

DVTSTC3-3
For ages **14+**

O gauge 3-Rail Switch Position Dwarf Signals for 3-Wire Twin Coil Switch Machines

Thank you for purchasing our switch position dwarf signal kit!

This kit is designed specifically for 3-wire twin coil switch machines such as those used by Atlas O. It is also designed to work with Z-Stuff DZ-1000 & DZ-2500 switch machines.

NOTE: There is a 1-2 second delay in the aspect changes of the signals when using Z-Stuff machines.

Contents of Kit:

- **3 O scale (1/48th scale) Dwarf Signals** (Black or Silver housings) w/optical fiber cables
- **1 3-Wire Twin Coil Fiber Optic Controller**
- **2 Capacitors** (0.47uF, 50V radial style through hole)
- **1 piece of self-adhesive Velcro** (for mounting underneath layout)

A unique feature of our 3-wire twin coil controller is that it remembers the last position the switch was thrown to, even after power has been interrupted. Onboard the circuit board is a tiny microprocessor that keeps track on the last position the switch machine was thrown and remembers that position when power is turned off and on again.

The 3-wire twin coil controller accepts either AC or DC power. It can be powered from an optional power adapter or directly from your accessory AC power already under your layout (running lights and accessories). We have included two different wiring diagrams, which are specific to the controller you are wiring into.

NOTE: If you choose to use the DC power adapter **DO NOT** also use AC accessory power. Choose only one input: AC accessory voltage OR the DC power adapter.

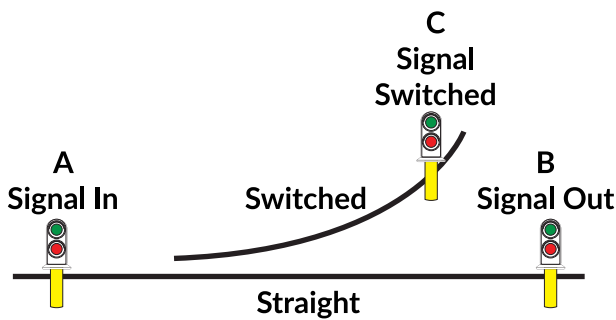
It is possible to power all your 3-wire twin coil controllers by daisy chaining them using the 2-position Euro-Block. You do not need to power each 3-wire twin coil controller independently.

Installation Instructions:

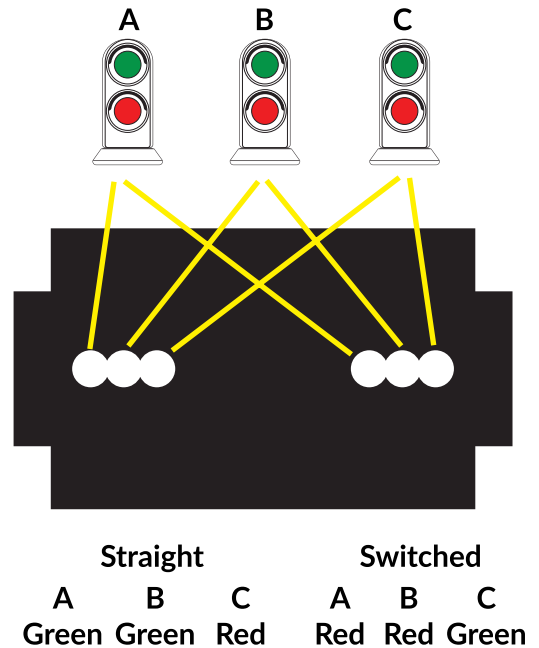
1. Drill three separate 5/32” holes on each approach to your switch:
 - **Signal In:** One facing away from the switch machine on the single lead track into the switch.
 - **Signal Out:** One pointing away from the switch machine on the straight track.
 - **Signal Switched:** One additional hole facing away from the switch machine on the diverging route. Position the holes far enough away from the ties so no overhanging parts can collide with the signals.
2. Insert the fiber cables first, then the base of the signals. **A 5/32”** hole should ensure a tight fit. If adhesive is necessary to secure the signals in place **DO NOT USE HOT GLUE**. Instead, use an adhesive such as super glue and accelerator or similar, applied only on the post of the dwarf signal.
3. Refer to **(Diagram 01)** to understand fiber insertion. Use a sharp X-Act knife to cut the optical fiber ((not a pair of side cutters, as they will compress the fibers and diminish light output) to the length you require. Then insert the fibers into the chimneys at the top of the controller.

(Diagram 01)

Fiber Insertion Chart



	A Signal In	B Signal Out	B Signal Switched
Straight	Green	Green	Red
Switched	Red	Red	Green



Wiring Diagrams:

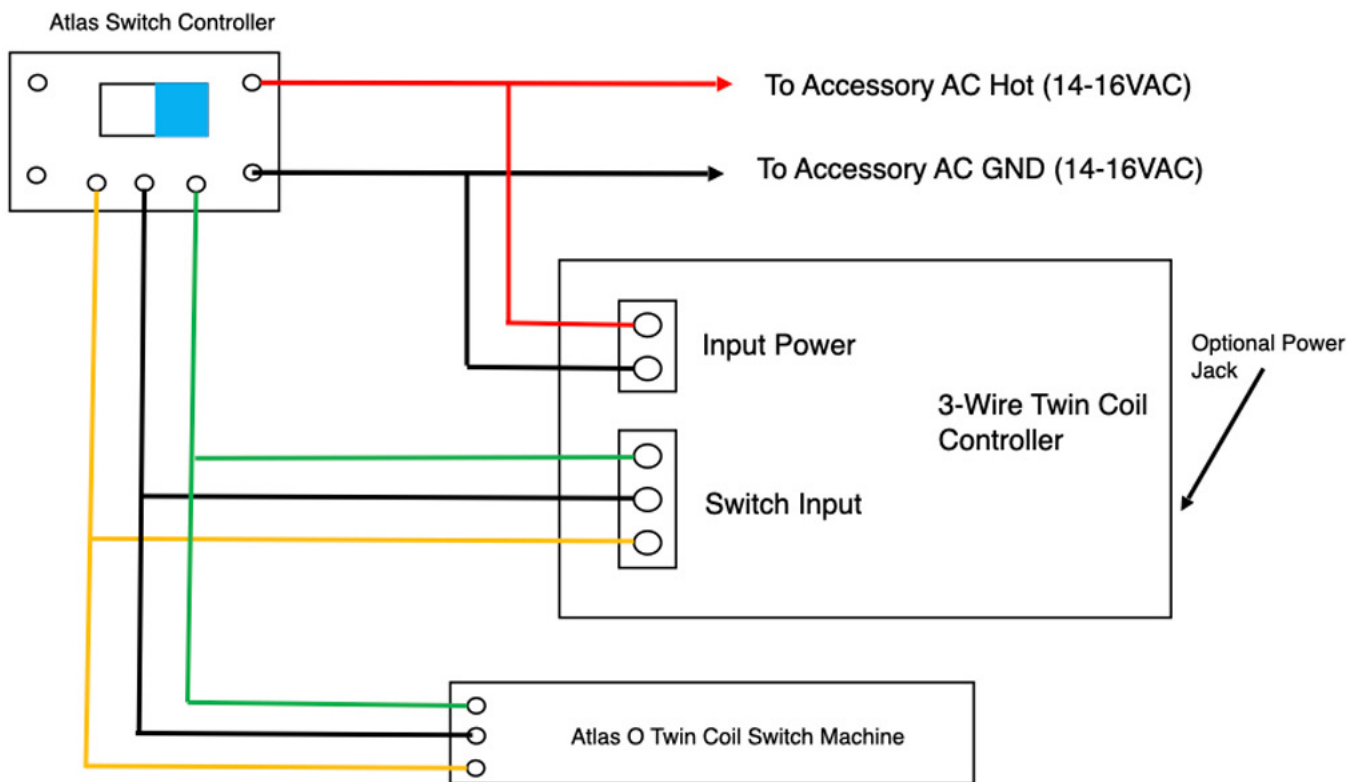
For Atlas O 3-Wire Twin Coil Switch Machine

Refer to **(Diagram 02)** for wiring specific to Atlas O 3-wire twin coil switch machines. Ensure all connections are secure.

For Z-Stuff DZ-1000 & DZ-2500 Switch Machines

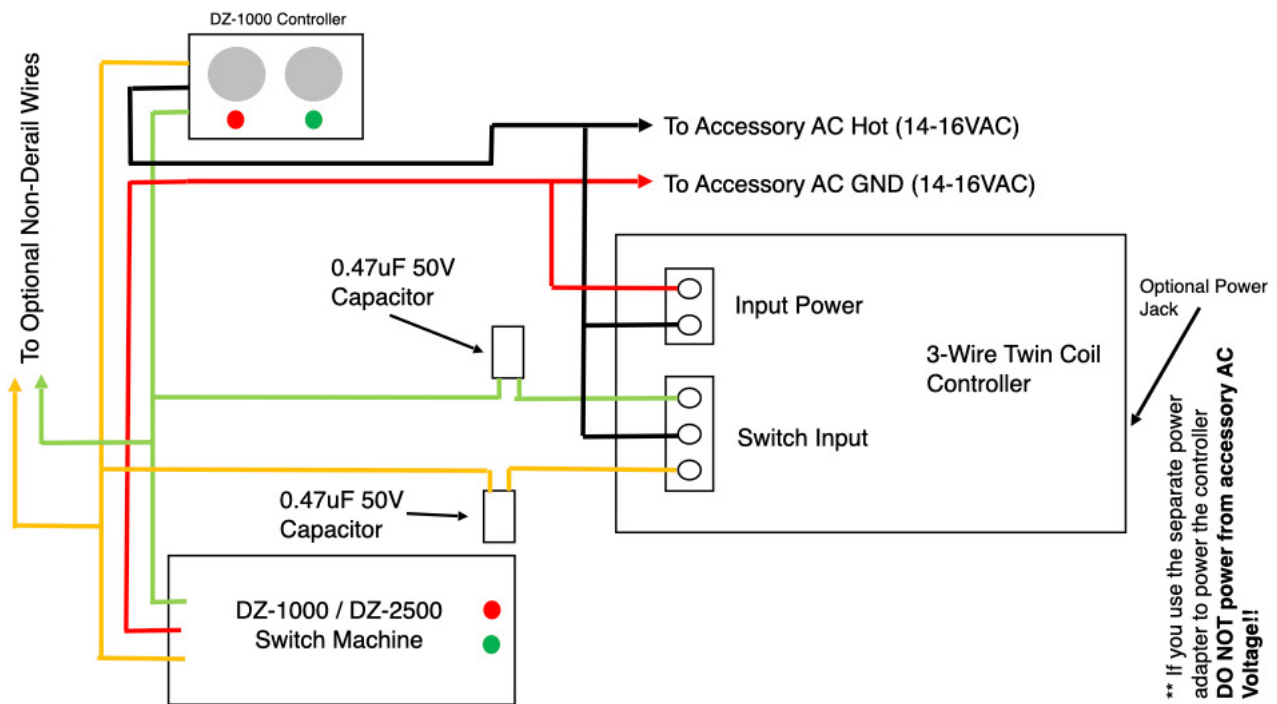
Refer to **(Diagram 03)** for wiring specific to Z-Stuff DZ-1000 & DZ-2500 switch machines.

Wiring for Atlas O 3-Wire Twin Coil Switch Machine



(Diagram 02)

Wiring for Z-Stuff DZ-1000 & DZ-2500 Switch Machines



(Diagram 03)

Troubleshooting:

- **Problem: Some of my signal aspects are not very bright.**
Solution: Ensure each of the optical fibers are fully seated in their chimneys. Misalignment with the LED will result in poor light transfer.
- **Problem: I am using these signals with Z-Stuff machines and the signal aspects do not change when throwing the switch.**
Solution: There is typically a 1 to 2 second delay between when the switch is thrown and when the signal aspects change. If waiting a few seconds does not cure the issue ensure you have at least 15VAC powering your Z-Stuff controllers.
- **Problem: I just broke a Dwarf Signal.**
Solution: Fortunately we offer Dwarf Signals separately under the following part numbers:
 - Black Dwarf Signal **DVFLBS301**: \$12.95
 - Silver Dwarf Signal **DVFLBS301S**: \$12.95

For helpful tips and instructional videos, visit our website: www.Dwarvin.com

Appreciation: If you enjoy our product, please like us on [Facebook: DwarvinEnt/](https://www.facebook.com/DwarvinEnt/)

Concerns or questions? Please contact us:

- **Email:** customerservice@trainz.com
- **Phone:** 866-285-5840

Thank you, **Dwarvin – Lighting without Wiring® – by Trainz.com**