

Instructions

Art-Nr: 7100 Jitter-free backlights micro

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 made for analog voltages up to 10 volt. Only employ the component for its intended usage. Incorrect application and overvoltage can destroy the product. We do not assume any liability for any damages caused by incorrect usage.
4. All the parts of the component are firmly soldered. The feeding is done through 2 magnet wires with a diameter of 0,2 mm. They are already mounted onto the component, the other end is already tin-plated. The wires can be shortened or extended as desired, though they should not be cut below a length of 10-15 mm at the component. If they are shorter, the heat emerging when soldering can damage the component. The wires do not have any marking for + or – since the lights of the component are working in any running direction, so the wires can be connected in any way onto the contacts to the tracks. Our magnet wires are insulated with a very resistant lacquer, so no other insulation is necessary.
5. In figure 2 you can see as well the connections for the LEDs. The component operates up to 3 LEDs in red. All the LEDs have to be connected in parallel. We have set up a constant brightness with the help of a resistor. The component works best with our LEDs 7050 or 8100. A different degree of brightness can only be accomplished by a change of the resistance. After consultation with us, yellow LEDs usually can be operated by the component as well, but it can not operate any other colors than red and yellow.
6. Looking onto the component like in figures 2 and 3, on the top left in the corner you can see the output for plus, so for the anode of the LED, and way on the right with the long conductor you can see the output for minus, so for the cathode of the LED. The cathodes of our LEDs are marked with black color. An incorrect polarity though does not inflict any damage, neither on the component nor on the LED, the only problem is that the LED won't be working.
7. With the component your can also operate 1,2 – 1,5 volt miniature bulbs. However, do not operate more than one bulb per component. The component provides a maximum of 2,5 volt and 10 mA. For this it is absolutely necessary to have the resistor adjusted. Because of the strongly differing data occuring with the different manufacturers of micro bulbs, this can only be done at your local dealer.
8. The component definitely should be insulated against any contact with metal, the best way to do this is to wrap the component completely with insulating tape or better with heat shrink tubing. In plastic Z-models the easiest way to fix the component usually is to attach it to a plastic part with a little bit of glue. Even though the input and the output are quite short-circuit proof themselves, something like a contact of the output voltage with the track potential will destroy the component. So do not connect any of the four contacts. There also is no common ground like it often used to be with older components. All of the four contacts carry a different potential.

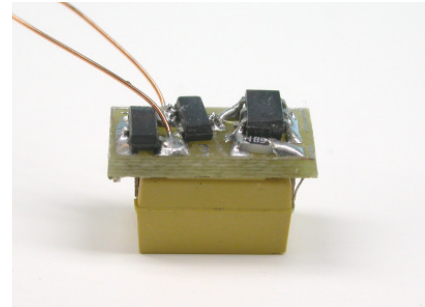


figure 1: The component jitter-free backlights

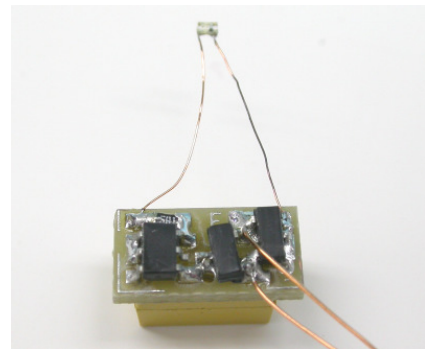


figure 2: Correct connection of the LEDs

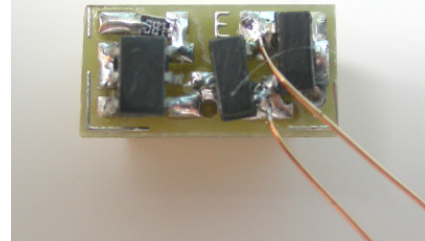


figure 3: Top left in the corner plus or the anode, way on the right minus or the cathode

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9. Due to the small size of the component, the contact surface for the connection of the LED has been kept quite small. We recommend that you work with great care and only use appropriate tools. The soldering iron should have a maximum temperature of 300 degrees Celsius (572 degrees Fahrenheit) at its tip, and the tip should be smaller than 1mm.
10. Please do not solder at other soldering points. Some of the components are very heat-sensitive, which is normal for the small SMD-components. Particularly in the input area we already have pre-mounted the wires. It is logical that these small wires do not withstand any heavy impacts and easily break if you bend them to and fro too often. If this happens, do not try to resolder them, better contact your local dealer.
11. If the LEDs have been affixed to the model and correctly soldered onto the component, do a function test so see if everything is working correctly and the LEDs are shining. The best way to do this is with extra wire and small clamps. If everything is ok, the magnet wires from the input can be connected to the current collectors. After having closed the model again, do another function test, this time on the tracks.
12. The LEDs will start shining evenly bright and jitter-free instantly after being connected to voltage, also to a very low one. This mainly depends on the LED used and from the resulting brightness. Of course, the more low-current the LED is, and the fewer LEDs are operated, the better the component can power the LEDs when the power supply is interrupted. Because of this, the time the condensator can bridge is differing, but usually should range between 1 – 2 seconds.
13. The only requirement for the employment of the jitter-free backlights is the use of a pulse-modulated or pulse-width-modulated running controller, as nowadays is used everywhere in the Z-model world. You will get another specially nice effect when using our controller, since thanks to an additional function it still lets the lights shine when the train is standing.
14. We are proud that with this new technique, we Z-train and N-train specialists again have come another step closer to the original trains.
15. High Tech Modellbahnen manufactures its products with the greatest possible care. We issue a guarantee and warranty according to legal regulation. Should you find any new product you just bought defective, please contact your local dealer.
16. It can always happen that somebody damages something by inappropriate use or something simply gets broken. Since the parts are very small, it is not advisable trying to repair broken parts by yourself. Please contact your local dealer who might be able to save them instead of a self-repairing try that might end up in a total economic loss.

Now enjoy your jitter-free backlights and always have fun with your model trains.

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