

# KBG121000 12V 100Ah (C<sub>10</sub>)



Gel battery shows some distinctive advantages over flooded battery or AGM battery, such as super thermal stability, high deep discharge capability, good recovery from deep discharge, even if the battery is left discharged for three days, it will recover to 100% of capacity. With the above-mentioned advantages, the gel battery has long service life, specially suitable for motive power applications, such as golf trailer, scrubber, folklift, etc. The deep discharge cycles increased 50% as compared with the AGM battery.



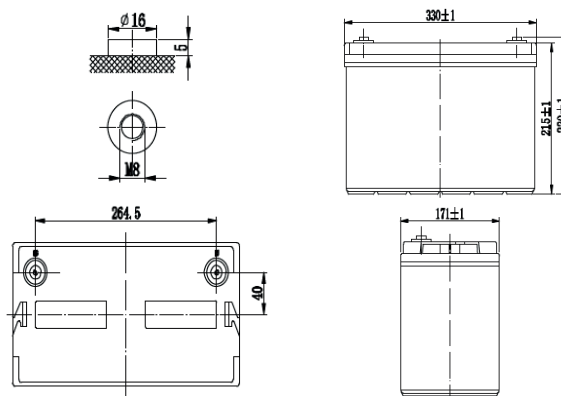
## Performance Characteristics

|                                  |                                                                                                                                                                                                |                                   |  |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--|
| Nominal Voltage                  | 12V                                                                                                                                                                                            |                                   |  |
| Design Life                      | 12 years                                                                                                                                                                                       |                                   |  |
| Dimensions                       | Length (mm / inch)                                                                                                                                                                             | 330 / 12.99                       |  |
|                                  | Width (mm / inch)                                                                                                                                                                              | 171 / 6.73                        |  |
|                                  | Height (mm / inch)                                                                                                                                                                             | 215 / 8.46                        |  |
|                                  | Total Height (mm / inch)                                                                                                                                                                       | 222 / 8.74                        |  |
| Approx. Weight                   | (Kg / lbs)                                                                                                                                                                                     | 32 / 70.5                         |  |
| Terminal                         | M8                                                                                                                                                                                             |                                   |  |
| Container Material               | ABS                                                                                                                                                                                            |                                   |  |
| Rated Capacity                   | 106Ah / 5.3A                                                                                                                                                                                   | (20hr, 10.8V / cell, 25°C / 77°F) |  |
|                                  | 100Ah / 10.0A                                                                                                                                                                                  | (10hr, 10.8V / cell, 25°C / 77°F) |  |
|                                  | 87.5Ah / 17.5A                                                                                                                                                                                 | (5hr, 10.5V / cell, 25°C / 77°F)  |  |
|                                  | 66.2Ah / 66.2A                                                                                                                                                                                 | (1hr, 9.6V / cell, 25°C / 77°F)   |  |
| Max. Discharge Current           | 900A (5s)                                                                                                                                                                                      |                                   |  |
| Internal Resistance              | Approx 5.2mΩ                                                                                                                                                                                   |                                   |  |
| Operating Temp. Range            | Discharge : -20 ~ 60°C (-4 ~ 140°F)                                                                                                                                                            |                                   |  |
|                                  | Charge : -10 ~ 60°C (14 ~ 140°F)                                                                                                                                                               |                                   |  |
|                                  | Storage : -20 ~ 60°C (-4 ~ 140°F)                                                                                                                                                              |                                   |  |
| Nominal Operating Temp. Range    | 25 ± 3°C (77 ± 5°F)                                                                                                                                                                            |                                   |  |
| Cycle Use                        | Maximum charging current 30A                                                                                                                                                                   |                                   |  |
|                                  | Voltage: 2.38V ~ 2.42V at 25°C (77°F)                                                                                                                                                          |                                   |  |
|                                  | Temp. Coefficient: -20mV/°C                                                                                                                                                                    |                                   |  |
| Standby Use                      | No limit on Initial Charging Current Voltage                                                                                                                                                   |                                   |  |
|                                  | 13.5V ~ 13.8V at 25° C (77° F)                                                                                                                                                                 |                                   |  |
|                                  | Temp. Coefficient: -30mV/°C                                                                                                                                                                    |                                   |  |
| Capacity affected by Temperature | 40°C (104°F)                                                                                                                                                                                   | 103%                              |  |
|                                  | 25°C ( 77°F)                                                                                                                                                                                   | 100%                              |  |
|                                  | 0°C ( 32°F)                                                                                                                                                                                    | 86%                               |  |
| Self Discharge                   | Fully charged Kaisel Gel 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      | 175   | 143   | 91.0  | 57.4 | 25.3 | 15.9 | 10.0 | 4.80 |
| 1.75V      | 187   | 153   | 93.0  | 60.5 | 26.9 | 16.4 | 10.3 | 5.00 |
| 1.70V      | 200   | 164   | 96.0  | 61.5 | 27.2 | 16.9 | 10.5 | 5.04 |
| 1.65V      | 221   | 178   | 104   | 62.5 | 27.7 | 17.4 | 10.6 | 5.10 |
| 1.60V      | 229   | 185   | 108   | 66.2 | 27.9 | 17.7 | 10.8 | 5.15 |

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



## Applications

Wind and solar energy systems  
Cable TV systems  
Telecommunications  
Electric wheel chairs  
Military equipment  
Emergency lighting  
Power plants  
Medical equipment  
Golf carts

## Certifications

ISO 9001:2008 ISO 14001:2008



## Discharge End Voltage vs. Discharge Current

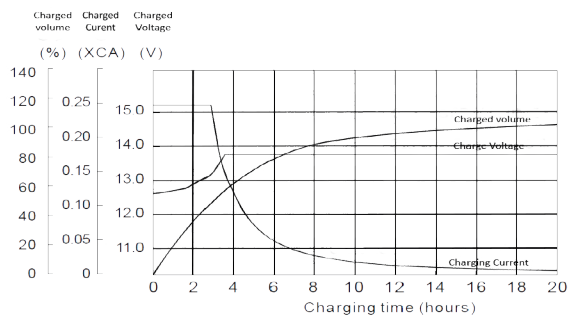
| Final discharge voltage V/CELL | 1.8            | 1.75                    | 1.7                      | 1.6          |
|--------------------------------|----------------|-------------------------|--------------------------|--------------|
| Discharge current (A)          | $I \leq 0.1CA$ | $0.25CA \geq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

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

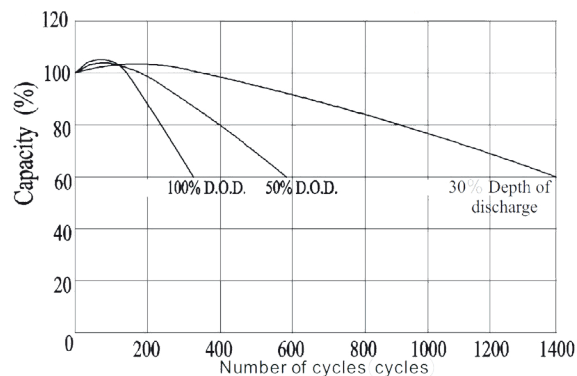
| Volts/cell | 10min | 15min | 30min | 45min | 1h  | 2h   | 3h   | 5h   |
|------------|-------|-------|-------|-------|-----|------|------|------|
| 1.80V      | 329   | 321   | 171   | 131   | 104 | 62.5 | 48.5 | 34.0 |
| 1.75V      | 353   | 315   | 177   | 134   | 111 | 64.5 | 49.1 | 34.4 |
| 1.70V      | 360   | 299   | 183   | 137   | 114 | 66.8 | 50.9 | 35.0 |
| 1.65V      | 379   | 294   | 188   | 146   | 118 | 67.8 | 49.1 | 34.4 |
| 1.60V      | 392   | 321   | 199   | 150   | 124 | 70.6 | 48.5 | 34.0 |

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

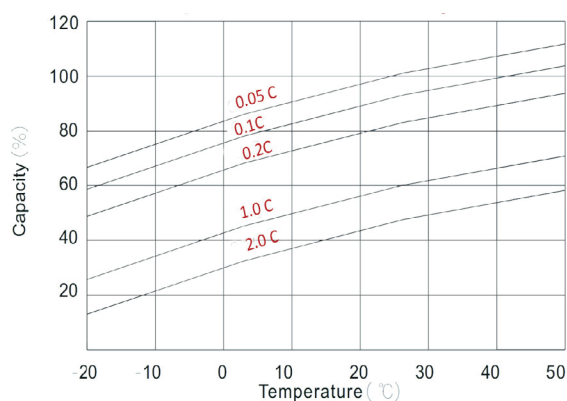
## Charging Characteristics (cycle use)



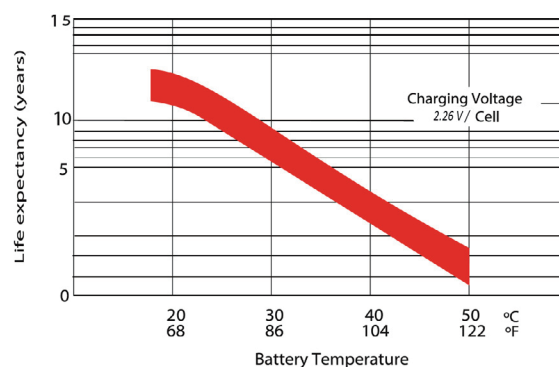
## Cycle Life in Relation to Depth of Discharge



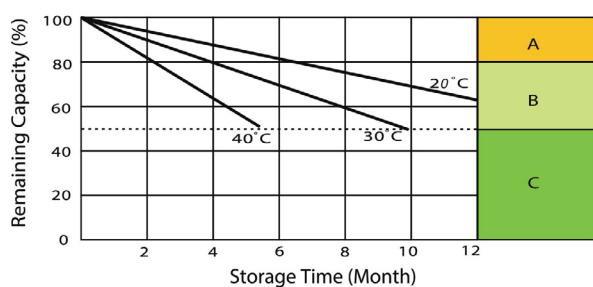
## Temperature Effects in Relation to Battery Capacity



## 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 for above 20 hours limited current 0.25CA and constant voltage 2.45V / cell.  
3. Charged for 8-10 hours at 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.