



ALPHA HOUSE powered by MONBAT®

TDS-401, Issue date: 12.2021

12HVR100C FRONT TERMINAL CARBON AGM VRLA

PRODUCT CHARACTERISTICS:

- Valve-regulated lead-acid battery
- Stationary and reserve power applications
- EUROBAT design life definition: Very Long Life 12+ years
- Extremely long float life performance
- Superior cycling endurance
- Compact design with high energy density
- ETSI Rack integration
- Low installation cost, maintenance free product
- Sealed for leak-proof operation
- Delivered ready for use
- Non-hazardous cargo for ground, sea and air transport
- Fully recyclable product



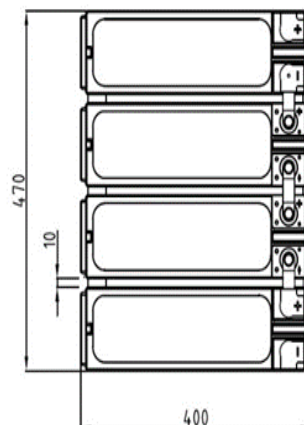
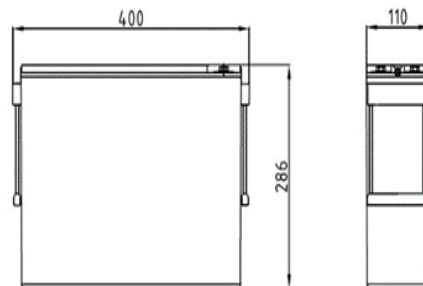
TECHNICAL SPECIFICATIONS:

| Electrical specifications: | |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Nominal voltage: | 12V |
| Number of cells: | 6 |
| Rated capacity: | 100 Ah (10 h rate to 1.80 Vpc at 20 °C) |
| Internal resistance: | 4.3 mOhm (IEC 60 896 -21/22) |
| Short circuit current: | 1 940 A (IEC 60 896 -21/22) |
| Float charge voltage: | 2.27 V per cell (Vpc) at 20 °C |
| Design features: | |
| Floating design life at 20°C: | 15 years |
| Plates: | Tick Flat Pasted |
| Active material: | Very high purity virgin lead |
| Grid alloy: | Lead-Calcium-Tin alloy |
| Electrolyte: | Sulphuric acid, Analytical grade |
| Separator: | Absorbing Glass Mat (AGM) |
| Operating temperature: | -20 °C to +60 °C +15 °C to +25 °C (recommended) |
| Venting valve: | Rubber, one way, self resealing - Opening pressure: 1.7 PSI - Resealing pressure: 1.5 PSI |
| Internal gas recombination efficiency: | more than 99% |
| Flame arrestor: | Available |
| Central degassing system | Available |
| Storage temperatures: | -20 °C to +40 °C |
| Self discharge: | Less than 2.0% per month at 20°C |
| Storability without recharging: | Up to 6 months at 20°C |
| Shelf life: | Up to 1 year |
| Container / lid material: | Shock resistant ABS FR; flammability class UL94 V0 |
| Terminal position: | Front |
| Terminal sealing: | Mechanical + epoxy double sealing |
| Terminal type: | Brass; Female; M8 thread |
| Terminal torque: | 7 Nm |
| Transport terminal cover: | Available |
| Carrying Handles: | Available (2) |
| Connectors and bolts: | Supplied as standard |
| Applicable standards and recommendations: | |
| IEC 60896 - 21/22; EN 50272 - 2; IEC 61427 - 1/2; IEC 61056 - 1; IEEE 1184; IEEE 1187; IEEE 1188 | |
| Manufacture standards: | |
| ISO 9001; ISO 14001; OHSAS 18001; AQAP 2110 | |

PHYSICAL CHARACTERISTICS:

| | SI Units | US Units |
|--------|----------|-------------|
| Length | 400 mm | 15.8 inches |
| Width | 110 mm | 4.3 inches |
| Height | 286 mm | 11.3 inches |
| Weight | 33 kg | 72.7 lbs |

DRAWINGS:





PERFORMANCE CHARACTERISTICS

DISCHARGE PERFORMANCE AT CONSTANT CURRENT DISCHARGE (AH) FOR BATTERY 12HVR100C AT 20°C

| Uf, Vpc | 15 min | 30 min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h | 120h |
|---------|--------|--------|------|------|------|------|------|------|------|-------|-------|-------|
| 1.6 | 36.0 | 52.0 | 62.8 | 73.1 | 80.3 | 85.5 | 89.6 | 92.7 | 98.9 | 103.0 | 110.2 | 124.6 |
| 1.65 | 36.0 | 51.0 | 62.5 | 72.8 | 80.0 | 85.1 | 89.2 | 92.3 | 98.4 | 102.5 | 109.6 | 124.0 |
| 1.7 | 36.0 | 51.0 | 62.2 | 72.4 | 79.6 | 84.7 | 88.7 | 91.8 | 97.9 | 102.0 | 109.1 | 123.4 |
| 1.75 | 35.0 | 51.0 | 61.6 | 71.7 | 78.8 | 83.8 | 87.9 | 90.9 | 97.0 | 101.0 | 108.0 | 122.2 |
| 1.8 | 35.0 | 50.0 | 61.0 | 71.0 | 78.0 | 83.0 | 87.0 | 90.0 | 96.0 | 100.0 | 107.0 | 121.0 |
| 1.85 | 34.0 | 49.0 | 59.5 | 69.2 | 76.0 | 81.0 | 84.8 | 87.8 | 93.6 | 97.5 | 104.3 | 118.0 |

DISCHARGE PERFORMANCE AT CONSTANT CURRENT DISCHARGE (A) FOR BATTERY 12HVR100C AT 20°C

| Uf, Vpc | 15 min | 30 min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h | 120h |
|---------|--------|--------|------|------|------|------|------|------|------|------|------|------|
| 1.6 | 144.0 | 103.0 | 62.8 | 36.6 | 26.8 | 21.4 | 17.9 | 15.5 | 12.4 | 10.3 | 5.51 | 1.04 |
| 1.65 | 144.0 | 103.0 | 62.5 | 36.4 | 26.7 | 21.3 | 17.8 | 15.4 | 12.3 | 10.3 | 5.48 | 1.03 |
| 1.7 | 143.0 | 102.0 | 62.2 | 36.2 | 26.5 | 21.2 | 17.7 | 15.3 | 12.2 | 10.2 | 5.46 | 1.03 |
| 1.75 | 142.0 | 101.0 | 61.6 | 35.9 | 26.3 | 21.0 | 17.6 | 15.2 | 12.1 | 10.1 | 5.40 | 1.02 |
| 1.8 | 140.0 | 100.0 | 61.0 | 35.5 | 26.0 | 20.8 | 17.4 | 15.0 | 12.0 | 10.0 | 5.35 | 1.01 |
| 1.85 | 136.0 | 98.0 | 59.5 | 34.6 | 25.3 | 20.3 | 17.0 | 14.6 | 11.7 | 9.8 | 5.22 | 0.98 |

DISCHARGE PERFORMANCE AT CONSTANT POWER DISCHARGE W (PER CELL) FOR BATTERY 12HVR100C AT 20°C

| Uf, Vpc | 15 min | 30 min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h | 120h |
|---------|--------|--------|-------|------|------|------|------|------|------|------|-------|------|
| 1.6 | 288.0 | 206.0 | 125.6 | 73.1 | 53.5 | 42.8 | 35.8 | 30.9 | 24.7 | 20.6 | 11.02 | 2.16 |
| 1.65 | 287.0 | 205.0 | 125.0 | 72.8 | 53.3 | 42.6 | 35.7 | 30.8 | 24.6 | 20.5 | 10.96 | 2.14 |
| 1.7 | 286.0 | 204.0 | 124.4 | 72.4 | 52.8 | 42.4 | 35.5 | 30.6 | 24.5 | 20.4 | 10.91 | 2.14 |
| 1.75 | 283.0 | 202.0 | 123.2 | 71.7 | 52.3 | 41.9 | 35.2 | 30.3 | 24.1 | 20.2 | 10.80 | 2.12 |
| 1.8 | 280.0 | 200.0 | 122.0 | 71.0 | 52.0 | 41.5 | 34.8 | 30.0 | 24.0 | 20.0 | 10.70 | 2.10 |
| 1.85 | 273.0 | 195.0 | 119.0 | 69.2 | 50.7 | 40.5 | 33.9 | 29.3 | 23.4 | 19.5 | 10.43 | 2.04 |

TEMPERATURE CORRECTION FACTOR OF CAPACITY AT CONSTANT CURRENT DISCHARGE

| Discharge time | -10 °C | 0 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C | 40 °C | 45 °C |
|----------------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| From 5 to 59 minutes | 0.70 | 0.80 | 0.90 | 0.95 | 1.00 | 1.05 | 1.10 | 1.13 | 1.15 | 1.16 |
| From 1 to 20 hours | 0.82 | 0.88 | 0.94 | 0.97 | 1.00 | 1.03 | 1.05 | 1.07 | 1.08 | 1.10 |

BATTERY CHARGE CONDITIONS AT 20° CONSTANT VOLTAGE AND LIMITED CURRENT (IU)

| Charge current limit | Float charge voltage | Equalization charge voltage | Boost charge voltage |
|-------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| 0.1 – 0.25C10 A Recommended: 0.20C10 A | 2.27 V per cell at 20 °C; Temperature correction:-3mV / cell / °C | 2.32 V per cell at 20 °C Recommended: every 3 months for 24h during long time float operation | 2.40 V per cell at 20 °C; Temperature correction:-4mV / cell / °C |

Float application: 0.20C10 A / 2.27 V per cell at 20 °C

Cycling applications: 0.20C10 A / 2.40 V per cell at 20 °C

Recharge Ah input at least 105% from previous discharge Ah

