



NPS600

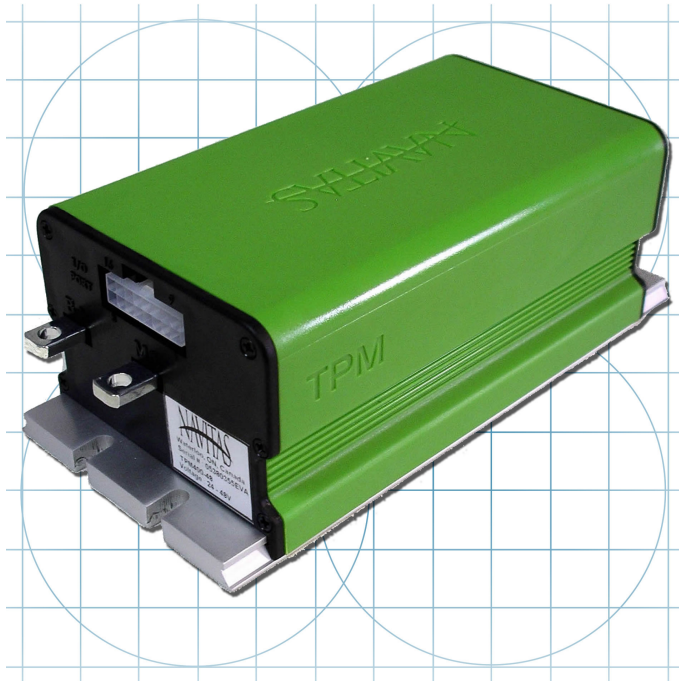
DESCRIPTION

Navitas Vehicle Systems has developed the NPS600, which is the most superior product on the market. The NPS600 is a 12-48VDC Multi-Function, 2 phase Variable power supply and buck / boost regulator.

This product compliments brushless motor/generator.

The NPS600 is a dual phase, half H bridge (2 quadrant) device that can serve many needs. The unit can work as an independent power supply (APU), Buck / Boost voltage regulator or motor controller designed for use with permanent magnet or ideally the SolidSlot brushless DC motors. It has a drive capacity of up to 600A Peak and 400A continuous current with appropriate heat sinking.

The NPS600 is designed for low voltage, high current applications, such as electric and hybrid vehicles, mobile power generation and integrated starter/alternators.



KEY FEATURES

- Low resistance
- High Current Capacity at 600 amps peak
- Fully programmable with the Navitas PC Probit programming package
- User configurable CAN interface
- High power density & rugged construction
- Regenerative braking
- Safe Sequencing
- BDI Indicator

BATTERY VOLTAGE

- 12 to 60 Volt DC Input

OUTPUT CAPABILITY

- 600 amps peak armature current
- 400 amps continuous armature current
- Programmable PWM

APPLICATIONS

Low voltage, high current applications such as;

- Hybrid vehicles
- Mobile power generation
- Integrated starter/alternators
- Marine applications
- Auxiliary power unit (APU) in vehicle or industrial applications

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FEATURES AND BENEFITS

Flexibility

- Fully programmable with the Navitas PC Probit computer based programming package
- Adjustable regenerative braking and coasting allows smooth stop and speed reduction functions which improves overall performance
- Adjustable peak output voltage for both normal run operation and during BDI (battery discharge interlock)
- Contactor coil voltages can be lower than battery voltage down to 12 volts DC

Modes of Operation

- Motor Control – output voltage is proportional to throttle signal input
- Buck Mode Voltage Regulator – provides up to 600A of output current with closed loop voltage feedback
- Boost Mode Voltage Regulator – Input current limited to 600A, this mode will boost the input voltage to a programmable output voltage. Maximum Boost Voltage is 61V

Safety

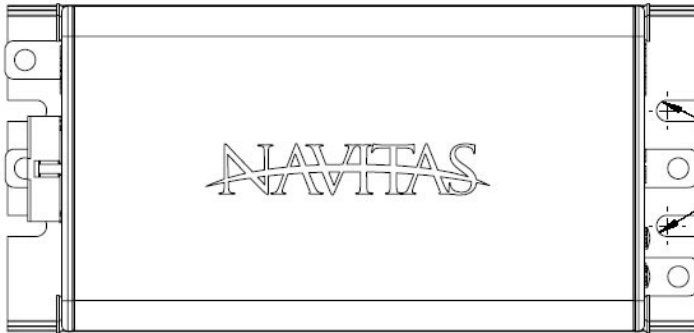
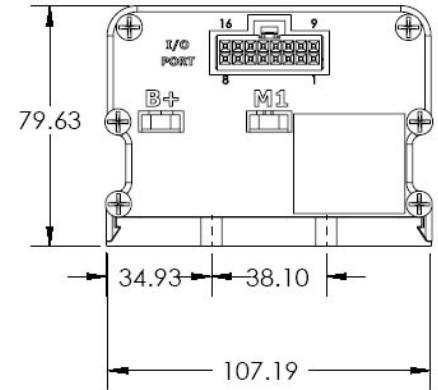
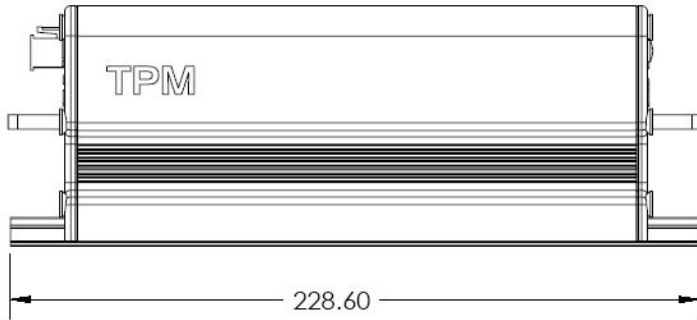
- Power-up diagnostics and safe sequencing prevents unsafe controller operation if the key switch is turned on while the throttle is applied or direction selected
- Thermal protection provides over temperature protection and ensures no damage under any thermal condition
- Static return to off (deadman 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

NAVITAS

DIMENSIONS



Environmental:

- Relative humidity 95%, non-condensing
- Vibration 25G
- 15 to 60kHz switching frequency per phase
- Operating Temperature: -30°C to +50°C
- Storage Temperature: -40°C to +70°C
- Enclosure protected to IP40

Operating Limits:

- Absolute maximum input voltage 61VDC
- Absolute minimum input voltage 6VDC
- 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
NPS600-48 12-48 600 amps	NPS600-48 12-48 600 amps	NPS600-48 12-48 600 amps	NPS600-48 12-48 600 amps	NPS600-48 12-48 600 amps

Note: Specifications are subject to change without notice.

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