



# AC SERIES -Deep Cycle

## AC12-24 (12V24AH)



### Specification

Nominal Voltage	12V	
Nominal Capacity(10HR)	24.0AH	
Dimension	Length	166.5±1mm (6.56 inches)
	Width	175±1mm (6.89 inches)
	Container Height	125±1mm (4.92 inches)
	Total Height (with Terminal)	125±1mm (4.92 inches)
	Approx Weight	Approx 8.57 Kg (19.0 lbs)
Terminal	T12	
Container Material	ABS	
Rated Capacity	25.7 AH/1.29A	(20hr, 1.80V/cell, 25°C/77°F)
	24.0 AH/2.40A	(10hr, 1.80V/cell, 25°C/77°F)
	21.0 AH/4.21A	(5hr, 1.75V/cell, 25°C/77°F)
	19.1 AH/6.36A	(3hr, 1.75V/cell, 25°C/77°F)
	15.5 AH/15.5A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	360A (5s)	
Internal Resistance	Approx 13.0mΩ	
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)	
Cycle Use	Initial Charging Current less than 7.2A. 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	Synergy AC 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.	

### Applications

- ◆ Electric tools
- ◆ Vehicle in place of walking
- ◆ Lawn mowers
- ◆ Golf trolleys and golf cart
- ◆ Portable apparatus, lights and instruments;
- ◆ Electric toys
- ◆ Illumination light
- ◆ Fire alarms
- ◆ Portable power
- ◆ Wheelchairs
- ◆ Medical equipments.



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

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	35.1	29.6	25.8	18.6	14.8	12.0	7.44	5.80	4.70	3.82	3.33	2.72	2.27	1.27
1.80V/cell	44.9	35.7	30.5	21.9	17.2	13.4	8.12	6.24	5.02	4.10	3.57	2.88	2.40	1.29
1.75V/cell	49.3	39.0	32.9	22.8	17.8	14.0	8.43	6.36	5.13	4.21	3.67	2.93	2.42	1.30
1.70V/cell	53.8	41.7	34.5	23.7	18.5	14.5	8.76	6.54	5.27	4.32	3.75	2.98	2.45	1.32
1.65V/cell	58.0	44.3	36.7	25.0	19.0	15.0	9.00	6.82	5.45	4.44	3.83	3.02	2.50	1.34
1.60V/cell	63.0	47.4	39.1	26.4	19.8	15.5	9.31	7.02	5.62	4.58	3.91	3.05	2.52	1.35

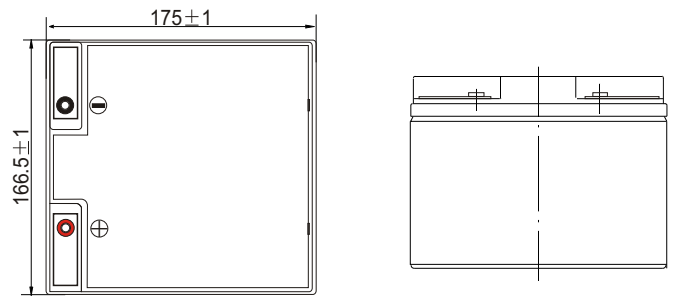
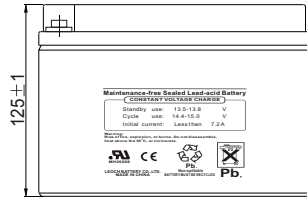
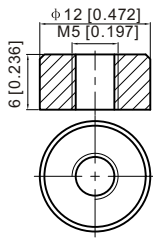
### Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	65.6	55.7	49.2	35.7	28.6	23.3	14.5	11.3	9.21	7.50	6.58	5.38	4.49	2.55
1.80V/cell	82.7	66.3	57.3	41.6	33.0	25.9	15.7	12.1	9.78	8.03	7.03	5.70	4.75	2.57
1.75V/cell	89.7	71.8	61.1	43.0	34.0	27.0	16.3	12.3	10.0	8.23	7.22	5.79	4.79	2.59
1.70V/cell	96.4	76.1	63.9	44.6	35.3	27.8	16.9	12.6	10.2	8.41	7.36	5.87	4.84	2.64
1.65V/cell	103.3	80.4	67.6	46.8	36.0	28.6	17.3	13.2	10.6	8.64	7.51	5.96	4.93	2.67
1.60V/cell	110.2	84.9	71.2	49.0	37.2	29.4	17.8	13.5	10.8	8.88	7.65	6.01	4.98	2.68

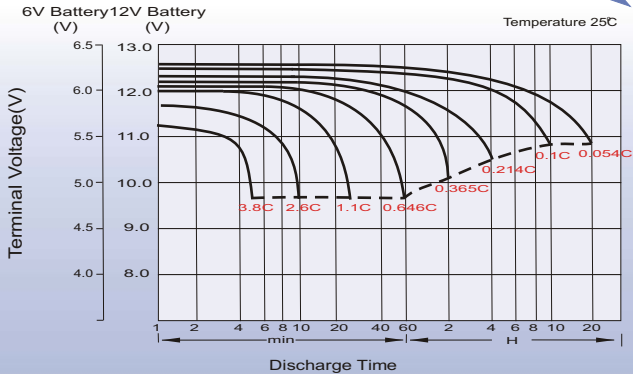
## Dimensions

### T12 Terminal

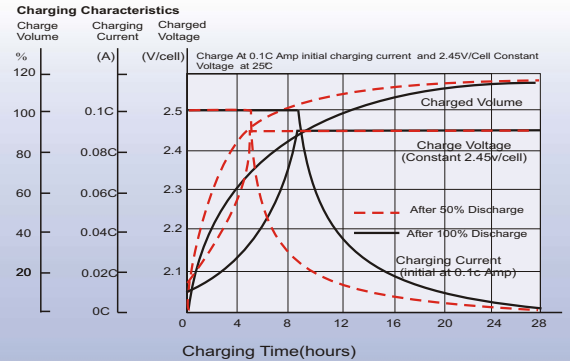
Unit: mm [inches]



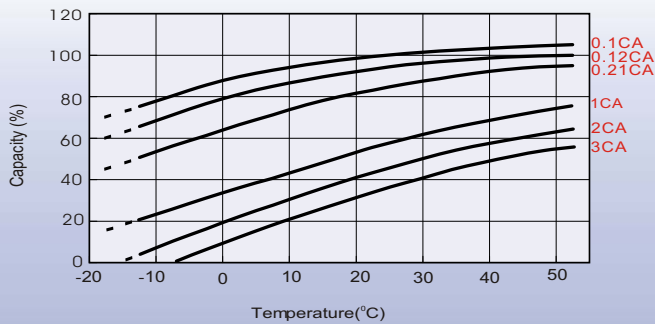
## Discharge Characteristics



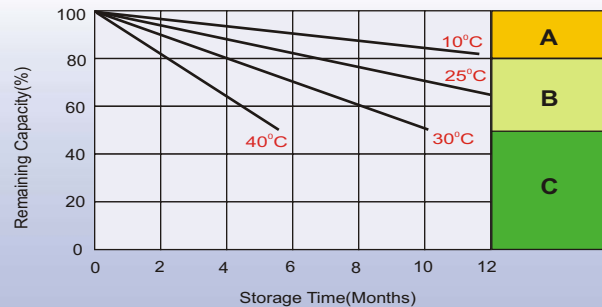
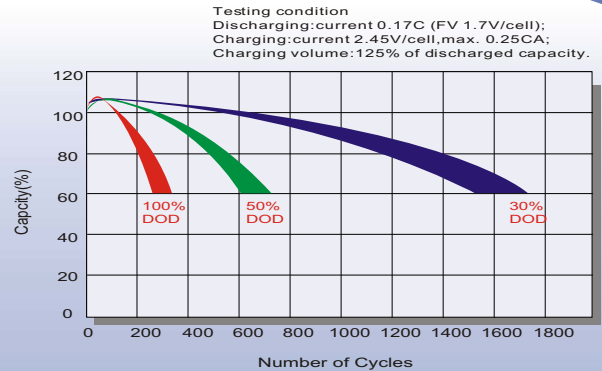
## Charging Characteristics (cycle use)



## Temperature Effects in Relation to Battery Capacity



## 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.)
- B** Supplementary charge required before use. Optional charging way as below:
  1. Charged for above 3 days at limited current 0.25CA and constant volatge 2.25V/cell.
  2. Charged for above 20hours at limited current 0.25CA and constant volatge 2.45V/cell.
  3. Charged for 8~10hours at limited current 0.05CA .
- C** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.

## Sales Office

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