

No 23 – DCC Reverse Loop Controller

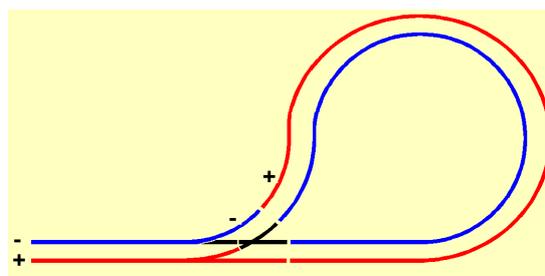
Reverse loops allow trains to reverse direction without 'Y's or turntables.

Trains enter the loop head first and exit head first.

Loops would create a short circuit as the outer rail became the inner rail at the other end of the loop.

This is often solved by isolating the main part of the loop at both ends, on both rails.

Although the loco's decoder does not care about track polarity ('forward means forward'), the polarity of the isolated section still needs to be switched at appropriate moments to avoid shorts.



This module uses TOTIs (train detectors) to provide fully automatic control of both train, tracks and point movement.

Options

The controller offers three different levels of complexity, with added functionality as you add extra detectors. You decide how far you want to go with this module.

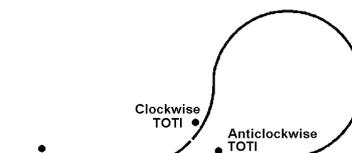
Single detector

This is the easiest, with the TOTI positioned mid-way round the isolated section. This limits the train length to half the length of the isolated section. Since you don't know how long a train is, you have to set a timer to control the switching of the point and isolated section.



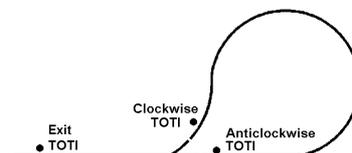
Two detectors

This method places a detector at each end of the isolated section, allowing the train to be the length of the isolated track section. You still need to set a timer.



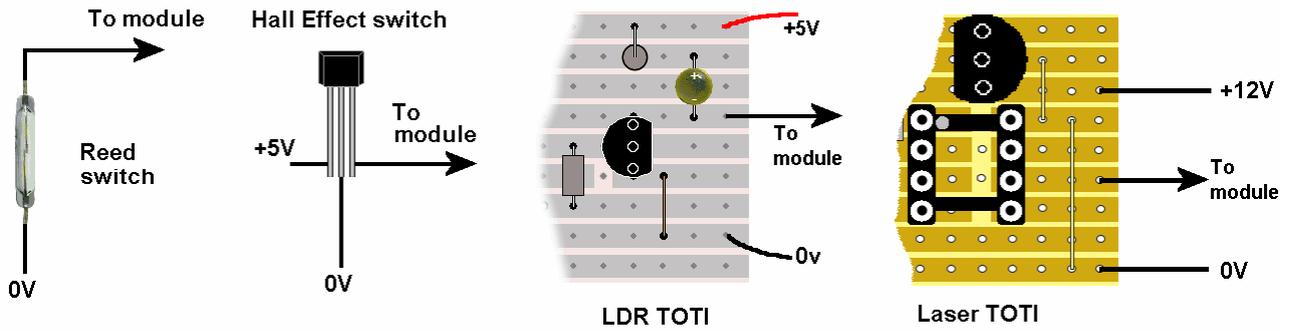
Three detectors

This method places a detector at each end of the isolated section, plus another detector on the main track, also allowing the train to be the length of the isolated track section. Since the 'Exit' detector indicates when the train has fully left the loop, there is no need for a timer.



The options are chosen using wire links (e.g. no links selects single detector mode). A 10k trimmer sets the delay time for modes 1 and 2; its setting is ignored in mode 3.

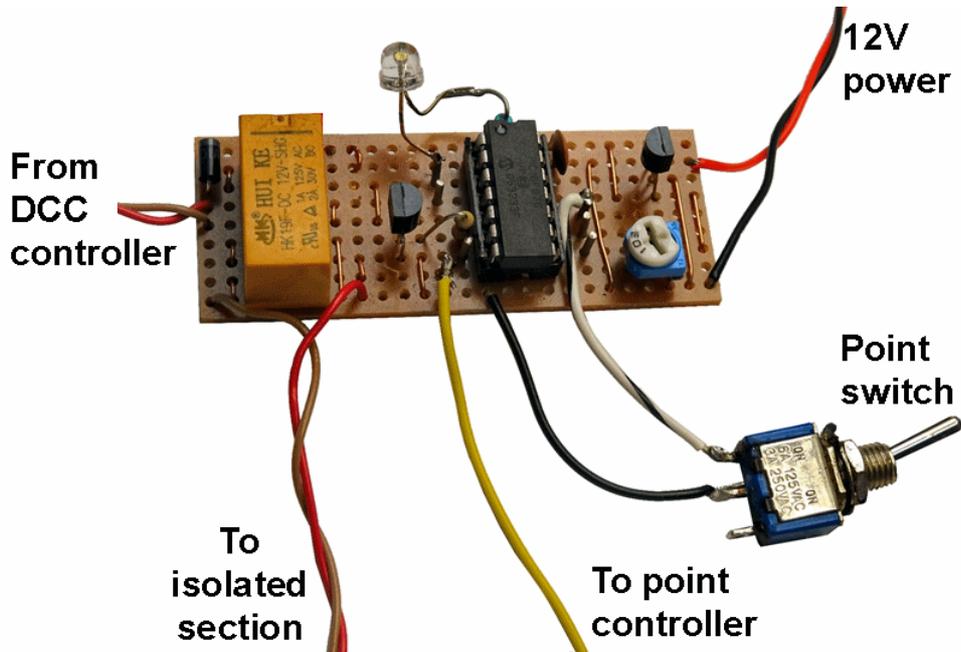
Here are the connections for a selection of different detector options:



The outputs

There are only three outputs – to the relay that switches the polarity of the isolated section, to the external point controller, and to the optional LED. The LED is illuminated while the train is in the isolated section.

The photograph shows the module set up for single detector working, with a LED fitted.



The kit is available at all West of Scotland activities (for £1) or can be purchased from the national MERG website as PMP 23.