



AGM TECHNOLOGY  
ABT Thunder TM...W Series



## TM12-350W

12V 75Ah(20hr)

### High Rate Discharge

The ABT Thunder TM...W VRLA batteries are according to Eurobat Classification and specially designed for applications which need high power backup.

Thunder TM...W is the premium plus VRLA battery for UPS and diesel start application

### Mechanical Characteristics

|                | SI Units | English Units |
|----------------|----------|---------------|
| Length         | 261mm    | 10.28inch     |
| Width          | 173mm    | 6.81inch      |
| Height         | 220mm    | 8.67inch      |
| Total Height   | 224mm    | 8.82inch      |
| Approx. Weight | 26.93kg  | 59.38lb       |

Type of material for Box and lids :  
ABS Standard (FV0 Optional)

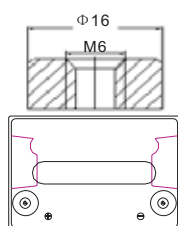
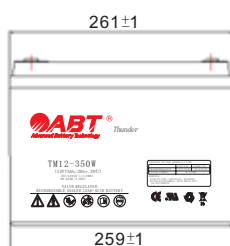
### Product Characteristics

- Positive and negative grids in lead-calcium tin alloy
- Superior energy density
- More than 40% power output than ABT standard SGP series
- Operates at a low internal pressure
- Usable in any orientation
- A recognized component of UL
- Range of 6V and 12V monobloc from 160W to 1000W per cell for 10' @ 1.60Vpc
- 6 months shelf life at 20°C
- 10 years design life

### Performance Characteristics

|                             |  |
|-----------------------------|--|
| Nominal Voltage             | 12V  |
| Number of cell              | 6  |
| Nominal Capacity 68°F(20°C) | 10 min wattage @1.60V350W per cell<br>1 hour rate (50.30A, 1.60V per cell)50.30 Ah<br>10 hour rate (7.05A, 1.75V per cell) 70.50Ah<br>20 hour rate (3.75A, 1.75V per cell) 75Ah  |
| Internal Resistance         | Fully Charged battery 68°F(20°C) 4.35 mOhms  |
| Mass Energy(Wh/kg)          | 33.42  |
| Volumic energy(Wh/L)        | 90.19  |
| Self-Discharge              | 3% of capacity declined per month at 20°C(average)   |
| Operating Temperature Range | Discharge -20~60°C<br>Charge -10~60°C<br>Storage -20~60°C  |
| Max. Discharge Current      | 800A(5s)   |
| Short circuit current       | 2758A  |
| Charge Methods:             | Constant Voltage Charge 68°F(20°C)<br>Cycle use 14.4-15.0V/ unit<br>Temperature compensation -30mV/°C/ unit<br>Standby use 13.5-13.8V/ unit<br>Temperature compensation -20mV/°C/ unit<br>Maximum charging current 22.5A of rated capacity |
| Terminal Type               | Inserted Thread and Bolt M6×Φ16  |
| Torque strength in Nm       | 8~10   |
| Handle Type                 | Incorporated   |
| Flame arrestor              | Yes  |

### Dimensions/ Terminal



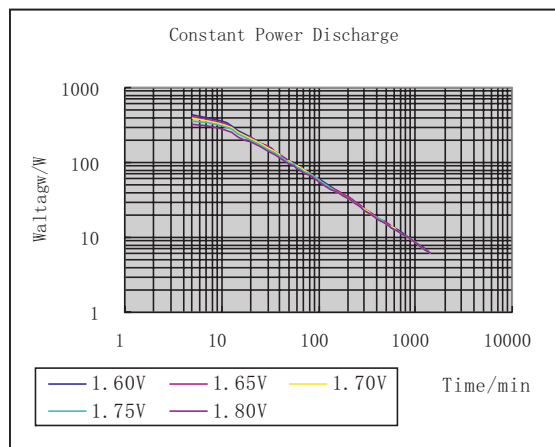
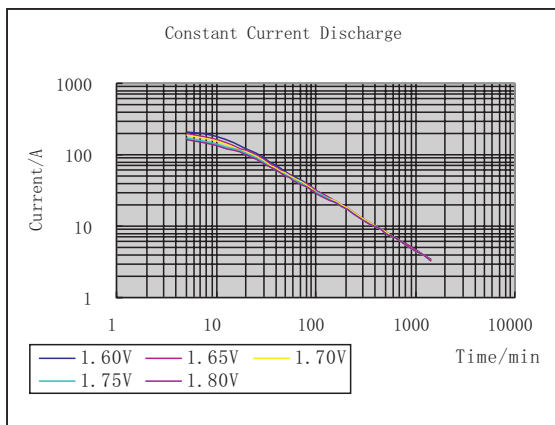
### Constant Current Discharge Data ( Amperes at 20°C )

| End Volt. Per Cell | 5min  | 10min | 15min | 20min | 25min | 30min | 35min | 40min | 45min | 50min | 1h   | 1.5h  | 2h    | 2.5h  | 3h    | 4h    | 5h    | 6h    | 7h    | 8h   | 9h   | 10h  | 12h  | 24h  |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 1.60V              | 258.9 | 183.7 | 145.8 | 120.8 | 103.4 | 89.7  | 79.0  | 70.6  | 63.9  | 57.8  | 50.3 | 36.35 | 28.8  | 24.1  | 20.03 | 16.4  | 13.5  | 11.89 | 10.61 | 9.48 | 8.50 | 7.47 | 6.73 | 3.72 |
| 1.65V              | 242.8 | 173.2 | 139.6 | 115.7 | 99.7  | 86.5  | 76.3  | 68.4  | 62.3  | 56.5  | 49.1 | 35.79 | 28.42 | 23.77 | 19.69 | 16.08 | 13.24 | 11.65 | 10.42 | 9.34 | 8.38 | 7.34 | 6.63 | 3.66 |
| 1.70V              | 226.5 | 164.1 | 133.3 | 111.2 | 96.1  | 83.1  | 73.8  | 66.4  | 60.7  | 55.1  | 47.8 | 35.01 | 27.89 | 23.34 | 19.36 | 15.77 | 12.93 | 11.43 | 10.26 | 9.20 | 8.25 | 7.20 | 6.55 | 3.64 |
| 1.75V              | 209.0 | 154.1 | 127.1 | 106.8 | 92.4  | 80.3  | 71.0  | 64.5  | 58.7  | 53.4  | 46.5 | 34.16 | 27.3  | 22.94 | 19.03 | 15.44 | 12.62 | 11.25 | 10.12 | 9.06 | 8.15 | 7.05 | 6.46 | 3.58 |
| 1.80V              | 196.8 | 145.7 | 121.5 | 102.6 | 88.7  | 77.3  | 69.0  | 62.3  | 57.0  | 51.9  | 45.6 | 33.14 | 26.66 | 22.59 | 18.72 | 15.08 | 12.4  | 11.05 | 9.92  | 8.90 | 7.99 | 6.94 | 6.40 | 3.54 |

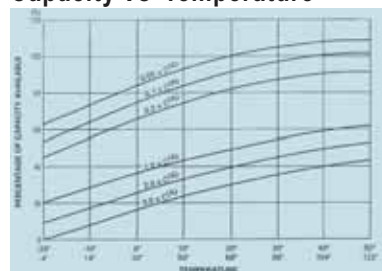
### Constant Power Discharge Data ( Watts per cell at 20°C )

| End Volt. Per Cell | 5min  | 10min | 15min | 20min | 25min | 30min | 35min | 40min | 45min | 50min | 1h   | 1.5h  | 2h    | 2.5h  | 3h    | 4h    | 5h    | 6h    | 7h    | 8h    | 9h    | 10h   | 12h   | 24h  |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 1.60V              | 437.1 | 345.8 | 266.4 | 221.0 | 185.5 | 163.1 | 145.4 | 131.0 | 117.6 | 106.4 | 91.5 | 65.71 | 51.94 | 43.19 | 36.81 | 29.03 | 24.04 | 20.59 | 18.06 | 16.11 | 14.64 | 13.29 | 11.43 | 6.38 |
| 1.65V              | 420.7 | 329.5 | 257.0 | 214.3 | 181.3 | 159.3 | 141.4 | 127.8 | 115.0 | 104.0 | 89.5 | 64.68 | 51.18 | 42.73 | 36.37 | 28.83 | 23.88 | 20.46 | 17.94 | 16.01 | 14.53 | 13.18 | 11.35 | 6.30 |
| 1.70V              | 398.2 | 312.9 | 246.2 | 207.1 | 176.8 | 155.9 | 138.2 | 124.4 | 112.1 | 102.0 | 87.5 | 63.61 | 50.48 | 42.27 | 35.92 | 28.58 | 23.70 | 20.31 | 17.82 | 15.91 | 14.39 | 13.08 | 11.24 | 6.23 |
| 1.75V              | 377.2 | 293.9 | 234.4 | 199.7 | 171.6 | 151.2 | 134.6 | 121.2 | 109.4 | 99.8  | 85.5 | 62.44 | 49.70 | 41.71 | 35.42 | 28.31 | 23.50 | 20.17 | 17.71 | 15.81 | 14.30 | 13.00 | 11.13 | 6.15 |
| 1.80V              | 352.8 | 280.6 | 224.2 | 192.3 | 165.9 | 146.6 | 131.4 | 118.0 | 106.6 | 97.2  | 83.5 | 61.29 | 48.92 | 41.24 | 34.98 | 27.98 | 23.31 | 20.05 | 17.63 | 15.70 | 14.17 | 12.92 | 11.07 | 6.09 |

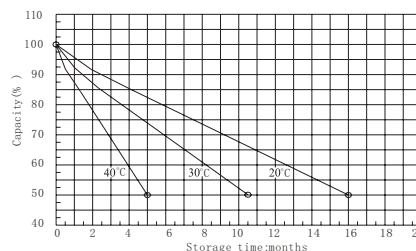
### Performance drawing



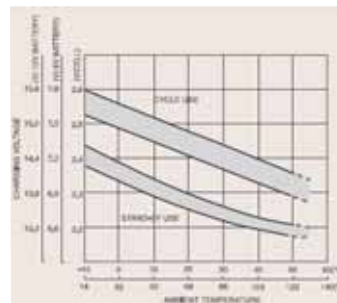
### Capacity Vs Temperature



### Capacity Retention Characteristic



### Charge voltage Vs Temperature



### Contact information

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ABT VRLA Battery: Available Power Range From 7Ah to 3000Ah

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