



Troubleshooting Basics

Any time a problem occurs with the Isotec Safety Entrances we recommend the following basic troubleshooting procedures.

Since the system is controlled by a PLC (Programmable Logic Controller) it is dependent on receiving inputs from sensors and switches in the Safety Entrance. Based on these switch inputs the proprietary algorithms will control outputs such as status lights and locks.

Determining that all of the inputs are functioning correctly will solve majority of the problems you may come across.

Outputs should be ignored for the time being until all inputs have been verified.

The Isotec Safety Entrance control console has a built in self-test mode. Pressing the “press to start self-test” button clears all prior values. Now as a person is walking through the portal each device is monitored to ensure the device output is switching and providing an input to the PLC. If operational, the small square for the device turns dark on the screen. The dark squares should illuminate in order. If a device does not illuminate that is likely a failed component.

Another useful tool is the I/O screen. Use the I/O list on the bottom of the console to determine which device corresponds to each input. Go through each one and make sure the box on the screen goes dark when the device is triggered. All the inputs should be in an open state when inactive except for the door position sensors. This input will show a closed state when the door is closed.

If an input doesn't change state, then there is something either wrong with the device itself, or with the wiring from the device to the PLC.

If you suspect that there is a problem with a lock you can use the Test Mode located in the dealer setup section. This will allow you to force power to a specific lock and also receive feedback on whether or not the PLC received a bond sensor feedback from the lock. You can also test the status lights using this mode. The status light will be green when no power is applied to the lock and red when power is applied.





Troubleshooting Guide

Symptom	Possible Cause	Corrective Action
Doors are Unlocked and System has Power.	System Override switch has been activated.	Check the System Override switch on the back of the control console. If it is depressed and the LED is lit the locks will turn off.
	Interconnect cable is not properly plugged into the control console or the portal.	Verify interconnect cable is secured on the back of the control console and on the motherboard inside the electronics access cover at the portal.
	System Override key switch has been turned off.	Check the key switch on the front of the portal. The light should be green. If it is red the portal is in system override.
	Fire Alarm Jumper not in place.	Check that the jumper on the fire alarm connector is in place or if it is tied into a fire alarm system that it is tied to a N.C. dry contact.
	Emergency Relay not getting voltage across coil.	Check the voltage across the relay. If there is no voltage, check the continuity between the negative side of the relay and the ground blocks. Check the continuity between the positive side of the relay and the power blocks. The positive side of the relay. Use the schematics to determine why one side of the coil may not be getting power or ground.
Symptom	Possible Cause	Corrective Action
The "B" zone door won't release even though there is no metal alarm.	A zone door is not closed or is not locking or bonding.	Go into the Dealer screens and activate test mode. Turn test mode on and activate one lock at a time. You should receive a bond indicator for each lock.
	There is still an occupant in the A zone.	If there are two occupants make sure both are in the B zone. If anyone is in the A zone the B door won't release. If the B door still won't release check the A and B zone occupancy sensors to make sure they are operating correctly. The input should be off until occupancy is detected.
	B zone is being locked manually. (If enabled)	On the main screen of the console check to make sure that the button that locks the B door says "B door normal". If it says "B door locked" it will remain locked until the button is pressed again. If there are 2 button transmitters on the system and the second button is programmed to lock B door, check to ensure that the remote on Icon is not activated.
	A door is not closed.	Check A door position sensor input on the I/O list. It should be activated when the door is closed and off when the door is open.



Symptom	Possible Cause	Corrective Action
The metal alarm on the console is activated and won't reset using the alarm reset button on the console. Touch screen indicates possible tamper.	Access door(s) are open.	Check the access door and make sure it is in place and flush.
	Tamper switch is not making contact.	Remove the doors and manually push in the tamper switch. Then try hitting the alarm reset button on the console. The arm on this switch can be bent towards the door to ensure it is getting proper contact.
	Metal Detector is wired incorrectly.	Make sure Metal Detector should be wired to N.O. contact.
Symptom	Possible Cause	Corrective Action
Occupant Trapped in Portal.	One of the locks is not properly bonding.	Go into the Dealer screens and activate test mode. Turn test mode on and activate one lock at a time. You should receive a bond indicator for each lock.
	One or more occupancy sensors not working.	Have someone walk through the system while monitoring the occupancy inputs. Verify that the correct inputs are being triggered when there is occupancy. The input should be off until occupancy is detected.
	Exit lock or entry lock is enabled.	If the exit lock button is enabled on the main screen check that it shows exit normal. If there are 2 button transmitters on the system and the second button is programmed to exit or entry lock check that this button is not activated.
Symptom	Possible Cause	Corrective Action
Intercom volume low at console.	Volume turned down.	Turn Intercom Volume pot on back of console clockwise to turn up Intercom volume.
Voice Prompt Alerts volume low at console.	Volume turned down.	Turn Alert Volume pot on back of console clockwise to turn up Voice Prompt volume.
Intercom volume low inside portal.	Volume turned down.	Turn volume pot on back of intercom door station clockwise to turn up volume.



Symptom	Possible Cause	Corrective Action
B zone door doesn't lock after metal alarm.	Metal detector is not properly connected.	Use a continuity meter to measure the metal detector output. It should be N.O. until the detector is triggered then it closes. This is a dry contact closure to ground.
	Metal Detector output not being given to PLC.	Monitor the input on the Touch Screen. The corresponding input should be off until a metal alarm is triggered. If there is no response from the input, trace the signal wire that comes from the metal detector and make sure it lands on the correct input of the PLC.
	System Override is activated.	See above "Doors are Unlocked and System has Power" guide to ensure System Override is not activated.
	Wireless Alarm Reset input is resetting the alarm.	Check the Alarm Reset input to ensure it is not triggered. If the relay from the wireless receiver is stuck in a N.C. position the metal alarm will immediately reset the metal alarm after it is triggered.
	Someone reset the metal alarm on the console or with a wireless remote.	Occasionally someone may reset the metal alarm and not communicate to anyone else that they did so.
Symptom	Possible Cause	Corrective Action
C door not releasing.	D zone door is not closed or is not locking or bonding.	Go into the Dealer screens and activate test mode. Turn test mode on and activate one lock at a time. You should receive a bond indicator for each lock.
	Occupancy in either C or D zones.	Have someone walk through the system. Use the touch screen to verify that the correct inputs are being triggered when there is occupancy. The input should be off until occupancy is detected.
Symptom	Possible Cause	Corrective Action
Door closes too slow.	Out of Adjustment.	Increase Main Speed by turning counter clockwise.
Door closes too fast.	Out of Adjustment.	Decrease Main Speed by turning clockwise.
Door slams at the end of the swing.	Out of Adjustment.	Decrease Latch Speed by turning clockwise.
Door does not close and lock.	Out of Adjustment.	Increase Latch Speed by turning counter clockwise.
Door opens too far.	Back check out of adjustment.	Increase the back check by turning clockwise.



Door does not open to 90 degrees.	Back check out of adjustment.	Decrease the back check by turning counter clockwise.
Door has a hard time closing.	Closing power out of adjustment.	Increase the closing power by turning clockwise.