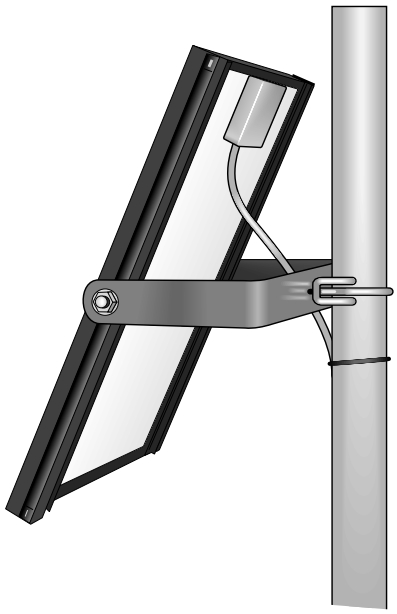
SP-series

Solar Panels

CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

Solar panels are photovoltaic power sources capable of recharging batteries. The minimum battery size and solar panel output required depends on 1) the average current drain of the system, 2) the maximum time the battery must supply power to the system without being charged, and 3) the location of the site. If you need assistance in selecting a solar panel, refer to our Power Supply product literature, application note, or contact a Campbell Scientific Applications Engineer.

Solar panel characteristics assume 1 kW m^{-2} 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 on a tripod or tower.



Solar panels are convenient charging sources for applications where ac power is not available, unreliable, or expensive. The SP10 sources sufficient current for many of our systems.

SP5 5-Watt Solar Panel w/Connectors

- Used only in CR200 applications that have minimal power requirements
- Provides 5 W maximum peak power and 17.1 V at peak
- Includes a 3-ft cable fitted with a connector that mates with the ENC200 enclosure's power connector
- Mounts to a ¾" to 1½" IPS pipe (1" to 2" OD)*
- Dimensions: 9.5" x 10" x 1" (24.1 x 25.4 x 2.5 cm)
- Weight: 2 lbs (0.9 kg)

SP5-L 5-Watt Solar Panel

- Used only in CR200 applications that have minimal power requirements
- Same as the SP5 except its cable terminates in pigtails that attach to the terminal strip on a CR200-series datalogger
- Mounts to a ¾" to 1½" IPS pipe (1" to 2" OD)*
- User-specified cable length

SP10 10-Watt Solar Panel

- Connects to the PS100 Power Supply, CH100 regulator, or the battery base of a CR3000-RC, CR5000-RC, CR7, or CR9000X datalogger
- Provides a 10 W maximum peak power, 9 W guaranteed minimum power, 0.59 A current at peak, and 16.8 V at peak
- Includes a 20-ft cable
- Mounts to a ¾" to 1½" IPS pipe (1" to 2" OD)*
- Dimensions: 16.5" x 10.6" x 0.9" (41.9 x 26.9 x 2.3 cm)
- Weight: 3.3 lbs (1.5 kg)

SP10R Regulated 10-Watt Solar Panel

- Same as the SP10 except it contains an on-board regulator allowing the panel to connect directly to a user-supplied deep-cycle RV battery
- Mounts to a ¾" to 1½" IPS pipe (1" to 2" OD)*
- Draws a continuous 2 mA current drain
- Includes a 20-ft cable with stripped and tinned leads

**Mounting hardware consists of the #17492 U-bolt and matching nuts. The #17492 U-bolt provides a 2.125" (5.398 cm) space between the U-bolt legs.*

SP20 20-Watt Solar Panel

- Connects to the PS100 Power Supply, CH100 regulator, or the battery base of a CR3000-RC, CR5000-RC, CR7, or CR9000X datalogger
- Provides a 20 W maximum peak power, 18 W guaranteed minimum peak power, 1.19 A current at peak, and 16.8 V at peak
- Mounts to a ¾" to 1½" IPS pipe (1" to 2" OD)[1]
- Includes a 20-ft cable
- Dimensions: 19.7" x 16.6" x 2" (50.0 x 42.2 x 5.1 cm)
- Weight: 9.6 lbs (4.4 kg)

SP20R Regulated 20-Watt Solar Panel

- Same as the SP20 except it contains a regulator allowing the panel to connect directly to a user-supplied deep-cycle RV battery
- Mounts to a ¾" to 1½" IPS pipe (1" to 2" OD)[1]
- Draws a continuous 2 mA current drain
- Includes a 20-ft cable with stripped and tinned leads

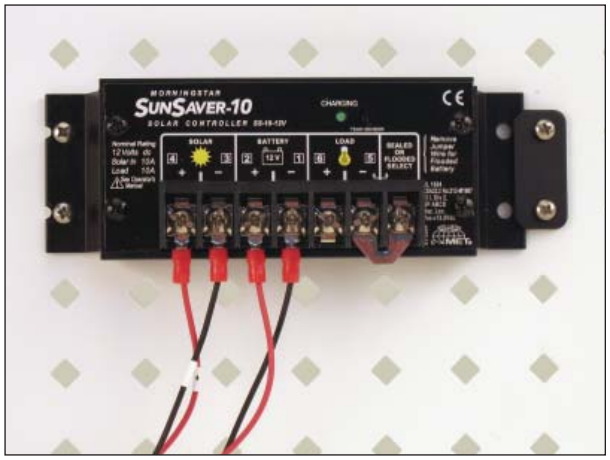
SP70 70-Watt Solar Panel

- Used in CO2 Bowen Ratio, CO2 Eddy Covariance, or other systems that require high-power solar panels
- Connects to the 18529 Morningstar SunSaver SS-10-12V voltage regulator (see below)
- Provides a 70 W peak power, 66.5 W guaranteed minimum peak power, 4.1 A current at peak, and 17.1 V at peak
- Includes a 20-ft cable
- Mounts to a ¾" to 1½" IPS pipe (1" to 2" OD) or the leg of a UT10, UT20, or UT30 tower2
- Allows connection of two SP70 solar panels to one regulator, increasing the peak power to 140 W
- Dimensions: 47.6" x 21.1" x 2" (120.9 x 53.7 x 5 cm)
- Weight: 17.0 lbs (7.7 kg)

18529 Morningstar SunSaver Regulator

- Connects to the SP70 solar panel via spaded lugs
- Includes a 15' cable for connecting the regulator to a user-supplied deep-cycle RV battery
- Dimensions: 6.0" x 2.18" x 1.32" (15.2 x 5.5 x 3.4 cm)
- Must be housed in an environmental enclosure (hardware for mounting to an enclosure backplate is included)
- Draws a continuous current of 6 to 10 mA

The SP70 connects to the SunSaver Regulator, which connects to a user-supplied deep-cycle RV battery. This regulator must be housed in an environmental enclosure.



[1]Mounting hardware for the SP20 and SP20R consists of the #17492 U-bolt and Matching Nuts. The #17492 u-bolt provides a 2.125" (5.398 cm) space between the u-bolt legs.

[2]Mounting hardware for the SP70 includes two sets of u-bolts and nuts. One set contains the #17492 u-bolt that provides a 2.125" (5.398 cm) space between the u-bolt legs. The other set contains the #17446 u-bolt, which is used to attach the solar panel to a tower leg. The #17446 provides a 1.5" (3.8 cm) space between the u-bolt legs.

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