



## Track polarity for SCP controllers and cartridges

This document applies to all SCP version equipped with any analog cartridge. 'Polarity' refers to how the track you are running your SCP-1 on is wired.

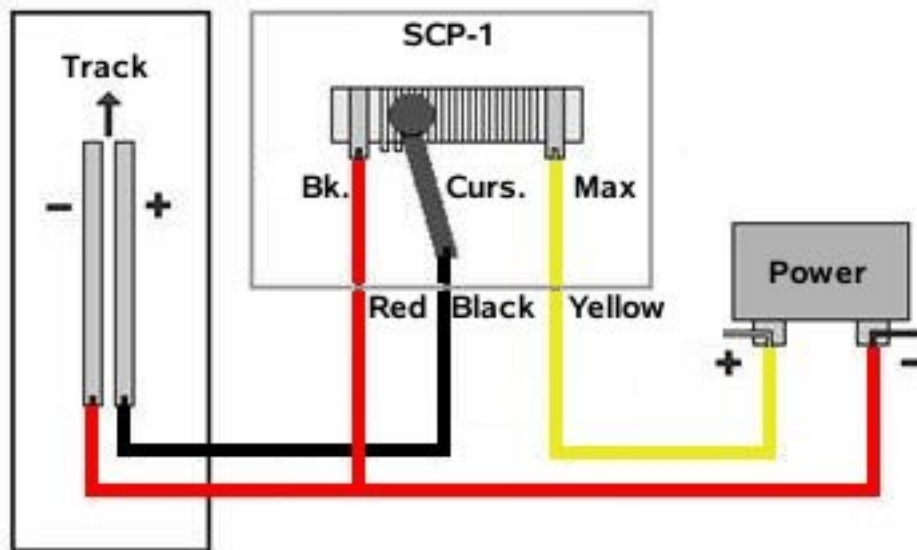
There are two types of wiring: 'Common ground', and 'Common positive'. Most club tracks and commercial tracks are wired with 'Common ground'. This is known in the USA as 'positive wiring'.

**If you race competitively at a club with 'positive wiring', we *strongly recommend* to do so with the 'high current', so called 'Metal' cartridge SCP201g, which does not support 'common positive' (negative wiring).**

The 'home', double polarity cartridge is designed for home racing, for a reason.

This is the so called 'positive wiring' (common ground) layout:

**Cablaggio per SCP con cartuccia 'common ground'**  
**Wiring diagram for SCP with 'common ground' cartridge**  
**(positive wiring SCP1)**



If this is your case, all products labeled as 'common ground' can be used, e.g:

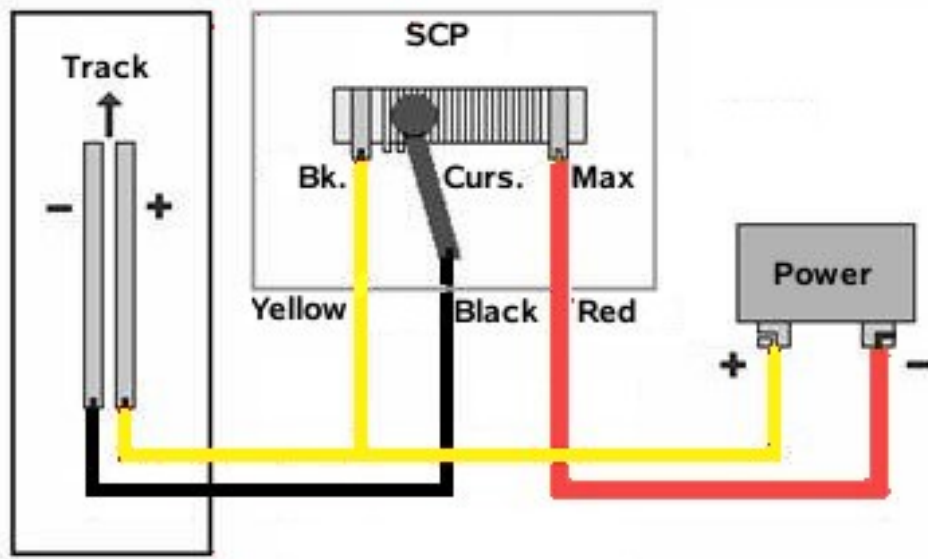
**SCP-1:** SCP01a, SCP01b, SCP01g, SCP01fg

**SCP-2:** SCP201a, SCP201fg, SCP201g, SCP201ai, SCP201bc

The 'Common positive' wiring is found, to our knowledge, mainly inside box stock Scalextric and Ninco homesets, and is known in the USA as 'negative wiring'.

This is the so called 'positive wiring' (common ground) layout:

**Cablaggio per SCP con cartuccia 'common positive'**  
**Wiring diagram for SCP with 'common positive' cartridge**  
**(negative wiring SCP1)**



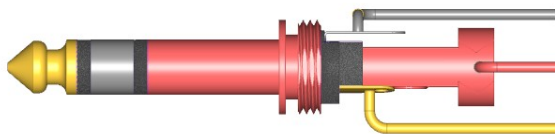
If this is your case, all products labelled as 'common positive' or 'negative wiring' can be used:

**SCP-1:** SCP01i . SCP01c

**SCP-2:** SCP20i, SCP201ai, SCP201bc

**The 'main' part of the controller can be used with either polarity, but cartridges must match the type of wiring: it is not possible to use a 'common ground' part on a 'common positive' wired track and viceversa.**

SCP201ai, SCP201bc are universal parts and can be setup to operate on any wiring - please refer to their respective manuals.



Starting from late 2018 the universal cartridge comes with three separate banana connectors instead of a stereo 3.5mm jack. Please refer to FAQ n.127 to interface with a Policar track.

The 3.5mm jack used on the old cartridge is wired as described in the image.

## Universal Analog Cartridge SCP201bc (Home Racing Version)

Any Slot.it SCP controller using the universal analog cartridge *SCP201bc* can be used on slot car tracks regardless of wiring polarity, be it either “common ground (positive wiring)” or “common positive (negative wiring)” wiring. The two different operating polarities are selected by configuring Jumper J1 (fig.1). **With jumper J1 inserted, the cartridge is set to be used on a “common ground (positive wiring)” track**, whereas **with jumper J1 left open, the cartridge is configured to be used on “common positive (negative wiring)” track**. Always disconnect the controller from the power supply before attempting to remove or insert the jumper.

Yellow/White	Red	Black
+ / positive	- / negative	track wire

The cartridge is protected against short circuits or wrong terminal connection by fuses F1 and F2 (3.15A fast). LD1 and LD2 LEDs are normally OFF. A lit LED means that the corresponding fuse has tripped and must be replaced (LD1 - Fuse F1, LD2 - Fuse F2). Always use 3.15 A fast fuses when necessary.

“LAP” pad (see figure) can be used to be connected to the track interface TS02a when the SCP is equipped with a “live timing box” TS01a.

Cartridge wiring for both connection polarities is shown in fig.2 and fig.3.

**This cartridge is rated for 6-24V and 5A maximum.**

**Do not disconnect the cartridge from the SCP2 (or SCP1) top part while the controller is powered.**

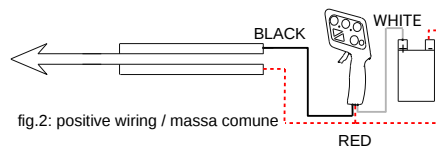
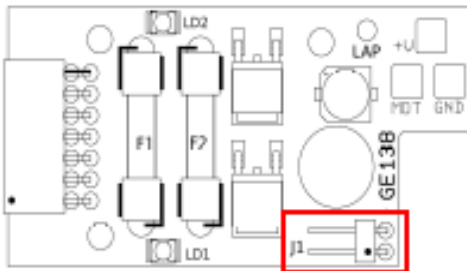


fig.2: positive wiring / massa comune

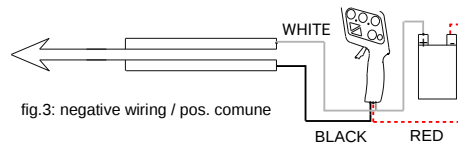
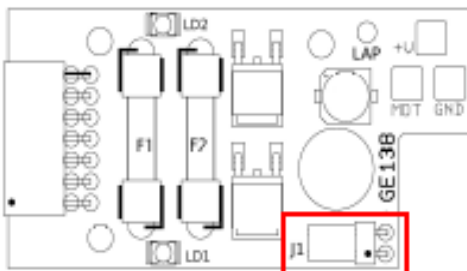


fig.3: negative wiring / pos. comune