

TM12-470W

12V 95Ah(20hr)

High Rate Discharge

The ABT Thunder TM...W VRLA are batteries 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 | 329mm | 12.95inch |
| Width | 172mm | 6.77inch |
| Height | 215.5mm | 8.48inch |
| Total Height | 223mm | 8.78inch |
| Approx. Weight | 33.50kg | 73.87lbs |

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

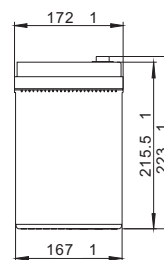
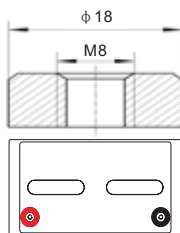
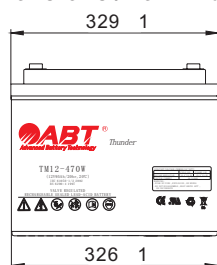
Product Characteristics

- 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 @1.60V470W per cell 1 hour rate (63.63A, 1.60V per cell)63.63 Ah 10 hour rate(8.90A, 1.75V per cell)89.0Ah 20 hour rate (4.75A, 1.75V per cell) 95.00Ah |
| Internal Resistance | Fully Charged battery 68°F(20°C) 3.4 mOhms |
| Mass Energy(Wh/kg) | 34.03 |
| Volumic energy(Wh/L) | 93.27 |
| Self-Discharge | 3% of capacity declined per month at 20°C(average) |
| Operating Temperature Range | Discharge -20~60°C Charge -10~60°C Storage -20~60°C |
| Max. Discharge Current | 900A(5s) |
| Short circuit current | 3520A |
| Charge Methods: | Constant Voltage Charge 68°F(20°C) Cycle use 14.4-15.0V/ unit Temperature compensation -30mV/°C/ unit Standby use 13.5-13.8V/ unit Temperature compensation -20mV/°C/ unit Maximum charging current 28.5 A of rated capacity |
| Terminal Type | Inserted Thread and bolt M8x φ 18 |
| Torque strength in Nm | 12~16 |
| Handle Type | Incorporated |
| Flame arrestor | Yes |

Dimensions / Terminal



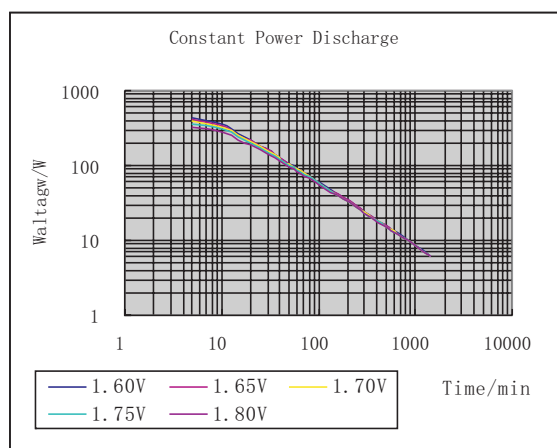
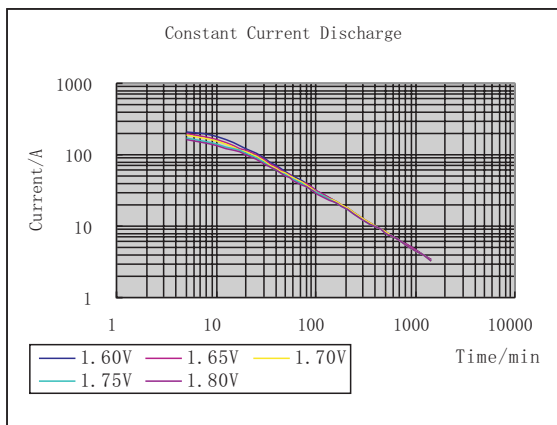
Constant Current Discharge Data (Amperes at 20°C)

| 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 | 312.1 | 241.6 | 184.6 | 152.8 | 130.6 | 113.2 | 99.6 | 89.2 | 80.9 | 74.1 | 63.63 | 45.69 | 36.56 | 30.26 | 25.38 | 20.54 | 16.95 | 14.44 | 12.54 | 11.15 | 10.03 | 9.08 | 7.92 | 4.26 |
| 1.65V | 290.4 | 225.3 | 174.1 | 146.3 | 125.1 | 108.5 | 95.9 | 86.2 | 78.4 | 72.0 | 62.13 | 44.65 | 35.74 | 29.73 | 24.98 | 20.26 | 16.64 | 14.19 | 12.43 | 11.07 | 9.96 | 9.02 | 7.87 | 4.23 |
| 1.70V | 266.0 | 211.7 | 164.5 | 138.2 | 119.5 | 102.9 | 91.4 | 82.4 | 75.2 | 69.2 | 59.99 | 43.47 | 35.01 | 29.20 | 24.62 | 19.92 | 16.33 | 13.97 | 12.32 | 10.98 | 9.89 | 8.96 | 7.81 | 4.18 |
| 1.75V | 242.7 | 192.7 | 157.5 | 133.0 | 114.0 | 99.0 | 87.6 | 78.8 | 71.8 | 66.0 | 57.66 | 42.06 | 34.28 | 28.66 | 24.20 | 19.64 | 16.07 | 13.75 | 12.19 | 10.91 | 9.82 | 8.90 | 7.74 | 4.15 |
| 1.80V | 225.3 | 179.1 | 148.8 | 126.7 | 108.2 | 95.0 | 84.5 | 76.3 | 69.7 | 64.3 | 55.87 | 40.74 | 33.58 | 28.13 | 23.86 | 19.28 | 15.82 | 13.59 | 12.07 | 10.82 | 9.74 | 8.84 | 7.69 | 4.10 |

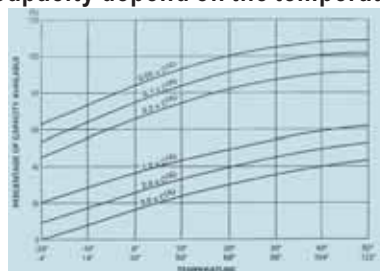
Constant Power Discharge Data (Watts per cell at 20°C)

| 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 | 591.2 | 470.0 | 362.6 | 292.4 | 246.1 | 213.2 | 190.9 | 172.3 | 156.5 | 142.4 | 122.50 | 88.98 | 69.81 | 57.87 | 48.74 | 40.00 | 32.98 | 28.25 | 24.59 | 21.97 | 19.73 | 17.87 | 15.21 | 8.42 |
| 1.65V | 562.0 | 447.5 | 349.2 | 285.7 | 239.0 | 207.5 | 186.3 | 168.5 | 153.3 | 139.7 | 120.50 | 87.30 | 68.88 | 57.24 | 48.28 | 39.47 | 32.58 | 27.95 | 24.32 | 21.79 | 19.62 | 17.71 | 15.13 | 8.34 |
| 1.70V | 531.1 | 424.4 | 338.4 | 277.6 | 233.3 | 201.4 | 180.6 | 164.2 | 150.6 | 136.6 | 118.50 | 85.87 | 68.08 | 56.63 | 47.70 | 38.98 | 32.21 | 27.60 | 24.09 | 21.62 | 19.47 | 17.61 | 15.02 | 8.24 |
| 1.75V | 497.6 | 400.2 | 323.0 | 266.8 | 225.6 | 195.7 | 175.3 | 160.0 | 147.0 | 132.9 | 115.80 | 84.28 | 67.04 | 55.88 | 47.25 | 38.45 | 31.79 | 27.34 | 23.89 | 21.43 | 19.30 | 17.45 | 14.92 | 8.20 |
| 1.80V | 466.7 | 383.7 | 311.2 | 258.8 | 217.6 | 188.7 | 169.8 | 154.6 | 142.4 | 129.0 | 113.10 | 82.40 | 66.11 | 55.25 | 46.85 | 37.98 | 31.38 | 27.08 | 23.70 | 21.21 | 19.15 | 17.31 | 14.83 | 8.16 |

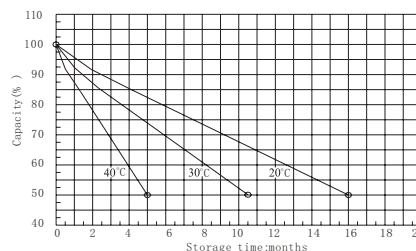
Performance drawing



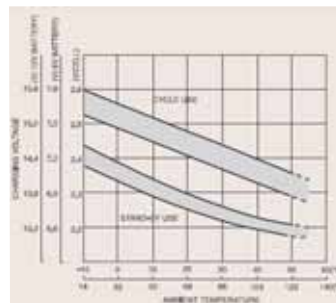
Capacity depend on the temperature



Capacity Retention Characteristic



Charge voltage depend on the temperature



Contact information

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

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 (Edition: May. 2011)