



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

FLEXmax™ Specifications

FLEXmax 80 - FM80-150VDC

FLEXmax 60 - FM60-150VDC

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

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