



Z-Staff for Trains

making model railroading more fun

Hinsdale, IL

drzander@aol.com

DZ-1240AC/DC Auto Reverse & Stop Module

Rev. 12-8-14

Contents:

(1) DZ-1240ACDC Controller

Features:

The DZ-1240 Auto Reverse and Stop Module adds a little touch of realism to your layout. It provides auto reverse for a point to point run and can insert timed stops between end points or have variable time delay at stops with sensors. The system will also work with trolley or transit cars. The System can be used with a point-to-point track or a loop of track. The system controller will stop the engine or trolley at each end point or inserted stop and then release it after a delay.

NOTE - The track power relays are rated for 10 Amps. continuous power. DO NOT EXCEED.

DZ-1240 Setup & Test:

See Figure 1 - Consider testing the setup on a bench or tabletop before installing on your layout.

- 1) Leave switches in "as shipped" default positions.
- 2) Connect a short piece of wire (TEST WIRE) to COM of the power connector.
- 3) Connect 12-16VAC to the power input and turn power **ON**. (If you are using accessory power from your trolley power transformer, the common terminal should connect to the common of the transformer.)
- 4) The POWER LED should turn **ON**.
- 5) Take the TEST WIRE attached to COM and touch it to the 'EAST B1' pin of the Sensor Input connector. The Module will turn on the TRACK POWER LED for a short time, then after a short delay turn it on again.
- 6) Take the TEST WIRE attached to COM and touch it to the 'WEST B3' pin of the Sensor Input connector. The Module will turn on the TRACK POWER LED for a short time, then after a short delay turn it on again.
- 7) Now take the TEST WIRE attached to COM and touch it to 'MID B2' pin of the Sensor Input Module will turn on the TRACK POWER LED several times, then after a short delay turn it on once more.

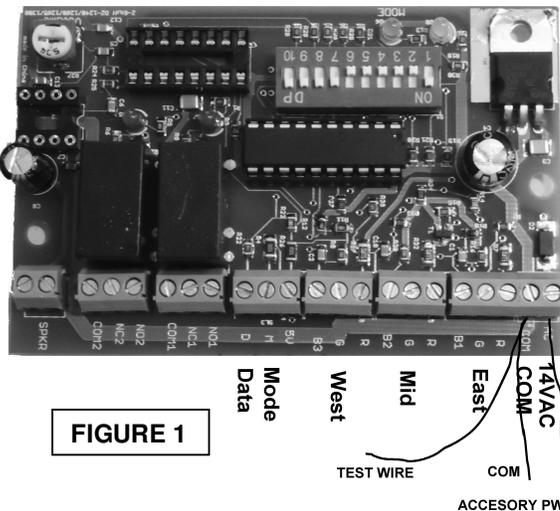


FIGURE 1

This completes the "Bench Testing" of the DZ-1240AC/DC. Now you are ready for installation!

AC Installation (3-rail):

Installation consists of making wire connections to the track and creating isolated outside rails when needed. You need to wire the controller as shown in Figure 2 for point-to-point or Figure 3 for a loop of track. For either case, only the end point sensor(s) are required. The MID point sensor(s) can be used for the location of stop locations, but the option of selecting the number of stops will eliminate the need for cutting the track to create the isolated rail sections. DZ-1011's or DZ-1205's can be used instead of isolated rails.

- 1) Create sections of isolated rail as shown in Figure 2 or 3. They should be longer than the length of your engine or trolley. The EAST/WEST end sensors (isolated rails are shown) are necessary for point to point operation and the MID sensor is optional. With Lionel track isolated rail is difficult, because each metal tie connects the outside rails together. If you are using Lionel type track, you can by special sections of Lionel track that have one outside rail isolated.
- 2) Connect wires from the isolated rail sections to the sensor inputs as shown in Figure 2.
- 3) Place an engine or trolley on the track. (if your engine or trolley or transit car does not have electronic reverse, then you will need to use a loop of track.)
- 4) Turn controller power ON and track power ON.
- 5) The engine or trolley should be started if it is not all ready running, by cycling power (pressing the direction button).
- 6) The engine or trolley should now stop at the end points and stop at each midpoint if you have added those.

DC Installation (2-rail):

Figure 5 shows the wiring for transformer and track using DC power. The sensors can be either DZ-1011 or DZ-1070 with switches 8,9,10 ON or DZ-1205 with switches 8,9,10 OFF. DZ-1011 wiring is shown in Figure 6 and DZ-1205 in Figure 5.

Module Set up: Track Options / Engine Options:

All options are determined by the positions of the switches shown in Figure 4. The default options are shown. To correctly stop and restart engines, especially those without reverse units, the module must be told the type of engine or trolley that you are using. Also, you need to set up the module for either point-to-point track or a loop of track.

SWITCH 8, 9 and 10 indicate the type of sensor that you are using. ON for isolated rail or DZ-1011 and OFF for DZ-1205.

SWITCH 7 indicates that your engine or trolley either has or does not have an E-unit for reversing. ON-Eunit / OFF-no Eunit

SWITCH 6 indicates the response time of the engine. SHORT (fast) or LONG (slow) response time. OFF-LONG / ON-SHORT

SWITCH 5 sets the meaning of switches 1-3. ON position for number of stops and OFF position for the delay time at each stop. ON-STOPS / OFF-DELAY (at each stop).

SWITCH 4 is for AC or DC operation. OFF for AC operation and ON for DC operation.

SWITCHES 1-3 set the number of stops or the delay (x 5 Seconds) at each stop. The number will be the sum of the numbers set to the ON position plus 1. So, switch 2 ON plus switch 3 ON is $1+(2)+(4)=(7)*5$ a 35 second delay. The same is true for the number of stops to be put in between end points, if switch 5 is set for STOPS, except the number is not x 5.

LOOP Operation:

For loop operation, the MODE input must be connected to the COM terminal on the DZ-1240 as shown in Figure 3. All other switch settings apply as for Point-to-Point mode. This is true for AC or DC operation (controlled by sw4). Although Figure 3 shows isolated rail sensing, the sensors can be either DZ-1011 or DZ-1070 with switches 8,9,10 ON or DZ-1205 with switches 8,9,10 OFF. DZ-1011 wiring is shown in Figure 6 and DZ-1205 in Figure 5. Switch 8 is for B1 input (EAST), switch 9 is for B2 input (MID) and switch 10 is for B3 input (WEST).

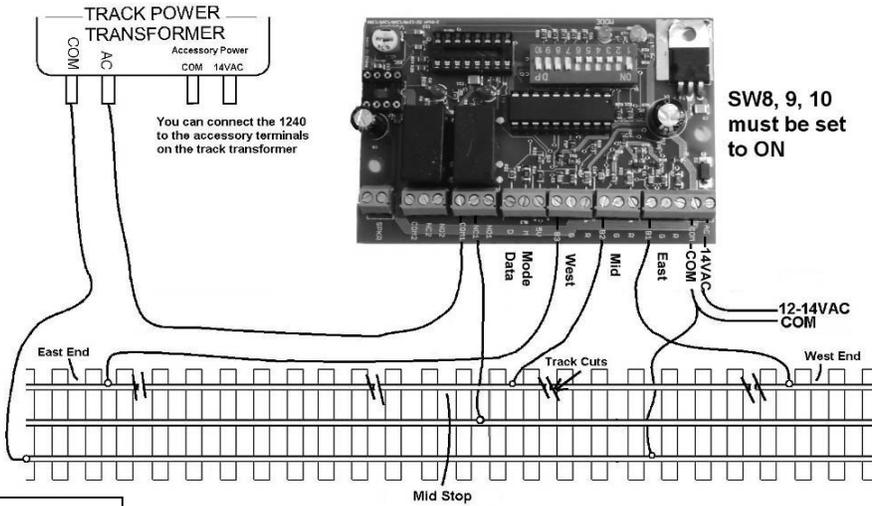
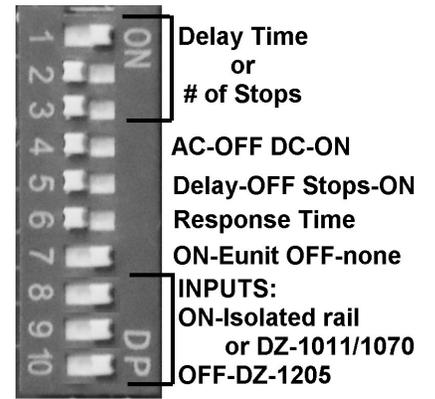


FIGURE 2



Default SW Positions

FIGURE 4

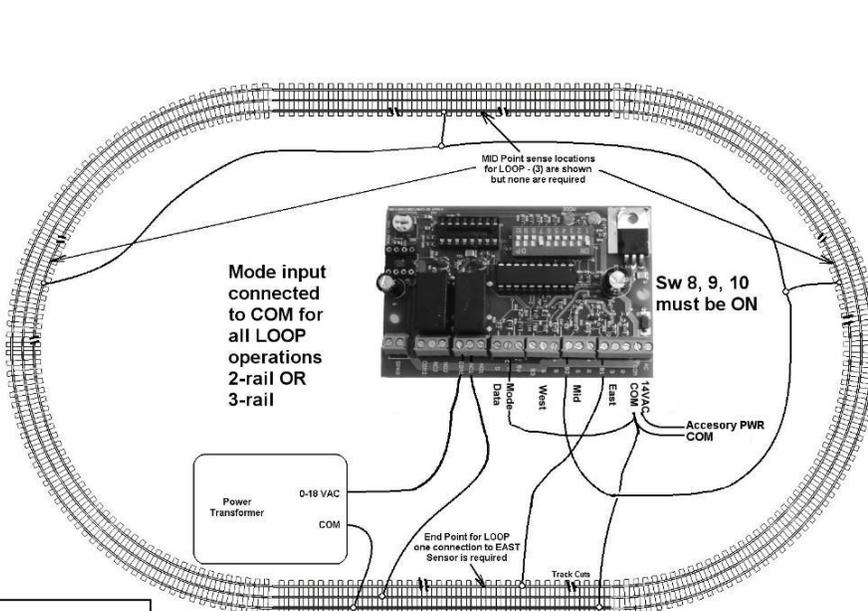


FIGURE 3

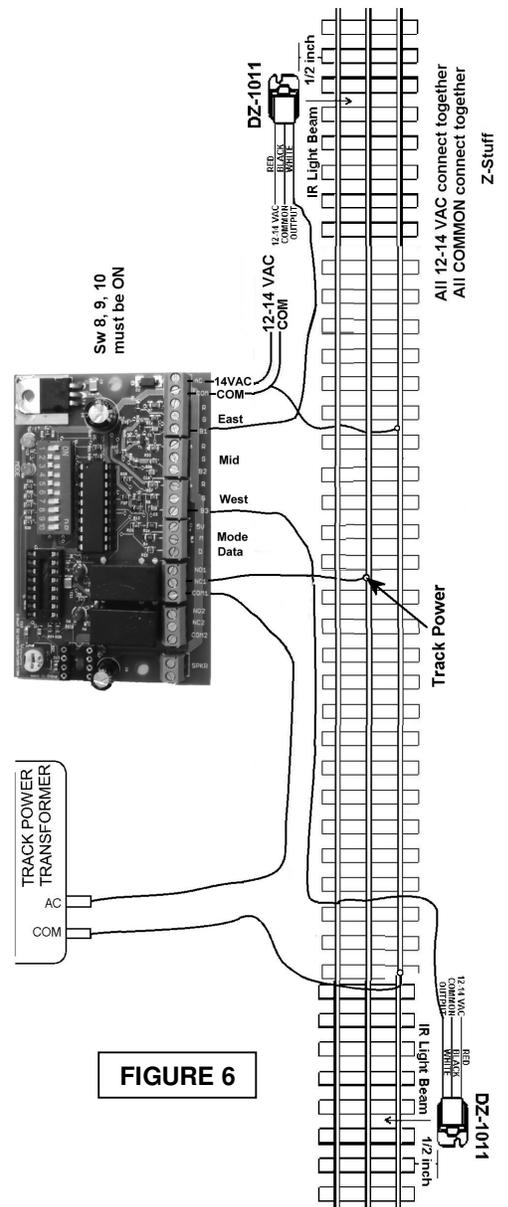


FIGURE 6

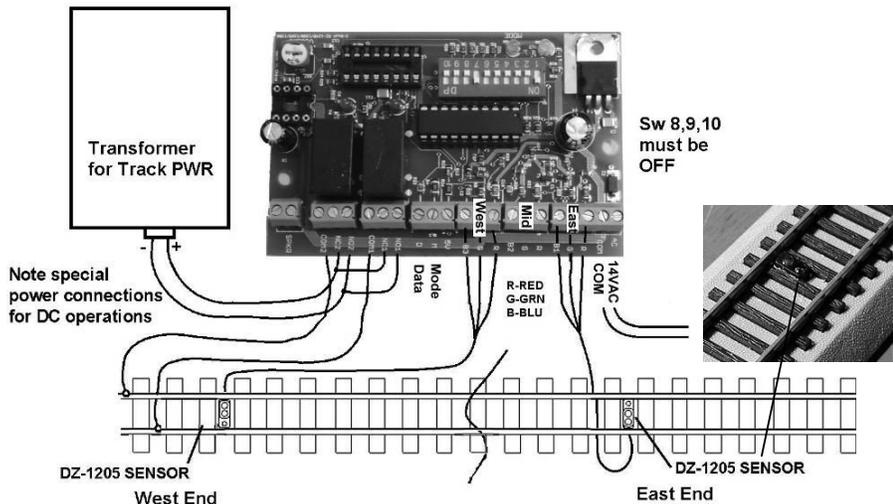


FIGURE 5

Wiring shown for DZ-1205 but DZ-1011 can also be used