



## 12UPM3500 TOP TERMINAL AGM VRLA

### PRODUCT CHARACTERISTICS:

- Valve-regulated lead-acid battery
- UPS and reserve power applications
- EUROBAT design life definition: Long Life 10 - 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:

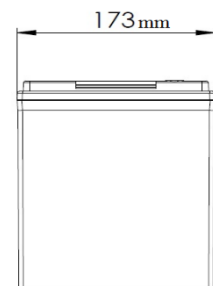
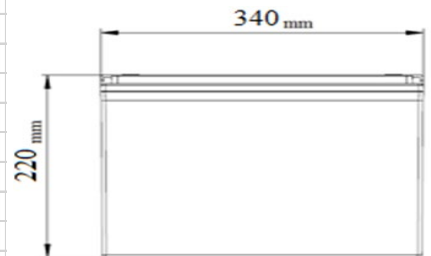
### PHYSICAL CHARACTERISTICS:

Electrical specifications:	
Nominal voltage:	12V
Number of cells:	6
Rated capacity:	100 Ah (10 h rate to 1.80 Vpc at 25 °C)
Internal resistance:	5 mOhm (IEC 60 896 -21/22)
Short circuit current:	2 550 A (IEC 60 896 -21/22)
Float charge voltage:	2.27 V per cell (Vpc) at 25 °C

	SI Units	US Units
Length	340 mm	13.4 inches
Width	173 mm	6.8 inches
Height	220 mm	8.7 inches
Weight	35.5 kg	78 lbs

Design features:	
Design life at 20 °C:	Long Life 10 - 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:	-10 °C to +50 °C
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
Storage temperatures:	-10 °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:	Top
Terminal sealing:	Mechanical + epoxy double sealing
Terminal type:	Brass; Female; M6 thread
Terminal torque:	6 Nm
Transport terminal cover:	Available
Carrying Handles:	Available
Connectors and bolts:	Supplied as standard

### DRAWINGS:



Applicable standards and recommendations:	
IEC 60896 - 21/22; EN 50272 - 2; IEC 61427 - 1/2; IEC 61056 - 1; BS 6290 - 4	
IEEE 1184; IEEE 1187; IEEE 1188	

Manufacture standards:	
ISO 9001; ISO 14001; OHSAS 18001; AQAP 2110	



## PERFORMANCE CHARACTERISTICS

### DISCHARGE PERFORMANCE AT CONSTANT CURRENT DISCHARGE (A) FOR BATTERY 12UPM3500 AT 25°C

Uf, Vpc	5 min	10 min	15 min	30 min	45 min	1 h	2h	3 h	4 h	5 h	6 h	8 h	10 h
1.6	381.0	278.0	208.0	127.0	83.0	71.2	39.1	28.2	22.1	18.4	15.8	12.0	10.3
1.65	351.0	267.0	206.0	125.0	82.0	69.7	38.7	27.9	21.9	18.2	15.6	12.0	10.3
1.7	326.0	251.0	202.0	119.0	80.0	69.1	38.4	27.7	21.8	18.1	15.5	12.0	10.2
1.75	307.0	237.0	191.0	118.0	80.0	68.9	37.9	27.4	21.5	18.0	15.4	11.8	10.1
1.8	284.0	220.0	175.0	114.0	78.0	65.6	37.3	27.3	21.3	17.8	15.3	11.8	10.0
1.85	251.0	201.0	157.0	108.0	73.0	62.9	35.5	24.7	20.2	17.1	14.9	11.5	9.8

### DISCHARGE PERFORMANCE AT CONSTANT POWER DISCHARGE W (PER CELL) FOR BATTERY 12UPM3500 AT 25°C

Uf, Vpc	5 min	10 min	15 min	30 min	45 min	1 h	2h	3 h	4 h	5 h	6 h	8 h	10 h
1.6	672.0	502.0	386.0	239.0	160.0	138.2	76.1	55.1	43.4	36.2	31.1	23.8	19.9
1.65	626.0	489.0	383.0	236.0	158.0	135.3	75.5	54.7	43.2	36.0	31.0	23.8	19.9
1.7	588.0	464.0	376.0	226.0	155.0	134.3	75.1	54.5	43.0	35.8	30.8	23.8	19.9
1.75	561.0	441.0	359.0	224.0	154.0	134.1	74.4	54.1	42.6	35.6	30.6	23.6	19.7
1.8	525.0	410.0	331.0	219.0	152.0	128.1	73.4	53.9	42.2	35.4	30.4	23.6	19.5
1.85	468.0	377.0	300.0	208.0	142.0	123.0	69.9	48.9	40.1	34.1	29.6	23.0	18.9

### DISCHARGE PERFORMANCE AT CONSTANT POWER DISCHARGE W (PER BLOCK) FOR BATTERY 12UPM3500 AT 25°C

Uf, Vpc	5 min	10 min	15 min	30 min	45 min	1 h	2h	3 h	4 h	5 h	6 h	8 h	10 h
1.6	4037.0	3017.0	2320.0	1439.0	959.0	830.7	457.5	331.1	260.9	217.6	187.2	142.7	119.3
1.65	3763.0	2937.0	2301.0	1420.0	951.0	813.2	454.0	328.8	259.7	216.5	186.0	142.7	119.3
1.7	3532.0	2789.0	2257.0	1360.0	930.0	807.3	451.6	327.6	258.6	215.3	184.9	142.7	119.3
1.75	3371.0	2648.0	2158.0	1347.0	925.0	806.1	446.9	325.3	256.2	214.1	183.7	141.6	118.2
1.8	3153.0	2463.0	1990.0	1317.0	915.0	769.9	441.1	324.1	253.9	212.9	182.5	141.6	117.0
1.85	2811.0	2266.0	1803.0	1250.0	855.0	739.4	420.0	293.7	241.0	204.8	177.8	138.1	113.5

### 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	50 °C
From 5 to 59 minutes	0.70	0.80	0.90	0.95	0.97	1.00	1.05	1.10	1.13	1.15
From 1 to 20 hours	0.82	0.88	0.94	0.97	0.98	1.00	1.03	1.05	1.07	1.08

### BATTERY CHARGE CONDITIONS AT 25° 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 25 °C; Temperature correction: -3 mV / cell / oC	2.32 V per cell at 25 °C Recommended: every 3 months for 24h during long time float operation	2.40 V per cell at 25°C Temperature correction: -4 mV / cell / oC

Float application: 0.20C10 A / 2.27 V per cell at 25 °C

Cycling applications: 0.20C10 A / 2.40 V per cell at 25 °C; Recharge Ah input at least 105% from previous discharge Ah

