

## 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:

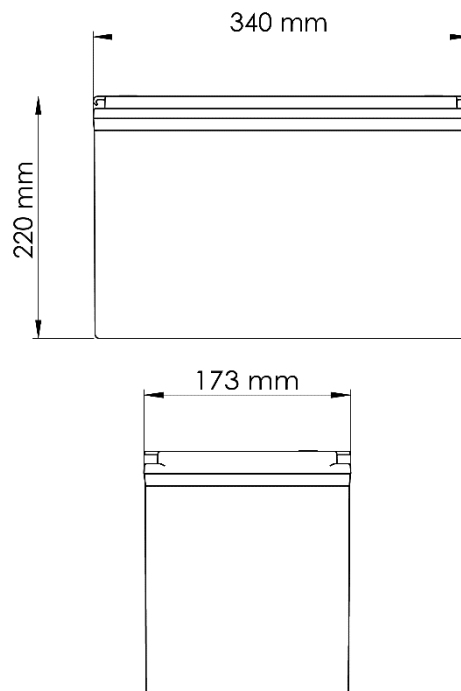
### PHYSICAL CHARACTERISTICS:

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	36.0 kg	79.3 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 +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
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	384.7	276.1	220.8	120.9	79.8	69.1	38.1	27.5	21.7	18.1	15.6	12.1	10.4
1.65	358.6	268.7	218.8	119.3	79.1	67.6	37.8	27.4	21.6	18.0	15.5	12.0	10.3
1.7	336.6	255.3	216.6	114.3	77.4	67.2	37.6	27.3	21.5	17.9	15.4	11.9	10.2
1.75	321.3	242.3	207.1	113.2	77.0	67.1	37.2	27.1	21.3	17.8	15.3	11.8	10.1
1.8	300.5	225.4	191.0	110.7	76.1	64.0	36.7	27.0	21.1	17.7	15.2	11.7	10.0
1.85	267.9	207.4	173.0	105.0	71.2	61.5	34.9	24.4	20.1	17.0	14.8	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	769.4	552.3	441.6	241.8	159.6	138.2	76.1	55.1	43.4	36.2	31.1	24.1	20.6
1.65	717.2	537.5	437.6	238.7	158.3	135.3	75.5	54.7	43.2	36.0	31.0	23.9	20.5
1.7	673.2	510.5	433.2	228.5	154.8	134.3	75.1	54.5	43.0	35.8	30.8	23.8	20.4
1.75	642.6	484.6	414.1	226.4	154.0	134.1	74.4	54.1	42.6	35.6	30.6	23.6	20.2
1.8	600.9	450.8	381.9	221.3	152.2	128.1	73.4	53.9	42.2	35.4	30.4	23.5	20.0
1.85	535.8	414.8	346.1	210.1	142.3	123.0	69.9	48.9	40.1	34.1	29.6	23.0	19.5

### 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	4624.2	3319.2	2653.9	1453.1	959.4	830.7	457.5	331.1	260.9	217.6	187.2	145.1	121.7
1.65	4310.1	3230.4	2629.7	1434.4	951.2	813.2	454.0	328.8	259.7	216.5	186.0	143.9	120.5
1.7	4046.2	3068.2	2603.4	1373.6	930.2	807.3	451.6	327.6	258.6	215.3	184.9	142.7	119.3
1.75	3862.1	2912.5	2488.9	1360.7	925.5	806.1	446.9	325.3	256.2	214.1	183.7	141.6	118.2
1.8	3611.6	2709.1	2295.4	1330.3	914.9	769.9	441.1	324.1	253.9	212.9	182.5	140.7	117.0
1.85	3220.4	2492.9	2080.0	1262.4	855.3	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

