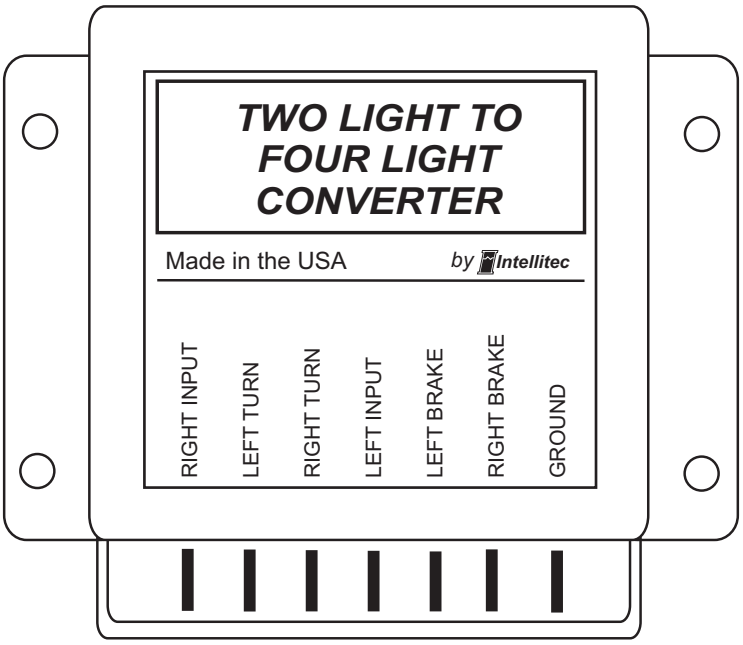
TWO LIGHT TO FOUR LIGHT CONVERTER

SERVICE MANUAL



Part Number: 00-00361-000

NOTE: The TRAILER LIGHT CONVERTER is an electronic switching module used to operate a four bulb tail light systems from the wires of a tow vehicle. Power from the battery of the tow vehicle is available at the connections of this module. Inadvertent shorts at this module could result in damage and/or injury.

All servicing of this module should be done only by a qualified Service Technician.

Tools required: Low current test light, 12 volt power supply or battery.

PRODUCT DESCRIPTION

The **TRAILER LIGHT CONVERTER** is intended to be used to operate four bulb tail light systems on a trailer that is being towed by a vehicle with only two tail lights. The two brake/turn signal wires are brought into this module and provide not only the signals, but the power for all the electronics in the module. When just a turn signal is applied to the module, only the corresponding turn signal lamp on the trailer will blink. If the brakes are applied, both, but only the brake lights on the trailer will come on. If, while the brakes are applied, the turn signal is turned on, both brake lights will remain on, and the appropriate turn signal light will flash.

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HOW IT WORKS

The **TRAILER LIGHT CONVERTER** decodes the information from the two brake/stop lights coming from the tow vehicle and operates the two turn signal and two brake lights on the trailer. Since power consumed by the circuitry of the module is small, and is only required when an input from the tow vehicle is present, all power for the module is taken from the two brake/turn signal wires coming from the tow vehicle.

When the turn signals are on alone (i.e.. no brakes), the system operates using *positive* logic. When ever an input signal goes *on*, that corresponding turn signal light on the trailer will come *on*. Neither brake light will not come on.

If the brakes are applied (both incoming signals go on at the same time), the system will light both brake lights. This is also a signal to begin to use *negative* logic. After that point, when ever one input signal goes *off*, meaning a turn signal has been activated, that corresponding turn signal light will come *on* and both brake lights will remain on. Both the brake lights and the turn signal light will all be powered from the side that remains on. The system continues to use *negative* logic until the brakes are released (both incoming signals go off). Then the system reverts back to positive logic.

TESTING THE MODULE

The module can be bench tested using a low current test light and a 12 volt power supply or battery. To test the module, connect the ground of the power source to the ground of the module. Ground one lead of the test light.

Connect the positive lead of the power source to only the **RIGHT INPUT** on the module (equivalent to a right turn signal). Connect the test light to **RIGHT TURN** terminal, it should light. Connect the test light to each of the other three outputs, the test light should *not* light. Disconnect the positive power lead.

Connect the positive lead of the power source to only the **LEFT INPUT** on the module (equivalent to a left turn signal). Connect the test light to **LEFT TURN** terminal, it should light. Connect the test light to each of the other three outputs, the test light should *not* light. Disconnect the positive power lead.

Connect the positive lead of the power source to **LEFT INPUT** and **RIGHT INPUT** on the module (equivalent to a brake signal). Connect the test light to the **RIGHT BRAKE** terminal. It should light. Connect the test light to the **LEFT BRAKE** terminal. It should light. Connect the test light to the two turn signal outputs. It should *not* light.

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Disconnect the **RIGHT INPUT** from the power source, being sure that the **LEFT INPUT** remains powered (equivalent to a right turn signal with the brakes applied). Connect the test light to each of the **RIGHT BRAKE**, **LEFT BRAKE**, and **RIGHT TURN** terminals. It should light at each connection. Connect the test light to the **LEFT TURN** terminal. It should *not* light.

Reconnect the **RIGHT INPUT** and disconnect the **LEFT INPUT**, being sure that power remains on the **RIGHT INPUT** (equivalent to a left turn signal). Connect the test light to the **RIGHT BRAKE**, **LEFT BRAKE**, and **LEFT TURN** terminals. It should light at each connection. Connect the test light to the **RIGHT TURN** terminal. It should not come on.

Failure of any of these tests indicates a bad module.

TROUBLE SHOOTING

Problem	**Possible Cause/Solution**
Only one turn signal on the trailer working, no brake lights.	One input lead from tow vehicle broken or not connected. Check for incoming signal at module.
One turn signal light comes on when the brake lights of the tow vehicle are on.	One input lead from tow vehicle broken or not connected. Check for incoming signals at module.
Neither turn signal on trailer working, brake lights working OK.	Ground missing on module. Check wiring.

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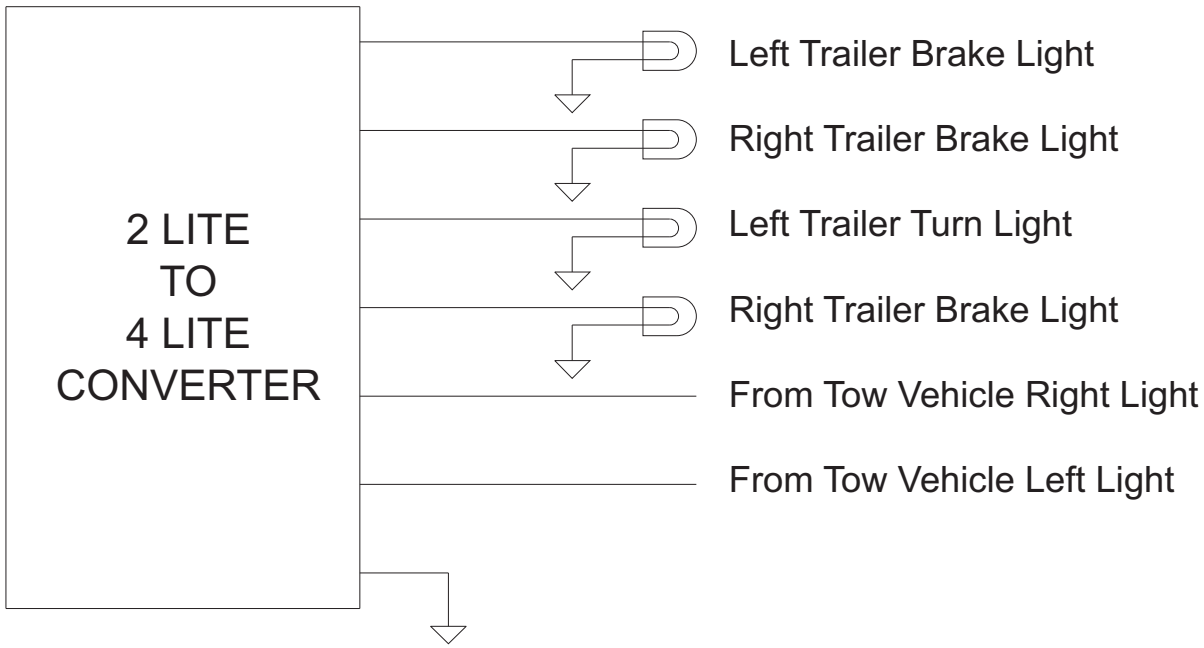
Specification

Part Number	00-00361-000
Current Carrying Capacity	Brake Lights: 7.5 Amps each Max. Turn Lamps: 3 Amps each Max.
Operating Current: (Not including tail lamps)	Less than 75 milliamps
Ambient Temperature Range:	-40C to +85C
Normal Input Voltage Range: 10 to 18 volts	
Short Term Over Voltage Protection to:	+26 volts
Reverse Voltage protection to:	- 300 volts
Positive Voltage Spike Protected to:	+150 volts
Operating Environment	Indoor Protected

System Connections



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