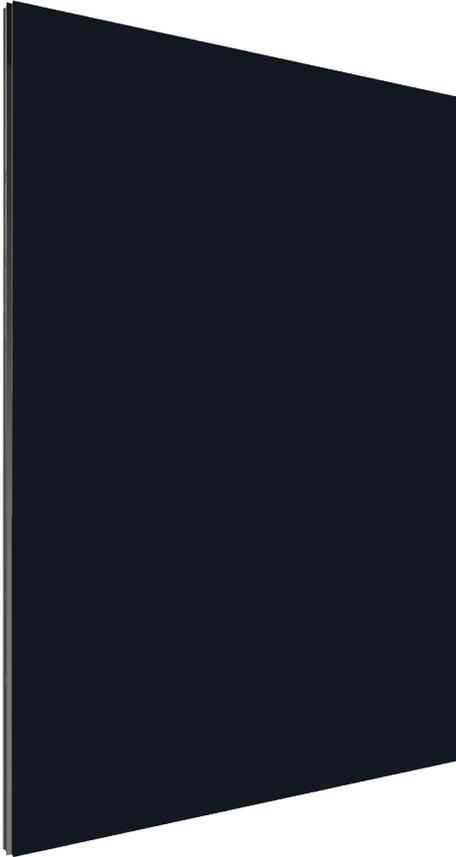




Series 6 Plus

440-470 Watt Thin Film Solar Module

First Solar Series 6 Plus photovoltaic (PV) modules set the industry benchmark for reliable energy production, optimized design and environmental performance. The advanced design is optimized for every stage of your application, significantly reducing balance of system, shipping, and operating costs.



More Lifetime Energy per Nameplate Watt

- Industry's best (0.3%) warranted degradation rate
- Superior temperature coefficient, spectral response and shading behavior
- Unlike crystalline silicon modules, First Solar's thin film technology does not experience the losses associated with LID and LeTID
- Anti-reflective coated glass enhances energy production



Innovative Module Design

- Under-mount frame provides the cleaning and snowshedding benefits of a frameless module while protecting edges against breakage
- Innovative SpeedSlots combine the robustness of bottom mounting with the speed of top clamping while utilizing fewer fasteners to achieve the industry's fastest installation times and lowest mounting hardware costs
- Dual junction box design optimizes module-to-module connections and eliminates the need for wire management



Best In-Class Reliability & Durability

- Manufactured under one roof with 100% traceable QA/QC
- Independently tested and certified for reliable performance that exceeds IEC standards in high temperature, high humidity, extreme desert and coastal applications
- Inherently immune to and warranted against power loss from cell cracking
- Durable glass/glass construction



Best Environmental Profile

- Fastest energy payback time in the industry
- Carbon footprint that is 2.5X lower and a water footprint that is 3X lower than mono crystalline silicon panels on a life cycle basis
- Global PV module recycling services available through First Solar or customer-selected third-party

18.7%
MAXIMUM EFFICIENCY

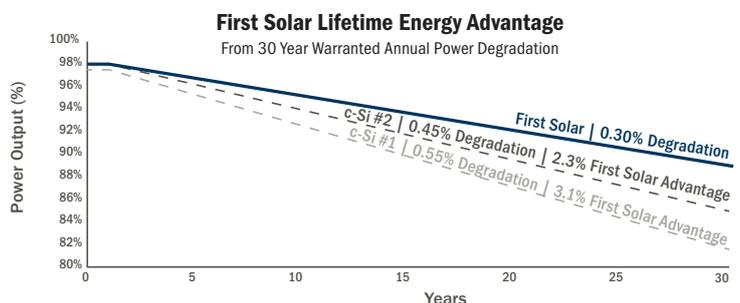
30YR
LINEAR PERFORMANCE
WARRANTY

98%
WARRANTY START POINT

0.3%
WARRANTED ANNUAL
DEGRADATION RATE¹



Learn more about First Solar and Series 6 Plus at firstsolar.com/S6



Series 6 Plus

Electrical Specifications

MODEL TYPES: FS-6XXX-P / FS-6XXXXA-P (XXX = NOMINAL POWER)
RATINGS AT STANDARD TEST CONDITIONS (1000W/m², AM 1.5, 25°C)²

Nominal Power ³ (-0/+5%)	P _{MAX} (W)	440	445	450	455	460	465	470
Efficiency (%)	%	17.5	17.7	17.9	18.1	18.3	18.5	18.7
Voltage at P _{MAX}	V _{MAX} (V)	184.7	185.7	186.8	187.8	188.8	189.8	191.1
Current at P _{MAX}	I _{MAX} (A)	2.38	2.40	2.41	2.42	2.44	2.45	2.46
Open Circuit Voltage	V _{OC} (V)	220.0	220.4	221.1	222.0	222.9	223.8	224.3
Short Circuit Current	I _{SC} (A)	2.55	2.56	2.57	2.58	2.59	2.60	2.61
Maximum System Voltage	V _{SYS} (V)	1500 ⁵						
Limiting Reverse Current	I _R (A)	5.0						
Maximum Series Fuse	I _{CF} (A)	5.0						

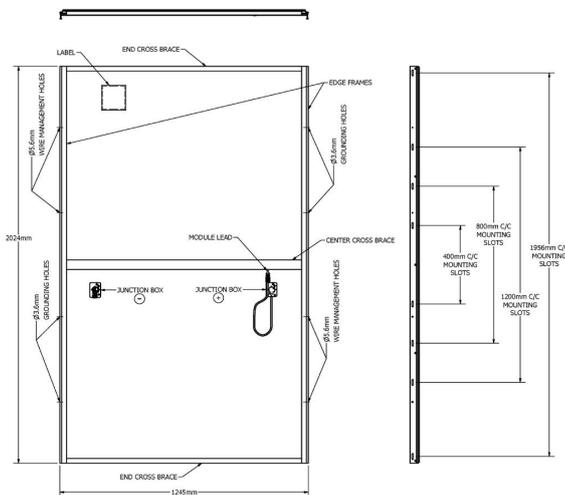
RATINGS AT NOMINAL OPERATING CELL TEMPERATURE OF 45°C (800W/m², 20°C AIR TEMPERATURE, AM 1.5, 1m/s WIND SPEED)²

Nominal Power	P _{MAX} (W)	332.4	336.0	339.9	343.6	347.3	351.3	355.0
Voltage at P _{MAX}	V _{MAX} (V)	173.1	174.1	175.2	176.2	176.3	177.4	179.3
Current at P _{MAX}	I _{MAX} (A)	1.92	1.93	1.94	1.95	1.97	1.98	1.98
Open Circuit Voltage	V _{OC} (V)	207.7	208.0	208.7	209.6	210.4	211.3	211.8
Short Circuit Current	I _{SC} (A)	2.06	2.06	2.07	2.08	2.09	2.10	2.10

TEMPERATURE CHARACTERISTICS

Module Operating Temperature Range	(°C)	-40 to +85
Temperature Coefficient of P _{MAX}	T _K (P _{MAX})	-0.32%/°C [Temperature Range: 25°C to 75°C]
Temperature Coefficient of V _{OC}	T _K (V _{OC})	-0.28%/°C
Temperature Coefficient of I _{SC}	T _K (I _{SC})	+0.04%/°C

Mechanical Specifications



PACKAGING INFORMATION

Model Type	Modules Per Pack	Packs per 40' Container
FS-6XXX-P / FS-6XXXXA-P	27	18



LEADING THE WORLD'S
SUSTAINABLE ENERGY FUTURE

Disclaimer

The information included in this Module Datasheet is subject to change without notice and is provided for informational purposes only. No contractual rights are established or should be inferred because of user's reliance on the information contained in this Module Datasheet. Please refer to the appropriate Module User Guide and Module Product Specification document for more detailed technical information regarding module performance, installation and use.

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Certifications & Tests⁴

CERTIFICATIONS & LISTINGS

IEC 61215:2016 & 61730-1:2016⁵, CE
IEC 61701 Salt Mist Corrosion
IEC 60068-2-68 Dust and Sand Resistance

UL

UL 61730 1500V Listed

REGIONAL CERTIFICATIONS

InMetro Sii
MyHijaw

EXTENDED DURABILITY TESTS

IEC 63209-1 Extended Stress Test
Long-Term Sequential
Thresher Test
PID Resistant

QUALITY & EHS

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
ISO 14064-3:2006
EPEAT Silver Registered



MECHANICAL DESCRIPTION

Length	2024mm
Width	1245mm
Area	2.52m ²
Module Weight	34.0kg (FS-6XXX-P / FS-6XXXXA-P)
Leadwire ⁶	2.5mm ² , 733mm (+) & Bulkhead (-)
Connectors	TE Connectivity PV4-S, MC4-EVO 2, or alternate
Junction Box	IP68 Rated
Bypass Diode	N/A
Cell Type	Thin film CdTe semiconductor, up to 268 cells
Frame Material	Anodized Aluminum
Front Glass	Heat strengthened
Back Glass	Heat strengthened
Encapsulation	Laminate material with edge seal
Frame to Glass Adhesive	Silicone
Load Rating ⁷	2400Pa

Install in portrait only

- Limited power output and product warranties subject to warranty terms and conditions
- All ratings ±10%, unless specified otherwise. Specifications are subject to change
- Measurement uncertainty applies
- Testing Certifications/Listings pending
- IEC 61730-1: 2016 Class II
- Leadwire length from junction box exit to connector mating surface
- 1500Pa tentative load rating for 1956mm mounting slots. Higher loads may be acceptable, subject to testing