

The LB101 contains two separate occupancy detectors designed specifically for use with any NMRA DCC system.

Technical specifications:

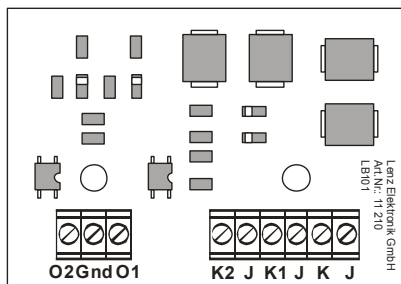
- Maximum current: 3 A
- Minimum detected current: 1 mA

LB101 Dual Block Occupancy Detector

Art. No. 11210
Revised 5/04

Digital

plus
by Lenz®



General information about the LB101 Dual Occupancy Detector

The LB101 contains two independent occupancy detectors, each of which can be used to detect that a train or piece of rolling stock occupies a section of track. It operates on the so called "current sensing principle". The LB101 only detects occupancy when there is a "current consumer" within the monitored track section (detection section). The LB101 has been designed to detect a decoder equipped locomotive or a single car with lighting or resistor wheelsets.

When the LB101 detects that there is something in its detection zone, the LB101 closes an electronic switch. This switch can be used to trigger layout feedback devices such as the DIGITAL plus LR101 encoder, or other low current electronic inputs such as those used to trigger some signal systems. The LB101 is compatible with all NMRA DCC systems.

Installing the LB101

The LB101 is installed between the track power feeds and the track. The power supplying the track goes from the Power Station (LV101) via the LB101 to the track. This allows the LB101 to be able to detect current changes on the section of track it is connected to. The LB101 will not be able to detect current load if there are any connections to the detection section that bypass the LB101.

The first step in installing LB101s is to divide the area that is supplied by one LV101 into the needed number of detection sections. To do this, you cut the rail that you have wired to connector "K" on LV101, as shown in Figure 1. The other rail, wired to connector "J" on LV101 remains the common rail for the section. Connectors K and J on LB101 are wired to the corresponding connectors on LV101.

Wire connector **K1** on LB101 to the insulated rail in the detection section.

The circuit from connector **J** on LV101 to the common rail remains, or is set up using one of the free connectors **J** on LB101. For ease in wiring, there are two connectors labeled **J** on each occupancy decoder.

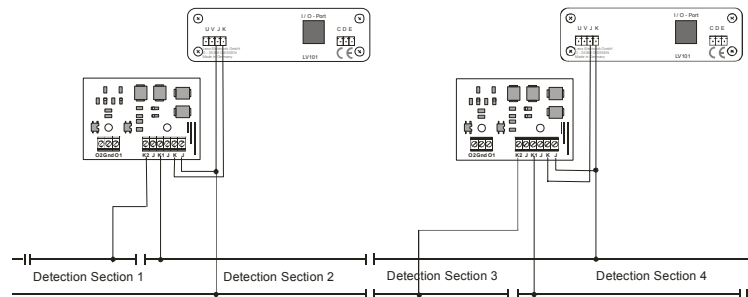


Figure 1: Normal Wiring to the K Rail **Figure 2: Alternative wiring to the J Rail**

Should you have a layout where necessity dictates that the rail connected to connector **J** is gapped then you can install the LB101 using the alternative configuration shown in Figure 2. Note that the important thing is that no other connections be made between the Power Station and the rail connected to the K1 output of the LB101.

Connecting the LB101 to a Feedback Unit

When the LB101 detects a current draw on the track it closes an internal switch (connections **O** and **⊥**). This can be used to be fed into a feedback device such as the DIGITAL plus LR101.. Wire connector **⊥** to the corresponding connector on LR101, and connector **O** with one of the eight occupancy decoder inputs on LR101. Since each LB101 includes two separate detectors, you can connect a total of 4 LB101s to one LR101. That equals 8 detection sections. If you want more detection sections on your train layout, simply add another set of LR101/LB101s.

Figure 3 illustrates a typical connection from a LB101 to an LV101 and an LR101.

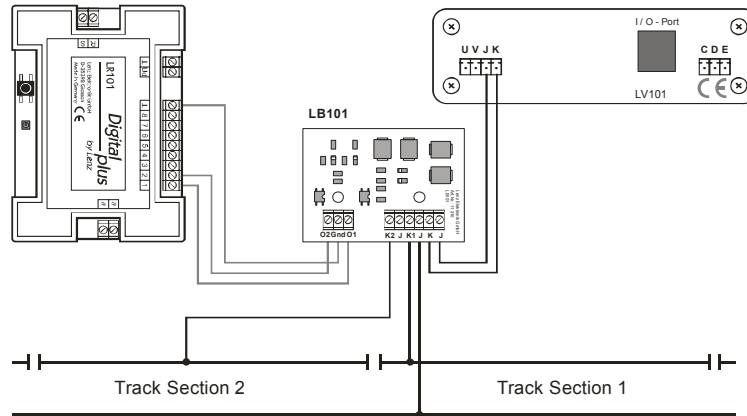


Figure 3: Connecting the LB101 to the LV101 and LR101.

Important note:

Never connect the \perp inputs of different LR101s to each other or a single LB101 to two separate LR101s without cutting the \perp trace between the \perp connectors on the back of the LB101.

Please contact your dealer or authorized Lenz GmbH warranty center for specific instructions and current service charges prior to returning any equipment for repair.

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Warning: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

FC This equipment complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CE Please save this manual for future reference!

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