



# 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 Temperature up to 104°F (40°C)
- Battery Voltages from 12 to 60 VDC
- Fully OutBack Network Integrated and Programmable
- Programmable Auxiliary Control Output
- Built-in 128 Days of Data Logging
- Standard 5 Year Warranty



**FLEXmax 80**



**FLEXmax 60**



The FLEXmax family of charge controllers is the industry leading innovation in Maximum Power Point (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 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.

# FLEXmax™ Specifications

	☑ FLEXmax 80 - FM80-150VDC	☑ FLEXmax 60 - FM60-150VDC
<b>Nominal Battery Voltages</b>	12, 24, 36, 48, or 60 VDC (Single model - selectable via field programming at start-up)	
<b>Maximum Output Current</b>	80A @ 104°F (40°C) with adjustable current limit	60A @ 104°F (40°C) with adjustable current limit
<b>NEC Recommended Solar Maximum 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	
<b>Power Conversion Efficiency</b>	97.5% @ 80 Amps DC in a 48 VDC System - Typical	98.1% @ 60 Amps DC 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 to any battery voltage. Example: 72 VDC array to 24 VDC battery; 60 VDC array to 48 VDC battery	
<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 CAT5 Cable (8 wires)	
<b>Data Logging</b>	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, Accumulated Amp Hours, and kW Hours of production	
<b>Operating Temperature Range</b>	-40 to 60°C (power automatically derated above 40°C)	
<b>Environmental Rating</b>	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)	11.65 lbs (5.3 kg)
	<b>Shipping</b> 15.5 lbs (7.3 kg)	14.90 lbs (6.7 kg)
<b>Dimensions (HxWxD)</b>	<b>Unit</b> 16.25 x 5.75 x 4.5" (41.3 x 14.6 x 11.4 cm)	13.75 x 5.75 x 4.5" (35 x 14.6 x 11.4 cm)
	<b>Shipping</b> 19 x 9.5 x 8.5" (48.3 x 24.1 x 21.6 cm)	17 x 9.5 x 8.5" (43.2 x 24.1 x 21.6 cm)
<b>Options</b>	Remote Temperature Sensor (RTS), HUB4, HUB10, MATE, MATE2, MATE3	
<b>Menu Languages</b>	English & Spanish	
<b>Certifications</b>	ETL Listed to UL1741, CSA C22.2 No. 107.1	

## Available From:



**Corporate Office:**  
17825 59th Ave. NE, Suite B  
Arlington, WA 98223 USA  
Phone: +1 360 435 6030  
Fax: +1 360 435 6019

**European Office:**  
Hansastrasse 8  
D-91126  
Schwabach, Germany  
Phone: +49 9122 79889 0  
Fax: +49 9122 79889 21

**Asia Office:**  
Suite 1903, Tower 1, China Hong Kong City  
33 Canton Road, Kowloon  
Hong Kong  
Phone: +852 2736 8663  
Fax: +852 2199 7988

**Latin American Office:**  
15105 Cedar Bluff Pl.  
Wellington, FL 33414 USA  
Phone: +1 561 792 9651  
Fax: +1 561 792 7157