

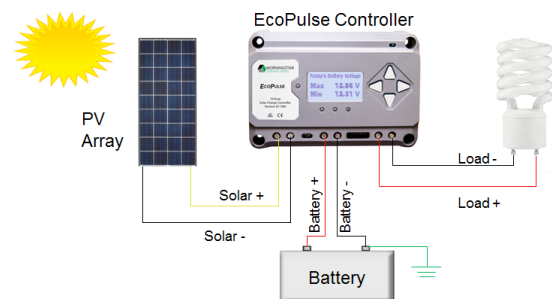


## EcoPulse™ Solar Charge Controllers

### 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

<b>Electrical</b>		
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)	
<b>Environmental</b>		
Operating Temperature Range	-40°C to +45°C	
Humidity	100% Non - condensing	
Tropicalization	conformal coating, marine-rated terminals	
<b>Mechanical</b>		
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	
<b>Certifications</b>	CE, TUV Listed: IEC 62109	
<b>Versions (6)</b>	EC-10 EC-10M EC-20 EC-20M EC-30 EC-30M	
<b>Warranty</b>	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

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)

### 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
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

### Accessories

- Remote Temperature Sensor (RTS)

