

# UPG Nano-Silica Battery

STAY POWERED®

# UB121200NS

Maintenance-Free

universal battery® batteries featuring **Nano-Silica Construction** and **Nano Silica Colloidal Electrolyte**. Capable of up to 350 cycles at 100% depth of discharge, Nano-Silica has superior cycle life to Sealed Lead-Acid batteries. Compared to Gel batteries, Nano-Silica has better charge currents at 25% of capacity and higher discharge current up to C/2. A low Self-Discharge rate of 2% a month makes for a long shelf life.

## Specifications:

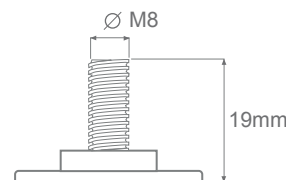
<b>Nominal Voltage</b>	12 Volts
<b>Nominal Capacity</b>	77° F (25° C)
20-hr. (6.00 A) (C/O 1.75V/Cell)	120 Ah
10-hr. (11.2 A) (C/O 1.75V/Cell)	112 Ah
5-hr. (20.4 A) (C/O 1.70V/Cell)	102 Ah
1-hr. (72.0 A) (C/O 1.70V/Cell)	72.0 Ah
<b>Approximate Weight</b>	67.8 lbs (30.8 kgs)
<b>Operational Temperature</b>	
Charge	-4°F to 140°F (-20°C to 60°C)
Discharge	-4°F to 140°F (-20°C to 60°C)
<b>Storage Temperature</b>	-4°F to 140°F (-20°C to 60°C)
<b>Charge Method</b> (Constant Voltage)	
<b>Cycle Use</b> (Repeating Use)	
Initial Current	30 A or smaller
Control Voltage	14.40 - 15.00 V
<b>Float Use</b>	
Control Voltage	13.80 - 14.10 V
<b>Self Discharge Rate</b>	2% per month @ 25 C
<b>Container Material</b>	ABS (UL94-HB)



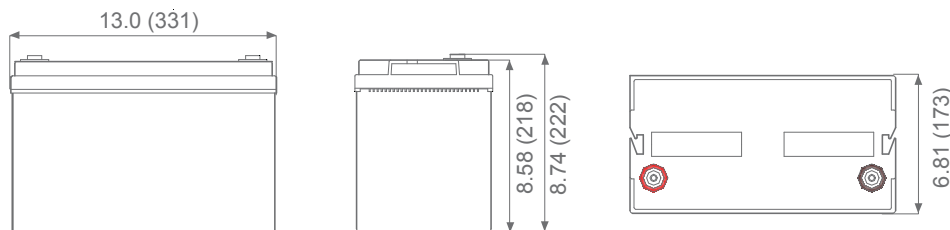
Due to continuous improvements to our products, product may vary slightly from depiction.

## Terminals

### Stud Post



## Physical Dimensions: in (mm)



**L:** 13.0 in (331mm)  
**W:** 6.81 in (173 mm)  
**H:** 8.58 in (218 mm)  
**TH:** 8.74 in (222 mm)

Tolerances are:  
 +/- 0.04 in. (+/- 1mm) and  
 +/- 0.08 in. (+/- 2mm) for height  
 dimensions. All data subject to  
 change without notice.

### Constant Current Discharge Characteristics: Unit A (25°C , 77°F)

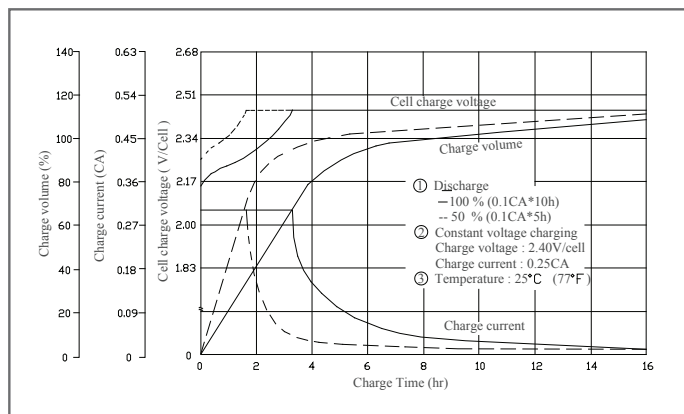
F.V. / Time	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	4 Hr	5 Hr	8 Hr	10 Hr	20 Hr
9.60V	408.9	298.4	210.0	127.9	66.3	39.5	28.4	22.1	18.3	12.8	11.7	6.3
10.2V	360.0	271.6	187.9	120.5	62.4	36.9	27.6	21.6	17.8	12.6	11.4	6.2
10.5V	347.4	258.9	178.4	116.8	60.0	36.0	27.0	21.2	17.7	12.5	11.1	6.0
10.8V	333.2	244.7	165.8	113.7	58.4	35.2	26.4	20.8	17.2	12.2	11.1	6.0
11.1V	320.5	232.1	154.7	110.5	56.8	34.3	25.4	20.2	16.7	11.8	10.6	5.7

### Constant Power Discharge Characteristics: Unit W (25°C , 77°F)

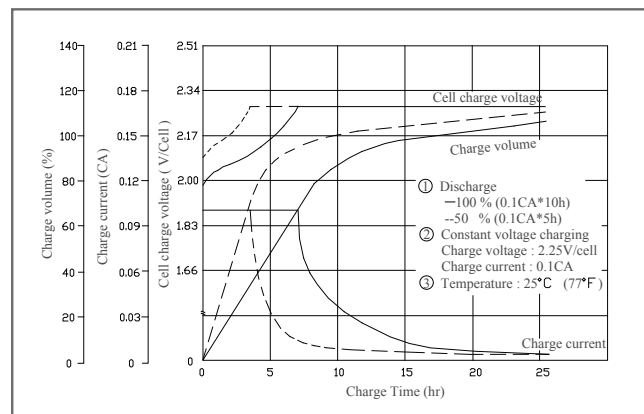
F.V. / Time	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	4 Hr	5 Hr	8 Hr	10 Hr	20 Hr
9.60V	4470	3262	2295	1390	790	462	338	263	218	153	138	75
10.2V	4170	3106	2147	1377	743	440	330	257	213	150	135	73
10.5V	4052	3018	2064	1439	720	429	322	254	211	150	133	72
10.8V	4000	2940	1986	1364	699	421	315	247	206	146	132	71
11.1V	3927	2843	1895	1354	691	419	312	247	206	145	128	69

universal battery®

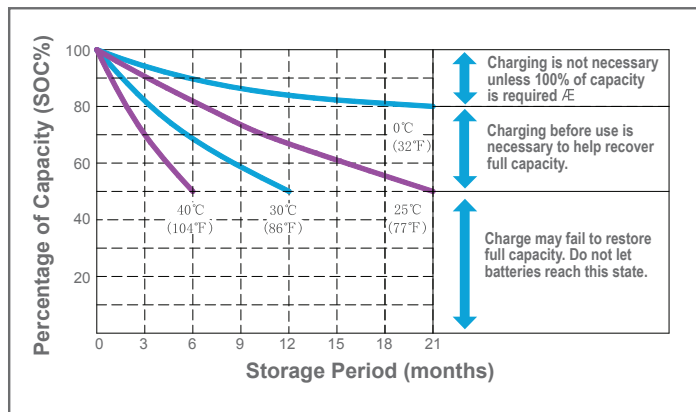
## Battery Charging Characteristics for Cyclic Use



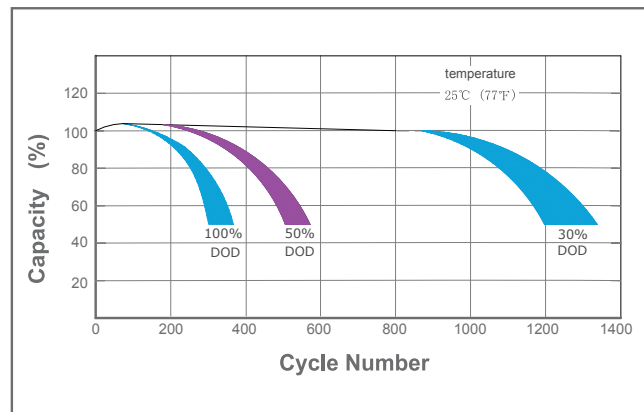
## Battery Charging Characteristics for Standby Use



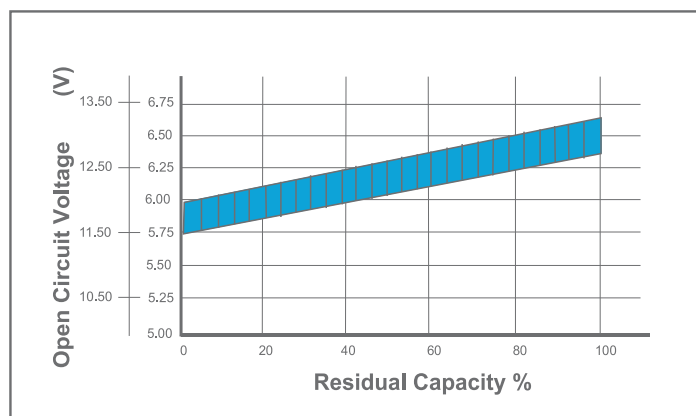
## Shelf Life & Storage



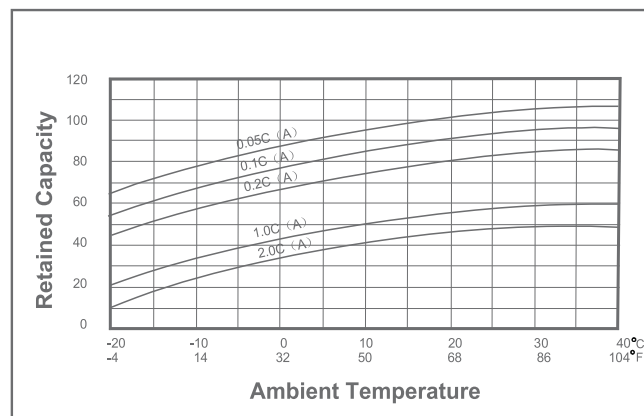
## Cycle Life vs Depth of Discharge



## Open Circuit Voltage vs Residual Capacity



## Effect of Temperature on Capacity



## Charge Current & Final Discharge Voltage

Application	Charge Voltage(V/Cell)			Max.Charge Current	Final Discharge Voltage V/Cell	Discharge Current(A)	Final Discharge Voltage V/Cell	Discharge Current(A)	Final Discharge Voltage V/Cell	Discharge Current(A)
	Temperature	Set Point	Allowable Range							
Cycle Use	25°C(77°F)	2.45	2.40~2.50	0.25C	1.75	0.2C<(A)	1.70	0.2C<(A)<0.5C	1.60	0.5C<(A)<1.0C
Standby	25°C(77°F)	2.33	2.30~2.35		1.30	(A)>1.0C				