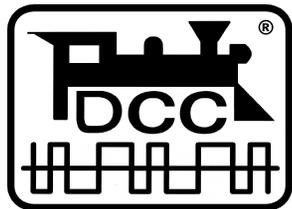


The voltage detector LB050 monitors the voltage of the tracks of your model railroad. It detects whether the tracks are free of voltage or not. This information is analysed by the feedback module LR101, you can find detailed information on the feedback concept in the Digital plus system and the use of the voltage detector in the information brochure on the feedback module LR101.

LB050 DCC Voltage Detector

Art. No. 11220

Digital
plus
by Lenz®



First read this manual

It is most advisable to read these instructions before connecting and using the LB050 for the first time. They familiarise you with how the feedback works with Digital plus and can thus save you from making mistakes. You should also keep the information on LR101 to hand.

then install!

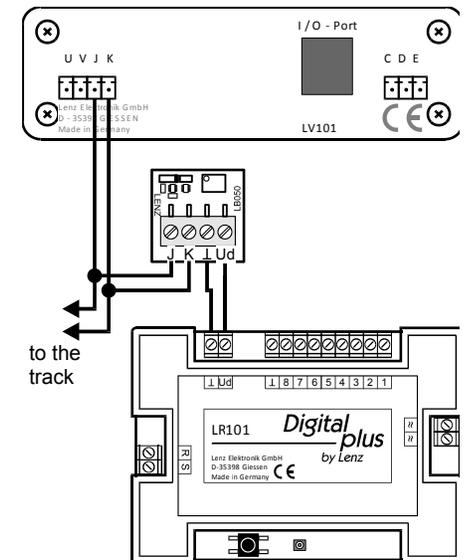
Important safety instructions

LB050 is only to be used in the way described in these instructions and only with the technical devices of the **Digital plus by Lenz**® programme named in these instructions.

Not suitable for children under three because of the danger of their swallowing the small constituent pieces. Improper use can result in injury by functionally necessary points and edges. For use only in dry areas. We reserve the right to make changes in line with technical progress, product maintenance or changes in production methods. We accept no responsibility for errors which may occur for similar reasons. We accept no responsibility for direct or indirect damage resulting from improper use, non observance of instructions, use of transformers or other electrical equipment which is not authorised for use with model railways or transformers or other electrical equipment which has been altered or adapted or which is faulty. Nor can we accept responsibility when damage results from unsupervised adjustments to equipment or from acts of violence or from overheating or from the effects of moisture etc.. Furthermore, in all such cases guarantees become invalid.

How is the LB050 connected?

Connect the terminals J and K of the LB050 with the terminals marked J and K on the amplifier LV100: LV101 which feeds the part of the tracks where you want the current to be monitored. The terminals **Ud** and **⊥** on the LB050 are connected to the terminals marked **Ud** and **⊥** on the LR101.



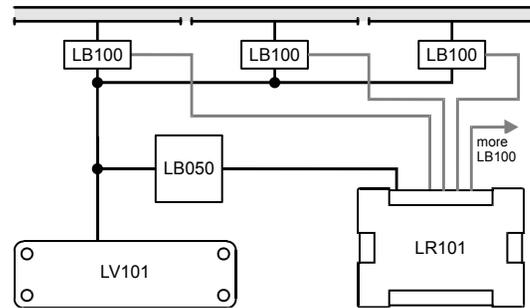
How many voltage detectors are needed?

For each circuit on your model railway that is fed by its own amplifier LV100 or LV101 (we call this a power area) you need one LB050 for each LR101.

Three examples by way of explanation. The circuit diagrams in these examples are block diagrams which will clarify the principles of use, but in them, to make matters clearer, multicore connections are shown as single lines.

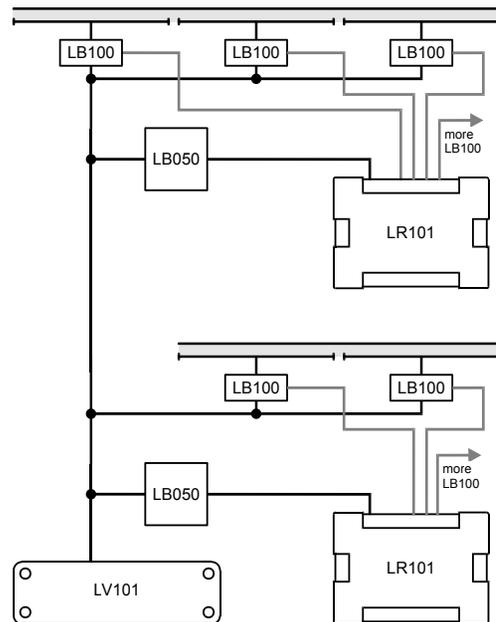
You have **one** power area in which you use **one** LR101.

You need **one** LB050.



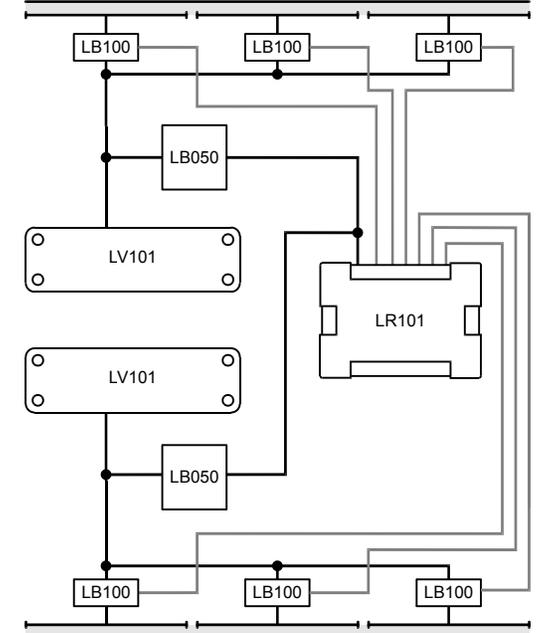
You have **one** power area in which you use **two** LR101.

You need **two** LB050.



You have **two** power areas and use **one** LR101.

Here you also need **two** LB050 if the current in each of the two areas is to be monitored.



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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!

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

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