No Frills Track Throttle

Operation and Installation Manual

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Overview

No Frills, just the power you need for large scale trains. The “No Frills Track Throttle” simply controls the speed and direction of large scale track powered locomotives. It is used in conjunction with a low cost industrial power supply to provide up to 10 amps at 7-28 volts to your track, which will easily handle your largest locomotives and consists.

PWM (Pulse Width Modulation) output is provided for extra torque during slow speed operation. Output is protected with an internal replaceable 10A fuse.

Choose your own DC power supply (purchased separately), up to 28V. It must be a filtered and regulated power supply, not a simple transformer. Power supply voltage will determine your maximum speed.
We recommend:

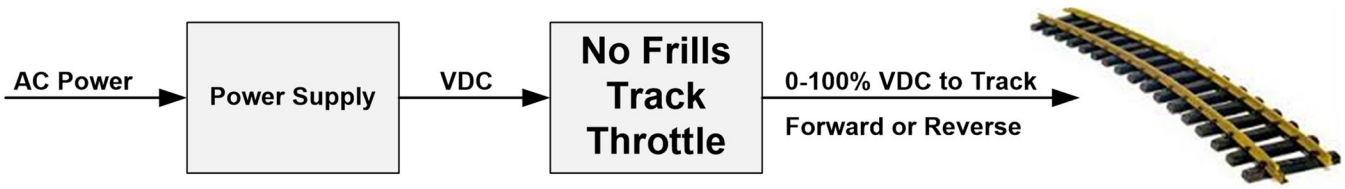
Meanwell LRS-150-24 (24V, 6.5A) available from multiple on-line sources for about $18

Note: Keep in mind that most locomotives only require about 1 amp while running. A power supply capable of 3-5 amps is usually more than enough for most applications. More amps won’t make it run any better. It just blows the fuse faster (and sometimes the wiring in your train) when you get a short (as in a derailment).

You can also use a laptop style AC Power adapter. Ours provides 19V, 6.32A with a DC Power connector that plugs into the 2.5mm DC power jack next to the terminal strip. Any power adapter with a 5.5m o.d. / 2.5mm i.d. DC connector can be used.

Installation

Industrial Power Supply



AC Power Adapter

Wiring

Input power

Connect your power supply to either the 7-28V terminals or the DC input jack (but not both). Connections to the terminal strip are easily done with spade lug terminals or stranded wire that has been tinned. Wiring between the Track Throttle and your power supply should be at least 16 AWG. Output wiring to your track, the bigger the better to reduce voltage drops. 16 AWG or heavier (smaller AWG number).

Connections to an industrial power supply should be done using spade or ring lugs crimped onto the wire ends. Wire to wire connections can be done with wire nuts or solder joints. You may be required to supply your own AC cord for the power supply.

Operation

Turn on power supply. Set speed with the knob and direction with the switch. Speed will vary from 0 to 100% of power supply voltage as the pot is rotated CW.

Caution: You should always set the speed to zero prior to changing direction to avoid gear damage to your locomotive.

Trouble Shooting

Connecting the power input with reverse polarity will not damage the control, but there will be no output voltage.

A short circuit may cause the fuse to blow and there will be no output voltage. The most common causes of short circuits are derailments and wheels shorting in turnouts. A 10A 5mm x 20mm fuse is located inside the box. Pry the snap lid to open the box.

If the lights in your loco are acting funny, not working well, or perhaps flickering, it may be due to the PWM (Pulse Width Modulation) output of the track throttle. It won't cause any harm to your loco, but it can be corrected, if desired, by using our PWM to Linear Converter. This will provide a pure DC output to the track and loco.

No Frill Track Throttle Specifications

Version 2

Mechanical

Physical Size: 3.0" X 3.2" X 2 3/8"H". Knob and switch extend beyond the 3.2".

Wiring: Terminal strips accept blue spade lug terminals, or 22 to 12 AWG wire.

Electrical

Power Input from an external DC Power Supply: 7 to 28 VDC

Must be a filtered regulated DC power supply. Not a hobby power pack, or a simple transformer.

DC Track Output

10 amps max

PWM (Pulse Width Modulated), 10KHZ

Max amplitude: Input voltage minus driver loss

Control

Single turn rotary speed setting potentiometer, 0 to 100% of input voltage, CCW to CW, 300 degs.

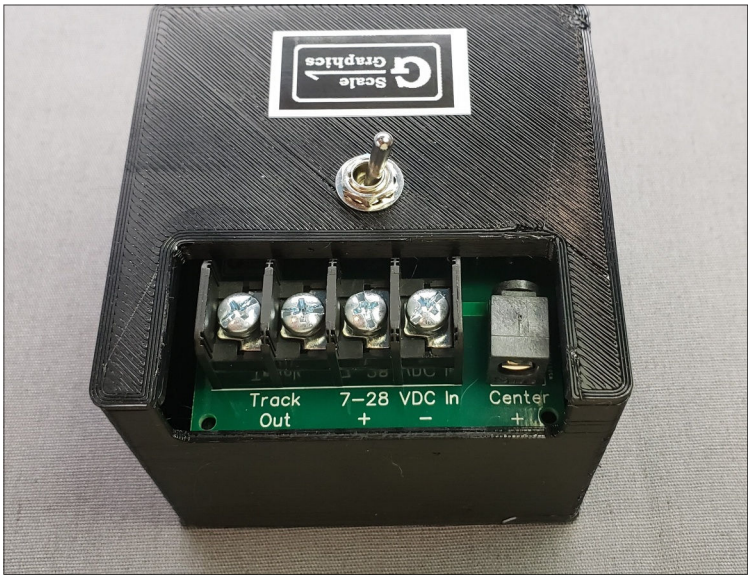
Direction switch, DPDT switch on output.

Fuse

10A, 5mm X 20mm

Environmental

Control must be protected from the weather. The box is not weather proof.

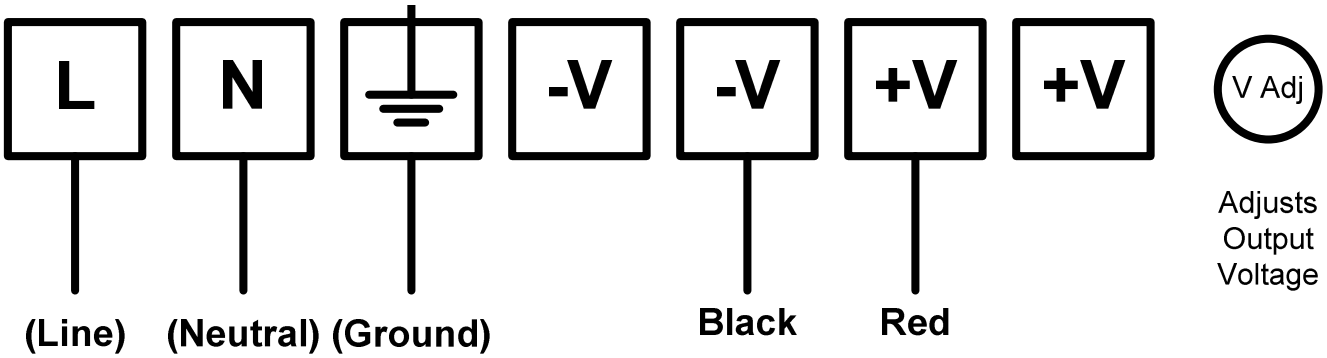


Wiring a Meanwell Power Supply

You will need to provide or purchase your own AC power cord and connect it to your Meanwell power supply. Any 3-wire power cord will work. Set the power input switch on the side of the power supply for 115 VAC U.S.

Output voltage should be 24 VDC maximum for use with the G-Scale Graphics Trackside R/C or Track Throttle. But no adjustment should be necessary as received.

Meanwell Power Supply



Black or Brown

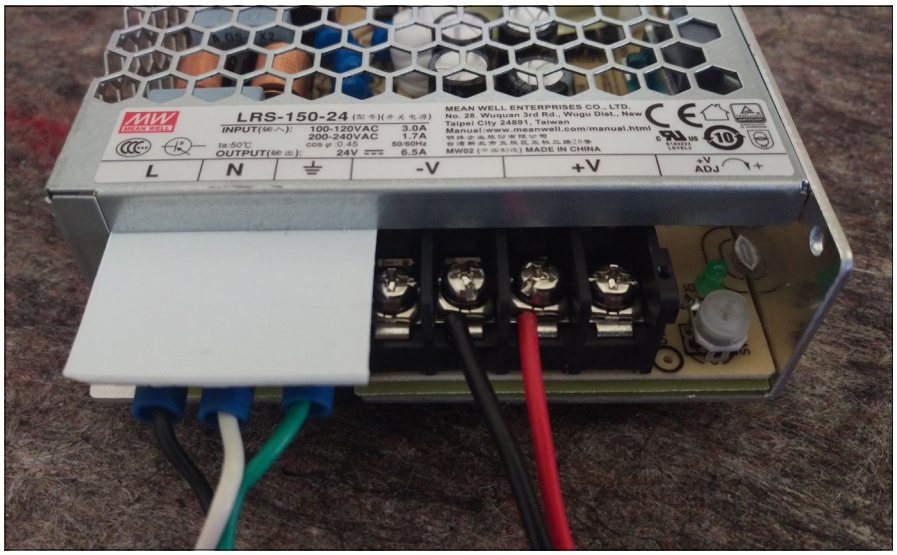
White or Blue

Green or Yellow with green stripe

115 VAC Input

(Set switch on side of power supply for 115 VAC in U.S.)

VDC Output(s) to Track Throttle(s)



Crimp some spade connectors on the wire ends for a nice neat connection. The AC input terminals on your power supply may be exposed, so you may want to insert a piece of styrene over them for added safety.