

## ELL12-9 FR (12V 9Ah)

### Specifications

Nominal Voltage	12V	
Nominal Capacity(20 Hr)	9Ah	
Dimension	Length	151±2mm( 5.95 inches)
	Width	65±1mm( 2.56 inches)
	Containeriner Height	93.5±1mm( 3.68 inches)
	Total Height (With terminal)	99±1mm( 3.90 inches)
Approx Weight	Approx2.40kgs( 5.30 lbs)	
Design life	10 years	
Terminal	F2	
Container Material	UL94-V0 ABS (Flame retardant box)	
Rated Capacity	9.0Ah/0.45A	(20hr, 1.80V/Cell, 25 °C/77°F)
	8.3Ah/0.83A	(10hr, 1.80V/Cell, 25 °C/77°F)
	7.55Ah/1.51A	(5hr, 1.75V/Cell, 25 °C/77°F)
	5.67Ah/5.67A	(1hr, 1.60V/Cell, 25 °C/77°F)
Max. Discharge Current	108A(5s)	
Internal Resistance	Appro≤22.0mΩ	
Operating Temp. Range	Discharge: -20 °C~50 °C	
	Charge: -20 °C~50 °C	
	Storage: -20 °C~50 °C	
Nominal Operating Temp. Range	25±3 °C(77±5°F)	
Cycle Use	Initial Charging Current Less than 2.16A. Voltage 14.4V-15.0V at 25 °C(77°F) Temp. Coefficient-	
	No limit on Intital Charging Current Voltage 13.5V-13.8V at 25 °C(77°F) Temp. Coefficient-20mV/C	
Standby Use		
Capacity affected by Temperature	40 °C( 104°F)	103%
	25 °C( 77°F)	100%
	0 °C( 32°F)	86%
Self Discharge	ELC series batteries may be stored for up to 6 months at25 °C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



### Application

- ◆ All purpose
- ◆ Uninterruptable Power Supply(UPS)
- ◆ Electric Power System(EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and securitysystem
- ◆ Electronic apparatus & equipment
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto controlsystem

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

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h
<b>1.60V</b>	29.5	23.3	17.1	9.76	95.6	5.67	3.51	2.40	1.60	1.08	0.89	0.47
<b>1.67V</b>	28.7	22.7	16.7	9.50	6.76	5.47	3.44	2.36	1.57	1.06	0.87	0.46
<b>1.70V</b>	27.9	22.1	16.2	9.24	6.58	5.28	3.38	2.32	1.54	1.04	0.86	0.45
<b>1.75V</b>	27.1	21.4	15.8	8.79	6.39	5.08	3.32	2.27	1.51	1.02	0.84	0.45
<b>1.80V</b>	26.4	20.8	15.3	8.71	6.21	4.89	3.19	2.18	1.46	0.98	0.83	0.45

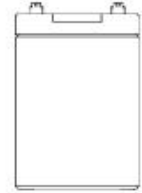
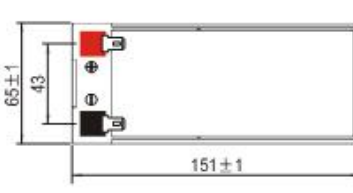
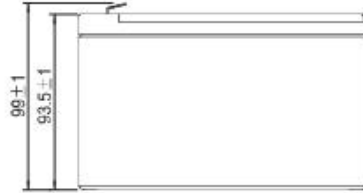
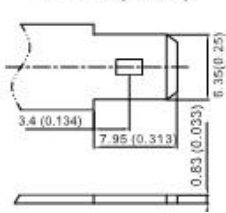
### Constant Power Discharge (Watts) at 25 °C ( 77F )

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h
<b>1.60V</b>	56.8	44.9	33	18.78	13.38	10.91	6.75	4.63	3.08	2.07	1.71	0.90
<b>1.67V</b>	55.3	43.7	32.1	18.28	13.02	10.54	6.63	4.54	3.03	2.04	1.68	0.88
<b>1.70V</b>	53.8	42.5	31.2	17.78	12.66	10.16	6.50	4.46	2.97	2.00	1.65	0.87
<b>1.75V</b>	52.2	41.3	30.3	17.27	12.30	9.78	6.38	4.37	2.92	1.96	1.62	0.85
<b>1.80V</b>	50.7	40.1	29.5	16.77	11.94	9.41	6.14	4.21	2.80	1.88	1.56	0.82

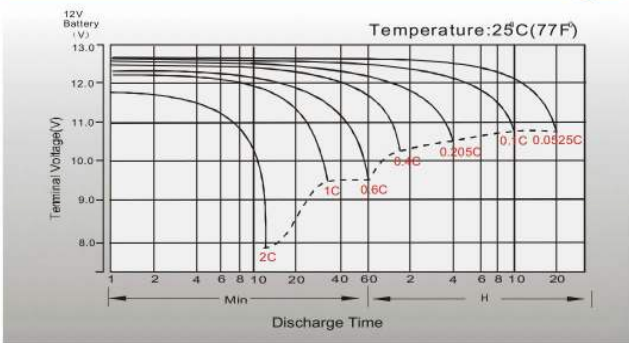
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## Dimensions

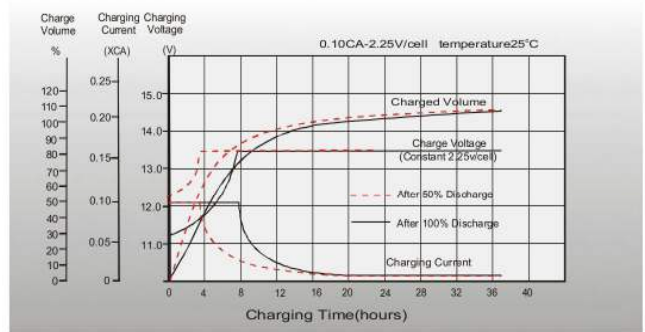
**F2 Terminal**  
Unit: mm [inches]



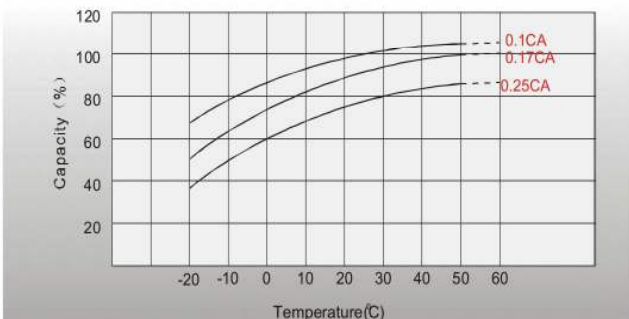
## Discharge Characteristics



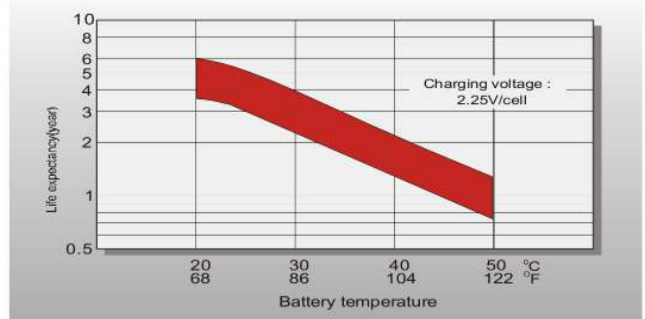
## Float Charging Characteristics



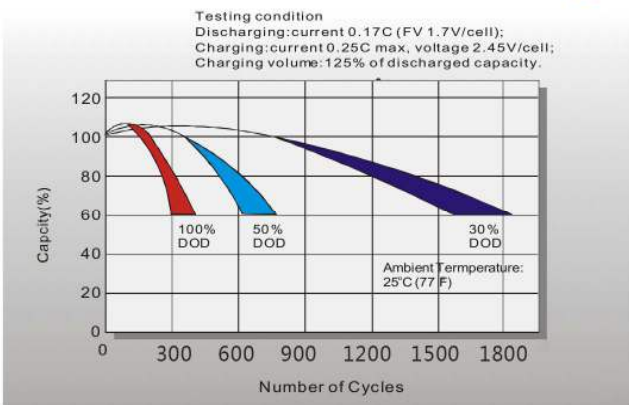
## Temperature Effects in Relation to Battery Capacity



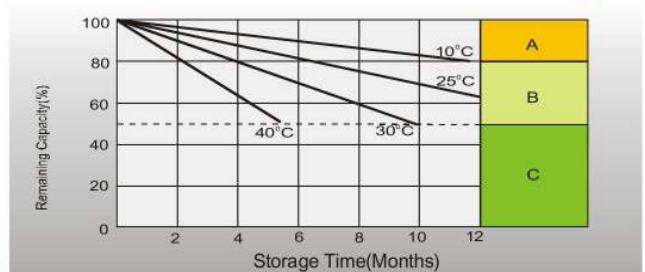
## Effect of Temperature on Long Term Float Life



## Cycle life in Relation to Depth of Discharge



## Self-discharge Characteristics



Specifications subject to change without prior notice.