



TP-SC24-30N-MPPT TP-SC24-60N-MPPT

DATA SHEET

MPPT Solar Charge Controllers

Features

- **MPPT Temp Compensated Charging (99.5% Efficient)**
- **Embedded Bluetooth Interface: Monitor and Control**
- **Color LCD Displays: Battery/Load/Solar Volts/Amps/Watts, Battery Temp, and Battery Level**
- **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 <1W**

Applications

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



Description

The Tycon Solar® TP-SC24-30N-MPPT and TP-SC24-60N-MPPT solar controllers are MPPT (Maximum Power Point Tracking) temperature compensated battery charging controllers with embedded 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 color TFT LCD display that shows Battery Volts/Amps/Watts, Battery Level, Battery Temperature, Load Volts/Amps/Watts and Solar Volts/Amps/Watts. The display also shows the current time and charge mode (CC-Constant Current, CV-Constant Voltage and CF-Float Charge) or Standby (Running from battery). The display turns off automatically to save power. Tap the screen to turn on or touch the S button.

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 embedded Bluetooth interface that allows control and monitoring via the Solarmate mobile app for Android and 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

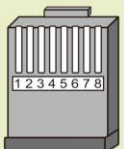
	TP-SC24-30N-MPPT	TP-SC24-60N-MPPT
Rated Battery Voltage	12/24VDC (Auto-Detect)	
Battery Types Supported	Lead Acid: AGM, GEL, Flooded Other: Lithium, Custom	
Solar (PV) Input Voltage	100VDC Max	
Solar/Battery Charge Current	30A Max	60A Max
Max Solar Panel Size	12V Battery = 390W 24V Battery = 780W	12V Battery = 780W 24V Battery = 1560W
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/Cell	
Lithium Activation	Standard	
MPPT Efficiency	>99.5%	
Communication Port	RS485	
Dry Contact Load On/Off Indicator	5VDC ~ 12VDC	
Self-Consumption	< 1W	
Max Wire Size	4 AWG	
Grounding	Negative Ground	
Display Accuracy	Voltage +/-5%, Current +/- .5A, Temperature +/-5%	
Environmental Protection	IP43	
Certifications	CE, FCC, RoHS	
Operating Temp	-30°C to 60°C (-22°F to 140°F)	
Dimensions	220x148x58.8mm (8.7x5.8x2.3")	245x170x68.5mm (9.6x6.7x2.7")
Weight	1.7Kg (3.7lb)	2.4Kg (5.3lb)
Warranty	3 years	

System Ordering:

TP-SC24-30N-MPPT 12/24V 30A MPPT Solar Charge Controller
TP-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)



For further information contact:

Tyconsystems.com



930 W 14600 S Suite 600
Bluffdale, UT 84065
PH: 801-432-0003
FAX: 801-618-4220