

# KBC12330 12V 33Ah



The Kaise cyclic batteries were developed for deep discharges with very heavy non-porous battery plates to withstand major discharging and charging cycles (deep cycle). These batteries use different chemistry combinations for the plates with active paste material and a slightly stronger than normal electrolyte, which allows for a much longer life in deep cycle applications.



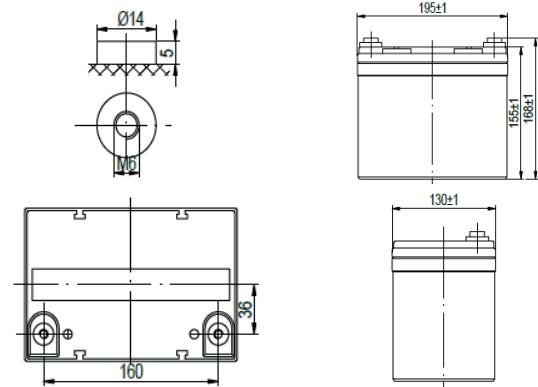
## Performance Characteristics

Nominal Voltage	12V	
Dimensions	Length (mm / inch)	195 / 7.68
	Width (mm / inch)	130 / 5.12
	Height (mm / inch)	155 / 6.10
	Total Height (mm / inch)	168 / 6.61
Approx Weight	(Kg / lbs) 11.0 / 24.3	
Design Life	10 years	
Terminal	M6	
Container Material	ABS	
Rated Capacity	33.0Ah / 3.3A	(10hr, 10.8V / cell, 25°C / 77°F)
	27.75Ah / 5.55A	(1hr, 10.5V / cell, 25°C / 77°F)
	22.0Ah / 22.0A	(10min, 9.6V / cell, 25°C / 77°F)
Max. Discharge Current	330A (5s)	
Internal Resistance	Approx 10mΩ	
Operating Temp. Range	Discharge : -20 ~ 60°C (-4 ~ 140°F)	
	Charge : -10 ~ 60°C (-4 ~ 140°F)	
	Storage : -20 ~ 60°C (-4 ~ 140°F)	
Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)	
Cycle Use	Initial Charging Current less than 9.9A	
	Voltage: 2.40VPC ~ 2.45VPC at 25°C (77°F)	
	Temp. Coefficient: -30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage	
	Voltage: 2.20VPC ~ 2.30VPC at 25°C (77°F)	
	Temp. Coefficient: -20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	Fully charged Kaise Deep Cycle Series 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.	

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

Volts/cell	10min	15min	30min	1h	3h	5h	10h	20h
1.80V	57.6	48.0	31.1	19.5	8.10	5.47	3.14	1.65
1.75V	66.2	50.4	32.0	20.0	8.17	5.55	3.18	1.68
1.70V	70.1	52.9	32.4	20.9	8.37	6.12	3.22	1.70
1.65V	74.2	57.6	35.4	21.6	8.88	6.22	3.25	1.72
1.60V	77.0	59.7	36.1	22.0	8.99	6.27	3.28	1.74

## Dimensions and Terminal (Unit: mm (inches))



## Applications

- Solar power systems
- Electric wheel chairs
- Golf carts
- Maritime equipment
- Power plants
- Railway systems
- Telecommunications systems
- Cable TV systems
- Emergency power systems

## Certifications

ISO 9001:2008 ISO 14001:2008



## Discharge Current vs. Discharge Voltage

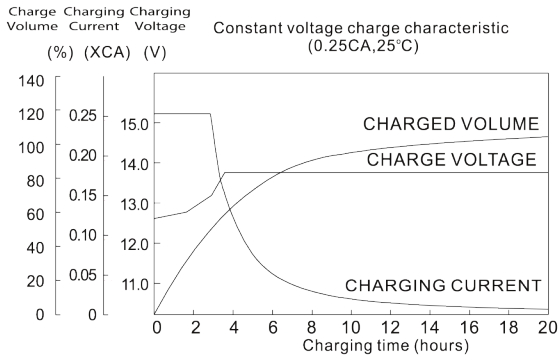
Final discharge voltage V/CELL	1.8	1.75	1.7	1.6
Discharge current (A)	$I \leq 0.1CA$	$0.25CA \geq I > 0.1CA$	$0.55CA \geq I > 0.25CA$	$I > 0.55CA$

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

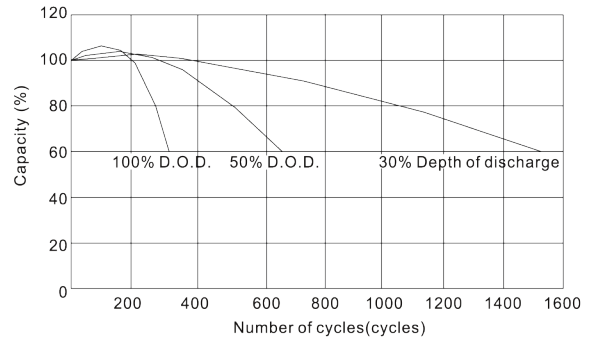
Volts/cell	10min	15min	30min	45min	1h	2h	3h	5h
1.80V	111	95.0	59.5	47.8	37.7	20.7	15.1	11.0
1.75V	127	99.9	61.1	48.1	38.5	21.5	15.8	11.2
1.70V	131	104	62.9	50.2	39.3	22.3	16.6	11.4
1.65V	197	107	67.6	52.1	39.9	22.8	17.1	11.8
1.60V	144	114	70.6	52.7D	40.3	23.0	17.2	12.1

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

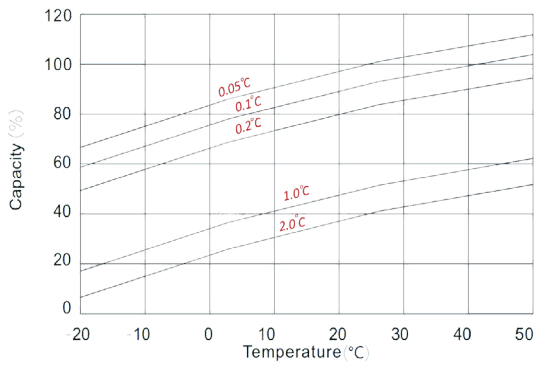
## Charging Characteristics (standby use)



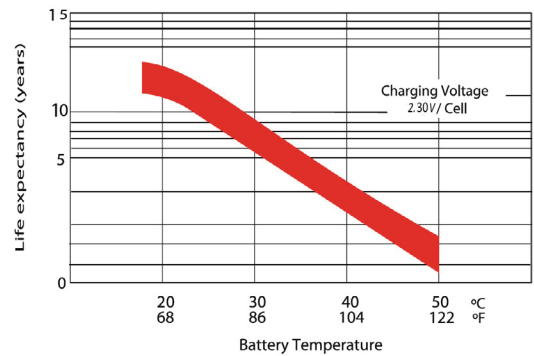
## Cycle Life in Relation to Depth of Discharge



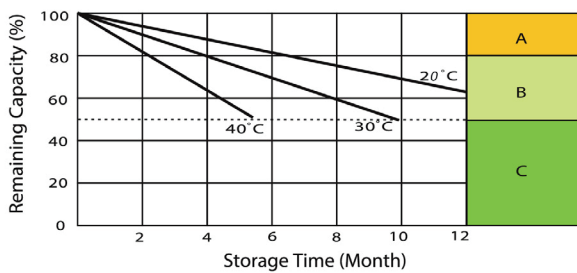
## Temperature Effects in Relation to Battery Capacity



## Temperature Effects on Float Life



## Self Discharge Characteristics



- A** With switch regulator (two-step controller) charge on curve max. charge voltage for max. 2 hrs/day then switch over to continuous charge.
- B** Standard charge without switching.
- C** Boost charge (Equalizing charge with external generator) charge on curve continuous charge for max. 5 hrs/month, then switch over to curve Standard charge.

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

