

4V 300Ah Top Access AGM VRLA Battery

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: 4V
- Number of cells: 2
- Rated capacity: 1030 watts / cell @ 15 min
324 Ah (10 h rate to 1.75 Vpc at 25 °C)
300 Ah (8 h rate to 1.75 Vpc at 25 °C)
- Internal resistance: 0.000262 mOhm (IEC 60 896 -21/22)
- Short circuit current: 5040 A (IEC 60 896 -21/22)
- Float charge voltage: 4.5 V per cell (Vpc) at 20 °C

Design features:

- Design life at 25 °C: Very Long Life 10+ 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 (maximum)
+15 °C to +25 °C (recommended)
- Venting valve: One way, self resealing
- Opening pressure: 1.7 PSI
- Resealing pressure: 1.5 PSI
- Internal gas recombination efficiency: more than 99%
- Central degassing system: N/A
- Flame arrestor: Optional
- 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; self extinguished
>32, flammability class UL94 V0, ASTM D-635
- Terminal position: Top
- Terminal sealing: Mechanical + epoxy double sealing
- Terminal type: Brass; Female; M8 thread
- Terminal torque: 8 Nm
- Terminal cover: Available
- Carrying Handles: Available (2)
- Connectors and bolts: Supplied as standard

Applicable standards:

- IEC 60896 - 21/22
- IEC 61427 - 1/2
- IEEE 1184
- EN 50272 - 2
- IEC 61056 - 1
- IEEE 1187 / 1188

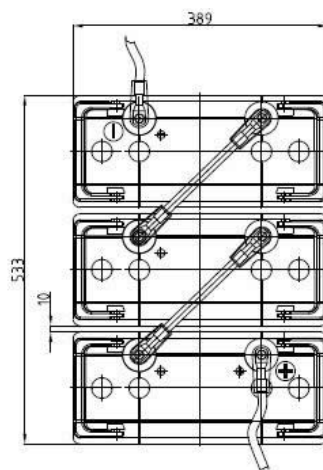
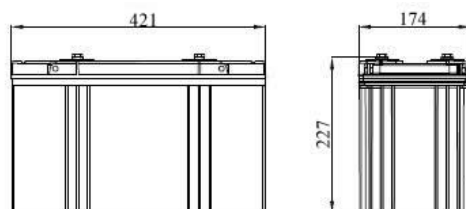
Manufacture standards:

- ISO 9001, ISO 14001, OHSAS 18001, AQAP 2110

Physical characteristics:

	SI Units	US Units
Length	421 mm	16.57 inches
Width	174 mm	6.85 inches
Height	227 mm	8.93 inches
Weight	37.0 kg	81.6 lbs

Drawings:



- *Terminals: female threaded insert type
- *Accessories: connection screw for terminals

Performance characteristics:

BATTERY DISCHARGE PERFORMANCE AT 25 °C

Battery capacity at constant current discharge (Ah) for battery 4MVR300 at 25 °C

Uf, Vpc	5 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h
1.60	63	108	155	188.4	219.3	240.9	256.5	268.8	278.1	296.7	309.0	330.6
1.65	62	108	154	187.5	218.4	240.0	255.3	267.6	276.9	295.2	307.5	328.8
1.70	61	107	153	186.6	217.2	238.8	254.1	266.1	275.4	293.7	306.0	327.3
1.75	61	106	152	184.8	215.1	236.4	251.4	263.7	272.7	291.0	303.0	324.0
1.80	60	105	150	183.0	213.0	234.0	249.0	261.0	270.0	288.0	300.0	321.0
1.85	59	102	146	178.5	207.6	228.0	243.0	254.4	263.4	280.8	292.5	312.9

Discharge performance at constant current discharge (A) for battery 4MVR300 at 25 °C

Uf, Vpc	5 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h
1.60	760	432	309	188.4	109.7	80.3	64.1	53.8	46.4	37.1	30.9	16.53
1.65	747	431	308	187.5	109.2	80.0	63.8	53.5	46.2	36.9	30.8	16.44
1.70	735	428	306	186.6	108.6	79.6	63.5	53.2	45.9	36.7	30.6	16.37
1.75	727	425	303	184.8	107.6	78.8	62.9	52.7	45.5	36.4	30.3	16.20
1.80	720	420	300	183.0	106.5	78.0	62.3	52.2	45.0	36.0	30.0	16.05
1.85	702	409	293	178.5	103.8	76.0	60.8	50.9	43.9	35.1	29.3	15.65

Discharge performance at constant power discharge (W per cell) for battery 4MVR300 at 20 °C

Uf, Vpc	5 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h
1.60	1519	864	618	376.8	219.3	160.6	128.3	107.5	92.7	74.2	61.8	33.06
1.65	1476	862	616	375.0	218.4	160.0	127.7	107.0	92.3	73.8	61.5	32.88
1.70	1465	857	612	373.2	217.2	158.4	127.1	106.4	91.8	73.4	61.2	32.73
1.75	1454	850	606	369.6	215.1	156.8	125.7	105.5	90.9	72.4	60.6	32.40
1.80	1440	840	600	366.0	213.0	156.0	124.5	104.4	90.0	72.0	60.0	32.10
1.85	1404	818	586	357.0	207.6	152.0	121.5	101.8	87.8	70.2	58.50	31.29

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	1.05	1.10	1.13	1.15	1.16
From 1 to 20 hours	0.82	0.88	0.94	0.97	1	1.03	1.05	1.08	1.09	1.10

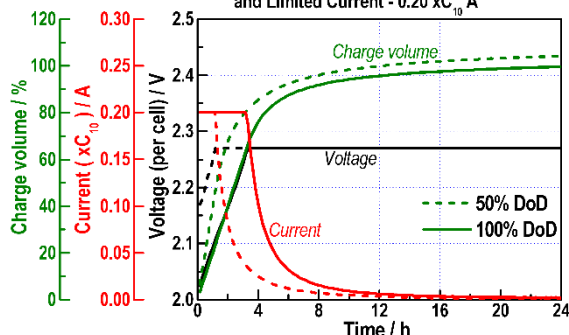
BATTERY CHARGE CONDITIONS AT 25 °C

Charge regime: constant voltage and limited current (IU)

Charge current limit	Float charge voltage	Equalization charge voltage	Boost charge voltage
0.1 – 0.25C ₁₀ A Recommended: 0.20C ₁₀ A	4.5 V per cell at 20 °C; Temperature correction: -3 mV / 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: -4 mV / cell / °C
Float application: 0.20C ₁₀ A / 4.5 V per cell at 20 °C		Cycling applications: 0.20C ₁₀ A / 2.40 V per cell at 20 °C; Recharge Ah input at least 105% from previous discharge Ah	

Charge characteristics

Charge with Constant Voltage - 2.27 V (per cell) at 20 °C
and Limited Current - 0.20 x C₁₀ A



Charge characteristics

Charge with Constant Voltage - 2.40 V (per cell) at 20 °C
and Limited Current - 0.20 x C₁₀ A

