

## Tristar MPPT 60 600V Controller by Morningstar



Price: CAD \$1,999.00 - CAD \$2,699.00

**SKU:** MSTS60MPPT600V-SPECIAL

**Product Categories:** [Charge Controllers](#), [MPPT : 60A-100A HV](#), [Shop](#)

**Product Tags:** [48v](#), [600v](#), [600v solar charge controller](#), [60a](#), [canada](#), [high voltage](#), [morningstar](#), [morningstar tristar](#), [MPPT](#), [solar charge controller](#), [Tristar](#), [tristar 600v](#), [TS-MPPT-60-600V-48](#), [TS-MPPT-60-600V-48 canada](#)

**Product Page:**

<https://www.modernoutpost.com/product/tristar-mppt-60-600v-controller-by-morningstar/>

### Product Variants

- Tristar MPPT 60 600V Controller by Morningstar - Standard ( )

- Tristar MPPT 60 600V Controller by Morningstar - with Disconnect Box ( )
- Tristar MPPT 60 600V Controller by Morningstar - with DB & Transfer Switch ( )
- Tristar MPPT 60 600V Controller by Morningstar - with DB, TR, & Pre-Wired GFPD ( )

## Product Summary

Morningstar's TriStar MPPT 600V charge controller leverages Morningstar's innovative [TrakStar™ MPPT technology](#) and our 20+ years of power electronics engineering excellence, to enable the widest input operating voltage range available from a solar array, wind turbine or hydro input

## Product Description

Morningstar's TriStar MPPT 60 600V is the high-voltage controller designed for challenging installations. Because it enables systems with longer and fewer individual strings, wiring, cable and breaker costs are reduced, and installations go faster and easier.

Morningstar is able to deliver this performance with no cooling fans required— a remarkable technical achievement in a high-voltage controller. The secret is more agile control software combined with over-spec'd components, optimized through advanced thermal and electronic engineering. Fanless design improves service life, increases reliability, and raises efficiency.

The TriStar 600V controller (TS-MPPT-600V) accepts PV array input up to 600 Voc with 97.9% peak efficiency. In addition to solar charge controlling, the TriStar 600V with DC transfer switch is uniquely suited for retrofitting existing grid-tied solar installations with energy storage for back-up power in a DC-coupled configuration

connected to batteries.

**Available models: TS-MPPT-60-600V-48**

(Standard)

**TS-MPPT-60-600V-48-DB**

(With Disconnect Box)

**TS-MPPT-60-600V-48-DB-TR**

(With DC Transfer Switch)

**TS-MPPT-60-600V-48-DB-TR-GFPD**

(Pre-wired with Ground Fault Protection Device)

Rated for 60 Amps, the TriStar MPPT 600V controller does much more than efficiently charge batteries; it also provides remote communications, data logging, adjustability and metering. In fact, the TriStar MPPT 600V controller is the only 600-volt PV controller to offer open communication protocols and true Ethernet-enabled functionality.

## Tristar MPPT 60 600V Key Features & Benefits

The TriStar MPPT 600V charge controller delivers high reliability and excellent performance and features:

Accommodates PV systems > 150 Voc with long wire runs from the array to the controller

Uses Morningstar's patented 4-stage charging algorithm to optimize battery health

Features extensive system networking, monitoring and communications

Optimized for harsh environments and equipped with electronic protections

Enables battery back-up for grid-tied systems using more efficient DC-coupling system topology (as opposed to AC-coupling typical from other brands)

## Tristar MPPT 60 600V Applications

The TriStar MPPT 600V charge controller's high voltage capability and flexible design enable several application scenarios including:

- Adding modules incrementally with no string sizing issues - Off-grid PV systems greater than 150 Voc with long wire runs from the array to the controller - New installation grid-tie PV systems with battery back-up - Retrofitting string PV inverter systems to later add battery back-up without changing the PV array configuration - Battery-based Wind systems - Water pumping applications

### Specifications

#### **Electrical**

Peak Efficiency : 97.9%

Maximum Battery Current : 60A

Maximum Input Operating Current : 15A (self limiting)

Maximum Solar Open Circuit Voltage : 600V

Nominal Maximum Operating Power : 3200Wp, 48 Volt

Input power can exceed Nominal Maximum Operating Power, but controller will limit and provide its rated continuous maximum output current into batteries. This will not harm the controller.

Nominal System Voltage : 48 Vdc (custom programmable to 24V, 36V and 60V)

Battery Operating Voltage Range : 16-72Vdc

PV Input Operating Voltage Range : 100V to Voc = 525V

Wind/Hydro Input Operating Voltage Range : Battery Voltage to 500V

Self-Consumption : 1.75 - 2.50W

Transient Surge Protection : 4500 Watts/port

### Options

- TriStar 600V Meter ([TS-M-2-600V](#))
- TriStar Remote Meter ([TS-RM-2](#))
- Meter Hub (**HUB-1**)

- Relay Driver (**RD-1**)
- 600V Ground Fault Protection Device (**GPD-600V**)

#### Certifications

- CE, RoHS, NEC Compliant
- ETL Listed: UL-1741 and Canadian CSA C22.2 No. 107.1.01
- FCC Class B Part 15 Compliant

**Warranty:** 5 year warranty period.

[Download the complete spec sheet here](#)] **A more detailed look at this controllers benefits...**

#### High Voltage Capacity

- Maximum input voltage of 600V
- Operates with PV array Voc voltages up to 525 Voc
- Wind, hydro operating voltages up to 500 Vdc\*
- Pre-set for 48 Vdc battery systems
- Programmable for 24V, 36V and 60V battery systems
- Allows long wire runs from the array to the controller
- Higher voltage reduces voltage drop and wire costs
- No combiner boxes required for single or two string systems
- Better enables grid-tie PV systems with battery back-up
- Enables easier PV array expansion than lower voltage systems and accommodates increasing loads

#### Extremely High Reliability

- Robust thermal design and no cooling fans
- No moving parts
- Superior lightning protection from nearby lightning-induced voltage/current spikes
- Extensive electronic protections
- Epoxy encapsulated inductors and conformally coated printed circuit boards

#### Very High Efficiency

- 97.9% peak efficiency
- Proprietary tracking algorithm minimizes power losses
- Low self-consumption easy mounting by a single person

- Continuous operation at full power to 45°C ambient temperatures without need to de-rate

- Electronic devices with higher ratings to minimize losses from heating

Maximizes Energy Harvest

Our TrakStar™ MPPT Technology features:

- Better peak power point tracking than other MPPT charge controllers
- Very fast sweeping of the entire PV array
- Recognition of multiple power points during shading or mixed PV arrays
- Low input voltage operation
- Excellent performance at sunrise and low solar insolation levels

Communications Capabilities

- Enables system monitoring, data logging and adjustability. Uses open standard MODBUS™ protocol and Morningstar's MS View software
- Meterbus: Communications between compatible Morningstar products
- Serial RS-232 and EIA-485 serial connectivity
- Ethernet: fully web-enabled interface to a local network or internet; view from a web browser or send email

Other Features

- High-Low voltage barrier improves safety
- Available with optional Disconnect Box: 600V PV disconnect switch, battery breaker and prewired input/output bus bars
- Available with DC Transfer Switch option for switching from a GT string inverter to battery backup charging during a utility outage. Multiple controllers and GFPDs may be added later, on an as-needed basis

## Product Attributes

- Dimensions: 1 &times; 1 &times; 1 cm
- Weight: 5 kg
- Model: Standard, with Disconnect Box, with DB & Transfer Switch, with DB, TR, & Pre-Wired GFPD

## Product Gallery

