



# Universal Solar Pump Controllers

## USPC-5000

### Applications

The AeroVironment® Universal Solar Pump Controller (USPC) is a versatile, high performance variable speed motor controller for solar-powered pumping applications using pumps from 1/3 HP to 5 HP. The USPC-5000 delivers up to 5000 watts (5 kW) of maximum sustained power. Possible applications include:

- Livestock Watering
- Supplying Water to Villages
- Irrigation & More!

### Versatility

The USPC-5000 will power ANY standard three phase or three wire single phase pump motor, allowing for the flexibility of using locally made, less costly and more serviceable pumps.

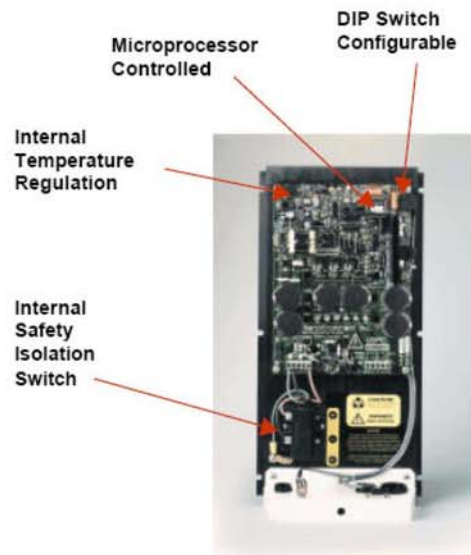
The USPC-5000 can be powered by ANY photovoltaic technology, including single or poly-crystalline silicon and thin-film arrays.

### Performance

A power conversion efficiency of 97% peak-power tracking and variable speed operations maximizes your system performance to get the most water from your installation.

### Standard Features

- Fault Detection and LED Display
- System Protection
  - Dry Well
  - Output Overload
  - Over Voltage
  - Over Temperature
- No Starting Box Required
- Selectable Minimum Speed
- Selectable Maximum Speed
- Local Monitoring
- Rugged Construction
- Lockable NEMA 3 Enclosure
- Float Switch Compatible
- Two-Year Standard Warranty



*Call today for product pricing & delivery!*

Sales: info@solar-sc.de  
 Phone: +49-40-300 949 14  
 Fax: +49-40-300 949 13

Janzir Solar S&C e.K.  
 Alter Postweg 66  
 21075 Hamburg, Germany

www.solar-sc.de



<b>Input</b>	Max PV Array Voc	600 VDC		
	Max PV Array Isc	20 Amps		
	PV Array Optimal Voltage (for 60 Hz operations)	210 VDC (115 VAC motors) 385 VDC (230 VAC 3ph motors) 395 VDC (230 VAC 1ph motors)		
<b>Output</b>	Power Max Sustained	5.0 kW (5000 watts)		
	Rating Motor/VAC	<u>HP</u>	<u>1ph</u>	<u>3ph</u>
		0.33	115, 208, 230	208, 230
		0.50	115, 208, 230	208, 230
		0.75	115, 208, 230	208, 230
		1.00	208, 230	208, 230
		1.50	208, 230	208, 230
		2.00	208, 230	208, 230
		3.00	-	208, 230
		5.00	-	208, 230
		Max Current	24 Amps RMS	
	Selectable Min Speeds	10, 20, 30 or 40 Hz		
	Nominal Motor Speeds	50 or 60 Hz		
	Selectable Speed Increase	+5 Hz		
	Waveform	PWM Sine-Wave		
<b>Efficiency</b>	97% at full power, 3ph			
	95% at full power, 1ph			
<b>Noise</b>	No audible noise			
<b>Environmental</b>	Ambient Temperature	-20 to +60°C		
	Vibration/Humidity/Corrosion	MIL-STD 883, MIL-STD 202F		
<b>Unit Dimensions</b>	18" x 9" x 6" (46cm x 23cm x 16cm)			
<b>Shipping Dimensions</b>	20" x 12" x 10" (51cm x 31cm x 26cm)			
<b>Weight</b>	17 lbs (8 kg)			
<b>Pump Motors</b>	Any three phase induction motor 208-230V, 50 or 60 Hz Any single phase 3-wire induction motor 115 or 230V, 50 or 60 Hz (USPC powers start winding) No starter box required (USPC provides start circuit and over current/temperature protection)			
<b>Normal Operation Modes</b>	Peak power tracking, variable speed operation at constant V/Hz Fault detection and system monitoring System protection Internal temperature regulation			
<b>Fault Detection Modes</b> <i>(Externally Displayed)</i>	System Disabled	Switch OFF or reset mode		
	System Fault	Module overcurrent, overtemperature or system problem		
	Remote Shutdown	Remote switch open		
	Low Input Power	Insufficient solar power		
	Output Underload	Dry well, disconnected or bad motor		
	Output Overload	Locked/fouled rotor, electrical short		
<b>Protection Modes</b>	Overtemperature	Internal temperature regulated and power device protected		
	Overcurrent	Max current regulation and power device protected		
	Input Overvoltage	Clamping circuit protection		
	Installation	Reverse polarity DC connection and output short circuit		
<b>Local Data Monitoring</b>	System status, faults, DC volts current power, frequency, temperature <i>(via RS-232 port)</i>			
<b>Construction</b>	Rugged, lockable NEMA 3 steel enclosure			
<b>Serviceability</b>	Easy field replacement for upgrade/service of parts and software			
<b>Maintenance</b>	Virtually no maintenance required (periodic obstruction clearing from the heat sink is recommended)			

**Sales:** info@solar-sc.de  
**Phone:** +49-40-300 949 14  
**Fax:** +49-40-300 949 13

**Janzir Solar S&C e.K.**  
**Alter Postweg 66**  
**21075 Hamburg, Germany**

**www.solar-sc.de**