

FLEXmax™ 80

Continuous Maximum Power Point Tracking Charge Controller

OutBack
Power Systems™



Increases PV Array Output
by up to 30%

Advanced Continuous
Maximum Power Point
Tracking Algorithm

Full Output Capacity
in Ambient Temperatures
up to 104°F (40°C)

Battery Voltages from
12 VDC to 60 VDC

Automatic Battery Voltage
Detection at Start Up

Fully OutBack Network
Integrated and Programmable

Programmable Auxiliary
Control Output

Negative or Positive
Ground System Capable

Built-in 128 days of Data
Logging

The FLEXmax 80 is the latest innovation in Maximum Power Point Tracking (MPPT) charge controllers from OutBack Power Systems. The FLEXmax 80's innovative MPPT algorithm is both continuous and active, increasing your renewable energy yield up to 30%. Thanks to enhanced cooling, the FLEXmax 80 can operate at its full 80 amp maximum current rating in ambient temperatures as high as 104°F (40°C).

Included in the FLEXmax 80 are all of the features first developed by OutBack Power in the revolutionary MX60, such as support for a wide range of nominal battery voltages and the ability to step-down a high voltage solar array to recharge a low voltage battery. A built-in backlit display shows status information at the touch of a button. Enhanced network communications allow the FLEXmax 80 to be remotely programmed via the optional MATE system display and controller.

The new FLEXmax 80 is the only choice when you demand a high performance, efficient and customizable charge controller for your advanced power system.

FLEXmax 80 Specifications

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|---|---|
| Nominal Battery Voltages | 12, 24, 36, 48, or 60 VDC (Single model - selectable via field programming at start-up) |
| Maximum Output Current | 80 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 7500 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 |
| 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 | 97.5% @ 80 Amps in a 48 VDC System - Typical |
| Charging Regulation | Five Stages: Bulk, Absorption, Float, Silent 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 Cabeling | 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 |
| Hydro Turbine Applications | Consult factory for approved Turbines |
| 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 for use 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 |
| 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 | 12.20 lbs (5.56 kg) |
| - Shipping | 15.75 lbs (7.10 kg) |
| Dimensions - Unit | 16.25" x 5.75" x 4" (41.3 x 14 x 10 cm) - (H x W x D) |
| - Shipping | 21" x 10.5" x 9.75" (53 x 27 x 25 cm) |
| Options | Remote Temperature Sensor (RTS), HUB 4, HUB 10, MATE, MATE 2 |
| Menu Languages | English & Spanish |

* Specifications subject to change without notice.



Corporate Office:
19009 62nd Avenue NE
Arlington, WA 98223 USA
Phone: (360) 435.6030
Fax: (360) 435.6019

European Office:
Barcelona, ESPAÑA
Phone: (+34) 600.843.845

www.outbackpower.com

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