BLOCK signalling

www.blocksignalling.co.uk

The Fleischmann 9205 signal is designed to operate on a 12V to 14V AC supply according to the manufacturer.

There are four wires connected to the signal:

Black: Common
Slate: Lamp
Red: Danger
Green: Clear

There are two further connections possible to the body of the signal, where track clips can be inserted to connect to the inbuilt track power switch. This closes when the signal is set to Clear and opens when set to Danger.

Fleischmann part 9401 is required to make the connection from the signal to the adjacent track if this option is used.

Connecting the AC supply to the Black and Grey wires will illuminate the incandescent bulb behind the aspects. This bulb is replaceable (Fleischmann part 6536).

The remaining Red and Green wires are used to feed the two coils which operate to raise and lower the arm. Each of these coils is connected to the fixed contacts of a changeover switch which is moved by the operating rod.

Assuming that the signal is set to clear, the operating rod will have moved (to the left in the diagram below) and connected the track power. It will also disconnect the power from the "clear coil".

Now, if power is connected to the Red (Danger) wire, current can pass through the changeover switch and operate the "danger" coil and draw the push rod to the right. At the same time, the changeover switch operates and stops the current flow to the "danger" coil and the track power switch is opened, isolating the track power.

The signal can be equally well controlled by a pair of by push-button switches, a changeover switch or a relay with changeover contacts.

The signal would probably operate happily on a DC supply, although the lamp life may be slightly shortened and the changeover contacts could suffer arcing and shorter life. I could not recommend it as the life of the contacts cannot be guaranteed without a long term test. Personally, I think it would be fine.

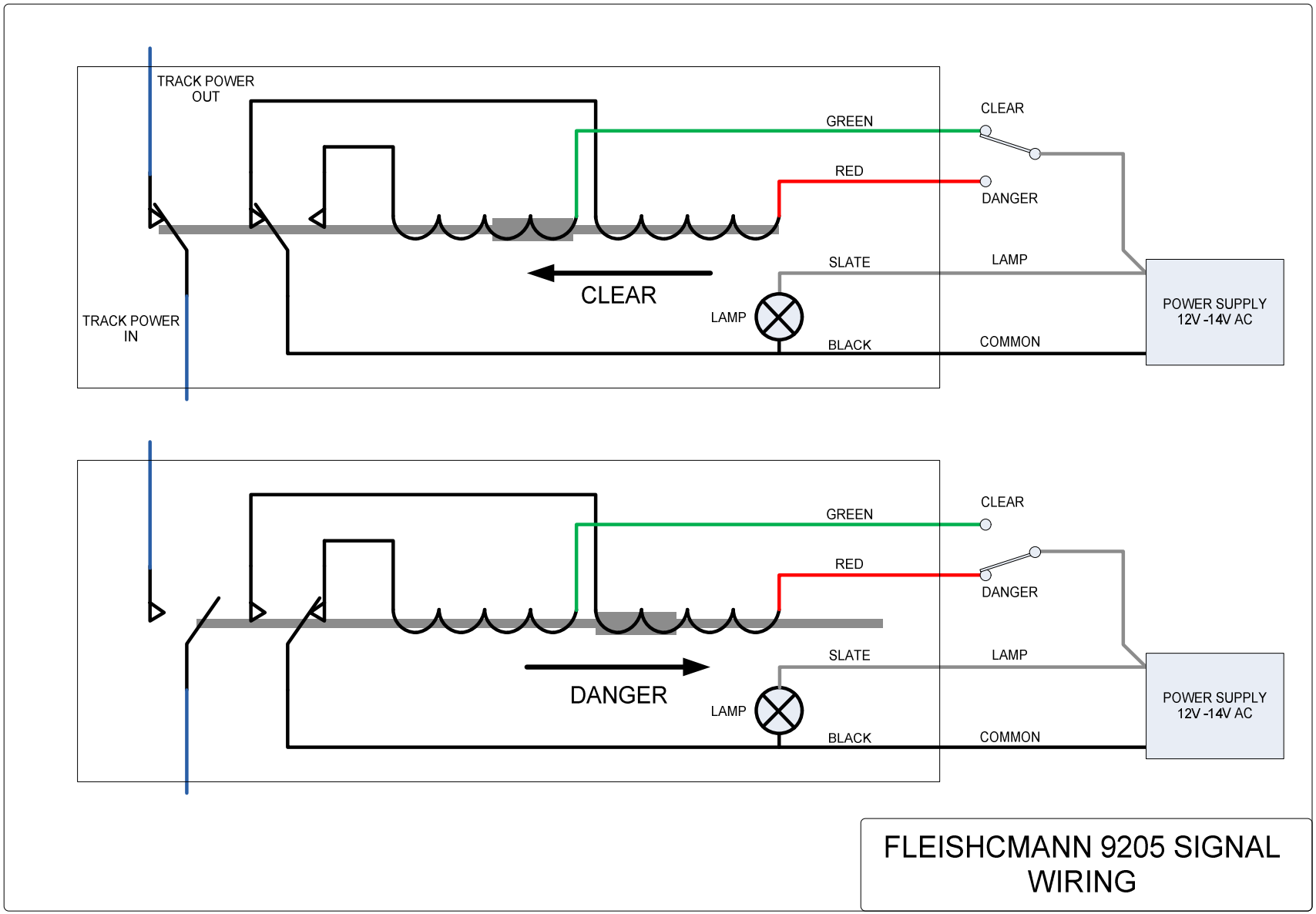
In my tests, the lamp operates from the following voltages (consumption is approx. 5mA):

Dim:	9V DC
Acceptable:	10V DC
Bright:	12V DC

The solenoid operates acceptably at 10V DC, but is much more positive at 12V DC. No current is drawn after the signal has moved, as the contacts open the connection to the coil.

The Fleischmann instructions can be found here:

http://www.fleischmann.de/doc/an/2/de/BA_9200_201438.pdf



FLEISHCMANN 9205 SIGNAL WIRING