

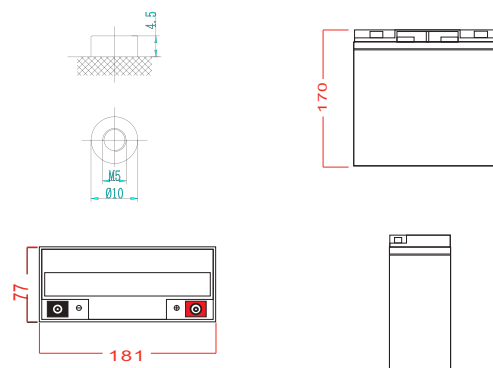
KB1220EV 12V 23Ah C₂



The Electric Vehicle batteries were developed based on a specialized grid as well as active material. These batteries have anchored plates and a high impact reinforced polypropylene case which can withstand the most extreme environments and vibrations. The KB EV series is constituted of batteries of several different sizes so that they may be used for many different applications. The KB EV series uses dry cell technology that allows for a superior performance and an unparalleled quality and reliability. Through the use of the dry cell technology this series was designed for sensitive environments that require improved life cycles for commercial, industrial, residential and private applications. Without any need for maintenance and with an advanced construction the EV series is an excellent option for many applications.



Dimensions and Terminal (Unit: mm (inches))



Performance Characteristics

Nominal Voltage	12V		
Dimensions	Length (mm / inch)	181 / 7.1	
	Width (mm / inch)	77 / 3.0	
	Height (mm / inch)	170 / 6.7	
	Total Height (mm / inch)	170 / 6.7	
Approx. Weight	(Kg / lbs)	6.85 / 15.1	
Design Life	5 years		
Terminal	M5		
Container Material	ABS		
Rated Capacity	29.5 Ah / 2.95 A	(10hr, 1.75V / cell, 20°C / 77°F)	
	23.0 Ah / 11.5 A	(2hr, 1.75V / cell, 20°C / 77°F)	
	20.0 Ah / 20.0A	(1hr, 1.75V / cell, 20°C / 77°F)	
Operating Temp. Range	Discharge : -20 ~ 50°C (-4 ~ 122°F)		
	Charge : -20 ~ 50°C (-4 ~ 122°F)		
	Storage : -20 ~ 50°C (-4 ~ 122°F)		
Charge Method	Float use: 13.7~13.9V at 25°C (77°F)		
	Cycle use: 14.7~14.9V at 25°C (77°F)		
	Max charge current 4.60A		
Self Discharge	Fully charged Kaise Electric Vehicle batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.		

Applications

Electric wheelchair
Electric vehicle / golf car
Electric toys
Renewable energies
Marine equipment

Certifications

ISO 9001:2008 ISO 14001:2008



Discharge Current vs. Discharge Voltage

Final discharge voltage V/CELL	1.8	1.75	1.7	1.6
Discharge current (A)	$I \leq 0.1CA$	$0.25CA \geq I > 0.1CA$	$0.55CA \geq I > 0.25CA$	$I > 0.55CA$

Constant Current Discharge (Amperes) at 25°C (77°F)

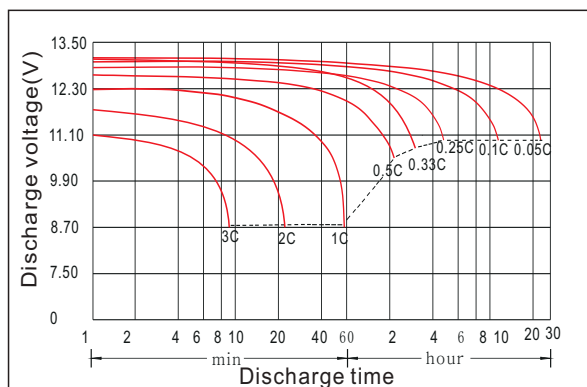
Volts/cell	5min	15min	30min	1h	2h	5h	10h	20h
1.80V	82.9	49.5	32.3	19.5	11.3	5.45	2.91	1.56
1.75V	92.5	53.2	33.7	20.0	11.5	5.59	2.95	1.57
1.70V	101	55.0	34.1	20.4	11.7	5.62	2.98	1.58
1.65V	105	56.2	34.7	20.0	11.7	5.71	3.00	1.59
1.60V	108	57.9	35.3	19.5	11.8	5.75	3.03	1.60

Constant Power Discharge (Watts per cell) at 25°C (77°F)

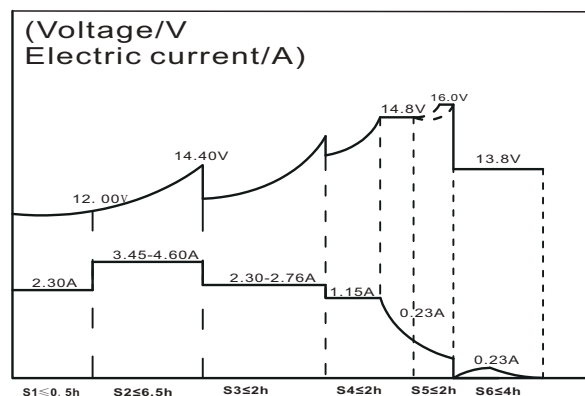
Volts/cell	5min	15min	30min	1h	2h	5h	10h	20h
1.80V	135	84.3	55.6	34.3	19.9	9.63	5.06	2.80
1.75V	146	89.4	57.2	34.5	20.0	9.70	5.14	2.81
1.70V	157	90.1	57.5	34.8	20.2	9.78	5.18	2.83
1.65V	158	90.9	57.5	35.0	20.3	9.86	5.26	2.85
1.60V	164	92.8	57.9	35.4	20.3	9.89	5.29	2.86

(Note) The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.

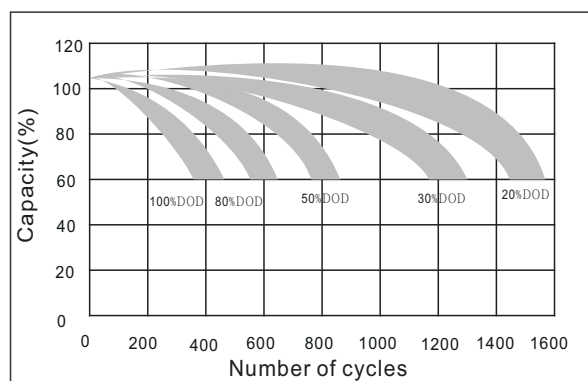
Discharging Characteristic



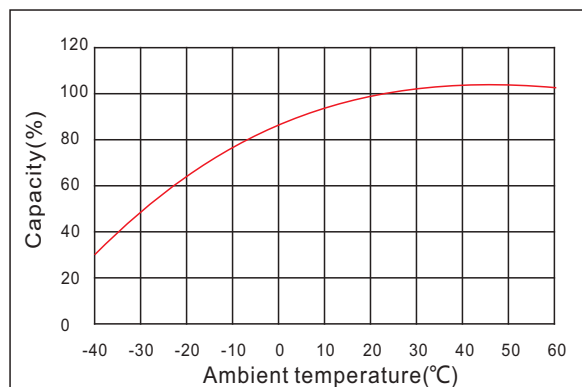
Charging Characteristics



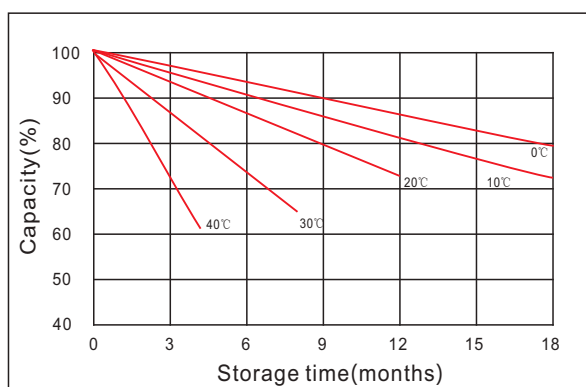
The effect of discharge depth on cycle life



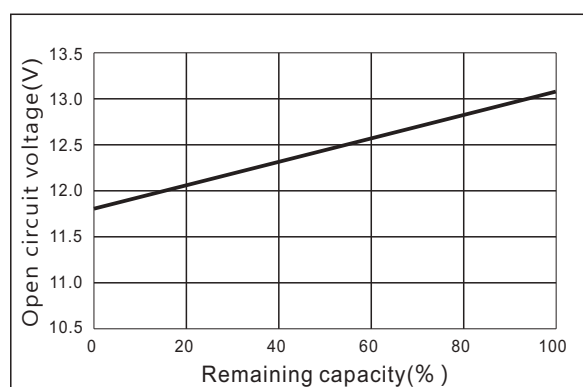
Temperature Effects on Capacity



Curves of self-discharge



Curves of open circuit voltage vs. capacity



IMPORTANT NOTE: The specifications presented herein are subject to revision without notice.

