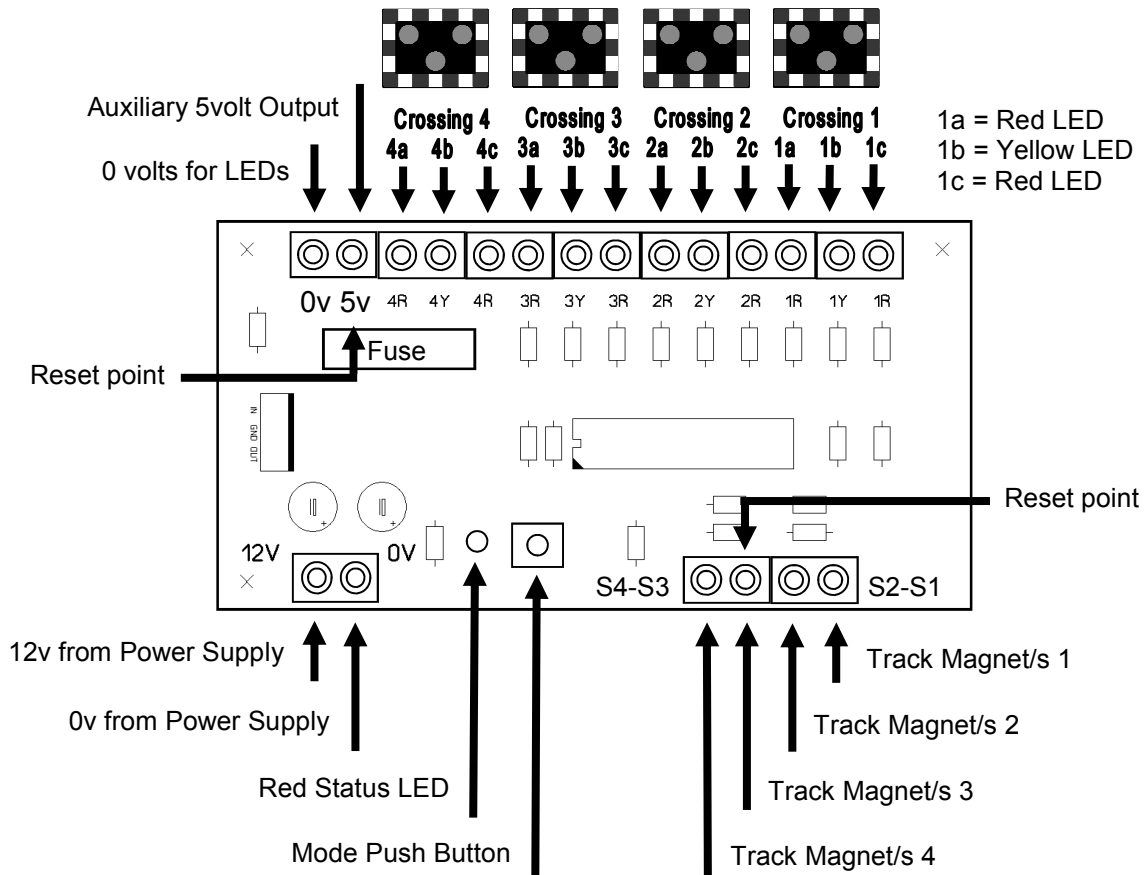


Location of Connectors



Overview

This controller detects trains approaching and leaving a level crossing.

When a train is detected approaching the crossing, the light sequence is activated.

First the amber LED is illuminated for 3 seconds and then the two red LED's are flashed alternatively. The red flashing rate can be adjusted as can the yellow length time/number of flashes.

The controller can be set to operate with 1 or 2 magnets.

If using 1 magnet this will be used to start the sequence, and a time period will later stop it.

The time period can be programmed for different time lengths

Single magnet setups will only trigger in one direction.

With 2 magnets the first starts the crossing, with the second stopping it.

Double magnet setups will trigger in both directions.

Both Amber/Yellow & Red LED durations are configurable.

The amber can also be programmed to flash or even be turned off completely.

The 3mm diameter LEDs have their associated resistors built into the controller board, making the wiring and fitting easier.

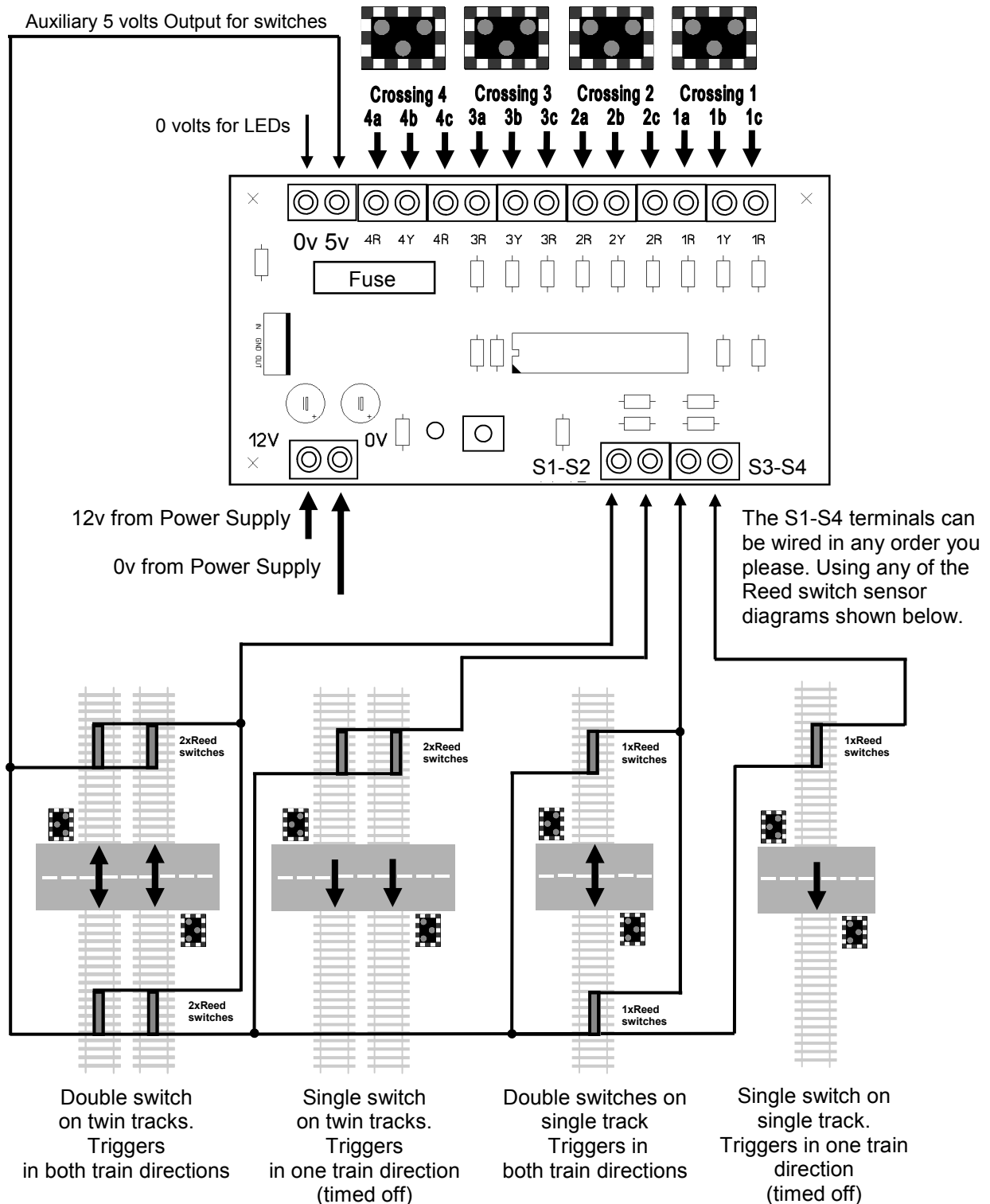
Eight sets of lights can be controlled, each consisting of an amber and two red lights.

**Supplied with 16 red and 8 yellow LEDs.
4 x track reed switches & 2 magnets.**

To quickly test your controller before any wiring up to the layout.

Connect 3 LEDs to 1a 1b & 1c as shown on page 3
 Connect the 12 volts & the 0v from the power supply.
 The Red status LED will now light up.

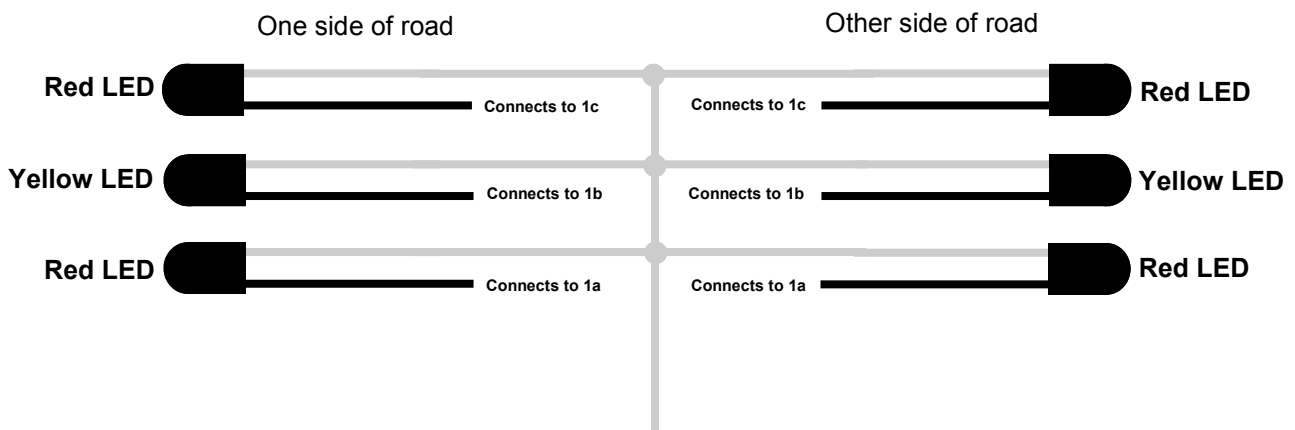
With a spare piece of wire about 150mm long.
 Connect one end to the aux 5volts.
 Then just touch the S4 terminal this will start the signal sequence for crossing 1.



LEDs have one wire leg which is shorter than the other.
To identify the short leg we have coloured it grey.

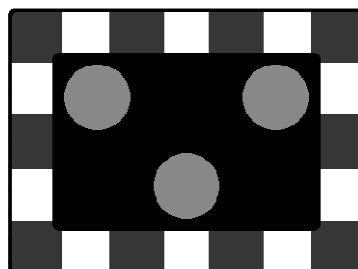
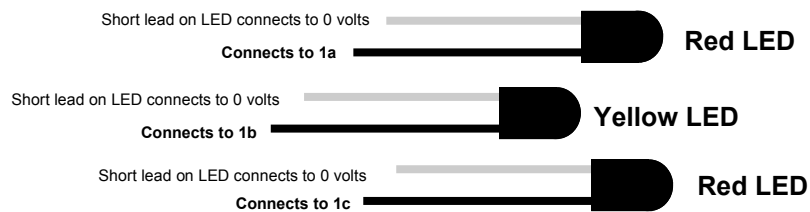


LED Wiring for crossing 1



The grey wire connects to the 0 volts for LEDs terminal block

LED Wiring for testing (see page 2)



Programming the crossing controller.

There are 6 sections in the programming mode.

(1) Sets as to whether there will be 1 or 2 reed switches per signal.

First reed switch is for turning the crossing lights ON and the second is for turning the crossing OFF.

Or just one reed switch to start the crossing, it then turning off after a set time period.

Default = One reed switch & set time period.

Other options:

Using two reed switches one for starting the crossing, the second for stopping it.

(2) Sets the time period if using one reed switch. (As above)

Default = 30 seconds.

Other options:

45 seconds.

60 seconds.

(3) Sets as to whether the yellow signal flashes or is static.

Default = Yellow is static

Other options:

Yellow will flash.

(4) Sets as to whether yellow signal is even used (Reds only).

Default = Yellow is used.

Other options:

No yellow signal used, only the reds.

(5) Sets the red signals flash length.

Default = Flash rate no. 1

Other options:

Flash rate no. 2. Faster.

Flash rate no. 3. Faster still.

(6) Sets the number of times the yellow will flash or the static yellow period.

Default = 5 flashes -or short static period.

Other options:

Rate 2: 10 flashes - middle period

Rate 3: 15 flashes - long static period.

Programming overview

You do not have to program the controller to use it.

It will without programming use the default factory settings as detailed above.

The programming sequence is automatic, once stated it will go through the 6 steps.

If there is no interaction from the user it will automatically re-set the last setting.

If this was the first time you entered the programming mode it would re-set the defaults.

You will need to have at least 3 LEDs connected to the first 3 outputs (1a 1b 1c) or one UK type barrier crossing sign. (red-yellow-red)

To start the programming sequence first turn the power off, press and hold down the push button, then turn the power on. The red status LED will light.

Release the push button.

The red status LED will now flash 5 times.

The LED's on outputs 1a 1b and 1c will now show the setting programmed, as this is the first time you have entered the programming mode it will show the default setting.

Which is crossing 1 LED 1c on.

It is now waiting for a press of the push button.

After approx 15 seconds of waiting the red Status LED will again flash 5 times.

If this was the first you entered programming mode it will re-set this step to its default setting.

Step 1 is now complete and step 2 will start.

This is repeated for all 5 steps, once completed it is ready for use.

At this time, as it goes though the 6 steps only LED 1c will light, showing all programmable modes are in factory default.

As you make changes to the default setting they are saved and restored on future power ups.

To enter programming mode

Press and hold down the push button then Power the controller up.
The status LED will light until the push button is released

Step 1.

Status LED will flash 5 times. Equals step 1 started.

The LED's connected to outputs 1 and 2 will show the status of the setting.

LED 1 on and LED 2 off = (default setting) 1 magnet to start crossing an auto timed finish.

Both LED's on = set for two magnet operation.

The setting can be changed by pressing the push button. The LED's will show the condition set.

If no change is required then wait for the flash sequence.

After 15 seconds Status LED will flash 5 times.

Step 1 is now finished and step 2 started.

NOTE: If set for 2 magnets in step 1, then step 2 is not entered (timer period) goes straight to step 3.

Step 2.

The LED's connected to outputs 1 2 & 3 will show the current timer off setting.

LED 1 on = (default setting), timer set for 30 seconds.

LED 1 and LED 2 on = timer set for 45 seconds.

LED 1 LED 2 and LED 3 on = timer set for 60 seconds.

The setting can be changed by pressing the push button. The LED's will show the condition set.

After 15 seconds Status LED will flash 5 times.

Step 2 is now finished and step 3 started.

Step 3.

The LED's connected to outputs 1 & 2 will now show the current yellow crossing signal status.

LED 1 on = (default setting), the yellow is static. No flashing.

LED 1 and LED 2 on = the yellow will flash.

The setting can be changed by pressing the push button. The LED's will show the condition set.

After 15 seconds Status LED will flash 5 times.

Step 3 is now finished and step 4 started.

Step 4.

The LED's connected to outputs 1 & 2 will now show the current yellow crossing signal status.

LED 1 on = (default setting), the yellow is used by the signal

LED 1 and LED 2 on = the yellow is not used. Reds only

The setting can be changed by pressing the push button. The LED's will show the condition set.

After 15 seconds Status LED will flash 5 times.

Step 3 is now finished and step 4 started.

Step 5.

The LED's connected to outputs 1 2 & 3 will show the current red flash speed setting.

LED 1 on = (default setting), Flash speed 1

LED 1 and LED 2 on = Faster flash speed

LED 1 LED 2 and LED 3 on = Even faster.

The setting can be changed by pressing the push button. The LED's will show the condition set.

After 15 seconds Status LED will flash 5 times.

Step 5 is now finished, and step 6 started

Step 6.

The LED's connected to outputs 1 2 & 3 will show the current yellow flash number setting.

LED 1 on = (default setting), Flash x 5

LED 1 and LED 2 on = flash x 10

LED 1 LED 2 and LED 3 on = flash x 15

The setting can be changed by pressing the push button. The LED's will show the condition set.

After 15 seconds Status LED will flash 5 times.

Step 5 is now finished, and programming completed.

The status Led will light up and stay on, and the controller is ready to use.

Master Reset

You can do a master reset to return the controller to its factory settings.

With the unit turned off connect a small piece of wire from the Auxiliary 5volt Output to the S3 input terminal. Turn the power on. The status LED will now flash forever. The software is reset.