EZ-Occ-Quad

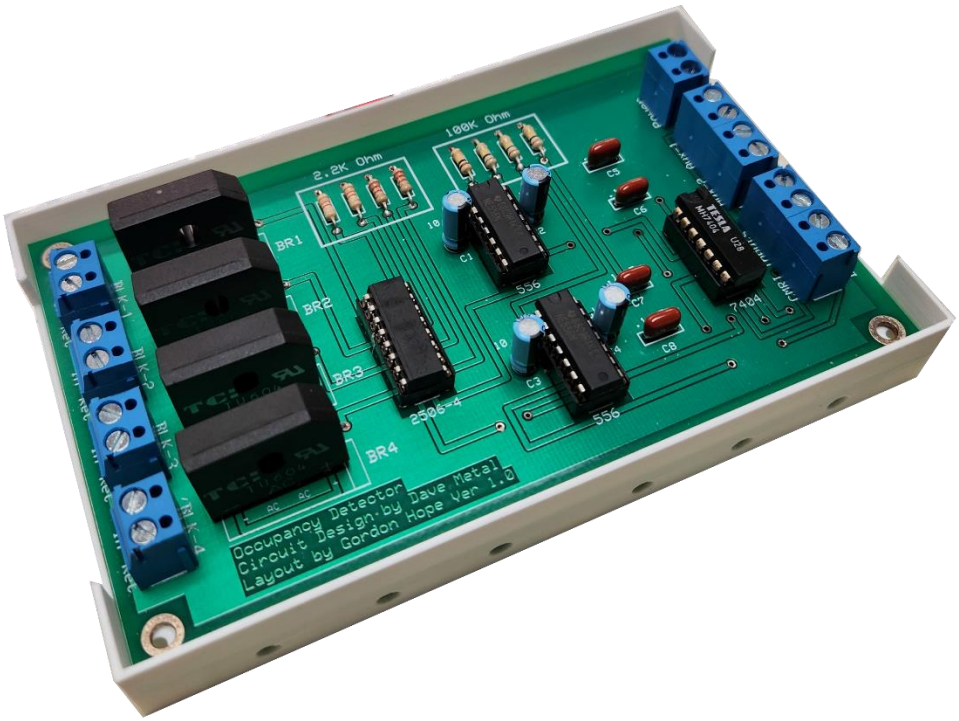
Advanced Technology for Occupancy Detection

Introduction

This product utilizes current sensing as its method of indication of a block being occupied. Such detection is facilitated by adding 10k resistors to desired axles on cars that are to be detected in a block. A small current flows through the axle and it is the sum of these small currents that each of our block detectors senses.

This compact board handles 4 optically isolated block inputs on your layout. Optical isolation is an important element for any circuit that can handle significant current, and if shorted, could damage other components on your layout. By providing optical isolation, the only damage in an extreme case would be to this board should it be exposed to excessive current for an extended period. Our design can safely handle 4A of current per circuit so you should be comfortable knowing the design is robust enough for even the most demanding applications (very long trains in a single block)

This product automatically handles the known challenges of intermittent contact due to dirty wheels and dirty tracks. It allows for smooth and consistent detection through normal/anticipated short durations of dirty track or wheels that momentarily prevent current from flowing through a wheelset.



Product Overview

For those model railroaders seeking a simple-to-install and reliable occupancy detection solution, the Quad Occupancy Detector is for you. The design of this product has been proven over years of reliable operation on model railroad layouts for many years.

Key Features

- Current Sensing: Because we use current sensing through axles of metal wheelsets, we get a very reliable detection of a train in a given block. Unlike photo optical solutions that rely on light being blocked by a car, current detection through a wheelset is a superior and more consistent way to detect the presence of a train within a block
- Easy to wire: Each circuit is easy to wire – each has clearly marked connections for each block. There are no adjustments to make as everything is set up for reliable operation as part of its design.
- Software interface for notification: Do you want to know if a train is present in each block? No problem, we have a separate pin for each circuit that can be wired to signal the presence of a train in a block. We provide an industry standard signal of 5V when there is no train detected, and 0 volts when a train is present. This signal can be used as an input to any third-party system that wants an input when a circuit is either occupied or unoccupied.
- Alternate use of Software Interface Pin – you may feed an LED (with appropriate resistor) to the output of this pin to indicate the presence of a train. This can be helpful if you desire physical identification of a block that is not where you can easily see the train.
- Safe for long blocks: One thing to take into consideration when implementing occupancy detection is the total current coming from the track for a specific block when a train is in the block. The longer the train, the larger the current that is flowing. Our solution operates safely when up to 4A of current is flowing in any of the four blocks. You can sleep comfortably knowing that you are not stressing components or generating unwanted heat because of running long trains on your layout.
- Thoughtful design: Comes in easy to mount case that makes it easy to mount to the underside of your layout or modular table.

Technical Specifications

- Input Voltage required: 5VDC
- Max input track current per branch: 4A
- Number of detection circuits: Four, each identical
- Dimensions: 5 1/2” long x 3 3/8” wide x 1” high
- EZTronic Part Number: EZ-Occ-Quad