PowerNext-Z

Sometimes you need more power then can be delivered by an Arduino or DCCNext.
In that case a PowerNext-Z or PowerNext-P from Arcomora can help you.

The PowerNext-Z is a board that can be used for controlling devices that require more current and a higher voltage.
It can switch a maxium load of 2 Amp.

The main characteristic of the PowerNext-Z is that all loads must use a common zero (ground).
It is designed for tracks where other electrical devices uses already a common zero.

The PowerNext-Z can control two, fully independant, groups of eight devices that require two different voltages.
E.g. turnout coils that require 18V and a led strip that require 12V.
Therefore two power supplies must be connected. Of course you can also use the same power supply for both groups.

You can connect the output from a DCCNext/DCC-shield to an input (green terminals) of the PowerNext-Z.
A coupling print with the DCCNext is also available (requires Dupont pins on all ports of the DCCNext)
The input is fully separated from the output of the PowerNext-Z by an optocoupler; even the ground is not connected.
This galvanic isolation between input and output(blue terminals) prevents unwanted disruptions.
GND 1 and GND 2 from both power supplies are also separated but you may connect them. (Must be connected when using a single power supply)

You can also connect outputs from multiple DCCNext/DCC shield to this board.
Be sure to connect all GND from the DCCNext/DCC-shield to the GND input.

The PowerNext-Z does NOT support multicolor led strips as load. For multicolor led strips use the PowerNext-P board.
But you can use multiple single color ledstrips per group as multiple loads.
All outputs contain a suppressor diode. That makes it very suitable for turnout coils.

Typical application for the PowerNext-Z with Mardec accessories:
- Turnout coils; require two outputs and a “Double one shot“
- On/off control for DC motor, lights or one-color led strips and a “Single steady“.
- PWM control (slowly on-off-on) of DC motor, lights or one-color led strips and a “Analog PWM“.