

Replacing the M18 surge suppressor

(pns 30352001SP and 1179950501SP)

The M18 surge protector is designed to protect signs against transient surge events. The M18 is a single phase device that is installed parallel to the AC network and has a transient amp rating of 36kA (8/20 μ s). There is one surge suppressor in a sign. This surge suppressor is used in the AlphaEclipse RoadStar and the AlphaEclipse Excite signs.

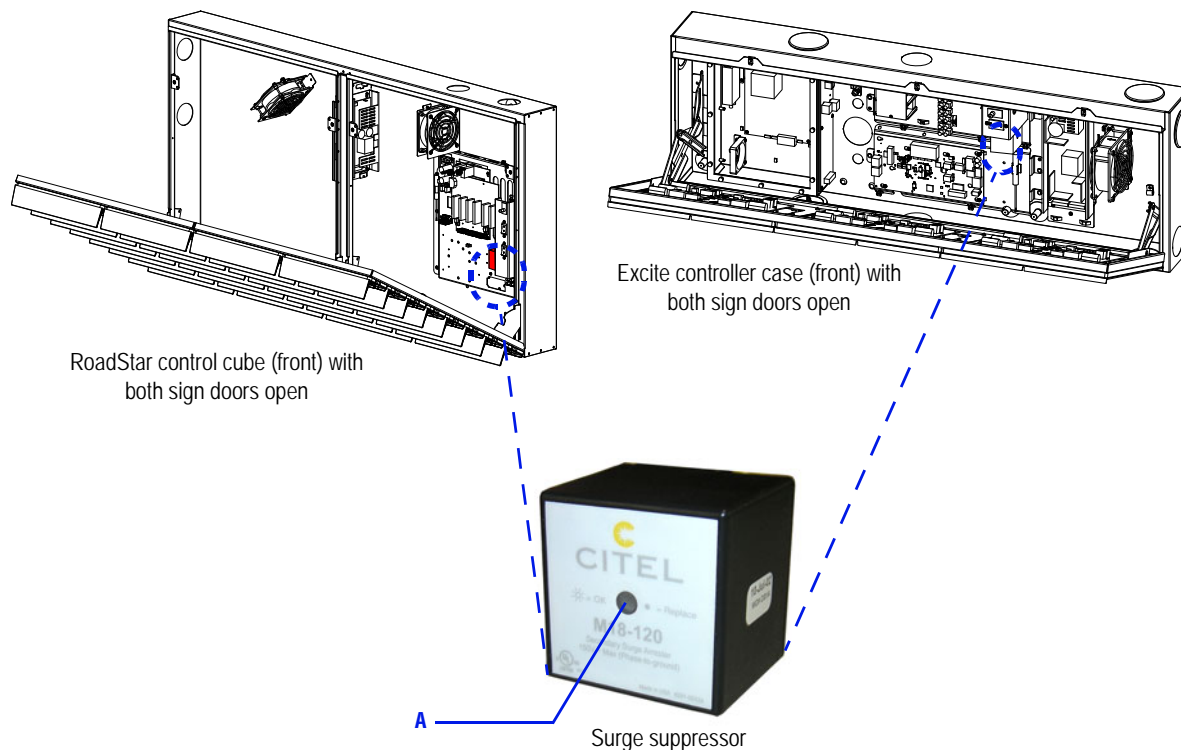


Figure 1: Surge suppressor locations

Item	Name	Description
A	Power indicator	When power is applied to the sign, this LED indicates: <ul style="list-style-type: none">• LED ON = surge suppressor functioning properly• LED OFF = replace surge suppressor

Before you begin

Tools needed

- 5/32-inch hex tool (pn 68117076)
- Screwdriver

Surge suppressor replacement instructions for RoadStar signs

WARNING! Hazardous voltage. Contact with high voltage may cause death or serious injury. Always disconnect power to unit prior to servicing.

Notice: Observe appropriate precautions to prevent electrostatic discharge (ESD) or “static” damage to the replacement part. For safe handling of ESD-sensitive parts, see TechMemo #00-0005.

⇒ To replace the surge suppressor

1. Disconnect all power to the sign at the power source.

Notice: All power switches must be in the off position to remove power from the sign. On a two or more line sign, lines one, three, and five have power switches that must be turned off prior to servicing.

2. Locate the sign’s control cube.

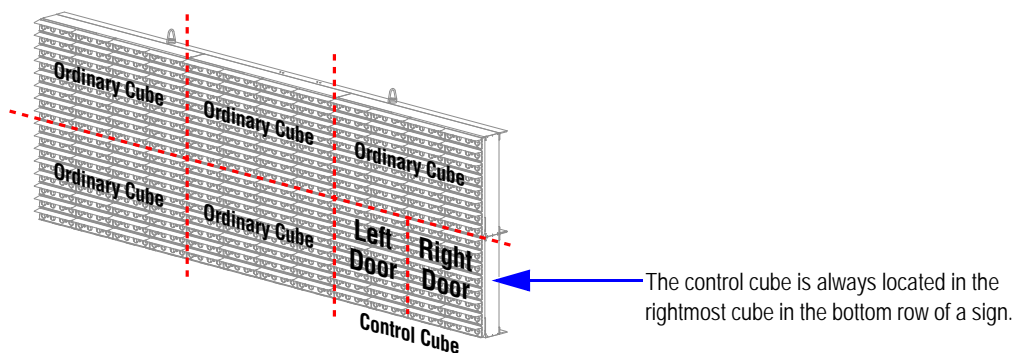


Figure 2: Control cube location

3. Open the control cube door.

- Locate the two door locks and use a 5/32-inch hex tool to open each door lock.

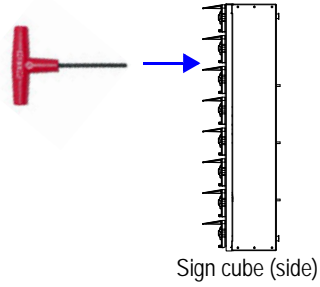
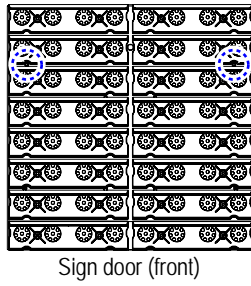


Figure 3: Use a hex tool to open the door locks

- Carefully pull the door back.

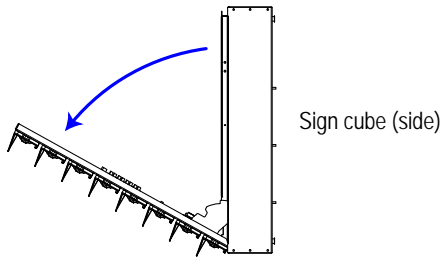


Figure 4: Open the door

4. Locate the surge suppressor.

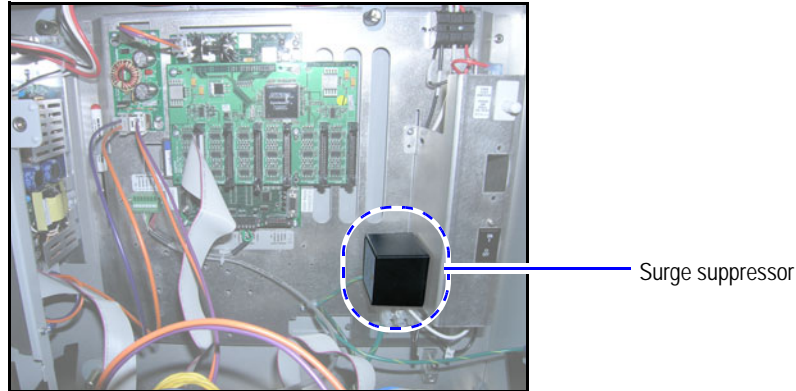
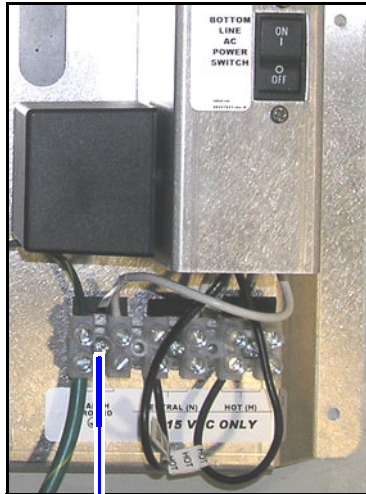


Figure 5: Surge suppressor is located in the control cube

5. Disconnect the surge suppressor wires from the terminal block.

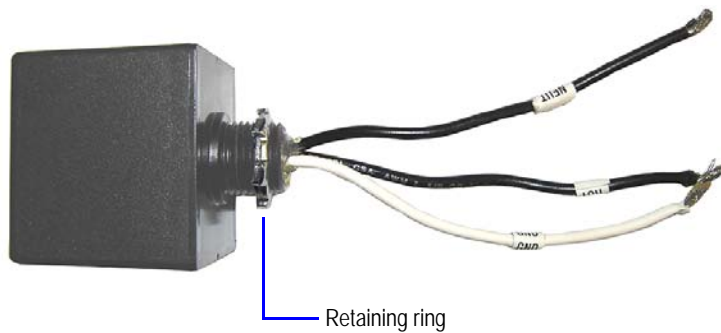


Remove the surge suppressor HOT, NEUTRAL, and GND wires from this terminal block.

Terminal block

Figure 6: Terminal block

6. Remove surge suppressor from the sign.



Turn the surge suppressor counter-clockwise to remove the retaining ring from the surge suppressor

Retaining ring

Figure 7: Remove the retaining ring

7. Attach the replacement surge suppressor to the sign and connect its HOT, NEUTRAL, and GND wires to the terminal block.
8. Close the sign door, tighten both door locks, and apply power to the sign.

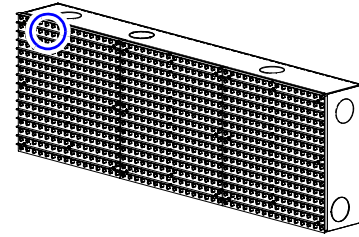
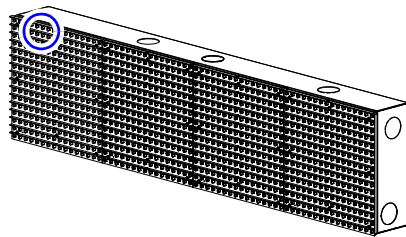
Surge suppressor replacement instructions for Excite signs

WARNING! Hazardous voltage. Contact with high voltage may cause death or serious injury. Always disconnect power to unit prior to servicing.

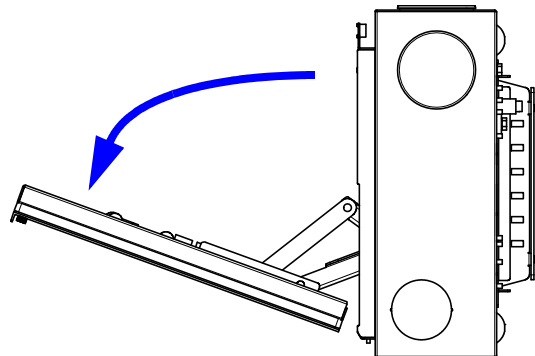
Notice: Observe appropriate precautions to prevent electrostatic discharge (ESD) or “static” damage to the replacement part. For safe handling of ESD-sensitive parts, see TechMemo #00-0005.

⇒ To replace the surge suppressor

1. Disconnect all power to the sign at the power source.
2. Open the controller case door (bottom left-most case).
 - Using a 5/32-inch hex tool to open the section door lock, turn counterclockwise and then pull the door toward you.



5/32-inch hex tool
(pn 6811-7076)



Open the door slowly to prevent damage to internal components.

Figure 8: Use a hex tool to open the door locks

3. Locate the surge suppressor.

- 23mm Series A signs

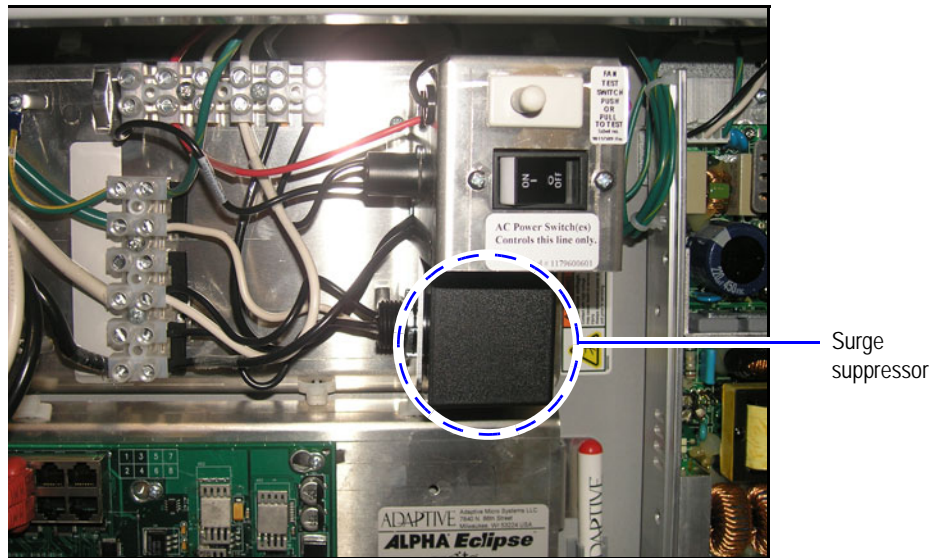


Figure 9: Surge suppressor location in a 23mm Series A sign

- All other Excite signs

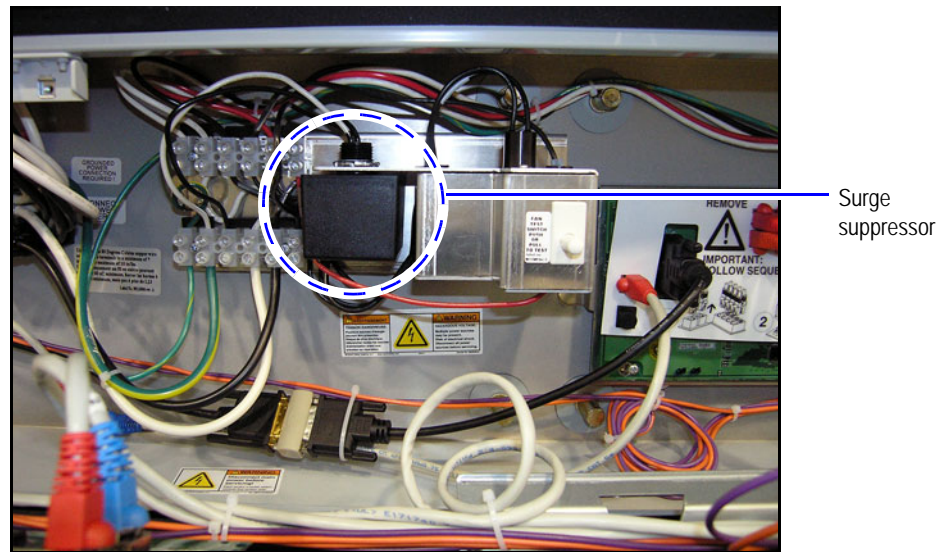
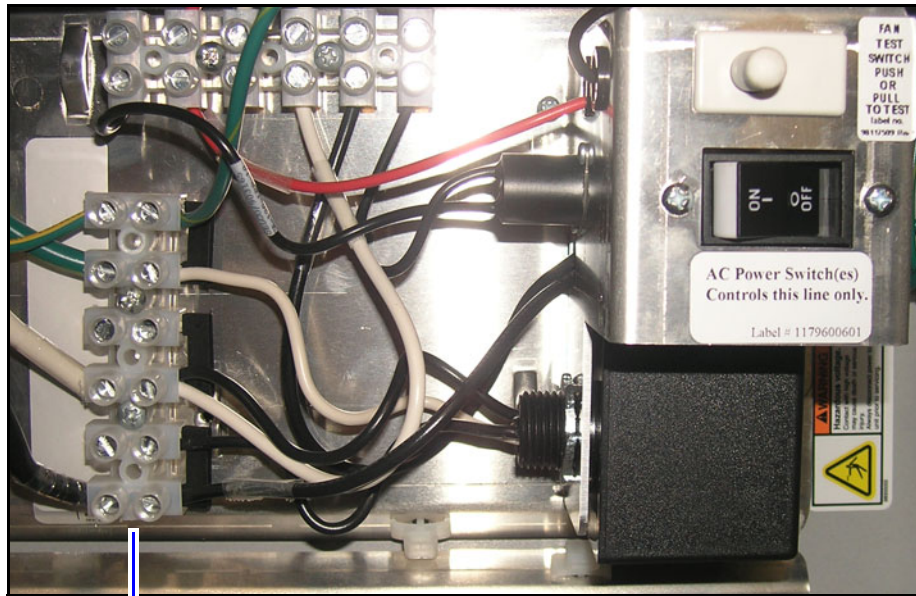


Figure 10: Surge suppressor location in a 23mm Series B sign and in 20mm and 35mm signs

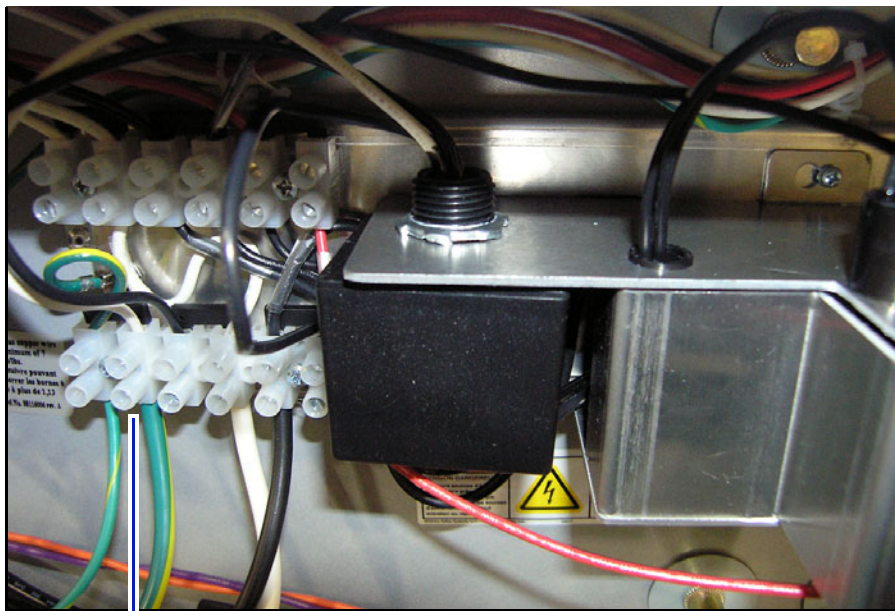
4. Disconnect the surge suppressor wires from the terminal block.
 - 23mm Series A signs



Terminal block
Remove the surge suppressor HOT, NEUTRAL, and GND wires from this terminal block.

Figure 11: Surge suppressor to terminal block wiring in Series A signs

- All other Excite signs



Terminal block
Remove the surge suppressor HOT, NEUTRAL, and GND wires from this terminal block.

Figure 12: Surge suppressor to terminal block wiring in 23mm Series B sign and in 20mm and 35mm signs

5. Remove surge suppressor from the sign.



Figure 13: Remove the retaining ring

6. Attach the replacement surge suppressor to the sign and connect its HOT, NEUTRAL, and GND wires to the terminal block.
7. Close the sign door, tighten door locks, and apply power to the sign.