Troubleshooting Chart

This **LED Strip Power Troubleshooting Chart** is a vital tool for every field engineer and contractor. When you are on a job site, time is money. You cannot afford to guess why a lighting system is failing.

At [www.henleled.com](), we believe in engineering-first solutions. Use this guide to identify, diagnose, and fix the most common power issues in professional LED installations.

LED Strip Power Troubleshooting Chart

Problem	Likely Cause	Professional Solution
Lights are Flashing/Strobing	**Power Supply Overload:** The total wattage exceeds the driver's capacity.	Calculate total wattage. Ensure you follow the **80% Rule**. Upgrade to a higher wattage driver.
Lights Dim at the End of a Run	**Voltage Drop:** The run is too long or the wire gauge is too thin.	Use **[LED Strip Voltage Drop Solutions]**. Inject power at both ends or switch to a 24V/48V

Problem	Likely Cause	Professional Solution
		system.
The Strip Will Not Turn On	**Polarity Reversal:** Positive and negative wires are swapped.	Check the "+" and "-" markings on the strip and driver. Reverse the wires if necessary.
Partial Section is Dark	**Mechanical Damage:** The PCB trace is cut or a solder joint is broken.	Check for sharp bends or physical damage. Cut out the dead section and use a connector or solder.
Audible Humming or Buzzing	**Driver/Dimmer Incompatibility:** The dimming frequency is causing resonance.	Ensure you are using a high-quality, flicker-free driver. Match TRIAC/0-10V protocols correctly.
Color Shift (e.g., Ends look Yellow)	**Low Voltage:** Insufficient power to drive the "Blue" phosphor in White LEDs.	Increase the wire gauge (AWG) or use a Constant Current (CC) LED strip to stabilize the color.
Strip is Flickering	**Low PWM Frequency:**	Switch to a driver with a

Problem	Likely Cause	Professional Solution
on Camera	The driver's dimming frequency is too low.	**High-Frequency PWM** output (above 2,000 Hz).
Driver is Extremely Hot	**Poor Ventilation:** The power supply is in a sealed space with no airflow.	Relocate the driver to a ventilated area. Ensure it is not covered by insulation material.

Deep Dive: How to Use This Chart Successfully

1. Start with the Multimeter

Always use a digital multimeter. Measure the voltage at the **output of the driver** and the **end of the LED strip**. If the driver says 24V but the end of the strip says 20V, you have a classic voltage drop issue. You can find high-copper PCBs that minimize this at www.henleled.com.

2. Verify the 80% Rule

If your lights flash like a heartbeat, the driver is likely in "Protection Mode." This happens when you pull too much current. **Solution:** Disconnect half the strip. If the flashing stops, your power supply is too small for the load.

3. Check for "Cold" Solder Joints

In B2B projects, human error during installation is common. A "cold" solder joint looks connected but has high resistance. This causes heat and flickering. Always pull gently on the wires to ensure a mechanical and electrical bond.

4. Isolate the Dimmer

If you have flickering, bypass the dimmer. Connect the LED strip directly to the power supply.

- **If it stops flickering:** The issue is the dimmer or the compatibility between the dimmer and driver.
- **If it continues flickering:** The issue is the driver or the strip itself.

Why Choose Henle LED for Reliable Systems?

Troubleshooting is easier when you use high-quality components from the start. We design our products to prevent these common issues:

-

3oz Copper PCBs: To prevent voltage drop and overheating.

-
-

Gold-Plated Connectors: To prevent oxidation and loose connections.

-
-

Certified Drivers: Every power supply we sell at www.henleled.com is tested for dimming compatibility and thermal safety.

-

Do you have a problem not listed on this chart? Don't let a technical delay stop your project. **Contact our engineering team today.** We can help you diagnose complex wiring issues and provide the right components to fix them permanently.