

# SunPower® X21-350-BLK-D-AC | Residential AC Module Series

## Design-Driven Advantages

- #1 module aesthetics and efficiency<sup>1</sup>
- Unmatched module reliability<sup>2</sup>
- No electrolytic capacitors
- 25-year Complete Confidence Warranty
- California Rule 21 Phase 1 compliant

## Maximize Value for Roof

- Size system for roof, not string inverter
- Optimize performance of each module

## Expand Deployment Options

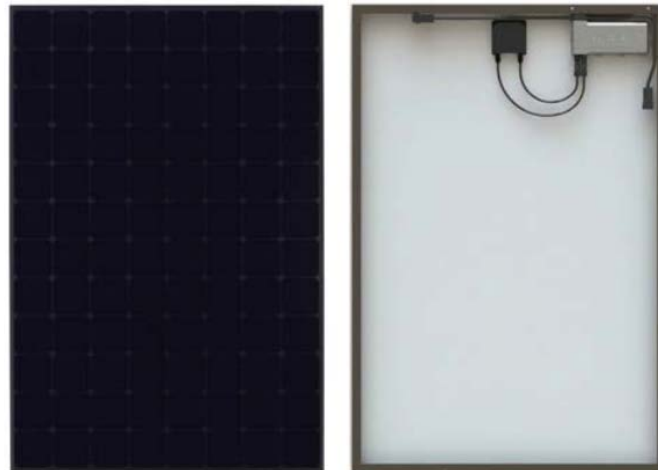
- Complex roofs and partial shading
- Small systems
- System expandability

## Simplify & Speed Installation

- Factory-integrated microinverter
- Robust, double-locking AC connectors
- Design flexibility offsite and onsite
- No DC string sizing process
- Fewer installation steps than competing systems
- Intuitive commissioning

## Component of Complete System

- Built for use with SunPower® InvisiMount™ and the SunPower Monitoring System (PVS5x)
- Superior system reliability and aesthetics



## Optimize System and Installation Efficiency

SunPower® AC modules, which include a factory-integrated SunPower microinverter, provide a revolutionary combination of high efficiency, high reliability, and module-level DC-to-AC power conversion. Designed specifically for use with SunPower InvisiMount™ and the SunPower Monitoring System, SunPower AC modules enable rapid installation, best-in-class system aesthetics, and intuitive visibility into system performance. All this comes with the best Combined Power and Product Warranty in the industry.

## Grid Support Utility-Interactive Smart Inverter

SunPower's new Type D AC module is UL tested and certified to UL 1741 SA and provides advanced smart inverter functions. SunPower Type D AC modules are fully compliant with the California Rule 21 Phase 1 requirements, and the Rule 21 grid profile is easily set during commissioning with SunPower PVS5x monitoring hardware.

[sunpower.com](http://sunpower.com)

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AC Electrical Data <sup>3</sup>		
SRD Profile		IEEE 1547a-2014 <sup>3</sup> (default settings) min. / nom. / max. CA Rule 21 <sup>3</sup> min. / nom. / max.
Frequency (Hz)		59.5 / 60.0 / 60.5 58.5 / 60.0 / 60.5
Power Factor		0.99 / 1.00 / 1.00 0.85 lead. / 1.00 / 0.85 lag.
Reactive Power		±169 Var Volt-VAR
Voltage	@240 V @208 V	211.2 / 240 / 264 V 183 / 208 / 228.8 V
Max. Current	@240 V @208 V	1.33 A 1.54 A
DC/AC CEC Conversion Efficiency	@240 V @208 V	96.0% 95.5%
Max. Units Per 20 A Branch Circuit	@240 V @208 V	12 (single phase) 10 (two pole) wye
Power		320 W, 320 VA
No active phase balancing for 3 phase installations		

DC Power Data			
	X21-350-BLK-D-AC	X20-335-BLK-D-AC	X19-315-BLK-D-AC
Nominal Power <sup>4</sup> (P <sub>nom</sub> )	350 W	335 W	315 W
Power Tolerance	+5/-0%	+5/-0%	+10/-0%
Avg. Panel Efficiency <sup>5</sup>	21.5%	20.6%	19.3%
Temp. Coef. (Power)	-0.29%/°C		
Shade Tolerance	<ul style="list-style-type: none"> <li>• Three bypass diodes</li> <li>• Integrated module-level maximum power point tracking</li> </ul>		

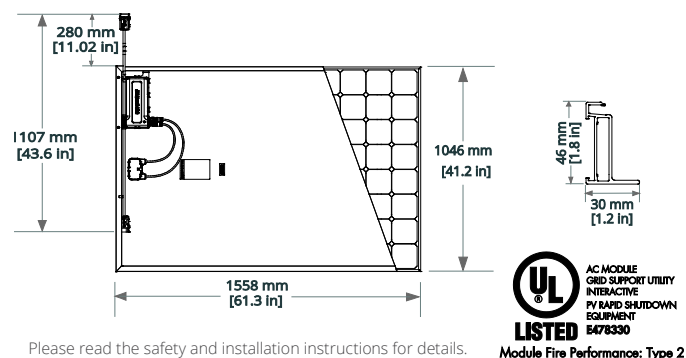
Tested Operating Conditions	
Operating Temp.	-40° F to +149° F (-40° C to +65° C)
Max. Ambient Temp.	122° F (50° C)
Max. Load	Wind: 62 psf, 3000 Pa, 305 kg/m <sup>2</sup> front & back Snow: 125 psf, 6000 Pa, 611 kg/m <sup>2</sup> front
Impact Resistance	1 inch (25 mm) diameter hail at 52 mph (23 m/s)

Mechanical Data	
Solar Cells	96 Monocrystalline Maxeon Gen III
Front Glass	High-transmission tempered glass with anti-reflective coating
Environmental Rating	Outdoor rated
Frame	Class 1 black anodized (highest AAMA rating)
Weight	45.5 lbs (20.6 kg)
Recommended Max. Module Spacing	1.3 in. (33 mm)

<sup>1</sup>Highest of over 3,200 silicon solar panels, Photon Module Survey, Feb. 2014  
<sup>2</sup>#1 rank in "PV Module Durability Initiative Public Report," Fraunhofer CSE, Feb 2013. Five out of the top eight largest manufacturers were tested. Campeau, Z. et al. "SunPower Module Degradation Rate," SunPower white paper, Feb 2013. See [www.sunpower.com/facts](http://www.sunpower.com/facts) for details.  
<sup>3</sup>Factory set to 1547a-2014 default settings. CA Rule 21 default settings profile set during commissioning. See the *Equinox Installation Guide #518101* for more information.  
<sup>4</sup>Standard Test Conditions (1000 W/m<sup>2</sup> irradiance, AM 1.5, 25° C). NREL calibration standard: SOMS current, LACCS FF and voltage. All DC voltage is fully contained within the module.  
<sup>5</sup>Based on average of measured power values during production.

See [www.sunpower.com/facts](http://www.sunpower.com/facts) for more reference information.  
 For more details, see extended datasheet: [www.sunpower.com/datasheets](http://www.sunpower.com/datasheets).

Warranties and Certifications	
Warranties	<ul style="list-style-type: none"> <li>• 25-year limited power warranty</li> <li>• 25-year limited product warranty</li> </ul>
Certifications	UL listed to UL 1741 SA <ul style="list-style-type: none"> <li>• SRDs: IEEE 1547-2003, IEEE 1547a-2014, CA Rule 21 Phase 1</li> <li>• PV Rapid Shutdown Equipment</li> <li>• Equipment Grounding</li> <li>• UL 6703, UL 9703 Connectors and cables (load break disconnection)</li> <li>• UL 1741 AC Module (Type 2 fire rating)</li> </ul> Enables installation in accordance with: <ul style="list-style-type: none"> <li>• NEC 690.6</li> <li>• NEC 690.12 Rapid Shutdown (inside and outside the array)</li> <li>• NEC 690.15 AC Connectors, 690.33(A) - (E)(1)</li> </ul> FCC and ICES-003 Class B When used with InvisiMount racking (UL 2703): <ul style="list-style-type: none"> <li>• Integrated grounding and bonding</li> <li>• Class A fire rated</li> </ul>
PID Test	Potential-induced degradation free



527031 RevA