

# KB12400-M6 12V 40Ah



## CHARACTERISTICS

| Item                          | Specifications   |                     |
|-------------------------------|--|---------------------|
| Rated Voltage                 | 12V  |                     |
| Nominal Capacity (25°C)       | $C_{20}$ 1.80V/cell  | 40Ah                |
| Dimension                     | Length   | 197mm (7.76inches)  |
|                               | Width  | 165mm (6.50inches)  |
|                               | Container Height   | 170mm (6.69inches)  |
|                               | Total Height   | 170mm (6.69inches)  |
| Approx Weight                 | 12.0kg (26.5lbs)   |                     |
| Terminal                      | T6(M6)   |                     |
| Container Material            | ABS (UL94 HB or V-0 optional)  |                     |
| Short-circuit current         | 950A   |                     |
| Internal Resistance (25°C)    | Approx 10 mΩ (Fully charged)   |                     |
| Operating Temp. Range         | Discharge  | -15~50°C (5~122°F)  |
|                               | Charge   | -20~40°C (-4~104°F) |
|                               | Storage  | -15~40°C (5~104°F)  |
| Nominal Operating Temp. Range | 25±3°C (77±5°F)  |                     |
| Max. Charging Current (25°C)  | 0.3C   |                     |
| Charge voltage (25°C)         | Standby Use  | Cycle Use           |
|                               | 2.25-2.30V/cell  | 2.35-2.40V/cell     |
| Temp. Coefficient             | -3mV/cell/°C   | -5mV/cell/°C        |
|                               | 40°C (104°F)   | 103%                |
| Effect of temp. to Capacity   | 25°C (77°F)  | 100%                |
|                               | 0°C (32°F)   | 86%                 |
|                               | ≤3% per month at 25°C (77°F).<br>KB series batteries may be stored up to 6 months at 25°C (77°F) and then a freshening charge is required.<br>For higher temperatures the time interval will be shorter. |                     |
| Self Discharge                |  |                     |

## DISCHARGE TABLE

| Constant Current Discharge (Amperes) at 25°C (77°F)  |       |       |       |       |       |       |      |      |      |      |      |      |      |      |      |      |
|--|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h   | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
| 1.85V/cell   | 87.0  | 61.8  | 57.7  | 45.6  | 34.6  | 25.1  | 18.9 | 14.7 | 11.8 | 8.66 | 7.08 | 5.92 | 5.47 | 4.17 | 3.49 | 1.83 |
| 1.80V/cell   | 98.9  | 70.2  | 64.5  | 51.0  | 38.7  | 26.6  | 20.9 | 16.1 | 12.8 | 9.50 | 7.63 | 6.37 | 5.87 | 4.47 | 3.80 | 2.00 |
| 1.75V/cell   | 107.4 | 76.1  | 68.9  | 54.4  | 41.3  | 27.5  | 21.6 | 16.6 | 13.2 | 9.74 | 7.82 | 6.52 | 5.92 | 4.55 | 3.84 | 2.02 |
| 1.70V/cell   | 114.9 | 81.2  | 72.4  | 57.2  | 43.5  | 28.1  | 22.4 | 17.2 | 13.7 | 9.92 | 8.02 | 6.66 | 5.95 | 4.63 | 3.88 | 2.04 |
| 1.67V/cell   | 118.9 | 83.7  | 73.6  | 58.1  | 44.1  | 28.5  | 22.9 | 17.5 | 13.8 | 10.1 | 8.13 | 6.74 | 5.98 | 4.68 | 3.91 | 2.05 |
| 1.60V/cell   | 123.1 | 86.6  | 74.6  | 59.0  | 44.8  | 28.9  | 24.0 | 18.3 | 14.4 | 10.4 | 8.36 | 6.95 | 6.02 | 4.79 | 3.96 | 2.08 |
| Constant Power Discharge (Watts/cell) at 25°C (77°F) |       |       |       |       |       |       |      |      |      |      |      |      |      |      |      |      |
| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h   | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
| 1.85V/cell   | 159.5 | 114.2 | 102.7 | 81.2  | 61.7  | 45.3  | 40.0 | 28.4 | 22.7 | 17.4 | 13.8 | 11.5 | 10.4 | 8.16 | 6.86 | 3.60 |
| 1.80V/cell   | 178.4 | 127.8 | 114.9 | 90.8  | 69.0  | 47.7  | 43.8 | 30.9 | 24.6 | 18.6 | 14.7 | 12.4 | 11.1 | 8.71 | 7.28 | 3.82 |
| 1.75V/cell   | 190.4 | 136.4 | 122.6 | 96.8  | 73.5  | 49.1  | 45.1 | 31.7 | 25.3 | 19.0 | 15.1 | 12.6 | 11.2 | 8.88 | 7.39 | 3.88 |
| 1.70V/cell   | 200.2 | 143.4 | 128.9 | 101.9 | 77.4  | 49.7  | 46.4 | 32.6 | 26.0 | 19.6 | 15.4 | 12.8 | 11.3 | 8.98 | 7.49 | 3.93 |
| 1.67V/cell   | 203.4 | 145.7 | 131.0 | 103.5 | 78.6  | 50.2  | 47.1 | 33.1 | 26.2 | 19.9 | 15.6 | 13.0 | 11.4 | 9.09 | 7.54 | 3.96 |
| 1.60V/cell   | 206.3 | 147.7 | 132.9 | 105.0 | 79.7  | 50.4  | 48.9 | 34.2 | 27.2 | 20.4 | 15.9 | 13.3 | 11.5 | 9.28 | 7.66 | 4.03 |

## APPLICATIONS

- All purpose
- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system

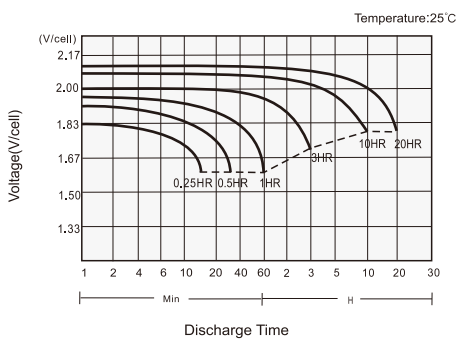
## GENERAL FEATURES

- 10 years design life (25°C)
- Lead calcium alloy, sealed design, no watering required
- Puncture resistant micro-porous glass mat separators extend life
- Unique technology optimizes power capacity, cell consistency, and long-term reliability
- Designed for a wide range of applications

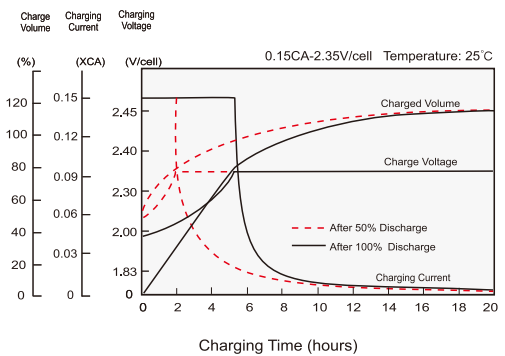
## STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Approved
- Manufactured under ISO 45001, ISO 9001, and ISO 14001 standards.

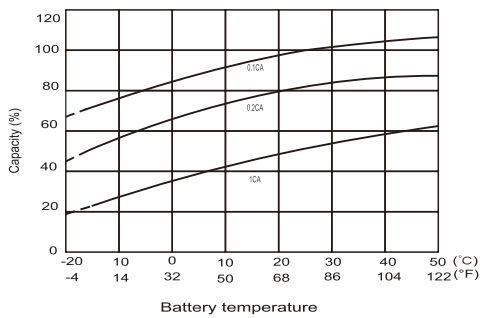
### Discharge Characteristics



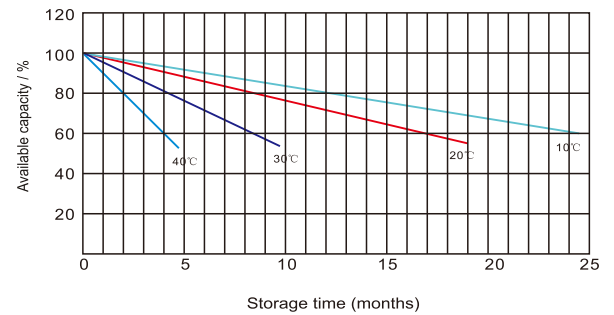
### Charging Characteristics



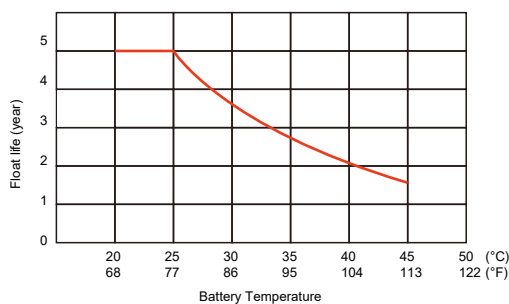
### Effects of Temperature on Capacity



### Self Discharge Characteristics



### Float service life



### Cycle Service Life in relation to the Depth of discharge

