

TRISTAR Meters

Digital Displays for TriStar Solar Charge Controllers



The TriStar Meter-2™ (TS-M-2), TriStar Meter-2-600V™ (TS-M-2-600V) and the TriStar Remote Meter-2™ (TS-RM-2) are advanced digital meters. They are nearly identical except that the TS-M-2 and TS-M-2-600V are mounted on the controller and the TS-RM-2 is flush mounted up to 30 meters away from the controller. The TriStar meters are 2 x 16 character LCD's that display system and controller information, logged data, bar graph metering, alarms and faults for easy troubleshooting. The information may be shown in English, French, German, Portuguese or Spanish. In multi-controller systems, these are networkable using Morningstar's MeterHub to allow individual controller data and aggregate system data to be displayed together on a single meter.

Key Features and Benefits

■ Easy to install

- Uses standard 6 conductor RJ-11 connectors
- TS-RM-2 fits a "double gang" electrical box and includes 30 meters (98.4 feet) of cable
- Both data and meterbus power flow over a single cable
- Network supports up to 15 devices and, optionally, more than one meter per system

■ Networking capability

- Displays individual controller data from up to 15 TriStars with optional Morningstar MeterHub
- Aggregates system data to show total charge, load and battery charge/discharge state
- Auto detects any device found on the network

■ Easy to use

- Four directional pushbuttons for easy navigation of display screens
- Backlighting to enhance readability
- Meter may be added during initial controller installation, added as an upgrade anytime in the future or connected temporarily for troubleshooting with the ability to use this same meter at other sites

TECHNICAL SPECIFICATIONS

Electrical

- Self-Consumption <0.5W
42.5 mA (backlight on)

Mechanical

- TS-RM-2 Mounting Plate Dimensions 116 x 116 mm / 4.56 x 4.56 in
- Plate Material powder coated steel
- Weight
 - TS-M-2 0.23 kg / 0.5 lb
 - TS-M-2-600V 0.18 kg / 0.4 lb
 - TS-RM-2 0.18 kg / 0.4 lb
- Connector Type RJ-11 (6-pin)
- TS-M-2 cable 0.13 m / 5 in - 6 conductor
- TS-M-2-600V cable 0.35 m / 14 in - 6 conductor
- TS-RM-2 cable 30 m / 98.4 ft - 6 conductor
- Cable Temperature 60°C rating

Environmental

- Ambient Operating Temperature -40 °C to +60 °C
- LCD Temperature Rating -20 °C to +70 °C
- Storage Temperature Range -55 °C to +85 °C
- Humidity Tolerance 5 to 95 % (NC)
- Tropicalization Conformal Coating on both sides of circuit board

Compatibility

	TS-M-2	TS-M-2-600V	TS-RM-2
• TriStar	YES	NO	YES
• TriStar MPPT	YES	NO	YES
• TriStar MPPT 600V	NO	YES	YES

Certifications

- CE, RoHS and REACH Compliant
- ETL Recognized Component FCC Class B Part 15 Compliant
- ACMA-EMC Compliant
- Manufactured in a Certified ISO 9001 Facility

Displays for TriStar Meter-2, TriStar Meter-2-600V and TriStar Remote Meter-2

	TriStar		TSMPT*			TriStar		TSMPT*	
	Solar Charge	Load Control	Diversion	Solar Charge	Commands	Solar Charge	Load Control	Diversion	Solar Charge
Operating Data					Commands				
• Battery Voltage	•	•	•	•	• Reset Ah/kWh Counters	•	•	•	•
• Solar Input Voltage	•			•	• Reset Min/Max Battery V	•	•	•	•
• Charging Current	•			•	• Equalize Start/Stop	•		•	•
• Load/Diversion Current		•	•		• Load On/Off		•		
• Battery Sense Voltage	•	•	•	•	• Reset Battery Service Reminder	•	•	•	•
• Battery Temperature	•	•	•	•	User Settings				
• Battery Min/Max Voltage	•	•	•	•	• Set MeterBus Address				•
• Charging Watts	•			•	• Set Meter Display Language	•	•	•	•
• Load/Diversion Watts		•	•		• Set Temperature Units (°C/°F)	•	•	•	•
• Daily Charge Wh				•	Logged Data¹				
• Heatsink Temperature	•	•	•	•	• Days of Daily Log Data		Last 60 Days		
Settings Data					• Battery Voltage Min (Daily)	•	•	•	•
• Nominal System Voltage	•	•	•	•	• Battery Voltage Max (Daily)	•	•	•	•
• Battery Type	•		•	•	• Charge Ah (Daily)	•			•
• Regulation Type	•		•	•	• Load Ah (Daily)		•	•	
• Absorption Charge Voltage	•		•	•	• Battery Wh (Daily)				•
• Float Charge Voltage	•		•	•	• Solar Vmax (Daily)				•
• Equalize Charge Voltage	•		•	•	• Battery Watts Max (Daily)				•
• Low Voltage Disconnect Value		•			• Time in Absorption (Daily)				•
• Low Voltage Reconnect Value		•			• Time in Float (Daily)				•
• Days Between Equalizations	•		•	•	• Time in Equalize (Daily)				•
Diagnostic Data					• Faults (Daily)	•	•	•	•
• Ah Total/Since Last Reset	•	•	•	•	• Alarms (Daily)	•	•	•	•
• kWh Total/Since Last Reset	•	•	•	•	Total System Data (multiple controllers)				
• Charge State	•		•	•	• Charge Current	•			•
• Load State		•			• Load Current		•		
• Fault List	•	•	•	•	• Diversion Current			•	
• Alarm List	•	•	•	•	• Charging Watts	•			•
• Days Since Last Equalization	•		•	•	• Charging Ah	•			•
• Days Since Last Battery Service	•		•	•	• Charging Wh	•			•
• Cumulative Hours of Service	•	•	•	•	• Load Ah		•		
• Controller Version	•	•	•	•	• Load Watts		•		
• Meter Version					• Diversion Watts			•	
• Mode of Operation					• Diversion Ah				

*Includes TriStar MPPT and TriStar MPPT-600V

¹ Logged data available on TriStars with software v13 or later

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

