MEGAPACK



Megapack is an all-in-one utility-scale energy storage system that is scalable to the space, power, and energy requirements of any site from 1 MWh to over 1 GWh. Megapack is optimized for cost, performance, and ease of installation, and includes a standard system warranty of up to 15 years.

FULLY INTEGRATED SYSTEM

Megapack ships with battery modules, bi-directional inverter, thermal management system, and AC main breaker all pre-installed and pre-tested within a single enclosure. This turnkey system is designed to have the industry's fastest, lowest cost installation without sacrificing performance or reliability.

OPTIMIZATION SOFTWARE

Proprietary optimization software, developed in parallel with the Megapack hardware, learns and predicts local energy patterns, offering autonomous charge and discharge and seamless SCADA integration. Fast-response controls can integrate co-located renewables and enable market participation.

ENHANCED SYSTEM SAFETY

Parallel DC/DC converters, integrated heating and cooling at the cell level, and dedicated hazard venting are just a few of the safety and hazard mitigation features built into Megapack. Designed to meet international safety standards, Megapack helps ensure ease-of-permitting wherever it's installed.

INDUSTRY-LEADING RELIABILITY

A vertically integrated product from hardware design and sourcing to software development, Megapack offers significant reliability advantages over the competition. These design advantages are exemplified by a cooling system optimized specifically for Megapack that provides superior heating and cooling while factoring its HVAC energy consumption into its performance, and module-level DC/DC converters that can keep the system running uninterrupted in case of a partial failure.

LOWEST ENGINEERING, PROCUREMENT, AND CONSTRUCTION (EPC) COSTS

Megapack is shipped onsite fully assembled and pre-tested, offering customers the world's fastest utility-scale energy storage installation. Once on site, Megapack only requires seismic anchoring and connection of AC conductors and a communication cable. The EPC benefit is clear: no other current utility-scale solution offers such a simplified process.

GLOBAL SERVICE FOOTPRINT

As a vertically integrated manufacturer and supplier, Tesla provides a streamlined service offering on all components of Megapack. With Tesla, customers enjoy a single point of contact through all stages of product life. Our operational fleet of 2+ GWh provides valuable data that informs our maintenance models and our performance guarantees, and the entire Megapack system is covered by a standard warranty of up to 15 years, with the option of a 20-year Capacity Maintenance Agreement (CMA) in certain cases.

MEGAPACK SPECIFICATIONS

Specifications are subject to change.

Flexible offering designed for utility-scale projects
- Modular inverter Powerstages allow greater configuration flexibility
- Supports Capacity Maintenance Agreements (CMA)

Proven inverter and battery technology drives design efficiency
- One Megapack includes up to 17 independent battery modules
- Configurable for 2 to 6+ hour continuous charge/discharge
- Best-in-class round-trip efficiency and thermal system performance

Turnkey solution enables rapid and cost-effective deployment
- Up to 40% expected reduction in EPC costs compared to Powerpack
- Pre-assembled and pre-tested at Tesla's Gigafactory
- No DC connections required onsite



STANDARD SYSTEM SPECIFICATIONS

Megapack is a customizable energy system capable of being sized according to customer needs.

AC Power / Energy Available per Megapack[1]	2-hour: Up to 1341 kW / 2682 kWh (Scalable in increments of 89.4 kW / 178.8 kWh) 4-hour: Up to 770.1 kW / 3080.4 kWh (Scalable in increments of 45.3 kW / 181.2 kWh)

Below are specifications for selected system sizes. A light Megapack is optimized for global payload limits. A standard Megapack has the maximum number of energy modules.

	AC Power / Energy Available per Megapack[1]	Round-Trip System Efficiency[1]
2-Hour Standard	1341 kW / 2682 kWh	87%
2-Hour Light	1072.8 kW / 2145.6 kWh	
4-Hour Standard	770.1 kW / 3080.4 kWh	90%
4-Hour Light	543.6 kW / 2174.4 kWh	

[1] Nominal energy and RTE at 25°C (77°F) including thermal management loads, Day 1

ELECTRICAL

Inverter Size (at 480 V AC)	2-hour: Up to 1573 kVA 4-hour: Up to 929.5 kVA (Scalable in increments of 71.5 kVA)
Inverter Size (at 505 V AC)	2-hour: Up to 1654.9 kVA 4-hour: Up to 977.9 kVA (Scalable in increments of 75.224 kVA)
AC Voltage	380–505 V AC 3-phase
Nominal Frequency	50 or 60 Hz

MECHANICAL AND MOUNTING

Ingress Ratings	IP66/NEMA 3R (Main enclosure) IP20 (Thermal system)
Enclosure Dimensions	W: 7168 mm (282 1/4 in) D: 1659 mm (65 1/4 in) H: 2522 mm (99 1/4 in)
Maximum Shipping Mass	Standard: 25,400 kg (56,000 lb) Light: 20,400 kg (44,970 lb)
Operating Ambient Temperature	–30°C to 50°C (–22°F to 122°F)

REGULATORY

Lithium-Ion Cells	NRTL listed to UL 1642
System	NRTL listed to UL 1973, UL 9540, UL 9540A, UL 1741 SA, IEC 62619, IEEE 1547 Compliant to grid codes and safety standards of all major markets

COMMUNICATIONS

Protocol	Modbus TCP / DNP3 / Rest API

PART NUMBER

Megapack (all variants)	1462965-XX-Y (C00Z) (Where X is a number between 0-9, Y is a letter, and Z is a number greater than 1. Changes to these do not affect minimum product ratings and do not affect inverter ratings.)