

Series 6 Plus.

455-480 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

- With superior temperature coefficient, spectral response and shading behavior, Series 6 Plus modules generate up to 8% more energy per watt than conventional crystalline silicon solar modules
- 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



19.0% MAXIMUM EFFICIENCY

LINEAR PERFORMANCE WARRANTY

98% WARRANTY START POINT WARRANTED ANNUAL DEGRADATION RATE¹

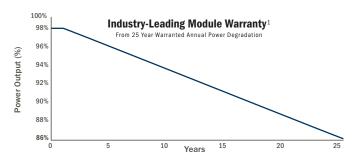


Best Environmental Profile

- 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



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



Series 6 Plus.

Electrical Specifications

RATINGS AT STANDARD TES	T CONDITIONS	S (1000W/m², AM	l 1.5, 25°C)²				
SERIES 6 PLUS HL MODEL T	YPES: FS-6XX	X-P / FS-6XXXA	-P (XXX = NOMIN	IAL POWER)			
Nominal Power ³ (-0/+5%)	P _{MAX} (W)	455	460	465	470	475	480
Efficiency (%)	%	18.1	18.3	18.5	18.7	18.9	19.0
Voltage at P _{MAX}	V _{MAX} (V)	187.8	188.8	189.8	191.1	191.5	192.8
Current at P _{MAX}	I _{MAX} (A)	2.42	2.44	2.45	2.46	2.48	2.49
Open Circuit Voltage	V _{OC} (V)	222.0	222.9	223.8	224.3	224.8	225.4
Short Circuit Current	I _{SC} (A)	2.58	2.59	2.60	2.61	2.61	2.62
Maximum System Voltage	V _{SYS} (V)			150	005		
Limiting Reverse Current	I _R (A)	5.0					
Maximum Series Fuse	I _{CF} (A)	5.0					

RATINGS AT NOMINAL OPE	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)	343.6	347.3	351.3	355.0	358.8	362.4
Voltage at P _{MAX}	V _{MAX} (V)	176.2	176.3	177.4	179.3	179.4	180.3
Current at P _{MAX}	I _{MAX} (A)	1.95	1.97	1.98	1.98	2.00	2.01
Open Circuit Voltage	V _{OC} (V)	209.6	210.4	211.3	211.8	212.3	212.7
Short Circuit Current	I _{SC} (A)	2.08	2.09	2.10	2.10	2.11	2.11

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

Certifications & Tests⁴

CERTIFICATIONS & LISTINGS

IEC 61215:2021 & 61730-1:2016⁵, CE IEC 61701 Salt Mist Corrosion IEC 60068-2-68 Dust and Sand Resistance UL 61730 1500V Listed RIS

EXTENDED DURABILITY TESTS

IEC TS 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



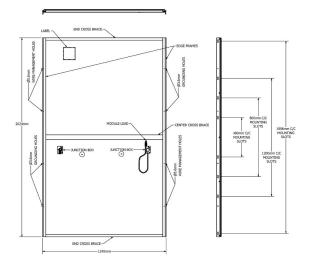








Mechanical Specifications



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



Module/Glass Length	2024mm/2016mm
Module/Glass Width	1245mm/1216mm
Module/Glass Area	2.52m ² /2.45m ²
lodule Weight	34.0kg (FS-6XXX-P / FS-6XXXA-P)
eadwire ⁶	2.5mm ² , 733mm (+) & Bulkhead (-)
onnectors	TE Connectivity PV4-S, MC4-EVO 2, or alternate
ınction Box	IP68 Rated
Bypass Diode	N/A
Cell Type	Thin film CdTe semiconductor, up to 268 cells
rame Material	Anodized Aluminum
ront Glass	Heat strengthened
Back Glass	Heat strengthened
ncapsulation	Laminate material with edge seal
rame to Glass Adhesive	Silicone
Load Rating ⁷	+/-2400Pa

Install in portrait only

- 1 Limited power output and product warranties subject to warranty terms and conditions
- $2~\,$ All ratings $\pm 10\%,$ unless specified otherwise. Specifications are subject to change
- 3 Measurement uncertainty applies
- 4 Testing Certifications/Listings pending
- 5 IEC 61730-1: 2016 Class II
- 6 Leadwire length from junction box exit to connector mating surface
- 7 1500Pa tentative load rating for 1956mm mounting slots. Higher loads may be acceptable, subject to testing

Disclaimer

All images shown are provided for illustrative purposes only and may not be an exact representation of the product. First Solar, Inc. reserves the right to change product images at any time without notice.

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.

First Solar, the First Solar logo, Leading the World's Sustainable Energy Future, and Series 6 are trademarks of First Solar, Inc., registered in the U.S. and other countries. Series 6 Plus and SpeedSlots are trademarks of First Solar, Inc.