



# FLEXmax™

## Continuous Maximum Power Point Tracking Charge Controllers

- **Increases PV Array Output by up to 30%**
- **Advanced Continuous Maximum Power Point Tracking**
- **Full Power Output in Ambient Temperatures up to 104°F (40°C)**
- **Battery Voltages from 12 VDC to 60 VDC**
- **Fully OutBack Network Integrated and Programmable**
- **Programmable Auxiliary Control Output**
- **Built-in 128 days of Data Logging**
- **Standard 5 Year Warranty**



The FLEXmax family of charge controllers is the industry leading innovation in Maximum Power Point Tracking (MPPT) charge controllers from OutBack Power. The innovative FLEXmax MPPT software algorithm is both continuous and active, increasing your photovoltaic array power yield up to 30% compared to non-MPPT controllers. Thanks to active cooling and intelligent thermal management cooling, both FLEXmax charge controllers can operate at their full maximum current rating, 60 Amps or 80 Amps respectively, in ambient temperatures as high as 104°F (40°C).

Included in all of the FLEXmax Charge Controllers are the revolutionary features first developed by OutBack Power, including support for a wide range of nominal battery voltages and the ability to step down a higher-voltage solar

array to recharge a lower-voltage battery bank. A built-in, backlit 80 character display shows the current status and logged system performance data for the last 128 days at the touch of a button. The integrated OutBack Power network communications allow FLEXmax series charge controllers to be remotely programmed and monitored using the MATE family of system displays and provide unrivaled complete system integration.

FLEXmax MPPT charge controllers are the only choice when you demand a high performance, efficient and versatile charge controller for your advanced power system.

**OutBack  
POWER™**  
member of The Alpha Group™

[www.outbackpower.com](http://www.outbackpower.com)

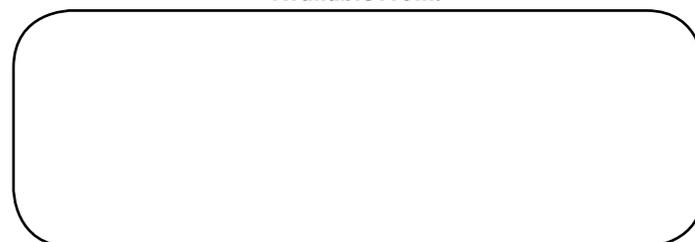
# FLEXmax™ Specifications

## FLEXmax 80 - FM80-150VDC

## FLEXmax 60 - FM60-150VDC

<b>Nominal Battery Voltages</b>	12, 24, 36, 48, or 60 VDC (selectable using field programming at start-up)	
<b>Maximum Output Current</b>	80 Amps @ 104°F (40°C) with adjustable current limit	60 Amps @ 104°F (40°C) with adjustable current limit
<b>Maximum Solar Array STC Nameplate</b>	12 VDC systems 1250 Watts / 24 VDC systems 2500 Watts / 48 VDC systems 5000 Watts / 60 VDC Systems 6250 Watts	12 VDC systems 900 Watts / 24 VDC systems 1800 Watts / 48 VDC systems 3600 Watts / 60 VDC Systems 4500 Watts
<b>NEC Recommended Solar Array STC Nameplate</b>	12 VDC systems 1000 Watts / 24 VDC systems 2000 Watts / 48 VDC systems 4000 Watts / 60 VDC Systems 5000 Watts	12 VDC systems 750 Watts / 24 VDC systems 1500 Watts / 48 VDC systems 3000 Watts / 60 VDC Systems 3750 Watts
<b>PV Open Circuit Voltage (VOC)</b>	150 VDC absolute maximum coldest conditions / 145 VDC start-up and operating maximum	
<b>Standby Power Consumption</b>	Less than 1 Watt typical	Less than 1 Watt typical
<b>Power Conversion Efficiency</b>	97.5% @ 80 Amps in a 48 VDC System - Typical	98.1% @ 60 Amps in a 48 VDC System - Typical
<b>Charging Regulation</b>	Five Stages: Bulk, Absorption, Float, Silent and Equalization	
<b>Voltage Regulation Set points</b>	13 to 80 VDC user adjustable with password protection	
<b>Equalization Charging</b>	Programmable voltage setpoint and duration - automatic termination when completed	
<b>Battery Temperature Compensation</b>	Automatic with optional RTS installed / 5.0 mV per °C per 2V battery cell	
<b>Voltage Step-Down Capability</b>	Down convert from any acceptable array voltage (150 VDC max.) to any battery voltage	
<b>Programmable Auxiliary Control Output</b>	12 VDC output signal which can be programmed for different control applications (maximum of 0.2 Amps DC)	
<b>Status Display</b>	3.1" (8 cm) backlit LCD screen - 4 lines with 80 alphanumeric characters total	
<b>Remote Display and Controller</b>	Optional MATE3, MATE or MATE2 with RS232 Serial Communications Port	
<b>Network Cabling</b>	Proprietary network system using RJ-45 Modular Connectors with CAT 5 Cable (8 wires)	
<b>Data Logging</b>	Last 128 days of operation: Maximum Battery Voltage, Minimum Battery Voltage, Time in Float, Time in Absorb, Peak Amps, Peak Watts, Daily High Solar Array Voltage, Peak Solar Array Voltage, Total Accumulated Amp Hours, Total Accumulated DC Watt Hours, Total Accumulated AC Watt Hours	
<b>Positive Ground Applications</b>	Requires double-pole breakers for switching both positive and negative conductors on both solar array and battery connections	
<b>Operating Temperature Range</b>	-40 to 60°C (power automatically derated above 40°C)	
<b>Environmental Rating</b>	Indoor Type 1	Indoor Type 1
<b>Conduit Knockouts</b>	One 1" (35 mm) on the back; one 1" (35 mm) on the left side; two 1" (35 mm) on the bottom	
<b>Warranty</b>	Standard 5 year / Available 10 Year	
<b>Weight</b>	<b>Unit</b>	12.20 lbs (5.56 kg)
	<b>Shipping</b>	15.50 lbs (7.03 kg)
<b>Dimensions (H x W x D)</b>	<b>Unit</b>	16.25 x 5.75 x 4.5" (41.3 x 14 x 10 cm)
	<b>Shipping</b>	21 x 10.5 x 10.5" (53 x 27 x 27 cm)
<b>Options</b>	Remote Temperature Sensor (RTS), HUB4, HUB10, MATE, MATE2, MATE3	Remote Temperature Sensor (RTS), HUB4, HUB10, MATE, MATE2, MATE3
<b>Menu Languages</b>	English & Spanish	English & Spanish
<b>Certifications</b>	ETL Listed to UL1741, CSA C22.2 No. 107.1	ETL Listed to UL1741, CSA C22.2 No. 107.1

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