

# universal battery® GEL TYPE

Gelled Silica technology for superior performance. Valve regulated, spill proof construction allows safe operation in any position. Approved for transport by air. D.O.T., I.A.T.A., F.A.A. and C.A.B. certified. U.L. recognized under file number MH 20567.

# UB24

Maintenance-Free

## Specification

<b>Nominal Voltage</b>	12 volts		
<b>Nominal Capacity</b>	77° F (25° C)		
20-hr. (3.75A)	75.0 Ah		
10-hr. (6.98A)	69.8 Ah		
5-hr. (12.80A)	63.8 Ah		
1-hr. (45.00A)	45.0 Ah		
<b>Approximate Weight</b>	47.0 lbs (21.3 kgs)		
<b>Internal Resistance (approx.)</b>	7mΩ		
<b>Shelf Life</b> (% of normal capacity at 77° F (25° C))			
3 Months	6 Months	12 Months	
91%	82%	64%	
<b>Temperature Dependency of Capacity</b> (20 hour rate)			
104° F (40° C)	77° F (25° C)	32° F (0° C)	5° F (-15° C)
102%	100%	85%	65%
<b>GEL Operational Temperature</b>			
Charge	32 F to 113 F (0 C to 45 C)		
Discharge	5° F to 131° F (-15° C to 55° C)		
<b>GEL Storage Temperature</b>	5° F to 104° F (-15° C to 40° C)		
<b>UPG Recommends</b>	32° F to 86° F (0° C to 30° C) Storage		



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

## Charge Method (Constant Voltage)

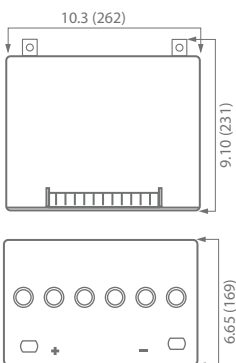
## Cycle Use (Repeating Use)

Initial Current	15 A or smaller
Control Voltage	14.2 - 14.4 V

## Float Use

Control Voltage	13.2 - 13.4 V
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## Physical Dimensions: in (mm)

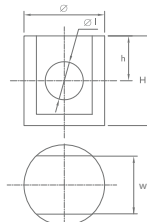


**L:** 10.3 in (262 mm)  
**W:** 6.65 in (169 mm)  
**TH:** 9.10 in (231 mm)

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

## Terminals

### Z Series (Z Post Terminal)



Type	Dimension	ø	ø I	H	h	w
Z1		17.0 mm 0.67 in	8.00 mm 0.32 in	21.5 mm 0.85 in	9.00 mm 0.35 in	13.3 mm 0.52 in

### Polarity

Positive on Left

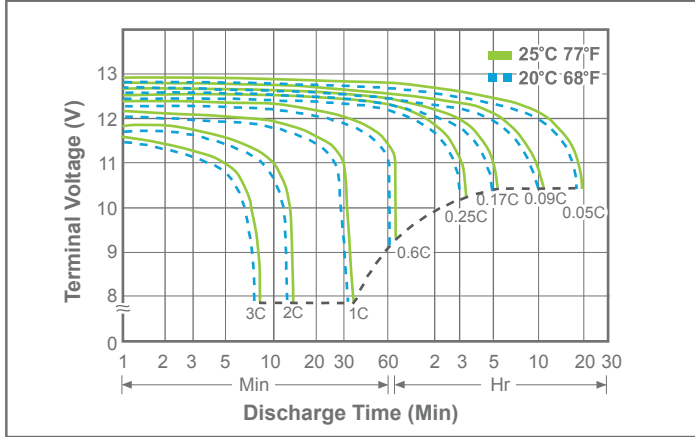
## Constant Current Discharge Characteristics Unit:A (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	5HR	8HR	10HR	20HR
9.60	184	142	111	74.4	45.0	27.6	19.2	13.1	8.71	7.26	3.81
9.90	179	137	108.6	72.9	44.1	27.4	19.1	13.0	8.67	7.22	3.79
10.2	175	134	106.4	71.4	43.2	27.2	18.9	12.9	8.63	7.19	3.78
10.5	170	130	103.1	69.2	41.9	26.9	18.8	12.7	8.60	7.17	3.76
10.8	144	126	101.1	67.8	41.1	26.6	18.6	12.6	8.58	7.15	3.75

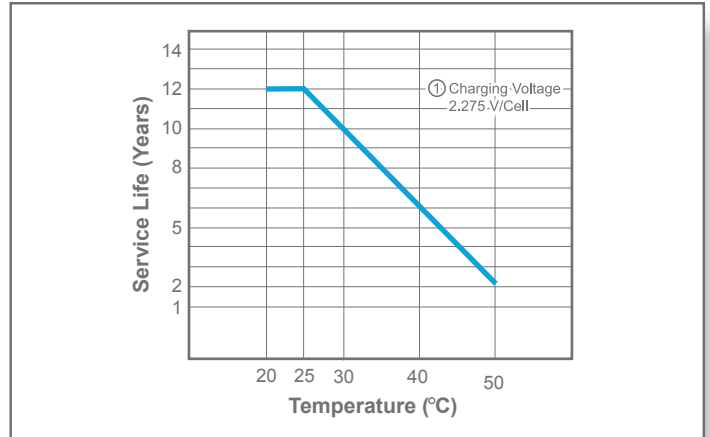
## Constant Power Discharge Characteristics Unit:W (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	5HR	8HR	10HR	20HR
9.60	1937	1529	1217	834	514	319	226	154	104.5	86.7	45.7
9.90	1879	1483	1193	818	503	318	225	154	104.0	86.2	45.5
10.2	1840	1453	1168	801	493	315	223	152	103.6	85.9	45.3
10.5	1782	1407	1132	776	478	311	221	151	103.2	85.6	45.2
10.8	1511	1365	1110	761	468	308	218	149	103.0	85.4	45.0

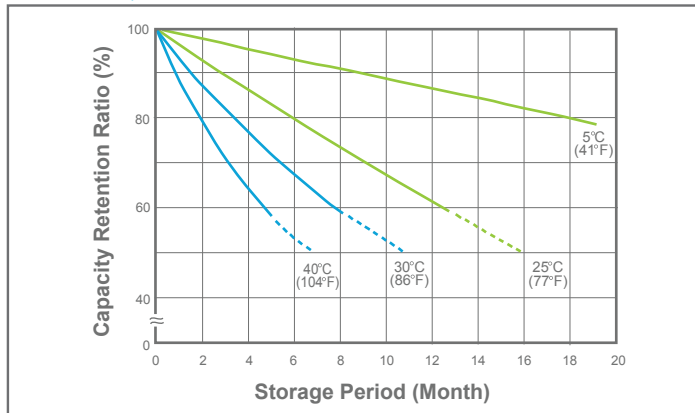
### Terminal Voltage (V) and Discharge Time



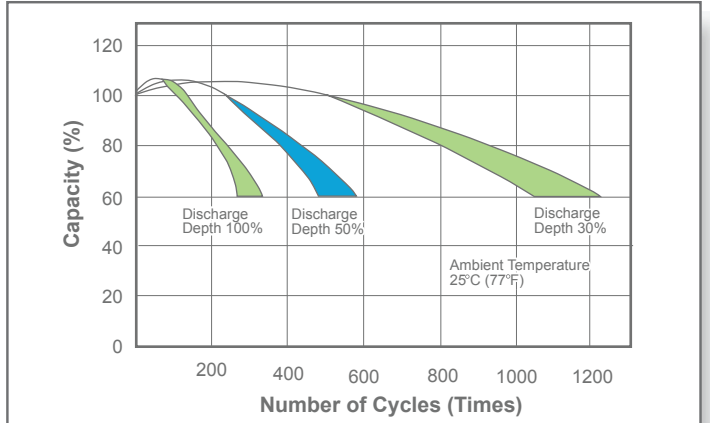
### Trickle (or float) Service Life



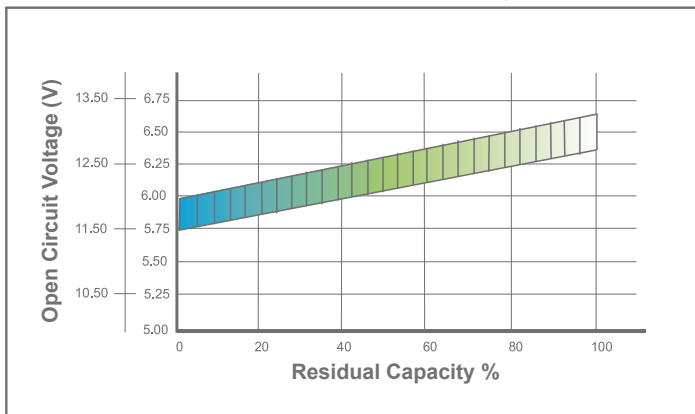
### Capacity Retention Characteristic



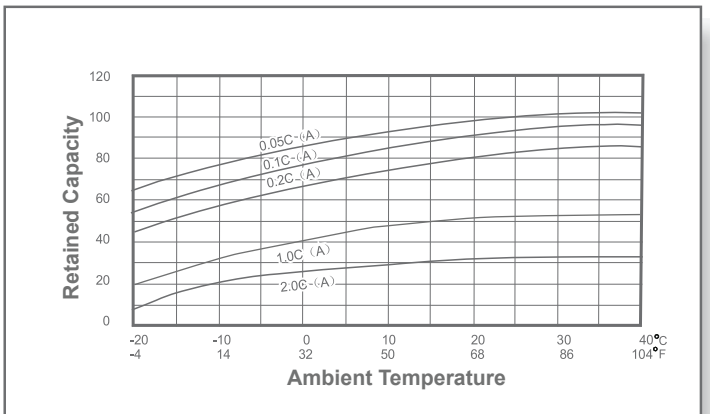
### Cycle Service Life



### 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	1.75	1.70	1.60	1.30
	Temperature	Set Point	Allowable Range						
Cycle Use	25°C(77°F)	2.40	2.36~2.40	0.20C					
Standby	25°C(77°F)	2.23	2.20~2.23		Discharge Current(A)	0.2C>(A)	0.2C<(A)<0.5C	0.5C<(A)<1.0C	(A)>1.0C