ROVON POWER

RoveGEL

# DG12-180

# 12V 180Ah

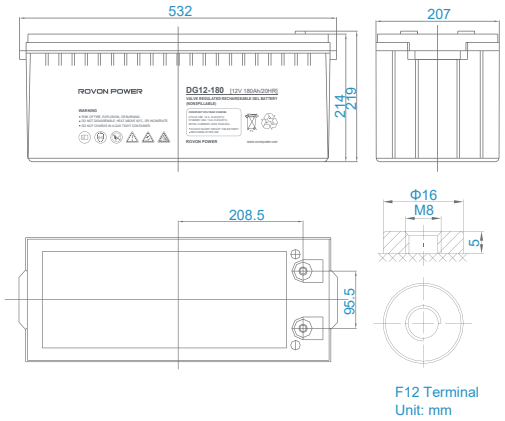
## Deep Cycle Gel Valve Regulated Lead Acid Battery

RoveGEL (Deep Cycle GEL) series is pure GEL battery with 15 years floating design life, it is ideal for standby or frequent cyclic discharge applications under extreme environments. By using strong grids, high purity lead and patented Gel electrolyte, the RoveGEL series offers excellent recovery capability after deep discharge under frequent cyclic discharge use, and can deliver 450 cycles at 100% DOD.




| Specification | |
|---|---|
| Cells Per Unit | 6 |
| Voltage Per Unit | 12 |
| Capacity | 180Ah@20hr-rate to 1.75V per cell @25°C |
| Weight | Approx. 53.0kg (Tolerance ±3.0%) |
| Internal Resistance | Approx. 5.5 mΩ |
| Terminal | F16(M8) / F12(M8) |
| Max. Discharge Current | 1800A (5 sec) |
| Design Life | 15 years (floating charge) |
| Maximum Charging Current | 36.0 A |
| Reference Capacity | C3 123.0Ah<br>C5 136.5Ah<br>C10 156.0Ah<br>C20 180.0Ah |
| Float Charging Voltage | 13.6V~13.8V @25°C Temperature Compensation: -3mV/°C/Cell |
| Cycle Use Voltage | 14.2V~14.4V @25°C Temperature Compensation: -4mV/°C/Cell |
| Operating Temperature Range | Discharge: -40°C~60°C<br>Charge: -20°C~50°C<br>Storage: -40°C~60°C |
| Normal Operating Temperature Range | 25°C ± 5°C |
| Self Discharge | ROVON Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using. |
| Container Material | A.B.S. UL94-HB, UL94-V0 Optional |

## Dimensions




Length
532±2mm (20.9 inches)

Width
207±2mm (8.15 inches)

Height
214±2mm (8.43 inches)

Total Height
219±2mm (8.62 inches)

Terminal M5 Value
6-7 N*m

Terminal M6 Value
8-10 N*m

Terminal M8 Value
10-12 N*m

## Constant Current Discharge Characteristics: A (25°C)

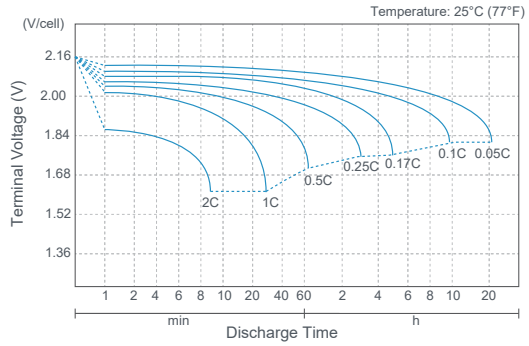
| F.V/Time | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 306.8 | 246.3 | 165.0 | 100.6 | 60.2 | 41.6 | 34.1 | 27.9 | 19.2 | 16.3 | 9.90 |
| 1.65V | 291.9 | 241.2 | 163.6 | 100.2 | 59.8 | 41.5 | 33.9 | 27.8 | 19.1 | 16.1 | 9.54 |
| 1.70V | 281.6 | 237.4 | 162.6 | 99.2 | 59.3 | 41.1 | 33.8 | 27.6 | 18.9 | 15.9 | 9.27 |
| 1.75V | 263.0 | 228.7 | 160.1 | 98.3 | 58.8 | 41.0 | 33.5 | 27.3 | 18.8 | 15.8 | 9.00 |
| 1.80V | 242.6 | 213.3 | 154.5 | 96.0 | 57.8 | 39.9 | 32.7 | 26.8 | 18.4 | 15.6 | 8.46 |
| 1.85V | 219.3 | 193.5 | 146.1 | 91.2 | 55.2 | 38.1 | 31.1 | 25.6 | 17.7 | 15.2 | 8.10 |

## Constant Power Discharge Characteristics: W/cell (25°C)

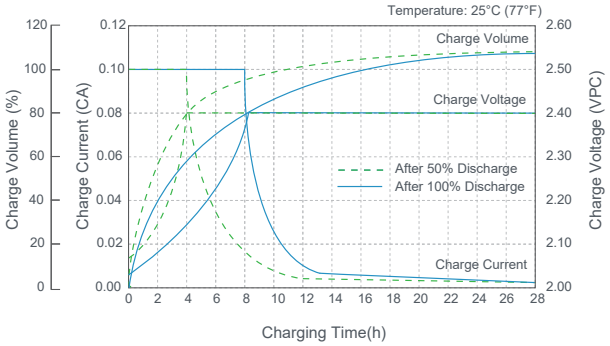
| F.V/Time | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 545 | 452 | 314 | 194 | 118 | 82.6 | 67.8 | 55.5 | 38.3 | 32.4 | 17.5 |
| 1.65V | 528 | 444 | 310 | 193 | 118 | 82.6 | 67.7 | 55.4 | 38.1 | 32.2 | 17.2 |
| 1.70V | 514 | 439 | 311 | 192 | 117 | 82.2 | 67.5 | 55.2 | 37.8 | 31.9 | 16.9 |
| 1.75V | 484 | 424 | 307 | 190 | 116 | 81.9 | 66.9 | 54.5 | 37.5 | 31.6 | 16.6 |
| 1.80V | 452 | 396 | 297 | 187 | 115 | 79.7 | 65.4 | 53.5 | 36.9 | 31.3 | 16.2 |
| 1.85V | 413 | 361 | 281 | 179 | 110 | 76.2 | 62.2 | 51.2 | 35.3 | 30.3 | 15.3 |

# DG12-180 12V 180Ah

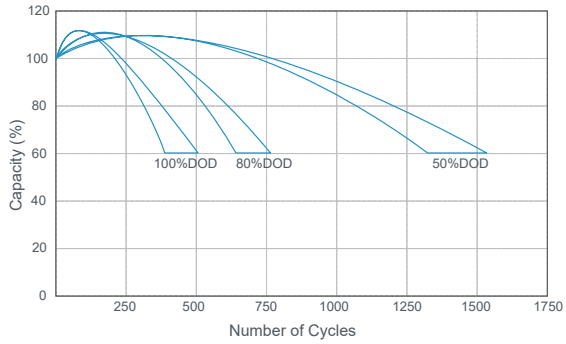
## Discharge Characteristics Curve



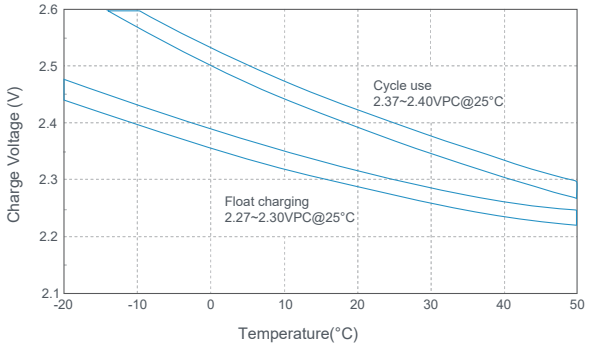

## Charge Characteristic Curve for Cycle Use (IU)



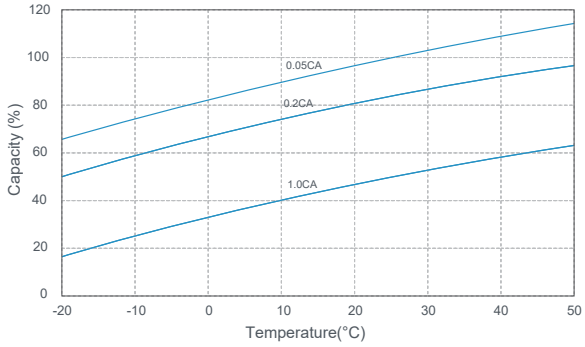

## Cycle Life in Relation to Depth of Discharge



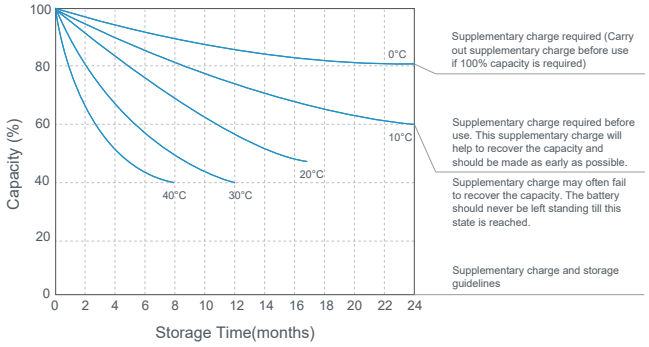

## Relationship Between Charging Voltage and Temperature



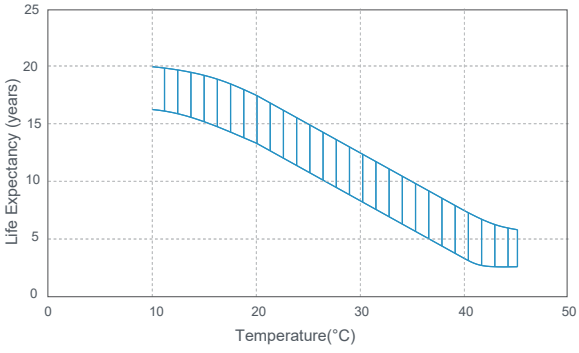

## Temperature Effects on Capacity



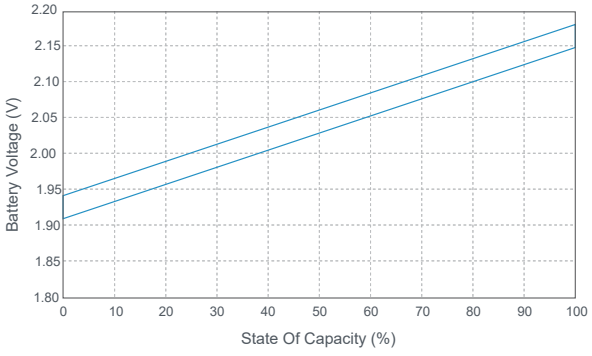

## Storage Characteristics




## Effect of Temperature on Long Term Life




## Relationship of OCV And State of Charge (20°C)




Specifications are subject to change without prior notice. ROVON reserves the right to interpret and update this information.