

universal battery® batteries featuring **Nano-Silica Construction** and **Nano Silica Collodial Electrolyte** are 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:

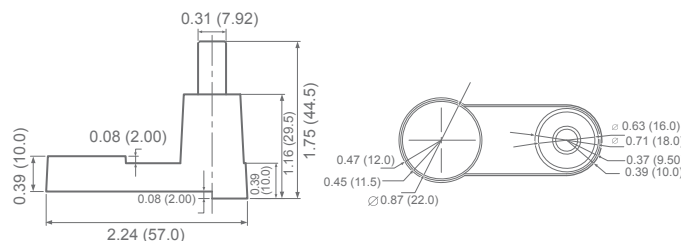
Nominal Voltage	12 Volts
Nominal Capacity	77° F (25° C)
20-hr. (4.75 A) (C/O 1.75V/Cell)	95.0 Ah
10-hr. (8.84 A) (C/O 1.75V/Cell)	88.4 Ah
5-hr. (16.2 A) (C/O 1.70V/Cell)	80.8 Ah
1-hr. (57.0 A) (C/O 1.70V/Cell)	57.0 Ah
Approximate Weight	59.6 lbs (27.0 kgs)
Operational Temperature	
Charge	-4°F to 140°F (-20°C to 60°C)
Discharge	-4°F to 140°F (-20°C to 60°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Charge Method (Constant Voltage)	
Cycle Use (Repeating Use)	
Initial Current	23.8 A or smaller
Control Voltage	14.40 - 15.00 V
Float Use	
Control Voltage	13.80 - 14.10 V
Self Discharge Rate	2% per month @ 25 C
Container Material	ABS (UL94-HB)



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

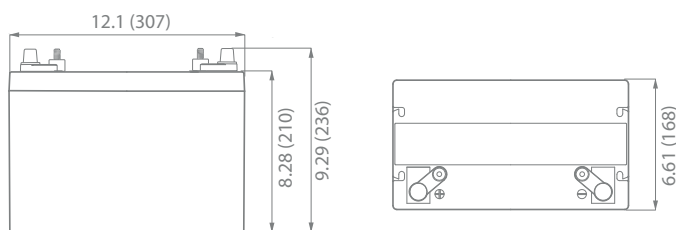
Terminals

Marine Combo Post



Physical Dimensions: in (mm)

Tolerances are: +/- 0.04 in. (+/- 1mm) and +/- 0.08 in. (+/- 2mm) for height dimensions.



L: 12.1 in (307 mm)
W: 6.61 in (168 mm)
H: 8.28 in (210 mm)
TH: 9.29 in (236 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	323.8	236.3	166.3	101.3	52.5	31.3	22.5	17.5	14.5	10.1	9.2	5.0
10.2V	285.0	215.0	148.8	95.4	49.4	29.3	21.9	17.1	14.1	10.0	9.0	4.9
10.5V	275.0	205.0	141.3	92.5	47.5	28.5	21.4	16.7	14.0	9.9	8.7	4.8
10.8V	263.7	193.8	131.3	90.0	46.3	27.9	20.9	16.5	13.6	9.6	8.7	4.8
11.1V	253.7	183.7	122.5	87.5	45.0	27.1	20.1	16.0	13.3	9.4	8.4	4.5

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	3538	2582	1817	1100	625	365	268	208	172	121	109	59
10.2V	3302	2459	1700	1090	588	349	261	203	169	118	107	58
10.5V	3208	2389	1634	1139	570	340	255	201	167	118	106	57
10.8V	3167	2328	1572	1080	553	333	250	196	163	116	104	57
11.1V	3109	2250	1500	1072	547	332	247	196	163	115	102	55

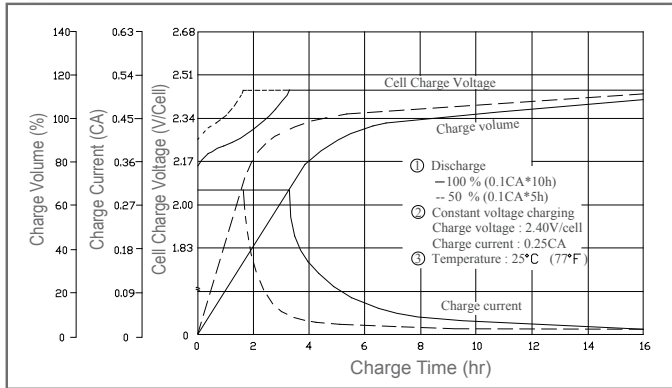
universal battery®

Nano-Silica Battery - Group 27

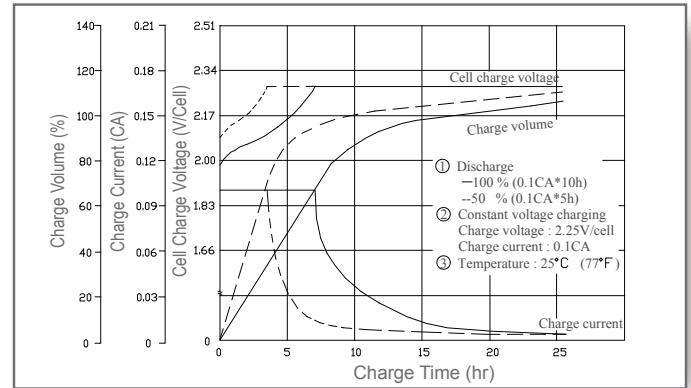
UB12950NS

Maintenance-Free

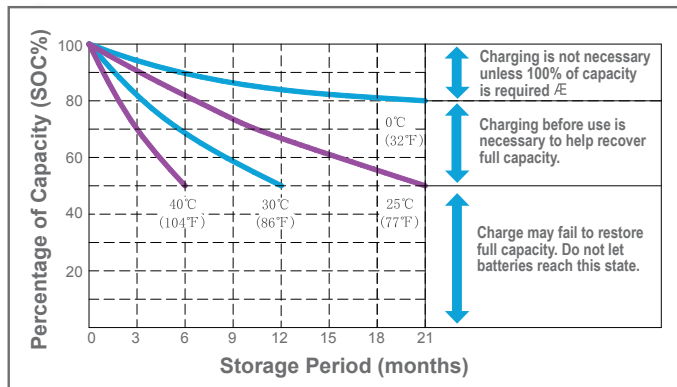
Battery Charging Characteristics for Cyclic Use



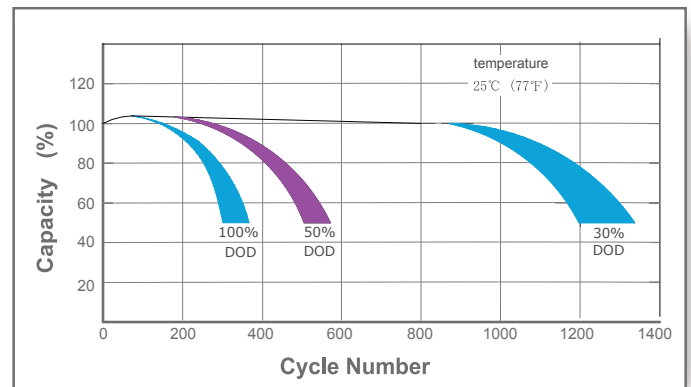
Battery Charging Characteristics for Standby Use



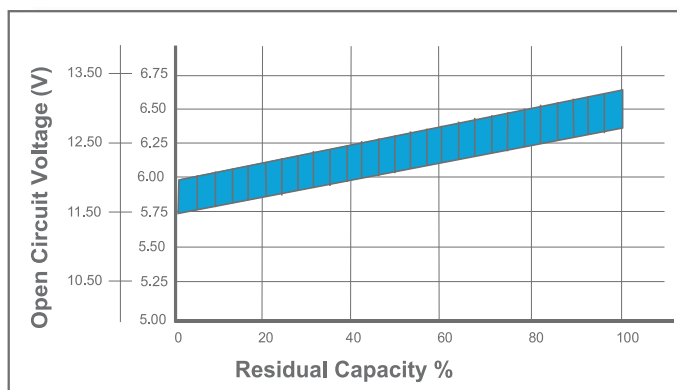
Shelf Life & Storage



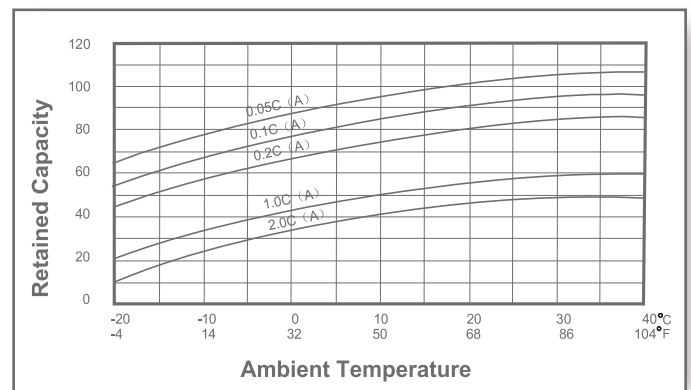
Cycle Life vs Depth of Discharge



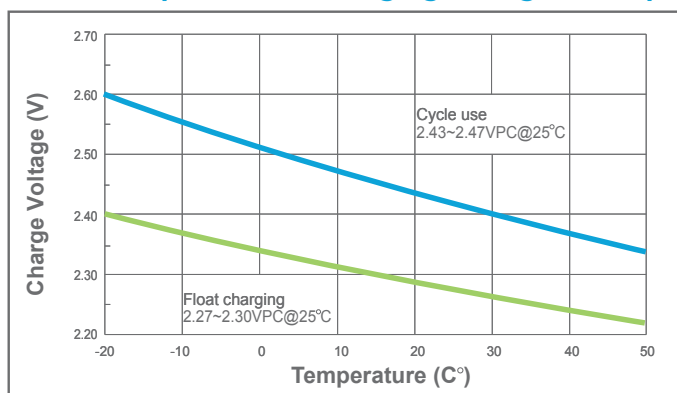
Open Circuit Voltage vs Residual Capacity



Effect of Temperature on Capacity



Relationship Between Charging Voltage & Temp.



Charge Current

Application	Charge Voltage(V/Cell)			Max.Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25°C (77°F)	2.45	2.40~2.50	0.25C
Standby	25°C (77°F)	2.33	2.30~2.35	

Final Discharge Voltage

Final Discharge Voltage V/Cell	1.75	1.70	1.60	1.30
Discharge Current (A)	0.2C>(A)	0.2C<(A)<0.5C	0.5C<(A)<1.0C	(A)>1.0C