

SL 8552403 Weatherproof Precision Train Throttle & LED controller module

The **SL 8455403 Weatherproof Precision Train Throttle Module** is a voltage regulator with input voltage range from 0 to 30 Volts AC DC or DCC and has an adjustable output voltage of 1.2 to 30 volts, 3 amps @ 15 watts without a heat sink. The module has a 3 amp bridge rectifier for powering directly from analog or DCC track power. The **SL 8452403** is perfect for LED, loco motor speed control, pulse smokers, sound systems and train car lighting. It provides superior train car lighting with bright LED output at the lowest track voltage of any device available.

The **SL 8455403 Weatherproof Precision Train Throttle Module** can be powered from AC, DC or DCC and utilizes a DC to DC converter buck regulator with up to 94% efficiency. The output voltage is set by a 25 turn pot for setting a precise voltage. The throttle output is 1.2 to 24 volts DC, 3 amp max. @ 15W. The throttle is can be used for powering and dimming from 1 to 300 LEDs wired in parallel. Parallel wiring has the advantage of easy wiring and changing the number of LEDs without adjusting the circuit. The **SL 8455403 Weatherproof Precision Train Throttle Module** can also be used to power trolleys, locos, automatic reversing modules, motors, bulbs, LEDs, sound or other devices.

Parallel LED wiring in possible with the **SL 8455403 Weatherproof Precision Train Throttle Module** because of its highly stable output voltage regulation regardless of the number of LEDs connected. The **SL 8455403 Weatherproof Precision Train Throttle Module** can use any power source under 30 volts and the source of power can vary and does not require a regulated voltage source.

The **SL 8455403 Weatherproof Precision Train Throttle Module** provides the brightest train car lighting of any product available with easy LED parallel wiring and no dropping resistors or other components required. We offer a full line of low cost LED drop ceiling products and kits for LGB, PIKO, Harland Locomotive Works, USA, Aristo-Craft and Bachmann products. Add exterior coach, tail, stove & toilet lighting or place LEDs anywhere you desire without extra components changes to circuitry.

Specifications:

Input: 0-24V AC, DC or DCC, Output adjustable; 1.2-24VDC 3 Amps @ 15W Max.

Dimensions: 1.9L X .9W X .5H with screw terminal block for easy hookup.

Weatherproof case for indoor and outdoor use.

Mounting:

The module can be mounted with the supplied 3M 2 side outdoor adhesive pad. Mounting locations include; inside locos, cars or buildings, or for indoor layouts mount on the bottom of any G scale railroad car.

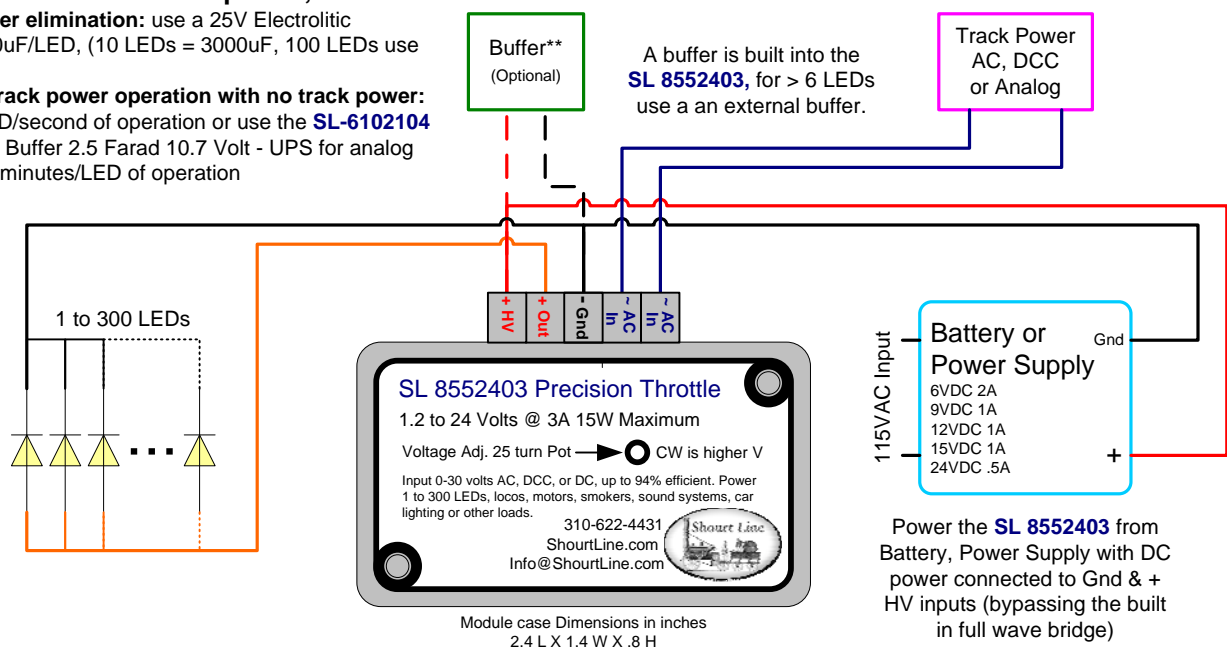
The **Precision Train Throttle** includes an **SL 8452403** inside a weather proof box with a full wave bridge, terminal strip for easy hookup without soldering and instructions with hookup drawings and application notes.

SL 8552403 LED Wiring Diagram for Track, Battery, or AC Adapter with Buffer

**External buffer options;

For DCC flicker elimination: use a 25V Electrolytic Capacitor; 300uF/LED, (10 LEDs = 3000uF, 100 LEDs use 33K uF)

For Analog Track power operation with no track power: use 500uF/LED/second of operation or use the **SL-6102104** Mini Gold Cap Buffer 2.5 Farad 10.7 Volt - UPS for analog power and 20 minutes/LED of operation



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ShourtLine.com SL 8552403 Precision Train Throttle & LED controller

Diagram #1 – How to Set-Up and Wire 1 to 300 LEDs wired in parallel

Important: always adjust the output voltage BEFORE applying power to LEDs

Set up instructions:

- 1) Connect power supply to SL 8352408
- 2) Connect volt meter
- 3) Turn on power
- 4) Adjust the voltage to the min. forward voltage for the LEDs being used (use 3.0 volts for Shourt Line warm white LEDs, 1.9 volts (red, yellow LEDs)
- 5) Turn off power
- 6) Connect 1 LED of type to be used
- 7) Turn on power
- 8) Adjust the amperage of 1 LED to less than the LED's Max. (use ~ 10ma to max. current for LED)
- 10) Note the voltage at this amperage for future use
- 11) Turn off AC power
- 12) Add additional LEDs of same type, up to 3A max as desired.

For color LEDs use a dropping resistor (see link below)
<http://www.hebeiltd.com.cn/?p=zz.led.resistor.calculator>

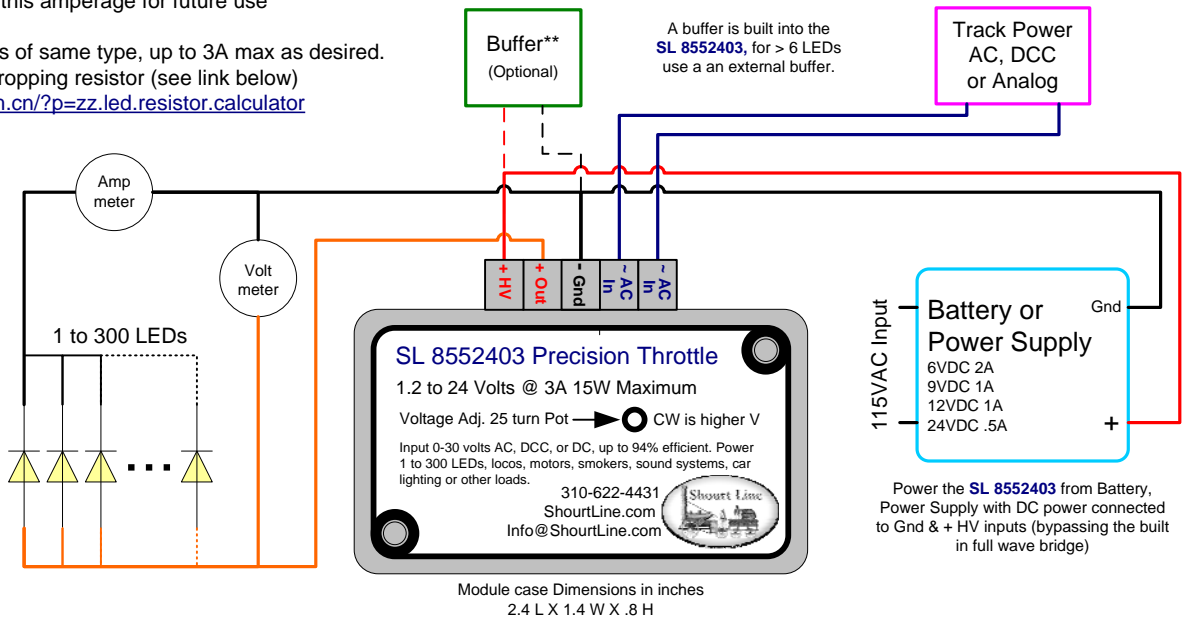
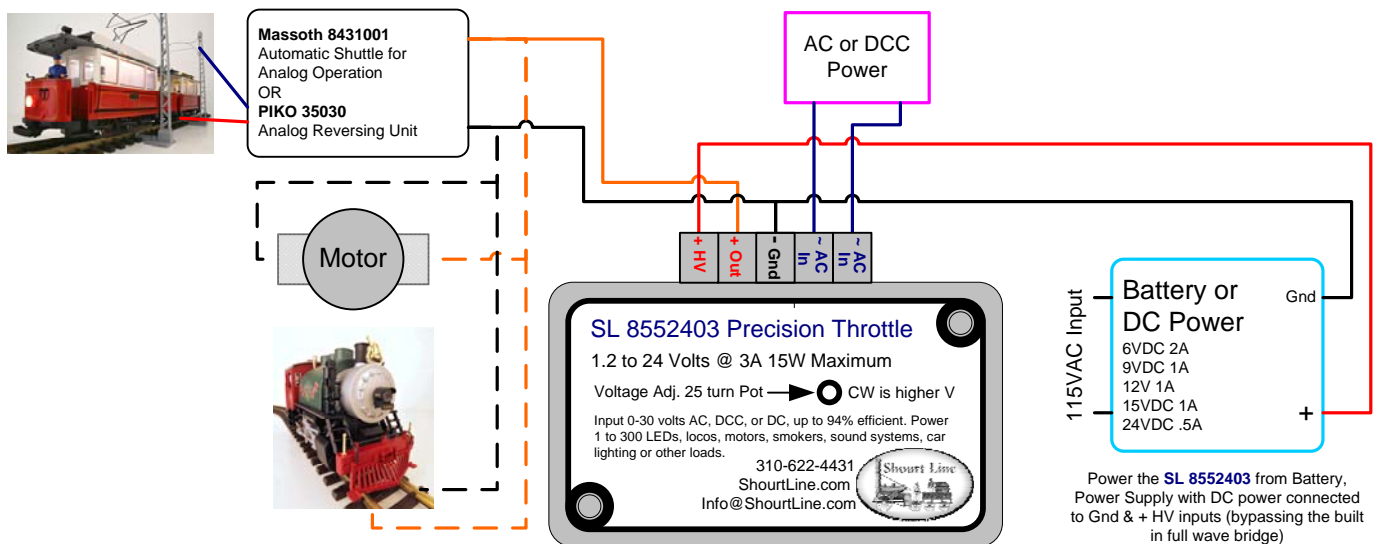


Diagram #2 – Wiring for Locos, motors or automatic train reverse modules

Set desired motor or shuttle speed using the voltage adjustment pot. Note without a heat sink the motor wattage is limited to 15 watts. Watts = voltage X current, so if you want to run your motor at 18 volts at .8 amp the wattage is 14.4 wats and no heat sink is required. An source of AC, DC or DCC voltage less than 30 volts can be used.



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