Powerwall 3P

More Than a Battery

Energy

Powerwall 3P is a fully integrated solar and battery system for homes with a three-phase electrical connection. It enables you to store and use solar or low-cost grid energy, lowering electricity bills, reducing reliance on the grid, and powering the home during grid outages. With the Tesla App, you can customize Powerwall 3P to manage your home energy system, export excess energy to the grid, and maximize your energy savings.

With Powerwall 3P, you can convert up to 20.4 kW of solar power, deliver up to 15.4 kW of continuous power to your home, and store up to 13.5 kWh of energy, making a single unit sufficient to meet the energy needs of most homes. The system can be scaled by adding Powerwall 3P Expansion units to increase energy storage in 13.5 kWh increments, or by adding multiple Powerwall 3P units to boost both power and energy (coming soon).



Technical Specifications

System Technical Specifications

Model Number		1988000-xx-y					
Nominal Grid Voltage (Input & Output)		230/400 VAC					
Grid Type		Three phase					
Supported Grid Configurations		4-conductor Wye (L1, L2, L3, N)					
Supported Earthing Systems		TN or TT networks					
Frequency		50 Hz					
Usable Battery Energy (AC) [1]		13.5 kWh					
Nominal AC Output Power at 230/400 V (kW) [2]		15.4	11.5	10	8	6	5
Maximum Apparent Power (kVA)		15.4	11.5	10	8	6	5
Maximum Continuous Current (A)		22.2	16.6	14.4	11.5	8.6	7.2
Minimum Circuit Breaker Size (A)		32	25	20	16	10	10
Power Scalability [3]		Up to 61.6 kW					
Energy Scalability [3]		Up to 94.5 kWh					
Maximum Continuous Charge Power	Powerwall 3P only	5 kW					
	with Expansion units	8 kW					
Output Power Factor Rating		-1 to 1 (Grid code configurable)					
Maximum Output Fault Current per Phase (1 s)		54 A					
Maximum Short-Circuit Current Rating		10 kA					
Peak AC Output Power (1 s)	for Three Phase Loads	21 kW					
	for Single Phase Loads	7.4 kW					
Solar to Battery to Home/Grid Efficiency [1, 4]		90%					
Solar to Home/Grid Efficiency [5]		98.4%					
Supported Islanding Device		Backup Gateway 2 [6]					
AC and DC Surge Protection		Integrated Type II SPD					
Connectivity		Wi-Fi (2.4 and 5 GHz), Dual-port switched Ethernet, Cellular (LTE/4G [7])					
Electrical Interface		Dry contact relay 60V 2A, Rapid Shutdown (RSD), RS485 connector for Tesla Remote Meter					
Protections		AC Overcurrent Protection, DC Reverse Polarity Protection, Residual Current Interrupter, Isolation Monitor Interrupter (IMI), Integrated DC Isolator					
Customer Interface		Tesla App					
Warranty		10 years					

[1] 15 kWh DC battery energy. 13.5 kWh AC is min. guaranteed at beginning of life, 25°C, and 5 kW charge/discharge power.

[2] 15.4 kW AC output available at ambient temperatures ≤ 25°C, with sufficient solar generation. Up to 11.5 kW AC output is available when solar is not available, or when operating at higher temperatures.

[3] These values reflect a maximum system size of four Powerwall 3P units (available soon) and three Expansion units.

[4] Typical use case with energy produced by solar and stored in battery and then released to loads or the grid.

[5] Tested using EU weighted efficiency methodology.

[6] Required only for backup configuration. Not required for non-backup configuration.

[7] Cellular connectivity subject to network service coverage and signal strength.

Technical Specifications

Solar Technical Specifications	Maximum Solar STC Input		20.4 kWp
	PV DC Startup Voltage		60 V DC
	PV DC Input Voltage Range		60 — 1000 V DC
	PV DC MPPT Voltage Range		60 — 800 V DC
	MPPTs		4
	Maximum Current (I_{mp})	per MPPT	16 A
		2 MPPTs in parallel	32 A
	Maximum Short Circuit Current (I_{sc})	per MPPT	21 A
		2 MPPTs in parallel	42 A
Environmental Specifications	Operating Temperature [8]		-20°C to 50°C
	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
	Ingress Rating		IP67 (Battery & Power Electronics)
			IP55 (Wiring Compartment)
	Pollution Rating		PD3
	Operating Noise @ 1 m		< 50 dB(A) typical, < 62 dB(A) maximum
Compliance Information	Certifications		VDE-AR-N 4105:2018-11 + Correction 1:2020-10, VDE V 0124-100:2020-06, IEC 62477-1: 2022, IEC 62109-1:2010, IEC 62109-2: 2011, IEC 62933-5-2: 2020, IEC 62619: 2022, IEC 61000-6-1:2016, EN IEC 61000-6-3: 2020, UN 38.3, Radio Equipment Directive 2014/53/EU
Mechanical Specifications	Dimensions		1105 x 609 x 193 mm
	Weight		138 kg
	Mounting Options		Floor or wall mount

[8] Performance may be de-rated at operating temperatures above 40°C. 15.4 kW AC output available at ambient temperatures ≤ 25°C.

Powerwall 3P Expansion Unit Technical Specifications

Powerwall 3P Expansion is a battery designed to add storage capacity to a Powerwall 3P system. It does not include an inverter or system controller, so it cannot connect directly to solar or operate without a Powerwall 3P. Up to three Expansion units can be stacked behind Powerwall 3P or wall-mounted next to it.

Stacked



Wall Mounted



Battery Specifications	Model Number	1807000-xx-y		
	Usable Battery Energy	13.5 kWh		
	Voltage Range	52 - 92 V DC		
Environmental Specifications	Operating Temperature [9]	-20°C to 50°C		
	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		
	Ingress Rating	IP67		
	Pollution Rating	PD3		
Compliance Information	Certifications	IEC 62619, IEC 62933-5-2, IEC 61000-6-1:2016, EN IEC 61000-6-3: 2020		
Mechanical Specifications	Dimensions	1105 x 609 x 168 mm (with glass front cover)		
	Weight	118.5 kg (wall-mounted unit with glass front cover and bracket)		
		110 kg (stacked unit without glass front cover and bracket)		
	Mounting Options	Floor or wall mount		
	Stacking Capability	Up to (3) Expansion units behind Powerwall 3P (floor mount only)		
	Compatibility	Only with Powerwall 3P or Powereall 3		
	Connection to Powerwall 3P or Expansions	Expansion harness		
	Expansion Harness Options	0.5 m	2 m	4 m

[9] Performance may be de-rated at operating temperatures above 40°C.

Backup Gateway 2 Specifications

Backup Gateway 2 is required for installing Powerwall 3P in a backup configuration. It provides energy monitoring and backup operation. When Powerwall 3P is in Backup mode, Backup Gateway 2 detects outage, controls connection to the grid, and provides backup power.



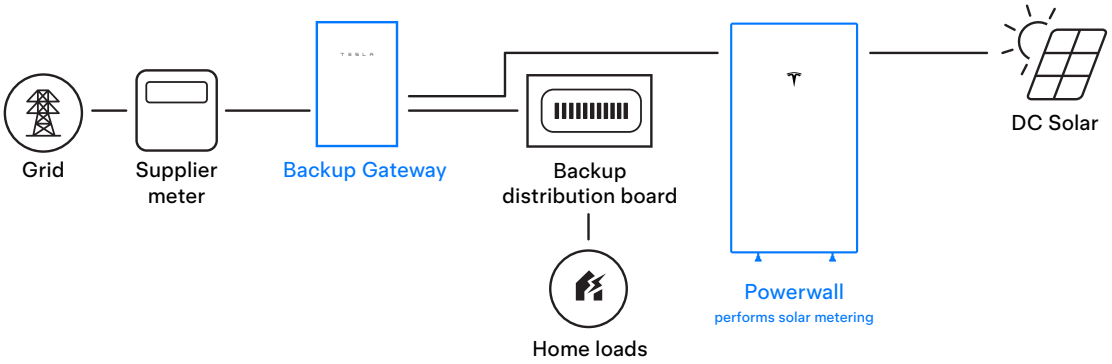
Electrical Specifications	Model Number	1152100-xx-y
	AC Voltage (Nominal) [10]	230 V (Line-to-Neutral) 400 V (Line-to-Line)
	Feed-In Type	Single phase, Three phase
	Grid Frequency	50-60 Hz
	Maximum Overcurrent Protection Device	100 A (single-phase service) 80 A (2- and 3-phase service)
	Maximum Input Short Circuit Current	10 kA
	Overvoltage Category	Category III
	AC Metering Accuracy	+/– 0.2 %
	Compatible Earthing Systems [11]	TN or TT networks
	Distribution boards intended to be operated by ordinary persons (DBO) Type	Type B
Environmental Specifications	Operating Temperature	–20°C to 50°C
	Operating Humidity (RH)	Up to 100%, condensing
	Maximum Altitude	3000 m
	Ingress Rating	IP55
	Environmental Category	Indoor and outdoor rated
	Pollution Degree	PD2
Compliance Information	Safety	IEC 62109-1, IEC 62053-22,IEC 61439-1, IEC 61439-3
	EMC	EMC Directive 2014/30/EU, IEC 61000-6-1, IEC 61000-6-3
	Environmental	ROHS DIRECTIVE 2011/65/EU, WEEE Directive 2012/19/EU Battery Directive 2006/66/EC, REACH Regulation EC 1907/2006
	Seismic	AC156, IEEE 693-2005 (high)
Mechanical Specifications	Dimensions	584 x 380 x 127 mm
	Weight	11.4 kg
	Breaker Space	Up to 9 single pole breakers on DIN rail
	Mounting	Wall mount

[10] 230 V (Line-to-Line) is not a supported three-phase configuration.

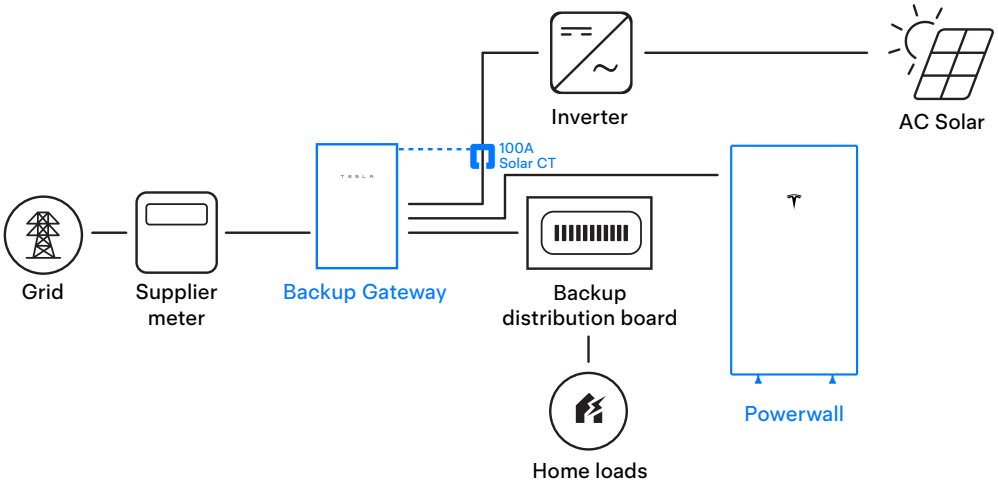
[11] TT earthing networks supported for Gateways with part number 1152100-13-H and higher.

Powerwall 3P Backup Configuration Examples

Powerwall 3P System with DC-Coupled Solar

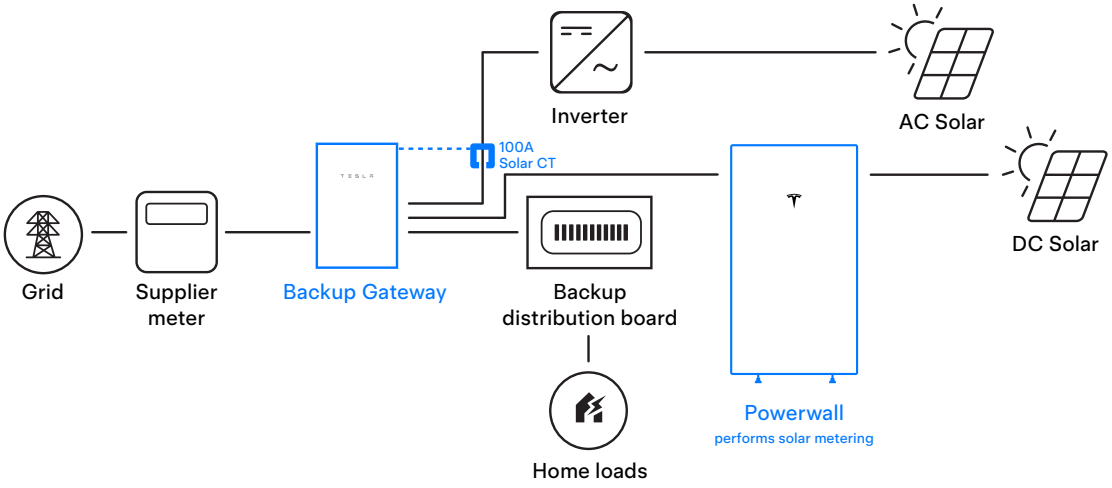


Powerwall 3P System with AC-Coupled Solar

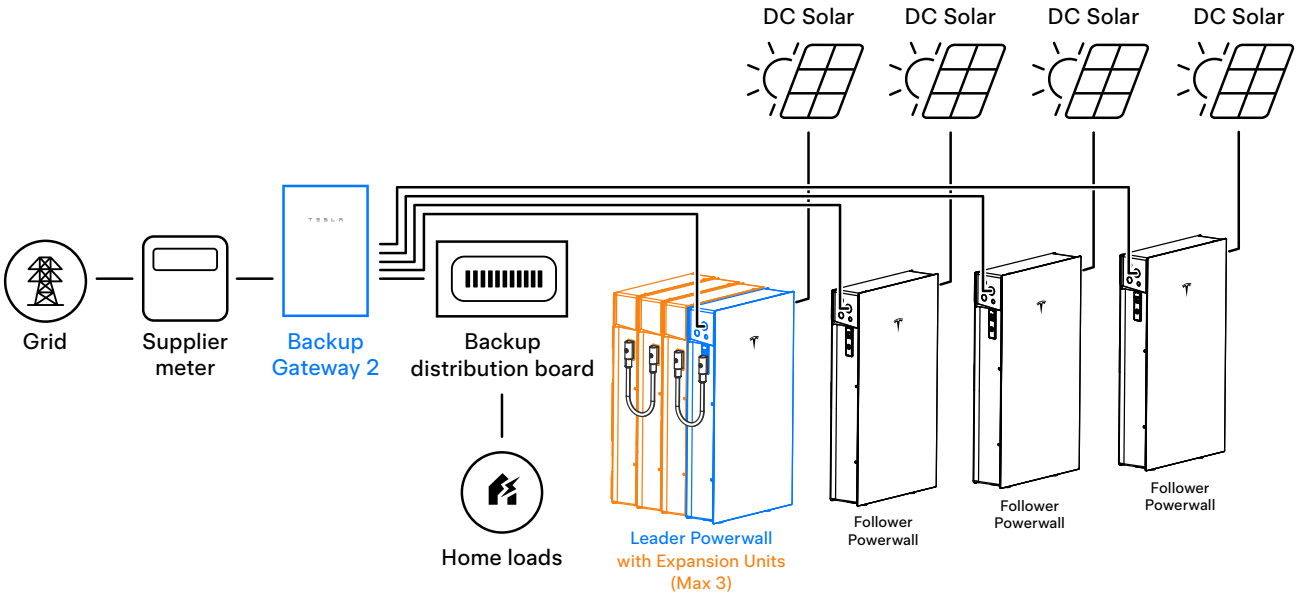


Powerwall 3P Backup Configuration Examples

Powerwall 3P System with AC- and DC-Coupled Solar

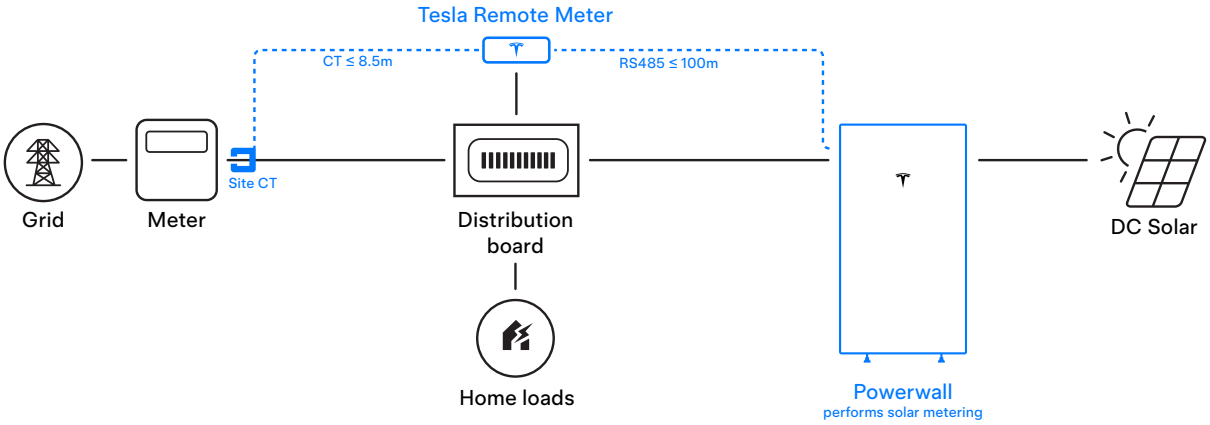


Multi-Powerwall 3P System with Expansion Units



Powerwall 3P Non-Backup Configuration Examples

Powerwall 3P System with DC-Coupled Solar



Powerwall 3P System with AC- and DC-Coupled Solar

