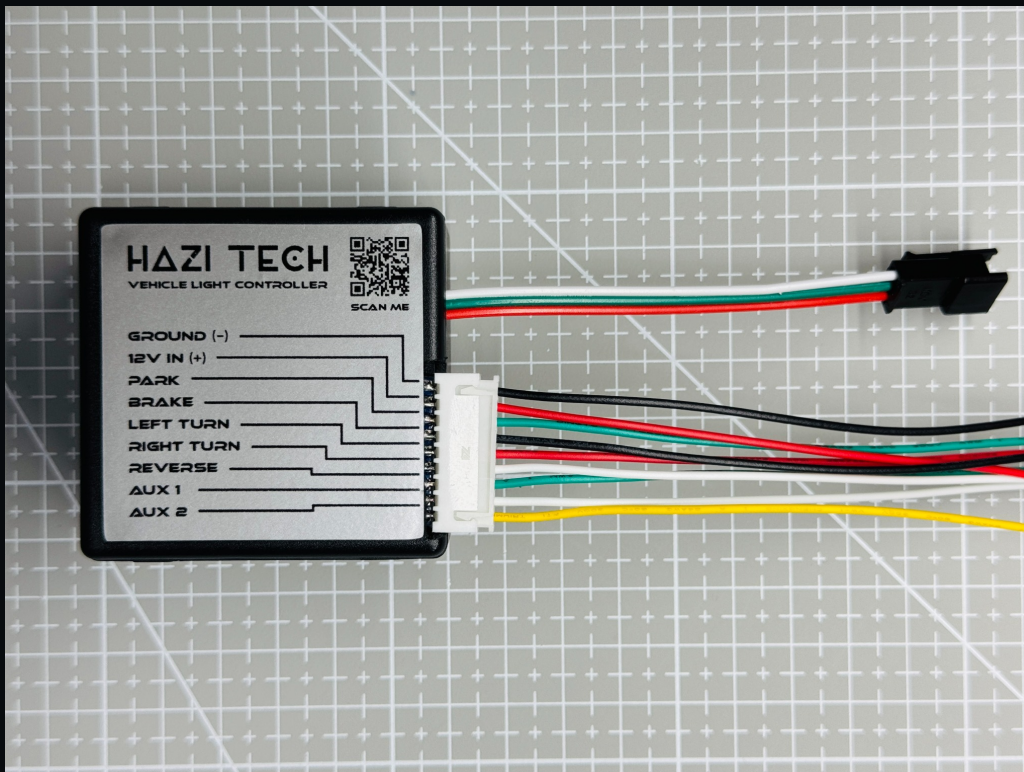


HAZI TECH

VEHICLE LIGHT CONTROLLER

Ultra Series

Programmable Automotive LED Lighting Controller

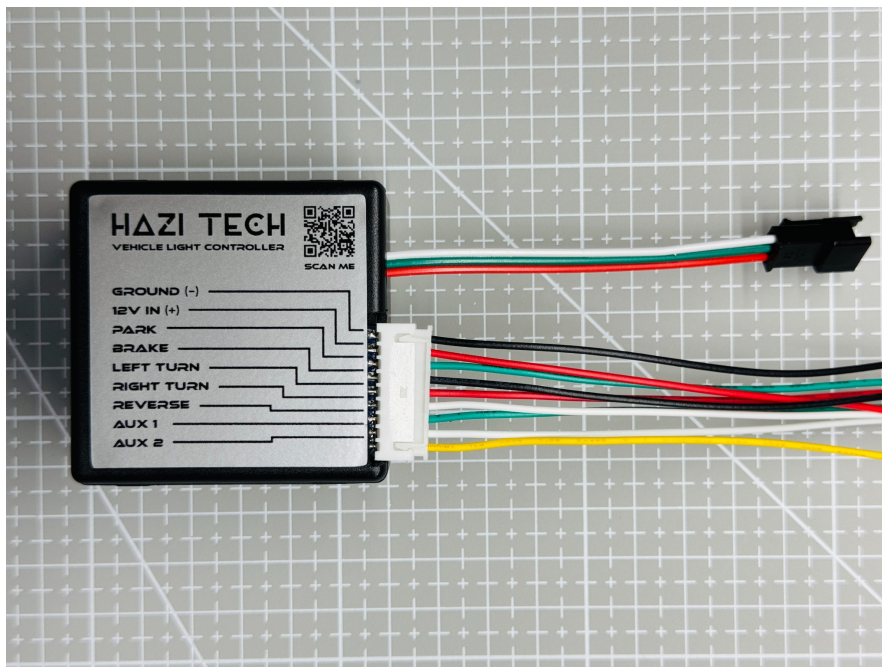


USER MANUAL

Installation • Vehicle Inputs • Custom Functions • Support

1. Product Overview

The HAZI TECH Vehicle Light Controller - Ultra Series is a programmable automotive LED controller for custom tail lights, headlights, spoilers, wings and other LED-strip installations. It integrates programmable effects with the vehicle's Park, Brake, Turn Signal and Reverse functions.



Specification	Ultra Series
Operating input	12-24 V DC vehicle systems
LED output	5 V / 10 A
Typical LED capacity	Approximately 2-3 m of 144 LED/m programmable strips
Vehicle functions	Park, Brake, Left Turn, Right Turn, Reverse
Turn integration	Synchronizes with the vehicle blink rate
Power behavior	Automatic power-on via signal wires; no accessory line required
Connections	Detachable connectors
Protection	Built-in short-circuit and surge protection

Applications

Ideal for custom vehicle builds, OEM-light upgrades and animated programmable LED strips fitted to tail lights, headlights, spoilers, wings or other suitable vehicle locations.

2. Controller Connections

The controller's vehicle-side connections are identified directly on the enclosure. Connect the required signals for your installation and verify polarity before applying power.

Connection	Function
GROUND (-)	Vehicle / controller ground
12V IN (+)	Positive power input. The Ultra system supports 12-24 V vehicle power.
PARK	Park-light signal input
BRAKE	Brake-light signal input
LEFT TURN	Left turn-signal input
RIGHT TURN	Right turn-signal input
REVERSE	Reverse-light signal input
AUX 1	Programmable auxiliary trigger for a custom animation or feature
AUX 2	Programmable auxiliary trigger for a custom animation or feature

AUX 1 & AUX 2 - CUSTOM PROGRAMMING

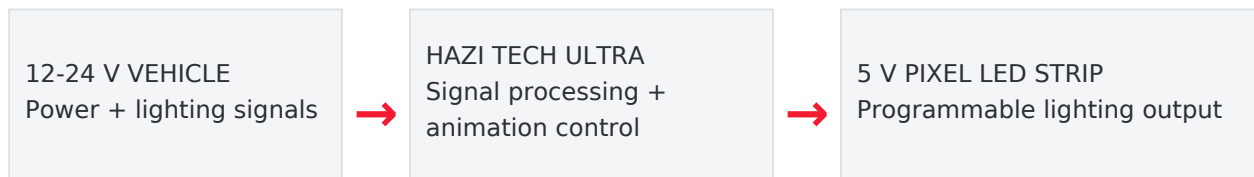
AUX 1 and AUX 2 can be programmed to trigger custom animations or other custom features. Discuss the required AUX behavior with HAZI TECH when ordering so the controller can be configured for your intended application.

12-24 V Vehicle Compatibility

The Ultra controller system is designed for use with both 12 V and 24 V vehicle power systems. No separate external voltage converter is required for the vehicle-side power input.

3. Installation & Vehicle Integration

The controller connects to the vehicle's lighting signals and drives a 5 V programmable LED strip. Only connect the signal inputs required for the chosen installation.



- 1** Plan the installation
Determine strip position, strip length, animation zones and the vehicle functions required.
- 2** Mount the LED strip
Secure the programmable LED strip in the selected vehicle-lighting location.
- 3** Connect the LED output
Connect the strip to the controller using the supplied detachable output connector.
- 4** Connect vehicle signals
Connect Park, Brake, Left Turn, Right Turn and Reverse inputs as required.
- 5** Connect AUX inputs if ordered
Connect AUX 1 and/or AUX 2 only when those inputs have been programmed for your requested custom functions.
- 6** Connect 12-24 V power and ground
Connect the controller to the vehicle power system with correct polarity.
- 7** Test all functions
Verify each vehicle input, custom trigger and animation before permanently securing the controller and wiring.

4. Lighting Functions & Effects

The Ultra controller combines normal vehicle-light functions with programmable animations. Strip length, animation zones and signal behavior can be tailored to the vehicle installation.

Function	Available behavior
Park	Programmable park-light behavior
Brake	Dedicated brake-light response
Left / Right Turn	Independent turn-signal functions synchronized with the vehicle blink rate
Reverse	Programmable reverse-light behavior
Scanner Effects	Dynamic LED scanner-style animations
VIP Flashes	Custom flash animations
Rainbow Modes	Programmable multicolour effects
AUX 1 / AUX 2	Custom animation or feature triggers programmed for the customer's application

Custom Configuration

The controller can be tailored for strip length, animation zones and signal behavior. AUX 1 and AUX 2 provide additional flexibility for customer-specific triggers. Discuss special animation or feature requirements with HAZI TECH when ordering.

5. Safety, Final Checks & Support

Complete wiring with the vehicle powered down where appropriate. Verify polarity before applying power, secure wiring away from heat, sharp edges and moving components, and test all required functions before permanently securing the installation.

Before Finalizing

- Confirm 12-24 V power and ground connections.
- Verify Park and Brake operation.
- Check Left Turn and Right Turn independently.
- Verify Reverse operation.
- Test AUX 1 / AUX 2 if custom functions were ordered.
- Confirm the programmable LED strip and detachable connectors are secure.
- Test all animations and lighting zones before hiding the wiring.

HAZI TECH SUPPORT

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For custom AUX programming, animation requirements or vehicle-specific installation questions, discuss your setup with HAZI TECH.

HAZI TECH • Vehicle Light Controller • Ultra Series