

Getting started

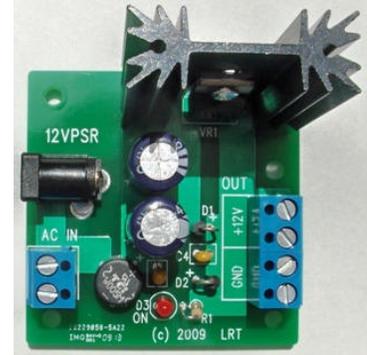
Thank you for purchasing a *Logic Rail Technologies* product! Please read all instructions prior to installing this board.

The 12V DC Power Source Regulator (12VPSR) converts an AC (alternating current) or DC (direct current) power source into a filtered and regulated 12V DC power source for use with many model railroad electronic devices. The 12VPSR will convert the input power to DC power so you can use either an AC or a DC input power source. For example, you may use the AC or DC accessory output from a spare power pack. The 12VPSR has a power jack for use with a variety of wall transformers such as our 12VAC wall transformer (#WT1A).

NOTES:

1. To avoid the risk of electrocution make sure that you make the all power connections to the 12VPSR prior to turning on the main source of power (e.g. power pack or wall transformer).
2. The heatsink, tall metal component, may get hot. Do not touch it!
3. The 12VPSR is not suitable for people under the age of 15!!!

You can mount the 12VPSR anywhere it is convenient underneath your layout using the four mounting holes provided. The holes will accept #4 screws; do not enlarge the holes as damage to the circuit board can result and your warranty will be voided! It is HIGHLY recommended that you locate the 12VPSR where it will receive some amount of airflow. This will reduce the possibility of it overheating and going into a self-protected thermal shutdown mode.



Specifications

The 12VPSR has the following technical specifications:

Input voltage (min):	12V AC, 14V DC
Input voltage (max):	18V AC, 20V DC
Input power plug:	Use a female type with 2.1mm ID and 5.5mm OD (e.g. our #WT1A)
Output voltage:	12V DC \pm 5%
Output current (max):	1 Amp (1000 milliamps)

NOTE: The actual amount is based on the current delivered by the power source.

Make sure that you meet the MINIMUM (min) requirements and do NOT exceed the MAXIMUM (max) limits of the product!

Input power connections

The 12VPSR will accept input power in one of two methods. You can use the two terminals marked "AC IN" as shown in Figure 1 below. For example, this power may come from the accessory output on a spare power pack. We recommend using 18-22 gauge wire. Insert one wire into the front of each terminal block and tighten the screw down with a small flat blade screwdriver. Note that since the 12VPSR accepts AC or DC input power, you do not need to worry about the polarity (i.e. + and -) when using a DC input source. Figure 2 below illustrates the other method which is the use of a wall transformer. Simply insert the female end of the wall transformer cable into the black mating connector on the 12VPSR. When the 12VPSR is receiving input power the on-board red LED will illuminate.

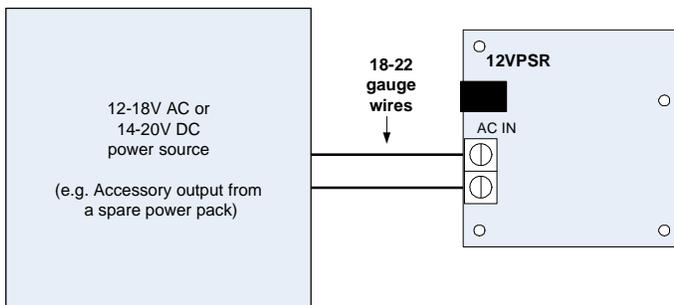


Figure 1 – AC or DC power from accessory output

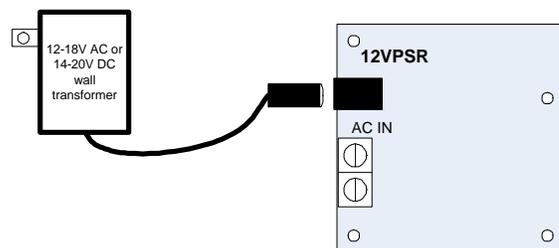


Figure 2 – AC or DC power from a wall transformer

Output power connections

The 12VPSR provides DC output power in the form of +12V and Ground (GND). The term “ground” is often mistaken in model railroad wiring! **The ground connection on the 12VPSR must NEVER be tied to your house wiring’s earth (i.e. green wire) ground.** Use either of the +12V terminals on the 12VPSR to connect to the POSITIVE DC side of the device or circuit you are powering. Use either of the GND terminals on the 12VPSR to connect to the GROUND (sometimes labeled NEGATIVE) side of the device or circuit you are powering. Figure 3 below illustrates example wiring to our *Grade Crossing Pro* (GCP). 22 gauge wire should be sufficient for most applications. Consult the instructions that came with your device or circuit for details on its power connections. You may expand the number of +12V and GND connections using a terminal strip as illustrated in Figure 4 below.

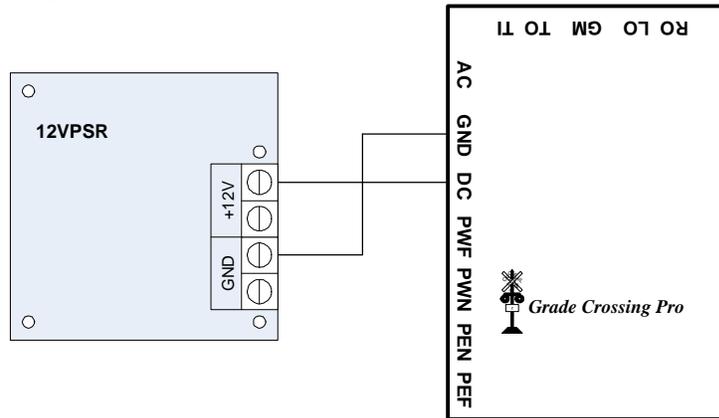


Figure 3 – Supplying power to a circuit (e.g. *Grade Crossing Pro*)

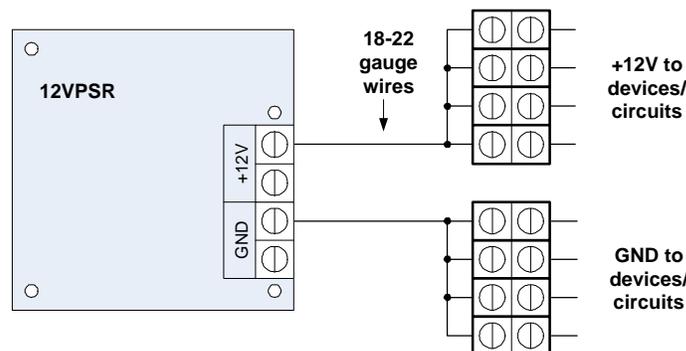


Figure 4 – Expanding outputs using a terminal strip

Warranty

This product is warranted to be free from defects in materials or workmanship for a period of one year from the date of purchase. **Logic Rail Technologies** reserves the right to repair or replace a defective product. The product must be returned to **Logic Rail Technologies** in satisfactory condition. This warranty covers all defects incurred during normal use of this product. This warranty is void under the following conditions:

- 1) If damage to the product results from mishandling or abuse.
- 2) If the product has been altered in any way (e.g. soldering).
- 3) If the current or voltage limitations of the product have been exceeded.

Requests for warranty service must include a dated proof of purchase, a written description of the problem, and return shipping and handling (\$6.00 inside U.S./\$10.00 outside U.S. - U.S. funds only). Except as written above, no other warranty or guarantee, either expressed or implied by any other person, firm or corporation, applies to this product.

Technical Support

We hope the preceding instructions are sufficient for answering any questions you might have about the installation of this product. However, technical support is available should you need it. We would ask that you first contact your place of purchase for assistance. If you still need further assistance then please do not hesitate to contact us. You can reach us via phone, mail and email; our contact information can be found on the top of page 1.