Connection Identification

9-15 V

8765-+4321
(C) RR-CirKits, Inc

10 Pin Plug

10 Pin Header

1-4 **Out** 5-8 **Out**

10 Pin Header

10 Pin Header

AC-DC

SPEED

Stall Motor Driver Rev-b

Input Connector Pin Identification

The port connector wiring is as follows.

Pin number	Connection
1	h (8)
2	g (7)
3	f (6)
4	e (5)
5	Ground
6	+5VDC
7	d (4)
8	c (3)
9	b (2)
10	a (1)

Wire 10

Tracer Wire 1
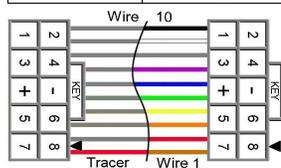
10 position IDC cable

Output Header Connection Identification

The Output wiring is shown below.

Pin number	Motor Connections	
1	4 -	8 -
2	4 +	8 +
3	3 -	7 -
4	3 +	7 +
5	Ground	Ground
6	Variable DC	Variable DC
7	2 -	6 -
8	2 +	6 +
9	1 -	5 -
10	1 +	5 +

KEY

1- 2- – 3- 4-
1+ 2+ + 3+ 4+

Wire 10   Tracer Wire 1

KEY

5- 6- – 7- 8-
5+ 6+ + 7+ 8+

Wire 10   Tracer Wire 1

Power Connections

To supply power for the outputs connect AC or DC to the power input terminal strip. Match the input voltage to that required by your loads plus about 4-5 volts. For example a 12-15 volt supply works well for Tortoise® machines.

RR-CirKits Contact Information

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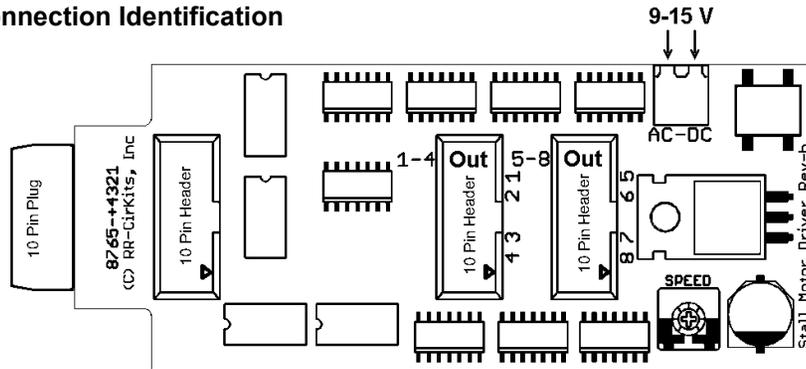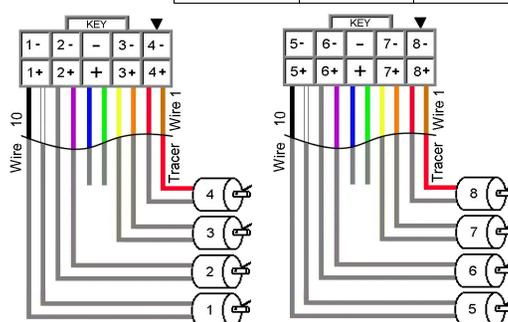
RR-CirKits

Specializing in Affordable Electronics for Model Railroads

SMD-8

8 output Stall Motor Driver

User's Guide

I/O Modules

All RR-CirKits Tower Controller I/O modules are designed to either be plugged directly into the TC-64, or else mounted in Tyco 3-1/4" Snap-Track® mounted to the bench work and connected with short ribbon cables. (Snap-Track® is a plastic channel designed to mount PC cards to a chassis, not something to run trains on.) Each I/O module is equipped with two connectors to facilitate these connection options.

SMD-8 (Stall Motor Driver - 8 line)

The SMD-8 board contains 8 individual, optically isolated, H-Bridge drivers. This allows the board to be powered from any supply between 9 Volts and 18 Volts. It is primarily designed to drive stall motor turnout machines. Do not exceed 15VAC or 24VDC at the power input. This board includes an adjustable regulator to allow you to control the speed of your switch machine motors. This regulator will draw 100ma. plus your load current, and the board normally runs warm even with no load. If it runs too hot, reduce the input voltage.

The SMD-8 drivers do not include clamp diodes and should not be used to directly drive inductive loads such as relays or solenoid coils unless external clamps are used. The outputs are wired in an "H" bridge configuration but may be used single ended for On-Off control. Both + and - return lines are provided for single ended (continuous) operation.

The SMD-8 outputs are rated at 100ma. per line, not to exceed 200ma. The board includes an auto reset fuse that will prevent extended operation in excess of 200ma. continuous output current per board, but it will NOT protect it from from direct short circuit currents. Short circuits on any output line may damage the board, so be careful of your wiring.

The SMD-8 input lines are active low so the TC-64 should be configured as "Driver" for any port that is connected to a SMD-8. This inverted input mode matches most types of driver outputs, and the drive polarity may be easily switched either in the TC-64 setup or by simply reversing the SMD-8 output lines.

Speed Control

The SMD-8 includes a speed control adjustment to allow you to adjust the motor speed from a crawl suited for crossing gates and semaphores, to a brisk movement for Turnouts.

Connections

There are three inputs and two output connectors on the SMD-8 board. The first two input connections are the standard TC-64 10 pin cable connections shared by all Tower Controller I/O modules. Both a male and female connector are provided, and either may be used as required. The 3rd input is 9 to 18V terminal strip for power to the motors. The two motor output connections are made with 10 pin IDC cables for low cost and simplicity.