

# MKB12200 12V 20Ah



The KB Standard series consists in VRLA batteries - AGM technology (Absorbent Glass Mat), with a design life of 3-5 years and it is designed for general applications such as UPS, telecommunications and electrical applications.



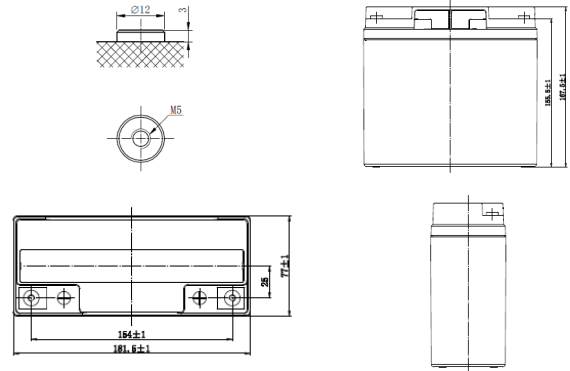
## Performance Characteristics

Nominal Voltage	12V		
Dimensions	Length (mm / inch)	181.5 / 7.14	
	Width (mm / inch)	77.0 / 3.03	
	Height (mm / inch)	167.5 / 6.59	
	Total Height (mm / inch)	167.5 / 6.59	
Approx Weight	(Kg / lbs)	5.78 / 12.74	
Design Life	5 years		
Terminal	M5		
Container Material	ABS		
Rated Capacity	20.0Ah / 1.00A	(20hr, 1.80V / cell, 25°C / 77°F)	
	18.6Ah / 1.86A	(10hr, 1.80V / cell, 25°C / 77°F)	
	17.0Ah / 3.40A	(5hr, 1.75V / cell, 25°C / 77°F)	
	12.6Ah / 12.6A	(1hr, 1.60V / cell, 25°C / 77°F)	
Max. Discharge Current	300A (5s)		
Internal Resistance	Approx 15mΩ		
Operating Temp. Range	Discharge : -20 ~ 60°C (-4 ~ 140°F)		
	Charge : -10 ~ 60°C (14 ~ 140°F)		
	Storage : -20 ~ 60°C (-20 ~ 140°F)		
Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)		
Cycle Use	Initial Charging Current less than 4.0A		
	Voltage: 14.4V ~ 14.7V at 25°C (77°F)		
	Temp. Coefficient: -30mV/°C		
Standby Use	Initial Charging Current less than 4.0A		
	Voltage: 13.5V ~ 13.8V 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 Standard 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	5min	10min	15min	30min	1h	3h	5h	10h	20h
1.80V	51.1	37.4	29.3	19.1	11.3	5.01	3.31	1.86	1.00
1.75V	57.6	41.1	32.0	19.8	11.8	5.10	3.40	1.91	1.01
1.70V	63.5	44.8	34.1	20.7	12.2	5.24	3.49	1.95	1.03
1.65V	70.0	48.3	36.3	21.8	12.4	5.47	3.58	1.99	1.04
1.60V	77.2	52.4	38.8	23.0	12.6	5.63	3.70	2.01	1.05

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



## Applications

- |                            |                                       |
|----------------------------|---------------------------------------|
| Alarm systems              | Marine equipment                      |
| Cable television           | Medical equipment                     |
| Communications Equipment   | Micro processor based office machines |
| Control Equipment          | Portable cine & Video lights          |
| Computers                  | Solar powered systems                 |
| Electronic Cash Registers  | Telecommunications systems            |
| Electric Test Equipment    | Television & Video recorders          |
| Emergency lighting systems | Toys                                  |
| Fire & Security            | Uninterruptible power supply systems  |
| Geophysical equipment      | Vending machines                      |

## Certifications

ISO 9001:2008 ISO 14001:2008



## Discharge Current vs. Discharge Voltage

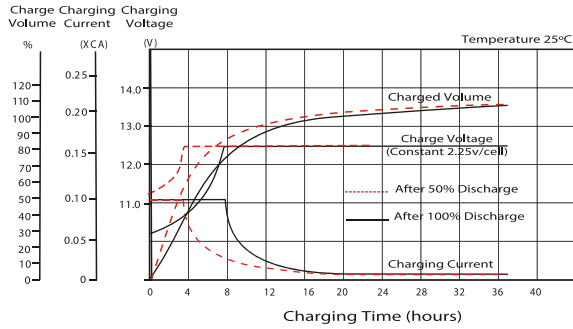
Final discharge voltage V/CELL	1.8	1.75	1.7	1.6
Discharge current [A]	$I \leq 0.1CA$	$0.25CA \geq I > 0.1CA$	$0.55CA \geq I > 0.25CA$	$I > 0.55CA$

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

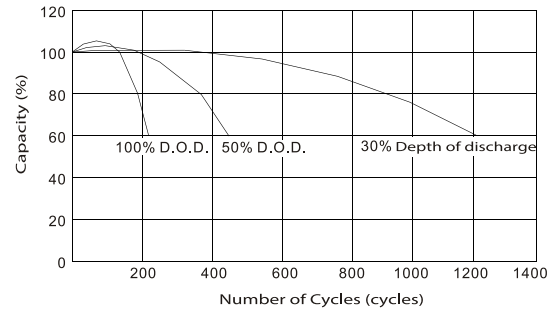
Volts/cell	5min	10min	15min	30min	45min	1h	2h	3h	5h
1.80V	92.5	68.2	53.9	35.9	26.5	21.6	12.5	9.71	6.46
1.75V	102.0	73.8	58.1	36.9	27.2	22.5	12.9	9.85	6.61
1.70V	109.3	78.6	61.2	38.2	28.2	23.1	13.2	10.1	6.77
1.65V	118.8	84.0	64.6	40.0	28.6	23.5	13.3	10.5	6.93
1.60V	128.0	89.1	67.9	41.9	29.7	23.6	13.9	10.8	7.13

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

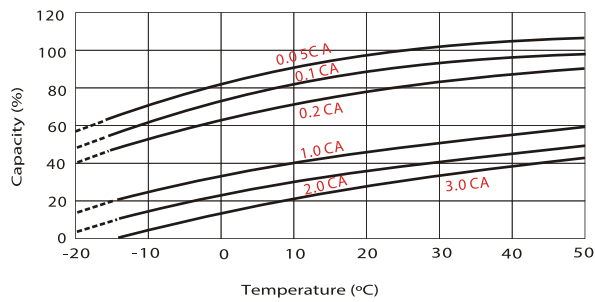
## Charging Characteristics (float use)



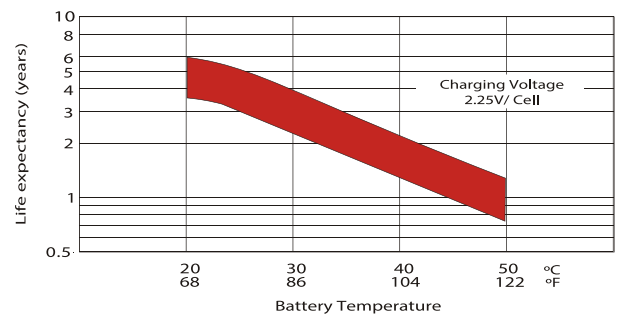
## Cycle Life in Relation to Depth of Discharge



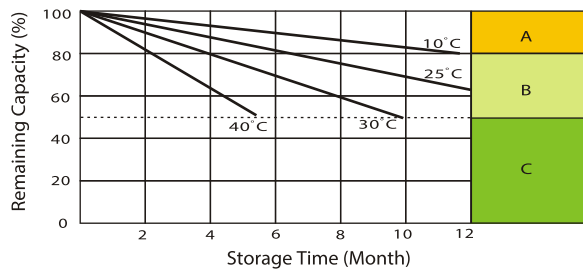
## Temperature Effects in Relation to Battery Capacity



## Effect of Temperature on Long Term Float Life



## Self Discharge Characteristics



- A** No supplementary charge required (carry out supplementary charge before use if 100% capacity is required)
- B** Supplementary charge required before use. Optional charging way a below:
  1. Charged for above 3 days at limited current 0.25 CA and constant voltage 2.25V / cell.
  2. Charged fo above 20 hours limited current 0.25CA and constant voltage 2.45V / cell.
  3. Charged for 8-10 hours ar limited current 0.05 CA.
- C** Supplementary charge often fail to recover the capacity. The battery should never be left standing till this is reached.

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

