

The FLEXmax family of charge controllers is the latest innovation in Maximum Power Point Tracking (MPPT) charge controllers from OutBack Power Technologies. 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 network communications allows FLEXmax Series Charge Controllers to be remotely programmed and monitored via a MATE system display and provides 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 80

FLEXmax 60

FLEXmax™ Specifications

Nominal Battery Voltages	12, 24, 36, 48, or 60 VDC (Single model - selectable via field programming at start-up)		
Maximum Output Current	60 amps @ 104° F (40°C) with adjustable current limit / 80 amps @ 104° F (40°C) with adjustable current limit		
Maximum Solar Array STC Nameplate	FLEXmax 60	12 VDC systems 900 Watts / 24 VDC systems 1800 Watts / 48 VDC systems 3600 Watts / 60 VDC systems 4500 Watts	
	FLEXmax 80	12 VDC systems 1250 Watts / 24 VDC systems 2500 Watts / 48 VDC systems 5000 Watts / 60 VDC systems 6250 Watts	
NEC Recommended Solar Array STC Nameplate	FLEXmax 60	12 VDC systems 750 Watts / 24 VDC systems 1500 Watts / 48 VDC systems 3000 Watts / 60 VDC systems 3750 Watts	
	FLEXmax 80	12 VDC systems 1000 Watts / 24 VDC systems 2000 Watts / 48 VDC systems 4000 Watts / 60 VDC systems 5000 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		
Power Conversion Efficiency - Typical	FLEXmax 60	98.1% @ 60 amps in a 48 VDC System	
	FLEXmax 80	97.5% @ 80 amps in a 48 VDC System	
Charging Regulation	Four Stages: Bulk, Absorption, Float, and Equalization		
Voltage Regulation Set points	10 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	Can charge a lower voltage battery from a higher voltage PV array - Max 150 VDC input		
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 Mate or Mate2 with RS232 Serial Communications Port		
Network Cabling	Proprietary network system using RJ 45 Modular Connectors with CAT 5e Cable (8 wires)		
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 Applications	Requires two Pole Breakers for switching both positive and Negative Conductors on both Solar Array and Battery Connections (HUB-4 and HUB-10 can not be used in positive ground applications)		
Operating Temperature Range	Minimum -40° to maximum 60° C (Power capacity of the controller is automatically derated when operated above 40° C)		
Environmental Rating	Indoor Type 1 (IP 30)		
Conduit Knockouts	One 1" (35mm) on the back; One 1" (35mm) on the left side; Two 1" (35mm) on the bottom		
Warranty	Standard 5 year		
Weight	Unit	FLEXmax 80	12.20 lbs (5.56 kg)
	Shipping		15.5 lbs (7.03 kg)
		FLEXmax 60	11.65 lbs (5.3 kg)
			14.9 lbs (6.7 kg)
Dimensions	Unit (H x W x D)	FLEXmax 80	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)
		FLEXmax 60	13.75 x 5.75 x 4.5" (40 x 14 x 10 cm)
			18 x 11 x 8" (46 x 30 x 20 cm)
Options	Remote Temperature Sensor (RTS), HUB 4, HUB 10, MATE, MATE 2		
Menu Languages	English & Spanish		

• Specifications subject to change without notice. Use appropriate wire size in accordance with NEC.