



Stamper Residence
15303 Earlham St
Pacific Palisades, CA 90272

3/4/2026

Xero Solar System

Included in Quote:

10.1 kW-DC Xero Solar System

(22 x 460 W Solar Module)

TOTAL COST \$41,133

1st Year Electric Savings: **\$4,702**

Annual Bill Before: **\$5,422**

Payback Period: **7.5 Years**

Annual Bill After: **\$720**

Bill Offset: **86.7%**

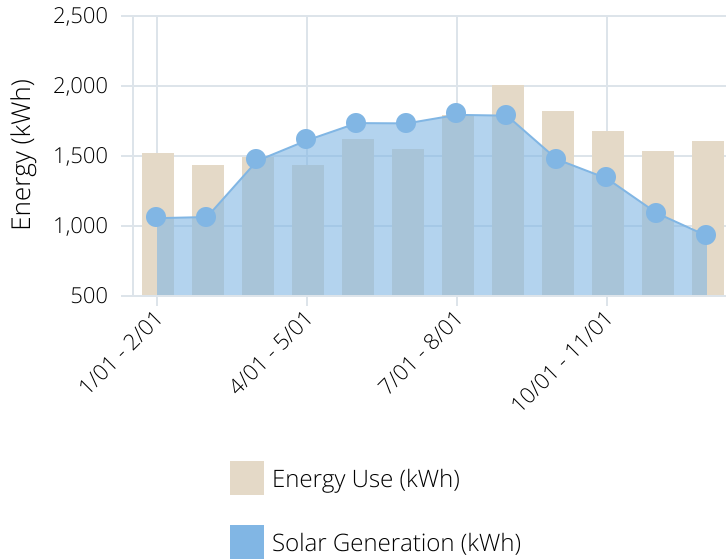
Prepared by: Riley Schoeben

m: 650 796 1262

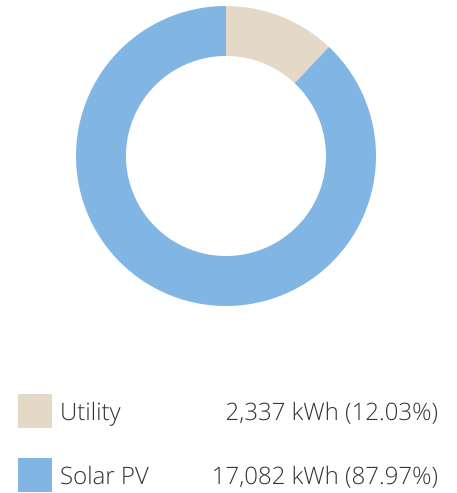
e: rschoeben@xerosolar.com

Estimated Savings

Energy Consumption vs Generation



Annual Utility vs PV Energy Mix



Notes about your System

-



Your Electric Bill

Current Bill

The table below shows your annual electricity costs based on the most current utility rates and your previous 12 months of electrical usage.

Rate Schedule: LADWP- R-1A (Zone: 1, Effective Date: 10/1/24)

Time Periods Bill Ranges & Seasons	Energy Use (kWh) Total	Charges		
		Other	Energy	Total
1/1/2026 - 2/1/2026 LS:Q1	1,519	\$23	\$373	\$396
2/1/2026 - 3/1/2026 LS:Q1	1,430	\$23	\$350	\$373
3/1/2025 - 4/1/2025 LS:Q1	1,492	\$23	\$366	\$389
4/1/2025 - 5/1/2025 LS:Q2	1,426	\$23	\$343	\$366
5/1/2025 - 6/1/2025 LS:Q2	1,618	\$23	\$392	\$415
6/1/2025 - 7/1/2025 HS:Q2	1,544	\$23	\$416	\$439
7/1/2025 - 8/1/2025 HS:Q3	1,787	\$23	\$527	\$549
8/1/2025 - 9/1/2025 HS:Q3	1,998	\$23	\$602	\$625
9/1/2025 - 10/1/2025 HS:Q3	1,808	\$23	\$534	\$557
10/1/2025 - 11/1/2025 LS:Q4	1,669	\$23	\$435	\$457
11/1/2025 - 12/1/2025 LS:Q4	1,528	\$23	\$396	\$419
12/1/2025 - 1/1/2026 LS:Q4	1,600	\$23	\$416	\$438
Total	19,419	\$272	\$5,150	\$5,422

New Bill

Recommended Rate: R-1A (Zone: 1, Effective Date: 10/1/24)

Time Periods Bill Ranges & Seasons	Solar PV (kWh) Total	Energy Use (kWh) Total	Charges			
			Other	NBC	Energy	Total
1/1/2026 - 2/1/2026 LS:Q1	1,056	463	\$8	\$0	\$255	\$263
2/1/2026 - 3/1/2026 LS:Q1	1,064	366	\$8	\$0	\$240	\$247
3/1/2025 - 4/1/2025 LS:Q1	1,465	27	\$8	\$0	\$221	\$229
4/1/2025 - 5/1/2025 LS:Q2	1,612	-186	\$8	\$0	\$188	\$196
5/1/2025 - 6/1/2025 LS:Q2	1,735	-117	\$8	\$0	\$213	\$221
6/1/2025 - 7/1/2025 HS:Q2	1,733	-189	\$8	\$0	\$186	\$194
7/1/2025 - 8/1/2025 HS:Q3	1,794	-7	\$8	\$0	\$217	\$225
8/1/2025 - 9/1/2025 HS:Q3	1,788	210	\$8	\$0	\$267	\$275
9/1/2025 - 10/1/2025 HS:Q3	1,476	332	\$8	\$0	\$254	\$262
10/1/2025 - 11/1/2025 LS:Q4	1,339	330	\$8	\$0	\$255	\$263
11/1/2025 - 12/1/2025 LS:Q4	1,091	437	\$8	\$0	\$267	\$275
12/1/2025 - 1/1/2026 LS:Q4	929	671	\$8	\$0	\$296	\$304
Total	17,082	2,337	\$95	-	\$2,860	\$2,954

1st Year Projected Electricity Savings: \$4,702



Cash Flow - Cash Purchase

Assumptions and Key Financial Metrics

Payback Period	7.5 Years	ROI	141.8%	PV Degradation Rate	0.25%
Energy Cost Escalation Rate	5.0%	Total Project Costs	\$41,133		

Years	Project Costs	Equipment Replacement	Electric Bill Savings	Total Cash Flow	Cumulative Cash Flow
Upfront	-\$41,133	-	-	-\$41,133	-\$41,133
1	-	-	\$4,702	\$4,702	-\$36,431
2	-	-	\$4,924	\$4,924	-\$31,507
3	-	-	\$5,158	\$5,158	-\$26,350
4	-	-	\$5,402	\$5,402	-\$20,948
5	-	-	\$5,658	\$5,658	-\$15,290
6	-	-	\$5,925	\$5,925	-\$9,365
7	-	-	\$6,206	\$6,206	-\$3,159
8	-	-	\$6,500	\$6,500	\$3,341
9	-	-	\$6,807	\$6,807	\$10,148
10	-	-	\$7,129	\$7,129	\$17,278
11	-	-	\$7,467	\$7,467	\$24,744
12	-	-	\$7,820	\$7,820	\$32,565
13	-	-	\$8,190	\$8,190	\$40,755
14	-	-	\$8,577	\$8,577	\$49,332
15	-	-	\$8,983	\$8,983	\$58,315
Totals:	-\$41,133	-	\$99,448	\$58,315	-

ROI

141.8%

Payback Period

7.5 Years





Working with Us



Our Core Values Shape Everything We Do

Xero Solar's goal is to provide the best customer experience possible. We do that by operating in line with our ideals and principles in all interactions.



Embrace Challenge



Quality Without Exception



Care for the Individual

Our In-House Experts Partner with You at Every Stage



Consultation & Impact Analysis



Custom Design & Planning



Installation



On-going Support

Our Customers' Experience

What it's like to work with us – in their own words



In an industry full of "here today, gone tomorrow" companies, Xero Solar is a refreshing exception. Customer service is top notch. Every person I engaged with at the company was knowledgeable, reliable, and extremely helpful. If you are hesitant about installing a solar system at your home I recommend you consider Xero Solar - you won't regret it! - Grant A.

Notes About Your System

This quote is valid for 30 days from date created. All rebates and incentives are managed through government programs and are not guaranteed by Xero Solar. Contact your Xero Solar account manager, Riley Schoeben, for more information.

All costs have been calculated and included for a full system install and commissioning with turnkey operation, unless specified otherwise. Xero Solar will handle all plans, permitting, interconnection agreements and rebate processing. Solar panel warranty is 25 years. Xero Solar will provide a 10 year workmanship warranty. The cost of service work is not included unless covered under the workmanship warranty or a manufacturer warranty.

System cost includes all required electrical components, permitted planset, utility and interconnection management, taxes and fees. It does not assume additional roof treatment. Electricity usage and savings are estimates based on current conditions and are subject to change.

All financial values are estimates. Any incentives are subject to a customer's estimated tax status, and the value of energy is based on previous energy use habits. Please refer to your contract for final terms and conditions. Proposed battery location and estimated costs are dependent on AHJ and utility approval. Any significant changes will be subject to customer approval.

Incentives and Rebates

This section summarizes all incentives available for this project. The actual rebate and incentive amounts for this project are shown in each example.

Investment Tax Credit (ITC), Residential - 30%

The federal Investment Tax Credit (ITC) for solar photovoltaic (PV) systems is at the rate of 30% of the total PV system cost. Unlike tax deductions, this tax credit can be used to directly offset your tax liability dollar for dollar.

Investment Tax Credit (ITC), Residential - 30% (ESS)

The federal Investment Tax Credit (ITC) for energy storage systems (ESS) is at the rate of 30% of the total PV system cost. The IRA explicitly states that the 30% ESS ITC was applicable for standalone ESS projects, and also ESS projects paired with a solar PV system. Unlike tax deductions, this tax credit can be used to directly offset your tax liability dollar for dollar.

Monitoring and Maintenance: Xero Assurance Plan

Xero Solar will conduct a complementary performance review of your system six months after it's operational. You can expect to hear from us then with an assessment of whether your system is producing as expected. To stay ahead of any issues and maintenance needs, we also offer on-going comprehensive monitoring through our Xero Assurance Plan.

The annual subscription of \$250/year provides:

- Monthly proactive monitoring checks by the Xero Solar team to ensure that the system is operating properly
- Quarterly system output reports
- An annual performance and savings report
- Utility rate and battery settings checks to ensure the system is maximizing your savings

If you're interested in annual in-person inspections, we can perform those for an additional fee.





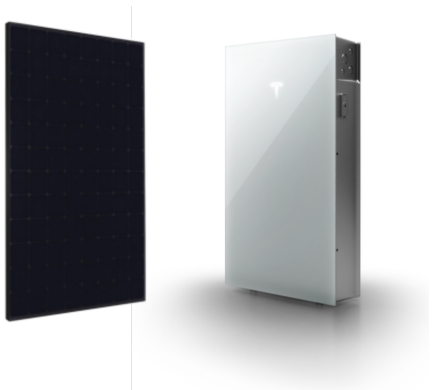
Stamper Residence
 15303 Earlham St
 Pacific Palisades

Cash Purchase

3/4/2026

Included in Quote:

22 x 460W PV Solar Modules	(10.12 kW-DC PV Solar System)	\$41,133
2 x ESS Units (Tesla Powerwall)	(11.5 kW AC Power, 27 kWh Capacity)	\$27,423



TOTAL COST \$68,556

Maximum Retention Allowed = 0%

Scope

System costs includes all required equipment, components, design, engineering and permit ready plan set. Xero Solar will manage the utility interconnection application. All taxes and shipping costs are included.

Assumptions

Assumes two mobilizations: one for Rough Electrical and one for complete install. Additional mobilizations will be billed separately. All work to be conducted during normal business hours. Power outages can be scheduled on nights or weekends with an additional charge for overtime. Internet drop to be provided by others.

Exclusions

AHJ Plan check, utility fee, and permit fee allowance is \$1305; any costs incurred beyond the allowance will be billed at cost.

Weather Sealing to be performed by others. Back up sub panel, line and load feeds to Energy gateway will be provided by others. Internet drop will be provided by others.

Batteries located within garage spaces may be required to install impact protection (removable bollards). This is subject to the discretion of the City / Fire Dept upon final inspection and will potentially be billed for at a later date.

A

THIRD FLOOR PLAN

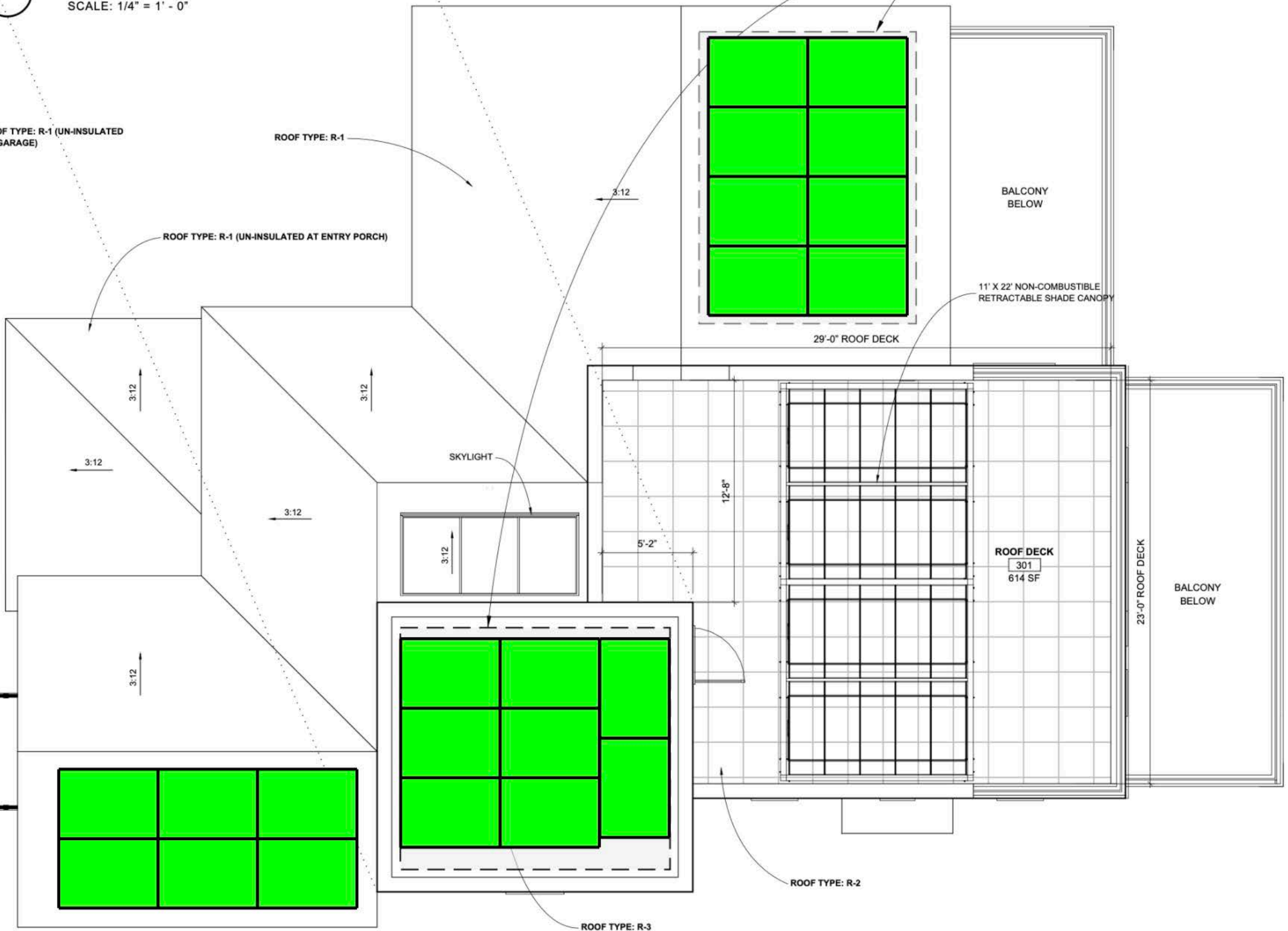
SCALE: 1/4" = 1' - 0"

ATTACHMENT, EQUIPMENT LOCATIONS, AND ELECTRICAL SHALL BE PROVIDED UNDER SEPARATE SOLAR PERMIT. INSTALLATION SHALL COMPLY WITH CBC, CEC, FIRE CODE ACCESS/SETBACK REQUIREMENTS, TITLE 24 ENERGY COMPLIANCE, AND ALL LADBS AND WUI REGULATIONS.

ROOF TYPE: R-1 (UN-INSULATED AT GARAGE)

ROOF TYPE: R-1

ROOF TYPE: R-1 (UN-INSULATED AT ENTRY PORCH)



SOLAR'S MOST TRUSTED



REC ALPHA[®] PURE-RX

DATASHEET



9 A MODULE CURRENT COMPATIBLE
WITH MLPE

450 - 470W
HETEROJUNCTION
TECHNOLOGY

226 W/M² POWER DENSITY

>92% POWER IN YEAR 25

-0.24%/°C TEMPERATURE
COEFFICIENT OF P_{MAX}

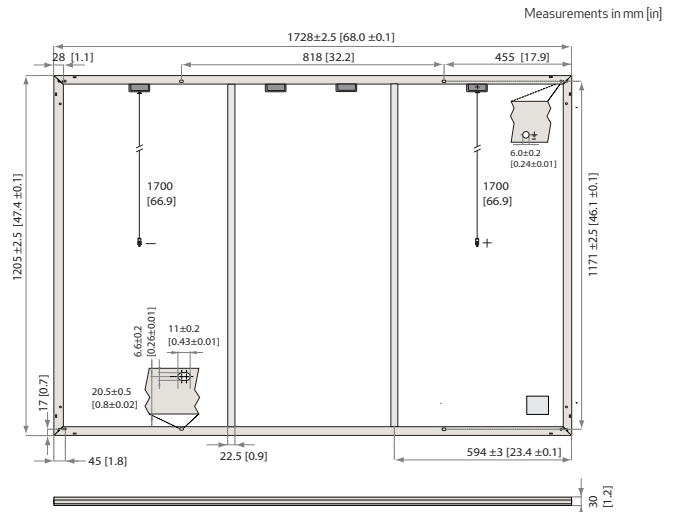


ELIGIBLE

REC ALPHA® PURE-RX DATASHEET

GENERAL DATA

Cell Type	88 half-cut bifacial REC heterojunction cells, with gapless technology
Glass	3.2 mm solar glass with anti-reflective surface treatment in accordance with EN12150
Backsheet	Highly resistant polymer (Black)
Frame	Anodized aluminum (Black)
Junction Box	4-part, 4 bypass diodes, IP68 rated, in accordance with IEC 62790:2020
Connectors	Stäubli MC4 PV-KBT4/KST4 (4 mm ²) in accordance with IEC 62852:2014, IP68 only when connected
Cable	4 mm ² solar cable, 1.70 m + 1.70 m in accordance with EN50618:2014
Dimensions	1728 x 1205 x 30 mm (2.08 m ²)
Weight	22.7 kg
Origin	Made in Singapore



Specifications subject to change without notice.

ELECTRICAL DATA

PRODUCT CODE*: RECXXXAA PURE-RX

Power Output - P _{MAX} (WP)	450	460	470
Watt Class Sorting - (W)	0/+10	0/+10	0/+10
Nominal Power Voltage - V _{MPP} (V)	54.3	54.9	55.4
Nominal Power Current - I _{MPP} (A)	8.29	8.38	8.49
Open Circuit Voltage - V _{OC} (V)	65.6	65.8	65.9
Short Circuit Current - I _{SC} (A)	8.81	8.88	8.95
Power Density (W/m ²)	216	221	226
Panel Efficiency (%)	21.6	22.1	22.6

CERTIFICATIONS

ISO 14001; ISO9001; IEC45001; IEC62941
 IEC 61215:2021; IEC 61730:2023; UL 61730
 ISO 11925-2 Ignitability (EN 13501-1 Class E)
 IEC 62716 Ammonia Resistance
 IEC 61701 Salt Mist (SM6)
 IEC 61215:2016 Hailstone (35 mm)
 UL 61730 Fire Type 2
 IEC TS 63126 Level I



takeaway
for an easy way
Take-e-way
WEEE-compliant
scheme

STC

NMOT

Power Output - P _{MAX} (W _P)	343	350	358
Nominal Power Voltage - V _{MPP} (V)	51.2	51.7	52.2
Nominal Power Current - I _{MPP} (A)	6.70	6.77	6.86
Open Circuit Voltage - V _{OC} (V)	61.8	62.0	62.1

Values at standard test conditions (STC: air mass AM1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

TEMPERATURE COEFFICIENTS*

P_{MAX} -0.24%/°C V_{OC} -0.24%/°C I_{SC} 0.04%/°C *The temperature coefficients stated are linear values

MODULE RATINGS

Module Operating Temperature [T98] [§]	80°C
Min Environmental Temperature	-40°C
Nominal Module Operating Temperature	44 ± 2°C
Max Hail Rating [¶]	45 mm @ 30.5 m/s
System Voltage	1000 V
Max Series Fuse Rating	25 A
Max Reverse Current	25 A

[§] 98th percentile operating temperature
[¶] Based on third party testing

MAXIMUM TEST LOAD*

Front (4-Point)*	+7000 Pa (714 Kg/m ²)
Rear (4-Point)*	-4000 Pa (408 Kg/m ²)
Front (6-Point)**	+8000 Pa (816 Kg/m ²)
Rear (6-Point)**	-6000 Pa (612 Kg/m ²)

Design load = Test load / 1.5 (safety factor)

*IEC61730/UL61730 certified. Refer to installation manual.

**Internal testing. Refer to installation manual.

WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Professional	No	Yes	Yes
System Size	All	<25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

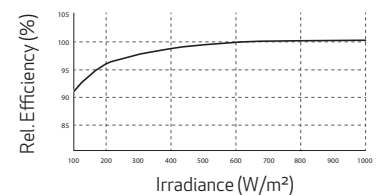
REC ProTrust Warranty applies only for i) REC panels installed by an REC Certified Solar Professional, and ii) panels have been registered by the installer with REC. Subject to System Size and further conditions. See www.recgroup.com for details.

DELIVERY INFORMATION

Panels per Pallet	33
Panels per 40 ft GP/high cube container	594 (18 Pallets)
Panels per 13.6 m truck	660 (20 Pallets)

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



Available from:



Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.

REC Solar PTE. LTD.
 20 Tuas South Ave. 14
 Singapore 637312
 post@recgroup.com
 www.recgroup.com

Powerwall 3

Power Everything

—
Powerwall 3 is a fully integrated solar and battery system, designed to accelerate the transition to sustainable energy. Customers can receive whole home backup, cost savings, and energy independence by producing and consuming their own energy while participating in grid services. Once installed, customers can manage their system using the Tesla App to customize system behavior to meet their energy goals.

Powerwall 3 achieves this by supporting up to 20 kW DC of solar and providing up to 11.5 kW AC of continuous power per unit. It has the ability to start heavy loads rated up to 185 LRA, meaning a single unit can support the power needs of most homes. Powerwall 3 Expansions make it easier and more affordable to scale up customers' systems to meet their current or future needs. Powerwall 3 is designed for fast and efficient installations, modular system expansion, and simple connection to any electrical service.



Powerwall 3 Technical Specifications

System Technical Specifications

Model Number	1707000-xx-y			
Nominal Grid Voltage (Input & Output)	120/240 VAC			
Grid Type	Split phase			
Frequency	60 Hz			
Nominal Battery Energy	13.5 kWh AC ¹			
Nominal Output Power (AC)	5.8 kW	7.6 kW	10 kW	11.5 kW
Maximum Apparent Power	5,800 VA	7,600 VA	10,000 VA	11,500 VA
Maximum Continuous Current	24 A	31.7 A	41.7 A	48 A
Overcurrent Protection Device ²	30 A	40 A	60 A	60 A
Configurable Maximum Continuous Discharge Power Off-Grid (PV Only, -20°C to 25°C)	15.4 kW ³			
Maximum Continuous Charge Current / Power (Powerwall 3 only)	20.8 A AC / 5 kW			
Maximum Continuous Charge Current / Power (Powerwall 3 with up to (3) Expansion units)	33.3 A AC / 8 kW			
Output Power Factor Rating	0 – 1 (Grid Code configurable)			
Maximum Output Fault Current (1 s)	160 A			
Maximum Short-Circuit Current Rating	10 kA			
Load Start Capability	185 LRA			
Solar to Battery to Home/Grid Efficiency	89% ^{1,4}			
Solar to Home/Grid Efficiency	97.5% ⁵			
Power Scalability	Up to 4 Powerwall 3 units supported			
Energy Scalability	Up to 3 Expansion units (for a maximum total of 7 units)			
Supported Islanding Devices	Gateway 3, Backup Switch, Backup Gateway 2			
Connectivity	Wi-Fi (2.4 and 5 GHz), Ethernet, Cellular (LTE/4G ⁶)			
Hardware Interface	Dry contact relay, Rapid Shutdown (RSD) certified switch and 2-pin connector, RS-485 for meters			
AC Metering	Revenue Grade (+/- 0.5%, ANSI C12.20)			
Protections	Integrated arc fault circuit interrupter (AFCI), Isolation Monitor Interrupter (IMI), PV Rapid Shutdown (RSD) using Tesla Mid-Circuit Interrupters			
Customer Interface	Tesla Mobile App			
Warranty	10 years			

¹Values provided for 25°C (77°F), at beginning of life. 3.3 kW charge/discharge power.

²See [Powerwall 3 Installation Manual](#) for fuse requirements if using fuse for overcurrent protection.

³15.4kW off-grid maximum continuous discharge power is only available if on-grid rating is 11.5 kW. If enabled, Powerwall 3 must be installed with an 80 A breaker and appropriately sized conductors.

⁴Typical solar shifting use case.

⁵Tested using CEC weighted efficiency methodology.

⁶The customer is expected to provide internet connectivity for Powerwall 3; cellular should not be used as the primary mode of connectivity. Cellular connectivity subject to network operator service coverage and signal strength.

Powerwall 3 Technical Specifications

Solar Technical Specifications

Maximum Solar STC Input	20 kW
Withstand Voltage	600 V DC
PV DC Input Voltage Range	60 — 550 V DC
PV DC MPPT Voltage Range	60 — 480 V DC
MPPTs	6
Maximum Current per MPPT (I_{MP})	15 A ^{7,8}
Maximum Short Circuit Current per MPPT (I_{SC})	19 A ⁸

⁷Only applicable to Powerwall 3 units with 15 A I_{MP} on the product label. Otherwise, Powerwall 3 has an I_{MP} of 13 A.

⁸When PV strings are combined on the roof and the DC input current exceeds the MPPT rating, a jumper can be used to combine two MPPTs into a single input to intake DC current up to 30 A I_{MP} / 38 A I_{SC} (or 26 A I_{MP} / 30 A I_{SC} if Powerwall 3 is labeled with 13 A I_{MP} / 15 A I_{SC}).

Environmental Specifications

Operating Temperature	-20°C to 50°C (-4°F to 122°F) ⁹
Operating Humidity (RH)	Up to 100%, condensing
Storage Temperature	-20°C to 30°C (-4°F to 86°F), up to 95% RH, non-condensing, State of Energy (SOE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Rating	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP55 (Wiring Compartment)
Pollution Rating	PD3
Operating Noise @ 1 m	< 50 db(A) typical < 62 db(A) maximum

⁹Performance may be de-rated at operating temperatures above 40°C (104°F).

Compliance Information

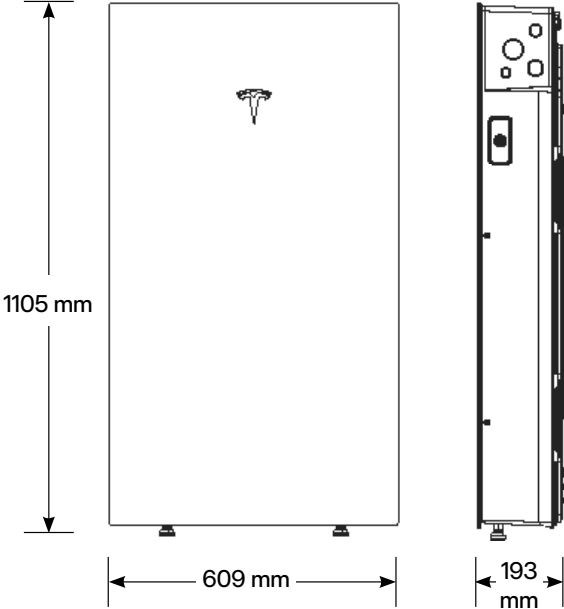
Certifications	UL 1741, UL 9540, UL 9540A, UL 3741, UL 1741 PCS, UL 1741 SA, UL 1741 SB, UL 1741 Multimode, UL 1973, UL 1699B, UL 1998, CSA C22.2 No. 0.8, CSA C22.2 No. 107.1, CSA C22.2 No. 330, CSA 22.3 No. 9, IEEE 1547, IEEE 1547A, IEEE 1547.1, CA Rule No.21
Grid Connection	United States and Canada
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)
Fire Testing	Meets the unit level performance criteria of UL 9540A

Powerwall 3 Technical Specifications

Mechanical Specifications

Dimensions	1105 x 609 x 193 mm (43.5 x 24 x 7.6 in) ¹⁰
Total Weight of Installed Unit	132 kg (291.2 lb)
Weight of Powerwall 3	124 kg (272.5 lb)
Weight of Glass Front Cover	6.5 kg (14.5 lb)
Weight of Wall Bracket	1.9 kg (4.2 lb)
Mounting Options	Floor or wall mount

¹⁰These dimensions include the glass front cover being installed on Powerwall 3.



Powerwall 3 Expansion Technical Specifications

Battery Technical Specifications

Model Number	1807000-xx-y
Nominal Battery Energy	13.5 kWh
Voltage Range	52 - 92 V DC ¹¹

¹¹ Powerwall 3 Expansion units are connected in parallel and are not field serviceable.

Environmental Specifications

Operating Temperature	-20°C to 50°C (-4°F to 122°F) ¹²
Operating Humidity (RH)	Up to 100%, condensing
Storage Temperature	-20°C to 30°C (-4°F to 86°F), up to 95% RH, non-condensing, State of Energy (SOE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Rating	NEMA 3R
Ingress Rating	IP67
Pollution Rating	PD3

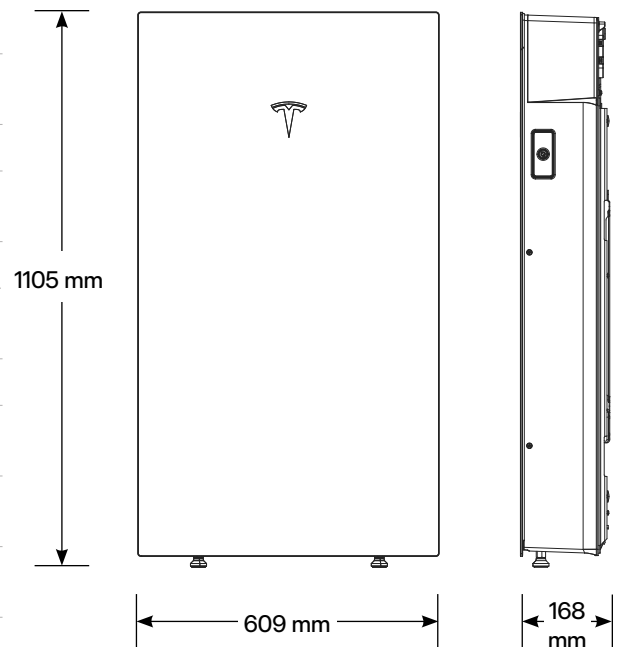
¹² Performance may be de-rated at operating temperatures above 40°C (104°F).

Compliance Information

Certifications	UL 1973, UL 9540
----------------	------------------

Mechanical Specifications

Dimensions	1105 x 609 x 168 mm (43.5 x 24 x 6.6 in) ¹³
Total Weight of Wall-Mounted Expansion Unit	118.5 kg (261.2 lb)
Weight of Expansion Unit	110 kg (242.5 lb)
Weight of Glass Front Cover	6.5 kg (14.5 lb)
Weight of Wall Bracket	1.9 kg (4.2 lb)
Weight of Expansion Accessories	0.7 kg (1.5 lb)
Mounting Options	Floor or wall mount
Stacking Capability (Floor Mount Only)	Up to (3) Expansion units behind a Powerwall 3
Compatibility with Other Systems	Only compatible with Powerwall 3
Connection to Powerwall 3 or Expansions	Powerwall 3 Expansion harness ¹⁴



¹³ These dimensions include the glass front cover being installed on Powerwall 3 Expansion.

¹⁴ The Powerwall 3 Expansion harness is a listed component of the UL 9540 certification.

Solar Shutdown Device Technical Specifications

The Solar Shutdown Device is a Mid-Circuit Interrupter (MCI) and is integral to the rapid shutdown (RSD) function required for rooftop PV systems in accordance with Article 690 of the NEC. When paired with Powerwall 3, solar array shutdown is initiated by an External System Shutdown Switch or the On/Off Enable switch located on Powerwall 3. Systems not subject to rapid shutdown requirements must still install one or more MCIs for functional purposes; see the Powerwall 3 installation manual for details.

Electrical Specifications

Model	MCI-1	MCI-2	MCI-2 High Current
Nominal Input DC Current Rating (I_{MP})	13 A	13 A	15 A
Maximum Input Short Circuit Current (I_{SC})	19 A	17 A	19 A
Maximum System Voltage	600 V DC	1000 V DC ¹⁵	1000 V DC ¹⁵
Maximum Disconnect Voltage ¹⁶	600 V DC	165 V DC	165 V DC

¹⁵ Maximum System Voltage is limited by Powerwall to 600 V DC.

¹⁶ Maximum Disconnect Voltage is the maximum voltage allowed across each MCI in the open position (Rapid Shutdown Initiated). An individual MCI-2 has a voltage rating of 165V but in combination (connected in the same string) their voltage ratings are additive.

RSD Module Performance

Maximum Number of Devices per String	5
Control	Power Line Excitation
Passive State	Normally Open
Maximum Power Consumption	7 W
Warranty	25 years

Environmental Specifications

Operating Temperature	-40°C to 50°C (-40°F to 122°F)	-45°C to 70°C (-49°F to 158°F)
Storage Temperature	-30°C to 70°C (-22°F to 158°F)	-30°C to 70°C (-22°F to 158°F)
Enclosure Rating	NEMA 4X / IP65	

Mechanical Specifications

Electrical Connections	MC4 Connector	
Housing	Plastic	
Dimensions	125 x 150 x 22 mm (5 x 6 x 1 in)	173 x 45 x 22 mm (6.8 x 1.8 x 1 in)
Weight	350 g (0.77 lb)	120 g (0.26 lb)
Mounting Options	ZEP Home Run Clip M4 Screw (#10) M8 Bolt (5/16") Nail / Wood screw	Wire Clip

Compliance Information

Certifications	UL 1741 PVRSE, UL 3741, PVRSA (Photovoltaic Rapid Shutdown Array)
RSD Initiation Method	External System Shutdown Switch or Powerwall 3 Enable Switch

UL 3741 PV Hazard Control (and PVRSA) Compatibility

See [UL 3741 Application Addendum](#)

Gateway 3

Tesla Gateway 3 controls connection to the grid in a Powerwall system, automatically detecting outages and providing seamless transition to backup power. It provides energy monitoring that is used by Powerwall for solar self-consumption, time-based control, and backup operation.

Performance Specifications

Model Number	1841000-x1-y	AC Meter	+/- 0.5%
Nominal Grid Voltage	120/240 V AC	Communication	CAN
Grid Configuration	Split phase	User Interface	Tesla App
Grid Frequency	60 Hz	Backup Transition	Automatic disconnect for seamless backup
Continuous Current Rating	200 A	Overcurrent Protection Device	100–200 A Service entrance rated Eaton CSR, BWH, or BW, or Square D QOM breakers
Maximum Supply Short Circuit Current	22 kA with Square D or Eaton main breaker 25 kA with Eaton main breaker ¹⁷	Internal Panelboard	200 A 8-space/16 circuit breakers Eaton BR, Siemens QP, or Square D HOM breakers rated to 10–125A
IEC Protective Class	Class I	Warranty	10 years
Overvoltage Category	Category IV		

¹⁷ Only Eaton CSR or BWH main breakers are 25 kA rated.

Environmental Specifications

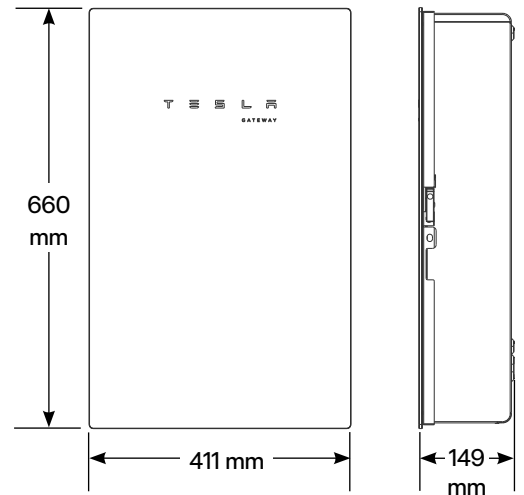
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R

Compliance Information

Certifications	UL 67, UL 869A, UL 916, UL 1741 PCS, CSA 22.2 107.1, CSA 22.2 29
Emissions	FCC Part 15, Class B, ICES 003

Mechanical Specifications

Dimensions	660 x 411 x 149 mm (26 x 16 x 6 in)
Weight	16.3 kg (36 lb)
Mounting options	Wall mount



Backup Switch

The Tesla Backup Switch controls connection to the grid in a Powerwall system, and can be easily installed behind the utility meter or in a standalone meter panel downstream of the utility meter.

The Backup Switch automatically detects grid outages, providing a seamless transition to backup power. It communicates directly with Powerwall, allowing home energy usage monitoring from any mobile device with the Tesla app.

Performance Specifications

Model Number	1624171-xx-y
Continuous Load Rating	200 A, 120/240 V split phase
Maximum Supply Short Circuit Current	22 kA with breaker ¹⁸
Communication	CAN
AC Meter	+/- 0.5%
Expected Service Life	21 years
Warranty	10 years

¹⁸ Breaker maximum supply short circuit current rating must be equal to or greater than the available fault current.

Environmental Specifications

Operating Temperature	-40°C to 50°C (-40°F to 122°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Enclosure Rating	NEMA 3R
Pollution Rating	PD3

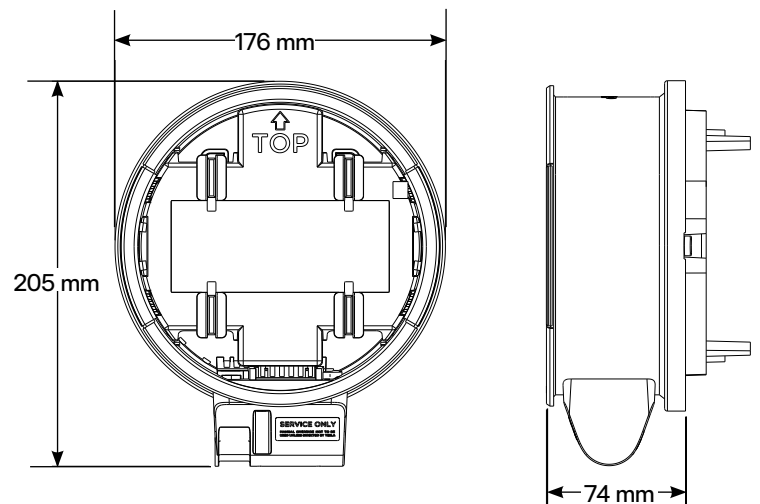
Compliance Information

Safety Standards	USA: UL 414, UL 414 SB, UL 2735, UL 916, CA Prop 65
Emissions	FCC Part 15, Class B, ICES 003

Mechanical Specifications

Dimensions	176 x 205 x 74 mm (6.9 x 8.1 x 2.9 in)
Weight	2.8 lb
Meter and Socket Compatibility	ANSI Type 2S, ringless or ring type
External Service Interface	Contactor manual override ¹⁹ Reset button
Conduit Compatibility	1/2-inch NPT

¹⁹ Manually overrides the contactor position during a service event.



Backup Gateway 2

Backup Gateway 2 controls connection to the grid when paired with Powerwall 3, automatically detecting outages and providing seamless transition to backup power. Backup Gateway 2 also provides energy metering for solar self-consumption, time-based control, and backup operation.

In this system configuration, Powerwall 3 acts as the Site Controller, with the Backup Gateway 2 Site Controller disabled.

Performance Specifications

Model Number	1232100-xx-y	Internal Primary AC Meter	+/- 0.2%
AC Voltage (Nominal)	120/240 V	Internal Auxiliary AC Meter	+/- 2%
Feed-in Type	Split phase	Backup Transition	Automatic disconnect for seamless backup
Grid Frequency	60 Hz	Modularity	Supports up to 10 AC-coupled Powerwalls
Current Rating	200 A	Optional Internal Panelboard	200 A 6-space / 12 circuit breakers Siemens QP or Square D HOM breakers rated 10 - 80A or Eaton BR breakers rated 10 - 125A
Maximum Supply Short Circuit Current	10 kA ²⁰	Warranty	10 years
Overcurrent Protection Device	100 - 200 A, Service entrance rated		
Overvoltage Category	Category IV		

²⁰When protected by Class J fuses, Backup Gateway 2 is suitable for use in circuits capable of delivering not more than 22kA symmetrical amperes.

Environmental Specifications

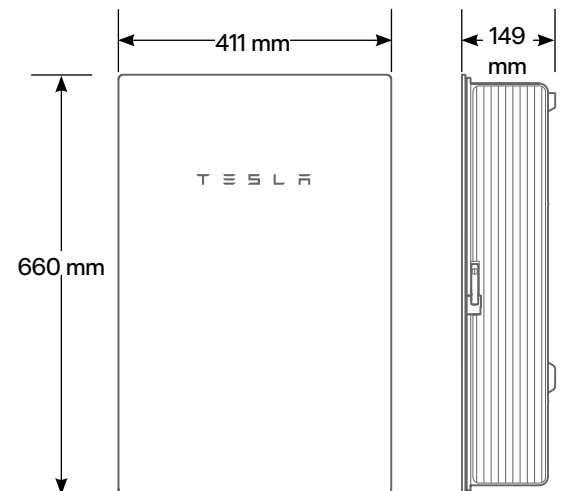
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R

Compliance Information

Certifications	UL 67, UL 869A, UL 916, UL 1741 PCS, CSA 22.2 0.19, CSA 22.2 205
Emissions	FCC Part 15, Class B, ICES 003

Mechanical Specifications

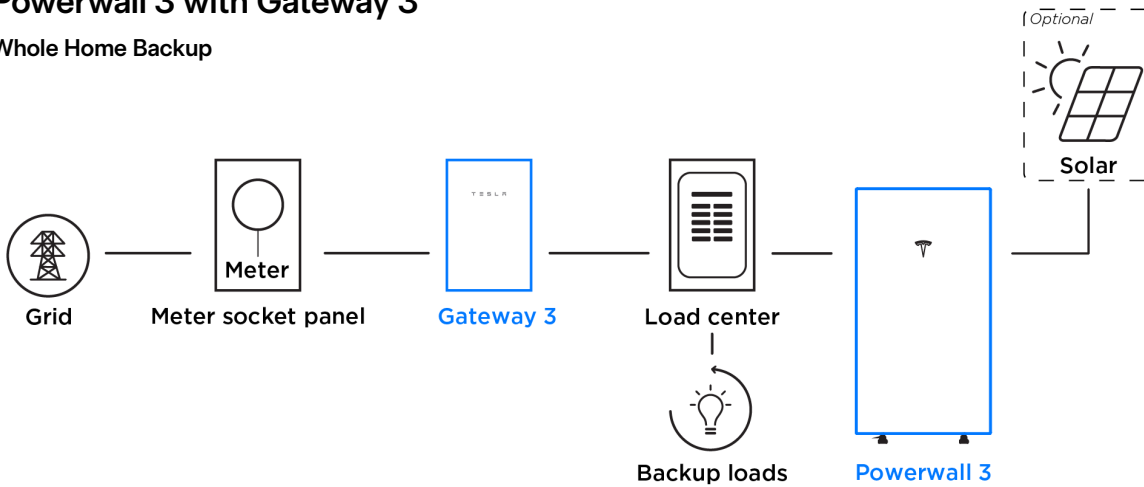
Dimensions	660 x 411 x 149 mm (26 x 16 x 6 in)
Weight	20.4 kg (45 lb)
Mounting options	Wall mount, Semi-flush mount



Powerwall 3 Example System Configurations

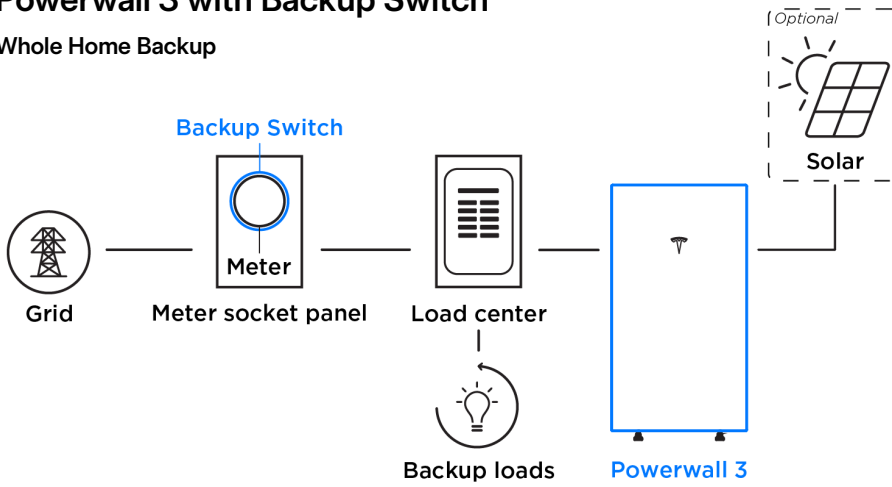
Powerwall 3 with Gateway 3

Whole Home Backup



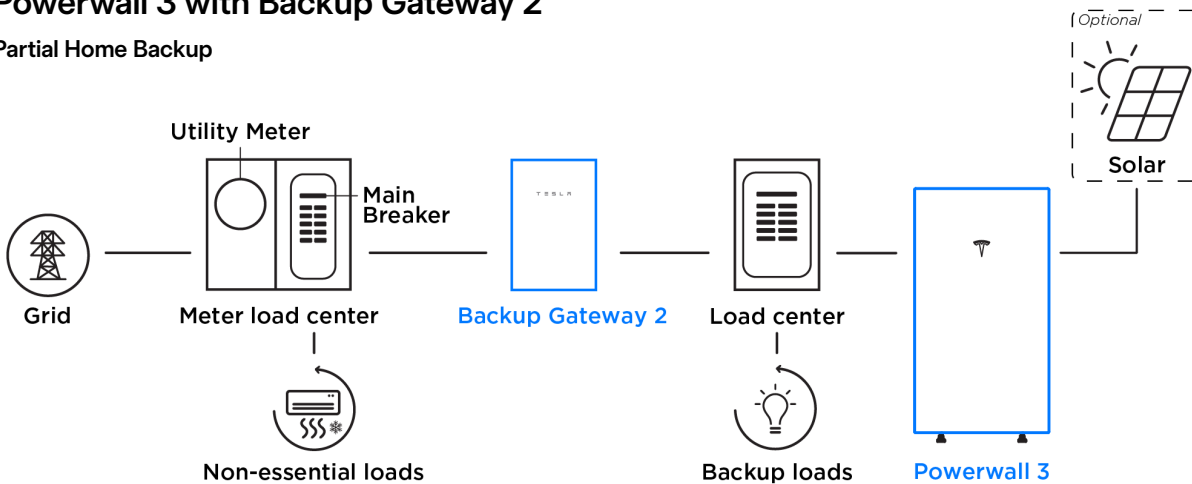
Powerwall 3 with Backup Switch

Whole Home Backup



Powerwall 3 with Backup Gateway 2

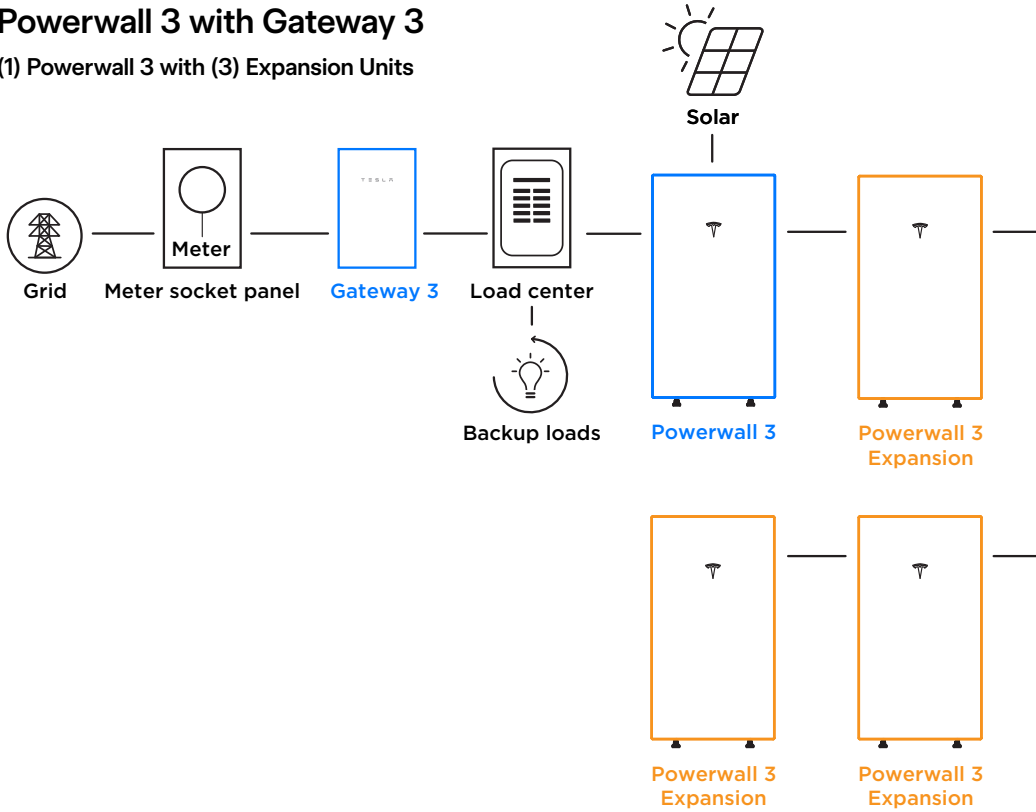
Partial Home Backup



Powerwall 3 Example System Configurations

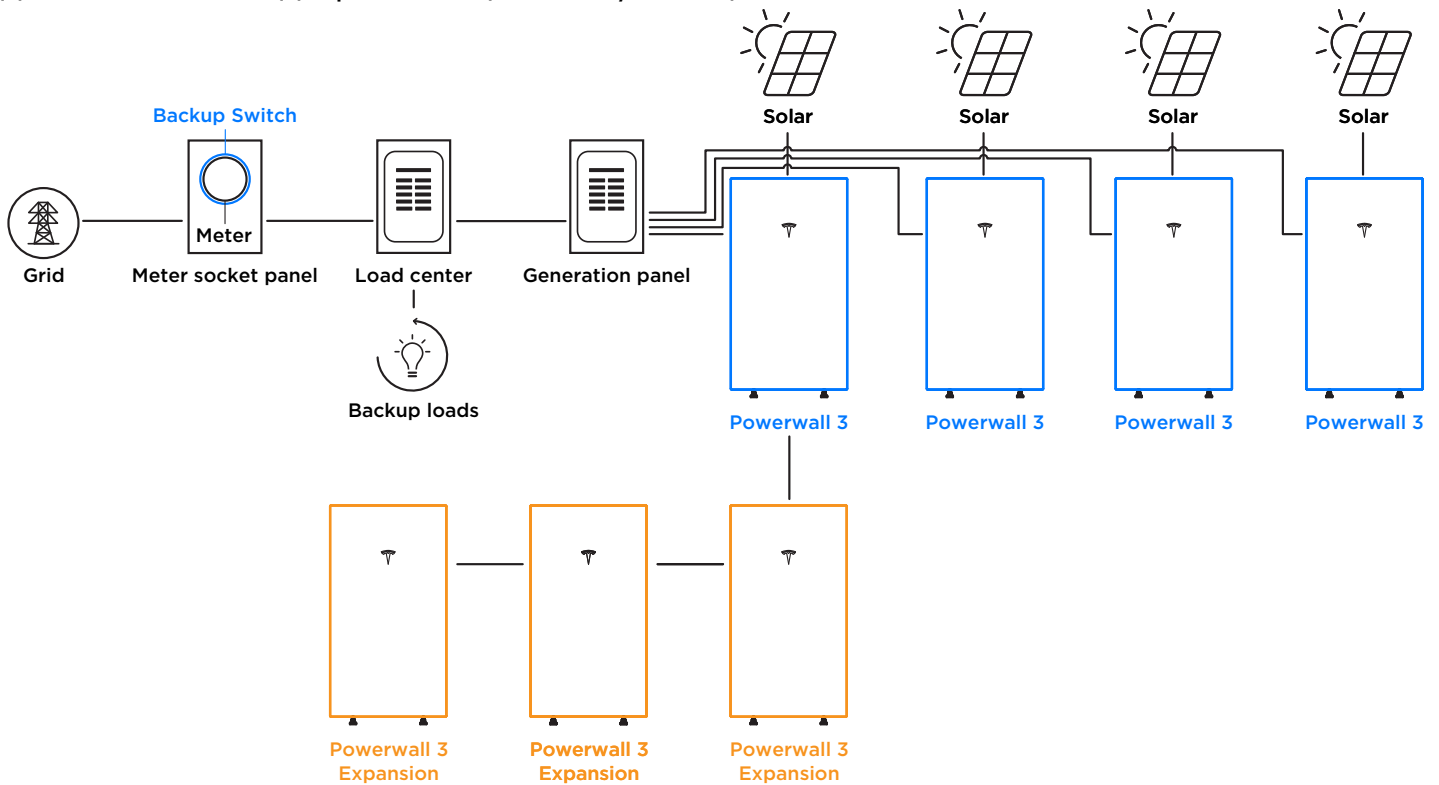
Powerwall 3 with Gateway 3

(1) Powerwall 3 with (3) Expansion Units



Powerwall 3 with Backup Switch

(4) Powerwall 3 Units with (3) Expansion Units (Maximum System Size)





Equipment Locations

- 3' working clearance in front of all equipment
- All forms of disconnect need to be in line of sight of the MSP
- ESS
 - ESS Unit ≥ 3 ft but within LOS of ESS Disconnect
 - Must provide OCPD if not in line of site from MSP
 - ESS Unit ≥ 3 ft from the MSP
 - Need one 3' wide minimum unobstructed pathway from property entrance to the ESS
 - Exterior:
 - TPW 2 & 3 Spacing
 - 10" spacing between units
 - Stacking allowed
 - ESS Unit ≥ 3 ft away from all openings
 - windows, doors, attic vents, crawlspaces, etc
 - 5ft away from any obstruction that extends >18 in beyond wall surface
 - tool shed, A/C units, water tanks, etc
 - 5ft away from the property line
 - Interior:
 - No spacing requirements from doors and windows
 - Fire Protection - Need one of the following:
 - Heat alarm (CSFM rated)
 - 125F operating temperature
 - Equipped with alarm and interconnected to rest of home detectors

1207.5.5 Fire suppression systems.

Rooms and areas within buildings and walk-in units containing electrochemical ESS shall be protected by an automatic fire suppression system designed and installed in accordance with one of the following:

1. An automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 with a minimum density of 0.3 gpm/ft² (1.14 L/min) based on the fire area or 2,500 square-foot (232 m²) design area, whichever is smaller.
2. Where approved, an automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 with a sprinkler hazard classification based on large-scale fire testing complying with Section 1207.1.5.
3. The following alternative automatic fire-extinguishing systems designed and installed in accordance with Section 904, provided that the installation is approved by the fire code official based on largescale fire testing complying with Section 1207.1.5:
 - 3.1. NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*.
 - 3.2. NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*.
 - 3.3. NFPA 750, *Standard on Water Mist Fire Protection Systems*.
 - 3.4. NFPA 2001, *Standard on Clean Agent FireExtinguishing Systems*.
 - 3.5. NFPA 2010, *Standard for Fixed Aerosol Fire-Extinguishing Systems*.

Exception: Fire suppression systems for lead-acid and nickel-cadmium battery systems at facilities under the exclusive control of communications utilities that operate at less than 50 VAC and 60 VDC shall be provided where required by NFPA 76.



- Sprinkler system with flow alarm interconnected to the rest of the home smoke detectors

1207.7.4 Fire-resistance-rated separations.

Rooms and areas containing ESS shall include fire-resistance-rated separations as follows:

1. In dedicated-use buildings, rooms and areas containing ESS shall be separated from areas in which administrative and support personnel are located.
2. In nondedicated-use buildings, rooms and areas containing ESS shall be separated from other areas in the building.

Separation shall be provided by 2-hour fire barriers constructed in accordance with Section 707 of the *California Building Code* and 2-hour horizontal assemblies constructed in accordance with Section 711 of the *California Building Code*, as appropriate.

- Impact Protection (Bollards)
 - Required if TPW is < 48” from the ground
 - 36” from the ground instead if garage ceiling height is ≤ 7’6”

Roof Setbacks

- 3’ from gable LBW
 - If an argument is to be made to enroach on this setback, then a variance request must be submitted to LAFD for pre-approval.
 - This costs \$
- 3’ on both sides of the ridge
 - 18” if modules on one side only
- No setback for eaves
- 18” both sides of hip & valley
 - No setback if modules on one side only
- 36” (from LBW) perimeter setback for flat roofs

EMBRACE CHALLENGE - QUALITY without EXCEPTION - CARE for the INDIVIDUAL