

Instructions

Art-Nr: 7300 Voltage reduction for track gage Z throttles

1. These parts are not suitable for small children. There is a danger of swallowing.
2. The product can be seen in figure 1. These instructions are part of the product. Please retain them well.
3. This component is only suited for analog direct currents. Only use it according to these instructions, any inappropriate use might destroy the product. We assume no liability for any damages caused by inappropriate use.
4. The component has to be countersunk to one of the feed wires from the transformer to the tracks, preferably to the red wire which carries the positive potential. See figures 2 and 3. For the whole assembling process, no brazing is necessary. Dismantle the wire coming from the transformer and fix it firmly in a screw clamp. Dismantle the red wire coming from the tracks as well, connect it to the provided plug and insert it into **one** of the silver sockets, figures 2 and 3. As can be seen on the diagram, the reduction is weaker towards the top side and stronger towards the bottom side. The voltage is getting diminished for about 0,7 volt per reduction stage. This does not produce any important amount of lost heat. The current conducted through the wire has a maximum amperage of 1 ampere, all the common throttles usually have a lower power rating. There is no need for a special protection against overload or short circuit. The protection already built in the throttles is sufficient.
5. For the brown Märklin™ throttle 6701, to be seen in figure 2, a connection to stage 1 – 4 is sufficient. The voltage reduced there predominantly affects the maximum speed. The low speed running properties are not affected. For the white throttle 67011, all sockets are recommendable, but mostly the stages 5 – 8. There the maximum speed is being reduced at a stronger degree. This also influences the slower speed and the low speed running properties. However, these are not very important with the model 67011 since they almost do not exist.
6. Using voltage reduction is very recommendable for the protection of the engines. The ruinously high voltages of various throttles are absolutely destructive. This applies especially for the very small traction systems in our ghost cars with socket armature motors and for the KÖF of Z-model trains. Just as important is the protection of our electronic components that partially are only designed for the Z-customary voltages up to 10 volt and easily get broken with the HO-like voltages of some throttles.
7. Using the voltage reduction does make sense because the ruinously high maximum speeds of the locomotives can be reduced to a speed reasonable for model trains. Like this, the controller can still be worked at its complete control range. There is no more danger of damages by too high voltages. So the voltage reduction is an important means of protection for electronic components in coasting material.
8. With a Spax screw through the large central screw hole, the component can simply be fixed on a wood plate below the train system. If the component is being fixed onto metal or inside a metal body, it has to be insulated against the metal.

Now have fun with your new electronics, always have your trains running well with an adequate speed while at the same time protecting motors and electronic components.

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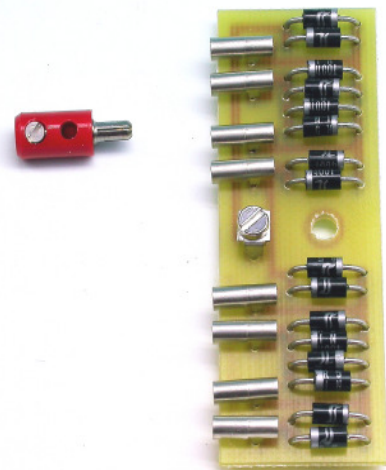


figure 1: The voltage reduction component

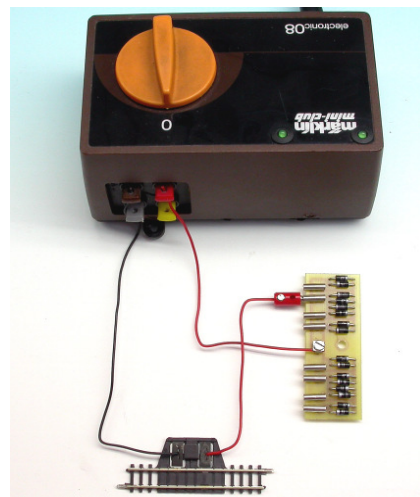


figure 2: An overview of how to connect the component

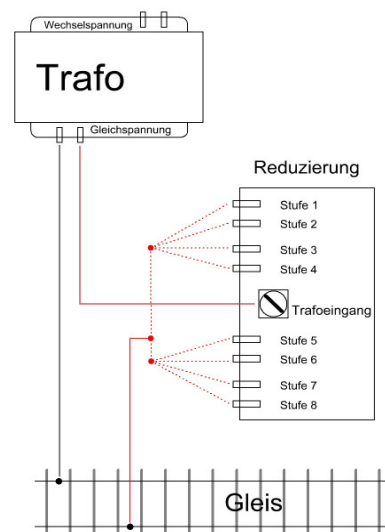


figure 3: A basic connection of the component