



EcoPulse™ Solar Charge Controllers

METERED AND NON-METERED VERSIONS

- Ideal for residential & leisure applications
- 10, 20 and 30 amp versions
- Charges 12V and 24V battery systems
- The BEST value for reliable charging in consumer applications

The EcoPulse is a pulse width modulation (PWM) solar charge controller within Morningstar's Essential Series™ of products which provides essential off-grid battery regulation functions. This controller is easy to use, and designed for residential and leisure consumer applications.* Metered and non-metered versions of this product are available at 10, 20, and 30 amp charge ratings for 12 and 24 volt battery systems.



Residential



Rural Electrification



Boating



RV, Caravan

KEY FEATURES AND BENEFITS

- **High Reliability**
Conformally coated circuit board and corrosion resistant terminals.
- **Robust Thermal Design**
Extruded aluminum heatsink dissipates heat quickly without using cooling fans.
- **Durable Casing**
High strength polycarbonate case.
- **LED Fault Indications**
Alert when short circuit, over current, high voltage, and other error conditions take place.
- **Automatic Solar Based Lighting Control**
Field adjustable dusk 'til dawn setting.
- **Adjustable Charge Settings**
Seven presets and a custom setting can be set via DIP Switches or by the meter display buttons.
- **Adjustable Load Control**
Load control can be adjusted via meter display.
- **Optional Meter**
Multi-lingual interface with scroll buttons to adjust the settings and display metrics.

Technical Specifications

Electrical		
Nominal Battery Voltage	12V or 24V auto-detect	
Battery Voltage Range	10-35V	
Voltage Accuracy	<= 0.1% +/- 50mV	
Maximum Battery Current	10A, 20A or 30A	
Maximum PV open-circuit voltage	60V	
Load Current Rating	10A, 20A or 30A	
Self-Consumption	<15mA; <20mA (meter)	
LED Indications	(1) status, (3) Battery state of charge	
Transient Surge Protection	1500 Watts (solar, battery, load)	
Environmental		
Operating Temperature Range	-40°C to +45°C	
Humidity	100% Non - condensing	
Tropicalization	conformal coating, marine-rated terminals	
Mechanical		
Dimensions (W x L x D)	15.3 x 10.5 x 5.5 cm	6.0 x 4.1 x 2.2 in
Weight	0.4 kg	1.0 lbs
Enclosure	IP20, Type 1	
Certifications	CE, TUV Listed: IEC 62109	
Versions (6)	EC-10 EC-10M EC-20 EC-20M EC-30 EC-30M	
Warranty	2 years	

Electronic Protections

- Solar Input: overload, short-circuit, high voltage, reverse polarity, high temperature, nighttime reverse current
- Load Output: overload, short-circuit, high temperature, reverse polarity
- Battery: reverse polarity

Battery Charging

- 4-Stage Charging: Bulk, Absorption, Float, Equalize
- Temperature Compensation Coefficient: -30mV/°C/12volt
- Set-points: Absorption, Float, Equalize, HVD

Load & Lighting Control

- Low Voltage Disconnect, Low Voltage Reconnect
Settings: 11.4V / 12.6V or Custom (x2 for 24 volt systems)
- Lighting Settings: Dusk to Dawn

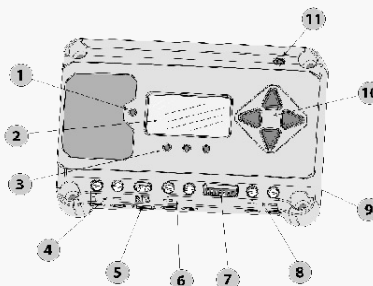
Meter

- Resolution: 128 x 64 pixels
- Viewing Area: 5.0 cm x 2.5 cm
- Interactive: Yes

Accessories

- Remote Temperature Sensor (RTS)

1. Charging Status / Error LED
2. Meter Display (optional)
3. Battery Status / Fault LED Indicators
4. Solar Positive and Negative Terminals
5. Remote Temperature Sensor Terminals (RTS)



6. Battery Positive and Negative Terminals
7. DIP Switches
8. Load Positive and Negative Terminals
9. Heatsink
10. Meter Directional Buttons
11. Local Temperature Sensor

*The EcoPulse has not been certified to comply with USA and Canada electrical codes.