

## 12MVR155L FRONT TERMINAL 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



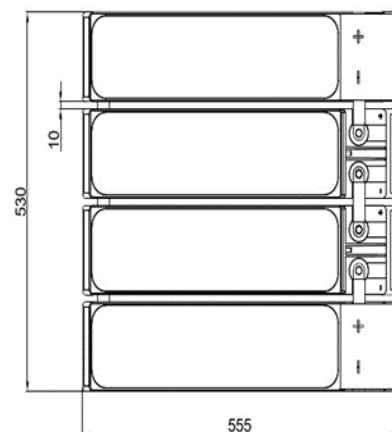
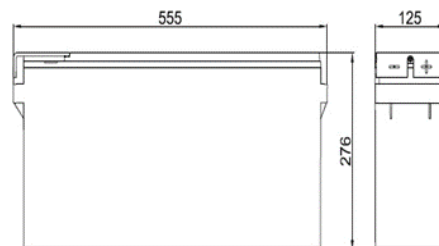
### TECHNICAL SPECIFICATIONS:

| Electrical specifications:                                                                          |                                                    |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Nominal voltage:                                                                                    | 12V                                                |
| Number of cells:                                                                                    | 6                                                  |
| Rated capacity:                                                                                     | 155 Ah (10 h rate to 1.80 Vpc at 20 °C)            |
| Internal resistance:                                                                                | 4.4 mOhm (IEC 60 896 -21/22)                       |
| Short circuit current:                                                                              | 2 850 A (IEC 60 896 -21/22)                        |
| Float charge voltage:                                                                               | 2.27 V per cell (Vpc) at 20 °C                     |
| Design features:                                                                                    |                                                    |
| Design life at 20 °C:                                                                               | Very Long Life 12+ 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<br>+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 UL94 V0 optional)          |
| 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;<br>IEEE 1184; IEEE 1187; IEEE 1188 |                                                    |
| Manufacture standards:                                                                              |                                                    |
| ISO 9001; ISO 14001; OHSAS 18001; AQAP 2110                                                         |                                                    |

### PHYSICAL CHARACTERISTICS:

|        | SI Units | US Units    |
|--------|----------|-------------|
| Length | 555 mm   | 21.8 inches |
| Width  | 125 mm   | 4.9 inches  |
| Height | 276 mm   | 10.8 inches |
| Weight | 50.8 kg  | 112 lbs     |

### DRAWINGS:



## PERFORMANCE CHARACTERISTICS

### DISCHARGE PERFORMANCE AT CONSTANT CURRENT DISCHARGE (AH) FOR BATTERY 12MVR155L AT 20 °C

| Uf, Vpc | 5 min | 15 min | 30 min | 1h   | 2h    | 3h    | 4h    | 5h    | 6h    | 8h    | 10h   | 20h   |
|---------|-------|--------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.6     | 33.0  | 56.0   | 80.0   | 97.3 | 113.3 | 124.5 | 132.5 | 138.9 | 143.7 | 153.3 | 159.7 | 170.8 |
| 1.65    | 32.0  | 56.0   | 80.0   | 96.9 | 112.8 | 124.0 | 131.9 | 138.3 | 143.1 | 152.5 | 158.9 | 169.9 |
| 1.7     | 32.0  | 55.0   | 79.0   | 96.4 | 112.2 | 123.4 | 131.3 | 137.5 | 142.3 | 151.7 | 158.1 | 169.1 |
| 1.75    | 31.0  | 55.0   | 78.0   | 95.5 | 111.1 | 122.1 | 129.9 | 136.2 | 140.9 | 150.4 | 156.6 | 167.4 |
| 1.8     | 31.0  | 54.0   | 78.0   | 94.6 | 110.1 | 120.9 | 128.7 | 134.9 | 139.5 | 148.8 | 155.0 | 165.9 |
| 1.85    | 30.0  | 53.0   | 76.0   | 92.2 | 107.3 | 117.8 | 125.6 | 131.4 | 136.1 | 145.1 | 151.1 | 161.7 |

### DISCHARGE PERFORMANCE AT CONSTANT CURRENT DISCHARGE (A) FOR BATTERY 12MVR155L AT 20 °C

| Uf, Vpc | 5 min | 15 min | 30 min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h |
|---------|-------|--------|--------|------|------|------|------|------|------|------|------|-----|
| 1.6     | 393.0 | 223.0  | 160.0  | 97.3 | 56.7 | 41.5 | 33.1 | 27.8 | 23.9 | 19.2 | 16.0 | 8.5 |
| 1.65    | 386.0 | 223.0  | 159.0  | 96.9 | 56.4 | 41.3 | 33.0 | 27.7 | 23.8 | 19.1 | 15.9 | 8.5 |
| 1.7     | 380.0 | 221.0  | 158.0  | 96.4 | 56.1 | 41.1 | 32.8 | 27.5 | 23.7 | 19.0 | 15.8 | 8.5 |
| 1.75    | 376.0 | 219.0  | 157.0  | 95.5 | 55.6 | 40.7 | 32.5 | 27.2 | 23.5 | 18.8 | 15.7 | 8.4 |
| 1.8     | 372.0 | 217.0  | 155.0  | 94.6 | 55.0 | 40.3 | 32.2 | 27.0 | 23.3 | 18.6 | 15.5 | 8.3 |
| 1.85    | 363.0 | 211.0  | 151.0  | 92.2 | 53.6 | 39.3 | 31.4 | 26.3 | 22.7 | 18.1 | 15.1 | 8.1 |

### DISCHARGE PERFORMANCE AT CONSTANT POWER DISCHARGE W (PER CELL) FOR BATTERY 12MVR155L AT 20 °C

| Uf, Vpc | 5 min | 15 min | 30 min | 1h    | 2h    | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|---------|-------|--------|--------|-------|-------|------|------|------|------|------|------|------|
| 1.6     | 785.0 | 446.0  | 319.0  | 194.7 | 113.3 | 83.0 | 66.3 | 55.6 | 47.9 | 38.3 | 31.9 | 17.1 |
| 1.65    | 763.0 | 445.0  | 318.0  | 193.8 | 112.8 | 82.7 | 66.0 | 55.3 | 47.7 | 38.1 | 31.8 | 17.0 |
| 1.7     | 757.0 | 443.0  | 316.0  | 192.8 | 112.2 | 81.8 | 65.7 | 55.0 | 47.4 | 37.9 | 31.6 | 16.9 |
| 1.75    | 751.0 | 439.0  | 313.0  | 191.0 | 111.1 | 81.0 | 64.9 | 54.5 | 47.0 | 37.4 | 31.3 | 16.7 |
| 1.8     | 744.0 | 434.0  | 310.0  | 189.1 | 110.1 | 80.6 | 64.3 | 53.9 | 46.5 | 37.2 | 31.0 | 16.6 |
| 1.85    | 725.0 | 423.0  | 303.0  | 184.5 | 107.3 | 78.5 | 62.8 | 52.6 | 45.4 | 36.3 | 30.2 | 16.2 |

### 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<br>Recommended: 0.20C10 A | 2.27 V per cell at 20 °C;<br>Temperature correction: -3mV / cell / °C | 2.32 V per cell at 20 °C<br>Recommended: every 3 months for 24h during<br>long time float operation | 2.40 V per cell at 20 °C;<br>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

