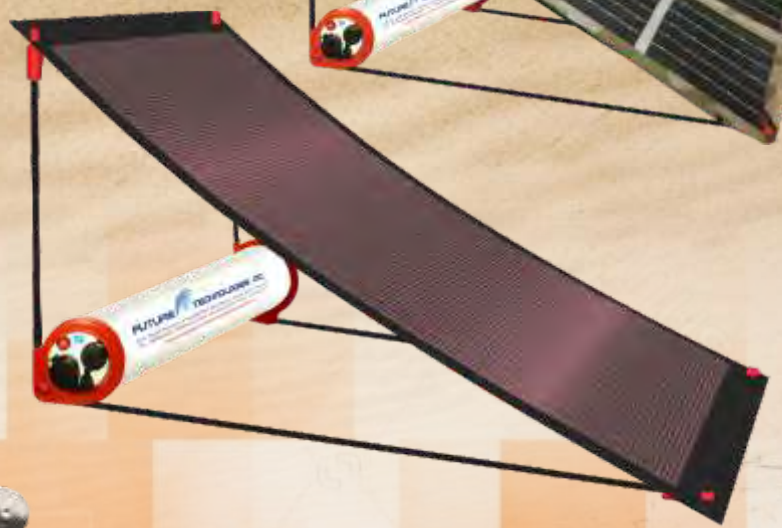
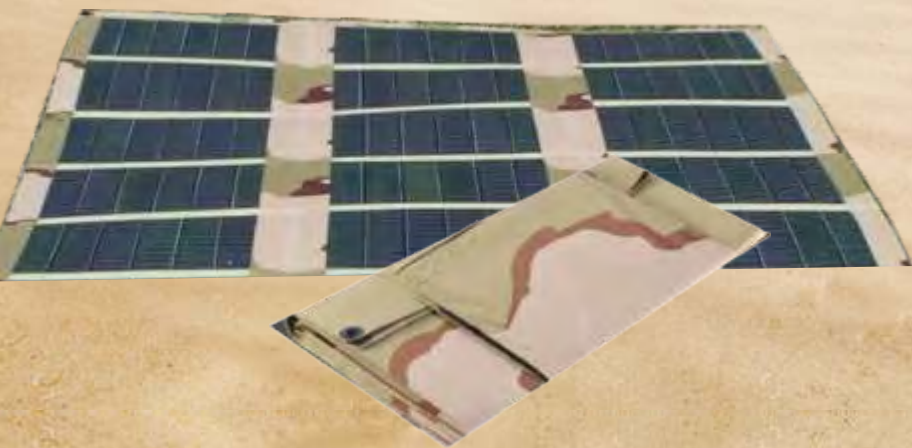


Future PORTABLE SOLAR POWER CHARGERS



*Promise for
continuous power...*

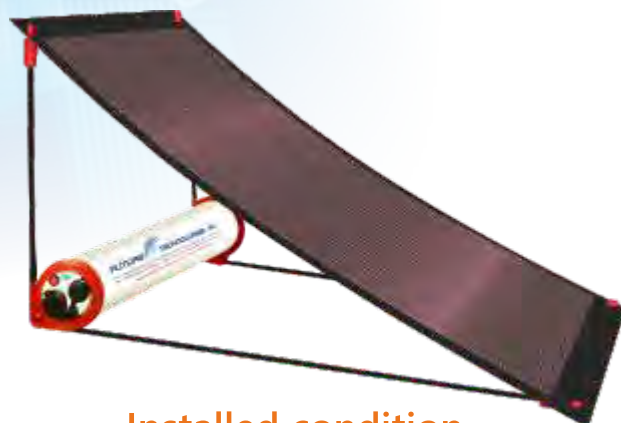
ROLLABLE SOLAR PANEL CHARGER CUM GENERATOR

Future Technologies Inc is an ISO 9001:2008 certified manufacturer of equipments for defence and professional industry.

This equipment is compact, light weight , multi-versatile, durable, portable, rugged, having high-power battery bank with a charge controller interface & multiple connector options. It has integrated solar kit that keeps it light-weight , portable and multiple accessory options to suit different field requirement. Each equipment comes with a rollable, flexible Solar Panel that wraps around it and clips in securely for easy transportability. It can be easily setup within few minutes, just prop up the solar panel with the arms and it's ready to provide power.



In folded condition



Installed condition

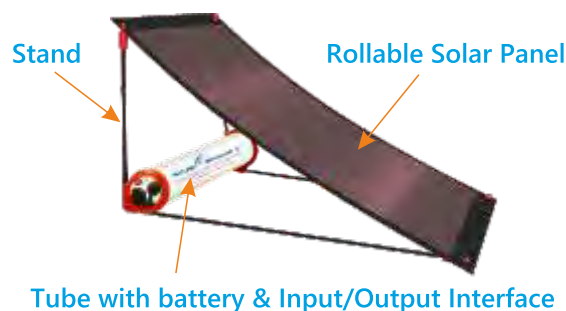
Application

It's a totally autonomous energy source capable of:

- Operating :** Camp Light, Light Bulb, Medical Devices, Pumps, Almost all Electrical & Electronic devices.
- Charging Devices :** Laptop, Radio Sets, GPS, Smartphone, Walki Talki handsets, Mobile & Satellite phones, communication system RS Motorola, HHTI, RS Stars V, RS Tadiran, HX Tadiram, Star VMk-I/II (25W), AA / AAA / 9V cells, flash lights, hsl, almost all Electrical & Electronic device etc.
- Charging Battery Packs :** Charges all kind of Batteries & Battery Packs made of Li-ion, Ni-Cd, Ni-Mh , Lead Acid etc.

Models

Model No.	Battery Capacity	Solar Panel	Weight
Mil-105	12V 6Ah	10 Watt	2.4 Kg
Mil-110	12V 9Ah	20 Watt	3.3 Kgs
Mil-115	12V 10Ah	20 Watt	3.5 Kgs



KEY ADVANTAGES :-

- Devices can be charged during day directly from solar panel.
If devices are not available in day , then battery bank get charged from solar panel and this energy can be used later for charging the devices. Devices presence not compulsory during day.
- Both On- line (direct day charging) and Off-line charging possible . Sun energy is never wasted
- Rain proof . Shock proof equipment , suitable for outdoor use and harsh conditions / usage.
- OEM warranty of devices is not lost as OEM charger is not bye-passed.
- Highest solar cell efficiency achieved as solar panel is always at 30 degree solar angle
- Very Small surface space required for installation & carrying. Easy to set up, by one person in less than 5 minutes
- Rollable Solar panels rolls on the battery bank , so occupies minimum space when in packed condition.
- Suitable for charging medium / small size batteries upto 100VAh
- Complete kit , capable to charge all tyes of batteries in field

Customized Solution Also Available

Key Features

Rollable Solar panel

•Technology : CIGS/ Amorphous silicon , rollable thin Film, Flexible .

Tube Body : Encapsulated tube / plastic body having all battery, connectors & display integrated inside. Its compact, integrated in one unit , man portable.

Battery

• Technology : Lithium polymer (Indl Grade) LiFePO4
• In-built Protection from short circuit, over charging, low battery , deep discharge etc.

Output :

•12V : Charge / operate all medical devices, laptop, HHTI, Walki-talki, sat phone etc working at 110V / 220V.
•5V (constant) (upto 2.5 amp) Two in No., to Charge iPad, mobiles, batteries of 5Ah / less

• **AC Voltage output Display :** Output from DC-AC convertor ensures AC output voltage display (from 0 V to 300 V) . Sensitive equipments under charging can always be checked for correct output voltage and quality to prevent its damage.

Input :

• One input socket to charge equipment from AC /DC source
• LED Charging indication.

Battery status % : Clear & simple indication of battery charged / used avoids last minute surprises. Important in field to optimize & prioritize the energy usage.



Standard Accessories

• **DC-AC Adaptor**
(9 V – 16 V) to 110/220 V



Carry Bag



• **Universal AC Charger**
(input 70V to 270 V , 50-60 Hz)



Optional Accessories

• **12V DC to 24V DC Booster**
(with multi-pins)



• **Universal Laptop Charger**
(with multi-pins)



FOLDABLE THIN FILM SOLAR PANEL CHARGER

Thin film Foldable Solar Panel is light weight. It can be folded into a small size like a book, and can be unfolded at site for generating solar power.



FOLDED CONDITION



UNFOLD (CHARGING) CONDITION

Advantages :-

- Multiple wattage & charging options (current/ voltage) of solar panel.
- Can charge batteries of varied voltage and capacity in short duration.
- Very Compact Size, light weight , occupies very small space
- Rainproof
- Can be placed on Tents , vehicles , ground, easily portable.
- Very suitable for charging large battery packs & multiple devices in field, at fast time .
Can meet field requirement of varied voltage and current requirements of batteries especially high voltage , high capacity batteries.

Limitations

- Suitable only for Online charging, during day . No Sun - No charging.
- Device has to be available during day for charging. No device during day - No charging
- Accessories / connectors for charging are not rain proof. Precautions needed
- Device to be charged may loose its OEM warranty as it bye-passes the OEM charger
- Charging efficiency depends on surface on which panel is placed.
- Needs large space (when unfolded) for charging.



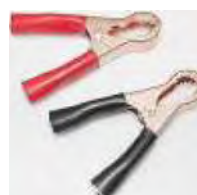
TECHNICAL FEATURES OF FOLABLE SOLAR PANEL

Solar Panel Wattage	30 WATT	30 WATT	36 WATT	60 WATT	60 WATT	60 WATT	72 WATT	120 WATT	120 WATT	144 WATT	192 WATT	216 WATT
Model no	FUTURE POWER-30	FT-30/12	FT-36/24	FUTURE POWER-60	FT-60/12	FT-60/24	FT-72/12	FT-120/12	FT-120/24	FT-144/12	FT-192/12	FT-216/12
Solar Panel cell efficiency:	6 %	12-14 %		6 %	12-14 %							
Cell Material :	Amorphous Silicon	CIGS	CIGS	Amorphous Silicon	CIGS	CIGS	CIGS	CIGS	CIGS	CIGS	CIGS	CIGS
Solar Panel Weight (approx)	1000 grams	365 grams	430 grams	2000 grams	680 grams	680 grams	800 grams	1150 grams	1170 grams	2340 grams	1500 grams	2200 grams
Max Folded size (mm) (approx)	360 x 220 x 60	255 x 155 x 20	310 x 140 x 20	280 x 225 x 60	340 x 260 x 25	320 x 260 x 25	320 x 350 x 25	260 X 315 x 30	310 X 350 x 40	270 x 320 x 50	320 x 270 x 55	350 x 360 x 60
Unfolded size (mm) (exclude tightening flap)	1190 x 700 x 3 mm	930 x 470 x 3 mm	785 x 620 x 3 mm	1400 x 1100 x 3 mm	1360 x 520 x 3 mm	1070 x 635 x 3 mm	1400 x 1100 x 3 mm	1365 x 1060 x 3 mm	1640 x 715 x 3 mm	1750 x 935 x 3 mm	2010 x 1060 x 3 mm	1965 x 1075 x 3 mm
Voltage at max power / (VMP)(When connected to load)	18 V	18 V	28 V	18 V	18 V	28 V	18 V	18 V	28 V	18 V	18 V	18 V
Current at Maximum Power (IMP)	1.6 Amp	1.6 Amp	1.3 Amp	3.5 Amp	3.5 Amp	2.5 Amp	4 Amp	6.3 Amp	4.9 Amp	8 Amp	10.75 Amp	12 Amp
Open Circuit Voltage(VOC)When no load connect)	20 V	20 V	32 V	20 V	24 V	32 V	20 V	20 V	3 2V	20 V	20 V	20 V
Short Circuit Current (SCC)	2 Amp	2 Amp	2.8 Amp	4 Amp	4.6 Amp	3.8 Amp	5.2 Amp	8.2 Amp	6.6 Amp	10.5 Amp	13.50 Amp	15.4 Amp
Op. Temp	-25 deg C to 60 deg C											
Tested to	MIL 810F & JSS: 55555											
Protection	Inbuilt protection from reverse current flow over charge, short circuiting											
Charging capability with buck-boost charger	3V ~ 22V	3 ~ 24V	3 ~ 24V	3V ~ 22V	3 ~ 24V	3 ~ 32V	3V ~ 24V	3 ~ 32V	3V ~ 24V	3 ~ 32V	3V ~ 24V	3V ~ 24V
Anti reflective coating	NO	YES		NO	YES							
Water repellent ETFE	NO	YES		NO	YES							
Panel fold test	500 folds	1000		500 folds	Minimum 1000 folds before irregularity is detected)							
Colour :	Desert Tan/Woodland Green Camouflage). (Customized colour also available on bulk requirement)											

VOLTAGE , WEIGHT , DIMENSIONS OF SOLAR PANEL CAN BE CUSTOMIZED ON BULK REQUIREMENT



Optional Accessories: buck boost charger, large & small crocodile clips, round multipin connectors, cigarette lighter female & male sockets

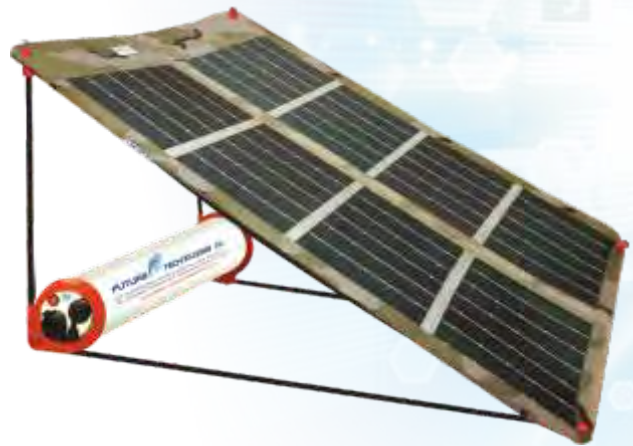


FOLDABLE SOLAR PANEL CHARGER CUM GENERATOR

This is combination of Thin film Foldable Solar Panel and battery bank with stand . It enjoys advantages of large foldable solar panel with battery bank for offline charging and stand for optimized charging results.



FOLDED CONDITION



UNFOLD (CHARGING) CONDITION

Advantages

- Suitable for both Online and Off-line charging .
- Device to be charged during day can be directly charged from solar panel
- If device not available during day , then battery bank gets charged and can be used later for charging the devices. Presence of device not compulsory during day time as offline charging possible.
- Rain proof equipment , suitable for outdoor use
- Key advantage : sun energy is never wasted, large solar panel for faster online charging.
- OEM warranty not lost as OEM charger not by-passed (in offline charging)
- Multiple wattage & charging options of solar panel . Can charge batteries of varied voltage and capacity in short duration
- Highest cell efficiency achieved as optimum 30 degree solar angle always available
- Small surface space required. for charging/transportation
- Easy to set up, by one person in less than 5 minutes
- Meets all energy requirements, all voltage & current options
- Light weight portable universal kit , with all accessories, complete in all respect
- Can be mounted on Tents , vehicles , easily portable.
- Suitable both for small equipments charging as well as for charging large multiple devices, large battery packs , large current requirements , high voltage batteries.

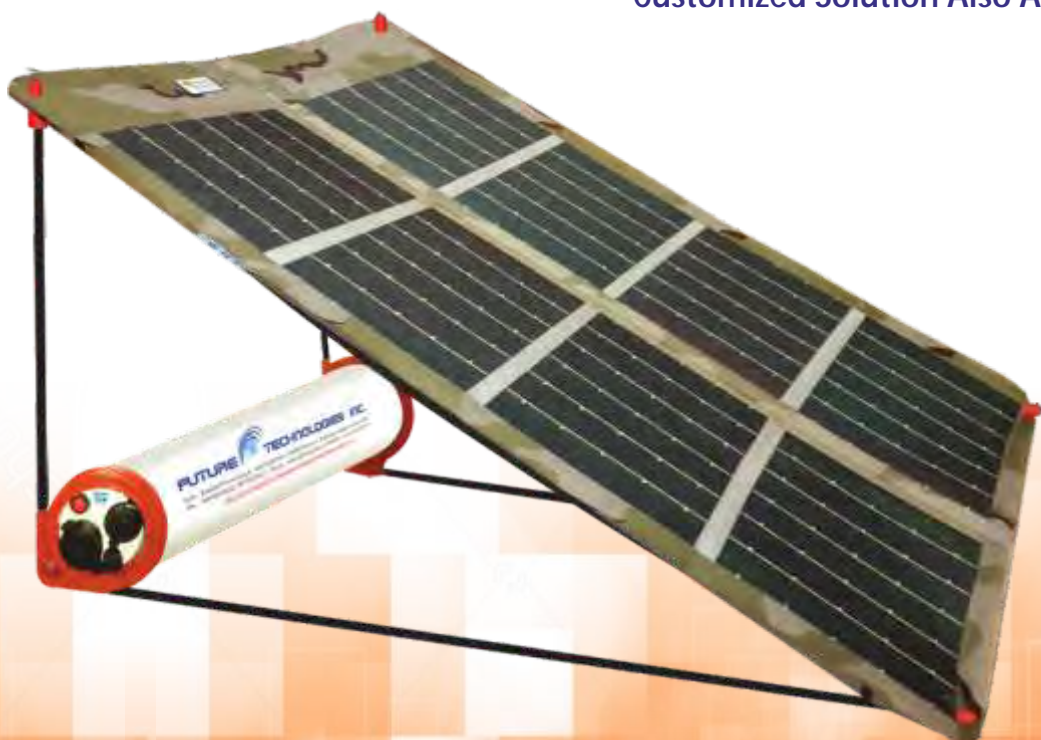
CARRY BAG

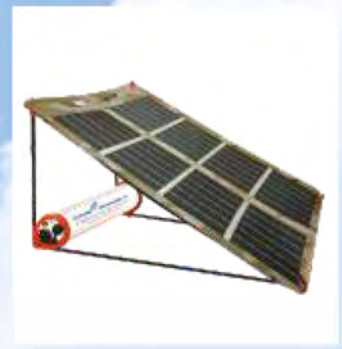
Standard Accessories : Smart Buck-Boost Charger, round multipin connectors, cigarette lighter female & male sockets , DC-AC adoptor , AC-DC charger



Model	MIL 119	MIL 120	MIL 125	MIL 130	MIL 135
Li-ion Battery (12 V / 14.4 V) (SMF Re-chargeable)	9 Ah	9 Ah	10 Ah	20 Ah	20 Ah
Weight of complete System	< 4 Kgs	< 4.25 kgs	< 4.50 kgs	< 6.50 kgs	< 6.25 kgs
Numeric LED display of battery %	Yes				
AC voltage output	Numeric LED display				
Input charging option	Solar + AC adapter				
Solar stand angle	Minimum 20 degrees				
Battery Protection	Inbuilt protection against battery low voltage, short circuiting, over charge & deep discharge				
Output Connectors	Dual 5V DC USB + 12V DC				
Standard Accessories supplied	DC to AC Converter + Multi-pin Mobile charging + AC charging adapter + Smart Charge Controller				
Optional Accessories	Multi Pin Laptop Charger				
Run Test (Endurance) (on DC-AC converter)	Minimum 100 watt bulb x 1 hr			Minimum 100 watt bulb x 2 hr	
Foldable Solar Panel wattage	60 WATT	72 WATT	72 WATT	72 WATT	60 WATT
Solar Panel Weight (approx)	680 grams	800 grams	800 grams	800 grams	680 grams
Solar Panel Max Size - Folded (mm) (L X B X Thickness) (approx)	320 x 260 x 25	320 x 260 x 25	320 x 260 x 25	320 x 260 x 25	320 x 260 x 25
Solar panel MaxSize- Unfolded (mm) (excluding tightening flap) (approx)	635 x 1070	635 x 1070	635x1070	635x1070	635 x 1070
Solar Panel cell efficiency	13~15%	13~15%	13~15%	13~15%	13~15%
Solar Panel Voltage at Max Power	25 Volt	16 Volt	16 Volt	16 Volt	25 Volt
Open Circuit Voltage of Solar Panel	32 Volt	20 Volt	20 Volt	20 Volt	32 Volt
Solar panel Current at Max Power	2.4 Amp	4.8 Amp	4.8 Amp	4.8 Amp	2.4 Amp
Solar Panel Short Circuit Current	2.8 Amp	5.6 Amp	5.6 Amp	5.6 Amp	2.8 Amp
Solar Panel Cell Material	CIGS				
Operating Temperature of Solar Panel	(-) 45°C to +80°C				
Solar Panel MIL 810 Compliant	Yes				
Solar panel JSS 55555 compliant	Yes				
Solar Panel Protection	Inbuilt protection from reverse current flow over charge, short circuiting				
Solar Panel online Charging capability	Capable to charge batteries in voltage range from 1 to 32 V For all types of batteries & battery packs (Ni-Mh, Li-ion, Ni-Cd, Lead Acid)				
Compatible with smart charger	Yes				
Anti reflective coating (Specular reflection on surface < 0.1%)	Yes				
water repellent ETFE	Yes				
Panel fold test	Minimum 1000 folds before irregularity is detected				
Suitable for online & offline charging	Yes				

Customized Solution Also Available





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