

WFS-86 8-Way Universal Switch Controller Getting Started

WFS-86 Installation

This document is online at <http://www.wifitrax.com/appNotes/quickStart/WFS-86-Quick-Start.pdf>. Please see our website for information on our limited warranty.

Package Contents

- 1 x WFS-86 Module in Static Shielding Bag
- 1 x Mounting Kit (4 screws, 4 spacers, 4 nuts, 4 washers)
- Getting Started: WFS-86 Installation (this document)

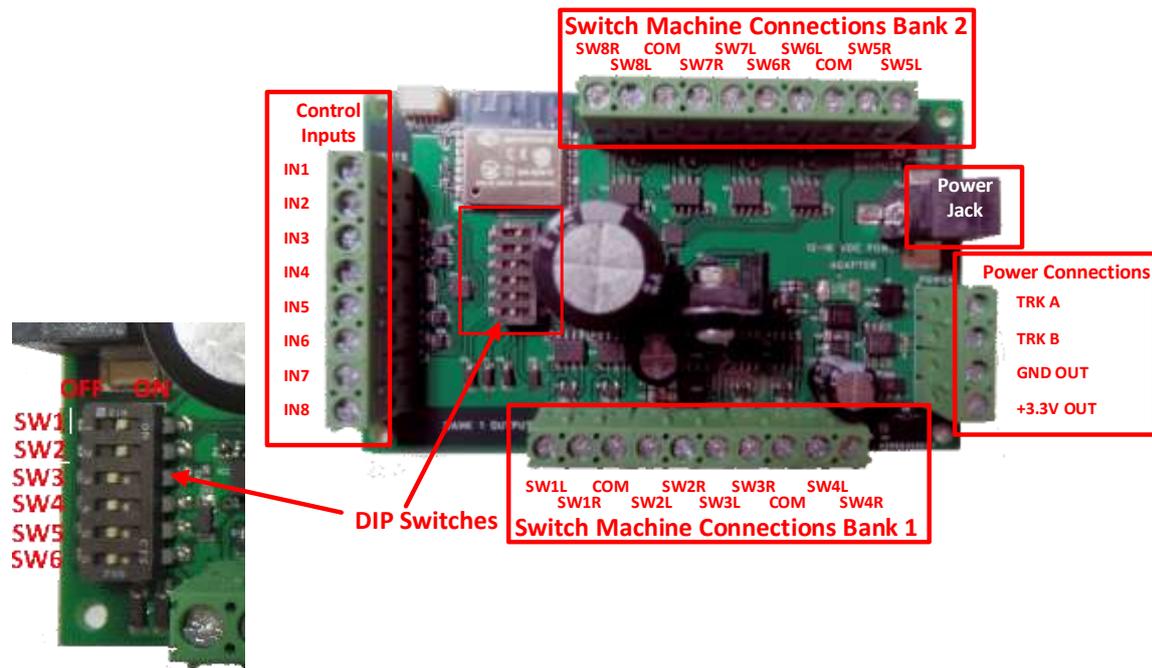


Figure 1. WFS-86 Connections

Switch	ON Function	OFF Function	Remarks
SW1		Always set to ON	
SW2		Always Set to ON	
SW3	Twin Coil Mode	Stall Motor Mode	Mode Switch
SW4, SW5 SW6		See Table 2	

Table 1. DIP Switch Settings

SW4	SW5	SW6	Output Voltage	
			SW3 = ON (Twin Coil Mode)	SW3 = OFF (Stall Motor Mode)
OFF	OFF	OFF	Up to 24V	Approx. Track Voltage – 3V
ON	OFF	OFF	19V	Approx. Track Voltage – 3V
OFF	ON	OFF	12V	12V
OFF	OFF	ON	9V	9V

Table 2. Voltage DIP Switch Settings

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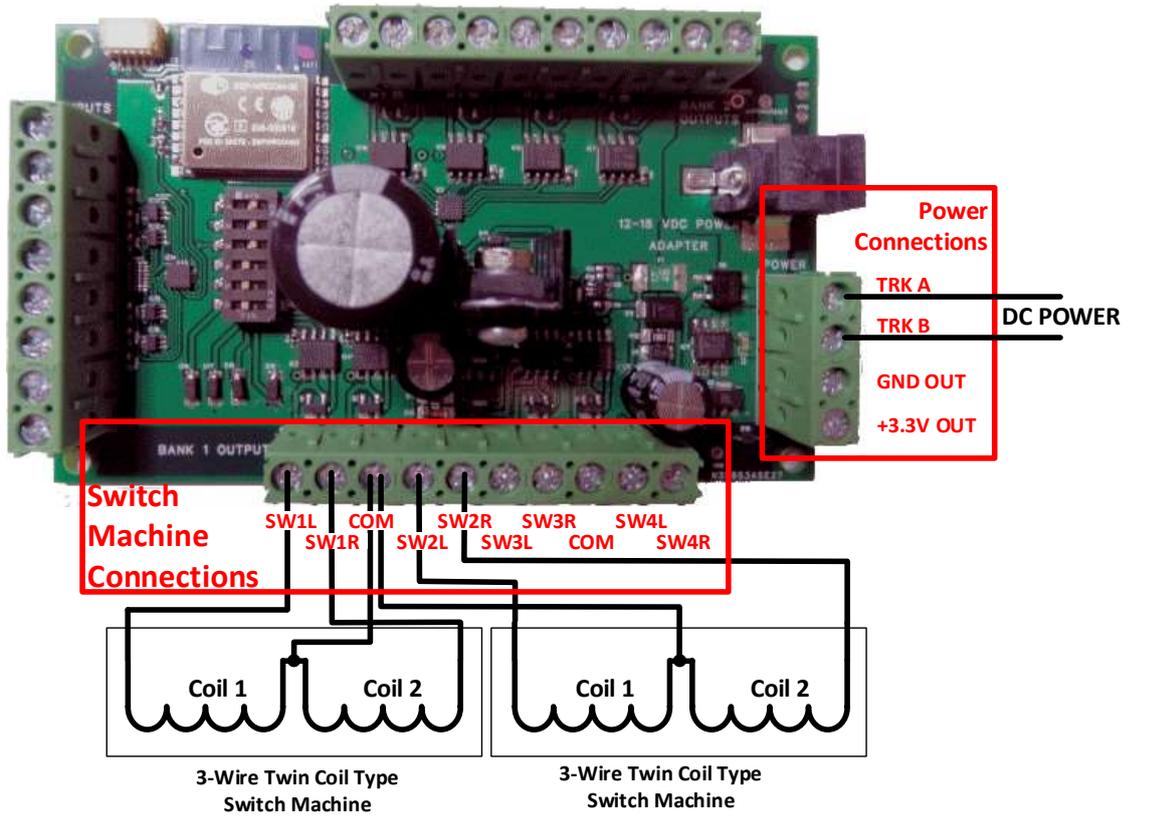


Figure 2. Connection Diagram for 3-Wire Twin Coil Switch Machines, e.g. Atlas, Peco

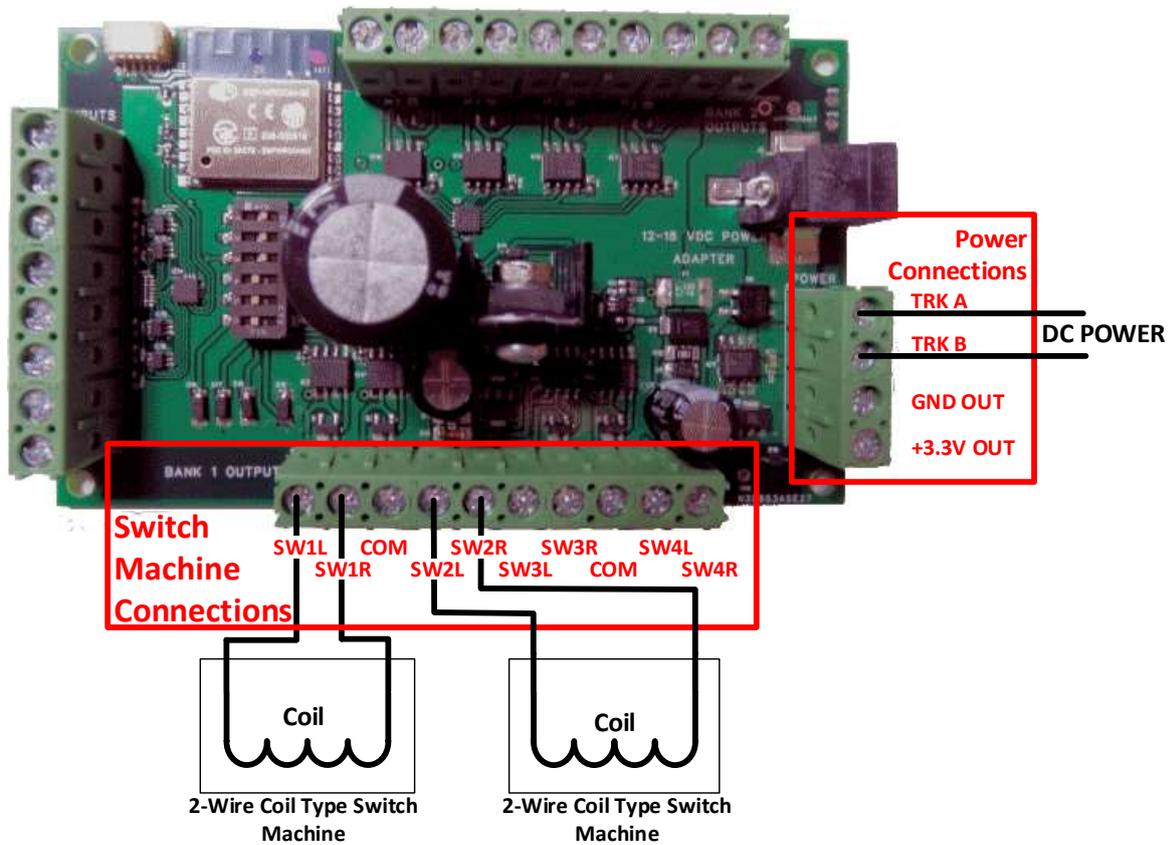


Figure 3. Connection Diagram for 2-Wire Coil-Type Switch Machines, e.g. Kato, LGB

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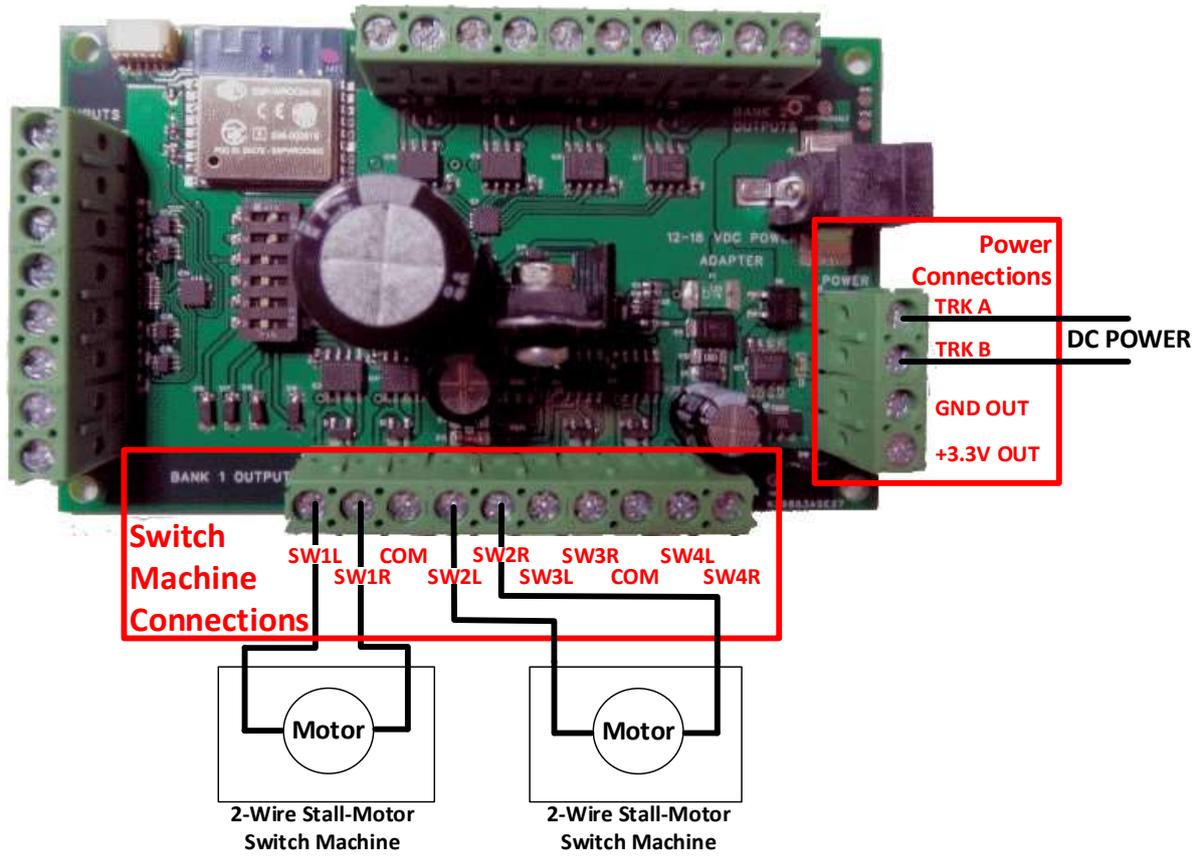


Figure 4. Connection Diagram for Stall Motor Switch Machines, e.g. Tortoise

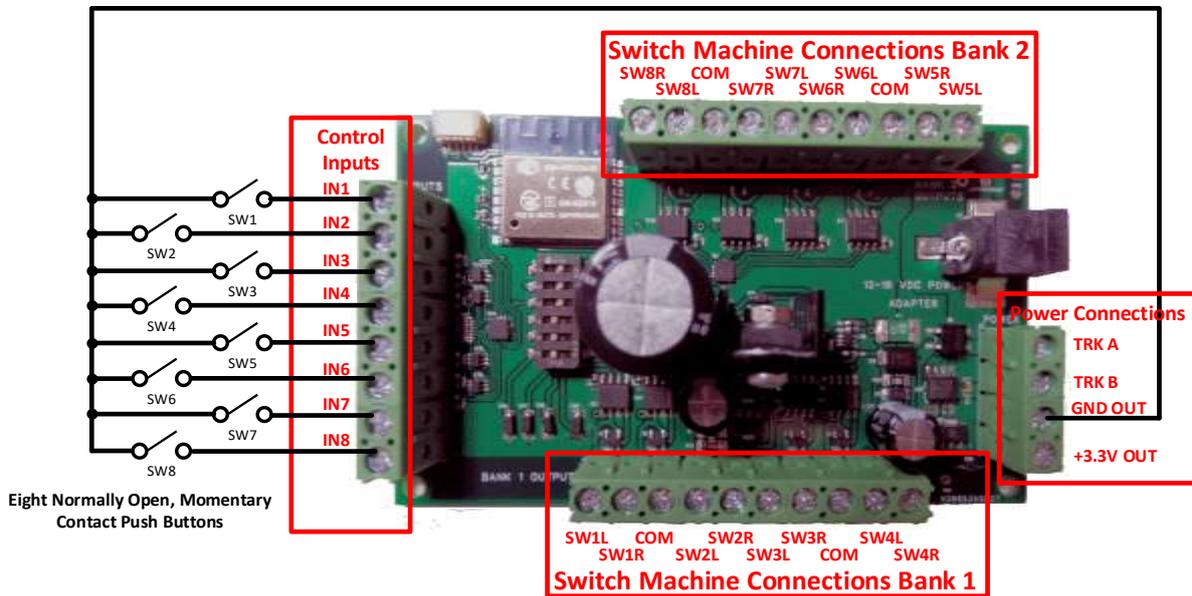


Figure 5. Connection Diagram for Manual Push Buttons

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

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Installation Instructions

- (1) First determine what kind of switch machines you wish to control. WFS-86 will control three basic types: 3-Wire Twin Coil, 2-Wire Coil-Type (Bipolar) and Stall Motor. **Any one WFS-86 module can control EITHER Stall Motor OR Coil-type but not both.**
- (2) Figure 1 shows the WFS-86 module with its connections and switches labelled. Configure the switches on your module for your choice of switch machine type as in Table 1 and Table 2. Please take great care that SW3 is in the correct position – ON only for coil-type solenoid switch machines, OFF for stall motor like Tortoise. **If you connect the wrong type, you may damage either the switch machine or the WFS-86. Do not change any switch without first switching off the power!**
- (3) Configure switches SW4, SW5 and SW6 to provide the best output voltage for your switch machine. Some switch machines – Tortoise, for example – require that no more than 12 Volts be used.
- (4) Wire your module to the switch machines as shown in Figure 2 , Figure 3 and Figure 4. A WFS-86 can control eight switch machines. The figures show connection to Bank 1 as an example. Bank 2 are connected in a similar manner. You can use each channel or leave it unconnected. You can mix 3-Wire and 2-Wire Coil-type Switch Machines on the same unit, but if you choose the stall-motor settings, all channels must be connected to stall-motor machines or left unconnected.
- (5) Connect power to your unit at TRKA and TRKB as shown in Figure 2, Figure 3 and Figure 4. It does not matter which way round you connect the power. You can also use DCC track power but NOT AC. The power should be between 12 and 18 volts. As an alternative to the TRKA and TRKB connections, you can connect a power adapter to the Power Jack marked in Figure 1. Insertion of a power jack will disconnect TRKB. 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>
- (6) Optionally, install eight normally open, momentary contact push buttons as shown in Figure 5.

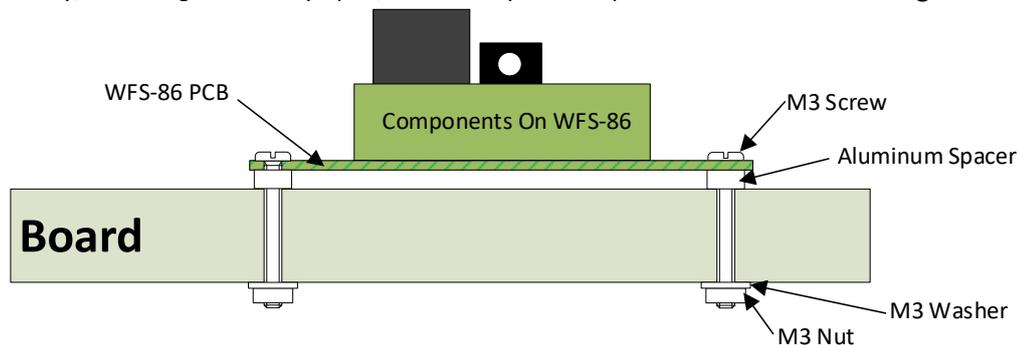


Figure 6 Mounting Suggestion

- (7) Mount the unit to your baseboard 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 6. 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.**
- (8) Turn on the power. If you have installed manual push buttons you may test the unit by pressing each button momentarily in turn. If you have not installed push buttons, 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.

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

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