

TPM400 PM Controllers

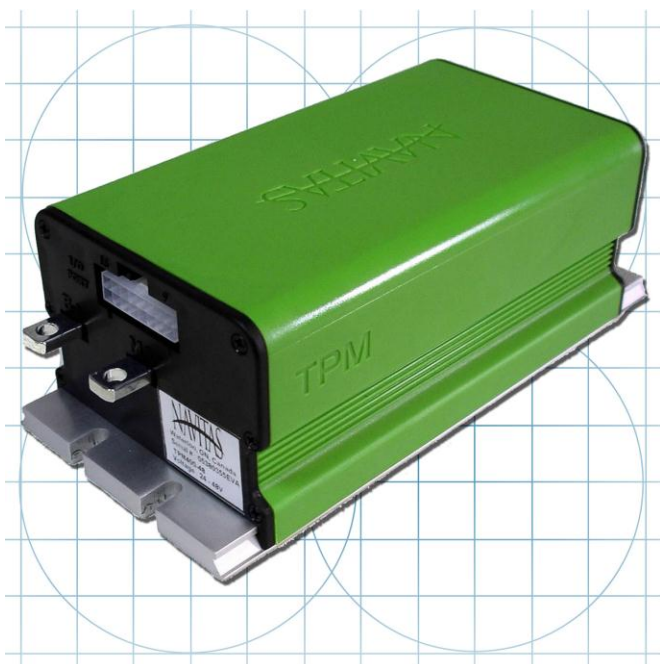
DESCRIPTION

ASI is a leader in the supply of industrial grade motor controllers with roots in electric vehicle technology dating back over 20 years. ASI is pleased to offer the Navitas family of controllers.

Navitas by ASI TPM line of brushed permanent magnet motor controllers combines the power of high efficiency MOSFETs with micro processor technology to provide flexible, adjustable and reliable control. The PC Probit computer based tuning software allows fast and unique set-up of the TPM400 for each application.

The TPM line of controllers are full H bridge (4 quadrant) motor controllers designed for use with brushed permanent magnet motors with a drive capacity of up to 400A peak at 24 to 48 VDC. TPM controllers offer regenerative braking capabilities and do not require the use of directional contactors. TPM controllers are also user configurable through a CAN interface.

Designed for the rigorous demands of the material handling industry, the TPM family of controllers is also suitable for other applications like automated guided vehicles, aerial lift equipment, burden carriers, airport ground service equipment, utility vehicles, and more.



KEY FEATURES

- Contactor-less motor reversing
- Regenerative braking
- Up to 400A peak current
- Fully programmable with the PC Probit programming package
- Safe sequencing and power-up diagnostics
- Battery over-discharge protection
- Current and thermal limiting
- Resistive or voltage throttle input
- Static return to off (SRO) function

BATTERY VOLTAGE

- 24 to 48V DC Input

OUTPUT CAPABILITY

- 400A peak armature current
- 200A continuous armature current

APPLICATIONS

- Material handling equipment
- Burden carriers
- Automated guided vehicles
- Aerial lift platforms
- Airport ground service equipment
- Mining locomotives

Distributed By:

FEATURES AND BENEFITS

Flexibility

- Fully programmable with the PC Probit computer based programming package
- Adjustable regenerative braking and coasting allows smooth stop and speed reduction functions which improves overall performance
- Adjustable top speeds for both forward and reverse for both normal run operation and during BDI (Battery Discharge Interlock)
- Contactor coil voltages can be lower than battery voltage down to 12V DC

Control

- High efficiency MOSFETs provide improvements to low end torque, range and battery life
- Current limiting provides throttle position control over braking to improve drivability
- BDI (Battery Discharge Interlock) intelligence protects battery by limiting the vehicle to a slow run speed
- Forward and reverse switches are not required for bi-directional throttle control
- IR compensation allows for real-time changes in load

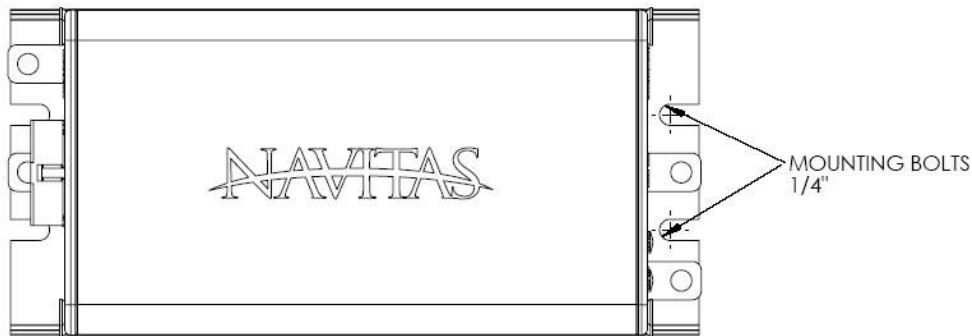
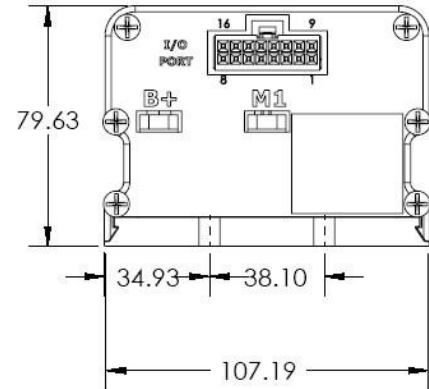
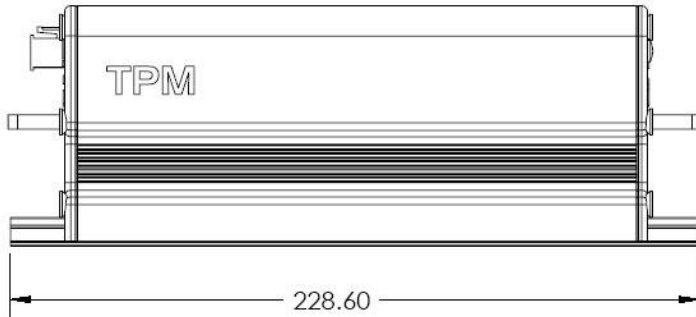
Safety

- Power-up diagnostics and safe sequencing prevents unsafe controller operation if the key switch is turned on while the throttle is applied or direction selected
- Thermal protection provides over temperature protection and ensures no damage under any thermal condition
- Static Return to Off (deadman switch) prevents controller operation if the operator is not in the correct driving position

Communications

- Integrated LEDs flash information and error codes for basic controller diagnostics
- Protected I/O connections
- Internal clocks for key-on and drive-time tracking
- CAN interface allows programming and drive control through CAN network

DIMENSIONS



Environmental:

- Relative humidity 95%, non-condensing
- Vibration 25G
- 20kHz switching frequency
- Operating Temperature: -30°C to +40°C
- Storage Temperature: -40°C to +70°C
- Enclosure protected to IP40

Operating Limits:

- Absolute maximum input voltage 61V DC
- Absolute minimum input voltage 16V DC
- Thermal limiting begins at 55°C heat-sink temperature
- Maximum heat sink temperature 90°C

MODEL CHART

Model	System Voltage	Peak Armature Rating	Continuous Rating	Throttle Types
TPM400-48	24-48V	400A	200A	0-5k/V ,5-0k/V, Bi-Directional
TPM400-48I	24-48V	400A	200A	+/- 5V and +/- 10V Bi-directional

Note: Specifications are subject to change without notice.

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