USL SERIES-General Purpose

USL12-9.0 HR (12V9.0AH)

Specification

Nominal Voltage	12V
Nominal Capacity(20HR)	9.0AH
Dimensions	Length 151±2mm (5.95 inches) Width 65±1mm (2.56 inches) Container Height 93.5±1mm (3.68 inches) Total Height (with Terminal) 99±1mm (3.90 inches)
Approx Weight	Approx 2.6 kg
Terminal	T2
Container Material	ABS
Rated Capacity	9.00 AH/0.450A (20hr ,1.80V/cell,25°C/77°F) 8.37 AH/0.837A (10hr,1.80V/cell,25°C/77°F) 7.65 AH/1.53A (5hr,1.75V/cell,25°C/77°F) 6.36AH/2.12A (3hr,1.75V/cell,25°C/77°F) 5.84 AH/5.84A (1hr,1.60V/cell,25°C/77°F)
Max. Discharge Current	129A (5s)
Internal Resistance	Approx 19mÙ
Operating Temp.Range	Discharge : -15～50°C (5～ 122°F) Charge : 0~40°C (32～ 104°F) Storage : -15~40°C (5～ 104°F)
Nominal Operating Temp. Range	25±3°C (77 ±5°F) 5 YEARS OF LIFE
Cycle Use	Initial Charging Current less than 2.58A.Voltage 14.4V~15.0V at 25° C(77° F)Temp. Coefficient -30mV/°C
Standby Use	No limit on Initial Charging Current Voltage 13.5V~13.8V at 25° C(77° F)Temp. Coefficient -20mV/°C
Capacity affected by Temperature	40° C (104° F) 103% 25° C (77° F) 100% 0° C (32° F) 86%
Self Discharge	USL series batteries may be stored for up to 6 months at 25° C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. Self-discharge ratio less than 3% per month at 25 ° C(77° F) .

Applications

- *All purpose*
- *Uninterruptable Power Supply (UPS)*
- *Electric Power System (EPS)*
- *Emergency backup power supply*
- *Emergency light*
- *Railway signal*
- *Aircraft signal*
- *Alarm and security system*
- *Electronic apparatus and equipment*
- *Communication power supply*
- *DC power supply*
- *Auto control system*

Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	28.0	18.7	14.7	12.2	9.06	6.57	5.13	2.80	2.00	1.58	1.32	1.14	0.913	0.764	0.417
1.80V/cell	31.5	20.5	15.9	12.9	9.46	6.81	5.84	2.89	2.06	1.62	1.36	1.18	0.941	0.837	0.450
1.75V/cell	34.6	21.6	16.9	13.6	9.83	7.05	5.50	2.98	2.12	1.68	1.40	1.21	0.979	0.807	0.432
1.70V/cell	36.8	22.8	17.6	14.0	10.2	7.28	5.64	3.07	2.18	1.72	1.44	1.24	0.988	0.822	0.438
1.65V/cell	38.5	23.6	18.2	14.5	10.5	7.44	5.74	3.12	2.22	1.76	1.47	1.26	1.01	0.830	0.440
1.60V/cell	39.7	24.5	18.5	14.8	10.7	7.57	5.84	3.17	2.25	1.78	1.49	1.28	1.02	0.838	0.443

Constant Power Discharge (Watts) at 25 °C (77°F)

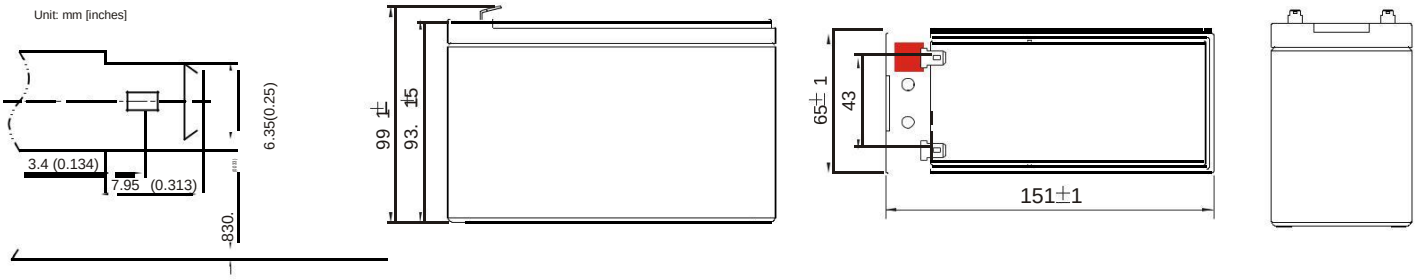
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	51.8	34.9	27.6	23.0	17.2	12.6	9.90	5.42	3.89	3.09	2.59	2.24	1.80	1.51	0.827
1.80V/cell	57.3	37.7	29.5	24.2	17.8	13.0	10.2	5.57	4.00	3.15	2.65	2.31	1.85	1.55	0.851
1.75V/cell	62.1	39.3	31.0	25.2	18.4	13.3	10.5	5.73	4.09	3.25	2.73	2.38	1.92	1.59	0.854
1.70V/cell	65.2	41.0	32.0	25.8	19.0	13.7	10.7	5.88	4.21	3.34	2.80	2.43	1.94	1.62	0.863
1.65V/cell	67.0	41.7	32.6	26.4	19.4	13.9	10.9	5.96	4.27	3.40	2.85	2.46	1.97	1.63	0.868
1.60V/cell	68.1	42.8	32.9	26.7	19.6	14.0	11.0	6.02	4.30	3.42	2.87	2.49	1.98	1.64	0.872

Specifications subject to change without notice.

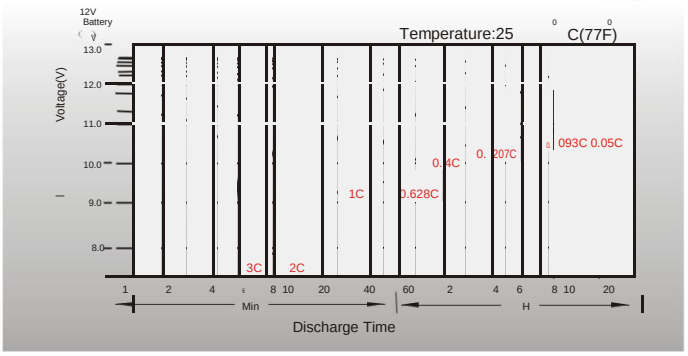
Dimensions

T2 Terminal

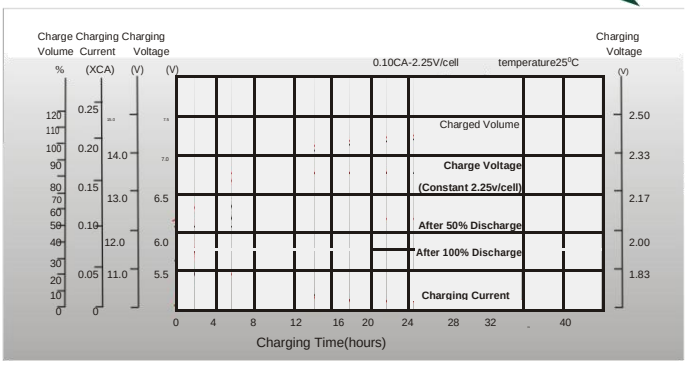
Unit: mm [inches]



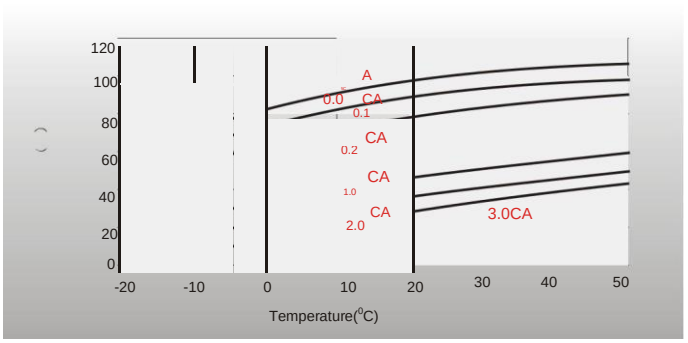
Discharge Characteristics



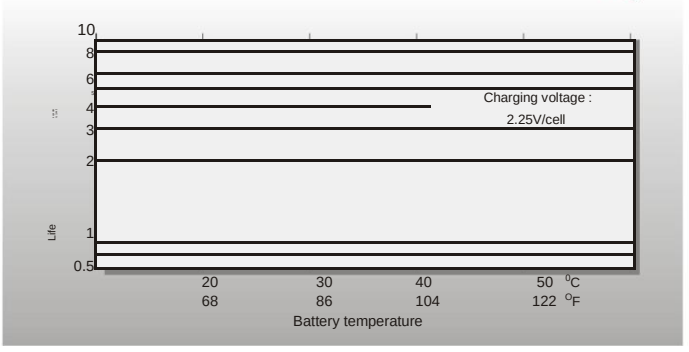
Float Charging Characteristics



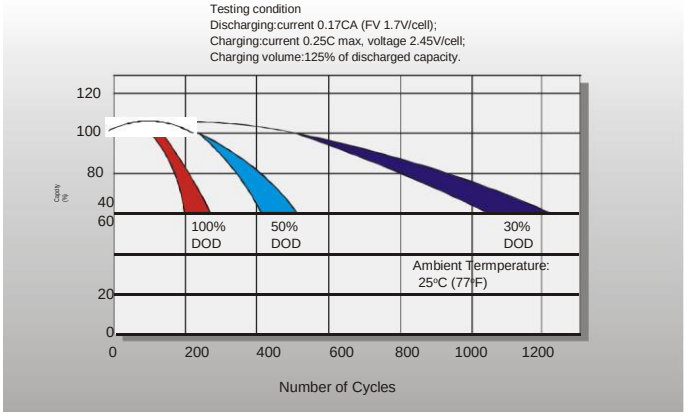
Temperature Effects in Relation to Batter Capacity



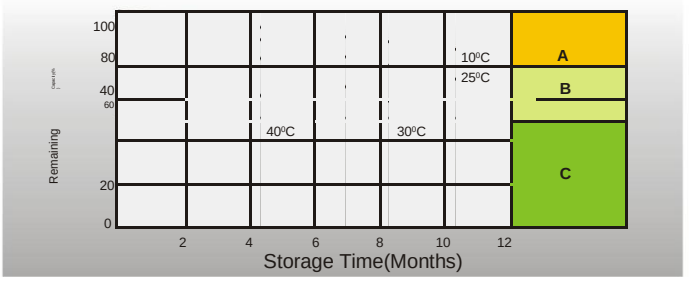
Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



Self Discharge Characteristics



A No supplementary charge required

(Carry out supplementary charge before use if 100% capacity is required.)
Supplementary charge required before use.Optional charging way as below:
1.Charged for above 3 days at limted current 0.25CA and constant volatge 2.25V/cell.

B 2.Charged for above 20hours at limted current 0.25CA and constant volatge 2.45V/cell. 3.Charged for 8~10hours at limted current 0.05CA .

C Supplementary charge may often fail to recover the capacity.

The battery should never be left standing till this is reached.