

# ECO-N-T (10 - 20 A)

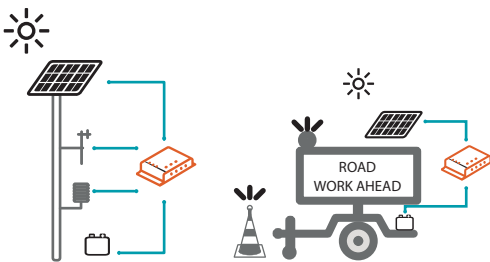
Solar Charge Controller



## Tough. Simple. Flexible.

- Perfect for small PV systems
- Low voltage disconnect
- Charges 12 or 24 V batteries (Auto-Detection)
- Screw terminals
- IP68 (housing) IP21 (contacts)
- UL1741/Class 1 Div. 2 Certified

### Built Tough for Harsh Environments



Phocos' ECO-N-T is the answer to all of your tough solar projects. Its small size makes it perfect to fit well in tricky places. ECO-N-T is fully encapsulated with IP68 standard casing which means it can handle harsh environments.

The ECO-N-T charge controller is versatile and offers the flexibility of operating with 12 or 24 V systems. It will also protect your batteries from overcharging and over discharging.

### Robust Design

- Fully potted PCB
- Rugged housing with corrosion-resistant screw terminals

### High-Efficiency Charging

- Series switching design reduces thermal stress on PV panel
- 3-Stage charging ensures charging of all battery cells and prevents sulfation

### Intuitive User Interface

- Easy-to-understand 3-LED system status interface
- Install only requires a flat-head screwdriver

### Flexible

- Ideal for almost any off-grid PV application
- Same model can be used in 12 or 24 V systems (fewer components to stock)

### Application Examples

- SCADA Systems
- RVs
- Solar Message Boards
- Chemical Injection Pumps
- Transportation



CSA C22.2 No. 213



UL1741/CSA C122.2 No. 107.1-01  
Ordinary Locations



ANSI 12.12.01-2010 CSA C22.2 No. 213  
Class I Div.2 Hazardous Locations

## Technical Data

Type	ECO-N-10-T	ECO-N-20-T
System voltage	12 / 24 V (Auto Detection)	
Max. charge/load current	10 A	20 A
Float charge	13.8/27.6 V (77°F/25 °C)	
Main charge	14.4/28.8 V (77°F/25 °C), 0.5 h (daily)	
Boost charge	14.4/28.8 V (77°F/25 °C), 2 h Activation: battery voltage < 12.3/24.6 V	
Deep discharge protection, Cut-off voltage	11.0/22.0 V	
Load reconnect level	12.8/25.6 V	
Overvoltage protection	15.5/31 V	
Undervoltage protection	10.5/21 V	
Max. PV panel voltage	30/50 V	
Temperature compensation	-4.2 mV/K per 2V cell	
Idle self consumption	4 mA	
Grounding	Negative Ground	
Ambient temperature	-40 to +140°F (-40 to +60 °C)	
Max. elevation	13,000 ft (4,000 m above sea level)	
Battery type	Lead acid (GEL, AGM, flooded)	
Max. wire cross section	8 AWG (10 mm <sup>2</sup> )	
Dimensions (W x H x D)	3.94 x 2.4 x 0.79 in (100 x 61 x 20 mm)	
Weight	5.6 oz (160 g)	
Type of protection	IP68 (casing), IP21 (contacts)	

## Installation Diagram

