitivity higher.
	Short presence timer.	Set the presence timer longer.
	Dirty detection window.	Wipe the detection window with a damp cloth.
	Wrong wiring or connection failure.	Check the wires and connector.
Door remains open.	Sudden change in the detection area.	Check dipswitch 1 to 4. If the problem persists, turn sensor OFF and ON again.
	Wrong wiring or connection failure.	Check the wire and connector.
	Sensitivity is low.	Set the sensitivity higher.
	Dirty detection window.	Wipe the detection window with a damp cloth.
	Sensor failure.	Contact installer or service engineer.
Door opens when no one is in the detection area.	Objects that move or emit light in the detection area.	Remove the objects.
	The detection area overlaps with that of another sensor.	Check dipswitch 5, 6.
	The detection area overlaps with the door/header.	Adjust the detection are to “Deep” (Outside). Or set dipswitch 10 to “ON”.
	Sensitivity is too high.	Set the sensitivity lower.
	Others.	Set dipswitch 11 to “ON”.

7. Replacement Orders

To order replacement parts or doors, please provide below details. You can find this information on the serial number sticker which is located on the upper left corner of the door. See example of serial number sticker below.

Order Number _____

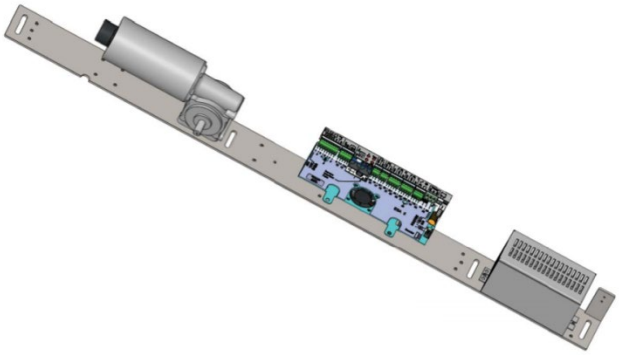
Serial Number _____

Unit Model Number_____

8. Replacement Parts

Door Interlock System	1702-01

Touchless Switch	EL07254



ESA II iRevive Conversion Kit	PA07863

9. Warranty

Products Manufactured by Terra: Terra Universal, Inc., warrants products that it manufactures to be free from defects for a period of 12 months for parts and 90 days for labor, commencing from the date of shipment. This limited warranty covers parts and labor, but not transportation and insurance charges. Terra's sole responsibility is to repair or replace, at its option, any part of the product that proves defective or malfunctioning during this time limit. In some cases, components incorporated in Terra Universal products are covered by additional warranties from component manufacturers; obtain specific information from Terra sales representatives. Repairs may be completed by 3rd party service agents approved by Terra Universal. Terra Universal reserves the rights to limit this warranty based on a service agent's travel, working hours, the site's entry restrictions and unobstructed access to serviceable components of the product. This warranty is void if the equipment is abused or modified by the customer, is operated outside Terra's operating instructions or specifications, or is used in any application other than that for which it is specified. This warranty does not include routine maintenance or service procedures, shipping damage, nor damage from misuse, intentional or unintentional abuse, neglect, natural disasters, or acts of God.

Products Manufactured by Others: Terra Universal, Inc., warrants that, to the best of its ability, Terra's representations of products that are manufactured by others reflect the manufacturer's representations, subject to change without notice. Sole warranty for these products is the original manufacturer's warranty that is passed forward to the purchaser and constitutes the customer's sole remedy for these products. Detailed warranties for distributed products are available through Terra sales representatives.

Freight Shortage or Damage: Upon receipt of any equipment from Terra Universal, Inc., customer shall immediately unpack and inspect for damage or shortage. The customer shall not accept a damaged package or a short shipment until the carrier makes a "damage or shortage" notation on both the carrier's and customer's copy of the freight bill or delivery receipt. Service title passes when the shipment is loaded, so customer is responsible for filing and collecting a freight claim. Any replacement products must be ordered and paid for separately. For Terra's "Policy and Procedures for Returning Goods," see Terra's Internet site: www.TerraUniversal.com.

Generally, customers can improve the chance of collecting on a freight claim by following these procedures: 1) formally requesting that the carrier inspect the shipment immediately upon suspecting damage or shortage to verify condition; 2) notifying the carrier upon discovery of concealed damage and requesting an inspection within 15 days of receipt, both in person or phone and following up via mail; 3) keeping the shipment as intact as possible, including retaining original packaging materials and keeping the product as close to the original receiving location as possible; 4) holding salvage for disposition by the carrier.

All Claims: Terra Universal expressly disclaims all other warranties, expressed or implied or implied by statute, including the warranties of merchantability or fitness for intended use. Terra Universal is not responsible for consequential or incidental damages arising out of the purchase or use of the products supplied by Terra Universal. Terra Universal is not liable for damage to facilities, other equipment, products, property or personnel of others, or of their agents, suppliers, or affiliated parties, which is caused or alleged to have been caused by products supplied by Terra Universal. In any event or series of events, Terra Universal's total liability for any and all damages whatsoever is limited to the lesser of the actual damages or the original invoice cost of the items alleged to have caused the damage. The customer's sole and exclusive remedy for any cause of action whatsoever is repair or replacement of the non-conforming products or refund of the actual purchase price, at the sole option of Terra Universal. All claims must be made in writing within 90 days of the date the product was shipped. Any claims not made within this time limit shall be deemed waived by the customer. Terra Universal is not responsible for any additional costs of repair caused by poor packaging or in-shipment damage during return.

Warranty Returns: All warranty returns must be authorized in advance by Terra Universal and approved under an RMA. Unless approved in advance for good reason, all returns must be in original condition, including all manuals, and must be packaged in original packaging materials. All returned goods are to be shipped to Terra Universal, freight prepaid at customer's expense. See Terra's "Policy and Procedure for Returned Goods."

Thank you for ordering from
Terra Universal!