

MAX500

Compact power for any site

MAX500 delivers 492kWh and up to 420kW, with integrated EV fast charging up to 480kW. It is powerful enough for heavy plant, fleets and events, and compact enough to place almost anywhere.



492kWh

rated capacity

420kW

continuous power, with a 210kW version

480kW

maximum DC charging, plus 11 or 22kW AC

10ft

container footprint, lifted into place

WHY MAX500

- Compact 10ft footprint, lifted into place on any site
- Up to 480kW DC charging and 125kW DC recharging
- Robust IP54 enclosure with IP67 battery packs
- Near-silent at 59dB, with zero local emissions

WHERE IT IS USED

Construction and infrastructure, plant and equipment, fleet depots, events, commercial and industrial sites

PROVEN

Lower Thames Crossing

Four MAX500s charge electric excavators with 240kW DC fast charging and no grid connection, for the Bouygues Murphy JV.

>£30k saved per week in diesel and generator costs

Everything it can do, and how you can have it

ON-GRID (STATIONARY)

Battery as a buffer

Charge off-peak or from on-site solar, boost power beyond your connection limit, back up the site in under 40ms, and earn from grid flexibility and wholesale markets.

OFF-GRID (MOBILE)

Battery as a generator

Run the site quietly with zero local emissions, recharging from a DC charger, another MAX or a generator that runs only when needed, at its most efficient load.

EV CHARGING

Integrated, grid-tied or off-grid

DC 60, 120, 180, 240 or 480kW; AC 4 x 22kW. Two outlets, buffer or direct. DC recharging (125kW) lets MAX top up from any public or depot DC charger.

LIFT INTO PLACE

Deployed in minutes

Compact 10ft footprint with forklift pockets as standard and optional top lifting. No pad, fencing or groundworks. Classified UN3536 for simple transport.

POWER CONTROL

PackFlex STANDARD

Every pack runs through its own inverter, so the system keeps running if one pack goes offline, and supports charging and discharging at the same time.

SyncFlow OPTION

Synchronises with the grid or a generator, transferring loads in under 40ms, while peak shaving keeps a constrained connection within its limit.

IsoCharge OPTION

Isolates sensitive loads from supply disturbances with no back-feed. The battery carries demand while a small supply recharges it.

IsoPass OPTION

Keeps critical equipment powered even if the system goes offline, routing the supply straight to the load. Essential for live broadcast.

PhaseFlex OPTION

Turns a single-phase connection into a stable three-phase output, enabling DC fast charging from a small supply.

SAFETY

CE and UKCA marked. Every cell monitored 24/7, a pyro fuse in every pack, and Stat-X aerosol fire suppression.

SOFTWARE AND SUPPORT

Local touchscreen and cloud portal, AI-optimised dispatch and open API. Remote monitoring and UK field support from the team that built it.

BUY, LEASE OR HIRE

Buy with the platform fee for a 5-year warranty, lease on a three-year term, or hire from three months, direct or through partners.

Technical specification

DC DATA

Battery chemistry ¹	NMC or NCA, with optional LFP, in single or mixed chemistry format	
C-rate ²	Up to 4C (depending on inverters)	
System architecture	V	400/800V
Rated capacity	kWh	492
Usable capacity ³	kWh	450
Cooling system	Integrated liquid cooling for batteries and converters, with pre-charge capability	
Cycle life ⁴	cycles	3,500 (to 70% SoH)
Battery life	years	12

AC DATA

Continuous power	kW	210 or 420
Peak power	kW	Overload 110% of load for 10 min and 120% for 1 min; short circuit 200ms
AC rated voltage (3 phase)	V	400 / 415
AC rated voltage (1 phase)	V	230 / 240
Frequency	Hz	50/60, software configurable
Pass-through current	A	125 (higher pass-through up to the limit with SyncFlow)
System efficiency	>94% from 25% to 100% load	
Unbalanced load capacity	Three-phase unbalanced load supported; each phase can be loaded individually with 10.5kW (11.7kVA). With load PF >0.9, the module loads and unloads normally	

SYSTEM DATA

Dimensions	mm	L3,050 x W 2,590 x H 2,444
Weight	kg	7,800 or 7,950
Working temperature ⁵	°C	-10°C to 40°C (without optional integrated chiller and/or heat pump)
Relative humidity	0 to 95% (non-condensing)	
IP rating	IP54 (battery packs IP67)	
Fire prevention	Multi-parameter sensing with accelerometer for VOC, shock and environmental monitoring; full cell monitoring with isolation at individual pack level; pyro fuse in every pack	
Fire mitigation	Stat-X aerosol fire suppression (option) with water, plus battery flood and vent ports; 24/7 monitoring and alert system	
Communication interface	RS485 / CAN / 4G LTE	
Communication protocol	Modbus TCP / CAN / API	
Paralleling capability	Yes, with no limit to the number of units connected	
Input and output connections	Standard: 125A in, 125A out and 63A out. Options include Powerlocks, busbars, and three-phase or single-phase sockets	
Transport	Classified UN3536: hire users display the plate and Class 9 label, with no wider ADR obligations	

CERTIFICATION

System certification ⁶	UKCA / CE, LV Directive 2014/35/EU, EMC Directive 2014/30/EU, RoHS, Radio Equipment. IEC 61000, IEC 62477-1, IEC 62619, IEC 62909-1, IEC 62909-2, IEC 62933-5-2, BS EN IEC 62619, BS 7671:2018+A2:2022, EN 61851-21-2, UL 1741, UL 2202, UN38.3, UL9540A. Automotive battery packs comply with ECE R100 (01/02)	
Converter certification	UKCA / CE, EN 61851-21-2, EN IEC 61000, EN IEC 62477-1, IEC 62909-1, IEC 62909-2, UL 1741, VDE-AR-N 4105, G99 (pending)	

WARRANTY AND ESG

Warranty	years	3 years as standard: full repair and replacement for manufacturer defects
Extended warranty ⁷	years	5 years with the platform fee
ESG	60% lower embedded CO ₂ with repurposed EV battery packs. Packs are replaced individually, so systems are repaired and upcycled rather than retired. Used packs can have a third life as UPS	

1. Allie repurposes automotive battery packs featuring NMC and NCA chemistry, with LFP packs also available. Any single or mixed chemistry can be specified, which affects total capacity; a single-chemistry LFP system reduces capacity by approximately 25%.

2. Automotive battery packs are rated to 4C charge and discharge (80 to 20% SoC). Up to 60 AC-DC converters can be paralleled, delivering a higher C-rate system up to the pack limit.

3. Quoted capacity is based on battery packs at 100% SoH; usable capacity depends on the SoH of the batteries as delivered. Average SoH is 94 to 95%.

4. Cycle life quoted is for NMC/NCA only or mixed chemistry; an all-LFP system has a longer cycle life (5,500 cycles to 70% SoH).

5. For extreme hot and cold weather the system can be specified with an auxiliary chiller or heater.

6. Designed to the standards listed as part of the engineering requirements and internal testing conducted by Allie Energy.

7. The platform fee is a single payment covering the first three years from delivery. It includes one annual inspection and consumable parts (air filters, coolant, hoses, cables etc.), data costs (SIM, hosting etc.) for data storage and remote dashboard access, all over-the-air (OTA) updates and software upgrades, and remote support. It can then be renewed annually; if it is not selected or not renewed, all data, dashboard and remote connectivity access is disabled.

All products, specifications, designs and data are subject to change without notice or liability, whether to improve reliability, function, design or for any other reason.

Standard and options

● S Standard ○ O Option n/a Not available

Prices of options confirmed with quotation

	Mid Power (210kW)	High Power (420kW)
BATTERIES		
EV packs (NMC/NCA chemistry)	● S (6)	● S (6)
EV packs (LFP chemistry)	○ O (6)	○ O (6)
POWER CONVERSION		
Bi-directional AC-DC power conversion	● S	● S
Air cooled inverters (22kW)	n/a	n/a
Liquid cooled inverters (35kW)	● S (6)	● S (12)
Heat pump with chiller	○ O	○ O
POWER CONTROL		
SyncFlow (250kW)	○ O	n/a
SyncFlow (500kW)	n/a	○ O
IsoCharge (3ph only)	○ O	○ O
PhaseFlex (1ph and 3ph)	○ O	○ O
IsoPass	○ O	○ O
Solar roof (440W)	○ O	○ O
Genset remote start terminal	● S	● S
SOCKETS (WITH MCCB)		
125A 3ph in	● S	● S
125A 3ph out	● S	● S
63A 3ph out	● S	● S
32A 1ph in	○ O	○ O
Powerlocks (400A) in	○ O	○ O
Powerlocks (400A) out	○ O	○ O
Additional 63A 3ph out	○ O	○ O
32A 3ph out	○ O	○ O
63A 1ph out	○ O	○ O
32A 1ph out	○ O	○ O
16A 1ph out	○ O	○ O
EXTERNAL EARTH LEAKAGE DETECTION (PER OUTLET)		
Manual (fixed or manually adjustable)	○ O	○ O
Modbus (remotely adjustable)	○ O	○ O
SAFETY		
Multi-function protection sensor	● S	● S
Aerosol fire suppression (Stat-X)	○ O	○ O
EV CHARGING		
22kW (x4) AC Type 2	○ O	○ O
60kW (2 x 30kW) DC CCS	○ O	○ O
120kW DC CCS	○ O	○ O
180kW DC CCS	○ O	○ O
240kW DC CCS	○ O	○ O
480kW DC CCS	○ O	○ O
DC recharging (125kW)	○ O	○ O
STRUCTURE		
Forklift pockets	● S	● S
Lift from top	○ O	○ O
APPEARANCE		
Custom paint	○ O	○ O
Custom wrap	○ O	○ O
Custom decal	○ O	○ O

Units are delivered painted solid white unless otherwise specified; custom wrap and decal do not include design fees. All products, specifications, designs and data are subject to change without notice or liability, whether to improve reliability, function, design or for any other reason.