Shanghai (Company Headquarters)
Huizhou/Huzhou (Production Base)

Shenzhen (Sales Center)
Sydney (Sales Center)

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TCSN POWER

PRODUCT CATALOG

Empowering Excellence

Innovative and Sustainable Energy Solutions for A Green World

ABOUT US

- R&D
- Production
- Sales

TCSN Power is a vertically integrated developer and manufacturer of lithium iron phosphate ($LiFePO_4$) battery systems, with core capabilities spanning cell engineering, Battery Management Systems (BMS), complete energy storage systems, and inverters — all developed and produced in-house.

Our prismatic $LiFePO_4$ cells are engineered for high-rate discharge and extended cycle life, making them the preferred choice for stationary energy storage, data centre UPS, telecommunications infrastructure, and specialised power applications.

Headquartered in Shanghai, TCSN Power operates manufacturing facilities in Huizhou and Huzhou, China, supported by dedicated sales and technical centres in Shenzhen and Australia.

This infrastructure enables us to support customers from initial specification through to long-term aftersales.

Our quality framework is certified to ISO 9001, ISO 14001, and ISO 45001. Products carry internationally recognised certifications including UL, CE, CB, FCC, UN 38.3, RoHS, and REACH. Backed by a portfolio of over 30 patents, TCSN Power delivers systems that consistently meet the performance, safety, and longevity demands of global markets.

60+
R&D Engineers

200+
Employees

100+
Markets Served

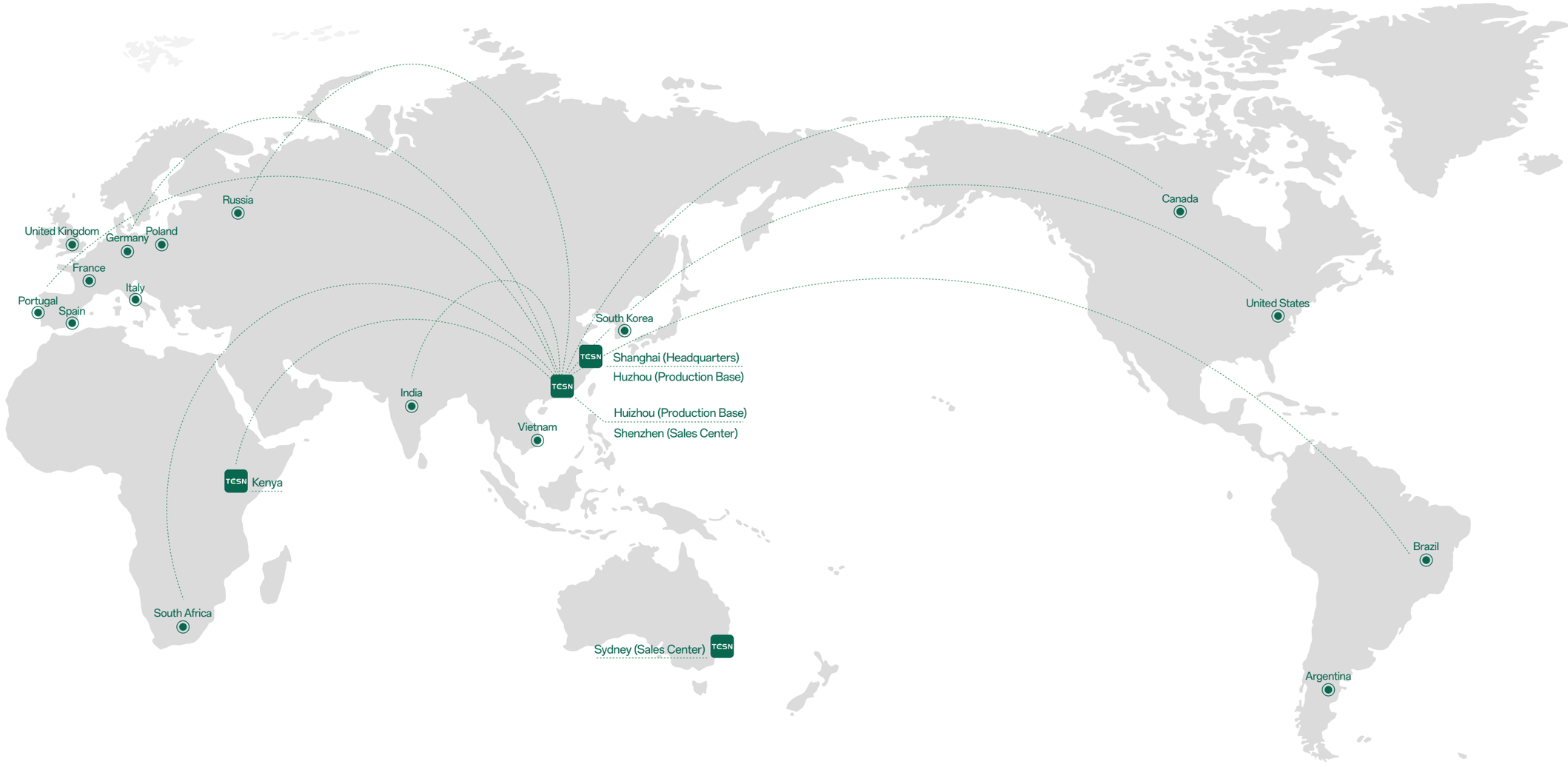
3GWh+
Annual Production Capacity

$LiFePO_4$ — Built for Every Application

TCSN Power's $LiFePO_4$ battery systems are engineered for deployment across a broad spectrum of industries, including electric vehicles, marine, RV and caravan, motorcycle, golf and utility vehicles, UPS and data centre backup, solar energy storage, medical equipment, industrial machinery, and commercial operations. This application breadth reflects the versatility and robustness of our core cell and system technology.

Our Principles

TCSN Power is built on a culture of rigorous engineering, continuous improvement, and long-term partnerships.
We are committed to delivering products that perform reliably in the field, supporting our customers with transparent technical service, and contributing meaningfully to the global transition to clean energy — including commitments aligned with carbon peak and carbon neutral objectives.



2 Sales Center
Shenzhen & Sydney

10+ Ten Patents Per Year
(Average)

10+ million(AUD)
Invested in R&D

10+ Technical Experts
Recognized

Huizhou Manufacturing Center
Huzhou Manufacturing Center

Shanghai Headquarters
Shenzhen/Sydney Sales Center

Engineering Excellence. Global Reach. Trusted Performance.
At TCSN PoweTechnology, innovation is engineered — not claimed. Our in-house R&D team drives every stage of product development, from cell-level chemistry to system-level integration, ensuring that each solution is purpose-built for real-world performance.
Our technology is validated across demanding markets in Europe, the Americas, Asia, and Oceania. This global footprint is backed by an integrated operations network spanning R&D, manufacturing, and after-sales support — delivering consistency at every stage of the customer journey.

We believe reliability begins with understanding. By combining deep engineering expertise with rigorous market insight, we design systems that meet the actual demands of installers, integrators, and end users — not just datasheet benchmarks.
Every product leaving our facility undergoes strict quality control, so what we ship is what we stand behind.

Awards
Patent Portfolio

Built on Rigorous Standards. Proven by Certification.

TCSN Power holds ISO9001, ISO14001, and ISO45001 certifications, underpinning our commitment to quality, environmental responsibility, and occupational safety across every stage of production.

Our products carry internationally recognised certifications including UL, FCC, CE, CB, UN, RoHS, and REACH — meeting the most stringent requirements of global markets.

With a portfolio of 30+ patents and deep expertise in new energy storage technology, we engineer solutions that perform where it matters most.

Our certifications are not checkboxes — they reflect the systems, processes, and engineering discipline that define how we operate. Every product leaving our facility is built to international standards, backed by a management framework trusted by partners worldwide.

*

Patent Applications **30+**

Annual Shipment Growth **150%**

Application Cases **500+**

Core Technology Assets *

Over 30 National Patents Granted

Product International Access and Safety Certifications

UL – North America
CE/RoHS/REACH – Europe
CB – International Mutual Recognition
UN38.3 – Transport Safety (Mandatory)

Management System Certifications

ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO 45001: OHS Management Certification

《 Management System Certifications 》

《 Product Certifications 》

《 Patent Certificates 》

Due to limited space, only a selection of certificates is shown.

BMS
Smart Battery Management System

The Battery Management System (BMS) is the core intelligence and safety backbone of every TCSN energy storage system. Developed entirely in-house, it employs a three-tier architecture — BMU, RBMS, and SBMS — for precise, coordinated control across all system levels.

A four-level safety strategergiesspan from individual cell to full system, complemented by real-time data analytics and key health indicators including SOC, SOH, SOP, SOE, and SOL — enabling predictive maintenance and proactive fault prevention.

BMU - Battery Management Unit

The BMU monitors each cell in real time, collecting voltage, temperature, and operational data. An integrated active balancing module improves cell consistency during charging. Thermal management logic triggers cooling automatically when required, supporting effective long-term battery health.

RBMS - Rack Battery Management System

The RBMS aggregates BMU data at the module level, generates real-time status reports, and relays information to the SBMS. It operates on both AC and DC power — AC-preferred, with seamless DC failover and zero downtime on AC loss.

SBMS - System Battery Management System

The SBMS consolidates data from all BCMs across the system, performs system-level analysis, generates operational reports, and interfaces with upstream systems via dry contacts and communication protocols (CANbus / Modbus).

Monitor via Mobile App

Query historical data by selectable time range

Cell Level

LFP chemistry provides inherent thermal stability. A one-way pressure relief valve activates under fault conditions (e.g. external short circuit) to isolate the cell and prevent escalation.

System Level

Controllable circulating current management ensures balanced load sharing across parallel modules. Active current-sharing algorithms maintain consistency and safety when mixing modules of different ages or capacities.

Module Level — Electrical

Integrated electronics within the BCM protect against overcharge, over-discharge, over-temperature, cell imbalance, reverse polarity, and other fault conditions.

Module Level — Thermal

The BMU monitors and regulates module temperature continuously, maintaining operation within defined safe limits.

Smart Cloud Management

- Remote monitoring and control via mobile app or PC
- Role-based access control
- Predictive O&M with closed-loop feedback
- Full operational visibility with minimal on-site intervention

Intelligent Fire Suppression

- Perfluorohexanone extinguishing agent with thermally activated suppression tubing
- Module-level and cabinet-level independent protection zones
- 24/7 online monitoring with no blind spots

LFP CELL

High Consistency

Fully automatic production line with whole-process monitoring Ensures cell consistency

Safe & Reliable

Cells are certified by CB, UL, IEC, CE, and more

High Rate Capability

Supports 14C discharge rate, low internal resistance, low temperature rise, and strong performance

Long Lifespan

Stable Charge & Discharge Long Cycle Life

* TCSN's $LiFePO_4$ cells comply with UL, IEC, and CE standards and are validated for a 20-year design life. Supporting up to 14C continuous discharge, 1C standard charging, and 2C fast charging, they deliver the performance and reliability required for both high-power motive and long-duration stationary energy storage applications.

Every cell. Every cycle. Uncompromising quality.

LFP27174200
3.2V | 105Ah

Motive Series: Golf carts, sightseeing shuttle vehicles, forklifts, cleaning equipment, etc.

LFP50160118
3.2V | 100Ah

Lead-to-Lithium Series: RVs, low-speed vehicles, small UPS, AGVs, marine, solar systems, etc.

LFP71173207
3.2V | 314Ah

Energy Storage Series: home energy storage, power grid energy storage,C&I Energy Storage, etc.

LFP36130160
3.2V | 50Ah

UPS Series: data centers, finance, rail transit, industrial & mining, etc.

Model	Nominal Voltage(V)	Rated Capacity(Ah)	Dimensions W*L*H	Internal Resistance(mΩ)	Weight(Kg)	Maximum Discharge Rate	Cycle Life	Temperature
LFP36130160-40P	3.2	40	36*130*160	≤0.5	1.53±0.1	14C	6000	-20~60
LFP36130160-50K	3.2	50	36*130*160	≤0.5	1.52±0.1	6C	6000	-20~60
LFP2914897-40	3.2	40	29*148*97	≤1	0.87±0.05	2C	6000	-20~60
LFP26148134-50	3.2	50	26*148*134	≤1	1.15±0.05	2C	6000	-20~60
LFP50160116-100L	3.2	100	50*160*116	≤0.5	1.94±0.1	2C	6000	-20~60
LFP71173207-314	3.2	314	71*173*207	≤0.75	5.55±0.075	1C	8000	-20~60
LFP27175200	3.2	105	27*175*200	≤0.5	2.06±0.05	2C	6000	-20~60
NaCP39148102-50	3.0	50	39*148*102	≤0.8	1.2±0.05	1C	6000	-20~60

Dubhe GF Series

Golf Cart Battery

Safe & Worry-Free

LFP cells with fire protection module

High safety - no fire, no explosion

Hassle-free & Long-lasting

High Cycle Life

Design Life: 20 Years

High-efficiency fast charging

Supports 1C fast charging

2.5h full charge (std)

High instantaneous current

Effortless climbing and descending

Experience the thrill of flat terrain

No maintenance required

Except for charging

No other maintenance needed

Worry-free After-sales

5-Year Standard Warranty

Long-term protection

* Dubhe GF Series: compatible with all major golf cart platforms & chargers. IP67, Bluetooth, 5-year warranty — uncompromising reliability for fleet and course managers.

Direct lead-acid replacement: 40% lighter, 3× cycle life, faster charging. LFP cells with BMS & fire protection — 20-year zero-maintenance operation.

Dubhe GF 51-105

Capacity: 105Ah
Voltage: 51.2V
Energy: 5376Wh
Weight: 48kg
Dimensions: 500x343x254mm
Cycle life: 6000 cycles (80% DOD)

Dubhe GF 51-200

Capacity: 200Ah
Voltage: 51.2V
Energy: 10240Wh
Weight: 84kg
Dimensions: 530x370x273mm
Cycle life: 6000 cycles (80% DOD)

Model	Nominal Voltage (V)	Rated Capacity (Ah)	Constant Current (A)	Dimensions (W*L*H)	Weight(Kg)	IP Rating	Bluetooth	Display
Dubhe GF36-50	38.4	50	50	385*338*245	~28	IP67	Yes	Yes
Dubhe GF36-80	38.4	80	80	385*338*245	~30	IP67	Yes	Yes
Dubhe GF36-105	38.4	105	105	385*338*245	~35	IP67	Yes	Yes
Dubhe GF51-50	51.2	50	50	460*334*247	~33	IP67	Yes	Yes
Dubhe GF51-105	51.2	105	105	500*343*254	~48	IP67	Yes	Yes
Dubhe GF76-105	76.8	105	105	740*320*246	~72	IP67	Yes	Yes
Dubhe GF51-200	51.2	200	200	530*370*273	~84	IP67	Yes	Yes
Dubhe GF51-210	51.2	210	210	580*360*250	~79	IP67	Yes	Yes

Dubhe SI Series

LFP Sightseeing & Low-Speed EV Battery

Drop-in for lead-acid: lighter, 3× cycle life, low self-discharge. LFP + BMS + fire protection; 20-year zero maintenance.

Safe & Worry-Free

LFP cells with fire protection module

High safety - no fire, no explosion

Shock-resistant Design

Automotive-grade vibration-resistant

Fearless of bumps, stable as a rock

Low self-discharge

Significantly reduced loss during standby

Monthly self-consumption ≤2%

Worry-free after-sales

Design life: 20 years

5-year standard warranty

Smart management

Remote background monitoring

Data management

Eco-friendly

Practicing circular economy

Enabling clean operations

* Compatible with major low-speed EVs: shuttles, patrol, logistics. IP65, Bluetooth, 5-year warranty. For fleets needing consistent range and reliability.

Dubhe SI 76-200

Capacity: 200Ah

Voltage: 76.8V

Energy: 15360Wh

Weight: 124kg

Dimensions: 1000x290x280mm

Cycle life: 6000 cycles (80% DOD)

Dubhe SI 96-400

Capacity: 400Ah

Voltage: 96V

Energy: 38400Wh

Weight: ~150kg*2

Dimensions: 1100x335x280mm

Cycle life: 6000 cycles (80% DOD)

Model	Nominal Voltage (V)	Rated Capacity (Ah)	Constant Current (A)	Dimensions (W*L*H)	Weight(Kg)	IP Rating	Bluetooth	Display
Dubhe SI76-150	76.8	150	150	680*420*230	~98	IP65	Yes	Yes
Dubhe SI76-200	76.8	200	200	1000*290*280	~125	IP65	Yes	Yes
Dubhe SI76-230	76.8	230	230	1000*290*280	~125	IP65	Yes	Yes
Dubhe SI76-300	76.8	300	300	860*260*280	~93*2	IP65	Yes	Yes
Dubhe SI96-400	96	400	400	1100*335*280	~150*2	IP65	DTU	Yes
Dubhe SI96-560	96	560	400	1360*280*260	~160*3	IP65	DTU	Yes
Dubhe SI144-200	144	200	200	1200*290*280	~130*2	IP65	DTU	Yes
Dubhe SI320-200	320	200	200	1480*380*300 449*309*201	~250*2 ~26	IP65	DTU	Yes

Dubhe CM Series

Cleaning Equipment Battery

Shock-resistant Design

Automotive-grade vibration-resistant

Fearless of bumps, stable as a rock

Safe & Worry-Free

LFP cells with fire protection module

High safety – no fire, no explosion

Worry-free after-sales

Design life: 20 years

5-year standard warranty

Low self-discharge

Significantly reduced loss during standby

Monthly self-consumption ≤2%

Long-lasting endurance

In the same volume

Significantly improved range

High-efficiency fast charging

Supports 1C fast charging

2.5h full charge (std)

* Compatible with major cleaning platforms — ride-on scrubbers, sweepers, commercial vehicles. IP65, 5-year warranty. Built for max uptime and long-term reliability.

Lead-acid upgrade: 30% smaller footprint, higher energy density, faster charge acceptance.
LFP with BMS & fire protection – 20 years, no maintenance.

Dubhe CM 24-150

Capacity: 150Ah
Voltage: 25.6V
Energy: 3840Wh
Weight: 46.5kg
Dimensions: 526x333x223mm
Cycle life: 6000 cycles (80% DOD)

Dubhe CM 48-200

Capacity: 200Ah
Voltage: 48V
Energy: 9600Wh
Weight: 84kg
Dimensions: 530x370x273mm
Cycle life: 6000 cycles (80% DOD)

Model	Nominal Voltage (V)	Rated Capacity (Ah)	Constant Current (A)	Dimensions (W*L*H)	Weight(Kg)	IP Rating	Bluetooth	Display
Dubhe CM24-50	25.6	50	50	307*168*226	~15	IP67	No	No
Dubhe CM24-80	25.6	80	80	338*307*228	~22	IP67	No	No
Dubhe CM24-105	25.6	105	100	338*307*251	~27	IP65	No	No
Dubhe CM24-150	25.6	150	150	530*372*275	~42	IP65	No	No
Dubhe CM24-160	25.6	160	150	400*330*260	~45	IP65	No	No
Dubhe CM24-200	25.6	200	200	526*333*223	~49	IP65	No	No
Dubhe CM24-210	25.6	210	200	488*350*261	~50	IP65	No	No
Dubhe CM24-280	25.6	280	200	450*430*261	~70	IP65	No	No
Dubhe CM24-315	25.6	315	200	600*350*262	~72	IP65	No	No
Dubhe CM36-160	38.4	160	150	600*350*323	~64	IP65	No	No
Dubhe CM36-210	38.4	210	200	600*350*323	~78	IP65	No	No
Dubhe CM48-200	48	200	200	530*370*273	~84	IP65	No	No

Dubhe FL Series

Forklift Battery

High instantaneous current

Effortless climbing and descending

Experience the thrill of flat terrain

Safe & Worry-Free

LFP cells with fire protection module

High safety - no fire, no explosion

Worry-free after-sales

Design life: 20 years

5-year standard warranty

Low self-discharge

Significantly reduced loss during standby

Monthly self-consumption ≤2%

Smart Management

Equipped with DTU module

Supports cloud platform management

High-efficiency fast charging

Supports 1C fast charging

2.5h full charge (std)

* Compatible with major forklift platforms. IP65, DTU, 5-year warranty. For logistics & warehouse — consistent performance, minimal maintenance.

High-performance $LiFePO_4$ drop-in for lead-acid forklifts — longer runtime, faster charging, lower TCO. Fits ride-on forklifts, tow tractors, aerial platforms. Custom options available.

Dubhe FL 36-690

Capacity: 690Ah

Voltage: 38.4V

Energy: 26496Wh

Weight: 185kg

Dimensions: 1065x625x450mm

Cycle life: 6000 cycles (80% DOD)

Model	Nominal Voltage (V)	Rated Capacity (Ah)	Constant Current (A)	Dimensions (W*L*H)	Weight(Kg)	IP Rating	Bluetooth	Display
Dubhe FL24-200	25.6	200	200	750*170*534	~52	IP65	No	Yes
Dubhe FL24-280	25.6	280	280	600*200*540	~78	IP65	No	Yes
Dubhe FL48-360	48	360	360	650*580*342	~125	IP65	No	Yes
Dubhe FL48-400	48	400	400	822*345*535	~145	IP65	No	Yes
Dubhe FL48-460	48	460	400	795*495*370	~148	IP65	No	Yes
Dubhe FL48-500	48	500	400	822*425*615	~180	IP65	No	Yes
Dubhe FL48-560	48	560	400	915*510*525	~210	IP65	No	Yes
Dubhe FL80-205	80	205	205	731*510*326	~150	IP65	No	Yes
Dubhe FL80-280	80	280	280	731*510*326	~185	IP65	No	Yes
Dubhe FL80-420	80	420	400	795*690*545	~225	IP65	No	Yes
Dubhe FL80-460	80	460	400	995*605*545	~230	IP65	No	Yes
Dubhe FL96-200	96	200	200	870*735*275	~125	IP65	No	Yes

Dubhe CT Series

Car Starting Battery

Strong start

Four-pole or dual copper terminals

Ready to go

Lightweight design

Small size

Weight: only 1/3 of lead-acid battery

High compatibility

Excellent compatibility

Multiple sizes stackable

Safe & reliable

Low-power restart

Startup also in harsh environments

* Direct Li replacement for lead-acid car batteries — 1/3 weight, auto-grade shockproof, CCA up to 1200A. Fits all passenger cars.

Model	Voltage (V)	Capacity (Ah)	Continuous Operating Current (A)	Dimensions (W*L*H)	Weight(Kg)	Features
Dubhe CT12-40	12.8	40	40	224*175*189mm	4.8	CCA 600A
Dubhe CT12-54	12.8	54	54	260*173*220mm	6.6	CCA 700A
Dubhe CT12-100	12.8	100	100	279*178*189mm	10	CCA 1000A
Dubhe CT12-150	12.8	150	150	355*178*189mm	15.5	CCA 1200A

* Note: CCA corresponds to -10°C, 30C3S; CA corresponds to room temperature, 60C3S.

Dubhe MT Series

Motorcycle Starting Battery

Strong start

Four-pole or dual copper terminals

Ready to go

LED display

LED status indicator

Check battery status at any time

High compatibility

Good compatibility

Multiple sizes stackable

Safe & reliable

Low-power restart

Startup also in harsh environments

* Direct Li replacement for lead-acid motorcycle batteries — 1/3 weight, LED indicator, four-pole/dual copper terminals, universal fit.

Model	Voltage(V)	Capacity(Ah)	Watt-hour(Wh)	Cold Cranking Amps(A)	Cranking Amps(A)	Dimensions (W*L*H)	Weight(Kg)
Dubhe MT12-2	12.8	2	24	60	120	112*69*85mm	0.53
Dubhe MT12-2.5	12.8	2.5	30	75	150	112*69*85mm	0.53
Dubhe MT12-3	12.8	3	36	90	180	112*69*85mm	0.75
Dubhe MT12-3.5	12.8	3.5	42	105	210	112*69*85mm	0.75
Dubhe MT12-4	12.8	4	48	120	240	149*65*93mm	0.78
Dubhe MT12-5	12.8	5	60	150	300	149*86*93mm	0.9
Dubhe MT12-6	12.8	6	72	180	360	149*86*93mm	1
Dubhe MT12-8	12.8	8	96	240	480	149*86*130mm	1.28
Dubhe MT12-9	12.8	9	108	270	540	149*86*130mm	1.3
Dubhe MT12-12	12.8	12	144	360	720	174*86*154mm	2
Dubhe MT12-18	12.8	18	216	540	1080	165*125*173mm	2.8

Megrez Series

General Purpose

Custom on demand

Customizable

Meets diverse needs

Safe & Worry-Free

LFP cells with fire protection module

High safety - no fire, no explosion

Worry-free after-sales

Design life: 20 years

5-year standard warranty

Multiple series and parallel

Supports multiple units in series/parallel

High efficiency

Efficient battery management system

Integrated Functions

Active balancer

Bluetooth, and display (optional)

* The Megrez Series offers a complete model range, long backup time, and broad customisation options — providing a comprehensive lithium upgrade path for lead-acid users across all key application segments.

Drop In. Step Up.

The Megrez Series maintains the physical form factor of standard lead-acid batteries while delivering the performance of lithium-ion — covering 12V, 24V, 36V, and 48V voltage ranges. Designed as a direct, no-modification replacement for lead-acid across RVs, marine, small UPS, AGVs, solar storage, and low-speed EV applications.

Model	Voltage(V)	Capacity(Ah)	Dimensions (W*L*H)	Weight(Kg)	Bluetooth	CAN	RS485	Heating	LCD	Active Balancing
S12-100	12.8	100	306*171*215	10.5	P	P	P	P	P	P
S12-100A	12.8	100	330*171*220	11	P	P	P	P	P	P
S12-150	12.8	150	330*171*220	15.5	P	P	P	P	P	P
S12-200	12.8	200	522*238*223	20.5	P	P	P	P	P	P
S12-200B	12.8	200	552*110*288	20	P	P	P	P	P	P
S12-230	12.8	230	522*238*223	22	P	P	P	P	P	P
S12-230M	12.8	230	367*190*245	21.5	P	P	P	P	P	P
S12-300	12.8	300	522*238*223	27	P	P	P	P	P	P
S12-300M	12.8	300	367*190*245	27	P	P	P	P	P	P
S12-460	12.8	460	522*238*223	40	P	P	P	P	P	P
S24-50	25.6	50	306*171*215	10.5	P	P	P	P	P	P
S24-100	25.6	100	522*238*223	20.5	P	P	P	P	P	P
S24-200	25.6	200	522*238*223	39	P	P	P	P	P	P
S48-100	51.2	100	522*238*223	39	P	P	P	P	P	P
E6-6	6.4	6	47*70*96	0.4	N	N	N	N	N	N
E6-8	6.4	8	151*50*93	0.54	N	N	N	N	N	N
E6-12	6.4	12	151*50*93	0.66	N	N	N	N	N	N
E12-6	12.8	6	90*70*101	0.66	N	N	N	N	N	N
E12-8	12.8	8	151*65*97	1.1	N	N	N	N	N	N
E12-12	12.8	12	151*65*97	1.3	N	N	N	N	N	N
E12-30	12.8	30	195*133*171	3	N	N	N	N	N	N
E12-40	12.8	40	174*165*125	4.5	N	N	N	N	N	N
E12-50	12.8	50	165*126*175	5.8	N	N	N	N	N	N
E12-60	12.8	60	260*169*215	6.8	N	N	N	N	N	N
E12-75	12.8	75	260*169*215	7.9	N	N	N	N	N	N
E12-100	12.8	100	260*168*209	9.5	N	N	N	N	N	N
E12-100B	12.8	100	395*110*293	10.5	N	N	N	N	N	N
E12-150	12.8	150	330*171*220	15.5	N	N	N	N	N	N
E12-200	12.8	200	483*170*240	18.5	N	N	N	N	N	N
E12-200B	12.8	200	552*110*288	20	N	N	N	N	N	N
E12-300	12.8	300	367*190*245	27	N	N	N	N	N	N
E12-400	12.8	400	522*238*223	37	N	N	N	N	N	N
EV12-100E	12.8	100	318*175*189	10	N	N	N	N	N	N
EV12-150E	12.8	150	355*175*189	15	N	N	N	N	N	N
E24-6	25.6	6	151*65*97	1.3	N	N	N	N	N	N
E24-50	25.6	50	260*168*209	9.5	N	N	N	N	N	N
E24-100	25.6	100	483*170*240	18.5	N	N	N	N	N	N
E24-200	25.6	200	522*238*223	37	N	N	N	N	N	N

Merak SY Series

Wall-mounted / Floor-standing Energy Storage System

Hassle-free & Long-lasting

Cycle life: 8,000 cycles(80%DOD)
Design life: 20 years

Multi-Certification Safety

LFP cells with fire protection module
High safety – no fire, no explosion

Flexible Parallel Connection

Supports multiple units in parallel
Auto-addressing, no DIP switch

Professional Outdoor Design

IP55 Water & Dust Protection
Worry-free Outdoor Installation

Quick and Easy Installation

Efficient Operation & Maintenance
Automated & Intelligent Management

Integrated Functions

Active balancer, Bluetooth
and display (optional)

* The Merak SY Series works with all major hybrid inverters. Available in 5kWh, 10kWh, and 16kWh, designed for homeowners and installers who want long-life, low-maintenance energy storage.

Model	SY51.2-314-OD-A	SY51.2-314-OD-B
Performance Parameters		
Cell	Square LFP 314Ah	
Capacity (Ah)	314Ah(0.5C@25°C)	
Voltage (V)	51.2 V	
Energy (Wh)	16076.8 Wh	
Recommended Charge Current	75 A	
Max Charge Current	150 A	
Recommended Charge Voltage	54.4~55.2V	
Charge Cut-off Voltage	58.4V	
Balancing Voltage	>54.4V	
Recommended Discharge Current	125 A	
Max Discharge Current	250 A	
Rec. Disch. Cut-off Voltage	44.8V	
Min Discharge Cut-off Voltage	>40V	
Short Circuit Current	Approx.500A	
General Data		
Terminal	M8	
Protection Level	IP55	
Self-discharge	<=2%/Month	
Cycle Life	8000times(0.5C.80%DOD)	
Weight	123Kg	124Kg
Dimensions	800*650*200 mm	800*700*200 mm
Communication Interface	RS485/CAN/Bluetooth	
Storage Temperature	-5℃ to 35℃	
Discharge Temperature	-20℃ to 55℃	
Charge Temperature	0℃ to 45℃	

Merak SY Series

Wall-mounted / Floor-standing Energy Storage System

Hassle-free & Long-lasting

Cycle life: 8,000 cycles(80%DOD)

Design life: 20 years

Multi-Certification Safety

LFP cells with fire protection module

High safety – no fire, no explosion

Flexible Parallel Connection

Supports up to 15 units in parallel

Meets different scale requirements

Quick and Easy Installation

No complex wiring required

Hassle-free setup

Touchscreen Design

Touchscreen Interaction

Easy-maintenance visual interface

Easy Maintenance

Maintenance via Bluetooth

WiFi Remote Monitoring

* The Merak SY Series works with all major hybrid inverters. Available in 5kWh, 10kWh, and 16kWh，for homeowners and installers who want long-life, low-maintenance energy storage.

Model	SY51.2-100-C	SY51.2-200-C	SY51.2-314-C
Performance Parameters			
Cell	Square LFP 100Ah	Square LFP 200Ah	Square LFP 314Ah
Capacity (Ah)	100 Ah(0.5C@25°C)	200 Ah(0.5C@25°C)	314Ah(0.5C@25°C)
Voltage (V)		51.2 V	
Energy (Wh)	5120 Wh	10240 Wh	16076.8 Wh
Rated Charge Current	50 A	100 A	
Max Charge Current	100 A	200 A	
Rated Charge Voltage		54.4~55.2V	
Charge Cut-off Voltage		58.4V	
Balancing Voltage		>54.4V	
Rated Discharge Current	50 A	100 A	
Max Discharge Current	100 A	200 A	
Rated Discharge Cut-off Voltage		44.8V	
Min Discharge Cut-off Voltage		>40V	
Short Circuit Current		Approx.500A	
General Data			
Terminal	M6	M8	
Protection Level		IP21	
Self-discharge		<=2%/Month	
Cycle Life		8000times(0.5C. 80%DOD)	
Weight	44Kg	92Kg	120Kg
Dimensions	600*210*475 mm	600*210*635 mm	600*210*900 mm
Communication Interface		RS485/CAN/RS232/Bluetooth	
LCD Display		4.2-inch touch screen	
Storage Temperature		-5℃ to 35℃	
Discharge Temperature		-20℃ to 55℃	
Charge Temperature		0℃ to 45℃	

Merak SY Series

Wall-mounted / Floor-standing Energy Storage System

Model	SY25.6-200	SY51.2-100	SY51.2-200	SY51.2-314
Battery Capacity	200 Ah(0.5C@25℃)	100 Ah(0.5C@25℃)	200 Ah(0.5C@25℃)	314 Ah(0.5C@25℃)
Nominal Voltage	25.6V	51.2V		
Nominal Energy	5120Wh		10240Wh	16076.8Wh
Rated Charge Current	75A			150A
Rated Discharge Current	75A			150A
Max Charge Current	150A			300A
Max Discharge Current	150A			300A
Protection Level	IP21			
Terminal	M8			
Self-discharge	<=2%/Month			
Cycle Life	8000times(80%DOD)			
Dimensions	500*500*136 mm	442*550*136 mm	442*750*230 mm	442*860*240 mm
Weight	42Kg	42Kg	92Kg	124Kg
Storage Temperature	-5℃ to 35℃			
Discharge Temperature	-20℃ to 60℃			
Charge Temperature	0℃ to 45℃			

Merak SY Series

Floor-standing Energy Storage System

Model	SY51.2-100-B	SY51.2-200-B	SY51.2-314-B
Battery Capacity	100 Ah(0.5C@25℃)	200 Ah(0.5C@25℃)	314 Ah(0.5C@25℃)
Nominal Voltage	51.2V		
Nominal Energy	5120Wh	10240Wh	16076.8Wh
Rated Charge Current	75A		150A
Rated Discharge Current	75A		150A
Max Charge Current	150A		300A
Max Discharge Current	150A		300A
Protection Level	IP21		
Terminal	Plug-in Terminal		
Self-discharge	<=2%/Month		
Cycle Life	8000times(80%DOD)		
Dimensions	600*200*450 mm	600*200*650 mm	600*200*850 mm
Weight	52Kg	94Kg	130Kg
Storage Temperature	-5℃ to 35℃		
Discharge Temperature	-20℃ to 60℃		
Charge Temperature	0℃ to 45℃		

Merak CN Series

Rack-mounted Energy Storage System

Hassle-free & Long-lasting

Cycle life: 6,000 cycles (80% DOD)

Design life: 20 years

Ultimate Balancing

Smart balancing (active/passive)

High cell consistency

Flexible paralleling

Easy scalability

Supports multiple units in parallel

Multi-Layer Safety Protection

LFP cells for ultimate safety

Multi-layer protection from cell to system

Lightweight Design

Supports bracket mounting and standard 19-inch rack

Integrated Functions

Multi-Protocol Compatible

Multiple communication methods

* Available in 25.6V and 51.2V configurations from 2.56kWh to 10.24kWh per unit. Suitable for home storage, distributed backup, and remote island power applications.

Model	CN25.6-100	CN25.6-200	CN51.2-100	CN51.2-200
Performance Parameters				
Cell	Square LFP 100Ah	Square LFP 200Ah	Square LFP 100Ah	Square LFP 200Ah
Capacity (Ah)	100 Ah(0.5C@25)	200 Ah(0.5C@25)	100 Ah(0.5C@25)	200 Ah(0.5C@25)
Voltage (V)	25.6 V		51.2 V	
Energy (Wh)	2560Wh	5120Wh	5120Wh	10240Wh
Recommended Charge Current	50A	100A	50A	100A
Max Charge Current	100A	200A	100A	200A
Recommended Charge Voltage	27.2~27.6V		54.4~55.2V	
Charge Cut-off Voltage	29.2V		58.4V	
Balancing Voltage	>27.2V		>54.4V	
Recommended Discharge Current	50A	100A	50A	100A
Max Discharge Current	100A	200A	100A	200A
Rec. Disch. Cut-off Voltage	22.8V		44.8V	
Min Discharge Cut-off Voltage	>20V		>40V	
Short Circuit Current	Approx.500A			
General Data				
Terminal	M6	M8	M6	M8
Protection Level	IP21			
Self-discharge	<=2%/Month			
Cycle Life	6000times(0.5C.80%DOD)			
Weight	28Kg	42Kg	42Kg	88Kg
Dimensions	442*300*130 mm	442*420*130 mm	442*420*130 mm	442*550*222 mm
Communication Interface	RS485/CAN			
Storage Temperature	-5℃ to 35℃			
Discharge Temperature	-20℃ to 55℃			
Charge Temperature	0℃ to 45℃			

Merak BESS Series

Low-voltage C&I Energy Storage System

Hassle-free & Long-lasting

Easy and quick maintenance

Design life: 15 years

Flexible paralleling

Automatic operation

Supports multiple parallel connections

Integrated System

Plug-and-Play

Distributed Control System (DCS)

Professional Protection

IP55 Protection Rating

Suitable for Outdoor Use

Smart Management

Intelligent Temperature Control

Optimal Temperature Environment

Safe & Worry-Free

Four-layer Safety Protection Design

Higher Safety and Reliabilit

* Power & endurance in a standard small/medium C&I ESS. Peak shaving & valley filling save costs. Ideal for street shops, small factories, offices, EV chargers, and communication base station backup.

Cabinet Parameters	SEMax-15s(48L)
Rated Voltage (V)	48
Series & Parallel	10P15S
Rated Capacity (Ah)	1000
Voltage Range (V)	42-51.75
Rated Energy (kWh)	48
Rated Discharge Power (kW)	24
Operating Temperature Range	Charging temperature range: 0 ~ 45℃; Discharging temperature range: -20 ~ 55℃
Cabinet Dimensions	700*700*2200mm
Protection Rating	IP55
Battery Module	
Rated Voltage (V)	48V
Rated Capacity (Ah)	100Ah
Battery Pack	1P-15S
Rated Charge/Discharge Current	0.5C/0.5C
Rated Charge Voltage (V)	51-51.75
Charge Cut-off Voltage (V)	54.75
Rated Discharge Cut-off Voltage (V)	42
Min Discharge Cut-off Voltage (V)	> 37.5
Inverter	
Rated Input Voltage (V)	208/220/230/240;L+N+PE
Input Frequency (Hz)	40~70
Rated Capacity (kW)	5+5+5
Rated Output Voltage (V)	208/220/230/240;L+N+PE
Output Frequency (Hz)	50/60Hz ±0.1%
Overload Capacity (Battery Mode)	60s@102%~110%load;10s@110%~130%load; 3s@130%~150%load;0.2s@>150%load;
Max PV Input Power (kW)	6+6+6
MPPT Range (V)	120~450
Max PV Open Circuit Voltage (V)	500

Merak HESS Series

High-voltage Hybrid Energy Storage All-in-One

Bidirectional DCDC

Integrated charging & discharging

Efficient battery charging from PV or grid

Modular Design

plug-and-play

Stackable system – easy assembly

Precise Voltage Regulation

48V can be boosted to 500V

Higher battery utilization and longer life

Highly Integrated

Compatible with PV systems

Wall-mount: solar tank, heat pump, grid

Smart Management

Real-time monitoring and control

Intelligently decides when to store, use, or feed in energy

Remote control

Real-time access/control

OTA updates for performance

* All-in-one smart solution – integrating solar, inverter, battery, heat pump, EV charger, and smart control. Autonomous thinking, control, and optimization for your smart home.

TV (150W)

Washing machine (1500W)

Microwave oven (800W)

Electric vehicle (EV) (6000W)

Refrigerator (250W)

Induction cooker (2500W)

Oven (3000W)

Coffee maker (1200W)

Lighting (30W)

Air conditioner (2500W)

Heat pump (4000W)

Dishwasher (1500W)

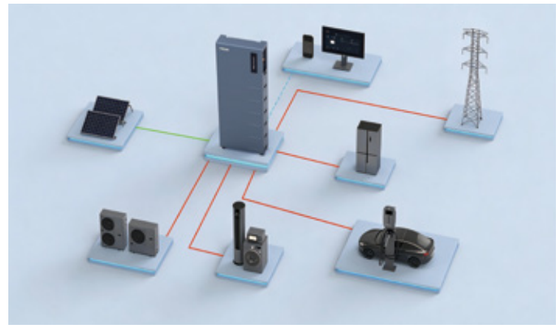
Home Energy AI Butler

The central control unit of the energy system, monitoring and regulating energy flow in real time, intelligently deciding when to store, use, or feed in energy to achieve maximum efficiency and economic benefit.

Autonomously plan your energy future – through a smart, fully integrated system for power generation, storage, and utilization.

Whether you are providing clean energy for your home, business, or community, this all-in-one intelligent system delivers the perfect combination of independent operation, cost savings, and environmental protection.

Access key real-time data globally at any time. Adjust operating modes based on personalized needs such as time-of-use electricity pricing, and enjoy continuous performance improvements and security enhancements through automatic OTA updates.



Three-phase Smart Inverter

Maximum Power Point Tracking (4x)

Four MPPT inputs continuously optimize the operating point of PV modules, ensuring maximum energy utilization even under partial shading conditions.

Emergency Power Supply Function System

When a power outage occurs, the system automatically switches to off-grid mode, continuously providing stable and reliable power to the home.

Integrated Electronic Data Management

An industrial-grade built-in computer delivers maximum computing power and energy efficiency.

Smart Monitoring & Remote Maintenance

Real-time monitoring of energy, generation, and status via APP/PC; remote updates for latest features & safety.

Protection	
Anti-islanding Protection	Integrated
AC Output Overcurrent Protection	Integrated
AC Short Circuit Protection	Integrated
DC Arc Fault Protection	Optional
Built-in DC Switch	Integrated
DC Reverse Polarity Protection	Integrated
PV Overvoltage Protection	Integrated
Battery Reverse Polarity Protection	Integrated
Certifications	
Certificates	TUV
Grid Connection Standards	VDE-AR-N-4105
Safety/EMC Standards	IEC/EN62109-1/-2,IEC/EN61000-6-1/-2/-3/-4
Features	
PV Port	MC4 connector
Battery Port	Integrated
AC Port	Integrated
Communication Method	RS485

Product Mode	TC-INV-3P-12K-EU	TC-INV-3P-15K-EU	TC-INV-3P-18K-EU	TC-INV-3P-20K-EU	TC-INV-3P-24K-EU
DC Input (PV)					
Rec. Max PV Array Power	24kW	30kW	32kW	40kW	40kW
Max Usable PV Input Power	19.2kW	24kW	28kW	30kW	30kW
Max Input Voltage	1000V				
Rated Input Voltage	600V				
Startup Voltage	120V				
MPPT Voltage Range	120-950V				
Max Input Current	4 x 16A				
Max Input Short Circuit Current	4 x 20A				
MPPTs / Max Strings	4-4				
Battery					
Battery Voltage Range	120-600V				
Max Charge/Discharge Power	12kW	15kW	18kW	20kW	24kW
Max Charge/Discharge Current	50A				
Communication Method	CAN				
AC Output (Grid-connected Side)					
Rated Output Power	12kW	15kW	18kW	20kW	24kW
Max Apparent Output Power	12kVA	15kVA	18kVA	20kVA	24kVA
Rated Grid Voltage	3/N/PE,220V/380V,230V/400V				
Rated Grid Frequency	50Hz/60Hz				
Rated Grid Out Current(380V/400V AC)	18.2A/17.3A	22.8A/21.7A	27.3A/26A	30.4A/28.9A	36.5A/34.6A
Max Output Current(380V/400V AC)	18.2A/17.3A	22.8A/21.7A	27.3A/26A	30.4A/28.9A	36.5A/34.6A
Power Factor	>0.99				
Total Current Harmonic Distortion	<3%				
AC Input (Grid-connected Side)					
Rated Input Power	3/N/PE,220V/380V,230V/400V				
Input Voltage Range	176-242/304-418,184-253/320-440V				
Max Input Current	18.2A/17.3A	22.8A/21.7A	27.3A/26A	30.4A/28.9A	36.5A/34.6A
Rated Grid Frequency	50Hz/60Hz				
Frequency Range	45-55Hz/55-65Hz				
AC Output (Off-grid Side)					
Rated Output Power	12kW	15kW	18kW	20kW	24kW
Max Apparent Output Power	Continuous at 1.05x rated power; supports >1.05x for 300ms.				
On-grid/Off-grid Transfer Time	<10ms				
Rated Output Voltage	3/N/PE,220V380V,230V/400V				
Rated Frequency	50Hz/60Hz				
Rated Output Current(380V/400V AC)	18.2A/17.3A	22.8A/21.7A	27.3A/26A	30.4A/28.9A	36.5A/34.6A
Total Voltage Harmonic Distortion	<3%				
General Parameters					
Max 3P Unbalanced Load Cap.	100%				
Max Single-phase Load Capacity	33%Rated Power				
Dimensions (W*H*D)	730*520*270mm				
Weight	54Kg				
Topology	No transformer				
Nighttime Self-consumption	<30W				
Ambient Temperature/Humidit	>40°C,Derated use				
Protection Rating	IP65				
Noise Emission (Typical)	12KW(<35dB);15/18/20/24KW(<55dB)				
Cooling Method	12KW(naturally cooled);15/18/20/24KW(Intelligent air cooling);				
Max Operating Altitude	Maximum altitude 4000m,derating above 2000m(1%for every 100m rise)				

Battery Module

Battery Performance Parameters	Battery Module*1	Battery Module*2	Battery Module*3	Battery Module*4	Battery Module*5	Battery Module*6
System Rated Voltage (VDC)	500					
Operating Voltage Range (V)	350-550					
Battery Nominal Voltage (V)	28.8					
Battery Capacity (Ah)	314	628	942	1256	1570	1884
Battery Nominal Energy (kWh)	9.04	18.08	27.1	36.17	45.2	54.2
Max Output Power (W)	4000	8000	12000	16000	20000	24000
Max Input Power (W)	4000	8000	12000	16000	20000	24000
Max Cont. Charge Current (HV Side)	8	16	24	32	40	48
Max Cont. Discharge Current (HV Side)	8	16	24	32	40	48
Max Cont. Charge Current (Bat. Side)	138	276	414	552	690	828
Max Cont. Discharge Current (Bat. Side)	138	276	414	552	690	828
Charge Voltage (High-voltage Side) (V)	500					
Discharge Cut-off Voltage (HV Side)(V)	350					
Charge Voltage (Battery Side) (V)	32.6					
Discharge Cut-off Voltage (Bat. Side)(V)	22.5					
General Parameters						
Protection Rating	IP65					
Operating Temperature (℃)	-20 to 40℃ (output derated above 40℃)					
Relative Humidity	20% to 95% (non-condensing)					
Max Operating Altitude (m)	4000					
Cooling Method	Natural convection					
Active Aerosol Fire Suppression Module	Integrated					
Low-temperature Heating Function	Optional					
Net Weight (Kg)	79±2	149±2	219±2	289±2	359±2	429±2
Dimensions (W*D*H)	750*270*240mm	750*540*240mm	750*810*240mm	750*1080*240mm	750*1350*240mm	750*1620*240mm

Merak HESS Series

Hybrid ESS All-in-One (Single Phase)

Multi-unit coordination

Supports up to 12 units in parallel

Flexible and reliable

Seamless switching

On-grid/off-grid transfer time <10ms

Non-stop critical power

Diesel compatible

Compatible with diesel generators

For charging and load power supply

Outdoor design

IP65 water & dust protection

Reliable guarantee for outdoor applications

Smart Management

CT sensing, ATS support

GPRS module (optional)

Integrated Functions

RS485 / CAN / WiFi

APP / PC Cloud Monitoring

* Hybrid ESS all-in-one with multi-unit parallel expansion, <10ms seamless grid switching, and diesel generator compatibility. Intelligent air cooling for high efficiency & long life-ideal for residential, outdoor, and C&I storage.

Model	Merak S-HESS P6-10
Battery Input Data	
Battery Type	LFP
Battery Rated Voltage (V)	51.2
Capacity (Ah)	200
Energy (Wh)	10240
Max Discharge Current (A)	135
Max Charge Current (A)	135
Cycle Life	8000times(80%DOC)
PV String Input Data	
Max DC Input Power (W)	9000
PV Input Voltage (V)	370V(125-500V)
MPPT Range (V)	150-425V
Full Load DC Voltage Range	300~425V
Start-up Voltage (V)	125V
PV Input Current (A)	18+18
Max PV Short Circuit Current (A)	27+27
Number of MPPT Trackers	2
Number of Strings per MPPT Tracker	1+1
AC Input/Output Data	
Rated AC Output &UPS Power (W)	6000
Max AC Output Power (VA)	6600
Peak Power (Off-grid)	2 Times of rated power, 10S
Rated AC Input/Output Current (A)	27.3/26.1
Output Frequency & Voltage	50/60Hz; 220/230Vac
Grid Type	Single Phase
Total Harmonic Distortion	<3% (of nominal power)
DC Current Injection	<0.5% In
Efficiency	
Max Efficiency	97.60%
European Efficiency	96.50%
MPPT Efficiency	>99%
General Data	
Operating Temperature Range	-40~60℃
Cooling Method	Smart air cooling
Noise	<50 dB
Communication with BMS	RS485/CAN
Monitoring Mode	Wifl+APP
Protection Rating	IP65
Weight	120Kg
Dimensions	600*200*1150mm (including base)

Merak HESS Series

High-frequency Off-grid Stackable All-in-One

Reliable & Durable

Long-lasting and durable

Wide temperature/Wide voltage/High IP

Modular Design

Easy assembly

quick installation

Visual Design

Visual Display Interface

Easy Maintenance

Multiple Modes

Grid-first / Battery-first Mode

Energy-saving Mode

Smart Management

Efficient Operation & Maintenance

Automated & Intelligent Management

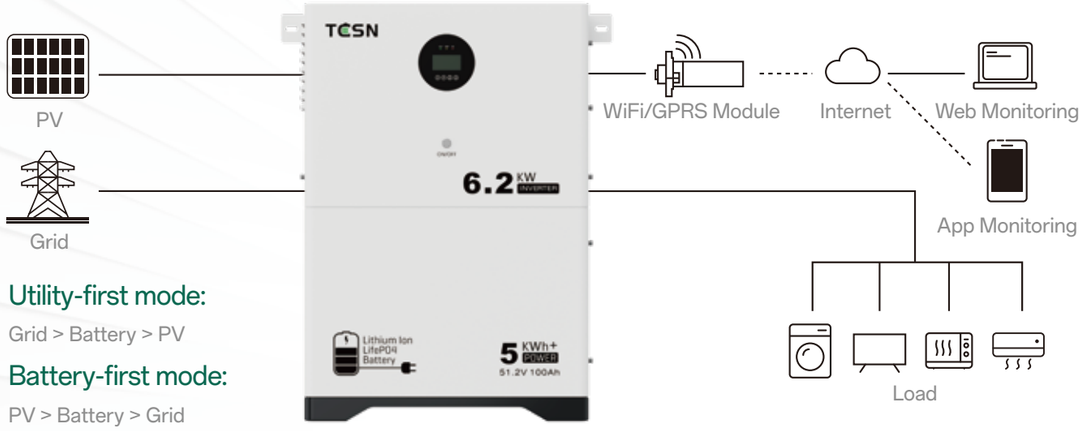
Plug-and-Play

Easy Expansion & Assembly

No More Complicated Debugging

* Modular design with multiple stackable options. Parallel connection increases capacity, plug-and-play, safe and reliable. Suitable for home energy storage, emergency backup power, and C&I energy storage, etc.

System Topology Diagram



Utility-first mode:

Grid > Battery > PV

Battery-first mode:

PV > Battery > Grid

Stackable Battery Pack

Model	G-HESS B5	G-HESS B10	G-HESS B16
Cell	LFP 100Ah	LFP 200Ah	LFP 314Ah
Voltage (V)		51.2V	
Energy (Wh)	5120Wh	10240Wh	16076.8Wh
Max Charge Current (A)	150A	150A	300A
Max Discharge Current (A)	150A	150A	300A
Rated Charge Voltage (V)		54.4~55.2V	
Min Discharge Cut-off Voltage (V)		> 40V	
Cycle Life		8000times(80%DOD)	
Terminal		Plug-in Terminal	
Protection Rating		IP21	
Weight (Kg)	46Kg	88Kg	124Kg
Dimensions (mm)	600*200*400mm	600*200*600mm	600*200*800mm
Storage Temperature		5℃ to 35℃	
Discharge Temperature		-20℃ to 55℃	
Charge Temperature		0℃ to 45℃	

Stackable Off-grid Inverter

Model	Merak G-HESS P6	Merak G-HESS P12
AC Input		
Rated Input Voltage (VAC)	220/230;L+N+PE	
Voltage Range (VAC)	90~280±3（normal mode）；170~280±3（UPS mode）	
Frequency (Hz)	50/60Hz (Default)	
AC Output		
Rated Capacity (kW)	6.2	12
Voltage Regulation	≤5%	
Rated Voltage (VAC)	230;L+N+PE	
Power Factor (PF)	1	
Frequency	50Hz±0.3Hz/60Hz±0.3Hz	
Transfer Time (ms)	10ms(Typical)	
Max Efficiency	> 94%	
Overload Capacity (Battery Mode)	(102% < load <125%) ±10%: report error and turn off the output after 5 minutes; (125% < load < 150%) ± 10%: report error and turn off the output after 10 seconds; Load >150% ±10%:report error and turn off the output after 5 seconds;	
Charger (PV/AC)		
Solar Charger Type	MPPT	
Max PV Input Power (W)	6500	9000+9000
PV Voltage Accuracy	±2%	
MPPT Tracking Range (VDC)	90~450	
PV Charging Current Range	100A(Can Be Set)	150A(Can Be Set)
Max PV Voltage (VDC)	27A	27A+27A
Max PV Current (A)	500	
Charger (AC Mode)		
Max AC Charging Current (A)	80A(Can Be Set)	150A(Can Be Set)
Charging Voltage (VDC)	54.4V~55.2V	
Battery		
Battery Type	Lithium-ion/VRLA/Custom	
Overvoltage Protection (VDC)	60	
Undervoltage Protection (VDC)	40	
Interface		
HMI	LCD	
Monitoring	WiFi(Optional)	
General Data		
IP Rating	IP20	
Operating Temperature	-10℃~50℃	
Relative Humidity	20%~95%(Non-condensing)	
Storage Temperature	-25℃~60℃	
Weight (kg)	27	34
Dimensions (W*D*H)	600*200*480mm (with base)	
Max Operating Altitude	8000m(Derating above 1000m)	
Noise	≤60dB	

Merak HESS Series

Line-frequency Off-grid Stackable All-in-One

Hassle-free & Long-lasting

Easy & Fast Maintenance

Design Life: 15 Years

Modular Design

Simple assembly

quick installation

Visual Design

Visual Display Interface

Easy Maintenance

Multiple Modes

Grid-First Mode / Battery-First Mode

Energy-Saving Mode

Smart Management

Efficient O&M

Automated & Intelligent Management

Integrated Functions

WiFi wireless network support

APP communication

* Modular design with multiple stackable options. Parallel connection increases capacity, plug-and-play, safe and reliable. Suitable for home energy storage, emergency backup power, and C&I energy storage, etc.

Model	Merak H-HESS T5-5	Merak H-HESS T5-10
AC Input		
Rated Input Voltage (VAC)	208/220/230/240;L+N+PE	
Voltage Range (VAC)	160~260	
Frequency (Hz)	50/60Hz (Default)	
AC Output		
Rated Capacity (kW)	5	
Rated Voltage (VAC)	220/230/240	
Frequency	50Hz/60Hz	
Efficiency	≥90%	
Waveform	Pure Sine Wave	
Charger (PV/AC)		
Solar Charger Type	MPPT	
MPPT Charging Efficiency	≥98%	
Max PV Open Circuit Voltage(VDC)	200	
Max PV Charging Current (A)	120	
Max AC Charging Current (A)	50	
Battery		
Nominal Voltage (VDC)	51.2	
Capacity (Ah)	100	200
Energy (Wh)	5120	10240
Low Voltage Protection (VDC)	40	
High Voltage Protection (VDC)	58.4	
Battery Type	Lithium Battery	
General Data		
Waterproof Rating	IP20	
Operating Temperature	0℃~50℃	
Relative Humidity	5%~95%(Non-condensing)	
Dimensions (W*D*H)	600*900*200mm	600*1300*200mm

Merak GPI Series

Single-Phase Hybrid Inverter

Peak Shaving & Valley Filling

Discharge at peak, charge at valley

Smart control of electricity costs

Seamless Switching

<10ms grid on/off transfer

Non-stop power to critical loads

Diesel Compatible

Compatible with diesel generators

For charging and load supply

Parallel Expansion

Supports up to 12 units in parallel

Smart Management

APP/PC monitoring (WiFi), load management

CT sensing, ATS, optional 4G/GPRS

Outdoor Installation

IP65 Water & Dust Protection

Reliable for outdoor use

* 12-unit parallel, <10ms grid transfer, non-stop power. Diesel gen compatible; smart load mgmt, CT, ATS, opt. 4G/GPRS. For residential & small C&I storage.

Model	TCGPI-P1M6K-EU	TCGPI-P1M8K-EU	TCGPI-P1M10K-EU	TCGPI-P1M12K-EU
Battery Input				
Battery Type	Lead-acid or Li-ion			
Battery Voltage Range (V)	40~60			
Max Charge Current (A)	135	190	220	250
Max Discharge Current (A)	135	190	220	250
External Temperature Sensor	Yes			
PV Input				
Max DC Input Power (W)	9000	12000	13000	15600
Input Voltage (V)	370V(125V-500V)			
MPPT Voltage Range (V)	150-425V			
Full Load DC Voltage Range (V)	300~425V			
Startup Voltage (V)	125V			
PV Rated Input Current (A)	18+18	26+26	26+26+26	26+26+26
PV Max Input Current (A)	27+27	34+34	34+34+34	34+34+34
Number of MPPTs	2	2	3	3
Number of MPPT Trackers	1+1	1+1	1+1+1	1+1+1
AC Input/Output				
Rated Output Power (W)	6000	8000	10000	12000
Max Output Power (VA)	6600	8800	11000	13200
Peak Power (Off-grid)	Twice the rated power for 10 seconds			
Rated Input/Output Current (A)	27.3/26.1	36.4/34.8	45.5/43.5	54.6/52.2
Max Input/Output Current (A)	30/28.7	40/38.3	50/47.9	60/57.4
Max Continuous PT Current (A)	40	50	60	70
Power Factor	0.8 leading to 0.8 lagging			
Output Voltage & Frequency	50/60Hz; 220/230Vac			
Grid Type	Single-phase			
Total Harmonic Distortion	<3% (of nominal power)			
DC Component	<0.5% In			
Efficiency				
Max Efficiency	97.60%			
European Efficiency	96.50%			
MPPT Efficiency	>99%			
Certifications & Standards				
Grid Code	EMC/SAFETY REGULATION			
EMC / Safety Standards	EN61000-6-2/-4;EN62109-1,EN62109-2			
General Data				
Operating Temperature Range	-40 to 60°C, derating above 55°C			
Cooling Method	Smart cooling			
Noise (dB)	<50 dB			
Communication with BMS	RS485; CAN			
Monitoring Method	WiFi+APP			
Protection Rating	IP65			
Installation Method	Wall-mounted			
Weight (kg)	22	25.5	36	
Dimensions W*H*D (excluding connectors & brackets)	340x490x256.22mm	340x560x257mm	430x629.9x256mm	

Merak SPI Series

Single-phase Off-grid Inverter

Hassle-free & Long-lasting

Easy & Quick Maintenance

Design Life: 20 Years

High Reliability

Pure sine wave output / MPPT management

Stable and reliable power supply

Easy installation

Industrial design with modern aesthetics

Easy to install and simple to use

Strong scalability

High charge/discharge eff.

Lead-acid & lithium compatible

High Conversion Efficiency

Stable High Energy Efficiency

High Conversion Rate

Smart Control

Supports RS485/USB

WiFi wireless network (optional)

* Easy to install and simple to use; supports pure sine wave output and MPPT smart management, delivering stable and reliable power. Suitable for home energy storage, emergency backup power, etc.

Model	Merak SPI B24-3K	Merak SPI B48-6K	Merak SPI B48-12K
AC Input			
Rated Input Voltage (VAC)	208/220/230/240;L+N+PE	220/230;L+N+PE	
Voltage Range (VAC)	90~280±3（normal mode）；170~280±3（UPS mode）		
Frequency (Hz)	40~70 (Default)	50Hz/60Hz (Auto detection)	
AC Output			
Rated Capacity (kW)	3.6	6.2	12
Voltage Regulation		≤5%	
Rated Voltage (VAC)	208/220/230/240;L+N+PE	230;L+N+PE	
Power Factor (PF)	1		
Frequency (Hz)	Line Mode：Synchronized range，Battery Mode：50/60Hz±0.1%	50Hz±0.3Hz/60Hz±0.3Hz	
Transfer Time (ms)	10ms(Typical)		
Harmonic Distortion	≤3% (Linear Load) ≤5% (Non-linear Load PF=0.7)	≤5%	
Overload Capacity (Battery Mode)	60s@102%~110%load;10s@110%~130%load;3s@130%~150%load;0.2s@＞150%load	(102% < load <125%) ±10%: report error and turn off the output after 5 minutes; (125% < load < 150%) ± 10%: report error and turn off the output after 10 seconds; Load >150% ±10%:report error and turn off the output after 5 seconds;	
Max Efficiency (Battery Mode)	92.7%@24VDC	94%@48VDC	
Parallel Operation	Nonsupport	No/1-6	
Charger (PV/AC)			
Solar Charger Type	MPPT		
Max PV Input Power (W)	5000	6500	9000+9000
PV Voltage Accuracy	±2%		
MPPT Tracking Range (VDC)	40~450	90~450	
Efficiency	99.5 MAX		
Max PV Voltage (VDC)	500		
Max PV Current (A)	100	100A(Can Be Set)	150A(Can Be Set)
Charger (AC Mode)			
Max AC Charging Current (A)	100	80A(Can Be Set)	150A(Can Be Set)
Charging Voltage (VDC)	Settable:28~29V	54.4V~55.2V	
Battery			
Battery Type	Lithium-ion/VRLA/Custom		
Overvoltage Protection (VDC)	30.5	60	
Undervoltage Protection (VDC)	21	40	
Interface			
HMI	LCD		
Monitoring	WiFi(Optional)		
General Data			
Waterproof Rating	IP20		
Operating Temperature	0~50℃	-10℃~50℃	
Relative Humidity	20%~95%(Non-condensing)		
Storage Temperature	-15℃~60℃	-25℃~60℃	
Weight (kg)	8.8	8.4	18.7
Dimensions(W*D*H)	315×456×120mm	305×416×120mm	365×550×140mm
Max Operating Altitude	4000m(Derating above 1000m)		
Noise	≤50dB	≤60dB	

Merak PESS Series

Portable Power Supply

Ultra-Long Cycle Life

8,000 Cycles

One Battery That Lasts

Dual-Mode Fast Charging

AC + Solar

Dual-Mode Charging

High Efficiency

Efficient Operation & Maintenance

Increased Energy Density

Direct Device Charging

Supports USB Output

Simultaneous Multi-Port Charging

Integrated All-in-One

Inverter + BMS integrated design

stable and reliable

Compact & Easy to Use

Small size, grab and go

Supports home/outdoor use

* Merak PESS: portable $LiFePO_4$ station with BMS, AC+solar dual-mode charging, multi-port output — reliable power for medical, disaster, outdoor, home backup.

Model	G-HESS 500W 1kWh
AC Input	
Rated Input Voltage (VAC)	230;L+N+PE
Voltage Range (VAC)	100~270
Frequency (Hz)	45~65
AC Output	
Rated Capacity (W)	500
Peak Power (VA)	500
Rated Voltage (VAC)	230;L+N+PE
Frequency (Hz)	50Hz±0.5%
Charger (PV/AC)	
Solar Charger Type	MPPT
Max PV Input Power (W)	300
MPPT Tracking Range (VDC)	13~52
Max PV Current (A)	10
Charger (AC Mode)	
Charging Current (A)	Settable:1-140
Battery	
Rated Battery Voltage (VDC)	3.2
Capacity (Ah)	314
Energy (Wh)	1004.8
Interface	
HMI	USB 5V/1A
General Data	
Waterproof Rating	IP20
Operating Temperature	-10~40℃
Weight (Kg)	8.5
Dimensions (W*D*H)	245×140×320mm
Max Operating Altitude	3000m(Derating above 100m)

Merak BESS Series

Outdoor C&I Energy Storage System

Data Backup

Real-time Data Backup

Stability Assurance

Fire Protection Patent

Fire protection module

Pressure relief & flame retardant

One-key start

Automatic operation

Supports multi-parallel

Professional Protection

Protection Rating IP54

Suitable for Outdoor Use

Remote Access

Real-time Access

Remote Monitoring and Dispatching

Safe & Worry-Free

Four-layer Safety Protection Design

Active Fire Protection System

* Top choice for C&I storage: efficient, safe, smart. Integrates battery modules, PCS, BMS, fire & thermal. Easy installation, low maintenance. For factories, enterprises, malls, etc.

Product Features

The system is plug-and-play, easy to transport, install, and maintain. It is an all-in-one integrated system consisting of battery modules, PCS, PV controller (MPPT) (optional), control system, fire protection control system, temperature control system, and monitoring system. The synergy of these system components enables effective charging and discharging.

The system adopts an AC-coupled microgrid structure, where the PCS, loads, grid, and PV are connected to the AC bus, and corresponding control strategies are developed based on actual conditions to ensure power supply security.

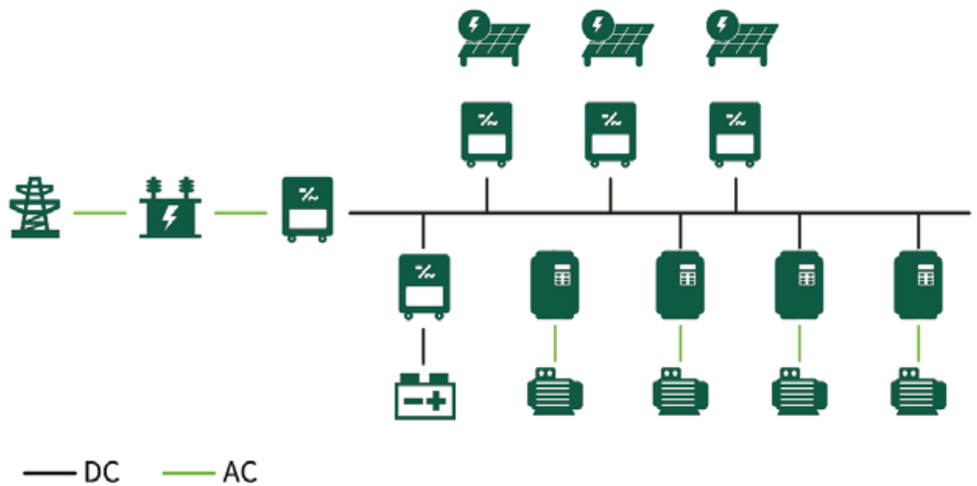
The battery cluster consists of modules connected in series. The entire battery system is controlled by the BCM, which monitors the cluster voltage and current in real time. The battery modules use $LiFePO_4$ cells. A distributed BMM control system is adopted, featuring battery voltage collection, battery temperature monitoring, and battery balancing functions to ensure effective and safe operation of the modules.

For end users such as factories, enterprises, and large shopping malls, daily load fluctuations are significant – often resulting in insufficient grid capacity during peak hours and surplus capacity during off-peak hours. The end-user energy storage system effectively addresses the peak-valley electricity price difference and also provides capacity expansion. It stores electricity in the batteries during off-peak hours and releases it to the grid during peak hours, achieving peak shaving and valley filling, distribution system capacity expansion, and load smoothing, while also generating economic benefits from the peak-valley price spread.

Industrial Touchscreen Computer	Data Acquisition and Forwarding	Features
All-in-one industrial PC & display, 13.3" HMI. Supports equipment monitoring, energy storage parameter setting, communication management, real-time alarms, and other local management functions.	Comms: serial, TCP/IP, 4G (opt.) – 3rd-party data exchange. Protocols: IEC101/104, Modbus RTU/TCP, CDT, etc.	Remote second-level control & emergency stop/start; Local/remote mode support; Peak shaving, demand control, reverse power protection, plan tracking, etc.
Powerful data acquisition capability	**Combinable & expandable**	**Easy installation**
Supports data collection from PCS, BMS, meters, thermal management system, fire protection system, etc.	Rich device interfaces, configurable upon user requirements (device expansion access available via communication manager, serial server, etc.)	Panel-mounted. Supports PCS, BMS, metering, thermal control, fire protection, etc., with hybrid networking via RS485 and dry contacts for convenient installation.

- Modular design, easy maintenance, easy handling, and transport & installation.
- High safety: ventilation, explosion relief, Lion-tamer gas detector, fire protection.
- Long cycle life: 6,000 cycles at 0.5C charge/discharge with 80% energy retention.
- Self-developed BMS with high sampling accuracy and advanced SOC/SOH calculation methods.
- DC 1000/1500V voltage platform
- Two-stage short-circuit protection with graded fast current limiting.
- Online estimation of SOC, SOH, SOE based on real-time conditions and big data.

System Topology



Merak 50-104SP	Merak 100-215SP	Merak 300-645SP
Merak 50-161SP	Merak 100-215SP-L	Merak 500-1075SP

Merak50-104kWh-SP

General Parameters	104 Air-cooled Cabinet
Model	Merak50-104kWh-SP
Configuration Type	1P104S
Cell Capacity	314Ah
C-rate	0.5P
Inverter Power	50kW
Rated Capacity	314Ah
Rated Energy	104kWh
Nominal Voltage	332.8Vdc
Operating Voltage Range	260~374.4Vdc
Operating Temperature Range	-20℃~55℃
Storage Temperature Range	-30℃~60℃
Max Operating Altitude (m)	≤4000
Thermal Management Method	Air cooling
Fire Protection System	Aerosol
Communication Interface	RS485/Ethernet
Protection Rating	IP54
Weight	1.5t
Dimensions (L*W*H)	1000x1450x2100mm
Standards	IEC62619 UN38.3 UL1973 GB/T36276-2018 GB/31484-2015

Merak50-161kWh-SP

General Parameters	161 Air-cooled Cabinet
Model	Merak50-161kWh-SP
Configuration Type	1P180S
Cell Capacity	280Ah
C-rate	0.5P
Inverter Power	50kW
Rated Capacity	280Ah
Rated Energy	161kWh
Nominal Voltage	576Vdc
Operating Voltage Range	450~657Vdc
Operating Temperature Range	-20℃~55℃
Storage Temperature Range	-30℃~60℃
Max Operating Altitude (m)	≤3000
Thermal Management Method	Air cooling
Fire Protection System	Aerosol
Communication Interface	RS485/Ethernet
Protection Rating	IP54
Weight	2.1t
Dimensions (L*W*H)	1000x1450x2100mm
Standards	IEC62619 UN38.3 UL1973 GB/T36276-2018 GB/31484-2015

Merak100-215kWh-SP

General Parameters	215 Air-cooled Cabinet	
Model	Merak100-215kWh-SP	Merak100-209kWh-SP
Configuration Type	1P120S*2	1P104S*2
Cell Capacity	280Ah	314Ah
C-rate	0.5P	
Inverter Power	50kW*2	
Rated Capacity	560Ah	628Ah
Rated Energy	215kWh	208.9kWh
Nominal Voltage	384Vdc	332.8Vdc
Operating Voltage Range	300~438Vdc	260~374.4Vdc
Operating Temperature Range	-20℃~55℃	
Storage Temperature Range	-30℃~60℃	
Max Operating Altitude (m)	≤3000	
Thermal Management Method	Air cooling	
Fire Protection System	Aerosol	
Communication Interface	RS485/Ethernet	
Protection Rating	IP54	
Weight	2.5t	2.3t
Dimensions (L*W*H)	1700x1450x2300mm	
Standards	IEC62619 UN38.3 UL1973 GB/T36276-2018 GB/31484-2015	

Merak100-215kWh-SP-L

General Parameters	215 Liquid-cooled Cabinet		
Model	Merak100-215kWh-SP-L	Merak100-241kWh-SP-L	Merak100-261kWh-SP-L
Configuration Type	1P240S	1P240S	1P260S
Cell Capacity	280Ah	314Ah	314Ah
C-rate	0.5P		
Inverter Power	100kW		
Rated Capacity	280Ah	314Ah	314Ah
Rated Energy	215kWh	241kWh	261kWh
Nominal Voltage	768Vdc	768Vdc	832Vdc
Operating Voltage Range	600~864Vdc	600~864Vdc	650~936Vdc
Operating Temperature Range	-20℃~55℃		
Storage Temperature Range	-30℃~60℃		
Max Operating Altitude (m)	≤3000		
Thermal Management Method	Liquid cooling		
Fire Protection System	Aerosol		
Communication Interface	RS485/Ethernet		
Protection Rating	IP54		
Weight	2.5t	2.7t	2.9t
Dimensions (L*W*H)	1200x1450x2100mm		
Standards	IEC62619 UN38.3 UL1973 GB/T36276-2018 GB/31484-2015		

Merak300-645kWh-SP

General Parameters	645kWh 20-foot Container
Model	Merak300-645kWh-SP
Configuration Type	1P240S*3
Cell Capacity	280Ah
C-rate	0.5P
Inverter Power	300kW
Rated Capacity	840Ah
Rated Energy	645kWh
Nominal Voltage	768Vdc
Operating Voltage Range	600~876Vdc
Operating Temperature Range	-20℃~55℃
Storage Temperature Range	-30℃~60℃
Max Operating Altitude (m)	≤3000
Thermal Management Method	Liquid cooling
Fire Protection System	Perfluorohexanone
Communication Interface	RS485/Ethernet
Protection Rating	IP55
Weight	16t
Dimensions (L*W*H)	6058x2438x2591mm
Standards	IEC62619 UN38.3 UL1973 GB/T36276-2018 GB/31484-2015

Merak500-1075kWh-SP

General Parameters	1075kWh
Model	Merak500-1075kWh-SP
Configuration Type	1P240S*4
Cell Capacity	280Ah
C-rate	0.5P
Inverter Power	500kW
Rated Capacity	1120Ah
Rated Energy	1075kWh
Nominal Voltage	768Vdc
Operating Voltage Range	600~876Vdc
Operating Temperature Range	-20℃~55℃
Storage Temperature Range	-30℃~60℃
Max Operating Altitude (m)	≤6000
Thermal Management Method	Liquid cooling
Fire Protection System	Perfluorohexanone
Communication Interface	RS485/Ethernet
Protection Rating	IP55
Weight	18t
Dimensions (L*W*H)	6058x2438x2591mm
Standards	IEC62619 UN38.3 UL1973 GB/T36276-2018 GB/31484-2015

Merak BESS Series

Outdoor C&I Energy Storage System

Hassle-free & long-lasting

Easy and quick maintenance

Extended service life

Remote access

Real-time access

Remote monitoring and dispatching

Integrated system

Highly integrated system

Easy installation

Professional Protection

Protection Rating IP54

Suitable for Outdoor Use

Smart Management

Smart Management Control

Balancing Management Strategy

Safe & Worry-Free

Four-Layer Safety Protection Design

Active Fire Protection System

* Merak air-cooled ESS: integrated battery/BMS/fire, efficient & safe, peak shaving, lower costs, independent management -top C&I choice.

Model	Merak-100k-241kWh	Merak-100k-215kWh
Cell Type	3.2V/314Ah, LFP	3.2V/280Ah, LFP
Rated Capacity	241kWh	215kWh
Battery Configuration	5*1P48S	
System Voltage	600~864V	
Charge/Discharge Rate	≤0.5P	
Battery Efficiency	≥ 94% (excluding auxiliary power of air conditioner)	
Operating Temperature Range	Discharge temperature range: -20~55°C; Charge temperature range: 0~55°C	
Fire Suppression Method	Aerosol fire suppression	
Communication Method	CAN、RS485、Modbus-TCP、LAN	
Cooling Method	Air-cooled type	
IP & CR Rating	IP54/C3	
Weight	2.5t	2.3t
Dimensions (W*D*H)	1000*1350*2065mm(Without lifting rings)	
Humidity Range	0~95% (no condensation)	
Max Operating Altitude	5000m(>3000m derating)	
Battery Module		
Nominal Voltage	153.6V	
Nominal Capacity	314Ah	280Ah
Nominal Energy	48.23kWh	43.008kWh
Configuration	1P48S	
Operating Voltage Range	129.6~172.8V	
Max Operating Temperature Range	Charge temperature range: 0°C~55°C; Discharge temperature range: -30°C~55°C	
Optimal Operating Temperature	25℃±2℃	
Transp. & Stor. Temp.	-20°C~45°C within one month; -20°C~25°C within 6 months	
Insulation Performance	Insulation resistance ≥ 500MΩ @2500VDC	
Protection Rating	≥IP67	
Withstand Voltage	Leakage current ≤1mA @4500VDC, no spark and no breakdown	
Weight	310Kg	
Dimensions (W*D*H)	795*1125*228mm	

Merak BESS Series

Outdoor C&I Energy Storage System

Hassle-free & long-lasting

Easy and quick maintenance

Extended service life

Remote access

Real-time access

Remote monitoring and dispatching

Integrated system

Highly integrated system

Easy installation

Professional Protection

Protection Rating IP54

Suitable for Outdoor Use

Smart Management

Smart Management Control

Balancing Management Strategy

Safe & Worry-Free

Four-Layer Safety Protection Design

Active Fire Protection System

* Merak liquid-cooled ESS, large capacity, precise liquid cooling, minimal temperature difference, high stability. Integrates battery modules/BMS/fire - reliable choice for C&I storage.

Model	Merak-100KW/129-215kWh SP			Merak-100KW/129-215kWh NP		
Cell Type	3.2V/280Ah, LFP					
Rated Capacity	129kWh	172kWh	215kWh	129kWh	172kWh	215kWh
Battery Configuration	3*1P48S	4*1P48S	5*1P48S	3*1P48S	4*1P48S	5*1P48S
System Voltage	360~518V	480~691V	600~864V	360~518V	480~691V	600~864V
Charge/Discharge Rate	≤0.5P					
Battery Efficiency	≥ 94% (excluding auxiliary power of air conditioner)					
Operating Temperature Range	Discharge temperature range: -20~55°C; Charge temperature range: 0~55°C					
Fire Suppression Method	Aerosol fire suppression					
Communication Method	CAN、RS485、Modbus-TCP、LAN					
Cooling Method	Liquid-cooled					
IP & CR Rating	IP54/C3					
Weight	1.68t	1.9t	2.3t	1.68t	1.9t	2.3t
Dimensions (W*D*H)	1000*1350*2065mm(Without lifting rings)					
Humidity Range	0~95% (no condensation)					
Max Operating Altitude	5000m(>3000m derating)					
Battery Module						
Nominal Voltage	153.6V					
Nominal Capacity	280Ah					
Nominal Energy	43.008kWh					
Configuration	1P48S					
Operating Voltage Range	129.6~172.8V					
Max Operating Temperature Range	Charge temperature range: 0°C~55°C; Discharge temperature range: -30°C~55°C					
Optimal Operating Temperature	25℃±2℃					
Transp. & Stor. Temp.	-20°C~45°C within one month; -20°C~25°C within 6 months					
Insulation Performance	Insulation resistance ≥ 500MΩ @2500VDC					
Protection Rating	≥IP67					
Withstand Voltage	Leakage current ≤1mA @4500VDC, no spark and no breakdown					
Weight	310Kg					
Dimensions (W*D*H)	790*1132*248mm					

Merak CESS Series

Outdoor Container Energy Storage Syste

Energy co-location

Co-located with renewables

Improve renewable energy utilization

Standalone use

Aux. freq. reg., voltage stab., black start, etc.

Reduces grid investment

High efficiency

Efficient operation and maintenance

Increased energy density

Professional Protection

IP55 waterproof, corrosion resistance ≥ C4

Designed specifically for outdoor use

Smart Management

Efficient Operation & Maintenance

Automated & Intelligent Management

Safe & Worry-Free

Four-Layer Safety Protection Design

Active Fire Protection System

* 5MW container ESS: highly integrated, modular, flexible deployment. Emergency & temporary power.- For PV stations, wind farms, industrial parks, commercial complexes, data centers, etc.

Cabinet Parameters	
Rated Capacity	5015.96kWh
Battery Pack Configuration	1P104S
Battery Cluster Configuration	1P416S
Battery Cluster ID	12
Operating Voltage	1040.0Vdc ~ 1497.6Vdc
Nominal Voltage	1331.2Vdc
Max Charge/Discharge Rate	0.5P
Operating Temperature	-30℃ ~ 55℃
Humidity	0 ~ 95%RH
Temperature control method	Liquid cooling
IP / Corrosion resistance level	IP55/≥C4
Fire Suppression System	Perfluorohexanone
Dimensions (W*D*H)	6058×2438×2896mm
Weight	≈43t
Max Operating Altitude	≤3000m
Cycle Efficiency	≥94%
Fire Detection	Temperature, smoke, and combustible gas detection

Battery Module Parameters	Merak-2.5MW-5MWh	Merak-2.5MW-5MWh
Nominal Voltage	166.4V	332.8V
Battery Capacity	314Ah	
Battery Pack Energy	52.249KWh	104.5KWh
Number of Cells in Series/Parallel	1P52S	1P104S
Voltage Range	130V ~ 187.2V	260V ~ 379.6V
Max Continuous Charge/Discharge Rate	Charge rate: 0.5C; Discharge rate: 1C	
Max Pulse Charge/Discharge Current	Charge rate: 0.5C; Discharge rate: 1C	
Operating Temperature	Charging: 0°C to 60°C; Discharging: -20°C to 60°C	
Storage Temperature	-35℃~60℃	
Dimensions (W*D*H)	1200*790*247 mm	2180*790*247 mm

Phecda H Series

Residential Solar Storage & EV Charging All-in-One

Stable & reliable

Independently builds microgrid

Ensures continuous stability of loads

Modular design

Simple assembly

Quick installation

High efficiency

Advanced MPPT algorithm

Improves PV power generation

Safe & Worry-Free

System-level graded protection

Ensures system and personnel safety

Smart management

Built-in Energy Management System

Smart Dispatching

Professional Protection

IP65 Water & Dust Protection

Worry-free Outdoor Installation

* All-in-one solar-storage-charger, smart dispatch, max green power use. Rooftop to wheels, home to car - green energy closed loop! Backup for home, charger for car.

Model	Phecda-H-T12-32-12
AC (Grid Side)	
Rated Grid Voltage	110-127/208-240V split-phase, 240V single-phase
Voltage Range (VAC)	240
Rated Grid Frequency (Hz)	60
Grid Frequency Range (Hz)	55~65
EV Charger	
Rated Power (kW)	12
Rated Voltage (VAC)	240
Frequency (Hz)	60
Max Charging Current (A)	50
Charging Plug	SAE 1772 (Type 1)
PV Input	
Max PV Input Power (kW)	18
Rated PV Input Voltage (VDC)	310
Max PV Input Voltage (VDC)	500
Min PV Input Voltage (VDC)	120
Number of MPPTs	4
Battery	
Nominal Voltage (VDC)	51.2
Capacity (Ah)	628
Energy (Wh)	32153.4
Low Voltage Protection (VDC)	40
High Voltage Protection (VDC)	58.4
General Data	
Waterproof Rating	IP65
Operating Temperature	0℃~50℃
Relative Humidity	5%~95%(Non-condensing)
Dimensions(W*H*D)	680*1700*540mm

Phecda M Series

Mobile Battery Energy Storage & EV Fast Charging System

Massive energy storage

Large capacity, no worries

Meets emergency power needs

Modular design

Simple assembly

Quick installation

Mobile deployment

Vehicle-mounted design

Full-scenario mobile deployment

EU standard fast charging

Fast charging

200kW compliant with EU standards

Smart management

Efficient operation and maintenance

Automated and intelligent management

Safe & worry-free

Multiple safety protections

OT/OL/OV/OC/SC Protection

* No grid upgrade, EU compliant. Efficient charging, high utilization, low cost, plus emergency power. For highway stops, commercial parking, temporary sites, rural & remote Europe.

Cabinet Parameters	Phecda-M L556.8V324Ah(180kWh)
Cell Type	3.2V/324Ah, LFP
System Rated Capacity	180kWh
Battery Configuration	1P174S
System Voltage	435~626.4V
Rated Charge & Discharge Current	324A
Max Discharge Current	400A
Battery Efficiency	≥94%
Operating Temperature Range	Discharge: -20~60°C | Charge: 0~50°C
Communication Method	CAN、RS485、Modbus-TCP、LAN
Cooling Method	Liquid cooling
IP / Corrosion Resistance Rating	IP54/C3
Weight	< 1517Kg
Dimensions (W*D*H)	2000*1195*1000mm
Humidity Range	0~95% No condensation
Max Operating Altitude	5000m（> 3000m）
Battery Parameters	**TC-CN185.6V324Ah**
Configuration	1P58S
Rated Capacity	324Ah
Rated Energy	60.134kWh
Rated Voltage	185.6V
Operating Voltage Range	145~208.8V
Operating Temperature Range	Discharge: -20~60°C | Charge: 0~55°C
Insulation Performance	Resistance ≥ 500 MΩ @ 2500 VDC
Withstand Voltage	Leakage current ≤ 1mA @ 4500VDC
Protection Rating	≥IP67
Ambient Humidity	< 90% Relative Humidity (No Condensation)
Weight	378kg
Dimensions (W*D*H)	1192±2mm×1010±2mm×254±2mm

Phecda M Series

Mobile BESS with External Fast EV Charger

Massive energy storage

Large capacity, no worries

Meets emergency power needs

Modular design

Simple assembly

Quick installation

Hassle-free & long-lasting

Easy and quick maintenance

Design life: 15 years

Constant-temp liquid cooling

Intelligent liquid cooling

Precisely controls operating temperature

Smart management

Efficient operation and maintenance

Automated and intelligent management

Safe & worry-free

Multiple safety protections

OT/OL/OV/OC/SC Protection

* No grid upgrade, EU compliant. Efficient charging, high utilization, low cost, plus emergency power. For highway stops, commercial parking, temporary sites, rural & remote Europe.

Cabinet Parameters	Phecda-M L643.2V324A(208kWh)
Cell Type	3.2V/324Ah, LFP
System Rated Capacity	208kWh
Battery Configuration	1P201S
System Voltage	502.5~723.6V
Rated Charge & Discharge Current	324A
Max Discharge Current	400A
Battery Efficiency	≥94%
Operating Temperature Range	Discharge: -20~60°C | Charge: 0~55°C
Communication Method	CAN、RS485、Modbus-TCP、LAN
Cooling Method	Liquid cooling
IP / Corrosion Resistance Rating	IP54/C3
Weight	< 1515Kg
Dimensions (W*D*H)	2000*1195*1000mm
Humidity Range	0~95% No condensation
Max Operating Altitude	5000m（> 3000m）
Battery Parameters	**TC-CN214.4V324Ah**
Configuration	1P67S
Rated Capacity	324Ah
Rated Energy	69.465kWh
Rated Voltage	214.4V
Operating Voltage Range	167.5~241.2V
Operating Temperature Range	Discharge: -20~60°C | Charge: 0~55°C
Insulation Performance	Resistance ≥ 500 MΩ @ 2500 VDC
Withstand Voltage	Leakage current ≤ 1mA @ 4500VDC
Protection Rating	≥IP67
Ambient Humidity	< 90% Relative Humidity (No Condensation)
Weight	427.7kg
Dimensions (W*D*H)	1192±2mm×1010±2mm×254±2mm

Alioth SC Series

Single-Phase UPS Rack Battery

UPS Series

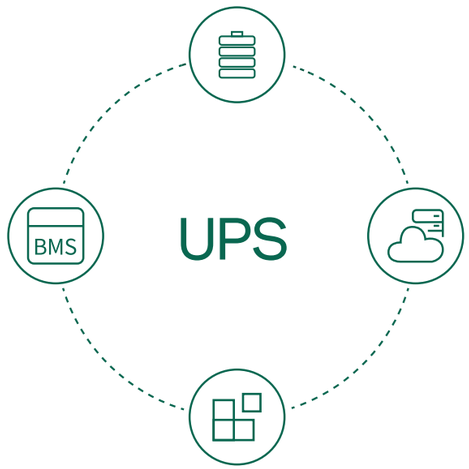
The UPS series uses TCSN high-rate $LiFePO_4$ cells, equipped with a self-developed battery management system, integrated with a remote cloud management system and an intelligent fire protection module, featuring high reliability, strong stability, long service life, and excellent safety performance.

Functional Advantages

In terms of safety design, the UPS series features a four-level safety protection system that covers the entire product lifecycle, ensuring that the system always operates safely and reliably.

Meanwhile, a three-level management architecture enables precise status monitoring of all system components, effectively ensuring stable system performance and providing continuous, reliable power supply to user loads.

Excellent compatibility allows wide application in data centers, financial institutions, rail transit, medical systems, large industrial and mining enterprises, power grid systems, etc., meeting the stringent requirements for power backup and power protection in various scenarios.



Hassle-free & long-lasting

Cycle life: 5000 cycles (80% DOD)

Design life: 20 years

Modular design

Simple assembly

Quick installation

Multiple series and parallel

Ease of capacity expansion

Supports series and parallel connections

Integrated functions

Smart balancing good consistency

Multiple comms options

* SC Series: high capacity, high safety, self-developed smart BMS, suitable for 1-20kW UPS systems. Widely used in key areas such as distributed data centers, institutions, and large industrial and mining enterprises.

Model	Voltage (V)	Capacity (Ah)	Dimensions (W*D*H)	Weight (Kg)	Max Continuous Discharge Power	Communication	Supported UPS Line System
SC24-50	25.6	50	442*300*86mm	18	1.2kW	RS485	Two-wire
SC24-100	25.6	100	442*300*130mm	24	2.4kW	RS485	Two-wire
SC51.2-100	51.2	100	442*420*130mm	42	5kW	RS485	Two-wire
SC76.8-27	76.8	27	442*300*155mm	24.5	3.6kW	RS485	Two-wire
SC76.8-50	76.8	50	442*300*155mm	38	3.6kW	RS485	Two-wire
SC76.8-100	76.8	100	442*630*130mm	71	3.6kW	RS485	Two-wire
SC192-27	192	27	442*700*155mm	55	20kW	RS485/CAN	Two-wire
SC192-50	192	50	442*620*260mm	93	20kW	RS485/CAN	Two-wire
SC240-27	240	27	442*800*155mm	67	25kW	RS485/CAN	Two-wire
SC240-50	240	50	442*780*260mm	110	25kW	RS485/CAN	Two-wire

Alioth NP Series

Smart LFP Battery for Telecom

Smart lithium battery

Stable output voltage
Compatible with lithium and lead-acid (Smart models only)

Modular design

Simple assembly
Quick installation

Flexible parallel connection

Ease of capacity expansion
Supports multiple units in parallel

Integrated functions

Multiple comms options
Built-in SNMP (optional)

* NP series uses high-capacity, high-safety lithium-ion cells and features a smart BMS. It offers excellent performance, good stability, and high reliability. Suitable for telecom base stations.

Model	Voltage(V)	Capacity (Ah)	Dimensions (W*D*H)	Terminal	Weight (Kg)	Max Discharge Current	CAN	RS485	Dry contact	LCD	SNMP
Smart NP48-100	48	100	442*400*134.5	M6	40	100	P	Y	P	P	P
NP48-50	48	50	442*400*130	M6	25.5	50	P	Y	P	P	P
NP48-75	48	75	442*400*130	M6	32	75	P	Y	P	P	P
NP48-100	48	100	442*420*130	M6	40	100	P	Y	P	P	P
NP48-150	48	150	442*500*174	M8	58	150	P	Y	P	P	P
NP48-200	48	200	442*550*222	M8	84	200	P	Y	P	P	P

Alioth ZC Series

LFP DC Control Power Battery

Hassle-free & long-lasting

Cycle life >4000 cycles (80% DOD)
Design life: 20 years

Modular design

Simple assembly
Quick installation

Multiple series and parallel

Ease of capacity expansion
Supports series and parallel connections

Integrated functions

Smart balancing good consistency
Multiple comms options

* ZC DC Power Screen: high capacity, high safety, self-developed intelligent BMS system, providing stable power for DC loads. Widely used in DC loads such as switchgears, circuit breakers, and relay protection.

Model	Voltage (V)	Capacity (Ah)	Dimensions (W*D*H)	Weight(Kg)	Max Continuous Discharge Power	Communication
ZC115-100D	115.2	100	800*600*2260mm	285	11.52kW	RS485/CAN
ZC115-150D	115.2	150	800*600*2260mm	320	17.28kW	RS485/CAN/TCPIP
ZC115-200D	115.2	200	800*600*2260mm	375	23.04kW	
ZC230-100D	230.4	100	800*600*2260mm	380	23.04kW	
ZC230-150D	230.4	150	800*600*2260mm	440	34.5kW	
ZC230-200D	230.4	200	800*600*2260mm	570	46.08kW	

Alioth TC Series

Three-Phase UPS High-Rate Battery

Long Life & Maintenance-Free

Cycle life >4000 cycles (80% DOD)

Design life: 20 years

Modular design

Simple assembly

Quick installation

Multiple series and parallel

Ease of capacity expansion

Supports series and parallel connections

Active balancing+Smart BMS

Smart balancing good consistency

Multiple comms options

Flexible compatibility

Compatible with two-wire

three-wire systems

0ms Backup Switching

Online double-conversion topology

0ms transfer to battery backup

* TC Series: high rate, high safety, intelligent BMS management system, designed to handle momentary surge loads. Used in data centers, institutions, transportation, medical, industrial & mining, power grids, etc.

Model	Voltage (V)	Capacity (Ah)	Dimensions (W*D*H)	Weight (Kg)	Max Continuous Discharge Power	Communication	Supported UPS Line System
TC40	204.8	50	600*1000*1165mm	250	45.6kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC50	256	50	600*1000*1165mm	285	57kW	RS485/CAN/TCPIP	Two-Wire
TC60	307.2	50	600*1000*1500mm	340	68.4kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC70	358.4	50	600*1000*1500mm	380	79.8kW	RS485/CAN/TCPIP	Two-Wire
TC80	409.6	50	600*1000*1500mm	420	91.2kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC90	460.8	50	600*1000*2000mm	515	102.6kW	RS485/CAN/TCPIP	Two-Wire
TC100	512	50	600*1000*2000mm	550	114kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC110	563.2	50	600*1000*2000mm	585	125.4kW	RS485/CAN/TCPIP	Two-Wire
TC120	614.4	50	600*1000*2000mm	625	136.8kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC130	665.6	50	600*1000*2000mm	660	148.2kW	RS485/CAN/TCPIP	Two-Wire
TC140	716.8	50	600*1000*2000mm	700	159.6kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC80D	204.8	100	600*1000*1500mm	440	91.2kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC100D	256	100	600*1000*1500mm	510	114kW	RS485/CAN/TCPIP	Two-Wire
TC120D	307.2	100	600*1000*1500mm	580	136.8kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC140D	358.4	100	600*1000*2000mm	650	159.6kW	RS485/CAN/TCPIP	Two-Wire
TC160D	409.6	100	600*1000*2000mm	760	182.4kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC180D	460.8	100	600*1000*2000mm	830	205.2kW	RS485/CAN/TCPIP	Two-Wire
TC200D	512	100	600*1000*2000mm	900	228kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC220D	563.2	100	600*1000*2300mm	970	250.8kW	RS485/CAN/TCPIP	Two-Wire
TC240D	614.4	100	600*1000*2300mm	1040	273.6kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC40E	204.8	100	600*1000*1165mm	290	39.2kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC50E	256	100	600*1000*1165mm	340	49kW	RS485/CAN/TCPIP	Two-Wire
TC60E	307.2	100	600*1000*1500mm	390	58.8kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC70E	358.4	100	600*1000*1500mm	430	68.6kW	RS485/CAN/TCPIP	Two-Wire
TC80E	409.6	100	600*1000*2000mm	545	78.4kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC90E	460.8	100	600*1000*2000mm	590	88.2kW	RS485/CAN/TCPIP	Two-Wire
TC100E	512	100	600*1000*2000mm	640	98kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC110E	563.2	100	600*1000*2000mm	685	107.8kW	RS485/CAN/TCPIP	Two-Wire
TC120E	614.4	100	600*1000*2000mm	730	117.6kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TC130E	665.6	100	600*1000*2000mm	780	127.4kW	RS485/CAN/TCPIP	Two-Wire
TC140E	716.8	100	600*1000*2000mm	825	137.2kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TCH80	204.8	40	600*1000*1165mm	265	80kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TCH100	256	40	600*1000*1165mm	300	100kW	RS485/CAN/TCPIP	Two-Wire
TCH120	307.2	40	600*1000*1500mm	360	120kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TCH140	358.4	40	600*1000*1500mm	395	140kW	RS485/CAN/TCPIP	Two-Wire
TCH160	409.6	40	600*1000*1500mm	435	160kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TCH180	460.8	40	600*1000*2000mm	530	180kW	RS485/CAN/TCPIP	Two-Wire
TCH200	512	40	600*1000*2000mm	565	200kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TCH220	563.2	40	600*1000*2000mm	600	220kW	RS485/CAN/TCPIP	Two-Wire
TCH240	614.4	40	600*1000*2000mm	635	240kW	RS485/CAN/TCPIP	Two-Wire Three-Wire
TCH260	665.6	40	600*1000*2300mm	675	260kW	RS485/CAN/TCPIP	Two-Wire
TCH280	716.8	40	600*1000*2300mm	715	240kW	RS485/CAN/TCPIP	Two-Wire Three-Wire

Alioth NC Series

Three-Phase UPS Long-Duration Battery

Hassle-free & long-lasting

Cycle life >4000 cycles (80% DOD)

Design life: 20 years

Modular design

Simple assembly

Quick installation

Multiple series and parallel

Ease of capacity expansion

Supports series and parallel connections

Integrated functions

Smart balancing good consistency

Multiple comms options

Flexible compatibility

Compatible with two-wire

three-wire systems

Visual design

Visual display interface

Easy maintenance

Model	Voltage (V)	Capacity (Ah)	Dimensions (W*D*H)	Weight (Kg)	Max Continuous Discharge Power	Communication	Supported UPS Line System
NC40	204.8	200	600*1000*1165mm	460	40.5kW	RS485/CAN/TCPIP	Two-Wire/Three-Wire
NC50	256	200	600*1000*1165mm	545	50.6kW		Two-Wire
NC60	307.2	200	600*1000*1500mm	680	60.7kW		Two-Wire/Three-Wire
NC70	358.4	200	600*1000*1500mm	760	70.9kW		Two-Wire
NC80	409.6	200	600*1000*2000mm	890	81kW		Two-Wire/Three-Wire
NC90	460.8	200	600*1000*2000mm	970	91kW		Two-Wire
NC100	512	200	600*1000*2000mm	1050	101.3kW		Two-Wire/Three-Wire
NC110	563.2	200	600*1000*2000mm	1130	111.4kW		Two-Wire
NC120	614.4	200	600*1000*2000mm	1210	121.5kW		Two-Wire/Three-Wire
NC130	665.6	200	600*1000*2300mm	1290	131.7kW		Two-Wire
NC140	716.8	200	600*1000*2300mm	1370	137.2kW		Two-Wire/Three-Wire

- Power fail protection + smart voltage regulation – handles blackouts & grid issues.
- 0-second transfer on power failure – no interruption, protecting equipment data from loss or corruption.
- Modular design for easy maintenance, simple handling, and transport-ready installation.
- Lightning and surge protection with rapid current diversion – withstands harsh environments.
- Safe and durable lithium battery – mature, reliable, and more stable.
- Brand new visual design – real-time adjustment and real-time monitoring.

* NC Series: high capacity & safety, self-developed intelligent BMS management system, long-duration backup. For distributed data centers, institutions, rail transit, large industrial & mining, etc.