Powerwall 3

Power Everything

Powerwall 3 is a fully integrated solar and battery system designed to accelerate the world's transition to sustainable energy. Powerwall 3 can store solar or grid energy for later use when the sun goes down or when the electricity prices are high; lowering their electricity bills, reducing their reliance on the grid, and power their homes during a grid outage. Once installed, customers can manage their home energy system using the Tesla App and 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 11.04 kW AC of continuous power per unit. It has the ability to store up to 13.5 kWh of energy and start heavy loads rated up to 185 A LRA, meaning a single Powerwall 3 can support the power needs of most homes. 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)	230 VAC		
	Grid Type	Single phase		
	Frequency	50 Hz		
	Nominal Battery Energy	13.5 kWh AC ¹		
	Nominal Output Power (AC)	5 kW	10 kW	11.04 kW
	Maximum Apparent Power	5,000 VA	10,000 VA	11,040 VA
	Maximum Continuous Current	21.7 A	43.5 A	48 A
	Overcurrent Protection Device	32 A	50 A	63 A
	Maximum Continuous Charge Power	5 kW		
	Output Power Factor Rating	0 - 1 (Grid Code configurable)		
	Maximum Output Fault Current	160 A		
	Maximum Short-Circuit Current Rating	10 kA		
	Load Start Capability	185 locked rotor amps (LRA)		
	Power Scalability	Up to 4 Powerwall 3 units supported ²		
	Solar to Battery to Home/Grid Efficiency	89% ^{1,3}		
	Solar to Home/Grid Efficiency	97.5%		
	Supported Islanding Device	Backup Gateway 2		
	Connectivity	Wi-Fi (2.4 and 5 GHz), Ethernet, Cellular (LTE/4G ⁴)		ılar (LTE/4G ⁴)
	Hardware Interface	Dry contact relay, Dynamic Response Mode Interface, RS-485 for meters		
	AC Metering	Revenue Grade (+/- 0.5%)		
	Protections	Integrated arc fault circuit interrupter (AFCI), Isolation Monitor Interrupter (IMI), Integrated DC Isolator		
	Customer Interface	Tesla Mobile App		
	Warranty	10 years		

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	3
Maximum Current per MPPT (I _{mp})	26 A
Maximum Short Circuit Current per MPPT (I_{sc})	30 A

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

² The maximum number of Powerwall 3 units per installation may vary by market.

³ Typical solar shifting use case.

⁴ The 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

Environmental Specifications

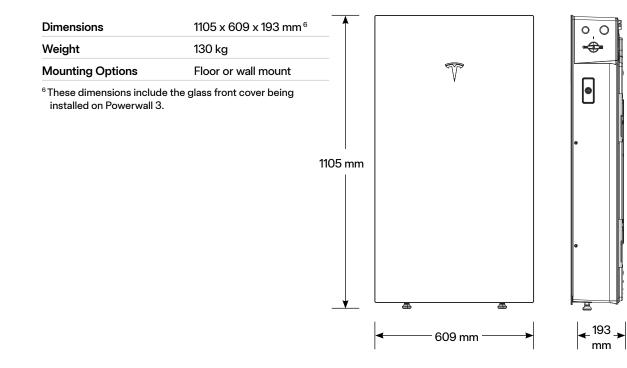
Operating Temperature	−20°C to 50°C ⁵
Operating Humidity (RH)	Up to 100%, condensing
Storage Temperature	–20°C to 30°C, up to 95% RH, non-condensing, State of Energy (SOE): 25% initial
Maximum Elevation	3000 m
Environment	Indoor and outdoor rated
Enclosure Rating	IP55
Ingress Rating	IP67 (Battery & Power Electronics) IP55 (Wiring Compartment)
Pollution Rating	PD3
Operating Noise @ 1 m	< 50 db(A) typical, < 62 db(A) maximum

⁵Powerwall 3 is designed to operate in all climates and in direct sunlight, from temperatures of -20°C to 50°C. Performance may be de-rated at operating temperatures above 40°C.

Compliance Information

Certifications	IEC 61000-6-1: 2016, IEC 61000-6-3: 2020, IEC 62477-1: 2022, IEC 62109-1: 2010, IEC 62109-2: 2011, IEC 62933-5-2: 2020, IEC 62619: 2022, UL 1973, UL 9540A, AS 4777.2
Grid Connection	Australia and New Zealand
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU REACH Regulation EC 1907/2006
Seismic	AC156, IEEE 693-2005 (high)
Fire Testing	Meets the unit level performance criteria of UL 9540A

Mechanical Specifications



Backup Gateway 2 Specifications

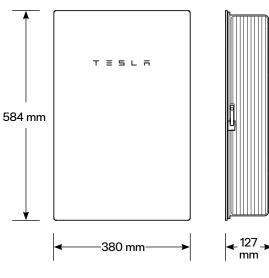
Backup Gateway 2 provides energy management and monitoring for solar self-consumption, time-based control, and backup operation. When Powerwall 3 is in Backup mode, Backup Gateway 2 controls connection to the grid, detects outage, and provides backup power.

Electrical	AC Voltage (Nominal)	230 V (Line-to-Neutral) 400 V (Line-to-Line)	Maximum Input Short Circuit Current	10 kA
Specifications	Feed-In Type	Single Phase, Three Phase	Overvoltage Category	Category III
	Grid Frequency	50 Hz	AC Meter	Revenue accurate (+/- 0.2%) ⁷
	Maximum Overcurrent Protection Device	100 A (single-phase service) 80 A (2- or 3-phase service)	Warranty	10 years
	⁷ Revenue accurate when u	sing Gateway internal site meter.		
Compliance	Safety		IEC 62109-1, IEC 62053-2	2, IEC 61439-1, IEC 61439-3
Information	EMC and Radio Equipme	ent	2014/53/EU, IEC 61000-6	J, Radio Equipment Directive -1, IEC 61000-6-3, EN 55024, EN 301 489-1, EN 301 489- 511, EN 301 893, EN 301
	Environmental		RoHS Directive 2011/65/El EU, Battery Directive 2006 REACH Regulation EC 190	
	Seismic		AC156, IEEE 693-2005 (hi	gh)
Environmental	Operating Temperature		-20°C to 50°C ⁸	
Specifications	Operating Humidity (RH	1)	Up to 100%, condensing	
	Maximum Altitude		3000 m	
	Ingress Rating		IP55	
	Environmental Category		Indoor and outdoor rated	
	Wet Location Rating		Yes	
	Pollution Degree		PD2	
	⁸ Performance may be de-r	ated in extreme ambient temperatur	es.	

Mechanical
Specifications

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Dimensions	584 x 380 x 127 mm
Weight	11.4 kg
Breaker Space (DIN rail)	Main breaker: 1-, 2- or 3-pole Generation/Load breakers: 6 spaces
Mounting Options	Wall mount



Powerwall 3 Example System Configurations

