

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



MORNINGSTAR

World's Leading Solar Controllers & Inverters

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