Tools Needed:
- Philips head screwdriver
- Multi-meter

Always turn off the power to the sign prior to opening the cabinet.

Disconnect the power wires going to the sign.

Note: Make appropriate wiring connections per local codes.

**Description of Normal Operation for the Signal’s Internal Power Supply**
Diagnostic LEDs are included on the internal power supply to aid in verifying that input power is present and is being transferred to the sign face through the output connectors.

**+12V LED**
This LED illuminates Green when 12-24VDC power is applied to the internal power supply’s input power pigtail.

*Note: The transformer on the power supply converts 12-24VDC power to +12V.*

**A Output LED**
Illuminates with power applied to Blue wire on the input power pigtail

**C Output LED**
Illuminates with power applied to Red wire on the input power pigtail

**B Output LED (Used for third message ONLY)**
Illuminates with power applied to Yellow wire on the input power pigtail

**Output Connectors**
These connectors transfer power from the internal power supply to the sign face to illuminate the individual message(s).

![Diagram of TCIL Series 12-24VDC](image-url)
Problem: There are some LEDs out

TCIL Series 12-24VDC

There are some LEDs out

< 10 LEDs Lit

Can you measure the correct incoming voltage at the sign?

NO

Entire sign needs replaced

NO

Output voltage is > 12VDC?

YES

Check switches and wiring

YES

Supply is defective and needs replaced

Contact sales with the serial number of the sign, and be prepared with other relevant information:
- Input voltage reading from multimeter.
- Output voltage of power supply.
- Photos/video showing the issue/damage.
- Photos of the inside of the sign, showing the wiring and power supplies.

Please refer to the diagrams on page 1.
Problem: A message is lit that shouldn’t be

TCIL Series 12-24VDC

A message is lit that should not be

Do the wires run parallel to other high power devices?

YES → Run wires in separate conduit

NO

Is there incoming voltage on that channel?

YES → Recheck all connections to switches or controlling system

NO → Replace power supply

Please refer to the diagrams on page 1.

Contact sales with the serial number of the sign, and be prepared with other relevant information:
- Input voltage reading from multimeter.
- Output voltage of power supply.
- Photos/video showing the issue/damage.
- Photos of the inside of the sign, showing the wiring and power supplies.
Problem: Display is flickering

TCIL Series 12-24VDC

Display is flickering

Is the +12V LED illuminated steady?

NO

External power source may be AC or it may not have adequate current capacity to accommodate the sign's power supply inrush current.
Check incoming voltage, power source, switches and wiring

YES

Is the output connector secure?

YES

Supply is defective and needs replaced

NO

Re-attach connector

Contact sales with the serial number of the sign, and be prepared with other relevant information:
• Input voltage reading from multimeter.
• Output voltage of power supply.
• Photos/video showing the issue/damage.
• Photos of the inside of the sign, showing the wiring and power supplies.

Please refer to the diagrams on page 1.
Problem: Entire display is out

TCIL Series 12-24VDC

Entire display is out

- Is the +12V LED illuminated steady?
  - YES
  - NO

- Is the output LED for the affected message illuminated?
  - YES
  - NO

- Is the output connector secure?
  - YES
  - NO

- Is the input polarity correct?
  - YES
  - NO

- Can you measure the correct incoming voltage at the sign?
  - YES
  - NO

Supply is defective and needs replaced

Re-attach connector

Contact sales with the serial number of the sign, and be prepared with other relevant information:
- Input voltage reading from multimeter.
- Output voltage of power supply.
- Photos/video showing the issue/damage.
- Photos of the inside of the sign, showing the wiring and power supplies.

Please refer to the diagrams on page 1.