



## 12UPM2500 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



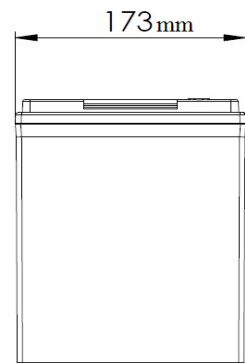
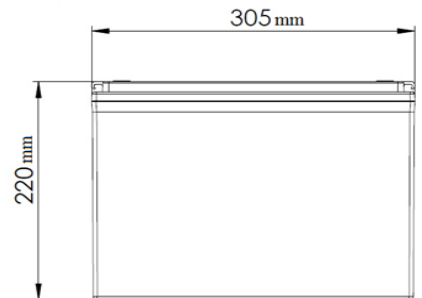
### TECHNICAL SPECIFICATIONS:

### PHYSICAL CHARACTERISTICS:

Electrical specifications:	
Nominal voltage:	12V
Number of cells:	6
Rated capacity:	90 Ah (10 h rate to 1.80 Vpc at 25 °C)
Internal resistance:	5.1 mOhm (IEC 60 896 -21/22)
Short circuit current:	2 480 A (IEC 60 896 -21/22)
Float charge voltage:	2.27 V per cell (Vpc) at 25 °C
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:	7 Nm
Transport terminal cover:	Available
Carrying Handles:	Available
Connectors and bolts:	Supplied as standard
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	

	SI Units	US Units
Length	305 mm	12 inches
Width	173 mm	6.8 inches
Height	220 mm	8.7 inches
Weight	32 kg	70.6 lbs

### DRAWINGS:





## PERFORMANCE CHARACTERISTICS

### DISCHARGE PERFORMANCE AT CONSTANT CURRENT DISCHARGE (A) FOR BATTERY 12UPM2500 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	362.0	260.0	190.0	125.0	85.0	60.7	40.0	25.5	20.0	16.6	14.2	10.8	9.4
1.65	329.0	243.0	183.0	119.0	79.0	58.0	36.8	25.2	19.8	16.4	14.0	10.7	9.3
1.7	298.0	230.0	177.0	113.0	76.0	56.5	35.2	25.0	19.5	16.3	13.9	10.6	9.2
1.75	277.0	213.0	167.0	107.0	73.0	55.4	34.6	24.7	19.4	16.2	13.8	10.5	9.1
1.8	256.0	200.0	155.0	103.0	72.0	53.7	34.0	24.4	19.1	16.0	13.6	10.4	9.0
1.85	234.0	190.0	145.0	98.0	69.0	51.0	32.5	22.7	18.2	15.4	13.4	10.3	8.7

### DISCHARGE PERFORMANCE AT CONSTANT POWER DISCHARGE W (PER CELL) FOR BATTERY 12UPM2500 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	633.0	470.0	350.0	237.0	163.0	118.0	76.0	50.0	39.2	32.7	28.2	21.5	18.7
1.65	583.0	444.0	338.0	227.0	153.0	113.0	72.0	49.5	39.0	32.5	27.8	21.3	18.5
1.7	533.0	425.0	327.0	217.0	147.0	110.0	69.0	49.2	38.7	32.3	27.7	21.2	18.3
1.75	501.0	397.0	312.0	207.0	142.0	108.0	68.0	48.8	38.5	32.2	27.5	21.0	18.2
1.8	468.0	373.0	292.0	200.0	140.0	105.0	67.0	48.3	38.2	32.0	27.3	20.8	18.0
1.85	433.0	357.0	275.0	192.0	135.0	100.0	64.0	45.0	36.2	30.7	26.7	20.2	17.3

### DISCHARGE PERFORMANCE AT CONSTANT POWER DISCHARGE W (PER BLOCK) FOR BATTERY 12UPM2500 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	3800.0	2820.0	2100.0	1420.0	980.0	710.0	452.0	298.0	235.0	196.0	169.0	129.0	112.0
1.65	3500.0	2663.0	2030.0	1360.0	920.0	680.0	432.0	297.0	234.0	195.0	167.0	128.0	111.0
1.7	3200.0	2550.0	1960.0	1300.0	880.0	660.0	414.0	295.0	232.0	194.0	166.0	127.0	110.0
1.75	3004.0	2383.0	1870.0	1240.0	850.0	650.0	408.0	293.0	231.0	193.0	165.0	126.0	109.0
1.8	2809.0	2240.0	1750.0	1197.0	840.0	630.0	402.0	290.0	229.0	192.0	164.0	125.0	108.0
1.85	2600.0	2140.0	1650.0	1150.0	810.0	600.0	384.0	270.0	217.0	184.0	160.0	121.0	104.0

### 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	

