

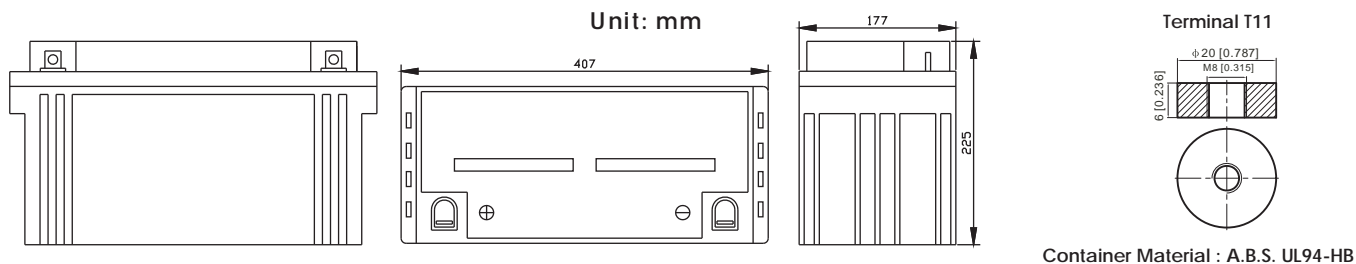
12V - 120Ah

NP 12V 120Ah is a general purpose VRLA battery with 10 years floating design life, meet with IEC 60896-21, 60896-22, JIS standard. With heavy duty grid, thickness plates, special additives, NP series have long and reliable stand by service life. The battery keeps high consistent for better performance in series usage.



Physical Characteristics		Technical Characteristics	
Nominal Voltage	12V	Internal Resistance	Fully charged battery (25C) 4,5 mΩ
Nominal Capacity (20HR)	120Ah @10hr rate to 1,80V per cell @25C	Recommended Charging Current at 20C	36 A
Dimension LxWxH	407x177x225 +/-1mm	Float charging Voltage	13,6 to 13,8 VDC/unit Average at 25C
Weight	Approx 35,0 kg	Equalization and Cycle Service	14,6 to 14,8 VDC/unit Average at 25C
Standard Terminal	T11	Max Discharge Current	1200A (5sec)

Dimensions



Container Material : A.B.S. UL94-HB

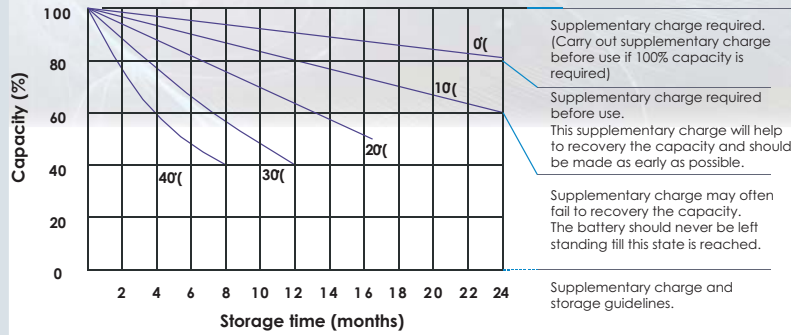
Constant Current & Power Discharge Characteristics: A (25C) / W (25C)

Final Voltage	Time	5min	10min	15min	30min	1Hr	2Hr	3Hr	4Hr	5Hr	8Hr	10Hr	20Hr
		1.60V	A	365.5	266.8	217.7	135.2	78.00	46.67	32.26	26.44	21.64	14.91
25C	W	3781	2841	2395	1541	901.3	550.1	383.9	315.1	258.2	178.0	150.6	83.11
1.65V	A	355.0	253.8	213.2	133.0	77.64	46.32	32.14	26.32	21.51	14.78	12.48	6.81
25C	W	3706	2754	2356	1522	899.2	547.2	384.0	314.7	257.5	177.1	149.7	81.67
1.7V	A	344.5	244.9	209.9	131.8	76.92	45.97	31.89	26.19	21.39	14.66	12.36	6.68
25C	W	3664	2681	2330	1512	892.2	543.9	382.3	314.1	256.6	176.0	148.3	80.16
1.75V	A	309.3	226.0	199.8	128.5	76.20	45.62	31.77	25.95	21.13	14.54	12.24	6.55
25C	W	3336	2497	2222	1476	884.2	540.0	380.9	311.1	253.6	174.5	146.9	78.65
1.8V	A	279.2	206.1	184.2	122.9	74.40	44.80	30.90	25.34	20.75	14.30	12.12	6.43
25C	W	3038	2302	2054	1415	867.9	533.1	370.5	304.0	249.0	171.6	145.4	77.13
1.85V	A	238.4	184.2	165.2	115.1	70.68	42.80	29.54	24.11	19.86	13.69	11.76	6.05
25C	W	2669	2081	1849	1329	830.7	513.3	354.5	289.4	238.3	164.3	141.1	72.60

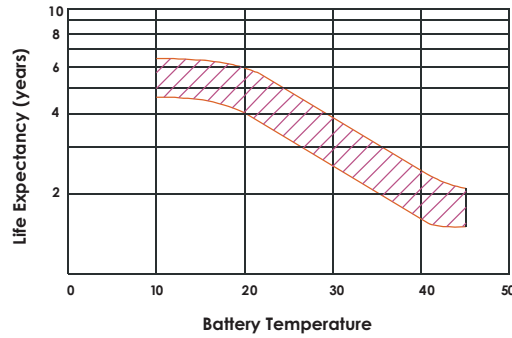
Capacity factors with different temperature

BATTERY TYPE		-20C	-10C	0C	5C	10C	20C	25C	30C	40C	45C
GEL BATTERY	6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM BATTERY	6V&12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

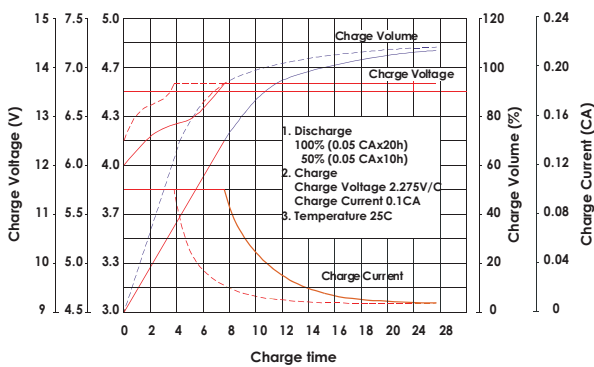
Storage characteristic



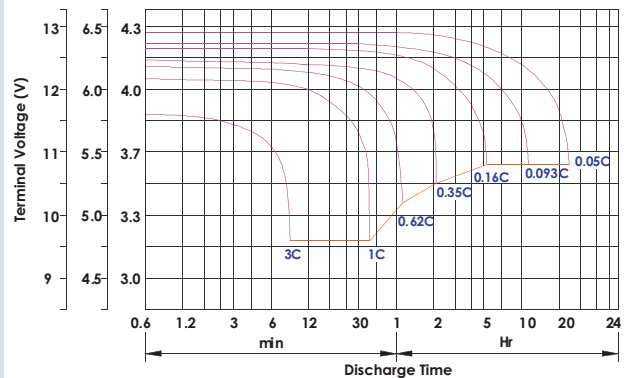
Effect of temperature on long term float life



Charge characteristic Curve for standby use



Discharge characteristic curve



Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/cell	1,75V	1,70V	1,60V
Discharge Current (A)	(A) ≤ 0.2C	0.2C < (A) < 1.0C	(A) ≥ 1.0C

Charge the batteries at least once every six months, if they are stored at 25C
Charging Method:

Constant Voltage	-0.2Cx2h=2.4~2.45V/Cellx24h, Max.Current 0.3CA
Constant Current	-0.2Cx2h+0.1CAx12h
Fast	-0.2Cx2h+0.3CAx4.0h

Maintenance & Cautions

Float Service:
 * Every month, recommend inspection every battery voltage
 * Every three months, recommend equalization charge for one time.
 Equalization charge method:
 Discharge: 100% rate capacity discharge
 Charge: Max. current 0.3CA, constant voltage 2,4-2.45V/Cell charge 24h
 * Effect of temperature on float charge voltage: -3mV/C/Cell
 * Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.