

TRISTAR MPPT™ 600V CHARGE CONTROLLER



Four Versions:

TS-MPPT-60-600V-48 Standard

TS-MPPT-60-600V-48-DB With Disconnect Box (600V; 25A 1-Pole disconnect switch)

TS-MPPT-60-600V-48-DB-TR* With DC Transfer Switch (600V; 30A double pole; double throw DC Transfer Switch)

TS-MPPT-60-600V-48-DB-TR-GFPD** Pre-wired with Ground Fault Protection Device

All non-standard versions include a 1-Pole; 63A PV battery breaker*** and pre-wired PV/Battery busbars

TR versions also include a pre-wired String Inverter busbar

TECHNICAL 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
- Nominal System Voltage 48 Vdc
custom programmable to 24V, 36V and 60V
- Battery Operating Voltage Range 16-72 Vdc
- PV Input Operating Voltage Range 100V to Voc = 525V
- Wind/Hydro Input Operating Voltage Range Battery Voltage to 500V
- Self-Consumption 1.75 - 2.50 W
- Transient Surge Protection 4500 Watts/port

Electronic Protections

- Input Overload, high voltage
- Battery High voltage, battery sense disconnected, remote temperature sense disconnected
- General Operation High temperature, reverse current at night, lightning and transient surges

Environmental

- Ambient Temperature -40 °C to +45 °C
- Storage Temperature -55 °C to +85 °C
- Humidity 100% non-condensing
- Tropicalization Epoxy encapsulation, conformal coating, marine-rated terminals

Battery Charging

- Charging Stages MPPT, absorption, float, equalize
- Temperature Compensation
 - Coefficient -5mV/°C/cell (25° ref)
 - Range -30 °C to +80 °C / -22 °F to +176 °F
 - Set points Absorption, Float, Equalize, HVD

Note: Remote Temperature Sensor is included.

Mechanical

- Dimensions
 - Standard Version 39.2 x 22.1 x 14.9 cm / 15.4 x 8.7 x 5.9 in
 - DB & TR Version 54.2 x 22.1 x 14.9 cm / 21.4 x 8.7 x 5.9 in
- Unit Weight
 - Standard Version 9.0 kg / 19.8 lbs
 - DB & TR Version 12.8 kg / 28.1 lbs
- Maximum Wire Size
 - Power Terminals 2.5 mm² - 35 mm² / 14 AWG - 2 AWG
 - RTS/Sense Terminals 0.25 mm² - 1.0 mm² / 24 AWG - 16 AWG
- Conduit Knockouts M20; 0.50, 1.00, 1.25 inches
- Enclosure Rating Type 1 (indoor and vented), IP20

Communication

- Ports Ethernet, EIA-485, RS-232, MeterBus
- Supported Protocols MeterBus, MODBUS RTU, MODBUS TCP/IP, HTTP, SNMP v2, SMTP

Certifications

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

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 (GFPD-600V)

* Can be used as a 2-pole version of the Disconnect Box.

** See GFPD-600V datasheet for additional specifications

*** Can be replaced with 2-pole battery breaker.

**** 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.

WARRANTY: Five year warranty period. Contact Morningstar or your authorized distributor for complete terms.



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