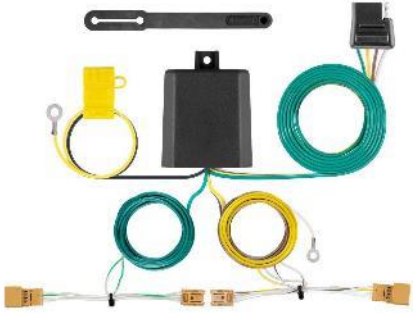




Custom Wiring

A Complete Line of Towing Electrical



● Custom wiring



● OE replacements



● RV harnesses



● Taillight converters



● Custom brake controller harnesses



● Brake controllers



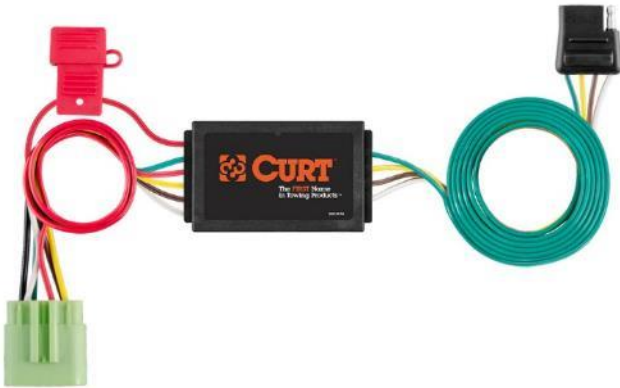
● Extension harnesses



● Adapters

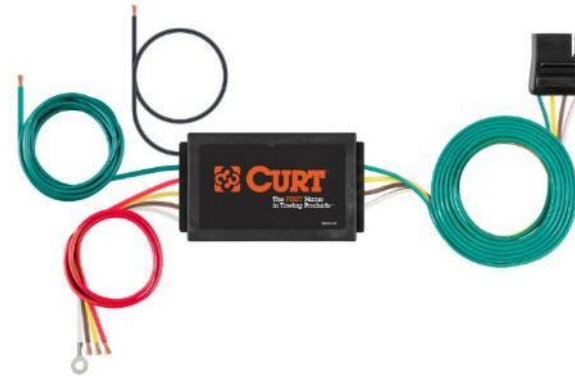
Two Trailer Wiring Options

- If a vehicle is not equipped with factory-installed trailer wiring, CURT offers two options: custom wiring or a taillight converter.



Custom Wiring

- Vehicle-specific
- Plug-and-play
- Standard output (typically 4-way flat)

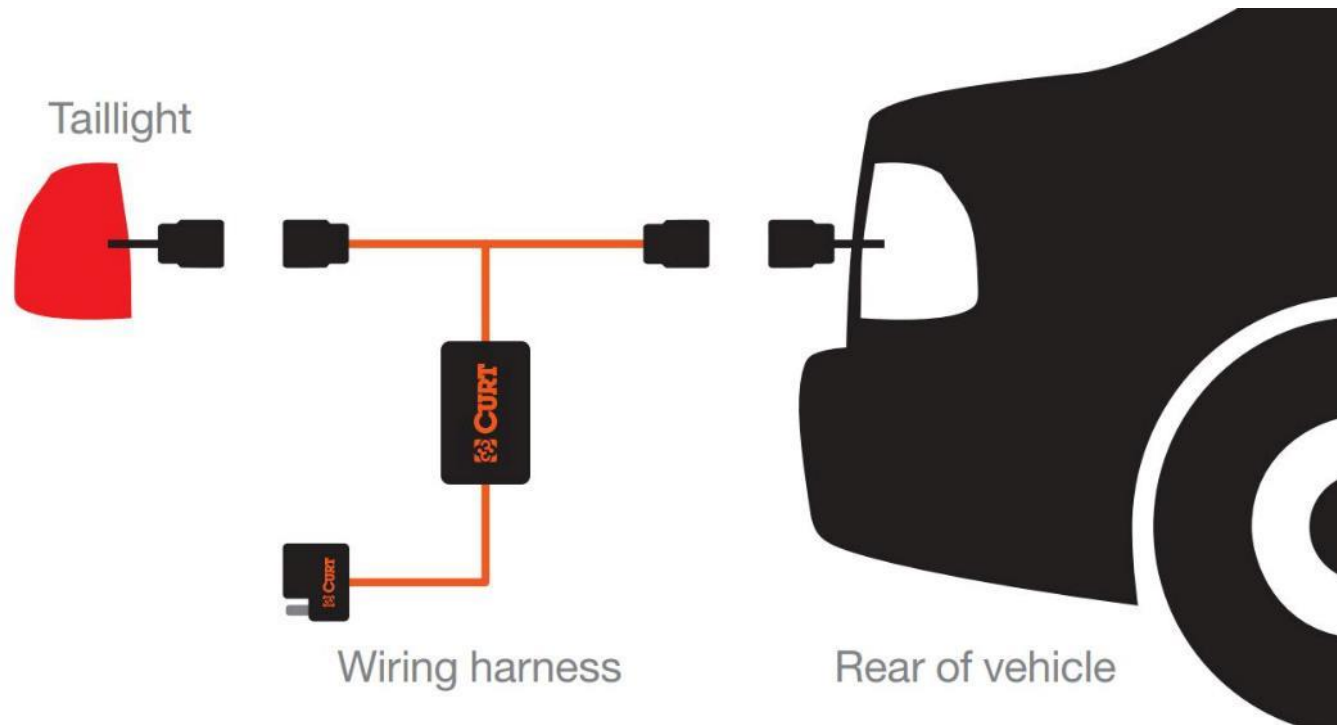


Taillight Converter

- Non-vehicle-specific
- Splicing required
- Standard output (typically 4-way flat)

Custom Wiring

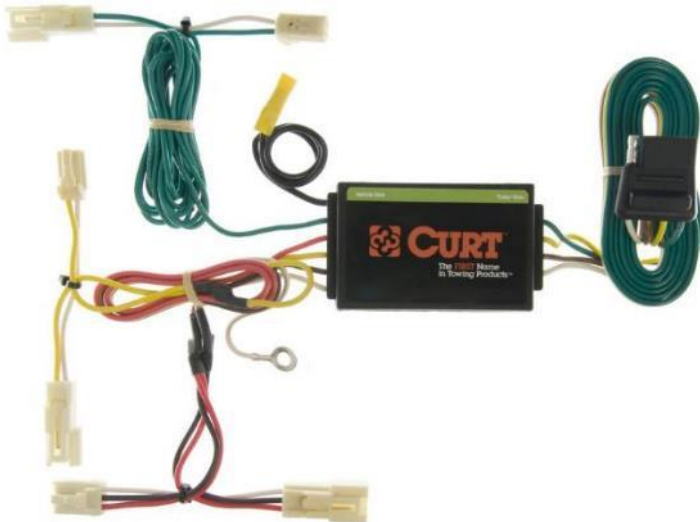
- Custom wiring (or a 'T-connector') plugs into the vehicle's electrical system, using the taillights or an OEM socket, and provides a trailer wiring connector.
- There are two types of custom wiring: harnesses and connectors.



Custom Wiring

Custom Wiring Harness

- Also called a 'T-connector', custom wiring harness uses vehicle-specific plugs to 'T' into the vehicle's taillight assembly, eliminating the need for cutting, splicing and soldering when installing vehicle-to-trailer wiring.



Custom Wiring Connector

- Some vehicles are equipped with an original equipment socket that is specifically intended for hooking up trailer wiring. A custom wiring connector (or factory-type connector) plugs into this OE socket.



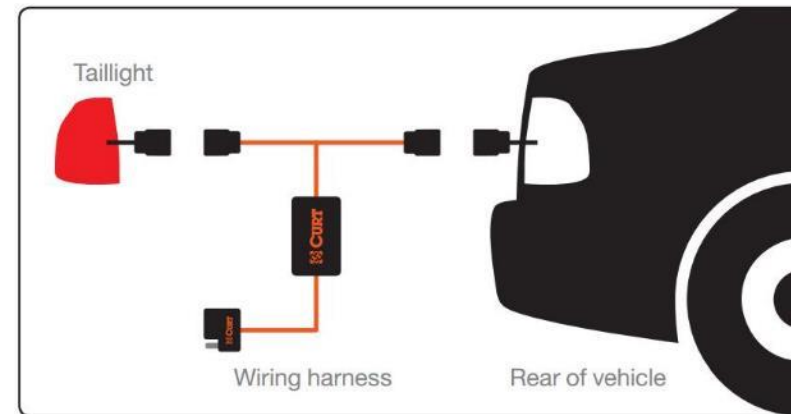


CUSTOM WIRING



Advantages of CURT Custom Wiring

- Vehicle-specific application for a custom fit
- Plug-and-play design to eliminate the need for cutting and splicing
- Comes with all necessary components, including a converter if required
- Most install in 30 minutes or less
- Typical output is a 4-way or 5-way flat
- Hand-tested and circuit-protected



Custom wiring
w/ converter



Custom wiring
w/o converter

Advantages of CURT Potted Enclosures

For increased quality and reliability, select CURT taillight converters and custom wiring harnesses feature a potted enclosure. The converter is filled with an epoxy resin that completely seals off the circuit board and gives the converter several advantages.

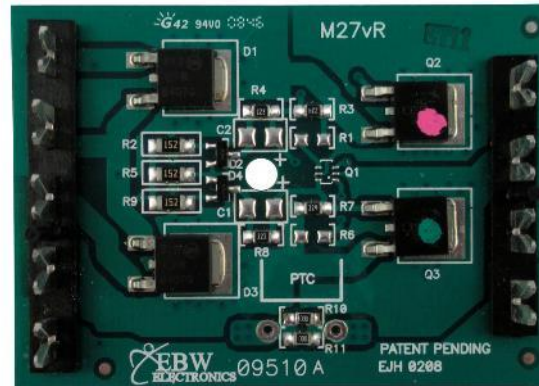
- Greatly increased protection against impacts and vibrations for longer life
- Impervious to weather and completely sealed off from moisture
- Allows converter to be mounted on the exterior of the vehicle



Advantages of Surface Mount Technology

Surface mount technology is the most advanced technology for circuit designs, offering a number of benefits over the older through-hole-mount circuit boards. We apply SMT to most of our taillight converters and custom wiring.

- Creates little resistance, reducing heat, limiting voltage drop and extending life
- SMT circuitry efficiency ensures maximum trailer light intensity and life
- Improved mechanical performance under shake and vibration conditions



SMT circuit

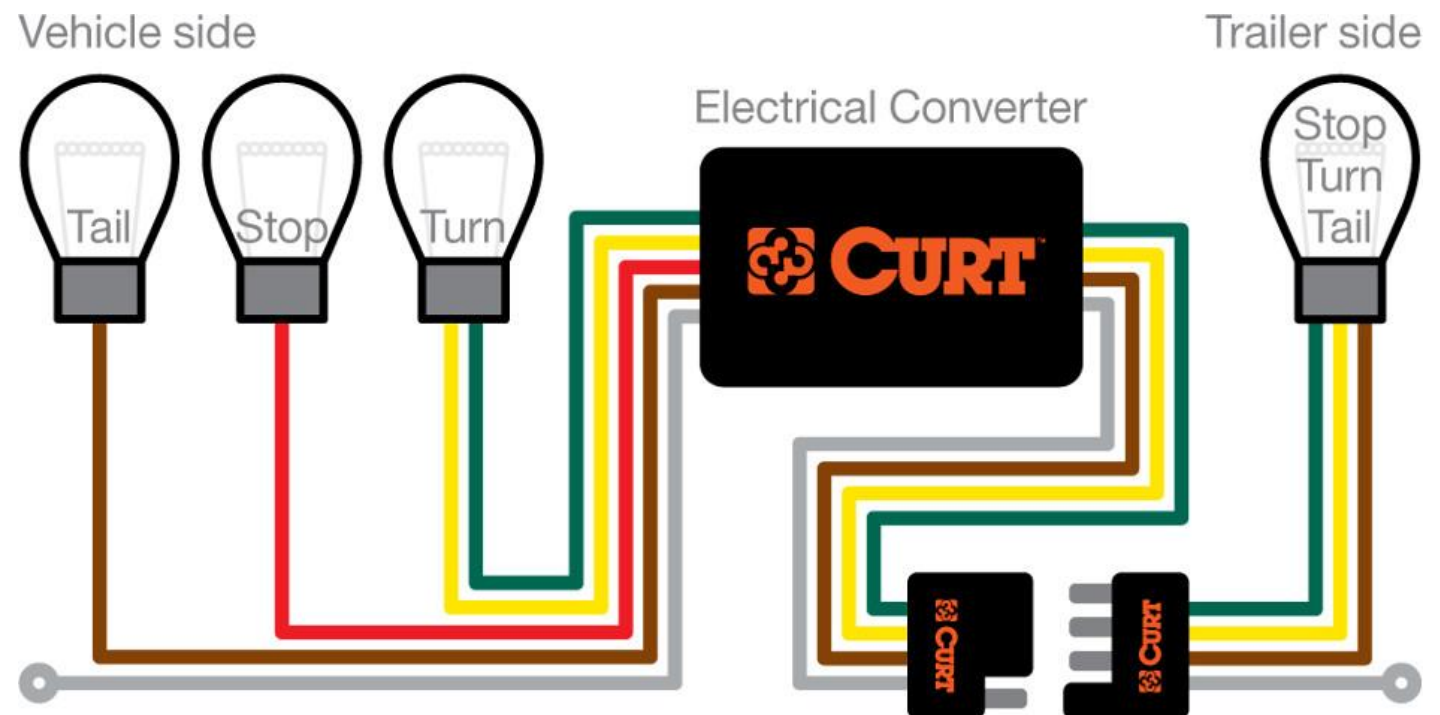


Through-hole-mount circuit

Taillight Converter

If custom wiring is not available for a particular vehicle application, a taillight converter may be required. A converter is designed to splice into a vehicle's wiring and convert the signals to be compatible with the trailer wiring, providing a standard 4-way flat socket.

- A secondary usage of a taillight converter is to draw the trailer lamp power directly from the towing vehicle's battery instead of the taillight circuit.
- This is required for tow vehicles with LED taillights or if a customer uses a trailer with many incandescent lamps.



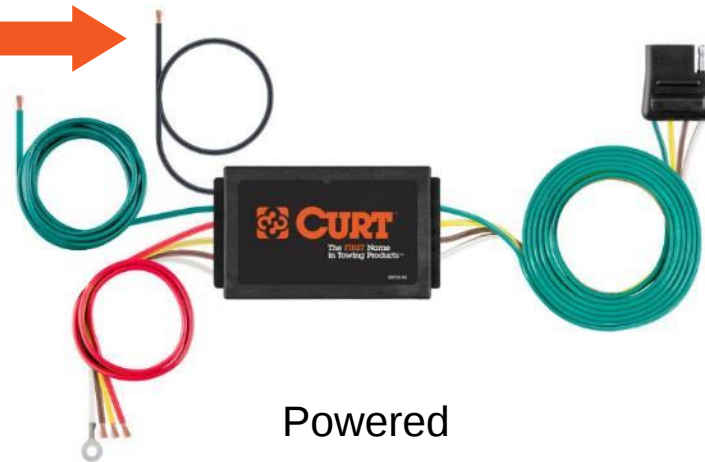
Powered Converters vs. Non-Powered

- A powered converter is required if the tow vehicle has LED taillights or many incandescent bulbs.
- A vehicle with LED taillights is generally designed with lower current capacities, and adding trailer lights may draw too much power from the vehicle's system. This can result in a blown fuse, dimly lit bulbs or a complete loss of vehicle and trailer light functionality.
- A powered converter draws current directly from the tow vehicle battery to avoid these problems.

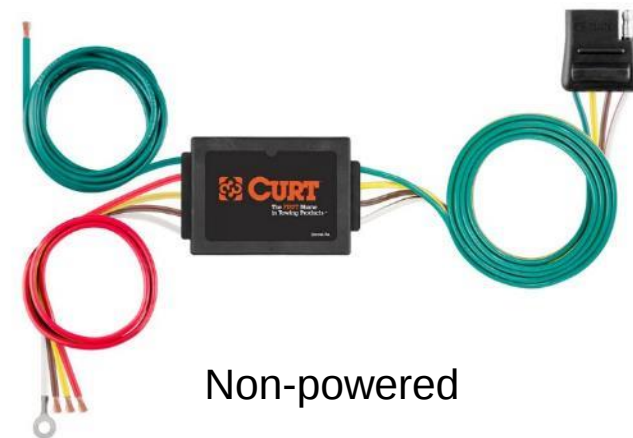
This extra black wire connects to the vehicle's battery using a powered converter wiring kit.



Wiring kit



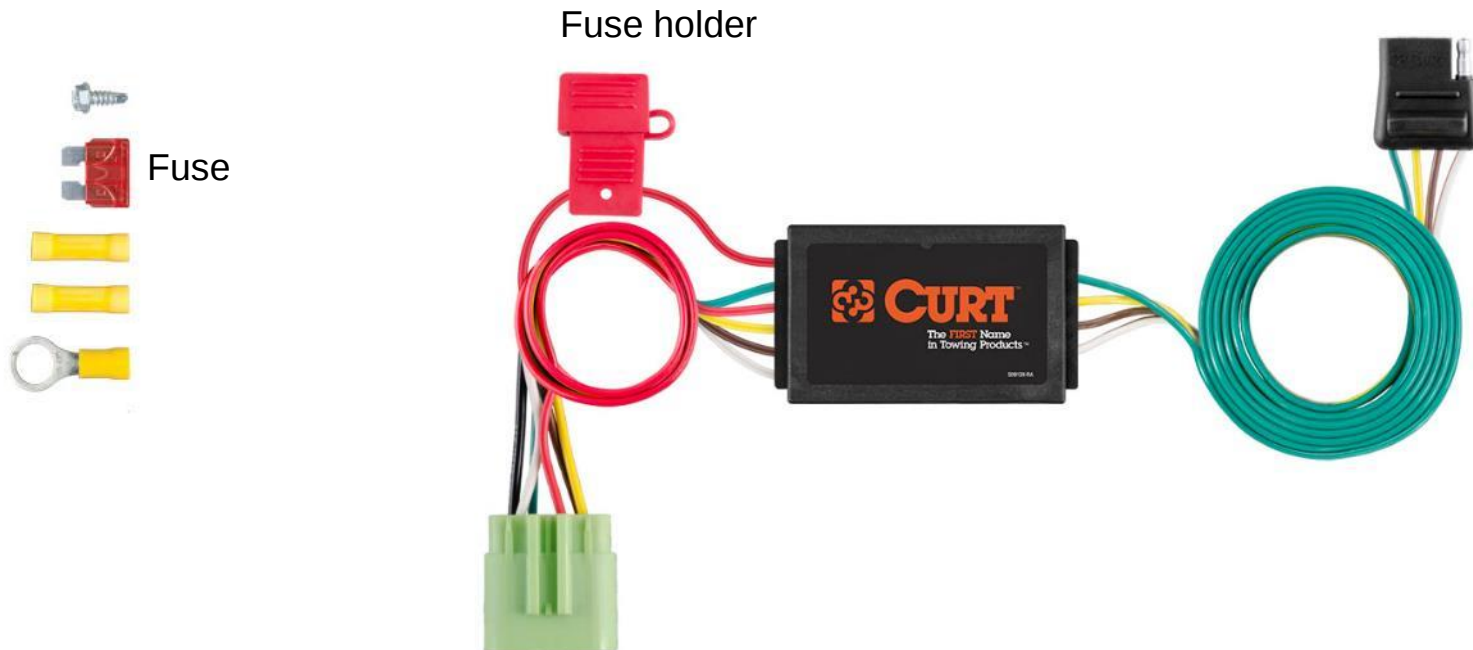
Powered



Non-powered

Fuse-Protected

- Many CURT taillight converters and custom wiring harnesses with taillight converters come with an integrated fuse holder, and any additional wiring components needed for the installation.
- The included fuse (or one with the same rating) must be used or there is the possibility for damage to occur to the wiring, loss of warranty, overheating or potential fire.

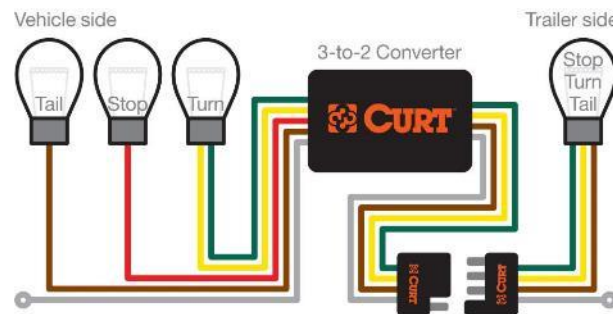


Types of Wiring Systems

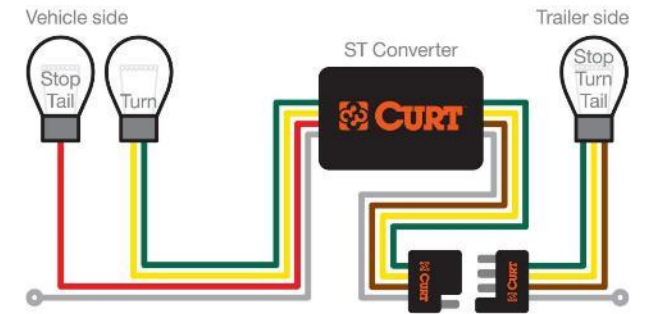
- Vehicles today use different wiring systems to carry out electrical functions, specifically for taillights, stop or brake lights and turn signals. As vehicles have advanced, these wiring systems have changed. To provide a proper wiring connection for towing a trailer, often times a taillight converter is needed.
- Below are the common wiring systems used in vehicles today, as well as the types of converters used.



2-wire



3-wire



Pulse width modulation

Types of Wiring Systems

Two-Wire System

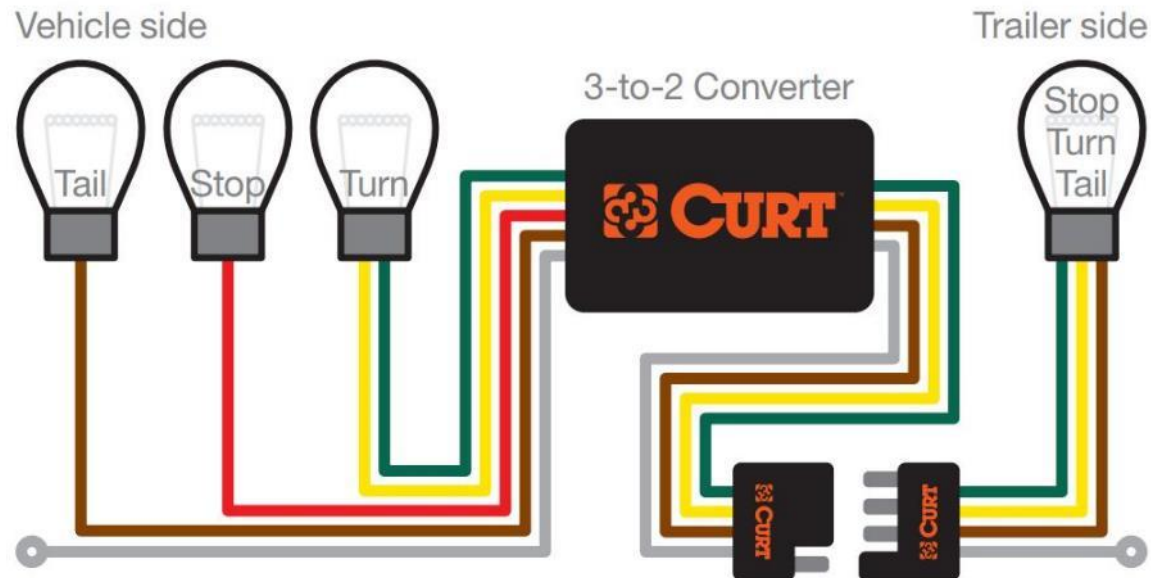
- The two-wire system is the simplest form of vehicle and trailer wiring and is still used by some vehicles today. This system sends the stop and turn signals along one wire, and the taillight signal along a second wire.
- A converter is only needed with a two-wire system if the trailer has LED taillights or if power is being drawn directly from the vehicle's battery.



Types of Wiring Systems

Three-Wire System

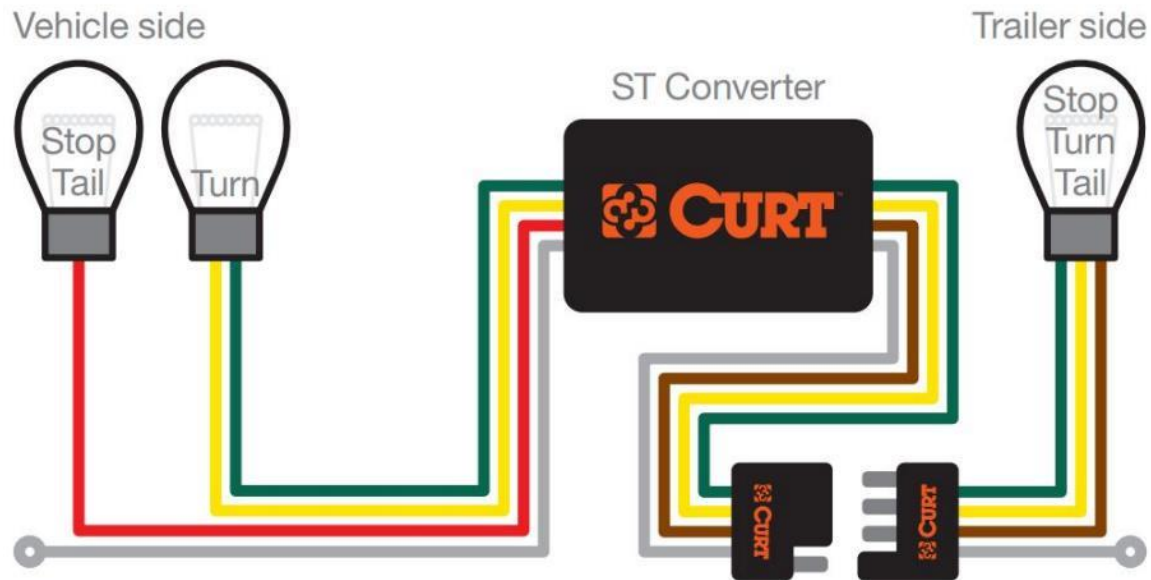
- The three-wire system is the most common in the automotive industry. It sends the stop, taillight and turn signals along three separate wires. Vehicles with a this system usually require a converter.



Types of Wiring Systems

Pulse Width Modulation Systems

- More and more vehicles today use a PWM (pulse width modulation) system. Sometimes called a 'multiplex', this type of wiring is able to control multiple lighting functions through a single wire by varying the signal intensity. PWM systems can use incandescent or LED lights. There are generally two types: ST systems and STT systems.

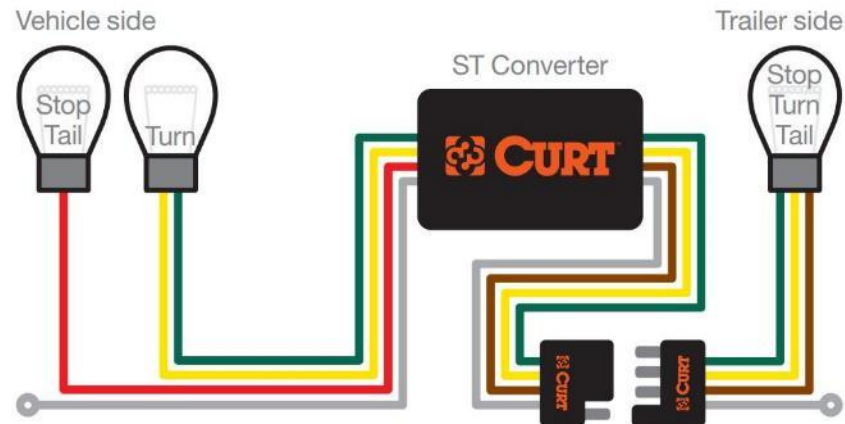


Types of Wiring Systems

Two Types of Pulse Width Modulation Systems

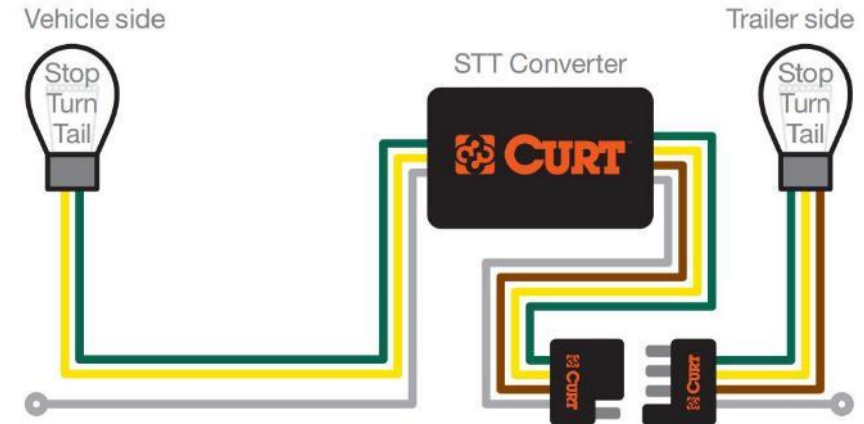
- **ST System**

The ST system (stop / tail) uses a single wire to control the stop and taillight signals. Separate wires are used to control the left and right turn signals.



- **STT System**

The STT system (stop / turn / tail) uses a single wire to control all three lighting functions: the stop or brake lights, turn signals and taillights.



Towed-Vehicle RV Harnesses

- Connects a towed vehicle to an RV using a standard 4-way flat trailer plug
- Simple plug-and-play design eliminates the need for cutting or splicing
- Integrated block diodes isolate sensitive vehicle electronics from RV signals
- Uses towed vehicle's existing taillights, brake lights and turn signals
- Includes harness, 4-flat extension, mounting bracket and hardware





CUSTOM WIRING



MultiPro™ / Multi-Flex™ Tailgate Sensors

- Prevents deployment of inner tailgate panel when ball mount is installed
- Helps avoid costly Chevrolet / GMC tailgate damage
- Easy installation requires no wire cutting or splicing
- No extra electronic components or batteries required
- Sleek, durable design suited for all work conditions
- Does not interfere with trailer or towing accessories
- Available for 2" and 2-1/2" receivers
- Includes sensor cap and wiring harnesses



With tailgate sensor



Without tailgate sensor

Limited Lifetime Warranty

- CURT provides limited lifetime warranty coverage against defects in factory workmanship and materials for CURT products sold by authorized CURT dealers for use by retail (end use) consumers.
- https://storage.googleapis.com/curt-group-warranties/CURT_Warranty_2018.02.09.pdf

Product	Workmanship & Materials	Components & Parts	Finishings & Coatings
Hitches	Lifetime	One-year	One-year
Brake controls	Lifetime	One-year	One-year
Electrical and wiring	One-year	One-year	One-year
Other accessories	Lifetime	One-year	One-year



LIMITED LIFETIME WARRANTY

CURT MANUFACTURING, LLC ("CURT") provides limited lifetime warranty coverage against defects in factory workmanship and materials for CURT® products ("Products") sold by authorized CURT dealers for use by retail (end use) consumers. This Limited Warranty is provided only to the original Product consumer, and applies only to the original installation. This Limited Warranty is not transferable and does not extend or apply to anyone else. For consumers in the U.S., this Limited Warranty gives you specific legal rights; you also may have other rights, which vary from state to state.

This Limited Warranty is the sole and exclusive warranty provided by CURT, and all other warranties and conditions are excluded and disclaimed. **UNDER THE LAW OF CERTAIN STATES, THERE MAY BE NO IMPLIED CONDITIONS OR WARRANTIES FROM CURT APPLICABLE TO YOUR PRODUCT, AND ALL IMPLIED CONDITIONS OR WARRANTIES (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) ARE EXCLUDED AND DISCLAIMED WHERE ALLOWED BY LAW.** If implied warranties are imposed under any applicable state law, all such implied warranties are limited to the duration of the applicable provisions of this Limited Warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

COVERED PRODUCTS AND LIMITATIONS

CURT provides the following Limited Warranty coverage:

Product	Workmanship & Materials	Components & Parts	Finishings & Coatings
Hitches	Lifetime	One-year	One-year
Brake controls	Lifetime	One-year	One-year
Electrical and wiring	One-year	One-year	One-year
Other accessories	Lifetime	One-year	One-year

Each of the warranty coverage periods runs from the date of purchase of the Product (even if purchase is required), and applies only to warranted defects that first occur and are reported to CURT within the applicable warranty period. CURT retains the right to determine to its reasonable satisfaction whether any claimed defect is covered by this Limited Warranty.

Certain items are excluded from Limited Warranty coverage by CURT, and this Limited Warranty coverage does not apply to:

- Wear and tear from normal use, including damage from road debris
- Improper product selection, application, installation or maintenance

- Modifications, including the attachment of other hardware or components
- Misuse, abuse, overloading, improper trailering or towing, accident
- Corrosion or damage due to environmental conditions

REMEDIES UNDER THIS LIMITED WARRANTY

If a defect covered by this warranty occurs, CURT will repair or replace the Product, or refund the purchase price, in its sole discretion. This "repair, replacement or refund" remedy is the **sole and exclusive remedy** under this Limited Warranty. CURT has **no responsibility or liability for any incidental or consequential damages**, such as loss of use of vehicles or trailers, towing charges, storage charges, the damage, labor and service charges for removing or reinstalling products, loss of or damage to personal property, or interest or finance charges, all of which are **specifically excluded and disclaimed** from this Limited Warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

RESPONSIBILITY OF PURCHASER

The Purchaser must have proof of purchase to obtain service under this Limited Warranty. Contact CURT for a Returned Goods Authorization (RGA) and return instructions. CURT will not accept Products unless an RGA has been issued. The Purchaser must deliver the Product to CURT or an authorized CURT dealer along with the RGA number and proof of purchase.

The CURT Limited Warranty policy in effect on the date you purchased your Product determines the applicable warranty coverage, and subsequent or prior CURT warranties are not applicable to your Product. The terms of this Limited Warranty cannot be changed or modified, except by a written agreement signed by an officer of CURT. CURT reserves the right to improve its products through changes in design or materials without being obligated to the owners of the Products of the same or similar models.

Contact information:
CURT Headquarters
6208 Industrial Drive
Eau Claire, WI 54601
800.798.0813



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Follow proper safety practices. If in doubt, consult a professional RV technician.