



# TPM350-48 Permanent Magnet



## Description

SRE Controls Permanent Magnet Motor Controllers combine the power of high efficient MOSFETs with micro processor technology to provide flexible, adjustable and reliable control. The PC based tuning software allows fast and unique set up for each application. The 350 Amp peak and 175Amp continuous power rating give ample power for various applications.

## Applications

The TPM350-48 is perfect for use in:

- Golf carts
- Industrial tractors
- Automated vehicles
- Airport ramp equipment
- Neighbourhood electric vehicles
- Personnel carriers
- Aerial platforms

## Features

- Four quadrant controller
- High efficiency MOSFETs provide improvements to low end torque, range and battery life.
- Power up diagnostics and safe sequencing prevents controller operation if the key switch is turned on while the throttle is applied.
- Environmental protection is ensured with a factory sealed, factory serviceable anodized aluminium housing.
- Thermal protection provides over temperature protection and ensures no sudden loss of power under any thermal condition.
- Static return to off (deadman switch) prevents controller operation if the key switch is turned on while in a forward or reverse mode.
- Current limiting provides throttle position control over braking to improve driveability.
- Fault detection monitors power supply, throttle connections, outputs to prevent vehicle runaway.
- Adjustable throttle profile for improved low speed performance.
- Programmable top speed in each direction (forward & reverse) via PC GUI
- PC based user interface with CAN communication.

## Power Ratings

Model #	Voltage	Peak Current	Continuous Current	Continuous Power	Continuous HP
TPM350-24	24V	350A	175A	4.2Kw	3.1HP
TPM350-36	36V	350A	175A	6.3Kw	4.5HP
TPM350-48	48V	350A	175A	8.4Kw	6.1HP

## Environmental Specification

Common Specifications	Minimum	Maximum
Environmental		
Heat Sink Temperature	0	90 degrees C
Relative Humidity	-	95 RH, non condensing
Vibration	0	25 G

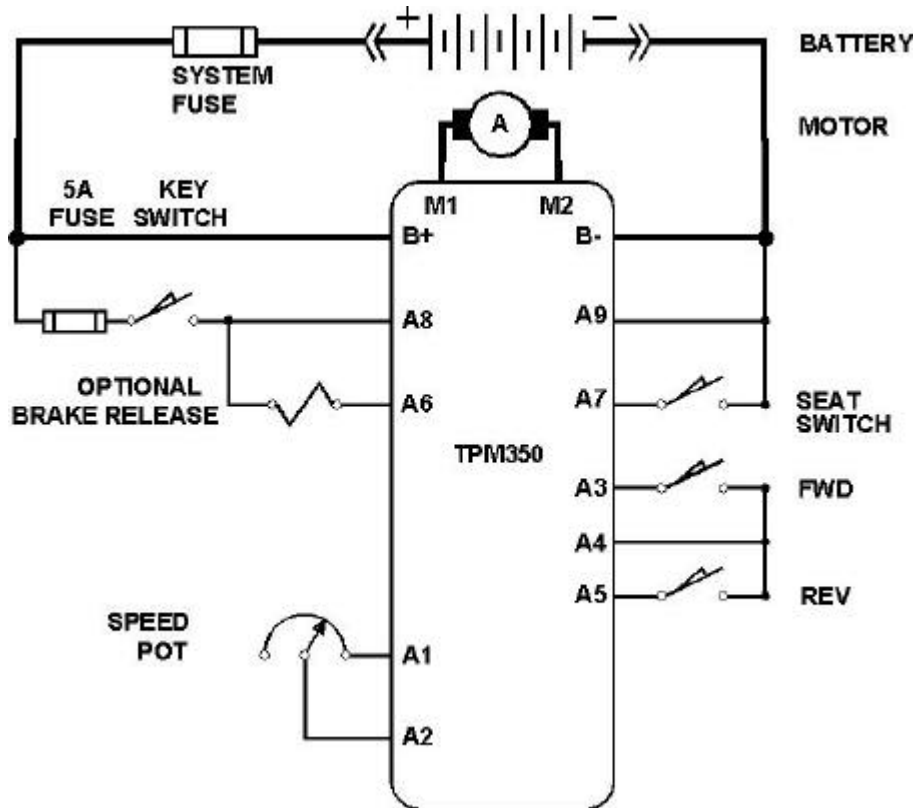
## Input and Outputs

Inputs / Outputs	Ratings
Setpoint voltage	0V - 5V
Digital In (sourcing)	Active low inputs, less than 2V = valid input
Duty Cycle Range	100%

## Throttle Specification

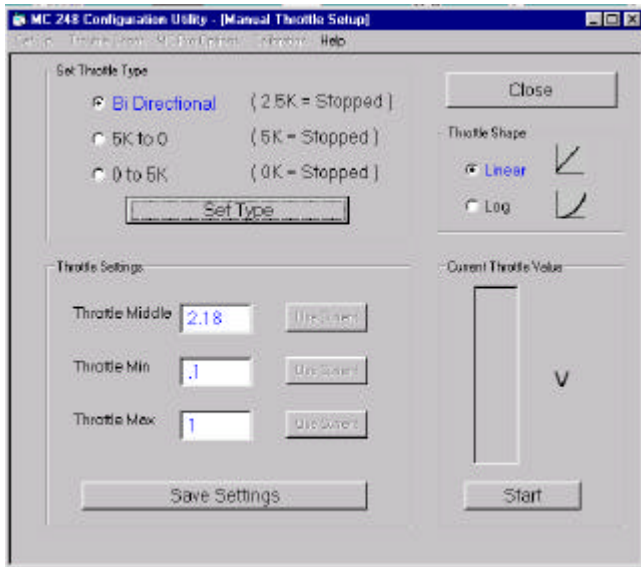
Throttle Types	Specifications	Options required
Bidirectional	2 wire 5 K pot	
5K to 0K pot	(5K = Stopped)	Forward & reverse input switches required
0K to 5K pot	(0K = Stopped)	Forward & reverse input switches required.

## System Schematic



## Mechanical Drawing

## Software Tuning Tools



SRE's software tuning tools allow you to tune the controller for the specific motor you are using.

- This screen allows you to setup various throttles including Bi Directional, 5 to 0K and 0 to 5K
- You can also set the throttle to linear acceleration or Logarithmic when slow speed operation is more desirable
- You can tune the throttle's dead bands to make the vehicle feel the way your application or customer requires.
- Current throttle value, allows you to determine the value that the controller is receiving from the throttle. This will help you in the tuning and troubleshooting process.

- Acceleration can be set in either forward or reverse directions as to how aggressive your application requires.
- Deceleration can be set in either forward or reverse to determine how fast you want the controller to slow the vehicle down.
- You can also set the maximum speed in either forward or reverse. Ensuring safety requirements are met.

