



# SUNPOWER®

## SunPower® E-Series: E20-327 | E19-320

# SunPower® Residential AC Module

Built specifically for use with the SunPower Equinox™ system, the only fully integrated solution designed, engineered, and warranted by one manufacturer.



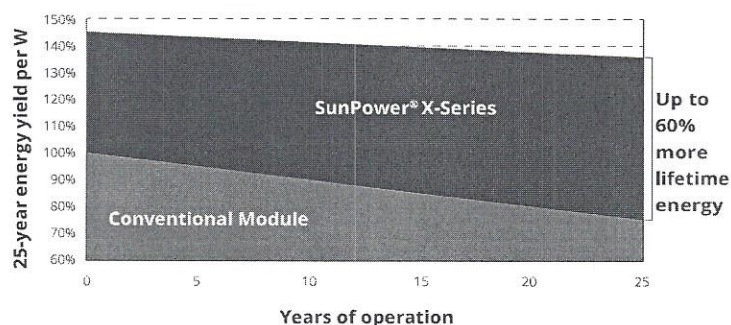
### Maximum Power. Minimalist Design.

Industry-leading efficiency means more power and savings per available space. With fewer modules required and hidden microinverters, less is truly more.



### Highest Lifetime Energy and Savings.

Designed to deliver 60% more energy over 25 years in real-world conditions like partial shade and high temperatures.<sup>1</sup>

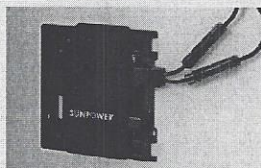


### Fundamentally Different. And Better.



The SunPower® Moxeon® Solar Cell

- Enables highest-efficiency modules available.<sup>2</sup>
- Unmatched reliability<sup>3</sup>
- Patented solid metal foundation prevents breakage and corrosion



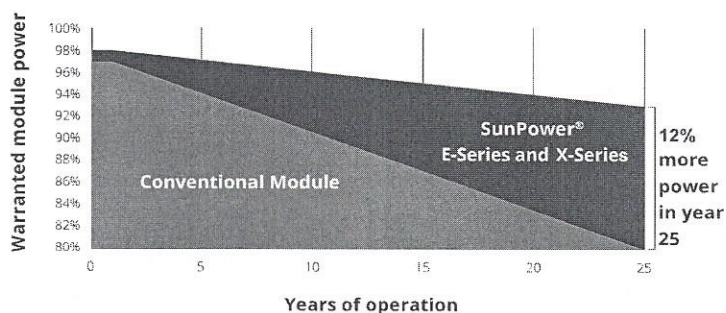
Factory-integrated Microinverter

- Simpler, faster installation
- Integrated wire management, rapid shutdown
- Engineered and calibrated by SunPower for SunPower modules



### Best Reliability. Best Warranty.

With more than 25 million modules deployed around the world, SunPower technology is proven to last. That's why we stand behind our module and microinverter with the industry's best 25-year Combined Power and Product Warranty, including the highest Power Warranty in solar.





# E-Series: E20-327 | E19-320 SunPower® Residential AC Module

| AC Electrical Data                                      |                      |                   |
|---|----------------------|-------------------|
| Inverter Model: Enphase IQ 7XS (IQ7XS-96-ACM-US)        | @240 VAC             | @208 VAC          |
| Peak Output Power                                       | 320 VA               | 320 VA            |
| Max. Continuous Output Power                            | 315 VA               | 315 VA            |
| Nom. (L-L) Voltage/Range² (V)                           | 240 / 211–264        | 208 / 183–229     |
| Max. Continuous Output Current (A)                      | 1.31                 | 1.51              |
| Max. Units per 20 A (LL) Branch Circuit³                | 12 (single phase)    | 10 (two pole) wye |
| CEC Weighted Efficiency                                 | 97.5%                | 97.0%             |
| Nom. Frequency  | 60 Hz                |                   |
| Extended Frequency Range                                | 47–68 Hz             |                   |
| AC Short Circuit Fault Current Over 3 Cycles            | 5.8 A rms            |                   |
| Overvoltage Class AC Port                               | III                  |                   |
| AC Port Backfeed Current                                | 18 mA                |                   |
| Power Factor Setting                                    | 1.0                  |                   |
| Power Factor (adjustable)                               | 0.7 lead. / 0.7 lag. |                   |
| No active phase balancing for three-phase installations |                      |                   |

| DC Power Data                               |   |                  |
|---|---|------------------|
|   | SPR-E20-327-E-AC  | SPR-E19-320-E-AC |
| Nom. Power <sup>5</sup> (P <sub>nom</sub> ) | 327 W   | 320 W            |
| Power Tol.                                  | +5/-0%  | +5/-0%           |
| Module Efficiency                           | 20.4%   | 19.9%            |
| Temp. Coef. (Power)                         | -0.35%/°C   | -0.35%/°C        |
| Shade Tol.                                  | <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 +185°F (-40°C to +85°C)   |
| Max. Ambient Temp.          | 122°F (50°C)   |
| Max. Load                   | Wind: 62 psf, 3000 Pa, 305 kg/m² front & back<br>Snow: 125 psf, 6000 Pa, 611 kg/m² 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                          | 42.9 lbs (19.5 kg)  |
| Recommended Max. Module Spacing | 1.3 in. (33 mm)   |

1 SunPower 360 W compared to a conventional module on same-sized arrays (260 W, 16% efficient, approx. 1.6 m²), 4% more energy per watt (based on third-party module characterization and PVSIM), 0.75%/yr slower degradation (Campeau, Z. et al. "SunPower Module Degradation Rate," SunPower white paper, 2013).

2 Based on search of datasheet values from websites of top 10 manufacturers per IHS, as of January 2017.

3 #1 rank in "Fraunhofer PV Durability Initiative for Solar Modules: Part 3," PV Tech Power Magazine, 2015. Campeau, Z. et al. "SunPower Module Degradation Rate," SunPower white paper, 2013.

4 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.

5 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25°C). NREL calibration standard: SOMS current, LACCs FF and voltage. All DC voltage is fully contained within the module.

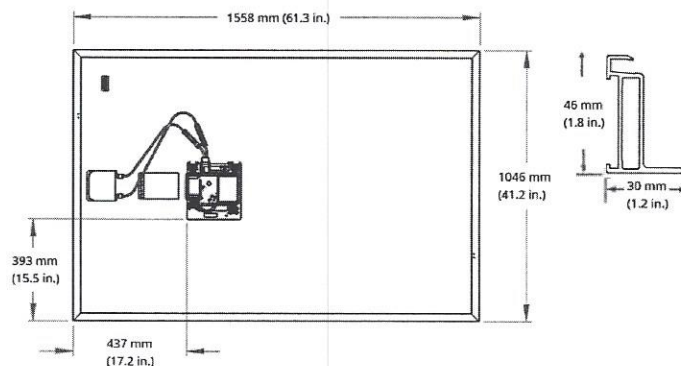
6 This product is UL Listed as PVRSE and conforms with NEC 2014 and NEC 2017 690.12; and C22.1-2015 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors; when installed according to manufacturer's instructions.

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). Specifications included in this datasheet are subject to change without notice.

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| Warranties, Certifications, and Compliance  |  |
|---|--|
| Warranties  | <ul style="list-style-type: none"> <li>• 25-year limited power warranty</li> <li>• 25-year limited product warranty</li> </ul>   |
| Certifications and Compliance   | <ul style="list-style-type: none"> <li>• UL 1703</li> <li>• UL 1741 / IEEE-1547</li> <li>• UL 1741 AC Module (Type 2 fire rated)</li> <li>• UL 62109-1 / IEC 62109-2</li> <li>• FCC Part 15 Class B</li> <li>• ICES-0003 Class B</li> <li>• CAN/CSA-C22.2 NO. 107.1-01</li> <li>• CA Rule 21 (UL 1741 SA)<sup>4</sup></li> <li>(includes Volt/Var and Reactive Power Priority)</li> <li>• UL Listed PV Rapid Shutdown Equipment<sup>6</sup></li> </ul> |
| <p>Enables installation in accordance with:</p> <ul style="list-style-type: none"> <li>• NEC 690.6 (AC module)</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>   |  |
| <p>When used with InvisiMount racking and InvisiMount accessories (UL 2703):</p> <ul style="list-style-type: none"> <li>• Module grounding and bonding through InvisiMount</li> <li>• Class A fire rated</li> </ul> <p>When used with AC module Q Cables and accessories (UL 6703 and UL 2238)<sup>6</sup>:</p> <ul style="list-style-type: none"> <li>• Rated for load break disconnect</li> </ul> |  |
| PID Test  | Potential-induced degradation free   |



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Please read the Safety and Installation Instructions for details.

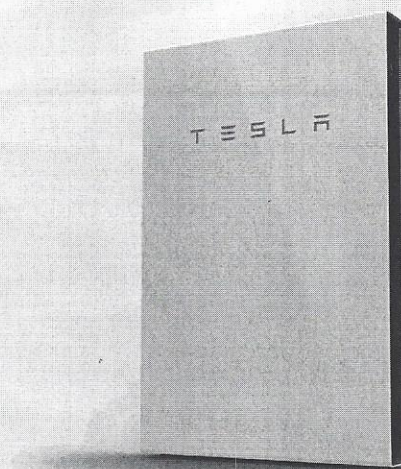
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## POWERWALL

Tesla Powerwall is a fully-integrated AC battery system for residential or light commercial use. Its rechargeable lithium-ion battery pack provides energy storage for solar self-consumption, time-based control, and backup.

Powerwall's electrical interface provides a simple connection to any home or building. Its revolutionary compact design achieves market-leading energy density and is easy to install, enabling owners to quickly realize the benefits of reliable, clean power.



### PERFORMANCE SPECIFICATIONS

|   |                                |
|---|--------------------------------|
| AC Voltage (Nominal)                                  | 120/240 V                      |
| Feed-In Type  | Split Phase                    |
| Grid Frequency  | 60 Hz                          |
| Total Energy <sup>1</sup>                             | 14 kWh                         |
| Usable Energy <sup>1</sup>                            | 13.5 kWh                       |
| Real Power, max continuous <sup>2</sup>               | 5 kW (charge and discharge)    |
| Real Power, peak (10 s, off-grid/backup) <sup>2</sup> | 7 kW (charge and discharge)    |
| Apparent Power, max continuous                        | 5.8 kVA (charge and discharge) |
| Apparent Power, peak (10 s, off-grid/backup)          | 7.2 kVA (charge and discharge) |
| Maximum Supply Fault Current                          | 10 kA                          |
| Maximum Output Fault Current                          | 32 A                           |
| Overcurrent Protection Device                         | 30 A                           |
| Imbalance for Split-Phase Loads                       | 100%                           |
| Power Factor Output Range                             | +/- 1.0 adjustable             |
| Power Factor Range (full-rated power)                 | +/- 0.85                       |
| Internal Battery DC Voltage                           | 50 V                           |
| Round Trip Efficiency <sup>1,3</sup>                  | 90%                            |
| Warranty  | 10 years                       |

<sup>1</sup> Values provided for 25°C (77°F), 3.3 kW charge/discharge power.

<sup>2</sup> In Backup mode, grid charge power is limited to 3.3 kW.

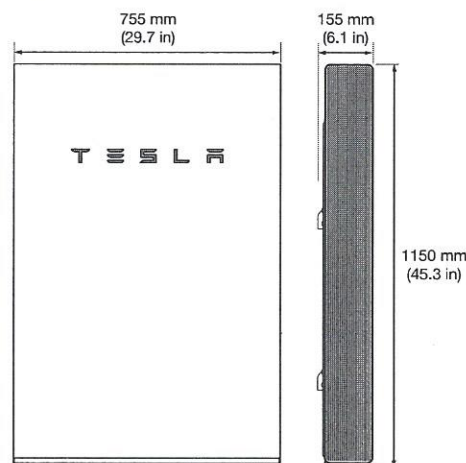
<sup>3</sup> AC to battery to AC, at beginning of life.

### COMPLIANCE INFORMATION

|                 |   |
|-----------------|---|
| Certifications  | UL 1642, UL 1741, UL 1973,<br>UL 9540, IEEE 1547, UN 38.3 |
| Grid Connection | Worldwide Compatibility                                   |
| Emissions       | FCC Part 15 Class B, ICES 003                             |
| Environmental   | RoHS Directive 2011/65/EU                                 |
| Seismic         | AC156, IEEE 693-2005 (high)                               |

### MECHANICAL SPECIFICATIONS

|                  |   |
|------------------|---|
| Dimensions       | 1150 mm x 755 mm x 155 mm<br>(45.3 in x 29.7 in x 6.1 in) |
| Weight           | 125 kg (276 lbs)  |
| Mounting options | Floor or wall mount                                       |



### ENVIRONMENTAL SPECIFICATIONS

|                         |  |
|-------------------------|--|
| Operating Temperature   | -20°C to 50°C (-4°F to 122°F)  |
| Optimum Temperature     | 0°C to 30°C (32°F to 86°F)   |
| Operating Humidity (RH) | Up to 100%, condensing   |
| Storage Conditions      | -20°C to 30°C (-4°F to 86°F)<br>Up to 95% RH, non-condensing<br>State of Energy (SoE): 25% initial |
| Maximum Elevation       | 3000 m (9843 ft)   |
| Environment             | Indoor and outdoor rated   |
| Enclosure Type          | NEMA 3R  |
| Ingress Rating          | IP67 (Battery & Power Electronics)<br>IP56 (Wiring Compartment)                                    |
| Wet Location Rating     | Yes  |
| Noise Level @ 1m        | < 40 dBA at 30°C (86°F)  |



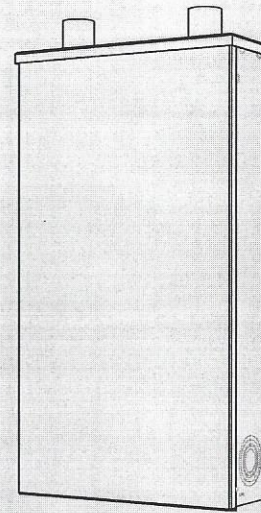
## POWERWALL

### Backup Gateway

The Backup Gateway for Tesla Powerwall provides energy management and monitoring for solar self-consumption, time-based control, and backup.

The Backup Gateway controls connection to the grid, automatically detecting outages and providing a seamless transition to backup power. When equipped with a circuit breaker, the Backup Gateway can be installed at the service entrance.

The Backup Gateway communicates directly with Powerwall, allowing you to monitor energy use and manage backup energy reserves from any mobile device with the Tesla app.



### PERFORMANCE SPECIFICATIONS

|  |  |
|--|--|
| AC Voltage (Nominal)                       | 230 V, 120/240 V   |
| Feed-In Type                               | Single & Split Phase   |
| Grid Frequency                             | 50 and 60 Hz   |
| Disconnect Current                         | 200 A  |
| Maximum Input Short Circuit Current        | 10 kA  |
| Overcurrent Protection Device <sup>1</sup> | 100–200 A; Service Entrance Rated                                  |
| Overvoltage Category                       | Category IV  |
| AC Meter                                   | Revenue grade (+/- 1%)   |
| Connectivity                               | Ethernet, Cellular (3G) <sup>2</sup> , Wi-Fi                       |
| User Interface                             | Tesla App  |
| Operating Modes                            | Support for solar self-consumption, time-based control, and backup |
| Backup Operation                           | Automatic disconnect for seamless backup transition                |
| Modularity                                 | Supports up to 10 AC-coupled Powerwalls                            |
| Warranty                                   | 10 years   |

<sup>1</sup>Circuit breaker required for installation at service entrance.

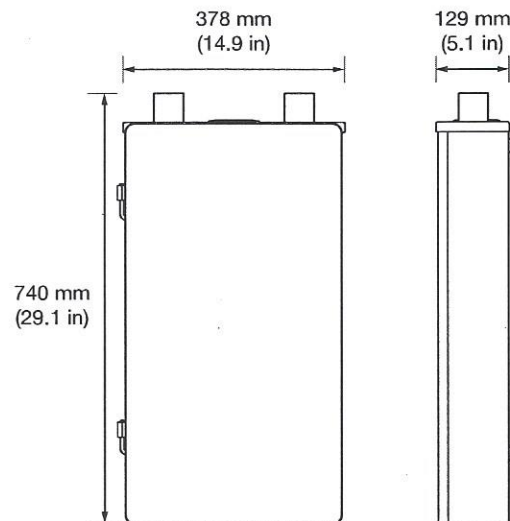
<sup>2</sup>Cellular connectivity subject to network operator service coverage and signal strength.

### COMPLIANCE INFORMATION

|                 |   |
|-----------------|---|
| Certifications  | UL 1642, UL 1741, IEC 62109-1, CSA C22.2.107.1  |
| Grid Connection | Worldwide Compatibility   |
| Emissions       | FCC Part 15 Class B, ICES 003, IEC 61000-6-3, EN 55024, EN 301489-1, EN 301489-7, EN 301489-17      |
| Environmental   | RoHS Directive 2011/65/EU, WEEE Directive 2012/19/EU, Battery Directive 2006/66/EC REACH Regulation |
| Seismic         | AC156, IEEE 693-2005 (high)   |

### MECHANICAL SPECIFICATIONS

|                  |  |
|------------------|--|
| Dimensions       | 740 mm x 378 mm x 129 mm<br>(29.1 in x 14.9 in x 5.1 in) |
| Weight           | 16.4 kg (36 lbs)   |
| Mounting options | Wall mount   |



### ENVIRONMENTAL SPECIFICATIONS

|                         |                               |
|-------------------------|-------------------------------|
| Operating Temperature   | -20°C to 50°C (-4°F to 122°F) |
| Operating Humidity (RH) | Up to 100%, condensing        |
| Maximum Elevation       | 3000 m (9843 ft)              |
| Environment             | Indoor and outdoor rated      |
| Enclosure Type          | NEMA 3R                       |
| Ingress Rating          | IP44                          |