

EnerGenius® ECU

The Intelligent Battery Charger™



EnerGenius® ECU Benefits

EnerGenius ECU delivers high reliability, precise battery care and low-ripple output for mission-critical DC applications.

Sophisticated, automated charging algorithms reduce battery maintenance by up to 400%. This ensures safe charging of VRLA, flooded lead and nickel cadmium type batteries under all conditions.

EnerGenius ECU is the intelligent charger — and the smart choice.

EnerGenius® ECU is ideal for mission-critical DC power applications worldwide:

- Electric power generation
- Switchgear and substations
- Energy production and transportation
- Communications and SCADA
- Process control

EnerGenius® ECU Features

Designed from the ground up for mission critical reliability

- Precise regulation and temperature compensation assure correct battery charging under all conditions.
- Exclusive *Dual Path* thermal management keeps life-critical parts cool, ensuring longest possible life.

Real-time parameter adjustment makes the most of your battery investment

- *EnerGenius ECU* makes batteries last longer and need less maintenance.
- Totally automatic charging eliminates the need for manual adjustments, avoiding human error.
- Temperature compensation improves battery life and maintenance.

Intelligent digital system supervisor gives real time alarms and protection

- Digital supervisor operates continuously, providing automatic alarms for any fault.
- Fault tolerant circuitry eliminates potential single point failures and resulting false shutdowns or alarms.

Stable, low-ripple output is ideal for continuous loads

- Stable operation — compatible with all types of loads.
- Low-ripple output is ideal for both legacy and modern electronic equipment.

State-of-the-art status display and simple, ergonomic controls

- Easy to read LCD digital display gives all system status at a single glance.
- Intuitive front panel controls manage all common charger functions.

Engineered for top quality and reliability

- Highest possible ISO 9000 quality design and construction
- Finest industrial-grade components available
- NEMA PE-5 compliant
- UL, C-UL listed
- CE marked (50/60 Hz models)

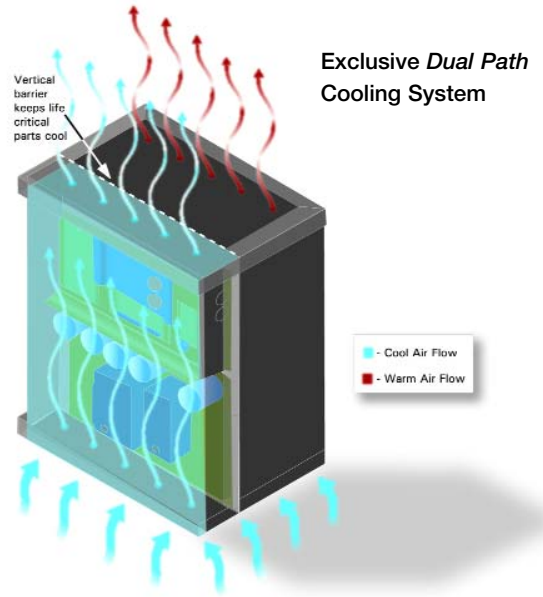


Feature: Highest reliability operation

Benefit: Provides dependable mission-critical performance and long life

Specifications

- Dual Path cooling system delivers unheated air to life-critical parts
- Fault tolerant digital alarms, selective over voltage shutdown
- Reverse polarity protection
- Stress-tested design
- Highest reliability industrial grade components
- Conservative derating of components
- Low semiconductor junction temperatures
- Modular design, with minimal use of wires or harnesses
- Conformal coated printed circuit cards



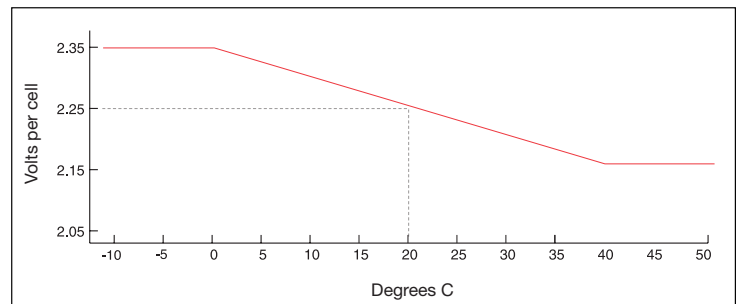
Feature: Most accurate, fully automatic charging available

Benefit: Up to 400% improvement in battery maintenance and life

Specifications

- Highest accuracy line and load regulation ($\pm 0.1\%$ remote sense; $\pm 0.5\%$ local sense)
- Real time battery-interactive charge parameter adjustment
- Adjustable output voltage per NEMA PE-5
- Local or optional remote battery temperature compensation
- Selectable temperature compensation slope
- Local or remote voltage sense

Standard Temperature Compensation



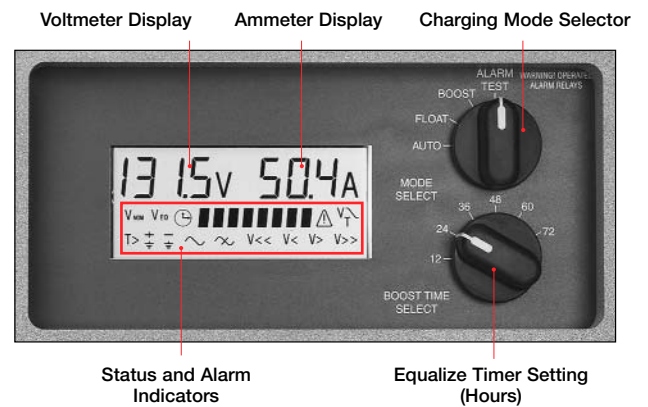
Feature: Comprehensive ergonomic user interface

Benefit: Control and information are readily available without complex manuals

Specifications

- Efficient industrial grade LCD display reduces battery power consumption
- Large, $\pm 1\%$ accuracy digital volt and amp meters
- Easy to interpret icons for all system status indications
- Digital ground fault alarm is fully automatic — needs no user intervention
- Programmable alarm and over voltage shutdown levels
- Relay contacts included for AC fail, low and high DC volts, charger malfunction, ground fault, over voltage shutdown, multi-purpose option alarm and a summary alarm
- Simple controls for equalize mode and time limits
- System test mode exercises both LCD and alarm relays

Comprehensive LCD Display



Feature: Wide range of standard features

Benefit: Features needed to meet most specifications are already engineered in

Feature	Standard	Optional
Single phase input	208 or 240 VAC, 60 Hz	480 or 575 VAC, 60 Hz; 230 or 400 VAC, 50/60 Hz
DC output	12, 24, 48, 120 or 240 VDC nominal	Other outputs optional
Input protection	2-P circuit breaker	65 KAIC breaker
Output protection	2-P circuit breaker	Standard feature
Output ripple: 12, 24, 48 V units	30 mV rms on battery	Standard feature
Output ripple: 120 & 240 V units	2% rms on battery	30 mV rms on battery (120 V only)
Lightning protection	Meets ANSI/IEEE and EN standards	Standard feature
Battery eliminator operation	Stable without battery	Standard feature
Load sharing	Active load share	Standard feature
Equalize charging	Selectable timer or 4-rate automatic	Standard feature
Temperature compensation	Local sensing standard	Remote sensor, or disable temperature compensation
Voltage sensing	Local sensing standard	Remote sense
Circuit card tropicalization	All boards coated	Standard feature
Alarm contacts	Individual contacts alarm, plus summary contact	Standard feature
Housing protection	NEMA-1 (IP 20)	Drip shield (IP 22)
Blocking diode	Not included	Blocking diode available
Safety agency approval	C-UL listed 60 Hz input	CE marked 50/60 Hz input

Feature: Ruggedized to the toughest specifications

Benefit: Reliable charger stays accurate despite harsh real-world conditions to ensure non-stop DC power

Specifications

- Extreme accuracy, adjustable electronic current limit
- Operating temperature: -40C to +60C
- Thermal protection against excessive ambient temperature
- Humidity 5% to 95% non-condensing
- Conformal coated printed circuit cards
- Reverse polarity protection
- Tested compliant to seismic zone 4
- Transient, RF and ESD immunity to ANSI/IEEE C62.41, Cat. B, ANSI C37.90a and EN 50082-2 heavy industrial

Feature: Global safety listings and EMC compliance

Benefit: Meets USA, Canada and EU standards

Specifications

- C-UL listed to UL 1012
- CE marked (50/60 Hz units) to EN 60335
- CSA 22.2 no. 107-2-M89
- Emissions: FCC Part 15, Class A; EN 50081-2

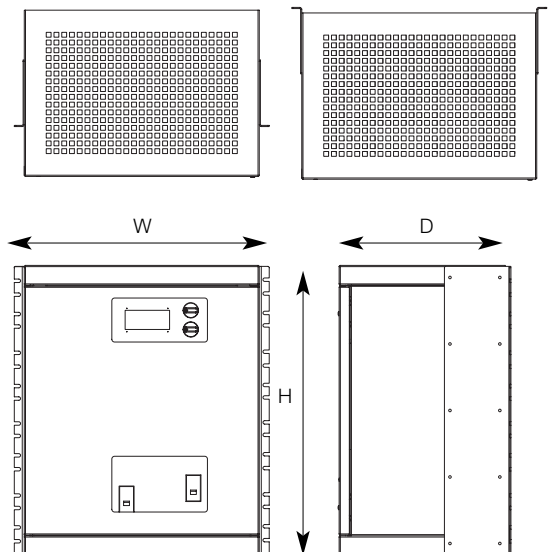


Feature: State-of-the-art mechanical design

Benefit: Rugged performance and sleek, modern appearance

Specifications

- Heavy-gauge steel housing with hardened gray powder paint finish
- Exclusive *Dual Path* thermal management keeps life-critical parts cool, ensuring longest possible life.
- Breakers, controls and display are recessed to resist damage
- Choice of mounting configurations: free standing, wall mount or 23" relay rack mount
- Provision for 3/8" lifting eyes
- 100% front access to service any component



Housing Configuration	Width	Depth	Height
Free standing	21.2" (539 mm)	15.0" (381 mm)	29.9" (760 mm)
Wall or rack mount	23.0" (584 mm)	15.5" (394 mm)	26.2" (665 mm)

