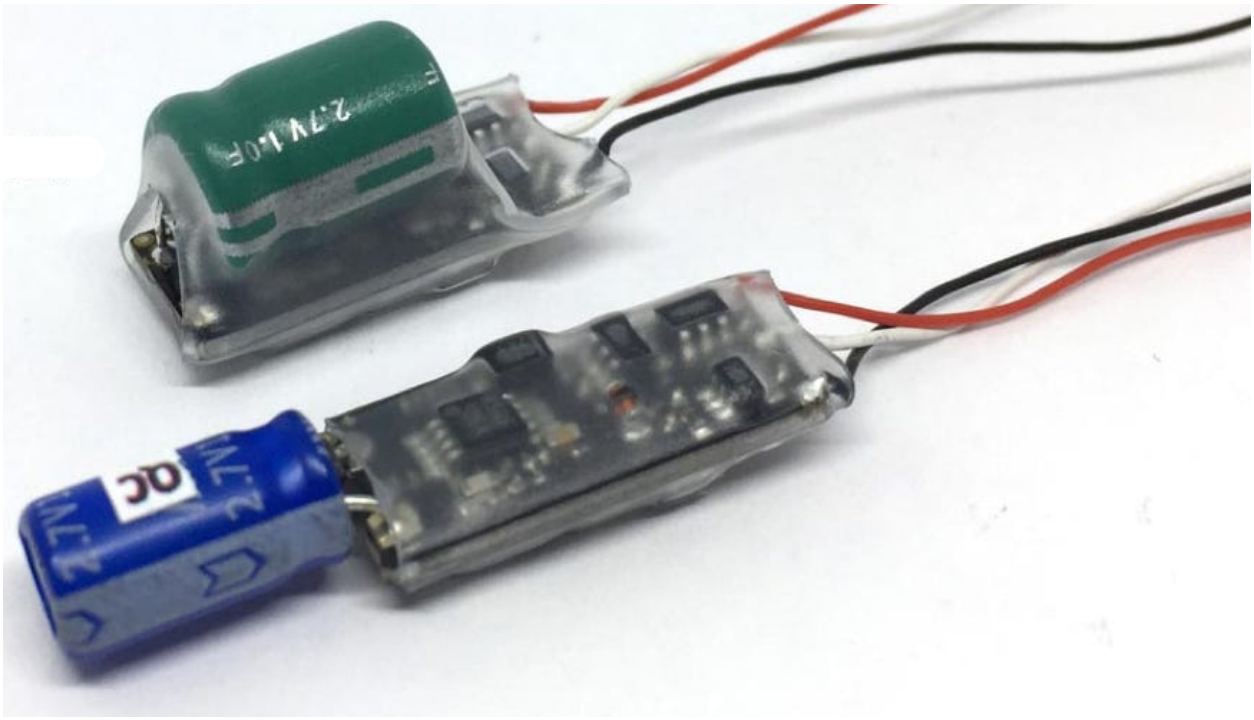
NixTrainz

Power Bridge I & II
User Manual



- **Please read this manual carefully before carrying out the installation!!! Although our products are very robust, incorrect wiring may destroy the module!**
- **During the operation of the device the specified technical parameters shall always be met. During the installation the environment needs be taken into consideration.**
- **The device must not be exposed to moisture or direct sunlight.**
- **During installation it must be ensured that the bottom of the device does not contact with a conductive surface!**

Contents

1. Important information

Please read this first chapter

- Any connection must be made without power connected. Please make sure that during installation, the locomotive is not powered, not even accidentally.
- Do not remove the heat shrink tube from the Power Bridge unless absolutely necessary. (on models fitted with a protective sleeve).
- Ensure that the Power Bridge I & II does come into electrical contact with the locomotive chassis or other electrical components (short-circuit risk).
- Do not wrap the Power Bridge I & II in an insulating tape, as this may cause overheating.
- Follow the wiring of the Power Bridge I & II and any external components as recommended in this manual. Wrong wiring connection can cause damage to the Power Bridge.
- Make sure that there are no wires trapped by the locomotive transmission system when reassembling it.
- Users are advised to read the manual carefully to fully understand the potential risks involved.
- Do not use the Power Bridge I & II in wet or humid environments.

2. Technical Specifications

Supply voltage: 12-24 V, (rectified DCC voltage in the tracks)
Dimensions (without wires) 20 x 9 x 13 mm and 32 x 8.4 x 6 mm

The Power Bridge I & II can be attached to all Decoder Buddy models and supplies your locomotive with storage energy when running over dirty tracks and long points. The sound, lights and engine functions are buffered so the locomotive can continue running with lights and sound after it loses power.

The Power Bridge I & II will generate some heat during operation, this is normal. Please be sure to leave space around the Power Bridge for ventilation.

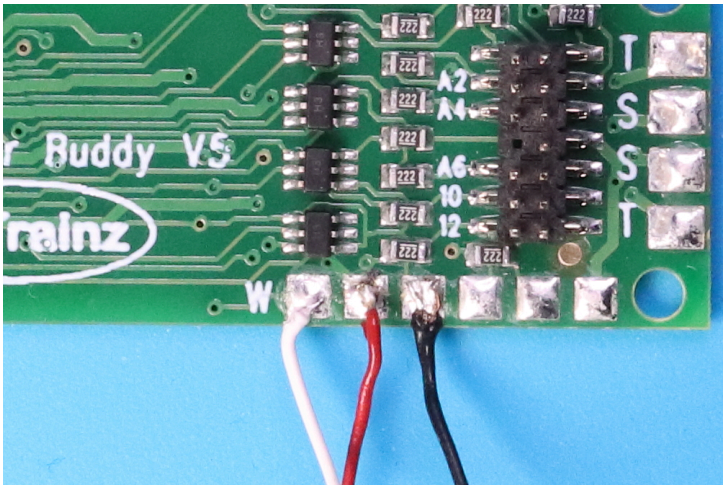
3. Installation of the Power Bridge I & II

The NixTrainz Power Bridge I & II can be wired as a 3 wire power pack or 2 wire stay alive. The Power Bridge I & II comes with 3 wires to be compatible with power pack suitable decoders. The white wire is a data cable, through which the Power Bridge is switched off when compatible decoders are being programed. The power Bridge I & II can be configured as a 2 wire stay alive by combining the white with the red wire to U+ common positive.

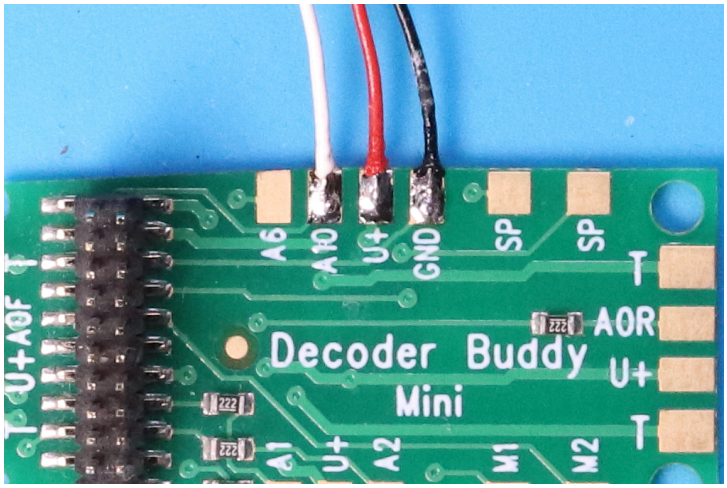
The manuals of the Decoder Buddys indicate the proper soldering locations. Refer to the figure below for the most common wiring diagram.

Absolutely make sure when soldering that you do not make short circuits between the soldering surfaces or to other components on the circuit board! A short circuit might damage the decoder!

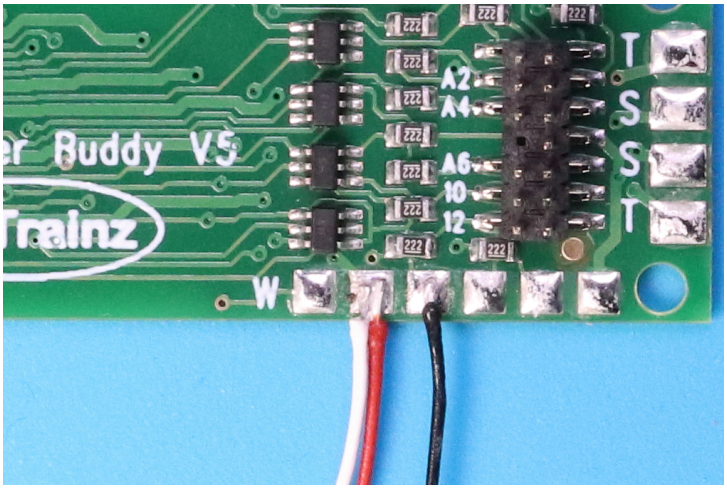
The modules are wrapped in heat shrink plastic to protect the fragile components as well as to simplify the installation into the locomotive. It is best to leave heat shrink intact during assembly, as it prevents possible short-circuits to metal parts within the locomotive. If you need or want to remove the heat shrink, the module still needs to be protected from short circuits.



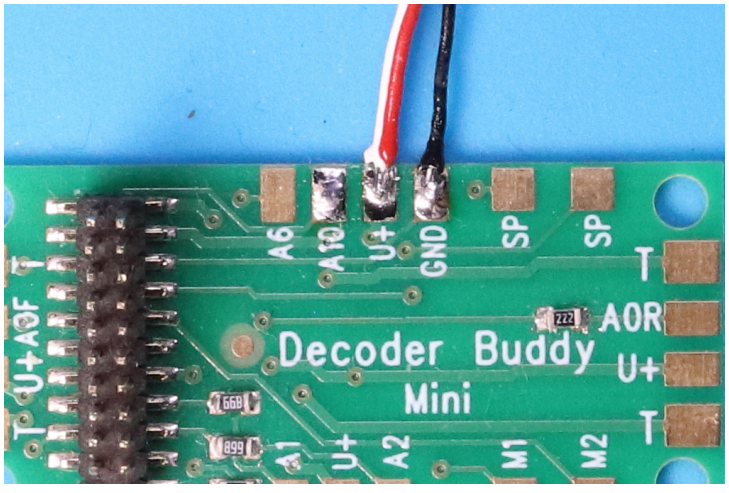
3 wire configuration for V1B & V5B



3 wire configuration for Mini - use AUX10 or AUX6



2 wire configuration for V1B & V5B



2 wire configuration for Mini

4. Analog operation (DC)

The Power Bridge I & II charge control is automatically switched off when operated on an analog DC layout. In such cases, the buffering function is unfortunately not possible due to technical limitations.

5. ESU Version 5 CV settings:

If using the LokProggamer, make sure the function outputs are set to PowerPack Control to match your installation as follows. Or change the CVs directly.

To set AUX7 to PowerPack Control for V1B or V5B use LokProgrammer or set 323 (31=16, 32=0) to31.
Enable 'Function Timeout' and set to max. or set 325 (31=16, 32=0) to 255.

To set AUX6 to PowerPack Control for the Mini use LokProgrammer or set 315 (31=16, 32=0) to31.
Enable 'Function Timeout' and set to max. or set 317 (31=16, 32=0) to 255.

To set AUX10 to PowerPack Control for the Mini use LokProgrammer or set 347 (31=16, 32=0) to31.
Enable 'Function Timeout' and set to max. or set 349 (31=16, 32=0) to 255.
To use AUX10 you must disable the wheel sensor. Set CV124 to 4.

TIME OUT: In ESU terminology this is called “Time to bridge power interruption”.
In LokProgrammer change 'PowerPack' in Driving Characteristics section.
Or set CV 113. The standard value is 127. The maximum value of CV113 is 255.

If you wire the Power Bridge directly to the decoder. ESU V4 and V5 decoders have the three terminal points on the board to connect to the Power Bridge I & II.
Connect the red wire to U+ and the black wire to Ground. Connect the white wire to AUX9, and set the Function Outputs like above. Or set CVs 339 and 341.