

MAX battery energy storage

Power where the grid falls short

Flexible energy storage at the lowest system cost, built from the EV batteries already on our roads, for stationary and mobile applications.



**328kWh to
1.5MWh**

capacity

**88kW to
1.26MW**

AC output

**11kW AC to
1.28MW DC**

integrated EV charging

THE CHALLENGE

- New grid connections take 3 to 7 years; larger projects even longer
- Upgrading the supply at a single site can cost well over £1m
- Diesel generators are costly, noisy and increasingly restricted

THE ANSWER

One system, on-grid or off-grid

On-grid, MAX boosts a constrained connection and cuts energy costs. Off-grid, it replaces or works alongside a diesel generator. It charges EVs in both, and moves between sites as your needs change.

One system, two ways to work

Every MAX is dual-use. The same unit works as a buffer on a constrained connection or as a generator where there is no grid, and moves between the two.

ON-GRID (STATIONARY)

Battery as a buffer

1. Charge off-peak, or from on-site solar
2. Boost power at peaks, beyond your connection limit
3. Protect the site, with loads transferred in under 40ms
4. Earn from grid flexibility and wholesale markets

OFF-GRID (MOBILE)

Battery as a generator

1. Charge from a DC charger, another MAX or a generator
2. Power the site quietly, with zero local emissions
3. Top up with a generator only when it is needed
4. Save fuel, run hours and emissions

APPLICATIONS

Construction

OFF-GRID

Tower cranes, plant, electric machinery and site welfare

Screen and events

OFF-GRID

Film, TV, live broadcast, festivals and concerts

EV charging

ON AND OFF-GRID

Depot and hub charging for fleets, trucks and vans

Commercial

ON-GRID

Peak shaving, solar storage and standby power

Data centres

ON-GRID

Backup, bridging power and faster capacity

Utilities

ON AND OFF-GRID

Grid maintenance, emergency power, constrained connections

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.

THE MAX RANGE

Four systems from 328kWh to 1.5MWh

One platform: the architecture, software, safety systems and support are common across the range, so the only decision is how much power and capacity your site needs.



MAX300

TOW AND GO

Capacity 328kWh
AC output 88, 140 or 280kW
EV charging 60 to 400kW DC

Under 3.5t on its trailer, fits a parking bay, under 2m



MAX500

LIFT INTO PLACE

Capacity 492kWh
AC output 210 or 420kW
EV charging 60 to 480kW DC

Compact 10ft footprint, lifted into place



MAX1000

DROP AND GO

Capacity 984kWh
AC output 420 or 840kW
EV charging 180kW to 1.28MW DC

Off a hooklift truck in under two minutes



MAX1500

DROP AND GO

Capacity 1,476kWh
AC output 630kW or 1.26MW
EV charging 180kW to 1.28MW DC

Highest power, 20ft footprint

ACROSS THE RANGE

Integrated EV charging

Up to 1.28MW DC with two outlets, plus 4 x 22kW AC, grid-tied or off-grid. Buffer satellite chargers or charge directly.

DC recharging, zero diesel

Recharge MAX from any public or depot DC charger, or another MAX. MAX300 in a little over an hour, MAX500 in under 1.5 hours.

No pad, fencing or crane

Tow, lift or drop into place. Pre-commissioned in our factory and running in minutes. Parallel units without limit.

Transport made simple

Classified UN3536: hire customers display the plate and Class 9 label, with no wider ADR obligations.

Safety engineered in

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

Automotive batteries

EV packs keep their original battery management and liquid cooling: 95% average state of health, 60% lower embedded CO₂, 12-year life.

PROVEN

Real sites, real savings



CONSTRUCTION

Lower Thames Crossing

Four MAX500s charge electric excavators, no grid connection

>£30k a week saved



COMMERCIAL AND INDUSTRIAL

Roadchef

Peak support keeps the motorway services under its supply limit

£120k saved in year one



EV CHARGING

J&M Murdoch

DC fast charging from a 32A supply

£300k grid upgrade deferred



CONSTRUCTION

Collins Earthworks

MAX1000 charging electric trucks from a 125A supply

£2,500 a week saved



CONSTRUCTION

Horizon Plant

Hybrid with tower crane generators

70% less diesel



FILM AND TV

OnBio

Near-silent power on set and on location

£1,000 a week saved

BUSINESS CASES

APPLICATION	BASIS	SAVING A YEAR	OVER 12-YEAR BATTERY LIFE
Commercial and industrial MAX300, London trading estate with solar	MODELLED	£19,900	£239,000
Grid resilience Roadchef, Killington Lake: 12 trips avoided	VALIDATED	£120,000	£1.44m
EV charging J&M Murdoch: grid upgrade deferred	VALIDATED	£300,000 upfront	
Data centres MAX1500 bridging a four-year connection wait	MODELLED	£200,000	£800,000 over the wait
Standby power MAX300 replacing a 200kVA standby generator	MODELLED	£10,900	£131,000
Construction Tower crane, hybrid (Horizon Plant)	VALIDATED	£76,500	£918,000
Film and TV Pair of MAX300s on set (Netflix pilot)	VALIDATED	£46,900	£563,000
Power rental Dawson Group hybrid pilot	VALIDATED	£75,400	£905,000
Energy utilities SSEN: 40 homes powered from a substation	VALIDATED	£103,700	£1.24m

Validated figures are extrapolated from Alliye deployments and pilots; modelled figures use published tariffs and Alliye cost models. Full workings and sources are in the MAX range presentation. We model every site before you commit.

Technical specification

	MAX300	MAX500	MAX1000	MAX1500
CAPACITY				
Rated capacity (kWh)	328	492	984	1,476
Usable capacity (kWh)	300	450	900	1,350
Battery packs	4	6	12	18
Chemistry	NMC or NCA, optional LFP or mixed			
Cycle life	3,500 (NMC) or 5,500 (LFP) to 70% SoH			
Battery life	12 years			
POWER				
Continuous power (kW)	88, 140 or 280	210 or 420	420 or 840	630 or 1,260
Peak power	110% for 10 min, 120% for 1 min			
AC output	400/415V 3ph, 230/240V 1ph, 50/60Hz			
Efficiency	>94% from 25 to 100% load			
Transfer time	Under 40ms with SyncFlow			
EV CHARGING				
DC charging (option)	60, 120, 240 or 400kW	60, 120, 180, 240 or 480kW	180, 240, 480, 640kW or 1.28MW	180, 240, 480, 640kW or 1.28MW
AC charging (option)	4 x 22kW	4 x 22kW	n/a	n/a
DC recharging (option)	125kW			
SYSTEM				
Dimensions L x W x H (mm)	2,950 x 1,740 x 1,990	3,050 x 2,590 x 2,444	5,250 x 2,550 x 3,125	6,170 x 2,550 x 3,125
Weight (kg)	2,830 to 2,980 (under 3.5t towed)	7,800 or 7,950	11,700 or 12,000	15,000 or 15,500
Deployment	Tow and Go (integrated trailer option)	Lift into place, forklift pockets	Drop and Go, hooklift	Drop and Go, hooklift
Protection	IP54, packs IP67			
Operating range	-10°C to 40°C, chiller or heater for extremes			
Fire suppression	Stat-X aerosol (option)			
Noise	59dB			
Connections	125A in, 125A and 63A out as standard; Powerlocks, busbars, other sockets optional			
Comms	RS485, CAN, 4G/LTE; Modbus TCP, CAN, open API			
Paralleling	Unlimited, and models can be mixed on one site			
ASSURANCE				
Certification	UKCA/CE, IEC 62619, IEC 62477-1, IEC 62933-5-2, UN38.3, designed to UL9540A; packs ECE R100; G99 pending			
Transport	UN3536			
Warranty	3 years, or 5 years with the platform fee			

Usable capacity at 100% pack state of health; average delivered state of health is 94 to 95%. A single-chemistry LFP system reduces capacity by approximately 25%. Full datasheets for each model are available from sales@allye.com. All specifications are subject to change without notice.

MAX RANGE

Standard and options

● S Standard ○ O Option ● S* Standard on some power versions ○ O* Option on some power versions n/a Not available

	MAX300	MAX500	MAX1000	MAX1500
BATTERIES				
EV packs (NMC/NCA chemistry)	● S	● S	● S	● S
EV packs (LFP chemistry)	○ O	○ O	○ O	○ O
POWER CONVERSION				
Bi-directional AC-DC power conversion	● S	● S	● S	● S
Air cooled inverters (22kW)	● S*	n/a	n/a	n/a
Liquid cooled inverters (35kW)	● S*	● S	● S	● S
Heat pump with chiller	○ O*	○ O	○ O	○ O
POWER CONTROL				
SyncFlow (250kW)	○ O*	○ O*	n/a	n/a
SyncFlow (500kW)	○ O*	○ O*	○ O	○ O
IsoCharge (3ph only)	○ O	○ O	○ O	○ O
PhaseFlex (1ph and 3ph)	○ O	○ O	○ O	○ O
IsoPass	○ O	○ O	○ O	○ O
Solar roof (220 to 880W)	○ O	○ O	○ O	○ O
Genset remote start terminal	● S	● S	● S	● S
SOCKETS (WITH MCCB)				
125A 3ph in	● S	● S	● S	● S
125A 3ph out	● S	● S	● S	● S
63A 3ph out	● S	● S	● S	● S
32A 1ph in	○ O	○ O	○ O	○ O
Powerlocks (400A) in	○ O	○ O	○ O	○ O
Powerlocks (400A) out	○ O	○ O	○ O	○ O
Additional 63A 3ph out	○ O	○ O	○ O	○ O
32A 3ph out	○ O	○ O	○ O	○ O
63A 1ph out	○ O	○ O	○ O	○ O
32A 1ph out	○ O	○ O	○ O	○ O
16A 1ph out	○ O	○ O	○ O	○ O
EXTERNAL EARTH LEAKAGE DETECTION (PER OUTLET)				
Manual (fixed or manually adjustable)	○ O	○ O	○ O	○ O
Modbus (remotely adjustable)	○ O	○ O	○ O	○ O
SAFETY				
Multi-function protection sensor	● S	● S	● S	● S
Aerosol fire suppression (Stat-X)	○ O	○ O	○ O	○ O
EV CHARGING				
22kW (x4) AC Type 2	○ O	○ O	n/a	n/a
60kW (2 x 30kW) DC CCS	○ O	○ O	n/a	n/a
120kW DC CCS	○ O	○ O	n/a	n/a
180kW DC CCS	n/a	○ O	○ O	○ O
240kW DC CCS	○ O	○ O	○ O	○ O
400kW DC CCS (800V architecture only)	○ O*	n/a	n/a	n/a
480kW DC CCS	n/a	○ O	○ O	○ O
640kW DC CCS	n/a	n/a	○ O	○ O
1.28MW DC CCS	n/a	n/a	○ O*	○ O*
DC recharging (125kW)	○ O*	○ O	○ O	○ O
STRUCTURE				
Integrated trailer	○ O	n/a	n/a	n/a
Forklift pockets	● S	● S	● S	● S
Lift from top	○ O	○ O	● S	● S
APPEARANCE				
Custom paint	○ O	○ O	○ O	○ O
Custom wrap	○ O	○ O	○ O	○ O
Custom decal	○ O	○ O	○ O	○ O

Tell us about your site

Send us your site load, the connection you have and how long the power is needed. We will size the system and come back with a specification and quotation.

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