



Product shown with optional meter.



TriStar Meter-2™ TriStar Remote Meter-2™

DIGITAL DISPLAYS FOR TRISTAR CONTROLLERS

Morningstar's **TriStar Meter-2 (TS-M-2)** and **TriStar Remote Meter-2 (TS-RM-2)** are advanced digital meters that may be used with any TriStar™ solar controller. These two meters are identical except that the TS-M-2 is mounted on the controller and the TS-RM-2 is flush mounted up to 30 meters (98.4 feet) away from the controller.

The TriStar meters are 2 x 16 character LCD's that display extensive system and controller information, logged data, bar graph metering as well as alarms and faults for easy troubleshooting. The information may be shown in English, French, German, Portuguese or Spanish languages.

In multi-controller systems the TS-M-2 and TS-RM-2 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.

■ 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 and then using this same meter at other sites.

■ Networking Capability

- Displays individual controller data from up to 14 TriStars with optional Morningstar Meterhubs.
- Aggregates system data to show total charge, load and battery charge/discharge state.
- Auto detects any device found on the network.

Technical Specifications

■ Electrical

- Self consumption 7.5 mA
42.5 mA (backlight on)

■ Mechanical

- TS-RM-2 mounting plate dimensions 116 x 116 mm (4.56 x 4.56")
- Plate material powder coated steel
- Meter weight
TS-M-2 0.23 kg / 0.5 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-RM-2 cable 30 m / 98.4 ft - 6 conductor
- Cable temperature 60°C rating

■ Environmental

- Operating temperature -40°C to +60°C
- LCD temp. rating -20°C to +70°C
- Storage temperature -55°C to +85°C
- Humidity rating 5 to 95 % (NC)
- Tropicalization conformal coating on both sides of circuit board

■ Certifications

- CE Compliant
- RoHS Compliant
- ETL Recognized Component

■ Compatibility

- TS-45, TS-60, TS-MPPT-45, TS-MPPT-60

DISPLAYS FOR **TRISTAR METER-2™** & **TRISTAR REMOTE METER-2™**

	TriStar			TS MPPT
	Solar Charge	Load Control	Diversion	Solar Charge
Operating Data				
Battery Voltage	✓	✓	✓	✓
Solar Input Voltage	✓			✓
Charging Current	✓			✓
Load/Diversion Current		✓	✓	
Battery Sense Voltage	✓	✓	✓	✓
Battery Temperature	✓	✓	✓	✓
Battery Min/Max Voltage	✓	✓	✓	✓
Charging Watts	✓			
Load/Diversion Watts		✓	✓	
Daily Charge Wh				✓
Heatsink Temperature	✓	✓	✓	✓
Settings Data				
Nominal System Voltage	✓	✓	✓	✓
Battery Type	✓		✓	✓
Regulation Type	✓		✓	✓
Absorption Charge Voltage	✓		✓	✓
Float Charge Voltage	✓		✓	✓
Equalize Charge Voltage	✓		✓	✓
Low Voltage Disconnect Value		✓		
Low Voltage Reconnect Value		✓		
Days Between Equalizations	✓		✓	✓
Diagnostic Data				
Ah Total/Since Last Reset	✓	✓	✓	✓
kWh Total/Since Last Reset	✓	✓	✓	✓
Charge State	✓		✓	✓
Load State		✓		
Fault List	✓	✓	✓	✓
Alarm List	✓	✓	✓	✓
Days Since Last Equalization	✓		✓	✓
Days Since Last Battery Service	✓		✓	✓
Cumulative Hours of Service	✓	✓	✓	✓
Controller Version	✓	✓	✓	✓
Meter Version	✓	✓	✓	✓
Mode of Operation	✓	✓	✓	✓

	TriStar			TS MPPT
	Solar Charge	Load Control	Diversion	Solar Charge
Commands				
Reset Ah/kWh Counters	✓	✓	✓	✓
Reset Ah/kWh Counters	✓	✓	✓	✓
Reset Min/Max Battery V	✓	✓	✓	✓
Equalize Start/Stop	✓		✓	✓
Load On/Off		✓		
Reset Battery Service Reminder	✓	✓	✓	✓
User Settings				
Set MeterBus Address				✓
Set Meter Display Language	✓	✓	✓	✓
Set Temperature Units (°C/°F)	✓	✓	✓	✓
Logged Data¹				
Days of Daily Log Data	Last 60 Days			
Battery Voltage Min (Daily)	✓	✓	✓	✓
Battery Voltage Max (Daily)	✓	✓	✓	✓
Charge Ah (Daily)	✓			✓
Load Ah (Daily)		✓	✓	
Battery Wh (Daily)				✓
Solar Vmax (Daily)				✓
Battery Watts Max (Daily)				✓
Time in Absorption (Daily)				✓
Time in Float (Daily)				✓
Time in Equalize (Daily)				✓
Faults (Daily)	✓	✓	✓	✓
Alarms (Daily)	✓	✓	✓	✓
Total System Data (multiple controllers)				
Charge Current	✓			✓
Load Current		✓		
Diversion Current			✓	
Charging Watts	✓			✓
Charging Ah	✓			✓
Charging Wh	✓			✓
Load Watts		✓		
Load Ah		✓		
Diversion Watts			✓	
Diversion Ah			✓	

¹Logged data available on TriStars with software v13 or later.

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

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