

# Welcome Back Light Feature

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This guide is intended to assist Heartland Owners in understanding the operation of, and troubleshooting the Welcome Back Light Feature.

## Important Notices

### Who created this document?

This document has been created by Heartland Owners independently of the Heartland RV Company, and is posted to the Heartland Owners Forum as a service to the owner community.

### Errors and Omissions

Because the authors are Heartland owners, not engineers or service technicians, it's possible that this document could contain errors or omissions. Readers are advised to also review the manufacturers' product documentation for more complete information and guidance.

### Additional Resources

The [heartlandowners.org](http://heartlandowners.org) website has a collection of owner-written user guides, including information on water systems, heating and cooling, winterizing, residential refrigerator, water heater and other topics. This information is available at <http://manuals.heartlandowners.org/?man=User%20Guides>.

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### Contact Information

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## Basic Operation

The Welcome Back Light Feature installed on some Heartland RVs adds an additional control function to the aisle light that is located above the main entrance door. Some coaches with the Welcome Back Light Feature also have a separate switch or remote control that may be used to turn the aisle light on.

The Welcome Back Feature turns the light on for a short time when the main entry door is opened. This allows you time to open the control panel to turn on other lights. After between 30 seconds and 3 minutes, the light turns off by itself. If you used the wall switch (if present) or remote control (if present) to turn this light on, opening the door has no effect as the light is already on.

## Components

The Welcome Back Light Feature uses the existing aisle light and any existing controls, but adds several components:

- A Control Module that senses the opening and closing of the door and applies voltage to the aisle light. The Heartland Part name is Module 5Amp Dimmer/Timer Entry Door Light, part # 46503. The KIB part # is DTM-904-2.
- A switch to sense the door opening and closing. The switch is located under the door threshold in most cases. When the switch closes, it completes a circuit between frame ground and the “trigger line” on the control module.
- A magnet embedded in the bottom of the door. The magnet operates the switch.



## Location of the Control Module

In this picture, the Control Module is located behind the stairs. You may be able to access it by removing the stair drawers, or by taking down the rear wall of the pass through basement storage.

The item circled below is the circuit (by KIB) for the Welcome Back Light feature.

In this 2015 Landmark Ashland, the circuit is located behind the storage bay wall near the door-side.





In this picture, the KIB Module is located behind the fuse box and circuit breaker panels.



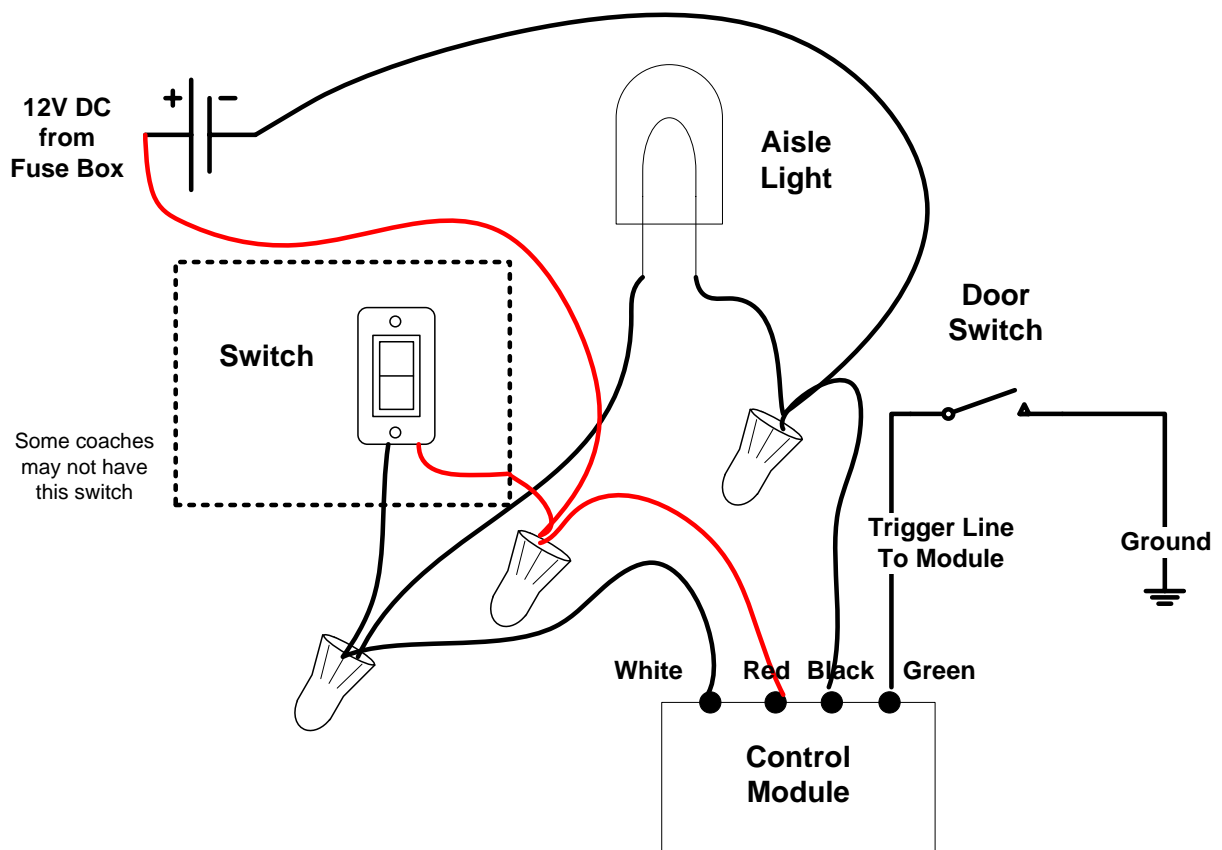
## Block Diagram

The block diagram below shows the static electrical condition when the wall switch is OFF and the entrance door is closed. In this state, there is no 12V power provided to the Aisle Light.

The two middle wires on the Control Module provide 12V and ground to operate the module. The wire on the far right is the Trigger Line that tells the module to power the light. The wire on the far left carries 12V to the light when the Control Module activates the Welcome Home Light.

NOTE: The Switch may not be installed on all coaches. If not present, the Welcome Back Module is the only control for the light.

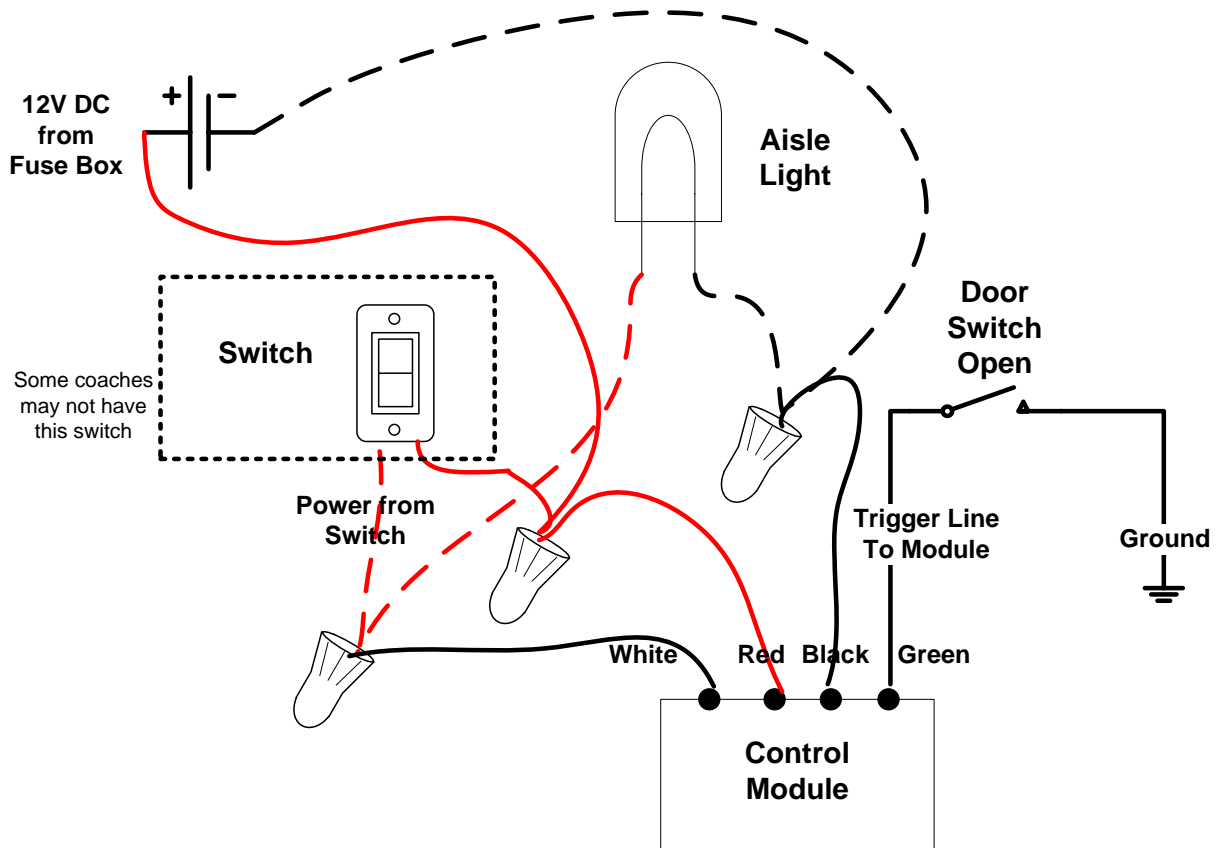
## Welcome Back Light Feature Block Diagram



## Block Diagram With Wall Switch Turned ON

With the wall switch ON, 12V flows through the dashed-red-line connection into the wire nut, and on to the Aisle Light. The dashed-black-line ground path back to the fuse box completes the circuit.

**Electrical Path – Wall Switch**  
Dashed Lines Represent Switched Electrical Flow

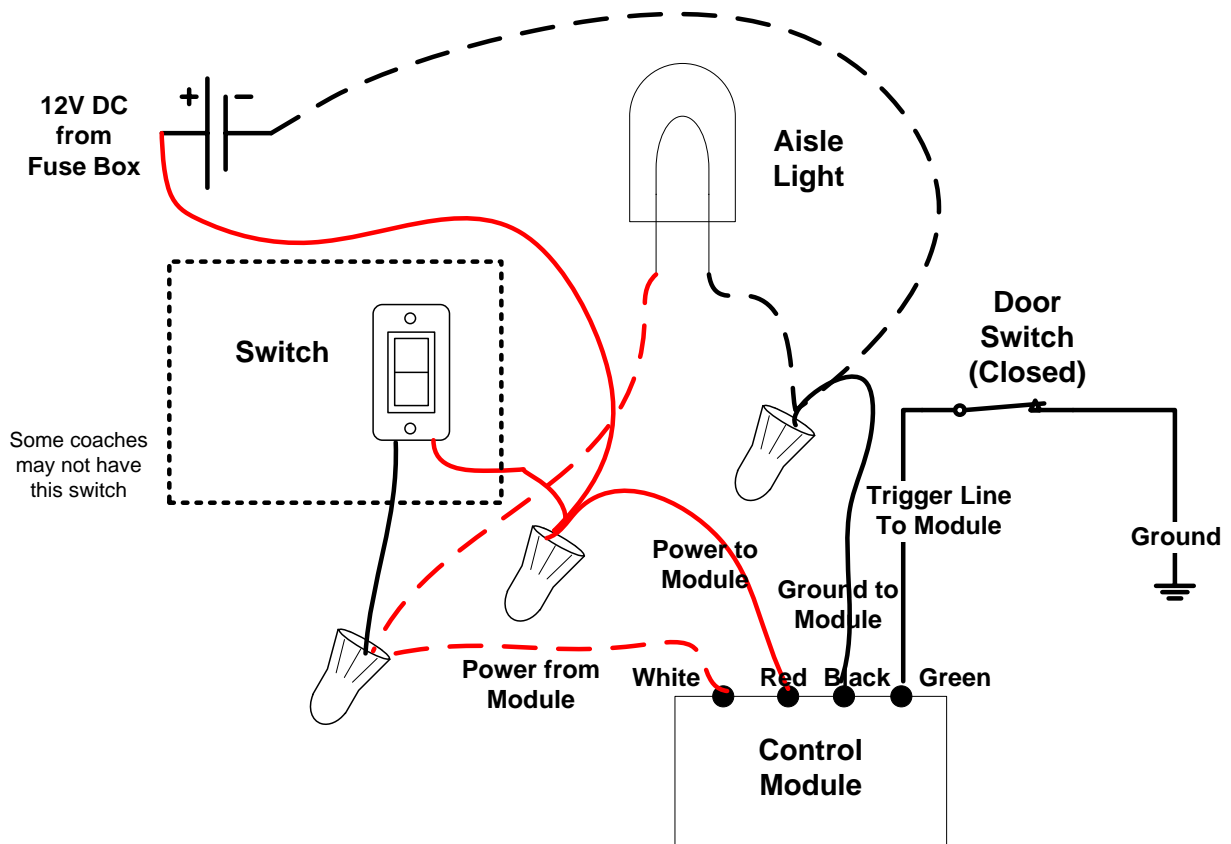


## Block Diagram with Door Switch Closed (Door Open)

When the entrance door is opened, the magnet embedded in the bottom of the door releases the door switch (usually located under the threshold plate), closing a path to ground on the Control Module Trigger Line.

When the Control Module senses a ground path, it passes 12V to the light. The 12V is shown as a dashed-red-line coming out of the Control Module.

**Electrical Path – Door Switch**  
Dashed Lines Represent Switched Electrical Flow





## Troubleshooting

### Light Never Comes On by Switch or When Door is Opened

If the light doesn't illuminate at all, either by way of the wall switch, or by opening the door, the problem is likely with the light fixture, the bulb, or the wiring to the light. The most likely cause would be a burned out bulb. If the bulb is good, use a meter or 12V test light to trace the wiring and determine where the 12V side, or the ground side of the circuit is open.

### Light Comes on by Wall Switch but Not When the Door is Opened

The most likely cause is a problem with the switch under the door. Remove the threshold plate to examine the switch and wiring. With the Door open, both sides of the switch should show zero ohms resistance to ground.

Close the door and if you can access the switch with door closed, you should measure infinite resistance (open circuit) from one side of the switch to ground. If you cannot access the switch to check, open the door to gain access, and use a magnet to simulate the door being closed.

If both sides of the switch measure infinite resistance to ground, check the wire from the switch to ground.

If the switch tests ok at the switch itself, you'll have to check continuity to ground at the Control Module far right pin. It should have a green wire as shown in the diagram. If you had continuity to ground at both sides of the door switch, with the door open, you should also have continuity to ground at the green wire on the module. If not, there's a problem with the wire between module and switch.

If the door switch appears to be operating correctly, you'll need to check the other wire connections to the Control Module. The black wire, 2<sup>nd</sup> from the right, should have continuity to ground. The red wire, 2<sup>nd</sup> from the left, should measure 12V. When the door is closed, the white wire on the far left should show 0 volts. When the door is open, the white wire should show 12V for at least 30 seconds. If all of these conditions are met, the module should be ok. The problem is in the wiring between the module and the light.

### How to Test if the Control Module Cannot Be Located

If you have a physical wall switch for the aisle light, you can check for 12V at the back of the switch as follows.

Remove the switch from the wall and disconnect both wires. One wire should have 12V all the time, whether the door is open or closed. The other wire should have 12V only when the door is opened. If it doesn't have 12V at all, locate the wire nut connecting the wall switch, light, and Control Module and check for loose wires. If you don't find the problem, you'll have to keep looking for the Control Module to check for trouble there.

## **Light Comes on When the Door is Opened, But Not When the Wall Switch is Activated**

You either have a bad wall switch, or a loose connection between the wall switch and the wire nut connecting it to the light.

## **When the Door is Opened, the Light Stays ON Too Long or Not Long Enough**

The door switch may not be operating reliably. Check for stable signals at the Control Module green wire on the far right. You should have continuity to ground at the green wire with the door open, and infinite resistance with door closed. The meter readings should be constant over a period of a minute or two. See if pushing in or out on the door affects the meter reading, which might indicate an alignment problem between door magnet and door switch.

While unlikely, if the door switch and all the wiring check out, you could have a defective Control Module.

## Revision History

May 8, 2019                      Initial version released