KK

KKBROTHERS BATTERY CHARGER

Super Graphene

A Reliable Power Solution Provider

www.kkbattery.co.id

A RELIABLE POWER SOLUTION PROVIDER

12V18AH SUPER GRAPHENE BATTERY

KKB SUPER GRAPHENE 2023 Series high energy Battery is specially designed based on Super Graphene Tecnology for Hot/Low temperature which has obvioosly improve the battery's capacity, output power, cycle life and high/low temperature performance. The KKB SUPER BATTERY GRAPHENE 2023 Series provides Fast Charging, longer range, larger power and extremely long life for motive power applications, i.e. electric bisycles, electric tricycles, electric motorcycles and other devide require DC power source.

FEATURES & BENEFITS

Super Energy Dencity up to 60WH/KG.
Direct Cast-Welding Technology is applied to connect each cell, which makes the battery has lower internal resistance 1.8C super large discharger current Up to 30 minutes.

Super long cycle life, 50% Depth of discharger is up to 1200 cycles (at 25°C).

Super performance on High/Low temperature area.

Super fast charging. 30 minutes fast charging into 70% nominal Capacity.

COMPARISON BETWEEN KKB SUPER GRAPHENE BATTERY 2023 AND STANDAR BATTERY

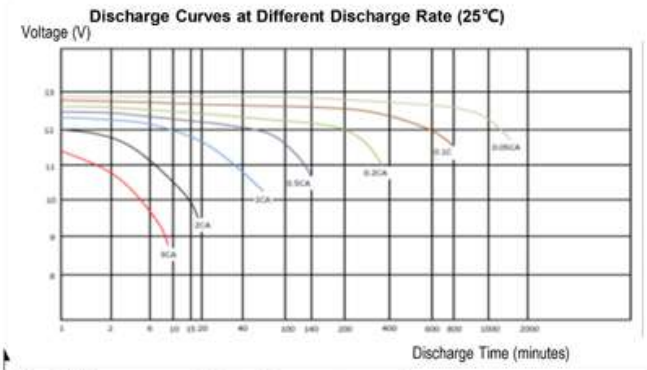
TESTING ITEM	STANDARD LEAD ACID BATTERY 12V15AH X 5	KK SUPER GRAPHENE 12V18AH X 4	COMPARISON
INITIAL CAPACITY, FOR THE FIRST 3 CYLCES @ 2HR	12AH	13AH	18.8% IMPROVED
INITIAL CAPACITY, FOR THE FIRST 20 CYLCES @ 20HR	15AH	18AH	25% IMPROVED
MILEAGE PER FULLY CHARGER @350W MOTOR	45KM	70KM	25KM MORE
MILEAGE PER FULLY CHARGER @500W MOTOR	35KM	55KM	20KM MORE
WEIGHT	3.8-3.9KG±0.2X4	4.23KG±0.05X4	WITH SUPER GRAPHENE
DISCHARGE TIME @ END-VOLTAGE : 12V	25 MINUTES	45 MINUTES	34% IMPROVED
WATER LOST RATE	0.1 GRAM / CYCLE	0.06 GRAM / CYCLE	40% DECREASED
CYCLE LIFE @250-300W @ 50% DOD	500 CYCLE	1200 CYCLE	240% IMPROVED

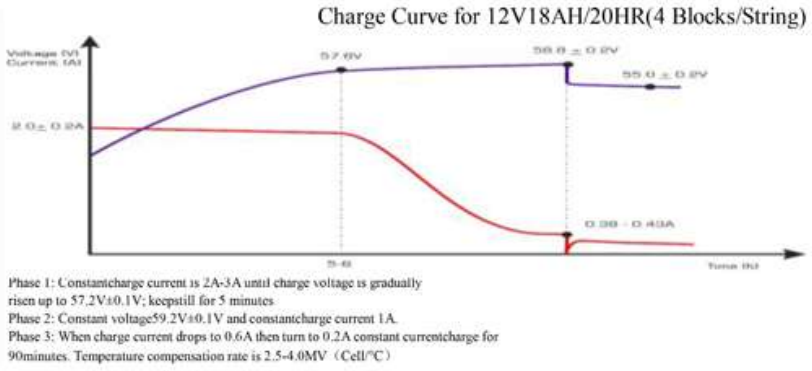
FEATURES & BENEFITS

Nominal Voltage (v)		12V
Open Circuit Voltage (V/Block)		13.1V - 13.45V
Number of Cells (Per Block)		6Cells
Rated Capacity (Ah,25°C)	2h rate (to 1.75V/Cell)	13h
	3h rate (to 1.75V/Cell)	14Ah
	5h rate (to 1.75V/Cell)	15Ah
	10h rate (to 1.75V/Cell)	16Ah
	20h rate (to 1.75V/Cell)	18Ah
Nominal Weight (Kgs)		**Approx. 4.23 ± 0.1Kgs**
Dimension (LXWXH, Total Height, mm)		(151mm±0.5) X (99mm±0.5) X (100mm±0.5), (100mm±0.5)
Container Material		Enhanced ABS
Charger Voltage	Float (V/Block)	13.50V - 13.80V
	Cycle (V/Block)	14.60V - 14.80V
Maximum Discharger Current (A)		150A (5s)
Charger Current (A)		2-5A
Working Temperature (°C)	Operation (maximum) :	-20°C to50°C
	Operation (recommended) :	20°C to 30°C
Storage Temperature (°C)		-20°C to50°C

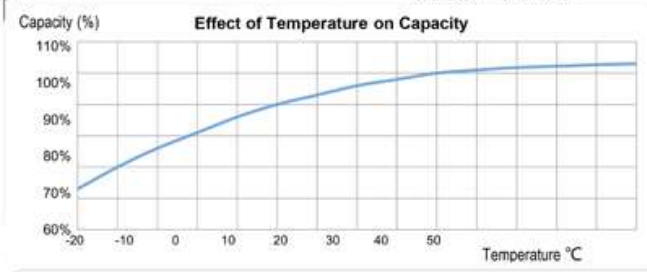
A RELIABLE POWER SOLUTION PROVIDER

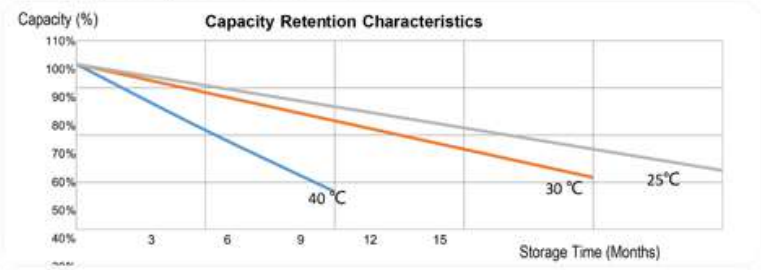
12V18AH SUPER GRAPHENE BATTERY

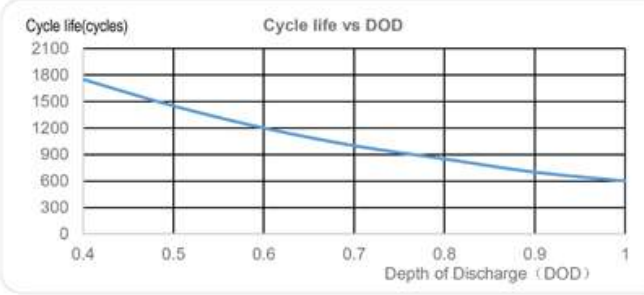


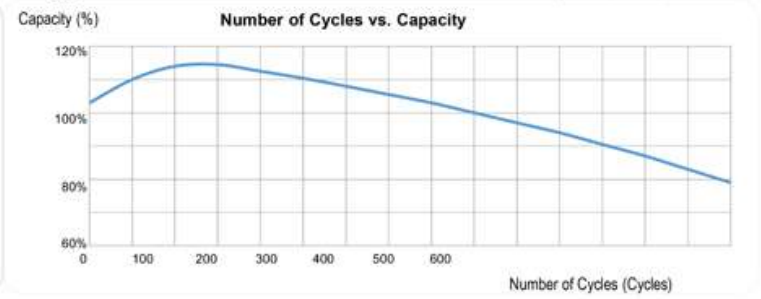


Phase 1: Constantcharge current is 2A-3A until charge voltage is gradually risen up to 57.2V±0.1V; keepstill for 5 minutes
Phase 2: Constant voltage59.2V±0.1V and constantcharge current 1A.
Phase 3: When charge current drops to 0.6A then turn to 0.2A constant currentcharge for 90minutes. Temperature compensation rate is 2.5-4.0MV（Cell/℃）









RECOMENDED SETTING PARAMETERS

Item		24V Battery Bank	34V Battery Bank	48V Battery Bank
Charger Parameters	Max. Charge Voltage (V)	29.3V-29.5V	43.8V-44.2V	58.6V-59.0V
	Float Charge Voltage (V)	27.4V-27.6V	41.0V-41.4V	54.8V-55.2V
	Max. Charge Current (A)	1.8A-3A	1.8A-3A	1.8A-3A
	Shifting Current (A)	0.38A-0.43A	0.38A-0.43A	0.38A-0.43A
	Temperature Compensation Coefficient (mV/°C/Cell)	2.5~4.0mV/°C/Cell	2.5~4.0mV/°C/Cell	2.5~4.0mV/°C/Cell
Controller Parameters	Low-voltage Protection (V)	21V±0.5V	31.5V±0.5V	42V±0.5V
	Limited Current (A)	≤15A	≤15A	≤15A
	Lock Turn-on Current (A)	≤0.1A	≤0.1A	≤0.1A
Electric Motor Setting	Average Current (A)	≤75A	≤75A	≤75A
	Electric Motor Power (W)	≤150W	≤350W	≤500W

** All the data and technical curves are for customer's reference only. This information is subject to change without any prior notice*

PT KKBROTHERS BATERAI INOVASI
Cengkareng, Indonesia

JL. Raya Kembangan No. 118A, Kel Kedoya Selatan,
Kec. Kebon Jeruk, Kota Adm. Jakarta Barat, Provinsi DKI Jakarta 11520
Phone : 0812 2000 9240
Email : cs@kkbattery.co.id

A RELIABLE POWER SOLUTION PROVIDER

12V32AH SUPER GRAPHENE BATTERY

KKB SUPER GRAPHENE 2023 Series high energy Battery is specially designed based on Super Graphene Tecnology for Hot/Low temperature which has obvioosly improve the battery's capacity, output power, cycle life and high/low temperature performance. The KKB SUPER BATTERY GRAPHENE 2023 Series provides Fast Charging, longer range, larger power and extremely long life for motive power applications, i.e. electric bisycles, electric tricycles, electric motorcycles and other devide require DC power source.

FEATURES & BENEFITS

Super Energy Dencity up to 60WH/KG.
Direct Cast-Welding Technology is applied to connect each cell, which makes the battery has lower internal resistance 1.8C super large discharger current Up to 30 minutes.

Super long cycle life, 50% Depth of discharger is up to 1200 cycles (at 25^{0}C).

Super performance on High/Low temperature area.

Super fast charging. 30 minutes fast charging into 70% nominal Capacity.

COMPARISON BETWEEN KKB SUPER GRAPHENE BATTERY 2023 AND STANDAR BATTERY

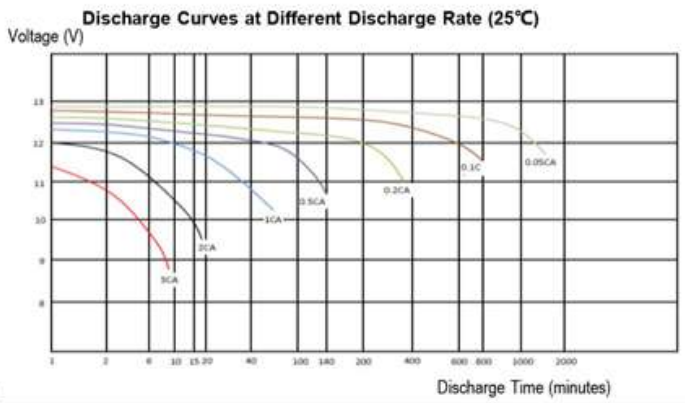
TESTING ITEM	STANDARD LEAD ACID BATTERY 12V25AH X 5	KK SUPER GRAPHENE 12V32AH X 5	COMPARISON
INITIAL CAPACITY, FOR THE FIRST 3 CYLCES @ 2HR	20.2AH	24AH	18.8% IMPROVED
INITIAL CAPACITY, FOR THE FIRST 20 CYLCES @ 20HR	25AH	32AH	28% IMPROVED
MILEAGE PER FULLY CHARGER @800W MOTOR	80KM	135-142KM	55KM MORE
MILEAGE PER FULLY CHARGER @1000W MOTOR	60KM	103KM	43KM MORE
FAST CHARGING	NOT AVAILABLE	1.8C FAST CHARGING	FAST CHARGING
DISCHARGE TIME @ END-VOLTAGE : 12V	65 MINUTES	90 MINUTES	34% IMPROVED
WATER LOST RATE	0.1 GRAM / CYCLE	0.06 GRAM / CYCLE	40% DECREASED
CYCLE LIFE @250-300W @ 50% DOD	500 CYCLE	1200 CYCLE	240% IMPROVED

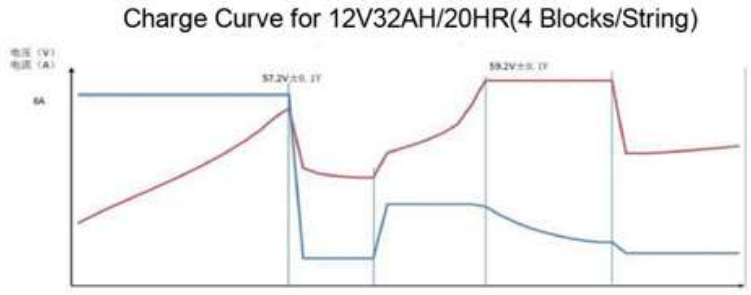
FEATURES & BENEFITS

Nominal Voltage (v)		12V
Open Circuit Voltage (V/Block)		13.1V - 13.45V
Number of Cells (Per Block)		6Cells
Rated Capacity (Ah,25°C)	2h rate (to 1.75V/Cell)	13h
	3h rate (to 1.75V/Cell)	14Ah
	5h rate (to 1.75V/Cell)	15Ah
	10h rate (to 1.75V/Cell)	16Ah
	20h rate (to 1.75V/Cell)	18Ah
Nominal Weight (Kgs)		**Approx. 4.23 ± 0.1Kgs**
Dimension (LXWXH, Total Height, mm)		(151mm±0.5) X (99mm±0.5) X (100mm±0.5), (100mm±0.5)
Container Material		Enhanced ABS
Charger Voltage	Float (V/Block)	13.50V - 13.80V
	Cycle (V/Block)	14.60V - 14.80V
Maximum Discharger Current (A)		150A (5s)
Charger Current (A)		2-5A
Working Temperature (°C)	Operation (maximum) :	-20°C to50°C
	Operation (recommended) :	20°C to 30°C
Storage Temperature (°C)		-20°C to50°C

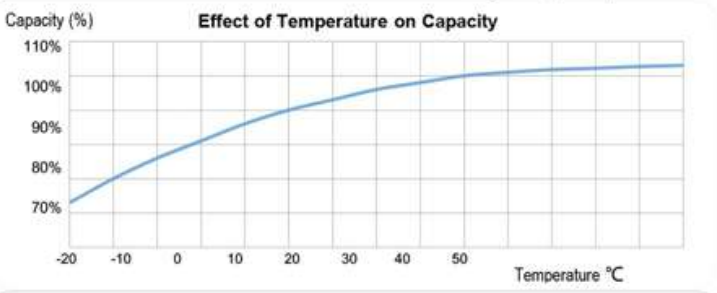
A RELIABLE POWER SOLUTION PROVIDER

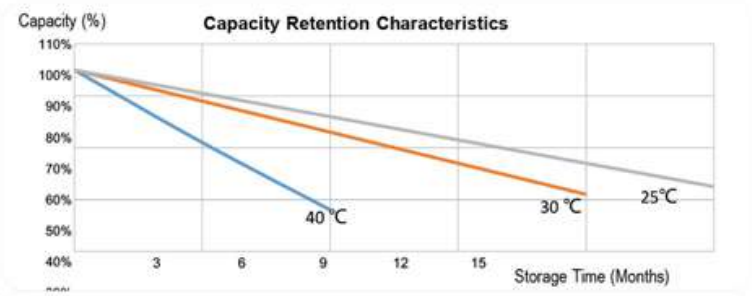
12V32AH SUPER GRAPHENE BATTERY

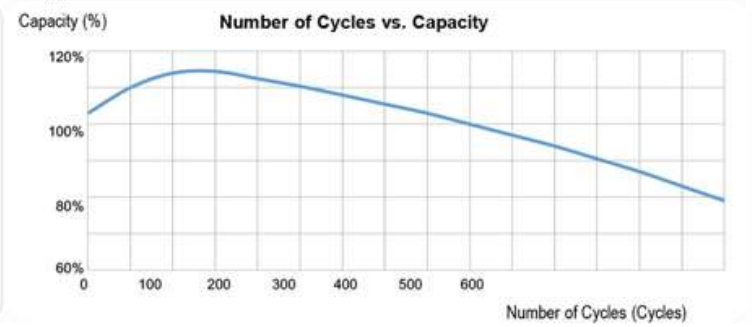




Phase 1: Constantcharge current is 4A-5A until charge voltage is gradually risen up to 57.2V±0.1V; keepstill for 5 minutes
Phase 2: Constant voltage59.2V±0.1V and constantcharge current 2A.
Phase 3: When charge current drops to 0.6A then turn to 0.2A constant currentcharge for 90minutes. Temperature compensation rate is 2.5-4.0MV（Cell/℃）







RECOMENDED SETTING PARAMETERS

	Item	48V Battery Bank	60V Battery Bank	72V Battery Bank
Charger Parameters	Max. Charge Voltage (V)	58.6V-59V	73.3V-73.7V	88.0V-88.4V
	Float Charge Voltage (V)	54.8V-55.2V	68.6V-69.0V	82.3V-82.7V
	Max. Charge Current (A)	4-5A	4-5A	4-5A
	Shifting Current (A)	0.55A-0.6A	0.55A-0.6A	0.55A-0.6A
	Temperature Compensation Coefficient (mV/℃/Cell)	2.5~4.0 mV/℃/Cell	2.5~4.0mV/℃/Cell	2.5~4.0mV/℃/Cell
Controller Parameters	Low-voltage Protection (V)	42V±0.5V	52.5V±0.5V	63V±0.5V
	Limited Current (A)	≤25A	≤25A	≤25A
	Turn-on Lock Current (A)	≤0.15A	≤0.15A	≤0.15A
Electric Motor Setting	Average Current (A)	≤10A	≤10A	≤10A
	Electric Motor Power (W)	≤800W	≤1000W	≤2000W

** All the data and technical curves are for customer's reference only. This information is subject to change without any prior notice.*

PT KKBROTHERS BATERAI INOVASI
Cengkareng, Indonesia

JL. Raya Kembangan No. 118A, Kel Kedoya Selatan,
Kec. Kebon Jeruk, Kota Adm. Jakarta Barat, Provinsi DKI Jakarta 11520
Phone : 0812 2000 9240
Email : cs@kkbattery.co.id

www.kkbattery.co.id