TriStar Meter-2™, TriStar Meter-2-600V™ and TriStar Remote Meter-2™

Digital Displays for TriStar Controllers

Morningstar's 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 that may be used with TriStar™ solar controllers. These three meters 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 (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, TS-M-2-600V 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.

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 inch)
Plate Material	powder coated steel
Meter 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 inch - 6 conductor
TS-M-2-600V cable	0.35 m/ 14 inch - 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

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 with the ability to use this same meter at other sites
- 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

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

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

OPERATING DATA	TriStar: Solar Charge	TriStar: Load Control	TriStar: Diversion	TS MPPT*: Solar Charge
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	Solar Charge	Load Control	Diversion	Solar Charge
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	Solar Charge	Load Control	Diversion	Solar Charge
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	•	•	•	•

COMMANDS	TriStar: Solar Charge	TriStar: Load Control	TriStar: Diversion	TS MPPT*: Solar Charge
Reset Ah/kWh Counters	•	•	•	•
Reset Min/Max Battery V	•	•	•	•
Equalize Start/Stop	•		•	•
Load On/Off		•		
Reset Battery Service Reminder	•	•	•	•

USER SETTINGS	Solar Charge	Load Control	Diversion	Solar Charge
Set MeterBus Address				•
Set Meter Display Language	•	•	•	•
Set Temperature Units (°C/°F)	•	•	•	•

LOGGED DATA[1]	Solar Charge	Load Control	Diversion	Solar Charge
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)	Solar Charge	Load Control	Diversion	Solar Charge
Charge Current	•			•
Load Current		•		
Diversion Current			•	
Charging Watts	•			•
Charging Ah	•			•
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.

CERTIFICATIONS
CE, RoHS and REACH Compliant
ETL Recognized Component
ACMA-EMC Compliant
Manufactured in a Certified ISO 9001 Facility

Five year warranty on all Tristar meters.

MORNINGSTAR
World's Leading Solar Controllers & Inverters

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