AMSTRON POWER SOLUTIONS

EV Series - Deep Cycle

AP-12220EV (12V20Ah)

Specification

Nominal Voltage	12V
Nominal Capacity(10HR)	20.0AH
Dimension	Length 181±2mm (7.13 inches) Width 76.5±1mm (3.01 inches) Container Height 170.5±2mm (6.73 inches) Total Height (with Terminal) 170.5±2mm (6.71 inches)
Approx Weight	Approx 6.90 Kg (15.21lbs)
Terminal	T15
Container Material	ABS
Rated Capacity	21.4AH/1.07A (20hr,1.80V/cell,25 °C/77°F) 20.0AH/2.00A (10hr,1.80V/cell,25 °C/77°F) 17.5AH/3.51A (5hr,1.75V/cell,25 °C/77°F) 15.9AH/5.30A (3hr,1.75V/cell,25 °C/77°F) 12.9AH/12.9A (1hr,1.60V/cell,25 °C/77°F)
Max. Discharge Current	300A (5s)
Internal Resistance	Approx 15.0m Ù
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 6.0A. 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	Amstron 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.

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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	29.3	24.6	21.5	15.5	12.3	9.99	6.20	4.84	3.92	3.18	2.78	2.27	1.89	1.06
1.80V/cell	37.4	29.8	25.5	18.3	14.3	11.2	6.77	5.20	4.18	3.42	2.98	2.40	2.00	1.07
1.75V/cell	41.1	32.5	27.4	19.0	14.9	11.7	7.02	5.30	4.28	3.51	3.06	2.45	2.02	1.08
1.70V/cell	44.8	34.7	28.8	19.8	15.4	12.1	7.30	5.45	4.39	3.60	3.12	2.48	2.04	1.10
1.65V/cell	48.4	36.9	30.6	20.8	15.8	12.5	7.50	5.68	4.54	3.70	3.19	2.52	2.08	1.11
1.60V/cell	52.5	39.5	32.6	22.0	16.5	12.9	7.76	5.85	4.68	3.82	3.26	2.54	2.10	1.12

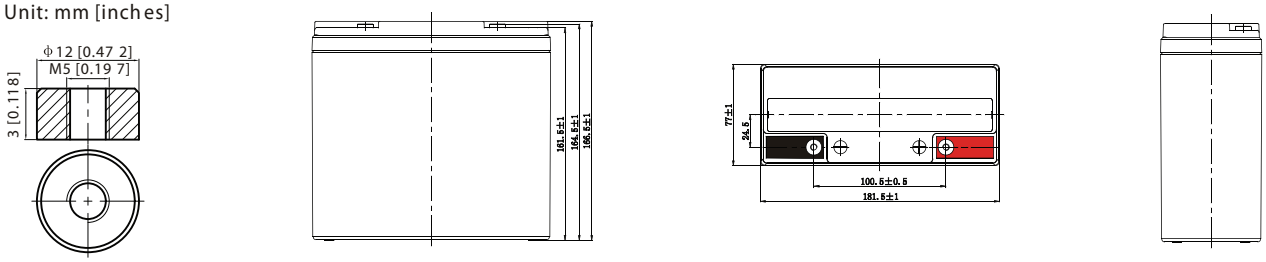
Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	54.6	46.5	41.0	29.8	23.8	19.4	12.1	9.45	7.67	6.25	5.49	4.48	3.74	2.13
1.80V/cell	68.9	55.3	47.8	34.7	27.5	21.6	13.1	10.1	8.15	6.69	5.86	4.75	3.96	2.14
1.75V/cell	74.8	59.8	51.0	35.9	28.4	22.5	13.6	10.3	8.32	6.86	6.01	4.83	4.00	2.16
1.70V/cell	80.3	63.4	53.3	37.2	29.4	23.1	14.1	10.5	8.52	7.01	6.13	4.89	4.03	2.20
1.65V/cell	86.1	67.0	56.3	39.0	30.0	23.8	14.4	11.0	8.79	7.20	6.26	4.96	4.11	2.22
1.60V/cell	91.9	70.8	59.4	40.8	31.0	24.5	14.8	11.2	9.03	7.40	6.38	5.00	4.15	2.23

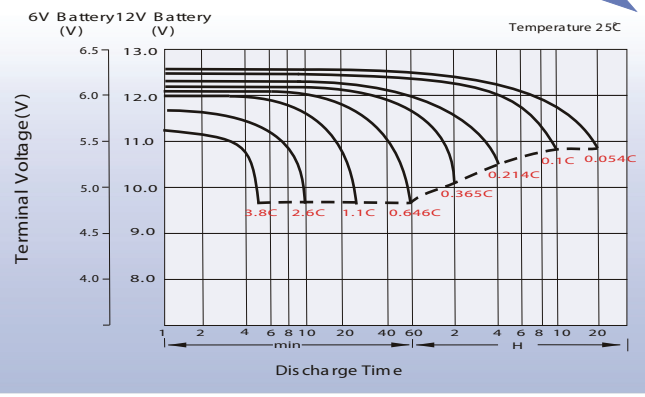
Dimensions

T1 2Terminal

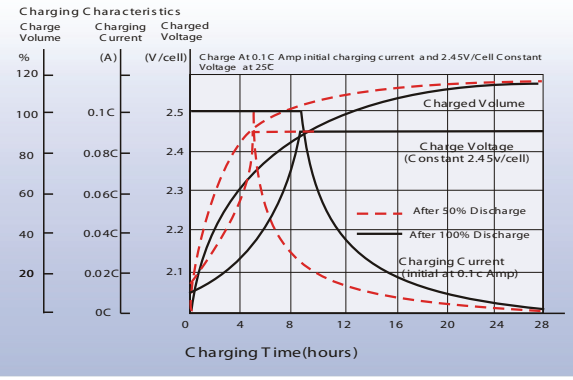
Unit: mm [inches]



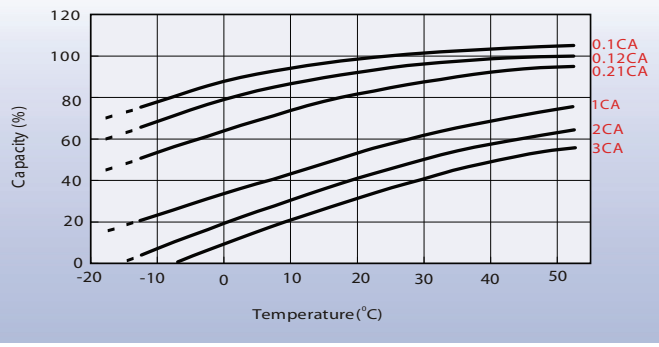
Discharge Characteristics



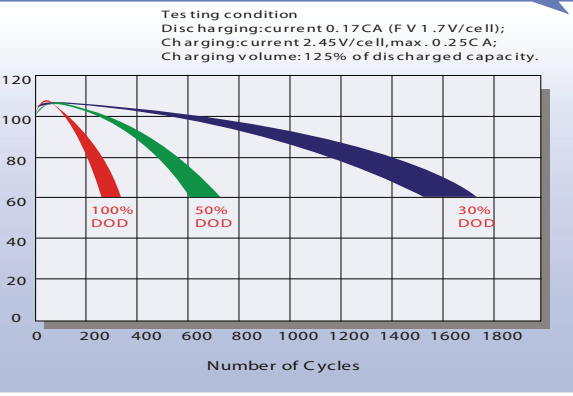
Charging Characteristics

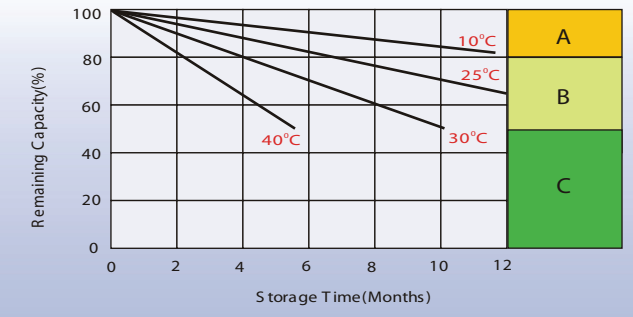


Temperature Effects in Relation to Battery Capacity



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 limted current 0.25CA and constant volatge 2.25V /cell.
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.

Sales Office

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