

SPECIALTY LINE

PowerDrive Electric Cart Solar Panel Kits

Thin, lightweight, flexible solar panel with peel-and-stick adhesive backer designed to maintain charge and reduce depth of discharge in electric carts. Reduces costs associated with charging, increases range, extends battery life, and comes complete with all materials for easy self installation.

Wattage:	37
Operating Voltage:	15.4
Unfolded Dimensions:	26.25" x 51.3"



PowerShade™ Solar Field Shelters

Solar field shelters reduce dependence on fuel-fired generators that are noisy and require a constant supply of costly fuel. Used for a variety of purposes, ranging from lighting to ventilation to power for remote bases of operations, disaster relief and communication hubs when grid power is not available.

1kW	Clear Span Dimensions:	22' x 20'	2kW	Clear Span Dimensions:	22' x 40'
	Staked Dimensions:	38' x 36'		Staked Dimensions:	38' x 56'
	Crated Weight:	850 lbs.		Crated Weight:	1566 lbs.



PowerTour RV Solar Panels

PowerTour RV Solar Panels offset all parasitic power loss from smoke or propane detectors, clocks, and other items that drain your battery. Maintains the primary battery, extends battery life, frees you from the need for a direct power source, runs the power jack and activates the power slide without plugging in. Comes complete with an optional installation kit with peel-and-stick adhesive backers.

	RV-15V-2700	RV-15V-3900
Wattage:	42	60
Operating Voltage:	15.4	15.4
Dimensions:	26.14" x 60.81"	26.14" x 86.05"

E&P Solar Panels

The Emergency and Police (E&P) solar module was designed to provide additional power to fleet vehicles. Offsetting the additional power consumption used by radios, chargers, and computers, it is versatile and portable thanks to a magnetic backer for mounting to a variety of vehicles. Comes complete with all connections and wiring. Available exclusively at www.soundoffsignal.com.

Wattage:	30
Operating Voltage:	15.4
Dimensions:	44.8" x 26.3"



190 Watt Solar Quad

The PowerFilm Solar Quad can be used for a wide variety of charging and power purposes for field communication radios, GPS systems, satellite phones, and laptop computers.

Wattage:	190	Stowed Dimensions:	13" (radius) x 19"
Operating Voltage:	15.4	Weight:	17 lbs.
Dimensions Unfolded:	96" x 114"		

Balance-of-system (BOS) equipment is available as an add-on option for both the 190 Watt Solar Quad and the PowerShade™ Solar Field Shelters.

PowerPack +Plus

The PowerFilm solar panel charges the battery pack, which powers the LED fan/light combination to provide you with security and climate control when you need it. Use the PowerPack +Plus in areas lacking a power source such as cabins or caves, or even at home during power outages. In addition, the solar panel can be used for other charging applications – charging your car battery, RV camper and 12 volt battery products.

Wattage:	14
Operating Voltage:	15.4
Dimensions of Solar Panel:	14.5" x 42"



PowerPier Solar Panels

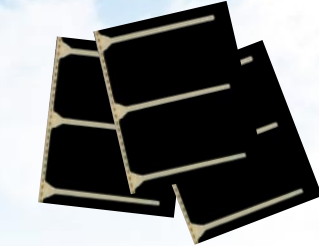
The PowerPier solar panel maintains the charge in your boat lift battery and boat battery. Offsets parasitic power loads, such as hydraulic motors, bilge pumps, sound systems, electronics, and other items that drain your battery, so you are ready to go boating at a moment's notice.

	PP-300	PP-900
Wattage:	5	14
Operating Voltage:	15.4	15.4
Dimensions:	20.5" x 18.5"	40.75" x 18.5"

CUSTOM LINE

PowerFilm is the industry leader in custom OEM solar module solutions. Possessing the most diverse product offerings, PowerFilm has the production agility and engineering expertise to meet client objectives of nearly any capacity. We offer an end-to-end solar module solution, working with clients from conception to development to production, which results in a 100% custom solar module.

- Create an optimized solar solution that matches your exact needs
- Develop innovative and appropriate solar mounting techniques
- Diagnose ideal size and shape based on application as well as solar power and voltage requirements
- Provide consultation and engineering to create the best custom solar solution
- Offer versatility of solar module integration options, including on fabric, adhesive backings, magnetic backings, and many more



With the ability to adjust production characteristics and agile enough to alter direction quickly, PowerFilm is the only company in the solar industry that can offer a fully custom solar module solution with reasonable minimums and costs.



ZC Solar Light Cap photos provided courtesy of ZC Light Company. Learn more at www.solarlightcap.com.

Benefits of Working with PowerFilm

- Quick turns
- 100% custom solutions
- Consultative and collaborative approach (please have power requirements calculated prior to beginning custom solar module manufacturing discussions)
- Variety of power requirements
- Variety of voltage requirements
- Size and shape flexibility
- Best in class integration techniques and technology, from encapsulates to mounting methods
- Engineering expertise and experience
- Low minimums

As the solar industry and the thin, flexible solar panel market rapidly evolve with new and exciting technologies, PowerFilm will continue to be the world leader in creating and manufacturing unique custom solar solutions and OEM applications.



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OEM LINE

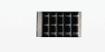


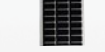
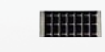



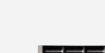



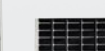
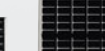
RC Aircraft Solar Module Series

The PowerFilm RC Aircraft Solar Module Series is designed to be easily integrated with remote controlled aircraft.

	RC.2-75 270 mm x 90 mm 7.2V Current: 100 mA		RC.2-75 PSA 270 mm x 90 mm 7.2V Current: 100 mA
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Wireless Electronics Solar Module Series

Modules in the PowerFilm Wireless Electronics Series offer a new opportunity to solve the old problem of limited power for wireless electronics in both portable and remote electronic applications.

	SP3-37 64 mm x 37 mm 3V Current: 22 mA		MP3-25 114 mm x 25 mm 3V Current: 25 mA		MP3-37 114 mm x 37 mm 3V Current: 50 mA		MPT3.6-75 74 mm x 73 mm 3.6V Current: 50 mA		SP4.2-37 84 mm x 37 mm 4.2V Current: 22 mA
	MPT3.6-150 74 mm x 146 mm 3.6V Current: 100 mA		MPT4.8-75 94 mm x 73 mm 4.8V Current: 50 mA		MPT4.8-150 94 mm x 146 mm 4.8V Current: 100 mA		MPT6-75 114 mm x 73 mm 6V Current: 50 mA		MPT6-150 114 mm x 146 mm 6V Current: 100 mA
	MP7.2-75 253 mm x 73 mm 7.2V Current: 100 mA		MP7.2-150 253 mm x 146 mm 7.2V Current: 150 mA		MPT15-75 253 mm x 73 mm 15.4V Current: 50 mA		MPT15-150 253 mm x 146 mm 15.4V Current: 150 mA		

WeatherPro Series

The PowerFilm WeatherPro Series is the perfect choice for permanent outdoor applications that are directly exposed to the elements.

	P7.2-75 270 mm x 100 mm 7.2V Current: 100 mA		P7.2-150 270 mm x 175 mm 7.2V Current: 200 mA		PT15-75 270 mm x 100 mm 15.4V Current: 50 mA		PT15-150 270 mm x 175 mm 15.4V Current: 100 mA		PT15-300 270 mm x 325 mm 15.4V Current: 200 mA
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PRODUCT BROCHURE



KEEP THE POWER ON WITH POWERFILM®



PowerFilm, Inc. is a world-leading developer and manufacturer of thin, flexible solar modules using a proprietary low-cost production process.



weatherproof, marine-grade connections



flexible, shatter-proof solar cells

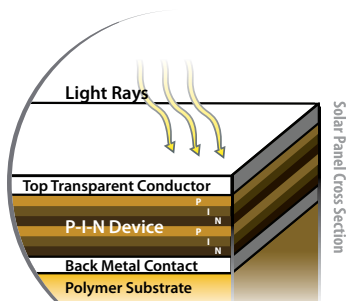
PowerFilm was founded in 1988 by Dr. Frank Jeffrey and Dr. Derrick Grimmer, former 3M research physicists with a combined 65 years of experience in semiconductor and solar energy research and development.

Since 1988, PowerFilm has focused on developing thin film solar module technology through an industrial scale manufacturing process. The result: low-cost solar modules on a high volume basis. Elements of the company's low-cost technology and manufacturing process include the use of:

- A durable, flexible plastic substrate
- Roll-to-roll manufacturing to minimize handling costs
- Amorphous silicon to avoid dependence on the silicon wafer market cycle
- Printed interconnect to automate the cell connection process

The company's primary objective is to supply solar solutions to select portable and remote power applications, custom and OEM solar module markets, and the building integrated market. PowerFilm is in the process of expanding production capacity to meet the rapidly growing demand for solar products in today's alternative power source marketplace.

Contact us today at 800.332.8638 or online at www.powerfilmsolar.com



PowerFilm solar modules have passed the rigors of the Aberdeen Proving Grounds and Mil Standard 810F.



PowerFilm, Inc. has collaborated extensively with the U.S. Military to develop solar solutions for military use. In well over a decade of work with the military, PowerFilm has worked with the Army Research Center at Natick to develop unique and field-ready alternative energy solutions, as well as developed top-secret solar applications for the Special Forces.

The knowledge and high standards gained from collaboration with the military go into all of PowerFilm's solar products.

FOLDABLE LINE

ALL FOLDABLE PRODUCTS ARE AVAILABLE IN THE FOLLOWING FABRICS:



PowerFilm Foldable Solar Chargers come in a wide range of power output configurations and are virtually unlimited in application. Solar chargers of varying capacities are available for charging cell phones, satellite phones, even laptops. PowerFilm Solar chargers have been designed to absorb light even during low light conditions. The panel is able to charge for more hours per day than competing technologies and can resist point damage extremely well, resulting in a charger that still functions, with minimal loss of output, even after being subjected to puncturing.

Includes: RA-2



F15-300N



Wattage:	5
Operating Voltage:	15.4
Folded Dimensions:	3.3" x 10.3" x 1"
Unfolded Dimensions:	10.3" x 24.4"
Size of Electronics:	Small



F15-600



Wattage:	10
Operating Voltage:	15.4
Folded Dimensions:	3.5" x 10.5" x 1.3"
Unfolded Dimensions:	21" x 23.7"
Size of Electronics:	Small - Medium



F15-1200



Wattage:	20
Operating Voltage:	15.4
Folded Dimensions:	6.5" x 11" x 1"
Unfolded Dimensions:	31.7" x 30"
Size of Electronics:	Small - Large



F15-1800



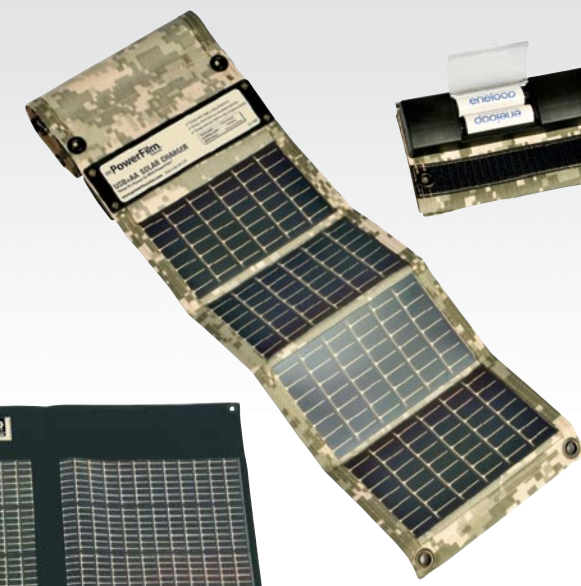
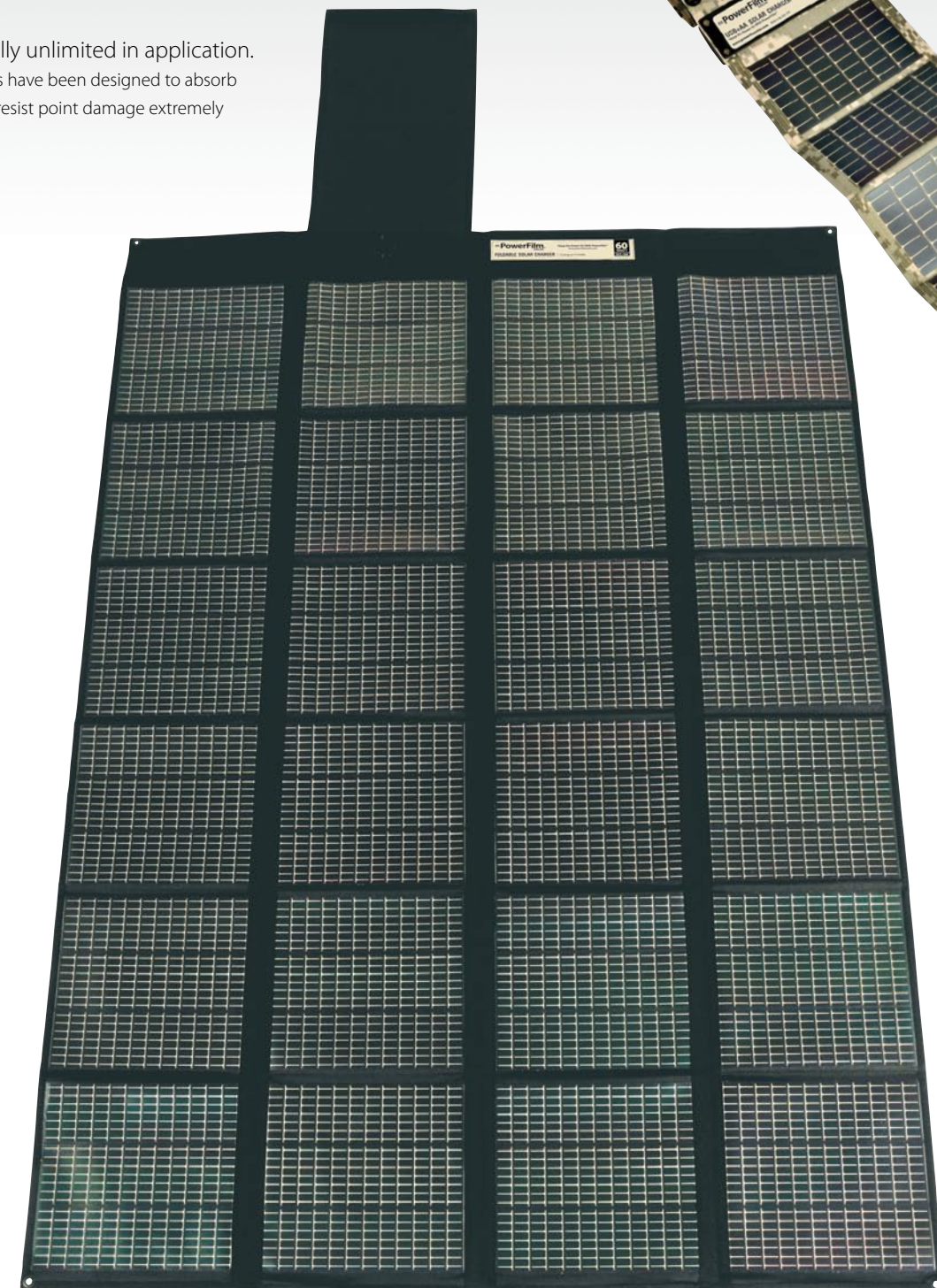
Wattage:	30
Operating Voltage:	15.4
Folded Dimensions:	9.5" x 11" x 1"
Unfolded Dimensions:	31.7" x 41.3"
Size of Electronics:	Small - Large



F15-3600



Wattage:	60
Operating Voltage:	15.4
Folded Dimensions:	9.5" x 11" x 2"
Unfolded Dimensions:	43" x 59"
Size of Electronics:	Small - Large



USB+AA Solar Charger

Go from fully spent to fully charged in just four hours (in direct sun conditions). In addition to battery charging, utilizing the universal USB port and working with two rechargeable batteries allows for direct charging of most small USB devices, like cell phones, smart phones, and iPods.

Wattage:	1.5
Operating Voltage:	3.6
Folded Dimensions:	5.5" x 3.25" x 1.38"
Unfolded Dimensions:	5.5" x 24"
Size of Electronics:	USB devices

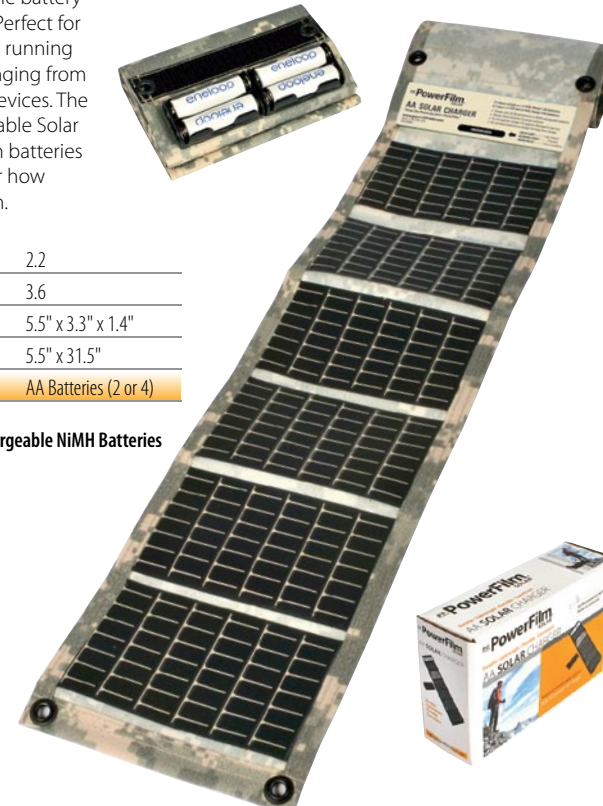
Includes: Two AA Rechargeable NiMH Batteries

AA Solar Charger

Designed to provide a convenient, compact, ultra lightweight, portable battery charging solution. Perfect for all small electronics running on AA batteries, ranging from radios to gaming devices. The PowerFilm AA Foldable Solar Charger keeps fresh batteries available, no matter how remote the location.

Wattage:	2.2
Operating Voltage:	3.6
Folded Dimensions:	5.5" x 3.3" x 1.4"
Unfolded Dimensions:	5.5" x 31.5"
Size of Electronics:	AA Batteries (2 or 4)

Includes: Four AA Rechargeable NiMH Batteries



ROLLABLE LINE



Rollable Chargers (4 sizes available*)

Built with the same solar technology that goes into every PowerFilm solar module, the Rollable Solar Charger line is extremely durable, lightweight, and easily integrated to provide power for a number of charging applications.

- **Performs even in low light** PowerFilm Solar chargers have been designed to absorb light even during low light conditions. The panel is able to charge for more hours per day than competing technologies
- **Waterproof** A perfect solar solution for wet and water-logged environments, PowerFilm Rollable Solar Chargers are fully waterproof and constructed with marine grade connectors to provide a portable solar solution for marine environments
- **Extreme durability** PowerFilm Rollable Solar Chargers resist point damage extremely well, resulting in a charger that still functions, with minimal loss of output, even after being subjected to puncturing (*note: puncturing will affect the ability of the solar panel to repel water*)

Wattage:	7	14	21	28
Operating Voltage:	15.4	15.4	15.4	15.4
Rolled Dimensions:	4" dia. x 14.5"	4" dia. x 14.5"	4" dia. x 14.5"	4" dia. x 14.5"
Unrolled Dimensions:	14.5" x 23"	14.5" x 42"	14.5" x 60.75"	14.5" x 79.75"
Size of Electronics:	Small	Small - Medium	Small - Large	Large

*Rollable "Classic" Models are also available. Visit our website for more information.

www.powerfilmsolar.com

ACCESSORIES



All PowerFilm® authorized accessories include marine-grade components with connectors that match the PowerFilm Series output cord.

RA-1 | 12 Volt Cigarette Lighter Adapter

Never get stranded again. The RA-1 adapter can be used to recharge your vehicle's battery from a PowerFilm solar charger, directly through the 12 volt power port.

RA-2 | 12 Volt Female Cigarette Lighter Adapter

Power your car charger devices without the car. With the RA-2 12 volt cigarette lighter adapter, you can directly charge wireless electronic devices from anywhere you can find sunlight - from the campsite to the worksite.

RA-3c | 12 Volt Battery Charger Pack for AA and AAA

Ensure your batteries are ready when you need them. Charge 1-4 NiCad or NiMH AA or AAA batteries with the RA-3c, one battery at a time or in pairs. Monitor power level with four independent charging indicators. Includes 12 volt cigarette lighter adapter and a USB connection.

RA-4 | 12 Volt Standard Battery Charger Pack (For 10W and larger)

Get more power faster. Charge 2-4 NiCad or NiMH AA, AAA, C or D batteries, or 1-2 9 volt batteries with the RA-4, a fast charger with 800 mA charging current and discharge function. Includes 12 volt cigarette lighter adapter.

RA-6 | Daisy Chain Accessory

Maximize your charging power. The RA-6 allows you to connect several PowerFilm® chargers in parallel for increased current output (amps). By connecting multiple panels, you can achieve a combined output of up to 20 amps.

RA-7 | 15 ft. Extension Cord

Add range to your charging power with the RA-7 extension cord. The extra 15 feet gives you the freedom to keep your device out of the sun, such as inside tents, RVs, boat cabins or buildings. Includes professional marine-grade components ready to attach to your PowerFilm Solar Panel.

RA-8 | 15 ft. Extension Cord with Alligator Clips

Protect yourself from being stuck with a dead battery, thanks to the RA-8 extension cord, which can conveniently connect to a car or boat battery. Includes professional marine-grade components ready to attach to your PowerFilm Solar Panel.

RA-9 | Charge Controller

Regulate your battery charge and protect from overcharging with the RA-9. It features 100% solid state electronics. All power switching is done with MOSFET's - no mechanical relays are used. Rated 4.5 amps @ 12 volts.

RA-11 | 15 ft. Extension Cord with o-ring Battery Terminal Connectors

The perfect solution for semi-permanent battery charging applications. The RA-11 extension cord features ring terminal ends, plus an extra 15 feet of range.



KITS:
ASSURANCE
Battery Charging Components
Includes: RA-6, RA-8, RA-9 and RA-11

ADVENTURE
Outdoor Activity Charging Components
Includes: RA-1, RA-6, and RA-8