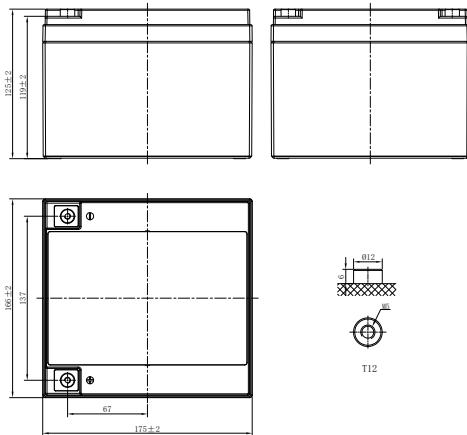


# USL SERIES-LONG LIFE STANDBY

## USL12-24 (12V24Ah)



### CHARACTERISTICS

Item	Specifications	
Rated Voltage	12V	
Nominal Capacity (25°C)	C <sub>20</sub> , 1.75V/cell	24Ah
Dimension	Length	166mm (6.54inches)
	Width	175mm (6.89inches)
	Container Height	125mm (4.92inches)
	Total Height	125mm (4.92inches)
Approx Weight	7.60kg (16.8lbs)	
Terminal	T12/T12-I(M5)	
Container Material	ABS (UL94 HB or V-0 optional)	
Short-circuit current	672A	
Internal Resistance (25°C)	Approx 13 mΩ (Fully charged)	
Operating Temp. Range	Discharge	-15~50°C (5~122°F)
	Charge	-20~40°C (-4~104°F)
	Storage	-15~40°C (5~104°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Max.Charging Current (25°C)	0.3C	
Charge voltage (25°C)	Standby Use	Cycle Use
	2.25-2.30V/cell	2.35-2.45V/cell
Temp. Coefficient	-3mV/cell/°C	-5mV/cell/°C
	40°C (104°F)	103%
Effect of temp. to Capacity	25°C (77°F)	100%
	0°C (32°F)	86%
	≤3% per month at 25°C (77°F). USL series batteries may be stored 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		

### DISCHARGE TABLE

Constant Current Discharge (Amperes) at 25°C (77°F)																
F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	53.1	45.9	37.3	31.6	23.8	18.0	14.8	10.6	8.46	6.33	5.07	4.32	3.69	2.90	2.33	1.18
1.80V/cell	55.7	48.2	38.8	32.6	24.4	18.4	15.0	10.7	8.59	6.43	5.15	4.38	3.74	2.94	2.35	1.19
1.75V/cell	58.5	50.6	40.2	33.5	25.0	18.8	15.3	10.9	8.73	6.52	5.22	4.43	3.79	2.97	2.38	1.20
1.70V/cell	61.2	52.9	41.6	34.5	25.5	19.1	15.6	11.1	8.86	6.62	5.29	4.49	3.84	3.01	2.41	1.21
1.67V/cell	62.9	54.4	42.5	35.1	25.9	19.3	15.7	11.2	8.95	6.67	5.33	4.53	3.87	3.03	2.43	1.22
1.60V/cell	66.6	57.6	44.4	36.5	26.7	19.9	16.1	11.5	9.13	6.81	5.43	4.61	3.94	3.08	2.46	1.24
Constant Power Discharge (Watts/cell) at 25°C (77°F)																
F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	102.2	87.8	71.7	60.8	46.0	35.0	28.7	20.6	16.6	12.4	10.0	8.52	7.31	5.75	4.62	2.35
1.80V/cell	106.8	91.7	74.1	62.4	46.9	35.6	29.1	20.9	16.8	12.6	10.1	8.63	7.39	5.82	4.67	2.37
1.75V/cell	111.4	95.7	76.4	63.9	47.8	36.1	29.6	21.2	17.0	12.8	10.2	8.73	7.47	5.89	4.73	2.40
1.70V/cell	116.0	99.6	78.7	65.6	48.7	36.7	30.0	21.5	17.2	12.9	10.4	8.83	7.56	5.95	4.78	2.42
1.67V/cell	118.6	101.9	80.1	66.5	49.3	37.0	30.2	21.7	17.4	13.0	10.4	8.89	7.61	5.99	4.81	2.44
1.60V/cell	124.8	107.2	83.2	68.6	50.5	37.8	30.8	22.0	17.6	13.2	10.6	9.02	7.73	6.09	4.88	2.47

# USL SERIES-LONG LIFE STANDBY

## USL12-24 (12V24Ah)

### APPLICATIONS

- UPS and EPS
- Emergency light
- Railway signal and aircraft signal system
- Marine and power stations
- Alarm and security system
- Electronic apparatus and equipment
- Communication power supply, DC power supply

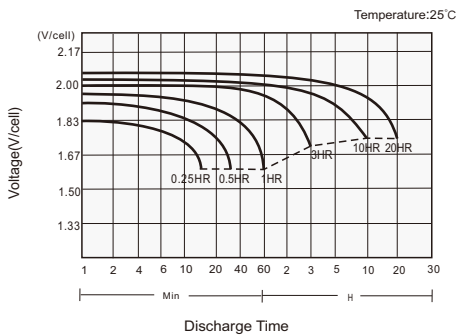
### GENERAL FEATURES

- 10~12 years design life (25°C)
- Lead calcium alloy, sealed design, no watering required
- Puncture resistant micro-porous glass mat separators extend life
- Unique technology optimizes power capacity, cell consistency, and long-term reliability
- Designed for a wide range of applications

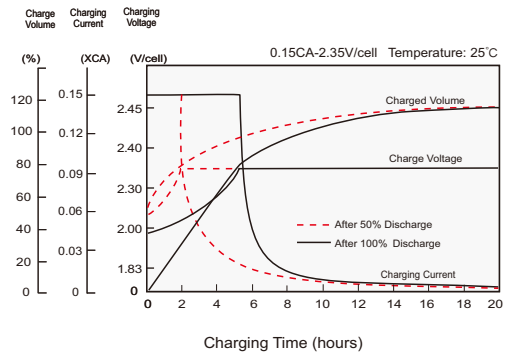
### STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Approved

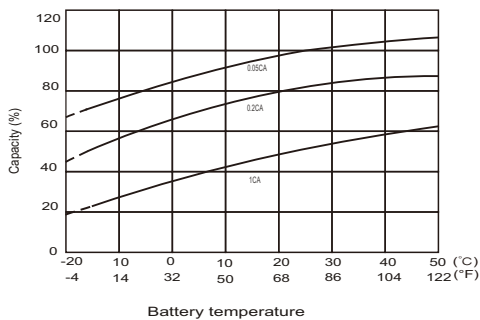
#### Discharge Characteristics



#### Charging Characteristics



#### Effects of Temperature on Capacity



#### Self Discharge Characteristics

