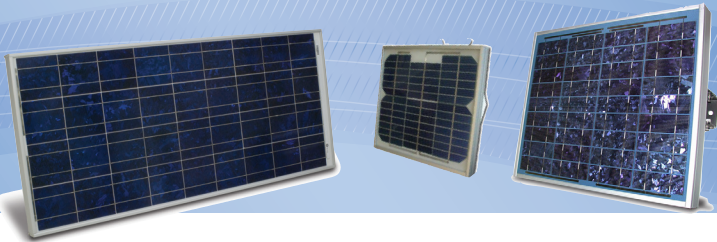




# SOLAR PANELS

Photovoltaic power for recharging batteries

*Rugged, Reliable, and Ready for any Application*



Solar panels are photovoltaic power sources capable of recharging batteries. The minimum battery size and solar panel output required depends on:

- The average current drain of the system
- The maximum time the battery must supply power to the system without being charged
- The average current drain of the system the location of the site

Solar panel characteristics assume 1 kW m<sup>2</sup> illumination and 25°C solar panel temperature. Individual panels may vary up to 10%. The output panel voltage increases as the panel temperature decreases. All solar panels are shipped with hardware for mounting to a tripod or tower.

For more information, refer to our Power Supplies brochure, or application note, or contact a Campbell Scientific Application Engineer.

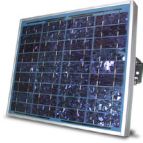
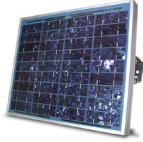
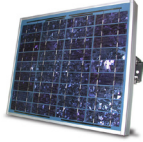
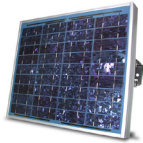
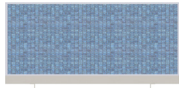

## MAJOR SPECIFICATIONS

	<i>Cable Description</i>	<i>Compatible Regulator</i>	<i>Compatible Batteries</i>	<i>Max. Power</i>	<i>Current at Peak</i>	<i>Voltage at Peak Power</i>	<i>Size</i>
<b>SP5</b>   5 W Solar Panel For ENC200 and TurfWeather Stations	 Length 0.9 m (3 ft) Termination Connector for the ENC200	Regulator built in the ENC200	pn 16869, 12 Vdc, 0.8 A h battery	4.5 W	0.27 A	16.5 V	Dimensions 25.1 x 26.9 x 2.3 cm (9.9 x 10.6 x 0.9 in) Weight 0.9 kg (2 lb)
<b>SP5-L</b>   5 W Solar Panel For CR200X-Series Dataloggers	 Length user specified Termination Pigtails that attach to the CR200X	Regulator built in the CR200X	pn 17365, 12 Vdc, 7 A h battery or other 12 V Gel Cell or AGM lead acid batteries <sup>a</sup>	4.5 W	0.27 A	16.5 V	Dimensions 25.1 x 26.9 x 2.3 cm (9.9 x 10.6 x 0.9 in) Weight 0.9 kg (2 lb)
<b>SP10</b>   10 W Solar Panel Supports tropical to temperate latitudes	 Length 4.6 m (15 ft) Termination Pigtails that attach to the power supply, regulator, or battery base	CH100, CH200, or regulator built in the PS100, PS200, or CR3000	12 V Gel Cell or AGM lead acid batteries <sup>a</sup> such as the batteries used with the PS100, PS200, BP12, BP24, and CR3000	10 W	0.59 A	16.8 V	Dimensions 41.9 x 26.9 x 2.3 cm (16.5 x 10.6 x 0.9 in) Weight 2.1 kg (4.5 lb)
<b>SP10-PW</b>   10 W Solar Panel for PWENC Supports tropical to temperate latitudes	 Length 4.6 m (15 ft) Termination Connector for a prewired enclosure.	CH100, CH200, or regulator built in the PS100, PS200, or CR3000	12 V Gel Cell or AGM lead acid batteries <sup>a</sup> such as the batteries used with the PS100, PS200, BP12, BP24, and CR3000	10 W	0.59 A	16.8 V	Dimensions 41.9 x 26.9 x 2.3 cm (16.5 x 10.6 x 0.9 in) Weight 2.1 kg (4.5 lb)
<b>SP10R<sup>b</sup></b>   10 W Solar Panel with Onboard Regulator Supports tropical to temperate latitudes	 Length 6.1 m (20 ft) Termination Pigtails that attach to the battery	N/A (solar panel includes onboard regulator)	User-supplied flooded, 12 Vdc batteries such as deep-cycle marine or RV batteries	10 W	0.59 A	16.8 V	Dimensions 41.9 x 26.9 x 2.3 cm (16.5 x 10.6 x 0.9 in) Weight 3.0 kg (6.9 lb)
<b>SP10R-PW<sup>b</sup></b>   10 W Solar Panel with Onboard Regulator for PWENC Supports tropical to temperate latitudes	 Length 6.1 m (20 ft) Termination Connector for a prewired enclosure	N/A (solar panel includes onboard regulator)	User-supplied flooded, 12 Vdc batteries such as deep-cycle marine or RV batteries	10 W	0.59 A	16.8 V	Dimensions 41.9 x 26.9 x 2.3 cm (16.5 x 10.6 x 0.9 in) Weight 3.0 kg (6.9 lb)

More info: 435.227.9000

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		<i>Cable Description</i>	<i>Compatible Regulator</i>	<i>Compatible Batteries</i>	<i>Max. Power</i>	<i>Current at Peak</i>	<i>Voltage at Peak Power</i>	<i>Size</i>
<b>SP20</b>   20 W Solar Panel Supports higher elevation and latitude locations 	<u>Length</u> 4.6 m (15 ft) <u>Termination</u> Pigtails that attach to the power supply, regulator, or battery base	CH100, CH200, or regulator built in the PS100, PS200, or CR3000	12 V Gel Cell or AGM lead acid batteries <sup>a</sup> such as the batteries used with the PS100, PS200, BP12, BP24, and CR3000	20 W	1.19 A	16.8 V	<u>Dimensions</u> 50 x 42.2 x 5.1 cm (19.7 x 16.6 x 2 in) <u>Weight</u> 4.4 kg (9.6 lb)	
<b>SP20-PW</b>   20 W Solar Panel for PWENC Supports higher elevations and latitudes 	<u>Length</u> 4.6 m (15 ft) <u>Termination</u> Connector for a prewired enclosure	CH100, CH200, or regulator built in the PS100, PS200, or CR3000	12 V Gel Cell or AGM lead acid batteries <sup>a</sup> such as the batteries used with the PS100, PS200, BP12, BP24, and CR3000	20 W	1.19 A	16.8 V	<u>Dimensions</u> 50 x 42.2 x 5.1 cm (19.7 x 16.6 x 2 in) <u>Weight</u> 4.4 kg (9.6 lb)	
<b>SP20R<sup>b</sup></b>   20 W Solar Panel with Onboard Regulator Supports higher elevations and latitudes 	<u>Length</u> 6.1 m (20 ft) <u>Termination</u> Pigtails that attach to the battery	N/A (solar panel includes onboard regulator)	User-supplied flooded, 12 Vdc batteries such as deep-cycle marine or RV batteries	20 W	1.19 A	16.8 V	<u>Dimensions</u> 50 x 42.2 x 5.1 cm (19.7 x 16.6 x 2 in) <u>Weight</u> 6.2 kg (13.6 lb)	
<b>SP20R-PW<sup>b</sup></b>   20 W Solar Panel with Onboard Regulator for PWENC Supports higher elevations and latitudes 	<u>Length</u> 6.1 m (20 ft) <u>Termination</u> Connector for the prewired enclosure	N/A (solar panel includes onboard regulator)	User-supplied flooded, 12 Vdc batteries such as deep-cycle marine or RV batteries	20 W	1.19 A	16.8 V	<u>Dimensions</u> 50 x 42.2 x 5.1 cm (19.7 x 16.6 x 2 in) <u>Weight</u> 6.2 kg (13.6 lb)	
<b>SP50-L</b>   50 W Solar Panel Powers Remote Systems 	<u>Length</u> user specified <u>Termination</u> Spade lugs or prewired connector	CH200 or 18529 Morning Star SunSaver	EnerSys Genesis NP Series (such as the PS200, BP12 BP24), EnerSys Cyclone Series, Concorde Sun Xtender Series (such as the BP84 and PS84), or flooded <sup>c</sup>	50 W <sup>d</sup>	2.9 A	17.5 V	<u>Dimensions</u> 83.9 x 53.7 x 5 cm (33 x 21.1 x 2 in) <u>Weight</u> 6 kg (13 lb)	
<b>SP90-L</b>   90 W Solar Panel Powers Remote Systems 	<u>Length</u> user specified <u>Termination</u> Spade lugs or prewired connector	CH200 or 18529 Morning Star SunSaver	EnerSys Genesis NP Series (such as the PS200, BP12 BP24), EnerSys Cyclone Series, Concorde Sun Xtender Series (such as the BP84 and PS84), or flooded <sup>c</sup>	90 W <sup>e</sup>	4.8 A	17.8 V	<u>Dimensions</u> 120.9 x 53.7 x 5 cm (47.6 x 21.1 x 2 in) <u>Weight</u> 7.7 kg (17.0 lb)	

<sup>a</sup>The SP10, SP10-PW, SP20, and SP20-PW are **NOT** intended for user-supplied 12 Vdc flooded batteries such as deep cycle marine or RV batteries.

<sup>b</sup>The SP10R, SP10R-PW, SP20R, and SP20R-PW draw a continuous 2 mA current drain.

<sup>c</sup>The 18529 MorningStar SunSaver Regulator should be used to connect an SP50 or SP90 to a user-supplied, flooded 12 Vdc battery.

<sup>d</sup>The 50 W maximum power for the SP50 assumes one solar panel is used. Two SP50 solar panels can be connected to one 18529 Morning Star SunSaver Regulator to get a maximum power of 100 W.

<sup>e</sup>The 90 W maximum power for the SP90 assumes one solar panel is used. Two SP90 solar panels can be connected to one 18529 Morning Star SunSaver Regulator to get a maximum power of 180 W.