Powerwall 3AC

Flexible Storage

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Powerwall 3AC is an AC battery system designed for standalone storage or AC-coupled solar configurations. With a maximum output power of 5 kW and no DC-coupled solar, Powerwall 3AC is classified as an Energy Storage System (ESS) and can access higher inverter capacity allowances, ultimately offering greater flexibility in system design. Powerwall 3 (1707000-30-y) continues to support both AC and DC coupled configurations.

Powerwall 3AC is designed for fast and efficient installations, modular system expansion, and simple connection to any electrical service. Up to four Powerwall 3AC units with up to three **Powerwall 3 Expansions** can be installed in a single system, making it easier and more affordable to scale up customers' systems to meet their current or future needs.



Powerwall 3AC Technical Specifications

System Technical Specifications

Part Number	1707000-70-y
Nominal Grid Voltage (Input & Output)	230 VAC
Grid Type	Single phase
Frequency	50 Hz
Total Battery Energy	14 kWh AC[1]
Usable Battery Energy	13.5 kWh AC[1]
Nominal Output Power (AC)	5 kW
Maximum Apparent Power	5,000 VA
Maximum Continuous Current	21.7 A
Overcurrent Protection Device	32 A
Maximum Rated Continuous Charge Current / Power	21.7 A AC / 5 kW
Output Power Factor Rating	0 - 1 (Grid Code configurable)
Maximum Output Fault Current	160 A
Maximum Short-Circuit Current Rating	10 kA
Power Scalability	Up to 4 Powerwall 3AC units supported[2]
Energy Scalability	Up to 3 Expansion units (for a maximum total of 7 units)
Battery to Home/Grid Efficiency	89%[1]
Supported Islanding Device	Backup Gateway 2
Connectivity	Wi-Fi (2.4 and 5 GHz), Ethernet, Cellular (LTE/4G[3])
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)
Customer Interface	Tesla Mobile App
Warranty	10 years

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

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

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

Powerwall 3AC Technical Specifications

Environmental Specifications

Operating Temperature	–20°C to 50°C [4]
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	2000 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

[4] Powerwall 3AC is designed to operate in all climates, from temperatures of -20°C to 50°C. Performance may be de-rated at operating temperatures above 40°C.

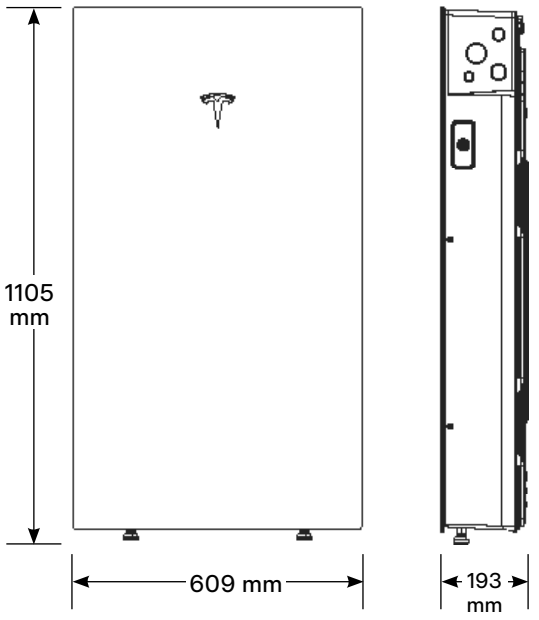
Compliance Information

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/NZS 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
Country of Manufacture	USA

Mechanical Specifications

Dimensions	1105 x 609 x 193 mm [5]
Weight	130 kg
Mounting Options	Floor or wall mount

[5] These dimensions include the glass front cover being installed on Powerwall 3AC.



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 [6]

[6] Powerwall 3 Expansion units are connected in parallel and are not field serviceable.

Powerwall 3AC Model Numbers When Installed with Expansion(s)

Model Number	Powerwall 3AC Configured Power Output	Number of Expansion Units
1707000-ACPW3-13.5	5 kW	None
1707000-ACPW3-27	5 kW	1
1707000-ACPW3-40.5	5 kW	2
1707000-ACPW3-54	5 kW	3

Environmental Specifications

Operating Temperature	–20°C to 50°C [7]
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	NEMA 3R
Ingress Rating	IP67
Pollution Rating	PD3

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

Compliance Information

Certifications	IEC 62619, IEC 62933-5-2, IEC 61000-6-1:2016, EN IEC 61000-6-3: 2020

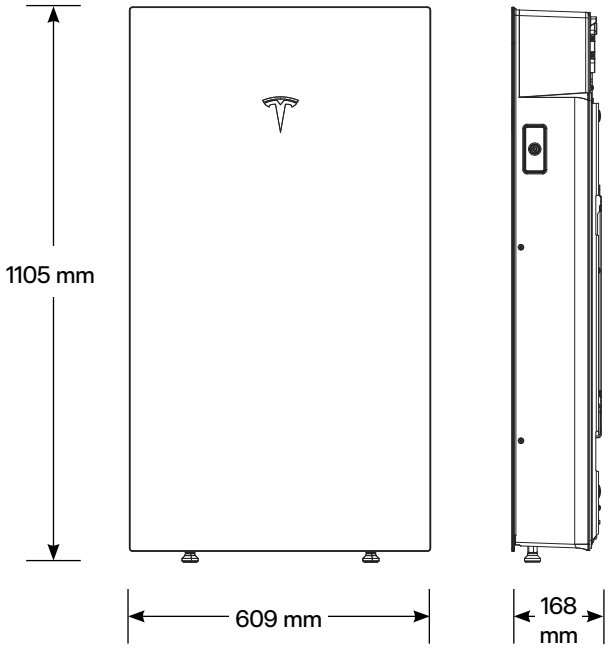
Powerwall 3 Expansion Technical Specifications

Mechanical Specifications

Dimensions	1105 x 609 x 168 mm [8]
Total Weight of Wall-Mounted Expansion Unit	118.5 kg
Weight of Expansion Unit	110 kg
Weight of Glass Front Cover	6.5 kg
Weight of Wall Bracket	1.9 kg
Weight of Expansion Accessories	0.7 kg
Mounting Options	Floor or wall mount
Stacking Capability (Floor Mount Only)	Up to (3) Expansion units behind a Powerwall 3AC
Compatibility with Other Systems	Only compatible with Powerwall 3 / Powerwall 3AC
Connection to Powerwall 3AC or Expansions	Powerwall 3 Expansion harness [9]

[8] These dimensions include the glass front cover being installed on Powerwall 3 Expansion.

[9] The Powerwall 3 Expansion harness is a listed component of the UL 9540 certification.



Backup Gateway 2 Specifications

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

Electrical Specifications

AC Voltage (Nominal)	230 V (Line-to-Neutral) 400 V (Line-to-Line)
Feed-In Type	Single Phase, Three Phase
Grid Frequency	50 Hz
Maximum Overcurrent Protection Device	100 A (single-phase service) 80 A (2- or 3-phase service)
Maximum Input Short Circuit Current	10 kA
Overvoltage Category	Category III
AC Meter	Revenue accurate (+/- 0.2%) [10]
Warranty	10 years

[10] Revenue accurate when using Gateway internal site meter.

Environmental Specifications

Operating Temperature	–20°C to 50°C [11]
Operating Humidity (RH)	Up to 100%, condensing
Maximum Altitude	3000 m
Ingress Rating	IP55
Environmental Category	Indoor and outdoor rated
Wet Location Rating	Yes
Pollution Degree	PD2

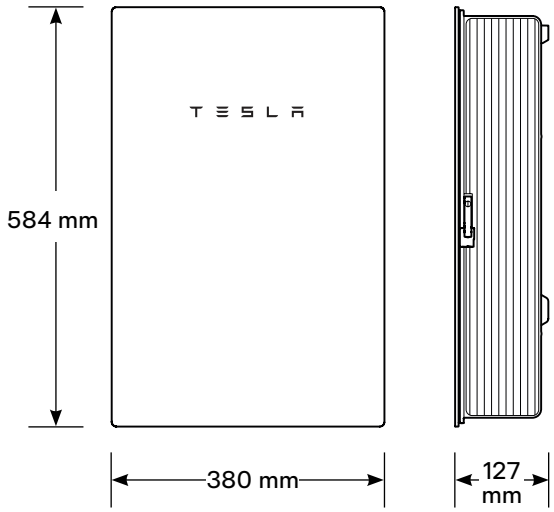
[11] Performance may be de-rated in extreme ambient temperatures.

Compliance Information

Safety	IEC 62109-1, IEC 62053-22, IEC 61439-1, IEC 61439-3
EMC and Radio Equipment	EMC Directive 2014/30/EU, Radio Equipment Directive 2014/53/EU, IEC 61000-6-1, IEC 61000-6-3, EN 55024, EN 300 328, EN 300 440, EN 301 489-1, EN 301 489-17, EN 301 489-52, EN 301 511, EN 301 893, EN 301 908-1
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)

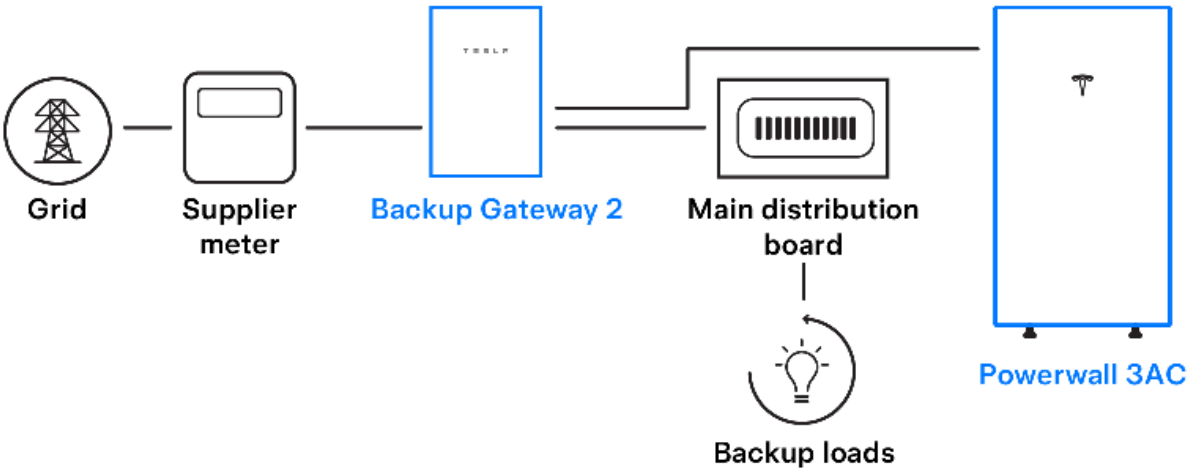
Mechanical Specifications

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



Powerwall 3AC Example System Configurations

Whole Home Backup



Partial Home Backup

