



FLEXmax™ Extreme Charge Controller

Preliminary Information Sheet | Expected Availability Q4 2012

Features and specifications

- Environmentally-rated sealed enclosure:
 - IP54 design for international market
 - NEMA 3R for North American market
- Solid-state, passively cooled design enables sealed architecture, long-term reliability, and quieter operation
- Remote battery voltage sense improves battery charging performance and voltage measurement accuracy
- Powerful Simplified Fault sense supports today's and tomorrow's safety requirements
- Easily-integrated AXS Card Modbus/TCP interface provides powerful command, control and integration for industrial customers
- Planned certifications include: UL1741, IEC 62109, IEC 62509, RoHS, CE



OutBack created the *de facto* industry standard when the company introduced its MX60 design, the first multi-voltage MPPT (Maximum Power Point Tracking) charge controllers. Now OutBack follows up on its original breakthrough with another first: a sealed, outdoor-rated charge controller with unprecedented thermal management capabilities designed for the most extreme environmental conditions.

The FLEXmax Extreme is engineered around the concept that the strongest chain is one with no weak links. In the case of charge controller design, the weak link is typically the cooling fan. Removing the fan removes the greatest obstacle to long service life and high reliability, as fan problems severely limit power output.

FLEXmax Extreme's advanced thermal engineering provides full power output from -20 to 45°C without requiring a cooling fan. And because a passively cooled unit can be sealed, circuit boards and other sensitive electronics can be fully protected from dust, dirt, insects, and other external sources of contamination.

Installer features of the FLEXmax Extreme include: "ground agnostic" design to support negative, positive and floating ground systems, increased wire-bending space, oversized terminals for easier installation with larger gauge wire, and mechanical design that permits servicing and replacing all power components while the unit is mounted on a wall and attached to conduit.

The FLEXmax Extreme Charge Controller can not only go anywhere, it can also get there faster by saving precious installation time. It is a fitting companion to OutBack's renowned sealed FX inverter/charger line and demonstrates the company's on-going commitment of providing clean, reliable power anywhere it has the potential to transform lives.

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Nominal Battery Voltages	12, 24, 36, 48 or 60Vdc (Selectable via field programming at start-up)
Maximum Output Current	80A @ 40°C / 104°F with adjustable current limit
PV Open Circuit Voltage (VOC)	150Vdc
Standby Power Consumption	Less than 0.5W typical
Power Conversion Efficiency	98% @ 80A in a 48Vdc System - typical
Charging Regulation Five Stages	Bulk, Absorption, Float, Silent and Equalization
Equalization Charging	Programmable voltage setpoint and duration automatic termination when completed
Battery Temperature Compensation	Automatic with optional RTS installed
Battery Temperature Compensation Slope	Adjustable / 2.0 to 6.0mV per °C per 2V battery cell
Voltage Step-Down Capability	Can change a lower voltage battery from a higher voltage PV array - max 150Vdc input
Programmable Auxiliary Control Output	12Vdc output signal which can be programmed for different control applications (maximum of 0.2Amps DC)
Remote Display and Controller	Optional MATE3, MATE or MATE2
Data Logging	Last 128 days of operation - Amp Hours, Watt Hours, time in Float, Peak Watts, Amps, Solar Array Voltage, max Battery Voltage Min Battery Voltage and Absorb for each day along with total Accumulated Amp Hours, and kW Hours of production
Positive Ground Application	Requires dual pole breakers for switching both positive and negative conductors on both solar array and battery conditions
Operating Temperature Range	-40 to 60°C (Full power output -20 to 40°C)
Environmental Rating	IP54 / NEMA 3R
Conduit Knockouts	One 1" (23.4mm) on the back; One 1" (25.4mm) on both left and right sides; Two 1" (25.4mm) on the bottom
Warranty	Standard 5 year
Options	AXS Card Modbus Interface, External turbo Fan, Remote Temperature Sensor (RTS)
Non-volatile Memory	Yes
Field Upgradable Firmware	Yes
Certifications	UL1741, IEC 62109, IEC 62509, RoHS, CE

This is an advanced information bulletin. All information, features and specifications are preliminary and subject to change.



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