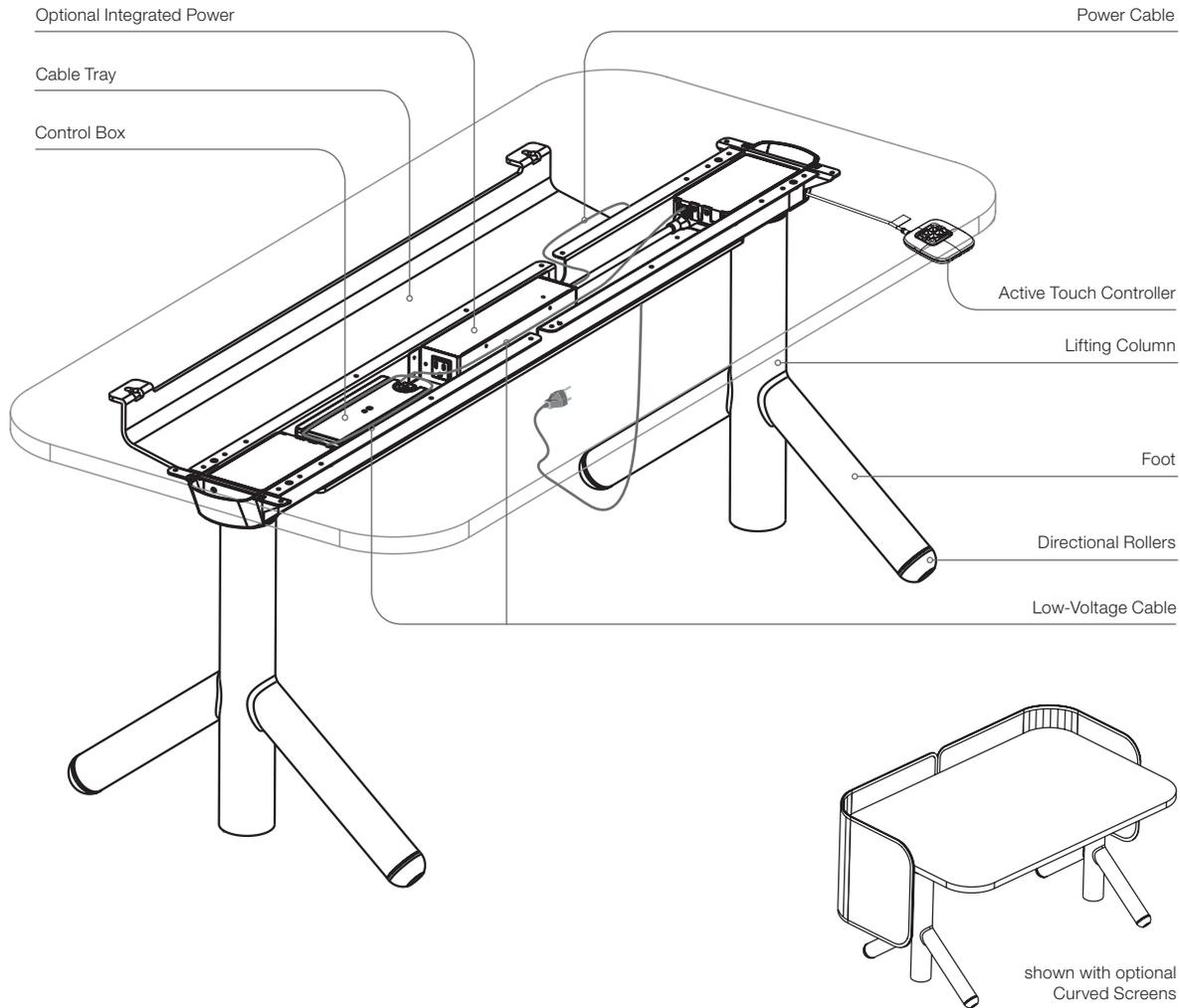


## Troubleshooting Guide



# STEELCASE® FLEX COLLECTION HEIGHT-ADJUSTABLE DESK

## HOW THEY WORK

- Each Lifting Column contains an individual motorized lift mechanism.
- The Control Box contains a power transformer. This converts high-voltage AC current from the wall outlet (120v or 240v) to low-voltage 18v DC current, which powers the Lifting Columns.
- Only the main power cable carries high voltage. All other cables are low voltage.
- The Control Box contains a computer processor with embedded software controllers.
- The Control Box controls all aspects of Desk motion, and synchronizes motion of the individual Lifting Columns.
- The Control Box will shut down the entire Desk if a fault is detected. For example, if one Lifting Column is binding or trapped, it will draw significantly more current than the other Lifting Column, and the Control Box will shut down the entire Desk to prevent further damage.
- The Controller is the user interface to the Desk, and directs all Desk movements by lifting or pressing down until the desired height is reached.
- Preset data is stored in the Controller itself, not the Control Box.

## READ THE ASSEMBLY DIRECTIONS AND USER GUIDE

Many times, problems can be the result of improper assembly. Reference the Assembly Directions document to ensure the Desk is assembled correctly. If so, reference the troubleshooting steps throughout this document.

## TROUBLESHOOTING PARTS KIT

Having a spare part that is known to work will quickly lead to accurate identification of faulty components. Without this, it can be little more than guesswork.

Steelcase strongly recommends that every Dealer maintain a small kit of parts for troubleshooting purposes.

***This kit of parts should include:***

	QTY	PART NO.
Lifting Column	1	1190229001SR (Basic Height) 1177235001SR (Extended Height)
Control Box	1	841364900SR
Active Touch Controller	1	1093247001SR (North America)
Low-Voltage Cable	2	1315693001SR
Power Cable	1	22047301SR (North America) 25380201SR (International) 22047322SR (Desk with integrated power)

Always maintain a complete kit of troubleshooting spare parts that are known to work properly, to quickly identify the root cause of problems and resolve customer issues on the first try.

## TROUBLESHOOTING STEPS

***IMPORTANT:*** The worksurface needs to be removed to gain access to the Control Box and Power Bar. Use an adjustable torque cordless drill when screwing the worksurface screws to avoid applying too much torque and damaging the screws. Use of an impact driver is not recommended as it can damage the screws.

- Step 1:** Check for power at the wall outlet; ensure the Desk is properly assembled, and all cables are securely connected.
- Step 2:** Check all connections of Low-Voltage Cables. Are any of the pins in the connectors damaged or not making contact? (*see Fig. 2 on page 4*)
- Step 3:** Obtain a Control Box, Controller and Power Cable that are known to work.
- Step 4:** Using the known-good components, test the Lifting Columns one by one (*see Common Procedures*). Replace any faulty Lifting Columns.

***Between each of the following steps, be sure to initialize the Control Box (see Common Procedures).***

- Step 5:** If all Lifting Columns operate properly, progressively swap out parts in the test setup as follows:
- Swap the known-good Power Cable with the original from the non-functioning Desk. If it stops working, the Power Cable is faulty.
  - Using the original Power Cable, swap the known-good, Low-Voltage Cable with the original from the non-functioning Desk. If it stops working, the Low-Voltage Cable is faulty. Some Desk disassembly may be required.
  - Using the original Power and Low-Voltage Cables, swap the known-good Controller with the original from the non-functioning Desk. If it stops working, the Controller is faulty.
  - Using the original Power and Low-Voltage Cables and Controller, swap the known-good Control Box with the original from the non-functioning Desk. If it stops working, the Control Box is faulty.

***Be sure to go through all of the steps above to fully identify all faulty components.***

***There could be more than one!***

## COMMON PROCEDURES

### POWER-SAVING CONTROL BOX:

- The Control Box automatically powers down into 'Standby' mode after approximately 10 seconds of inactivity.
- During Standby mode, the Control Box only consumes 0.1 watt of power.
- With the Control Box in Standby mode, the Desk can lose power without affecting the synchronization of the Lifting Columns.
- However, if the Control Box is still active and not in Standby mode, a power loss will require that the Lifting Columns be re-synchronized.
- Power fluctuations and brownouts can also cause the need for re-synchronization.

### SETTING THE ACTIVE TOUCH DISPLAY HEIGHT:

- Upon first time install of the Active Touch controller or after a Power Cycle, the text will blink "SELECT", "HEIGHT".
- Lift up or press down on the controller to scroll through the starting height options.
- Once the correct height has been chosen, pause for 2 seconds.
- The light guide will fill. When all three bars are full, the starting height is saved.

### SYNCHRONIZE THE LIFTING COLUMNS:

- Operate the Desk all the way down to the lowest position, and release the Controller or Down button.
- Press down on the controller or the down button again, and hold.
- After a few seconds, the Desk will move up and down, settling to its correct "bottom" position.
- The Lifting Columns are now synchronized via the software in the Control Box.
- Operate the Desk all the way up and down to confirm proper function.

### POWER CYCLE THE CONTROL BOX:

- In the unlikely event that an error occurs, and the desk is unresponsive, disconnect power to the Desk for at least 10 seconds to reset the Control Box.
- Reconnect power to the desk and synchronize the Lifting Columns as outlined above.

### RESETTING THE ACTIVE TOUCH DISPLAY HEIGHT:

- Press 1, 2, 1, 2. The text will begin blinking "SELECT", "HEIGHT".
- Lift up or press down on the controller to scroll through the starting height options.
- Once the correct height has been chosen, pause for 2 seconds.
- The light guide will fill. When all three bars are full, the starting height is saved.

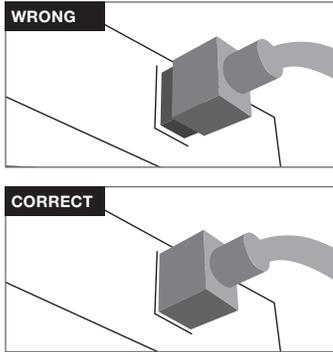
### TEST INDIVIDUAL LIFTING COLUMNS:

- Lifting Columns can be operated individually, even if they are sitting on a table, not assembled into a Desk.
- Obtain a Control Box that is known to work. Be sure the Control Box is unplugged, or plugged in but in Standby mode.
- Connect the Low-Voltage Cable of the targeted Lifting Column to the known-good Control Box. Connect only to Port/Channel 1 (farthest from the Power Cable).
- Obtain a Controller that is known to work, and connect it to the Control Box.
- If the Control Box is unplugged from the wall outlet, plug the Power Cable back in.
- With the system hot, operate the individual Lifting Column.
  - A. Can the Lifting Column be operated through its full range of motion?
  - B. Does the Lifting Column appear to function normally?

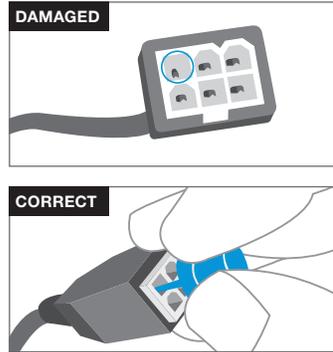
*Any faulty Lifting Column must be replaced.  
There are no field-serviceable parts inside the Lifting Column.*

## PROBLEM ILLUSTRATIONS

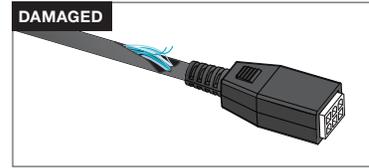
**Fig. 1** - Power Cable not fully seated in Control Box



**Fig. 2** - Damaged pins in the low-voltage wiring connectors



**Fig. 3** - Frayed/damaged Low-Voltage Cables (damaged Lifting Column wiring harness shown)



## OBTAINING REPLACEMENT PARTS

Contact your local Steelcase dealer to help identify and order Service Parts. If you need help, call 888.STEELCASE.

## TROUBLESHOOTING: CAUSES AND SOLUTIONS

PROBLEM	POTENTIAL CAUSE	POTENTIAL SOLUTION
<b>No power to Desk</b>	No power at wall outlet	Check outlet with another device; check circuit breakers/fuses/wiring.
	Power Cable not plugged into wall outlet	Confirm proper cable engagement into wall outlet.
	Power Cable not plugged into Control Box	Check that Power Cable is fully seated into Control Box. (see Fig. 1 on page 4)
	Faulty Power Cable	Inspect the Power Cable for damage; replace any damaged cables.
	Desk wiring not properly assembled	Check that all cables are connected per the Assembly Directions.
<b>Desk will not go up or down</b>	No power	See above.
	Desk is severely overloaded	Base supports a maximum distributed weight capacity of 360 lbs/163.1 kg*. Overloading the Desk could lead to damage that would not be covered by warranty.  <i>Tip: When calculating lifting capacity, subtract the weight of the work surface, understructure and options (i.e. integrated rail, power and data access door or soft edge). See spec guide for weight of each feature.</i>
	Control Box requires reset	Perform initialization procedure. (see Common Procedures) Lower Desk all the way down, and perform synchronization procedure. (see Common Procedures)
	Damaged pins inside multi-pin connectors (Low-Voltage Cable/connector)	Ensure the Desk is in Standby mode (>10 seconds of inactivity). Unplug each multi-pin connection point and inspect the pins. Are they all straight and making good contact? If not, try using a pushpin to straighten them. (see Fig. 2 on page 4) (Otherwise, replace necessary components with undamaged versions.)
	Damaged Lifting Column wiring harness	Carefully check the condition of the Low-Voltage Cable of each Lifting Column. (see Fig. 3 on page 4)  If any Low-Voltage Cables are damaged, the entire Lifting Column must be replaced.

## TROUBLESHOOTING: CAUSES AND SOLUTIONS

PROBLEM	POTENTIAL CAUSE	POTENTIAL SOLUTION
<b>Desk will not go up or down</b>	Faulty Lifting Column	To prevent further damage, the Control Box will shut the whole Desk down if one Lifting Column is faulty. Test Lifting Columns individually (see <i>Common Procedures</i> ), and replace any faulty Lifting Columns.
	Faulty Low-Voltage Cable	Swap with Low-Voltage Cable known to work.
	Faulty Control Box	Swap with Control Box known to work.
	Blown fuse in Control Box	In order to prevent control box failures at installation, please use a volt meter to ensure that every outlet into which a height-adjustable desk will be connected has 120 volts, plus or minus 10 volts, between the hot and neutral contacts (the parallel openings) BEFORE the height-adjustable desk is plugged in. If this voltage reading is above 130 volts, please contact the building electrician for correcting the building wiring.
<b>Desk goes up, but not down (or vice versa)</b>	Damaged pins inside multi-pin connectors (Low-Voltage Cable/connector)	Unplug Power Cable from wall. Unplug each multi-pin connection point, and inspect the pins. Are they all straight and making good contact? If not, try using a pushpin to straighten them. (see <i>Fig. 2 on page 4</i> ) (Otherwise, replace necessary components with undamaged versions.)
	Re-synchronize Desk	Refer to synchronization procedure. (see <i>Common Procedures</i> )
<b>Desk does not go through full range of motion</b>	Faulty Lifting Column	Test Lifting Columns individually (see <i>Common Procedures</i> ), and replace any faulty Lifting Columns. Be sure to test all Lifting Columns! Why? Because another Lifting Column may have the same problem at a different height.
	Re-synchronize Desk	Refer to synchronization procedure. (see <i>Common Procedures</i> )
<b>Lifting Columns not synchronized (one is higher than the other)</b>	Faulty Lifting Column	Test Lifting Columns individually (see <i>Common Procedures</i> ), and replace any faulty Lifting Columns. Be sure to test all Lifting Columns! Why? Because another Lifting Column may have the same problem at a different height.
	Re-synchronize Desk	Refer to synchronization procedure. (see <i>Common Procedures</i> )
<b>Desk movement is not smooth; Lifting Columns jerk or hop while raised or lowered</b>	Faulty Lifting Column	Test Lifting Columns individually (see <i>Common Procedures</i> ), and replace any faulty Lifting Columns. Be sure to test all Lifting Columns! Why? Because another Lifting Column may have the same problem at a different height.
	Lifting Columns are not parallel with one another, causing them to bind	First ensure that glides are properly adjusted and the Desk is level. Loosen (but do not remove) all of the screws attaching the Lifting Columns to the Worksurface. Operate the Desk through a complete up/down cycle and then re-tighten Worksurface attachment screws. Still binding? Take everything off the Desk, flip it upside down, and remove the Worksurface screws completely. Run the Desk through another up/down cycle. The position of the Lifting Columns may shift slightly; re-install Worksurface screws in the adjusted position.
<b>Error Code displayed on Digital-Display Controller</b>	Refer to Error Code listing	Follow instructions on Error Code listing; is Desk functioning normally? Try initializing the Control Box. (see <i>Common Procedures</i> )
<b>Height display is inaccurate</b>	The desk height is shown in centimeters instead of inches (or vice versa)	Follow instructions in the Steelcase Flex Collection Height-Adjustable Desk User Guide to switch from inches to centimeters, or vice versa.
	The desk height is inaccurate	Follow instructions in the Steelcase Flex Collection Height-Adjustable Desk User Guide to adjust the height displayed.  If using the Active Touch controller, refer to page 3, "Resetting the Active Touch Display Height".

# STEELCASE FLEX COLLECTION HEIGHT-ADJUSTABLE DESK ERROR CODES

Error codes are only available with the Active Touch Controller.

ERROR CODE	ERROR CODE NAME	DESCRIPTION	POTENTIAL CAUSE	SOLUTION/TROUBLESHOOTING
E01	INITIALIZATION	The table has an unknown position and needs to be initialized	<ul style="list-style-type: none"> <li>Position error</li> <li>New Lifting Column added</li> </ul>	Initialize the Control Box (see <i>Common Procedures</i> )
E08	Watchdog	Software failed to activate routine that checks calculations	Program fault	<ul style="list-style-type: none"> <li>Unplug Power Cable for 15 seconds</li> <li>Initialize the Control Box (see <i>Common Procedures</i>)</li> <li>Replace Control Box</li> </ul>
E09	LIN Collision	Collisions detected on the LIN bus	Multiple Controllers being activated at the same time	Test Controllers one at a time, and then together. One Controller is likely faulty
E10	Power fail	Power fail happened	<ul style="list-style-type: none"> <li>Power Cord pulled during driving</li> <li>Internal fault</li> </ul>	<ul style="list-style-type: none"> <li>Check Power Cord is not caught, and is allowed to freely travel</li> <li>Plug table into reliable 120v/240v outlet and test</li> <li>Replace Power Cable or Control Box</li> </ul>
E11	Port/Channel mismatch	Change in number of Lifting Columns since initialization	<ul style="list-style-type: none"> <li>Disconnection</li> <li>Lifting Column added</li> </ul>	<ul style="list-style-type: none"> <li>Check Low-Voltage Cable connections and integrity</li> <li>Change Low-Voltage Cable or Lifting Column</li> <li>Initialize the Control Box (see <i>Common Procedures</i>)</li> </ul>
E12	Position error	One Port/Channel has a different position than others	Too much back drive occurred	<ul style="list-style-type: none"> <li>Move table to lowest position</li> <li>Initialize the Control Box (see <i>Common Procedures</i>)</li> </ul>
E13	Short circuit	One of the motor outputs has short-circuited	<ul style="list-style-type: none"> <li>Squeezed Low-Voltage Cable</li> <li>Short in motor</li> </ul>	<ul style="list-style-type: none"> <li>Check Low-Voltage Cable connections</li> <li>Isolate and replace Low-Voltage Cable</li> <li>Isolate and replace Lifting Column</li> </ul>
E15	Power limit	System has reached its power limitation	<ul style="list-style-type: none"> <li>Low-Voltage Cable pulled during driving</li> <li>Internal fault</li> </ul>	<ul style="list-style-type: none"> <li>Check Low-Voltage Cable is not caught, and is allowed to freely travel</li> <li>Use strain-relief loop built into control box</li> </ul>
E16	Button error	Illegal buttons pressed	Hitting multiple buttons simultaneously	Check Controller
E17	Safety missing	LIN bus unit does not support safety feature	Controller does not have up-to-date software	Check Controller
E23, E24, E25	Port/Channel 1, 2, 3 missing respectively	Port/Channel 1, 2, 3 are detected missing respectively	Disconnection	<ul style="list-style-type: none"> <li>Check Low-Voltage Cable connections and integrity</li> <li>Change Low-Voltage Cable or Lifting Column</li> <li>Initialize the Control Box (see <i>Common Procedures</i>)</li> </ul>
E29, E30, E31	Port/Channel 1, 2, 3 type error respectively	<ul style="list-style-type: none"> <li>Port/Channel 1 is not same type as when initialized</li> <li>Port/Channel 2, 3 are not same type as when initialized or not same type as Port/Channel 1</li> </ul>	Change in Lifting Column type	<ul style="list-style-type: none"> <li>Check Lifting Column type</li> <li>Change Lifting Column</li> <li>Initialize the Control Box (see <i>Common Procedures</i>)</li> </ul>
E35, E36, E37	Port/Channel 1, 2, 3 pulse fail respectively	Port/Channel 1, 2, 3 had too many pulse errors respectively	<ul style="list-style-type: none"> <li>Loose/faulty Low-Voltage Cable</li> <li>Hall sensor PCB inside Lifting Column</li> </ul>	<ul style="list-style-type: none"> <li>Check Low-Voltage Cable connections and integrity</li> <li>Initialize the Control Box (see <i>Common Procedures</i>)</li> <li>Replace Lifting Column</li> </ul>
E41, E42, E43	OVERLOAD	Overload up occurred on Port/Channel 1, 2, 3 respectively	<ul style="list-style-type: none"> <li>Hit obstruction</li> <li>Leg is overloaded</li> <li>Reached end stop (before initialization at upper end-stop occurs)</li> </ul>	<ul style="list-style-type: none"> <li>Remove obstruction</li> <li>Remove load</li> <li>Initialize the Control Box (see <i>Common Procedures</i>), if necessary</li> </ul>

# STEELCASE FLEX COLLECTION HEIGHT-ADJUSTABLE DESK ERROR CODES

Error codes are only available with the Active Touch Controller.

ERROR CODE	ERROR CODE NAME	DESCRIPTION	POTENTIAL CAUSE	SOLUTION/TROUBLESHOOTING
E47, E48, E49	OVERLOAD	Overload down occurred on Port/Channel 1, 2, 3 respectively	<ul style="list-style-type: none"> <li>Reached end stop</li> <li>Hit obstruction</li> </ul>	<ul style="list-style-type: none"> <li>Remove obstruction</li> <li>Initialize the Control Box (see <i>Common Procedures</i>), if necessary</li> </ul>
E53, E54, E55	COLLISION	Anti collision triggered on Port/Channel 1, 2, 3 respectively	Hit obstruction	<ul style="list-style-type: none"> <li>Remove obstruction</li> <li>Initialize the Control Box (see <i>Common Procedures</i>), if necessary</li> </ul>
E59, E60, E61	COLLISION	Safety limit switch activated on Port/Channel 1, 2, 3 respectively	Hit obstruction	<ul style="list-style-type: none"> <li>Remove obstruction</li> <li>Initialize the Control Box (see <i>Common Procedures</i>), if necessary</li> </ul>
E65, E66, E67	Port/Channel 1, 2, 3 pulse direction respectively	Pulses counted wrong direction in Port/Channel 1, 2, 3 respectively	<ul style="list-style-type: none"> <li>Motor poles are crossed</li> <li>Hall sensor cables crossed inside Lifting Column</li> </ul>	<ul style="list-style-type: none"> <li>Check Low-Voltage Cable connections and integrity</li> <li>Initialize the Control Box (see <i>Common Procedures</i>)</li> <li>Replace Lifting Column</li> </ul>
E71	Ch1A short	Short circuit on channel 1 (If T-splitter is used, short circuit on 1A)	<ul style="list-style-type: none"> <li>Damage to power cable</li> <li>Damage to cable exiting leg (if applicable)</li> </ul>	<ul style="list-style-type: none"> <li>Inspect power cable for damage, replace if damaged</li> <li>Inspect cable exiting leg (if applicable), replace if damaged</li> </ul>
E72	Ch1B short	Short circuit on channel 1 (If T-splitter is used, short circuit on 1B)	<ul style="list-style-type: none"> <li>Damage to power cable</li> <li>Damage to cable exiting leg (if applicable)</li> </ul>	<ul style="list-style-type: none"> <li>Inspect power cable for damage, replace if damaged</li> <li>Inspect cable exiting leg (if applicable), replace if damaged</li> </ul>
E73	Ch2A short	Short circuit on channel 1 (If T-splitter is used, short circuit on 2A)	<ul style="list-style-type: none"> <li>Damage to power cable</li> <li>Damage to cable exiting leg (if applicable)</li> </ul>	<ul style="list-style-type: none"> <li>Inspect power cable for damage, replace if damaged</li> <li>Inspect cable exiting leg (if applicable), replace if damaged</li> </ul>
E74	Ch2B short	Short circuit on channel 1 (If T-splitter is used, short circuit on 2B)	<ul style="list-style-type: none"> <li>Damage to power cable</li> <li>Damage to cable exiting leg (if applicable)</li> </ul>	<ul style="list-style-type: none"> <li>Inspect power cable for damage, replace if damaged</li> <li>Inspect cable exiting leg (if applicable), replace if damaged</li> </ul>
E75	Ch3A short	Short circuit on channel 3 (If T-splitter is used, short circuit on 3A)	<ul style="list-style-type: none"> <li>Damage to power cable</li> <li>Damage to cable exiting leg (if applicable)</li> </ul>	<ul style="list-style-type: none"> <li>Inspect power cable for damage, replace if damaged</li> <li>Inspect cable exiting leg (if applicable), replace if damaged</li> </ul>
E76	Ch3B short	Short circuit on channel 3 (If T-splitter is used, short circuit on 3B)	<ul style="list-style-type: none"> <li>Damage to power cable</li> <li>Damage to cable exiting leg (if applicable)</li> </ul>	<ul style="list-style-type: none"> <li>Inspect power cable for damage, replace if damaged</li> <li>Inspect cable exiting leg (if applicable), replace if damaged</li> </ul>



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