



**SOLARTECH**<sup>®</sup>  
POWER, INC.

## F-Series 130W PV Module SPM130P-S-F

### Solartech F-Series Modules

Solartech photovoltaic F-Series Modules are constructed with high efficient polycrystalline solar cells and produce higher output per module than others in its class. This industrial grade module is an industry standard among various industry professionals.

### Features

Class 1, Division 2, (C1D2) Group A,B,C and D

- Accessible junction box with 4-1/2" knockout for ease of installation.
- (EVA) with TPT cushions the solar cells within the laminate and ensures the operating characteristics of the solar cells under virtually any climatic condition
- Rigid anodized aluminum frame and low iron tempered glass
- Easily accessible grounding points on all four corners for fast installation
- Proven junction box technology

### Reliability

- Proven superior field performance
- Tight power tolerance

### Qualifications and Certifications



### Applications

- Traffic & Safety
- Federal Government
- Oil & Gas
- Security
- Telecommunications
- Water and Wastewater
- Weather & Environmental Monitoring
- RV Camper
- Emergency Power
- Telemetry
- SCADA, RTU, GPS
- Marine
- Area Lighting & Sign

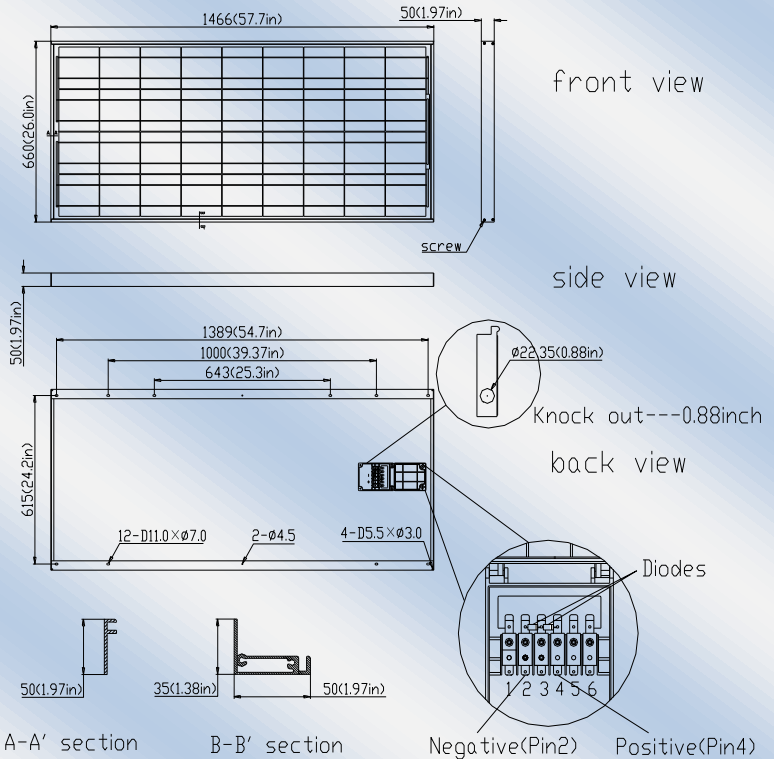
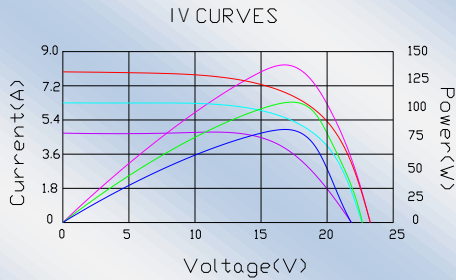
## Electrical Characteristics

Max power(Pm)	130W
Maximum power voltage(Vpm)	18.1V
Maximum power current (Ipm)	7.38A
Short circuit current (Isc)	7.89A
Open circuit voltage (Voc)	22.0V
Module efficiency	12.97%
Tolerance	±5%
Nominal Voltage	12V
Temperature coefficient of Voc	-0.36%/K
Temperature coefficient of Pm	-0.46%/K
Temperature coefficient of Isc	0.05%/K
NOCT	48°C±2°C
Maximum series fuse rating	12A
Maximum system voltage	600V

## Mechanical Characteristics

Construction	Tempered glass, silicon cell, EVA, Polyester with Tedlar
Solar Cells	36 cells (156mm x 156mm) in a 4x9 matrix connected in series
Front Cover	High transmission 3.2mm(1/8") glass
Encapsulant	EVA(Double layers)
Back Cover	White polyester
Frame	Anodized aluminum
Junction Box	IP65, UL94-5VA material
Diodes	Schottky by-pass diodes
Terminal	Accept 8-14 AWG wire
Dimensions	57.7in (1466mm)x26.0in (660mm)x1.97in (50mm)
Weight	26.51lb (12.0kg)
Operating Temperature	-40°C ~90°C
Storage Humidity	<90%

## IV Curves



## Warranty

25-year limited warranty of 80% power output;  
12-year limited warranty of 90% power output;  
5-year limited warranty of materials and workmanship

## Certifications

UL 1703 certification  
ETL Class I, Division 2, Groups A, B, C and D certification



**SOLARTECH**<sup>®</sup>  
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## F-Series 140W PV Module SPM140P-F

### Solartech F-Series Modules

Solartech photovoltaic F-Series Modules are constructed with high efficient polycrystalline solar cells and produce higher output per module than others in its class. This industrial grade module is an industry standard among various industry professionals.

### Features

Class 1, Division 2, (C1D2) Group A,B,C and D

- Accessible junction box with 4-1/2" knockout for ease of installation.
- (EVA) with TPT cushions the solar cells within the laminate and ensures the operating characteristics of the solar cells under virtually any climatic condition
- Rigid anodized aluminum frame and low iron tempered glass
- Easily accessible grounding points on all four corners for fast installation
- Proven junction box technology

### Reliability

- Proven superior field performance
- Tight power tolerance

### Qualifications and Certifications



### Applications

- Traffic & Safety
- Federal Government
- Oil & Gas
- Security
- Telecommunications
- Water and Wastewater
- Weather & Environmental Monitoring
- RV Camper
- Emergency Power
- Telemetry
- SCADA, RTU, GPS
- Marine
- Area Lighting & Sign

# Model Number SPM140P-S-F

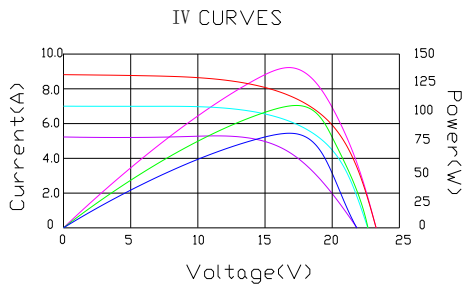
## Electrical Characteristics

Max power(Pm)	140W
Maximum power voltage(Vpm)	18.3V
Maximum power current (Ipm)	7.8A
Short circuit current (Isc)	8.24A
Open circuit voltage (Voc)	22.2V
Module efficiency	13.47%
Tolerance	±5%
Nominal Voltage	12V
Temperature coefficient of Voc	-0.36%/K
Temperature coefficient of Pm	-0.46%/K
Temperature coefficient of Isc	0.05%/K
NOCT	48°C±2°C
Maximum series fuse rating	12A
Maximum system voltage	600V

## Mechanical Characteristics

Construction	Tempered glass, silicon cell, EVA, Polyester with Tedlar
Solar Cells	36 cells (156mm x 156mm) in a 4x9 matrix connected in series
Front Cover	High transmission 3.2mm(1/8") glass
Encapsulant	EVA(Double layers)
Back Cover	White polyester
Frame	Anodized aluminum
Junction Box	IP65, UL94-5VA material
Diodes	Schottky by-pass diodes
Terminal	Accept 8-14 AWG wire
Dimensions	57.7in (1466mm)x26.0in (660mm)x1.97in (50mm)
Weight	26.51lb (12.0kg)
Operating Temperature	-40°C ~ 90°C
Storage Humidity	<90%

## IV Curves

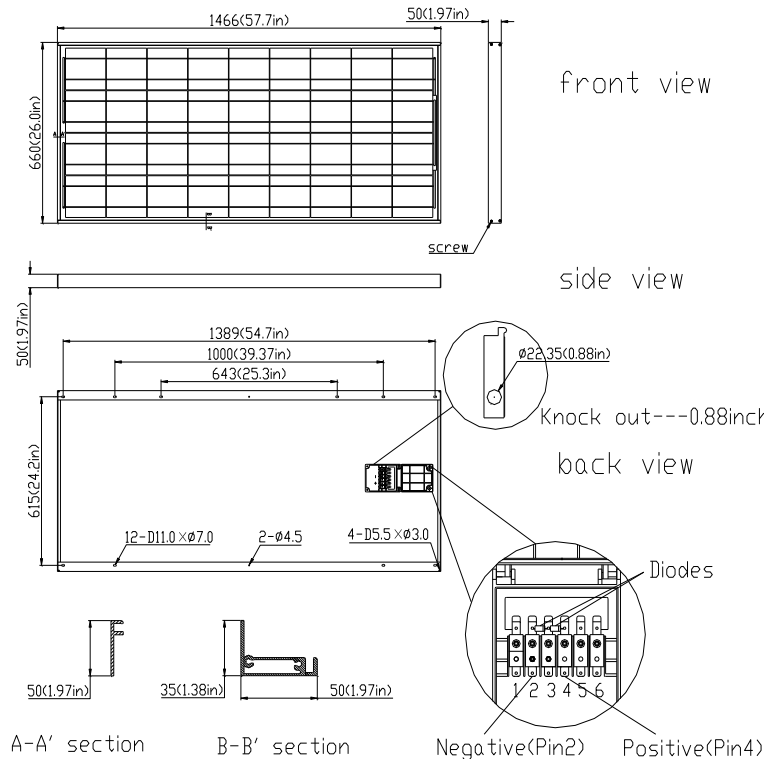


## Warranty

25-year limited warranty of 80% power output;  
12-year limited warranty of 90% power output;  
5-year limited warranty of materials and workmanship

## Certifications

UL 1703 certification  
ETL Class I ,Division 2,Groups A,B,C and D certification



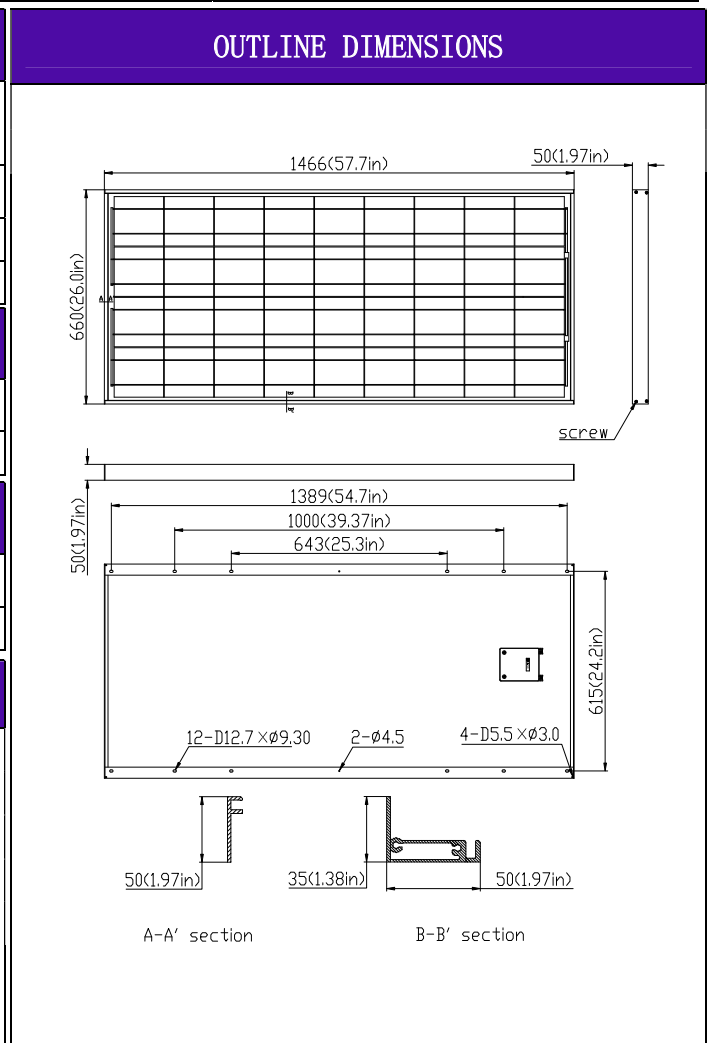
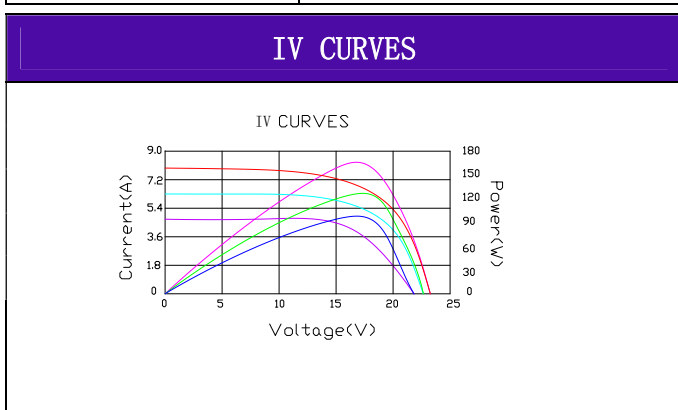

**Solartech** Power, Inc.  
**SPECIFICATIONS**

ELECTRICAL CHARACTERISTICS			
Model	SPM160P-S-F		
Power at STC (Pm)	160W		
Maximum power voltage (Vpm)	18.9V		
Maximum power current (Ipm)	8.47A		
Open circuit voltage (Voc)	22.9V		
Short circuit current (Isc)	8.68A		
Tolerance	±5%		
Module efficiency	16.5%		
Standard test conditions	Temperature 25°C, Irradiance 1000W/m <sup>2</sup> , AM=1.5		
Maximum system voltage	600V DC	Series fuse rating	15A
Temperature coefficient	Isc: 0.05%/K	Voc: -0.36%/K	Pmax: -0.46%/K

Specifications	
Cell	Polycrystalline silicon solar cell, (156mmx156mm)
No. of cell and connection	36 (4x9)
Dimension	1466mm (57.7in) x 660mm (26.0in) x 50mm (1.97in)
Weight	13KG

AMBIENT CONDITIONS	
Operating Temperature	-40°C to +85°C
Storage Humidity	<90%

Output	
Type of output terminal	Junction box
Cable	



UL STD NO 1703  
 ULC/ORD STD NO C1703  
 Class 1, Division 2 A, B, C and D,

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