

KSTAR

Lead Acid Battery Series

3.5~250Ah (12V)
200~3000Ah (2V)



Company Profile

Founded in 1993, Shenzhen KSTAR Science and Technology Co., Ltd. (Stock code: 002518) is a global leader in the smart energy field. Kstar focused on the R&D and manufacturing of UPS, Precision Cooling and MDC (Modular Data Center), Battery, PV, ESS and EV Charger.



Founded in: 1993 **30+ years**
Listed in: 2010 **Stock Code:002518**



Key Products



UPS



Cooling & MDC



Battery



PV



ESS



EV Charger



Listed
Listed on SZSE



2
R&D Centers



8
Facilities



180+
180+ Markets



670+
R&D Employees



4300+
4300+ Employees

Market Achievement



Global
UPS Supplier

Data source: Omdia 2024



China UPS Selling
Local Brands

Data source: CCID Consulting
Annual Research Report on China's UPS
Product Market in 2023-2024



China Single-rack Modular
Data Center Market Share

Data source: ICT research
Annual Report on China's Modular Data
Center Product Market in 2023-2024



China Lead-acid
Battery Market Share

Data source: ICT research
Report on China's UPS Supporting Lead-Acid
Battery Product Market in 2023-2024

They Are Using Kstar



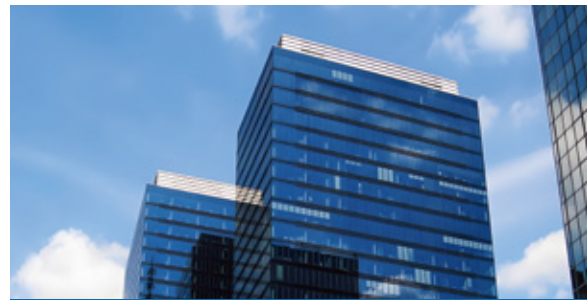
Beijing Olympic Games



Agricultural Bank of China Inner Mongolia Data Center



Shanghai Securities Waigaoqiao Earth Station



China's Leading Internet & E-commerce Giant A



Shanghai Telecom Data Center



Peking University Biomedical Imaging Technology Cluster Large Facility



Jinan Metro



Ruili to Menglian Expressway Electromechanical Project

Enterprise Advantage

Leading UPS supporting battery manufacturer

Kstar battery products have more than 20 years of research and development, manufacturing and sales experience. Since 2000, our company has a mature and perfect R & D and production system, and the battery products produced have been widely used in various industries such as finance, education, medical care, communications, electric power, rail transportation, manufacturing, IDC and so on.

Since 2021, the company's battery production base has officially moved to Yichun, Jiangxi Province, and established Jiangxi Changxin Jinguang Power Supply Co., LTD. (CGS Changxin Jinguang Power Supply Co., LTD.), which is a wholly-owned subsidiary funded by

Shenzhen Kstar Technology Co., LTD. (Stock code 002518), which can achieve independent research and development, production, sales and service. The company covers an area of 228 mu, the first phase of production and business scope includes: various series of lead-acid batteries, controllers, UPS and inverter power products, power distribution products, metal products, plastic products, etc. The second phase will increase the production and sales of power batteries, energy storage car batteries and new energy system products, etc. With the hard strength of the whole chain product supply and the whole life cycle product service.



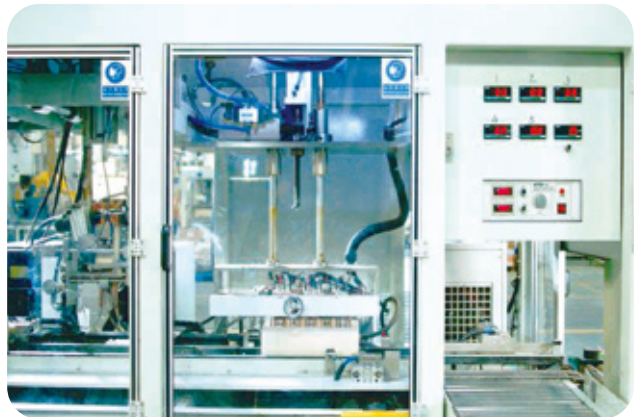
Jiangxi Changxin Golden Sunshine Power Supply Co. LTD.

Intelligent manufacturing of batteries

The production process of lead-acid batteries is mainly divided into three parts: plate production, battery assembly and charging packaging.

The workshop has five automated assembly lines, with an annual output of more than 6 million small batteries and more than 2 million high and middle batteries. All batteries are automatically cast, sealed, bonded, sealed and

inspected by the machine. The charging packaging process mainly includes automatic vacuum quantitative acid addition, IGBT feedback computer-controlled formation, automatic circulating water bath temperature control, automatic cleaning and multi-functional 100% factory inspection to ensure the safety of each battery.



Sales volume of UPS supporting batteries ranking first among domestic brands

Relying on the massive shipments used with Kstar UPS hosts and the unique advantages of patented battery leakage-proof technology, Kstar UPS supporting lead-acid batteries have firmly occupied the leading position among first-tier brands in the Chinese mainland market in recent years. The Research of 2022-2023 China UPS Supporting Lead-Acid Battery Products Market Report of ICT Research shows that Kstar UPS supporting valve-regulated sealed lead-acid battery products ranked first in market share in the Chinese mainland market (excluding foreign brands and brands from Hong Kong, Macao and Taiwan) in 2022. The report analysis pointed out that although

there are nearly a hundred domestic manufacturers that produce and sell lead-acid battery products for UPS, the number of large-scale manufacturers is small and the market concentration is high. The report predicts that in China's UPS supporting valve-regulated sealed lead-acid battery market, the main manufacturers with scale advantages will have more brand advantages after fierce market competition. Among them, first-tier local manufacturers in China mainland that have mastered the complete manufacturing process and possess core technologies will further unleash their advantages.



The market share of UPS lead-acid batteries in China has been the first among local brands for 11 consecutive years

Source: 2023-2024 Annual Report on China's UPS Battery Market (ICT Research)

National unified selected and certified brand for battery products in large-scale industry systems

In the Chinese market, the national unified certification selection or centralized procurement of large-scale industry organizations represented by the three major application fields of government, finance, and communications is the supreme test of the comprehensive strength of mainstream brand battery manufacturers. Relying on its comprehensive leading advantages in R&D, products,

manufacturing scale and market share, Kstar has successfully passed the national unified selection qualification of valve-regulated sealed lead-acid batteries in many large-scale domestic industry systems or won the bid for centralized procurement.



Agreed supplier for central government agencies

Kstar is an agreed supplier of UPS and supporting lead-acid batteries for central government agencies. Its products are widely used in government agencies of various provinces, cities, districts and counties in China.



Shortlisted supplier selected by the Ministry of Education

Kstar is a shortlisted brand selected for UPS and supporting lead-acid batteries for the National Modern Distance Education Project for Rural Primary and Secondary Schools of the Ministry of Education. A total of hundreds of thousands of UPS and supporting batteries have been selected for centralized procurement in nearly 20 provinces.



Shortlisted supplier selected by the State Administration of Taxation

Kstar is a brand shortlisted for the national unified selection of UPS and supporting lead-acid batteries by the State Administration of Taxation, and is one of the main suppliers of UPS and supporting battery equipment in the National Golden Tax Project.



Certified supplier of State Administration of Radio, Film and Television (SARFT)

Kstar is a brand shortlisted for UPS and supporting lead-acid battery product certification by the State Administration of Radio, Film and Television. Its products are widely used in radio and television systems across China.



Power system (State Grid, Southern network) winning brand supplier.

Kstar is the national power system UPS winning brand and supporting battery bidding sales brand, more than 20 years of professional battery research and development, production and sales experience, so that its products are widely used in the national power system, always ensure the safe, reliable, stable and efficient operation of national power.



Shortlisted supplier selected by China Mobile

Kstar is a shortlisted brand for the national unified selection of UPS and lead-acid batteries by China Mobile Communications Group. Its products are used in data centers and outdoor base station systems of China Mobile in many provinces and regions across China.



Shortlisted supplier selected by China Unicom

Kstar is a shortlisted brand for the national unified selection of UPS and lead-acid batteries by China United Communications Group. Its products are used in data centers and outdoor base station systems of China Unicom in many provinces and regions across China.



Shortlisted supplier selected by China Telecom

Kstar is a brand shortlisted for the national unified selection of UPS and lead-acid batteries by China Telecom. Its products are used in data centers and outdoor base station systems of China Telecom in many provinces and regions across China.



Shortlisted supplier selected by Industrial and Commercial Bank of China

Kstar is a brand shortlisted for the national unified selection of UPS and supporting lead-acid batteries by the Industrial and Commercial Bank of China. Its products are used in all provincial and municipal branches of ICBC across China.



Shortlisted supplier selected by CITIC Bank

Kstar is a brand shortlisted for the national unified selection of UPS and supporting lead-acid batteries by CITIC Bank. Its products are used in business branches of CITIC Bank across China.



Shortlisted supplier selected by Bank of Beijing

Kstar is a brand shortlisted for the national unified selection of UPS and supporting lead-acid batteries by Bank of Beijing. Its products are used in business branches of Bank of Beijing across China.

Fire in the computer room is more devastating than imagined!

In the era of data centers, the responsibility for computer room safety is paramount. Among the many factors that affect computer room safety, computer room fires caused by various reasons have always played the role of “top killer”. According to statistics, 50% of fires in computer rooms are caused by battery fires, and battery leakage is the most fatal hazard that cannot be ignored in causing fires in computer rooms.



A fire broke out due to a battery fire in the computer room of a certain organization

Risks and hazards in the implementation and use of batteries

Heavy loss after computer room fire



Terminal acid leakage



Leakage from battery cover



Leakage from battery bottom

How to effectively prevent battery leakage from causing a fire in the computer room?

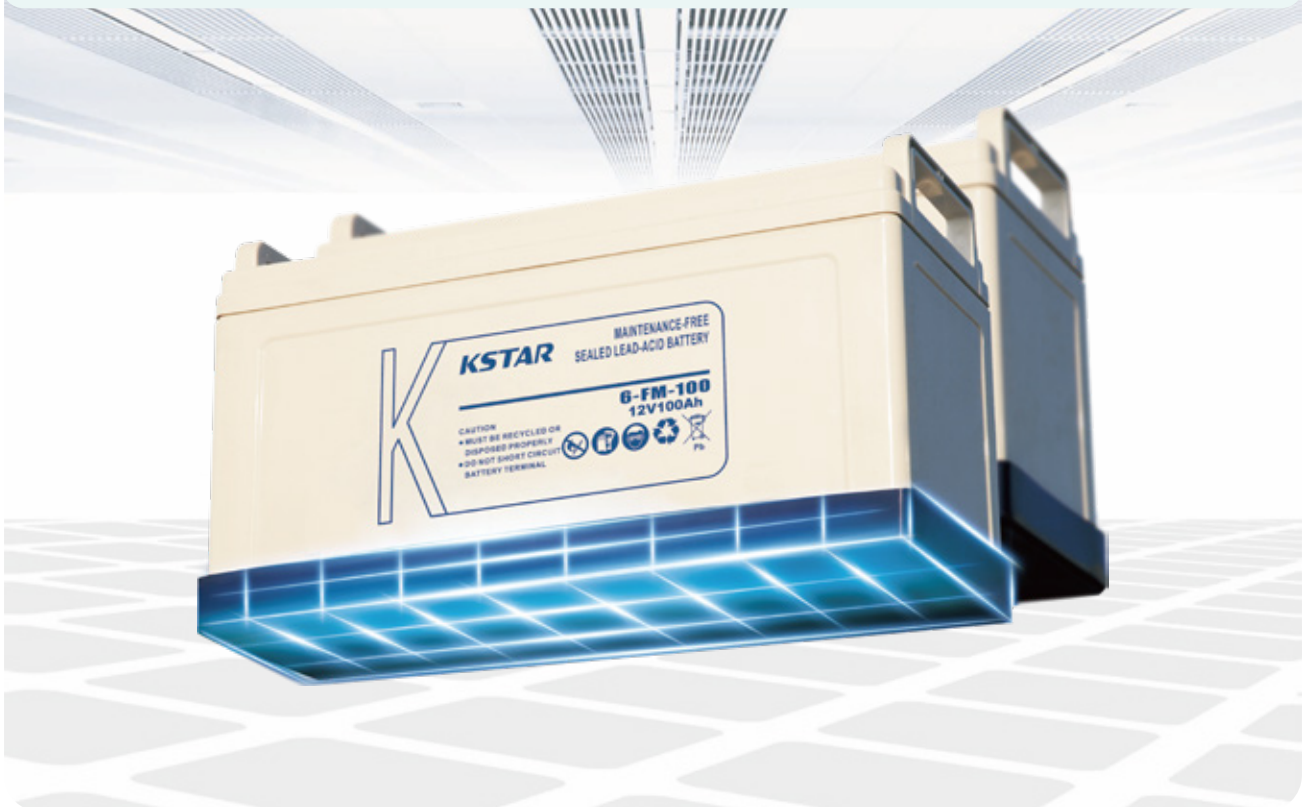
Kstar safety patent ends the risk of battery leakage

Fire is unpredictable but safety has a rule. Kstar recommends high-quality batteries + patented technology of anti-slip and anti-acid trays as dual protection measures; in response to possible battery leakage that may cause fires in the computer room, Kstar has launched its own patented technology of anti-slip and anti-acid trays (Patent No.: ZL 2017 2 1570272.0).

Installed and used in conjunction with the battery, it can reduce direct collisions with the battery during transportation and installation, minimize the rupture of the bottom of

the battery, accommodate accidental leakage of the battery during use, eliminate the safety hazards of lead-acid battery leakage, effectively avoid fire accidents caused by battery pack short circuits, and greatly improve the safety of using battery packs in data center computer rooms. Every year, hundreds of thousands of Kstar batteries are safely used in domestic system data centers in various industries such as finance, communications, and government. The miracle of "zero accidents" bears witness to excellent quality and unique safety.

- ◆ With good acid resistance and impact resistance, it can effectively alleviate the collision damage to the battery during transportation and handling
- ◆ Prevent electrolyte from leaking during battery use, which may cause battery short circuit and fire
- ◆ Effectively control the battery installation distance and effectively prevent accidents caused by battery thermal runaway.



Product Introduction

Features of Kstar batteries



Maintenance free

Using unique gas recombination technology (GAS RECOMBINATION), there is no need for regular rehydration and maintenance, reducing users' worries.

Low self-discharge rate

The use of high-quality lead-calcium multi-component alloy reduces the self-discharge rate of the battery. At an ambient temperature of 25°C, the Kstar battery can be used normally without recharging within 6 months.

Long life

At an ambient temperature of 25°C, the FM series small sealed batteries have a design life of up to 5 years, the FM fixed sealed batteries have 12 years, the FML series batteries have 12 years, the FMH series batteries have 12 years, the GFM series and solar deep cycle series batteries have 20 years, and the GFMJ series batteries have 20 years.

High safety and reliability

Using a safety valve that can automatically open and close, no acid mist will be discharged under normal use, which not only prevents external gas from being sucked into the battery and affecting its performance, but also prevents battery damage due to abnormal internal pressure caused by gas generated under abnormal use such as overcharging.

In addition, the anti-slip and anti-acid battery tray using independent patented technology is used in conjunction with the battery to ensure safer use of the battery pack.

Strong electrical conductivity

It adopts copper-core silver-plated terminals and special design to ensure excellent electrical performance.

Flexible installation

The special separator (AGM) firmly absorbs the electrolyte and prevents it from flowing. The battery will not leak whether placed vertically or horizontally, ensuring normal use.

Strong environmental adaptability and no pollution

It can be used in ambient temperatures of -20°C~+50°C, and is suitable for desert and plateau climates. It can be used as special power supplies in explosion-proof areas. The battery room does not require acid-resistant and anti-corrosion measures and can be placed in the same room as the electronic equipment.

FM small sealed battery series

Battery capacity: 1.2AH~28AH

Battery characteristics: Standard series, designed float charging life up to 5 years

Application scope: Small capacity UPS/Emergency lighting/Security alarm



Model	Rated voltage (V)	Rated capacity (Ah)			Dimensions (mm)				Reference weight (kg)	Terminal type
		20HR	5HR	1HR	Length	Width	Height	Total Height		
		1.75V/C	1.75V/C	1.6V/C						
3-FM-1.2	6	1.2	1	0.72	97.5	24	52	58	0.31	F1
3-FM-3	6	3	2.55	1.8	135	35	60	66	0.71	F1
3-FM-4	6	4	3.4	2.4	70	47	100	106	0.81	F1
3-FM-7	6	7	5.6	4.2	151	34	95	101	1.15	F1/F2
6-FM-1.9	12	1.9	1.6	1.14	178.5	35	60.5	66.5	0.9	F1
6-FM-3	12	3	2.55	1.8	135	67.5	61	67	1.28	F1
6-FM-4	12	4	3.4	2.4	90	70	100	107	1.45	F1/F2
6-FM-4.5	12	4.5	3.6	2.7	90	70	100	107	1.5	F1/F2
6-FM-5	12	5	4	3	90	70	100	107	1.61	F1/F2
6-FM-6	12	6	4.8	3.6	151	65	94	100	1.8	F1/F2
6-FM-6.5	12	6.5	5.2	3.9	151	65	94	100	2	F1/F2
6-FM-7	12	7	5.6	4.2	151	65	94	100	2.05	F1/F2
6-FM-7.2	12	7.2	5.7	4.3	139.5	48	118	118	2.2	F1/F2
6-FM-7.5	12	7.5	6	4.5	151	65	94	100	2.2	F1/F2
6-FM-8	12	8	6.4	4.8	151	65	94	100	2.35	F1/F2
6-FM-8.5	12	8.5	6.8	5.1	151	65	94	100	2.5	F1/F2
6-FM-9	12	9	7.5	5.9	151	65	94	100	2.52	F1/F2
6-FM-12	12	12	9.6	7.2	151	98	94	100	3.8	F2
6-FM-14	12	14	11.2	8.4	151	98	94	100	4	F2
6-FM-15	12	15	12	9	181	77	167	167	4.9	B1/T4
6-FM-17	12	17	13.6	10.2	181	77	167	167	5.1	B1/T4
6-FM-18	12	18	14.4	10.8	181	77	167	167	5.2	B1/T4
6-FM-20	12	20	16	12	181.5	77	167	167	6	T4
6-FM-22	12	22	17.6	13.2	181.5	77	167	167	6.4	T4
6-FM-24	12	24	19.2	14.4	166	126	174	174	8	T1
6-FM-26	12	26	20.8	15.6	177	167	126	126	8.2	B1/T4
6-FM-28	12	28	22.4	16.8	166	126	174	174	9.1	T1

FM standby sealed battery series

Battery capacity: 33AH~250AH (The anti-slip and anti-acid battery tray is configured for standard)

Battery characteristics: Standard series, designed float charging life up to 12 years

Application scope: UPS/Communication/Power



Model	Rated voltage (V)	Rated capacity (Ah)				Dimensions (mm)				Reference weight (kg)	Terminal type
		10HR	8HR	5HR	1HR	Length	Width	Height	Total Height		
		1.8V/C	1.8V/C	1.8V/C	1.75V/C						
3-FM-180	6	180	165	139	108	323	178	226	231	27.7	T5
3-FM-200	6	200	174	160	120	323	178	226	231	28.8	T5
6-FM-33	12	33	30.4	25.4	19.8	196	131	155	169	10.1	T1
6-FM-38	12	38	33.6	30.4	22.8	198	166	170	170	12	T1
6-FM-40	12	40	35.6	32	24	198	166	170	170	12.7	T1
6-FM-45	12	45	40.3	36	27	198	166	170	170	13.7	T1
6-FM-50	12	50	44.8	40	30	229	138	211	216	16	T1
6-FM-55	12	55	49.3	44	33	229	138	211	216	18.5	T1
6-FM-65	12	65	56.5	52	39	350	167	174	174	19.7	T2
6-FM-70	12	70	62.7	56	42	260	169	211	216	21.4	T1
6-FM-75	12	75	67.2	60	45	260	169	211	216	22.3	T1
6-FM-80	12	80	71.7	64	48	260	169	211	216	23.6	T1
6-FM-90	12	90	80	72	54	307	169	211	216	26.8	T2
6-FM-100	12	100	90	80	60	407	174	208	236	33	T3
6-FM-120	12	120	107	96	72	407	174	208	236	34.5	T3
6-FM-150	12	150	134	120	90	532	207	214	219	47.5	T3
6-FM-160	12	160	144	128	96	341	173	281	288	43.8	T5
6-FM-200	12	200	180	160	120	523	240	225	230	58.5	T3
6-FM-250	12	250	225	200	150	520	269	223	228	69.2	T5

FML long life middle sealed battery series

- Battery capacity:** 65AH~200AH (The anti-slip and anti-acid battery tray is configured for standard)
- Battery characteristics:** Standard series, designed float charging life up to 12 years
- Application scope:** UPS/Communication/Power



Model	Rated voltage (V)	Rated capacity (Ah)					Dimensions (mm)				Reference weight (kg)	Terminal type
		20HR	10HR	8HR	5HR	1HR	Length	Width	Height	Total Height		
		1.80V/C	1.80V/C	1.80V/C	1.80V/C	1.75V/C						
6-FML-65	12	65	60	54.7	48	34.6	350	167	174	174	20.7	T2
6-FML-100	12	100	80	71.7	64	46	407	174	208	236	29.4	T3
6-FML-120	12	120	100	89.6	80	59.8	407	174	208	236	33.5	T3
6-FML-150	12	150	140	117	108	78	532	207	214	219	48.5	T3
6-FML-200	12	200	180	150	144	104	523	240	225	230	59.5	T3

FMH sealed battery series

- Battery capacity:** 50AH~200AH
- Battery characteristics:** Rack-mounted series, designed float charging life up to 12 years
- Application scope:** UPS/ communication/power



Model	Rated voltage (V)	Rated capacity (Ah)				Dimensions (mm)				Reference weight (kg)	Terminal type
		10HR	8HR	5HR	1HR	Length	Width	Height	Total Height		
		1.8V/C	1.8V/C	1.8V/C	1.75V/C						
6-FMH-50	12	50	44.8	40	30	277	106	222	222	16	T1
6-FMH-100	12	100	89.6	80	60	395	110	286	286	31.7	T5
6-FMH-150	12	150	134	120	90	551	110	288	288	44.8	T5
6-FMH-200	12	200	174	160	120	560	125	320	320	59.5	T5

GFM sealed battery series

Battery capacity: 200AH~3000AH (The anti-slip and anti-acid battery tray is configured for standard)

Battery characteristics: High-capacity battery cell series, designed float charging life up to 20 years

Application scope: Communication/Power



Model	Rated voltage (V)	Rated capacity (Ah)				Dimensions (mm)				Reference weight (kg)	Terminal type
		10HR	8HR	5HR	1HR	Length	Width	Height	Total Height		
		1.8V/C	1.8V/C	1.8V/C	1.75V/C						
GFM200	2	200	185	170	110	172	111	329	365	13	T3
GFM300	2	300	277	255	165	171	151	330	366	18	T3
GFM400	2	400	370	340	220	210	171	329	363	24.5	T3
GFM500	2	500	463	425	275	241	172	331	366	28	T3
GFM600	2	600	555	510	330	301	175	331	366	35	T3
GFM800	2	800	740	680	440	410	175	330	365	49.5	T3
GFM1000	2	1000	925	850	550	475	175	328	365	57	T3
GFM1200	2	1200	1110	1020	660	401	351	344	382	80	T3
GFM1500	2	1500	1388	1275	825	401	351	344	382	90.5	T3
GFM2000	2	2000	1850	1700	1100	491	351	343	383	120	T3
GFM2500	2	2500	2313	2125	1375	712	353	341	382	157	T3
GFM3000	2	3000	2775	2550	1650	712	353	341	382	174	T3

GFML long life sealed battery series

Battery capacity: 300AH~1000AH (The anti-slip and anti-acid battery tray is configured for standard)

Battery characteristics: High-capacity battery cell series, designed float charging life up to 20 years

Application scope: UPS/ communication/power



Model	Rated voltage (V)	Rated capacity (Ah)					Dimensions (mm)				Reference weight (kg)	Terminal type
		20HR	10HR	8HR	5HR	1HR	Length	Width	Height	Total Height		
		1.80V/C	1.80V/C	1.80V/C	1.80V/C	1.75V/C						
GFML-300	2	300	270	249	229	149	171	151	330	366	19.0	T3
GFML-400	2	400	360	332	306	195	210	171	329	363	24.5	T3
GFML-500	2	500	450	415	382	248	241	172	331	366	30.6	T3
GFML-600	2	600	540	498	459	297	301	175	331	366	36.7	T3
GFML-800	2	800	720	664	612	396	410	175	330	365	51.0	T3
GFML-1000	2	1000	900	830	765	495	475	175	328	365	61.3	T3

Solar deep cycle battery series

Battery capacity: 38AH~3000AH (The anti-slip and anti-acid battery tray is configured for standard)

Battery characteristics: Solar series, 12V series, designed float charging life up to 12 years, 2V series , designed float charging life up to 20 years

Application scope: Solar energy storage equipment



Model	Rated voltage (V)	Rated capacity (Ah)				Dimensions (mm)				Reference weight (kg)	Terminal type
		10HR	8HR	5HR	1HR	Length	Width	Height	Total Height		
		1.8V/C	1.8V/C	1.8V/C	1.75V/C						
6-FM-38T	12	38	33.6	30.4	22.8	198	166	170	170	12	T1
6-FM-65T	12	65	56.5	52	39	350	167	174	174	20	T2
6-FM-100T	12	100	90	80	60	407	174	208	236	33	T3
6-FM-120T	12	120	107.2	96	72	407	174	208	236	34.5	T3
6-FM-150T	12	150	134	120	90	532	207	214	219	47.8	T3
6-FM-200T	12	200	180	160	120	523	240	225	230	58.5	T3
GFM-200T	2	200	185	170	110	172	111	329	365	13.1	T3
GFM-300T	2	300	277	255	165	171	151	330	366	18	T3
GFM-400T	2	400	370	340	220	210	171	329	363	25	T3
GFM-500T	2	500	463	425	275	241	172	331	366	29	T3
GFM-600T	2	600	555	510	330	301	175	331	366	35	T3
GFM-800T	2	800	740	680	440	410	175	330	365	49.5	T3
GFM-1000T	2	1000	925	850	550	475	175	328	365	58	T3
GFM-1500T	2	1500	1388	1275	825	401	351	344	382	92.6	T3
GFM-2000T	2	2000	1850	1700	1100	491	351	343	383	122.5	T3
GFM-3000T	2	3000	2775	2550	1650	712	353	341	382	174	T3

AGEL sealed gel battery series

Battery capacity: 38AH~3000AH (The anti-slip and anti-acid battery tray is configured for standard)

Battery characteristics: Gel battery series, the 12V series is designed float charging life up to 12 years, the 2V series is designed float charging life up to 20 years

Application scope: UPS/Communication/Energy storage



Model	Rated voltage (V)	Rated capacity (Ah)				Dimensions (mm)				Reference weight (kg)	Terminal type
		10HR	8HR	5HR	1HR	Length	Width	Height	Total Height		
		1.8V/C	1.8V/C	1.8V/C	1.75V/C						
6-FM-38J	12	38	33.6	30.4	22.8	198	166	170	170	12.2	T1
6-FM-65J	12	65	56.5	52	39	350	167	174	174	20.3	T2
6-FM-100J	12	100	90	80	60	407	174	208	236	33	T3
6-FM-120J	12	120	107.2	96	72	407	174	208	236	34.7	T3
6-FM-150J	12	150	134	120	90	532	207	214	219	48.6	T3
6-FM-200J	12	200	180	160	120	523	240	225	230	58.5	T3
GFM200J	2	200	185	170	110	172	111	329	365	13.3	T3
GFM300J	2	300	277	255	165	171	151	330	366	18.3	T3
GFM400J	2	400	370	340	220	210	171	329	363	25.4	T3
GFM500J	2	500	463	425	275	241	172	331	366	29.5	T3
GFM600J	2	600	555	510	330	301	175	331	366	35.6	T3
GFM800J	2	800	740	680	440	410	175	330	365	50.3	T3
GFM1000J	2	1000	925	850	550	475	175	328	365	59	T3
GFM1500J	2	1500	1388	1275	825	401	351	344	382	94	T3
GFM2000J	2	2000	1850	1700	1100	491	351	343	383	124.5	T3
GFM3000J	2	3000	2775	2550	1650	712	353	341	382	177	T3

GFMHR high rate sealed battery series

- Battery capacity:** 250W~780W (The anti-slip and anti-acid battery tray is configured for standard)
- Battery characteristics:** High rate discharge series, designed float charging life of 12 years
- Application scope:** Data center/UPS

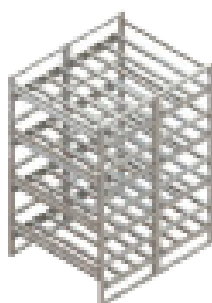
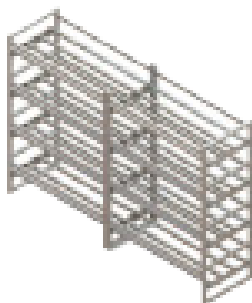


Features

- ◆ The unique gas recombination technology eliminates the need to regularly add water or sulfuric acid and requires no maintenance during its entire life.
- ◆ The acid filter device and the safety valve that can be opened automatically prevent external gas from being sucked into the battery and damaging the battery performance. Gas generated under abnormal use such as overcharging can cause abnormal internal pressure and damage the battery.
- ◆ A special separator (AGM) is used to firmly absorb the electrolyte to prevent it from flowing. The battery can be used normally whether it is placed vertically or horizontally, and the installation is very convenient.
- ◆ The use of high-quality Pb-Ca multi-component alloy increases the hydrogen evolution overpotential and reduces the self-discharge rate of the battery. At an ambient temperature of 25°C, it can be used without recharging within 6 months.
- ◆ It can be used normally in an environment of -20~+60°C and has a good lifespan.

Model	Rated voltage (V)	Rated capacity (Ah)				Dimensions (mm)				Reference weight (kg)	Terminal type
		15min	10HR	5HR	1HR	Length	Width	Height	Total Height		
		1.67V/C	1.80V/C	1.80V/C	1.75V/C						
6-GFMHR-250	12	250	65	61	40.6	260	169	211	216	22.3	T1
6-GFMHR-350	12	350	100	85	57	407	174	208	236	32	T3
6-GFMHR-400	12	400	110	94	65	407	174	208	236	34	T3
6-GFMHR-510	12	510	150	120	90	483	170	241	243	44	T3
6-GFMHR-630	12	630	180	154	97.6	523	240	225	230	54	T3
6-GFMHR-750	12	750	200	178	118	523	240	225	230	60	T3
6-GFMHR-780	12	780	200	182	121	523	240	225	230	62	T3

Standard series battery rack



Standard battery rack parameters (for 12V lead-acid batteries)

Model	BR-8-A	BR-8-B	BR-8-C	BR-10-A	BR-10-B	BR-10-C	BR-12-A	BR-12-B	BR-12-C	BR-16-A	BR-16-B	BR-16-C	BR-20-A	BR-20-B	BR-20-C	BR-24-A	BR-24-B	BR-24-C
Length (mm)	900	900	900	1100	1100	1100	1300	1300	1300	900	900	900	1100	1100	1100	1300	1300	1300
Width (mm)	450	550	650	450	550	650	450	550	650	450	550	650	450	550	650	450	550	650
Height (mm)	750	750	750	750	750	750	750	750	750	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4
Number of layers	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4
Layer height (mm)	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2
Net weight (kg)	28.27	33.44	35.15	31.71	37.57	39.27	35.14	41.69	43.4	55.44	65.38	68.46	62.31	73.63	76.7	69.18	81.87	84.95

Standard battery rack parameters (for 12V lead-acid batteries)

Model	BR-32-A	BR-32-B	BR-32-C	BR-36-A	BR-36-B	BR-36-C	BR-40-A	BR-40-B	BR-40-C	BR-44-A	BR-44-B	BR-44-C	BR-48-A	BR-48-B	BR-48-C
Length (mm)	800	1800	1800	2000	2000	2000	2200	2200	2200	2400	2400	2400	2600	2600	2600
Width (mm)	450	550	650	450	550	650	450	550	650	450	550	650	450	550	650
Height (mm)	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4	1528.4
Number of layers	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Layer height (mm)	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2	359.2
Net weight (kg)	105.59	124.11	128.89	112.45	132.45	137.14	119.32	140.6	145.38	126.19	148.84	153.63	133.06	157.09	161.87

Standard battery rack parameters (for 2V lead-acid batteries)

Model	SR-8-A	SR-8-B	SR-8-C	SR-10-A	SR-10-B	SR-10-C	SR-12-A	SR-12-B	SR-12-C	SR-16-A	SR-16-B	SR-16-C	SR-20-A	SR-20-B	SR-20-C	SR-24-A	SR-24-B	SR-24-C
Length (mm)	900	900	900	1100	1100	1100	1300	1300	1300	900	900	900	1100	1100	1100	1300	1300	1300
Width (mm)	450	550	650	450	550	650	450	550	650	450	550	650	450	550	650	450	550	650
Height (mm)	1041.9	1041.9	1041.9	1041.9	1041.9	1041.9	1041.9	1041.9	1041.9	1625.7	1625.7	1625.7	1625.7	1625.7	1625.7	1625.7	1625.7	1625.7
Number of layers	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3
Layer height (mm)	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8	551.8
Net weight (kg)	30.26	35.41	37.12	33.7	39.53	41.24	37.13	43.66	45.36	45.17	52.71	55.1	50.32	58.89	61.29	55.47	65.08	67.47

Standard series battery cabinet



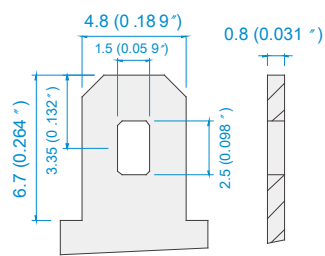
Standard series battery cabinet

Model	A1	A2	A3	A4	A6	A8	A10	A12	A16	A20	A32
Net weight (kg)	5.3	10.4	12.5	15.5	18	19.5	30.8	27.5	35	43	60
Dimensions	Length (mm)	500	462	635	462	630	820	985	820	820	820
	Width (mm)	225	470	470	480	480	480	480	480	480	960
	Height (mm)	304	350	350	644	644	644	660	937	1230	1230

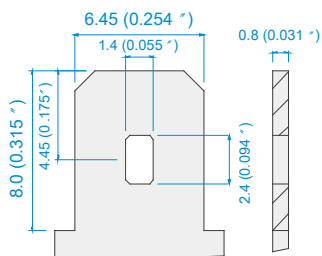
Product features: The number of batteries that can be placed is 1/2/4/6/12/8/16/20/32/40.

Standard color: Light gray

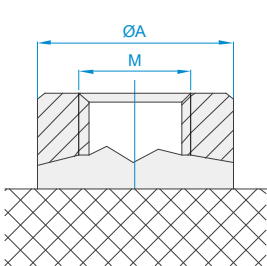
Battery terminal type



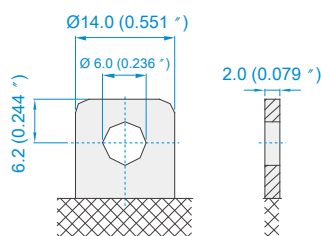
F1



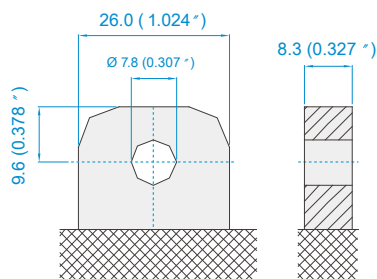
F2



T



B1



B2

Specification Type	ΦA (mm)	M
T1	14	6
T2	16	6
T3	20	8
T4	12	4
T5	18	8
T6	18	6

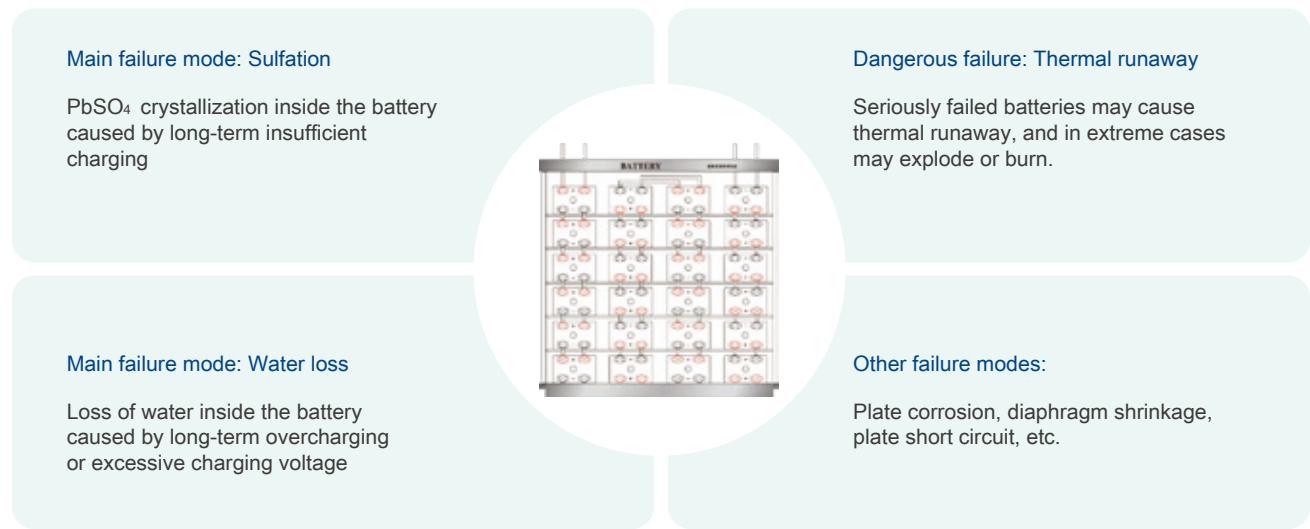
Monitoring Management System



Kstar UPS battery monitoring and management system is an online battery monitoring and management system specially designed for UPS battery systems in data centers, information centers, communication centers, control centers, industrial control and other applications.

Battery Issues Overview

Batteries are one of the main sources of faults in UPS and communication systems. During battery operation, there are various fault problems such as water loss, thermal runaway, vulcanization, plate corrosion, diaphragm shrinkage, and plate short circuits.



Lead-acid battery failure mechanism

Kstar Energy and Battery Management Solutions

As an energy management expert, Kstar not only has leading R&D and manufacturing scale of UPS and supporting batteries, but also focuses on the research and development of battery management and internal resistance monitoring technology, providing comprehensive, professional and reliable battery monitoring and management solutions in the field of UPS battery systems.

Kstar's battery management system adopts the most advanced battery analysis technology in China and combines the company's rich application experience to realize functions such as battery pack internal resistance testing, failed battery detection, and backup time prediction. Solving online maintenance problems such as failed battery detection and backup time prediction in battery maintenance has high application value and effectively ensures the high reliability of uninterrupted power system power supply.

Features of Kstar battery monitoring system:

Reliable and secure comprehensive monitoring, testing and management system

Accurate: The correlation between internal resistance and battery capacity is as high as 95%. Use internal resistance to determine capacity to ensure safety

Safety: The internal resistance test does not require discharge and has no impact on the normal operation of the power system

Real-time: Monitor battery voltage, current, temperature and other operating parameters

Management: Capture battery degradation immediately and monitor battery safety in real time

Networked remote management

Simple configuration

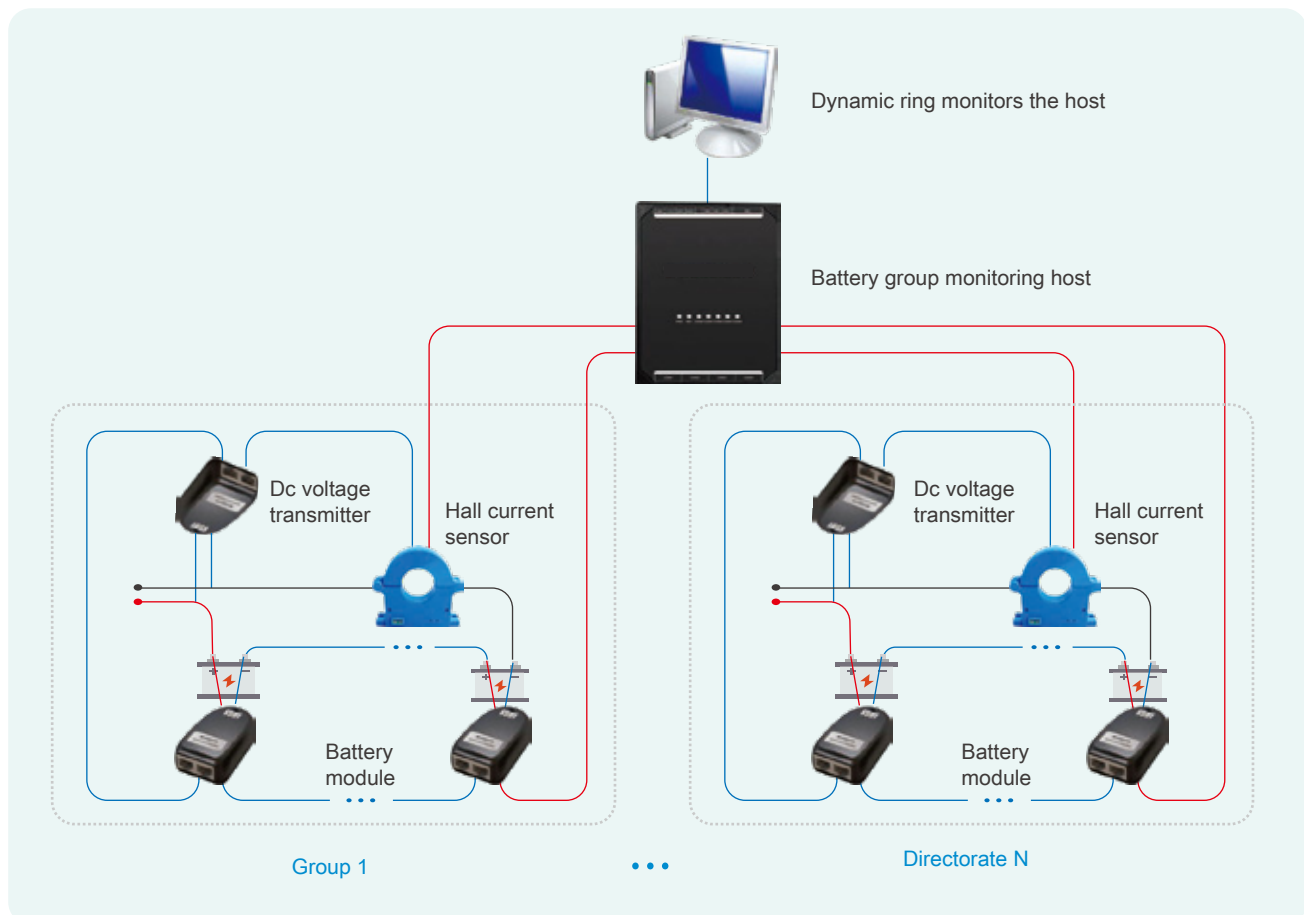
Low implementation, maintenance and management costs

Kstar battery monitoring system functions:

- ◆ Dedicated internal resistance testing technology - small signal pulse AC testing technology, real-time online monitoring and analysis of the internal resistance change trend of the battery, and prediction of backward batteries in the battery pack
- ◆ High security. It has multiple protections such as power isolation, optocoupler isolation, and fuse protection, which will not affect the operation of the battery pack;
- ◆ Collect the voltage, internal resistance, temperature, and total current of each battery in real time
- ◆ Automatic allocation of internal resistance module address, easy on-site installation and debugging
- ◆ Dual watchdog design, with self-recovery function and strong stability
- ◆ Provide early prediction of the operating status of the battery pack, providing a reliable basis for battery maintenance or replacement
- ◆ The circuit port has an EMC design and has strong anti-electromagnetic interference ability, especially for high-frequency machine UPS battery packs, which can achieve high measurement accuracy
- ◆ Modular structure design allows for flexible configuration of different numbers of battery packs to minimize solution costs
- ◆ Provides RS485 communication port to realize remote monitoring function and facilitate access to third-party application system



Kstar Battery Monitoring Application Solution:



Kstar is well aware of the significant impact of the environment on the sustainable development of enterprises and the future life of mankind. Therefore, as a pioneer in local UPS and supporting lead-acid battery industry in China mainland, Kstar is committed to reducing environmental pollution through various means and achieving sustainable development of enterprises and society. In 2022, it won the honorary title of "National Green Factory" in the annual green manufacturing list announced by the Ministry of Industry and Information Technology. This marks that Kstar's green manufacturing level and sustainable development concept have been recognized by the national authority. As a leader

in the data center and energy industries, Kstar will always actively fulfill its social responsibilities of being green, low-carbon, energy-saving and environmentally friendly. Kstar is committed to providing customers with innovative, high-quality, environmentally friendly products and high-quality services, and to conduct all business in an environmentally responsible manner. By formulating and comprehensively implementing environmental, health and safety policies, Kstar implements strict environmental monitoring of business processes and actively assumes social responsibility for protecting the environment.

Our goal is to provide safe, environmentally friendly, and sustainable products and services throughout the life cycle, conduct all businesses with an environmentally responsible attitude, and create a healthy, safe, green and environmentally friendly working environment for employees. To this end, we promise that:

- ◆ All products and business lines comply with current laws and regulations
- ◆ Take proactive measures to reduce the risks of occupational injuries and diseases, and improve employees' physical and mental health and welfare benefits
- ◆ During the operation process, actively take measures to prevent environmental pollution and strengthen environmental awareness of energy conservation and consumption reduction
- ◆ Ensure the safety of use of designed and manufactured products and minimize the negative impact on the environment
- ◆ Work with partners to provide customers with environmentally friendly management services based on the product life cycle





Reliable Product Quality

Kstar is committed to deriving TQM total quality management and follows the virtuous PDCA cycle model. It has configured a systematic quality control chain from supplier management to product after-sales service, and in terms of quality management analysis system: it adopts quality analysis tools including SPC, PFMEA and MSA to perform statistical analysis on the quality status of each aspect to achieve the purpose of continuous improvement and ensure that the quality of Kstar battery products always remains at the forefront of the industry's first-tier brands.



Leading Manufacturing Scale

Kstar Jiangxi Changxin Gold Sunshine Battery Production Base covers an area of 15.2 hectares, with a designed annual production capacity of 3 million kVAh. It focuses on the research and development, production and sales of valve-regulated sealed lead-acid batteries and is the industry's leading lead-acid battery supplier. It can meet the multi-batch and large-scale ordering needs of large-scale industry systems. With a mature logistics system, it can be delivered safely and timely no matter where the user is located in China mainland.



Complete Battery Online Management Technology

Kstar not only has the leading R&D level and manufacturing scale of UPS and supporting batteries, but also focuses on the research and development of battery management and internal resistance monitoring technology, providing comprehensive, professional and reliable battery monitoring and management solutions in the field of UPS battery systems to ensure high availability for users.



UPS Host/Battery Independent Matching Experience

As the flagship brand manufacturer of the local UPS industry in China mainland, Kstar has many years of experience in independent research, development, production and supporting use of UPS and lead-acid batteries. Through the production and supporting use of UPS hosts and batteries by the same manufacturer, users may obtain better product consistency, better overall service, and avoid mutual blame-shifting between UPS and battery suppliers after power problems occur.



Unique Battery Leakage-proof Patented Technology

In response to the leakage that may occur in all valve-regulated sealed lead-acid batteries, Kstar has launched a patented anti-leakage tray technology, which can reduce direct collisions on the battery during transportation and installation, minimize rupture at the bottom of the battery, accommodate leakage when the battery accidentally ruptures, effectively avoid fire accidents caused by short circuit of the battery pack and greatly improve user safety.



National Service Network Close to Users

Kstar is the first in the industry to establish a multi-level service system with extensive coverage, reasonable layout and close to users, which is structured as "National Customer Service Center-Regional Technical Support Center-Regional After-sales Service Center-Authorized Service Center". It can provide customers nationwide with personalized and comprehensive services to ensure that users have no worries in purchasing and using Kstar products.

Battery supplier for UPS supporting national key projects

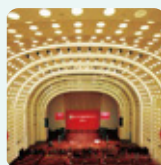
Kstar Jiangxi Changxin Gold Sunshine Battery Production Base covers an area of 15.2 hectares, with a designed annual production capacity of 3 million kVAh. It focuses on the research and development, production and sales of valve-regulated sealed lead-acid batteries and is the industry's leading lead-acid battery supplier. It can meet the multi-batch and large-scale ordering needs of large-scale industry systems. With a mature logistics system, it can be delivered safely and timely no matter where the user is located in China mainland.

2008 Beijing Olympic Games



Kstar is the exclusive winning bidder for UPS and supporting batteries in the Olympic Village, one of the three key projects of the 2008 Beijing Olympic Games (National Stadium, National Indoor Stadium, and Olympic Village), and has successfully completed the power supply guarantee work for key projects of this Olympic Games.

2010 Shanghai World Expo



In the 2010 Shanghai World Expo project, a large number of Kstar liquid-proof and safe patented batteries were stationed in the Expo Center and multiple World Expo venues. Together with Kstar UPS hosts, they provided high-reliability power solutions for this World Expo and successfully completed the power supply guarantee work for key projects.

Three Gorges Project



With its excellent application background in many large-scale industries, Kstar's leak-proof and safe patented battery products have successfully entered the information center computer room of China Three Gorges Project Development Corporation, providing the most reliable Chinese power for the Three Gorges Project.

Qinghai-Tibet Railway



The Xining-Golmud Section of the Qinghai-Tibet Railway is the only railway transportation channel between Qinghai Province and the Tibet Autonomous Region. The Xining-Golmud Second Line emergency project was listed as the number one key project of the Qinghai-Tibet Railway by the Ministry of Railways. Kstar won the exclusive bid for the UPS and supporting battery equipment bidding project and successfully completed the supply, installation and commissioning tasks.

Golden tax project



The "Golden Tax Project" is a national project implemented by the state to promote the informatization of the tax system, strengthen tax collection and monitoring, prevent tax losses, curb VAT invoice crimes, and consolidate the results of tax reform. Kstar has accumulated hundreds of thousands of UPS and batteries and won the unified bidding of more than 20 provinces.

National new generation weather radar network project



Kstar is the main supplier of UPS and supporting battery equipment for the national new generation weather radar network project, providing safe power supply for weather radars in nearly 30 provinces and autonomous regions across China.

Cultural sharing project



The National Cultural Information Resources Sharing Project is a national cultural innovation project jointly organized by the Ministry of Culture and the Ministry of Finance. It uses satellites, the Internet, cable/digital television networks and other methods to realize the co-construction and sharing of excellent cultural information resources nationwide. Kstar UPS and supporting batteries won the bids for centralized procurement in multiple provinces and regions.



National Torch Plan Key Hi-tech Enterprise



National Recognized Enterprise Technical Center



National Technical and innovative demonstration Enterprise



Green Factory



Post-doctoral Research Center



Five-star After-sales Service Certificate



A-share Listed Companies



ISO9001 Quality Management System Authentication Certificate



ISO14001 Environment Management System Certificate



ISO45001:2018 Occupational Health and Safety Management System Certificate



IEC QC080000 Hazardous substances process management system certificate



ISO9001:2015 Quality Management System Certificate (Golden Sunshine)



ISO14001:2015 Environmental Management System Certificate (Golden Sunshine)



ISO45001:2018 Occupational Health and Safety Management System Certification (Golden Sunshine)



Top 100 Listed Companies in China



Standing director unit of China Power Supply Society



Guangdong Province integrity demonstration enterprise



Pollutant discharge permit



Radio and Television Certification



Thiel Certificate



Energy Saving Authentication Certificate



UL Certification



CE Authentication Certificate



CE Certification (Golden Sunshine)



UL Certification (Golden Sunshine)



TLC Certificate (Golden Sunshine)



CNAS Laboratory accreditation Certificate



Two Fusion Evaluation Management System Certificate

Our Solution

UPS Solution Transformer-less Memopower Series

1~40kVA



UPS Solution Transformer-less HPM3300E Series

30~1200kVA



UPS Solution Robust Transformer-based UPS Series

1~800kVA



Precision Cooling Series

5~300kW



Data Center Integrated Solution

IDU/IDM/IDB/IOU Series



Lead-acid Battery Series

3.5~250Ah (12V)

200~3000Ah (2V)



UPS Solution Line Interactive UPS Series

0.4~3kVA



UPS Solution Transformer-less YDC3300 Series

10~200kVA



UPS Solution Transformer-less UL Products Series

1~100kVA





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Add: Kstar Industrial Park, Fuyuan Industrial Zone, Guanlan, Shenzhen

Add: CATL-KSTAR Science and Technology Co., Ltd.

Add: Jiangxi Changxin Golden Sunshine Power Co., Ltd.

Add: Jiangsu Kstar Energy Technology Co., Ltd.

Add: KSTAR (Vietnam) Co., Ltd.