WUFP-40 Installation

This document is online at http://www.wifitrax.com/appNotes/quickStart/WUFP-40-Quick-Start.pdf. Please see our website for information on our limited warranty.

Package Contents

1 x WUFP-40 Module in Static Shielding Bag
1 x Mounting Kit (4 screws, 4 spacers, 4 nuts, 4 washers)
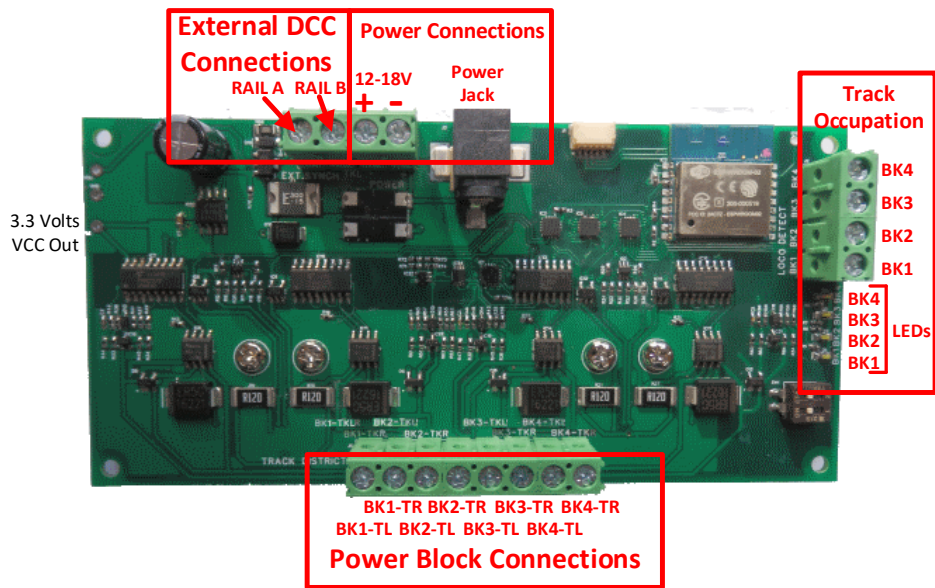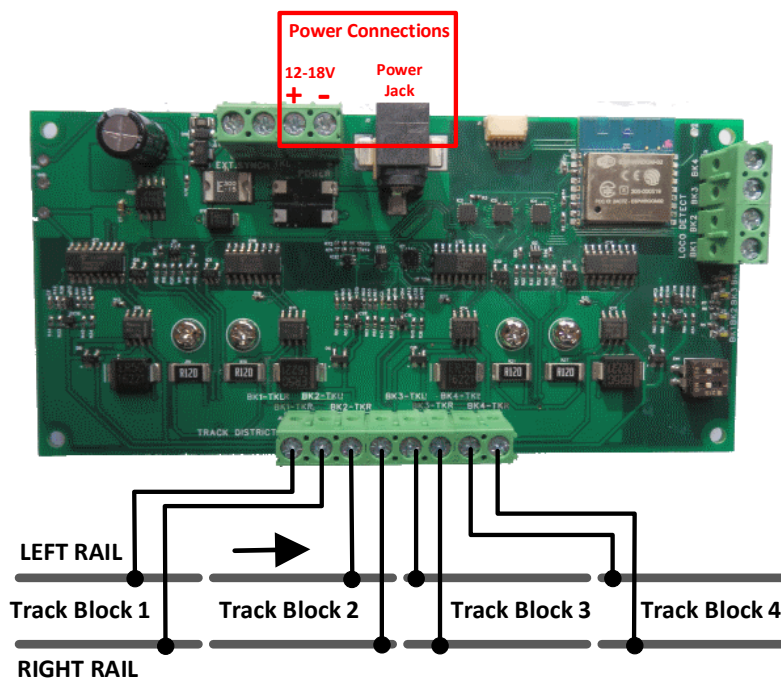Getting Started: WUFP-40 Installation (this document)

Figure 1. WUFP-40 Connections

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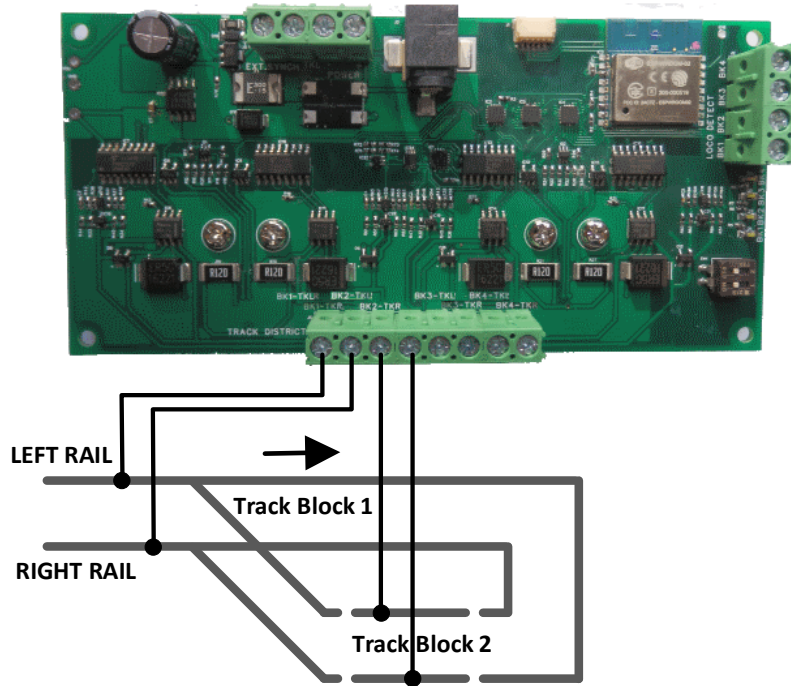*Figure 2. Connections to Four Sequential Blocks on the Model Railroad*

Figure 3. Connections for a Return Loop on a Model Railroad

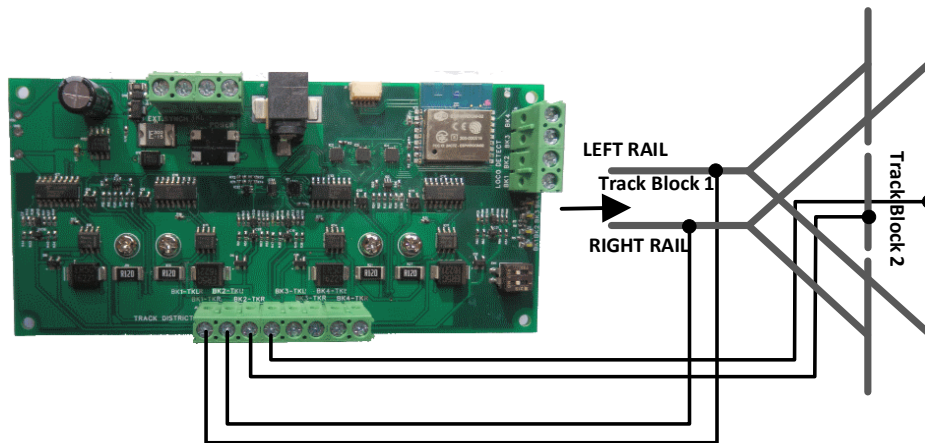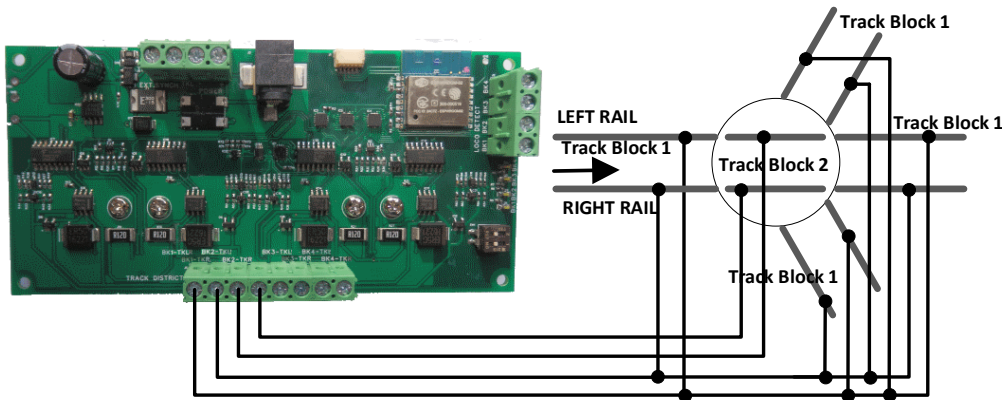*Figure 4. Connections for a Wye on a Model Railroad*

Figure 5. Connections for a Turntable on a Model Railroad

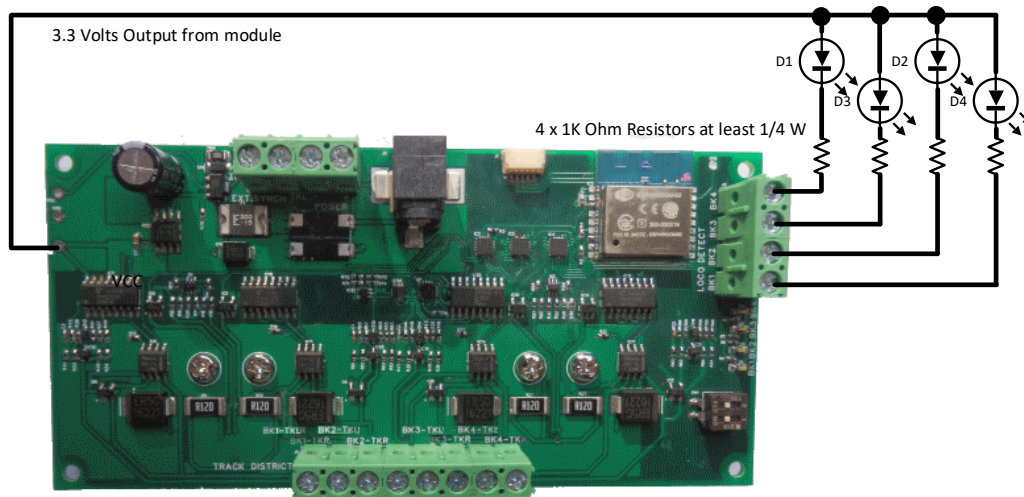**WifiTrax Model Science**
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Figure 6. Connections for LED Occupation Indication

This product is not a toy. Keep away from children. It is not suitable for use by persons under 14 years of age.

Installation Instructions

(1) The WUFP-40 module provides and controls power to up to four track blocks for N, HO, or larger scales. The blocks must be separated by gaps in both rails. Figure 1 shows the module with its connections labelled. Power may be input to the module either via the two screw terminals labelled 12-18V + and – in Figure 1 or via the Power Jack using a mains adapter. Insertion of a power jack will not disconnect the + side screw terminal. The power adapter must supply between 12 and 18 Volts DC with a Barrel Plug (2.5mm I.D. x 5.5mm O.D. x 9.5mm). A recommended power adaptor is available from WifiTrax:

http://www.wifitrax.com/products/product-PA15-43-1-detail.html

(2) The WUFP-40 supports several scenarios that you may encounter on your layout. These are shown in Figure 2, Figure 3, Figure 4 and Figure 5. Figure 2 is the simplest case in which the WUFP-40 controls four consecutive blocks. Figure 3, Figure 4 and Figure 5 show how the module may be used to handle a return loop, a wye and a turntable – three scenarios in which it is necessary to reverse the polarity on blocks as the locomotive traverses them to avoid shorts. Note that the WUFP does not reliably auto reverse when in Wi-Fi DC mode.

(3) When you have organized your track with the appropriate blocks and gaps, wire the connections from the module to your track according to the diagrams. You can either solder wires to the track or use clips and plugs provided by manufacturers. Use at least 13 x 0.12 Stranded insulated wire – black and red is a good idea.

(4) Optionally, install four LEDs each with a 1K Ohm ¼ Watt series resistors to provide remote block occupancy indication as shown in Figure 6. You will need to solder a wire to the 3.3 Volt output on the module. **Take great care not to short this power as it may damage the module. Do not omit the series resistors or the module and LEDs may be damaged!**

(5) Mount the unit using the four M3 metric screws, nuts and spacers provided. Mount the unit on a suitable piece of board, either your baseboard (top or bottom) or a separate board perhaps at the front of your model railroad. The component side of the module should face away from the board as in Figure 7. Take care that no part of the unit touches any metal as this may cause a short circuit and result in permanent damage. Do not mechanically stress or bend the module as this may cause permanent damage. **Take care to ensure that there is adequate ventilation to avoid overheating.**
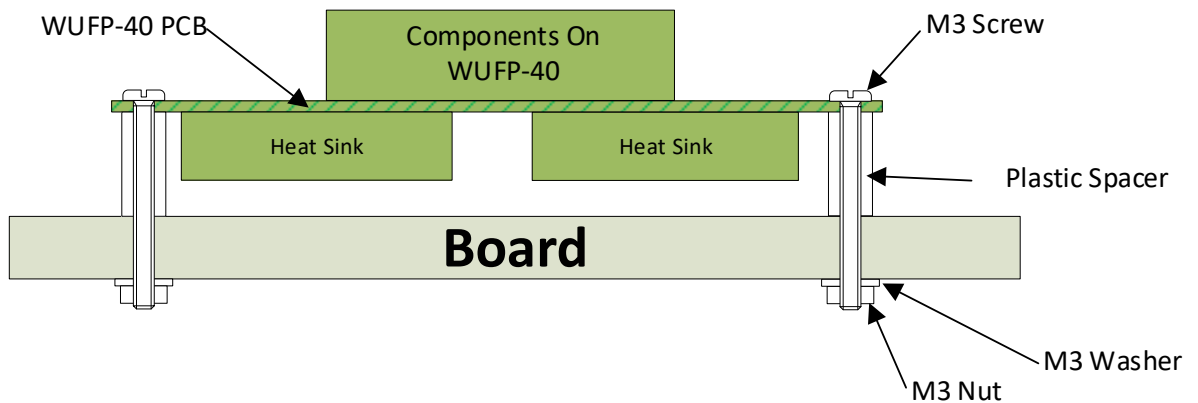
Figure 7 Mounting Suggestion

(6) Turn on the power and test your installation. The simplest way to get a loco running is to install Loco Operator and follow the Install Wizard, declining the option to create a home net. Refer to the Tower Operator Quick Start, or Full Help Pages for instructions on setting up a schematic control panel on your Windows or Android computer or tablet.

(7) You can optionally connect a DCC Command Station or Booster to the Ext inputs as shown in Figure 8. Refer to the Tower Operator Help Pages to find out how to use this mode of working.
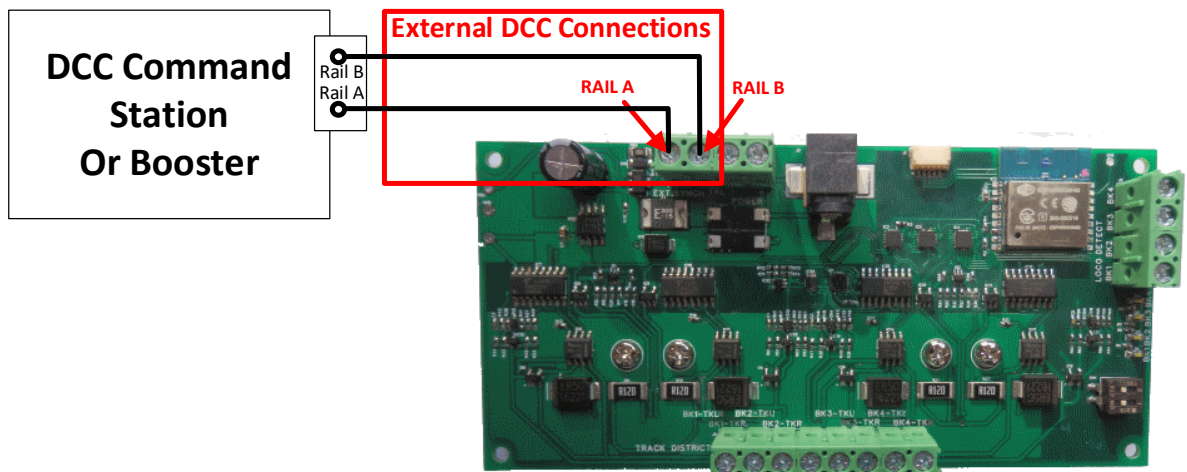

Figure 8 External DCC Connection

Software Installation and First Operation

(1) The easiest way to get started with operating WUFP-40 is to use Loco Operator. Install either the Android or Windows version from the Google Play Store or Windows Store. Please see our website for details:

http://wifitrax.com/products/product-loco-operator-app-detail.html

(1) Install Loco Operator, power up your WUFP-40 and start the app. The install wizard will automatically be entered.

Android Only: When the app starts for the first time you may be asked to accept that the app will access files and the device location. You must accept these, then the screen goes black for a few seconds. Wait for the Install Wizard to appear.

This is standard Android behavior. Be advised that Loco Operator absolutely does not access your pictures, any personal files or any files other than those it generates and no data is uploaded to the internet. Also, the need to access your location is required to work with Wi-Fi. Loco operator does automatically connect your computer to the Wi-Fi access points of WifiTrax

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modules that you have installed and to your Home Network transparently, without prompting. When you have finished driving trains, you may have to reconnect to your home network to access the internet or other devices such as your printer.

(2) The Install Wizard will start. The steps in the Wizard are explained on each screen. The flow chart here should be helpful. It is much easier to start in Direct Mode by saying No to the Home Net option. You can convert to Infrastructure mode later using the Wizard.

(3) Once you have said No to defining a home net, you will see the Scan for Locomotives page. Tap the Scan for New Locos button, then Continue.

Direct Mode Setup / **Infrastructure Mode Setup**

Start → Scan for Visible Networks → Wizard Page 1: Create a Home Net? — Yes → Wizard Page 2: Select Router → Wizard Page 3: Setup Home Net → Wizard Page 4: Find and Install Locos on Home Net → Wizard Page 5: Scan for Locomotives. No → Wizard Page 5: Scan for Locomotives → Start Driving

(4) Loco Operator will look for WifiTrax controller Wi-Fi access points and find out what is at each one. With the WUFP-40, you should see two new locomotives, one called SNXXXXXXXX Chan A and SNXXXXXXXX Chan B, where XXXXXXXX is your unit's serial number. These are the two driving channels of the WUFP-40. Tap the Done button.

(5) Place a locomotive on a track to which the WUFP-40 is connected then tap the Finish – Start Driving button. You can now use the Drive screen of Loco Operator to drive your train. Note that by default, the WUFP-40 starts up with all blocks set to Wi-Fi DC operation, Channel A.
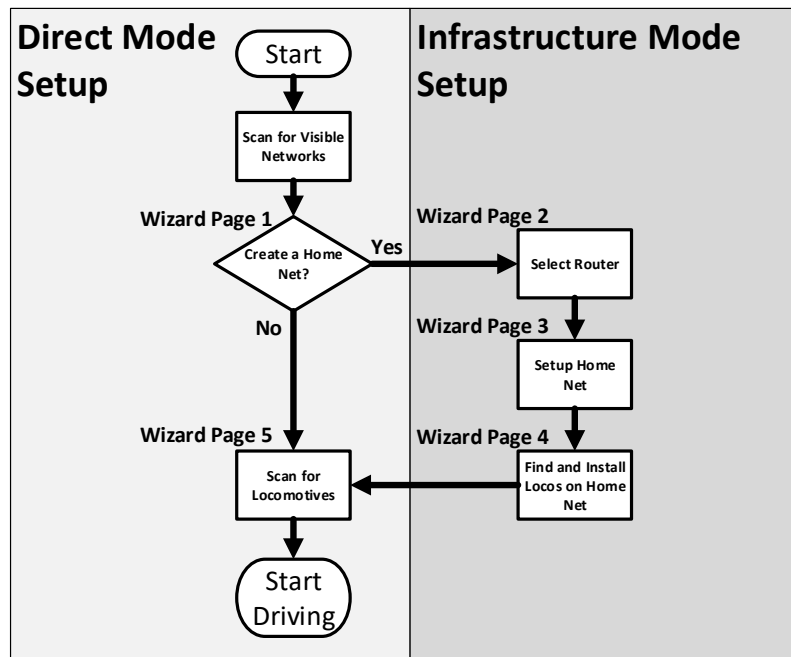
Going Further

You can find out more of the features of Loco Operator by reading the Help Pages:

http://wifitrax.com/help/locoOperator/help.html

To use all the features of the WUFP-40, you need to install Tower Operator which will allow you to control the modes in which each block is working:

http://wifitrax.com/products/product-tower-operator-app-detail.html

Tower Operator Help is available at:

http://wifitrax.com/help/towerOperator/help.html

You can also control the blocks from Loco Operator but you need to define a Home Net and work in Infrastructure mode. This mode will also allow you to control switch machines etc. which, of course you can also do from Tower Operator.

Other sources of information:

http://www.wifitrax.com/appNotes/WifiLayout-Quick-Start.pdf

http://www.wifitrax.com/appNotes/howToArticles.html

Designed and made in Australia from globally sourced components.

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