

Marlec's Spectra MPPT Solar Regulators



spectra
solar

Maximise the energy generation from your solar panels with Marlec's MPPT solar controllers. Using full digital technology these Spectra regulators efficiently track the solar panel's Max Power Point at 99.9% to boost the energy yield by up to 20% and charge your batteries faster. Multi-stage charging ensures good battery conditioning to improve the lifetime of batteries too.

High Performance in Service

- Innovative use of multiple algorithms for Max Power Point Tracking (MPPT) delivers quicker and more accurate tracking efficiency >99.9%.
- Full digital technology with high charge conversion efficiency up to 98%.
- LCD display provides a clear view of operating mode and data with real-time energy, voltage, ampere hours, temperature and more.
- Four stage battery charging process: MPPT, boost, equalization and float.
- Temperature compensation using the supplied remote sensor improves accuracy of charging and battery condition.



Spectra MPPT 20A & 40A (12V / 24V)

Electronic Protections

- Internal power reduction function automatically protects the regulator against over-temperature.
- Automatic protection to avoid exceeding the rated charging power and current.
- Battery protection features against reverse polarity and over voltage connections.
- Deep discharge load disconnection and automatic reconnection.

Useful Operating Features

- 12/24V automatic recognition on connection.
- Multiple load control modes: Always On, Dusk to Dawn for Street Lighting, User-Defined Mode.
- RS-485 standard modbus protocol with RJ11 interface to maximize the communication.
- Compatible with Liquid, Gel, AGM and Lithium battery systems.

The Spectra MPPT's are an excellent addition to off-grid solar charging systems, optimising and boosting power production from your solar array.



Spectra MPPT 10A (12V)

The Spectra MPPT 10A model is compact and ideally suited to boosting solar panel output on those smaller systems where space is a premium, especially on boats & caravans. The USB Socket is a handy charger. Connect solar panels up to 130W @ 12V.

Specifications

	Spectra MPPT 10A	Spectra MPPT 20A		Spectra MPPT 40A	
Part Number	CA-11/130	CA-11/135		CA-11/136	
System Voltage	12V	12V	24V	12V	24V
Max Charging Current	10A	20A		40A	
Boost Voltage @25°C	14.5V	14V - 14.8V	28V - 29.6V	14V - 14.8V	28V - 29.6V
Equal Voltage @25°C	14.8V	14V - 15V	26V - 29V	14V - 25V	26V - 29V
Float Voltage @25°C	13.7V	13V - 14.5V	26V - 29V	13V - 14.5V	26V - 29V
Low Voltage Disconnect	10.8V - 11.8V	10.8V - 11.8V	21.6V - 23.6V	10.8V - 11.8V	21.6 - 23.6V
Low Voltage Reconnect	11.6V - 12.8V	11.4V - 12.8V	22.8V - 25.6V	11.4V - 12.8V	22.8 - 25.6V
Overcharge Protect	15.5V	15.8V	31.3V	15.3V	31.3V
Max Voltage on Battery	20V	35V		35V	
Battery Type	Liquid, Gel, AGM	Liquid, GEL, AGM, Lithium		Liquid, GEL, AGM, Lithium	
Max Voltage on PV Terminal (25°C)	40V	90V		90V	
Max Input Power	130W	260W	520W	520W	1040W
Dusk/Dawn Detect Voltage	8V	8V	16V	8V	16V
Output Current	10A	20A		30A	
USB Interface	5V, 2A	N/A			
Operating Modes	Always On, Dusk to Dawn for Street Lighting, User-Defined Mode				
Max Charge Conversion	97.5%	98%			
Self Consumption	7mA	≤8mA	≤12mA	≤8mA	≤12mA
Communication	RS485 (RJ11 interface)				
Grounding	Common Negative				
Power Terminals	8AWG (10mm ²)	6AWG (16mm ²)			
Ambient temperature	-20 - +55°C				
Ambient Humidity	0 - 100%RH				
Protection Degree	IP32				
Dimensions	189 x 96 x 53mm	136.6 x 136.6 x 67.1mm		196.5 x 136.6 x 97.1mm	
Weight	420g	830g		1300g	