



TS-SC24-40N-MPPT ***TS-SC24-60N-MPPT***

DATA SHEET

MPPT Solar Charge Controllers

Features

- **MPPT Temp Compensated Charging (99.5% Efficient)**
- **Included Bluetooth Interface for Monitor and Control**
- **OLED Blue Display for higher visibility in varying light conditions**
- **Auto-ranging 12V or 24V Battery Arrays**
- **Multimode Load Operation – 4 selectable modes**
- **Soft Start 20A or 30A Load Output to Power High Capacitive Loads**
- **TVS lightning protection, Industrial Temperature Range**
- **Low self-consumption <1.8W**



Applications

- **Remote Power Systems**
- **Solar Lighting**
- **Solar Power Applications**



Description

The Tycon Solar® TS-SC24-40N-MPPT and TS-SC24-60N-MPPT solar controllers are MPPT (Maximum Power Point Tracking) temperature compensated battery charging controllers with included Bluetooth interface. The battery temperature probe cable is included. The controllers are auto-ranging to accommodate 12V and 24V battery systems. They are designed to charge Sealed (AGM), GEL, Flooded, and Lithium batteries. They also have a USER setting for customizable battery charge settings. They have an integral OLED Blue display that shows PV Volts, Battery Volts/Current/Watts/Temperature, Load Amps/Watts. The display also shows charge state. The display dims automatically to save power.

They have multiple load operating modes which can be set through the Mobile or PC app. On/Off Manual Mode, PV Voltage Control Mode, Dual-Time Control Mode, PV + Time Control Mode. Load modes are not settable through the front panel. Default is ON/Off Manual Mode.

The 20A or 30A load output has a soft start feature so it can smoothly and reliably power up high capacitance loads. The load can be turned on/off from the front panel or via the PC or Mobile Apps. They have full electronic protections for short circuit, reverse current, over-power, over-voltage, over-charge, over-discharge and over-temperature. The built-in over-discharge protection and low self-consumption ensures the battery is not over-discharged, which greatly increases the life of the batteries. All protections are auto-recovery.

The units are protected against lightning strikes with TVS diode protection. They operate over a wide industrial temperature range.

Connections are via 6 screw terminals for wire size up to 4AWG. The controllers are internally fused for protection, but we recommend always using a 63A to 100A external fuse or circuit breaker between the controller and the battery. There are four 3mm threaded holes for mounting permanently to a flat plate. There are also brackets included for mounting to a wall or DIN rail using the Tycon #DIN-CLIPKIT-UNI DIN rail adapter bracket kit.

The MPPT controllers can be connected via the RS485 interface for parallel operations, feeding multiple solar arrays into a single battery bank.

The MPPT controllers have an included Bluetooth interface that allows control and monitoring via the Solarmate mobile app for Android and iOS. Get the app using QR Code.

Android**iOS**

Also available is an RS485 interface to connect to a PC using the Tycon #TP-SC-USB-RS485 and the MyGreen PC Software.

Tycon's #TPDIN-Monitor-WEB3 V2 interfaces to the MPPT controllers via a #TPDIN-CABLE-485 and provides remote datalogging and load control via Ethernet and SNMP in addition to other features available in the TPDIN-Monitor-WEB3.



Specifications

	TS-SC24-40N-MPPT	TS-SC24-60N-MPPT
Rated Battery Voltage	12/24VDC (Auto-Detect)	
Battery Types Supported	Lead Acid: AGM, GEL, Flooded Other: Lithium, Custom	
Solar (PV) Input Voltage	100VDC Max	150VDC Max
Solar/Battery Charge Current	40A Max	60A Max
Max Solar Panel Size	12V Battery = 560W 24V Battery = 1120W	12V Battery = 840W 24V Battery = 1680W
Rated Load Current	20A Max	30A Max
Battery Charge/Float Voltage	AGM = 14.4V / 13.8V, GEL = 14.2V / 13.8V, Flooded = 14.6V / 13.8V Note: multiply x2 for 24V Batteries	
Temperature Compensation	-3.0mV/°C/2V	
Lithium Activation	Standard	
MPPT Efficiency	>99.5%	
Communication Port	RS485	
Dry Contact Load On/Off Indicator	5VDC ~ 12VDC	
Self-Consumption	< 1.8W	
Max Wire Size	4 AWG	
Grounding	Negative Ground	
Display Accuracy	Voltage +/-5%, Current +/-5A, Temperature +/-5%	
Environmental Protection	IP42	
Certifications	CE, FCC, RoHS	
Operating Temp	-30°C to 60°C (-22°F to 140°F)	
Dimensions	220x148x64mm (8.7x5.8x2.5")	245x170x69mm (9.6x6.7x2.7")
Weight	1.7Kg (3.7lb)	2.4Kg (5.3lb)
Warranty	3 years	

System Ordering:

TS-SC24-40N-MPPT

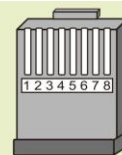
12/24V 40A MPPT Solar Charge Controller

TS-SC24-60N-MPPT

12/24V 60A MPPT Solar Charge Controller

RS485 Communications Interface

PIN	Function
1	RS485-A
2	RS485-B
3	Dry contact
4	Dry contact
5	GND
6	GND
7	+5V(Non-Isolated)
8	+5V(Non-Isolated)



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