MONBAT®
BATTERIES

SOURCE OF POWER

№ TDS-202, Issue date: 02.2020

12UPM2000 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

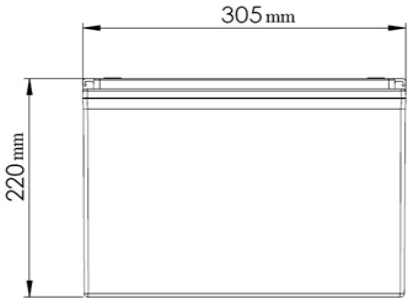
TECHNICAL SPECIFICATIONS:

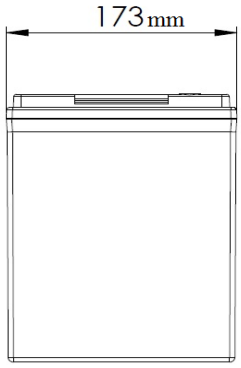
Electrical specifications:	
Nominal voltage:	12V
Number of cells:	6
Rated capacity:	75 Ah (10 h rate to 1.80 Vpc at 25 °C)
Internal resistance:	6.3 mOhm (IEC 60 896 -21/22)
Short circuit current:	1 730 A (IEC 60 896 -21/22)
Float charge voltage:	2.27 V per cell (Vpc) at 25 °C
Design features:	
Design 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	

PHYSICAL CHARACTERISTICS:

	SI Units	US Units
Length	305 mm	12 inches
Width	173 mm	6.8 inches
Height	220 mm	8.7 inches
Weight	25 kg	53.2 lbs

DRAWINGS:





PERFORMANCE CHARACTERISTICS

DISCHARGE PERFORMANCE AT CONSTANT CURRENT DISCHARGE (A) FOR BATTERY 12UPM2000 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	288	208	158	95	62	53.4	29.3	21.1	16.6	13.8	11.8	9	7.73
1.65	266	201	156	93	62	52.3	29	20.9	16.4	13.7	11.7	8.98	7.69
1.7	247	188	153	89	60	51.9	28.8	20.8	16.3	13.6	11.6	8.98	7.65
1.75	233	178	145	87	60	51.7	28.4	20.6	16.1	13.5	11.5	8.88	7.58
1.8	215	165	132	85	59	49.2	28	20.5	16	13.4	11.5	8.87	7.5
1.85	190	151	119	80	55	47.2	26.6	18.5	15.1	12.8	11.1	8.64	7.31

DISCHARGE PERFORMANCE AT CONSTANT POWER DISCHARGE W (PER CELL) FOR BATTERY 12UPM2000 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	504	377	289	180	120	103.7	57.1	41.3	32.6	27.2	23.4	17.81	14.89
1.65	470	366	287	177	119	101.5	56.7	41	32.4	27	23.2	17.81	14.89
1.7	441	348	282	170	116	100.7	56.4	40.9	32.3	26.9	23.1	17.81	14.89
1.75	421	330	269	168	115	100.6	55.8	40.6	32	26.7	22.9	17.67	14.75
1.8	393	307	248	164	114	96.1	55	40.4	31.7	26.6	22.8	17.67	14.6
1.85	351	283	225	156	107	92.3	52.4	36.6	30.1	25.6	22.2	17.23	14.16

DISCHARGE PERFORMANCE AT CONSTANT POWER DISCHARGE W (PER BLOCK) FOR BATTERY 12UPM2000 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	3028	2263	1740	1079	720	623	343.1	248.3	195.7	163.2	140.4	107.06	89.51
1.65	2822	2203	1726	1065	713	609.9	340.5	246.6	194.8	162.3	139.5	107.06	89.51
1.7	2649	2092	1693	1020	698	605.5	338.7	245.7	193.9	161.5	138.6	107.06	89.51
1.75	2529	1986	1618	1010	694	604.6	335.2	243.9	192.2	160.6	137.8	106.18	88.63
1.8	2365	1847	1492	988	686	577.4	330.8	243.1	190.4	159.7	136.9	106.18	87.75
1.85	2108	1700	1352	937	641	554.6	315	220.3	180.8	153.6	133.4	103.55	85.12

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	0.7	0.8	0.9	0.95	0.97	1	1.05	1.1	1.13	1.15
From 1 to 20 hours	0.82	0.88	0.94	0.97	0.98	1	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