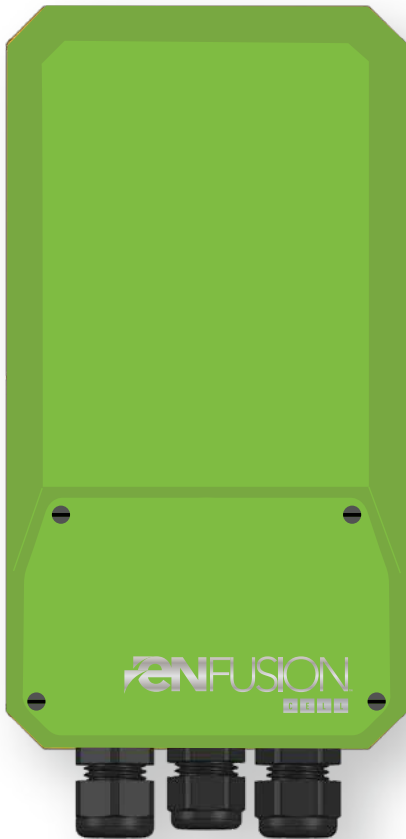




# Cell 2000 Single/3-Phase Solar AC Motor Controller

*One device that integrates  
multiple functions with  
automatic control.*



One easy-to-install, universal controller can power motors, pumps, compressors or other inductive loads regardless of whether it is single or three-phase AC, 50 or 60Hz, 120 or 230Vac. Power any  $\frac{3}{4}$  1 HP motor single-phase, and up to 1 $\frac{1}{2}$  HP three-phase.

Designed to handle remote off-grid installations, the weatherproof, all-aluminum chassis is IP66 rated for harsh outdoor environments and can operate in high temperatures, humidity and corrosive environments.

ENFusion engineers have improved on the functions and features of traditional solar controllers to run inductive loads (motors) by replacing old electromagnetic designs with high voltage silicon components that are intelligently controlled by patented adaptive firmware. One small device now integrates the functions of an inverter, VFD, MPPT controller, phase initiator and voltage boost with automatic control.

The Cell supports up to 2 digital inputs allowing for a variety of sophisticated installation scenarios.

- Run installed or new AC motor/pump/compressor with free solar power
- Universal controller for  $\frac{3}{4}$  1 $\frac{1}{2}$  HP motors single/three-phase, 50/60Hz, 120V/240Vac
- Smart technology that is easy to use and can provide significant cost savings
- Small sized box, simple hook up, weatherproof, durable and automatic starting capacity
- Maximize solar panel efficiency, allow for fewer panels to supply the needed power
- Changes a 1 or 2 speed motor/pump into a soft start, VFD (Variable Frequency Drive)
- VFD will run motors even at low solar output extending the useful operating time
- Solar Projects can qualify for Tax Credits, Grants or other State and Local Rebates
- WiFi communication/control modules available as optional accessories
- Patented and made in the USA



## TYPICAL APPLICATIONS

- Crop irrigation
- Livestock watering
- Pool pumping & recirculation systems
- Lake and pond aeration & fountains
- Aquaculture and de-icing
- Solar hot water heating & recirculation
- Salt water/residual h2O evaporation
- Village & residential drinking water

## OPTIONAL ACCESSORIES

- Float switches for well pumps and tank overflow
- SolSwitch manual transfer switch for generator or grid alternate AC power source
- Analog sensors adapter board
- Communication module with web services
- Pumps
- Solar PV panels and racks
- DC Rated Disconnects
- Village & residential drinking water

\* Cell 2000 installation requires DC

\* 2 Wire surface motors with starting capacitors require Accessory Power Cable retrofit, available from ENFusion.

## SOLAR ARRAY CONFIGURATOR

Service Factor Nominal Pump Current			Recommended Solar Pv Capacity		
1-ph; 120Vac (Amps)	1-ph; 230Vac (Amps)	3-ph; 230Vac (Amps)	Recommended PV Power Capacity (Watts)	Minimum Solar MPP Voltage (min Vmpp)	Absolute Maximum Open Circuit Voltage (max Voc)
4-6	2-4	2-3	750-1000	80/120*	400
6-8	4-5	3-4	1000-1500	100/150*	400
8-10	5-6	4-5	1500-2000	150	400
-	6-8	5-6	2000-2500	200	400

\* Higher min Vmpp voltage is for 230Vac rated motor loads

This chart acts as a general guideline for solar sizing for common U.S. Motor Manufacturers.

Please contact ENFusion for your specific application as solar sizing varies based on location and duty cycle.

## Technical Specifications

### ELECTRICAL

- Solar PV operating voltage range: **100-380V**
- Max PV panels open circuit voltage: **400V**
- Solar PV rated current per channel: **12A**
- Single-phase max AC motor power: **8A**
- Three-phase max AC motor power: **6A**

### MECHANICAL

- Degree of protection: **NEMA4/IP66**
- Enclosure material: **Aluminum**
- Operating temperature: **40°C to 50°C**
- Dimensions: **10"x5.5"x4"**
- Solar terminal: **AWG#10-14**
- Motor terminal: **AWG#10-14**
- Sensor terminal: **AWG#14-122**
- Cooling: **Passive/no fan**

Over current, over voltage and over temperature protections. Optional: WiFi communication module

**ENVIRONMENTAL** Compliance with IEC 60068:

IEC 60068-2-2 – Cold

IEC 60068-2-14 – Change of temperature

IEC 60068-2-2 – Dry Heat

IEC 60068-2-30 – Damp Heat

High voltage silicon components intelligently control the patented adaptive firmware.