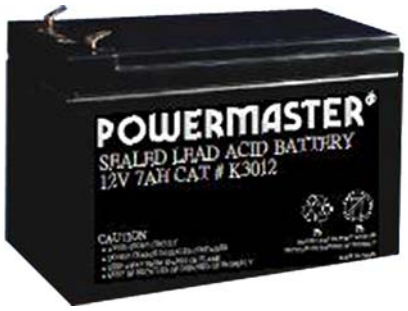
Product Specification sheet

Cat # K3012 Powermaster ® 12V 7AH Sealed Lead Acid Battery

Features

- Multi-cell design for economy of installation and maintenance
- Individual valve for each cell
- High quality ABS case and cover
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance
- Not restricted for air transport
- Not restricted for surface transport
- Long life
- Float/cycle use
- Low self-discharge rate
- Use in any position



Specifications

Nominal Voltage (V).....12 volts (6 cells in series)

Nominal Capacity @ 25ºC (AH)

20 hour rate F.V. (1.75V/cell) (350mA to 10.5 volts)	7.0A.H.
10 hour rate F.V. (1.75V/cell) (630mA to 10.5 volts)	6.3A.H.
5 hour rate F.V. (1.75V/cell) (1200mA to 10.2 volts)	5.6A.H.
1 hour rate F.V. (1.75V/cell) (4200mA to 9.60 volts)	4.2A.H.

Capacity affected by temperature

40ºC	103%
25ºC	100%
0ºC	86%
-15ºC	65%

Weight (Grams).....2050g (appox)

Terminal.....Quick Connect Type

Maximum discharge current for 5 seconds (A).....105A

Ambient temperature

Charge	0°C~+40°C
Discharge	-20°C~+50°C
Storage	-20°C~+40°C

Shelf Life (% of nominal capacity at 25°C)

3 months	91%
6 months	82%
12 months	64%

Constant Voltage Charge

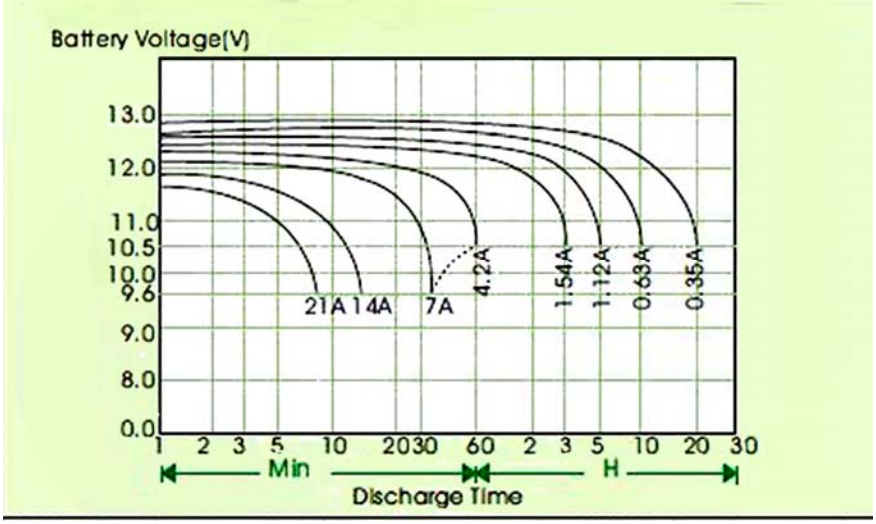
Cycle	Initial charge current ≤2.1A 14.4~15V @ 25ºC
Standby	13.5~13.8V @ 25ºC

Dimensions (mm)

Length ±1mm	151mm
Width ±1mm	65mm
Container Height ±1mm	93.5mm
Total height ±2mm	99mm

Application.....UPS, PABX, Security, Laboratory

Discharge Characteristics



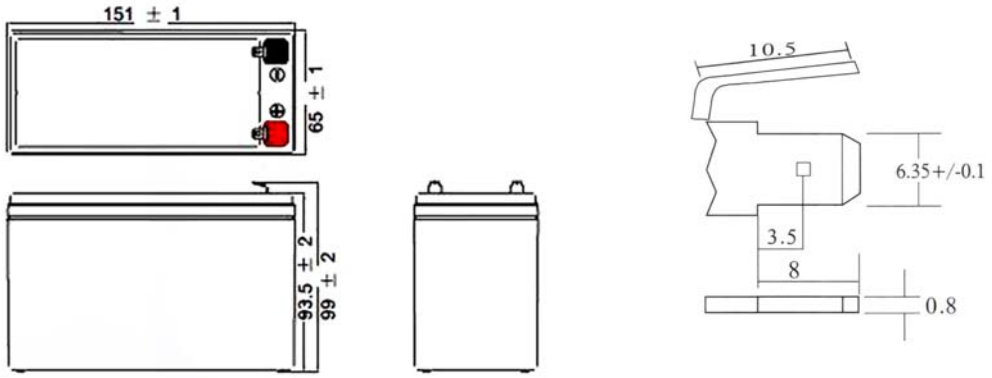
Note: Discharge shall be cut off at 10.5V if discharged at <1ºC and at 9.6V if at ≥1ºC.

It is recommended to recharge the battery by constant-voltage charge immediately after use.

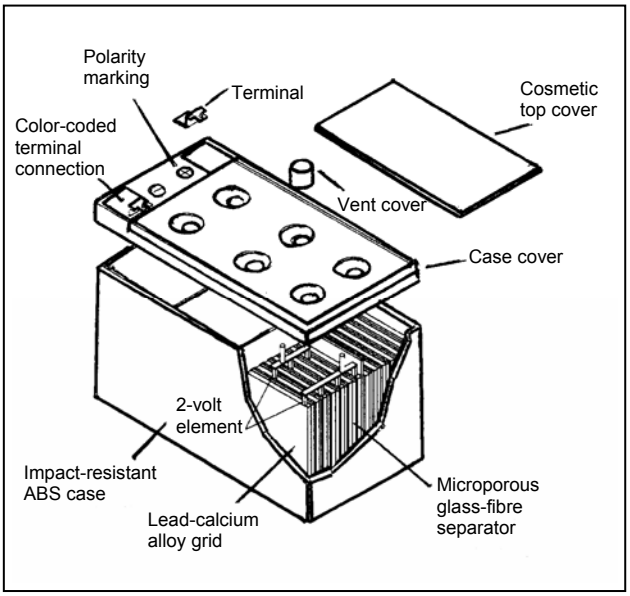
Constant Current (Amp) and Constant Power (Watt) Discharge Table at 25^{0}C (77^{0}F)

Time (min) / Final voltage		5	10	15	20	30	60	120	180	300	600
1.80VPC	A	25.68	16.08	11.96	9.90	6.80	3.71	1.95	1.42	0.93	0.52
	W	268.58	168.95	125.63	103.97	71.48	38.99	21.66	15.16	9.75	5.85
1.75VPC	A	26.09	16.70	12.37	10.40	7.17	4.00	2.11	1.54	1.01	0.58
	W	274.00	175.45	129.96	108.30	73.21	42.02	22.74	16.79	10.29	6.06
1.70VPC	A	26.30	16.91	12.58	10.52	7.12	4.13	2.17	1.58	1.04	0.59
	W	276.17	177.61	132.13	110.47	74.73	43.32	23.28	17.33	10.83	6.28
1.65VPC	A	26.51	17.11	12.79	10.68	7.32	4.42	2.19	1.60	1.13	0.62
	W	278.33	179.78	134.29	112.09	76.89	46.35	24.37	17.87	11.37	6.50
1.60VPC	A	26.74	17.33	13.00	10.94	7.48	4.62	0.00	1.77	1.15	0.64
	W	280.50	181.94	136.46	114.36	78.63	48.52	25.21	18.63	12.04	6.74

Dimensions



CONSTRUCTION



Plates (Electrodes)

Plate construction is the key to producing a good battery. Powermaster® sealed lead-acid rechargeable batteries are constructed using the latest technology and equipment to cast grids from a lead-calcium alloy, free of antimony. The small amount of calcium and tin in the grid alloy imparts strength to the plate and guarantees durability even in extensive life-cycle service. Lead oxide paste is added to the grid to form the electrically active material. In the charged state, the negative plate paste is pure lead and the positive plate paste is lead oxide. Both of these are in a porous or spongy form to optimise surface area and thereby maximise capacity.

Electrolyte

Immobilised dilute sulphuric acid: H_2SO_4.

Separators

The plate separators used in Powermaster® sealed lead-acid rechargeable batteries are made of woven glass fibre cloth with high heat and oxidation resistance. This material also offers superior electrolyte absorption and retention and is an excellent ion conductor.

Relief Valve

In case of excessive gas pressure build-up inside the battery (usually caused by abnormal charging) the relief valve will open and relieve the pressure. The one-way valve not only ensures that no air gets into the battery where the oxygen would react with the plates causing internal discharge, but it also represents an important safety device in the event of excessive overcharge. Vent release pressure is between 2-6 psi. The seal ring material is neoprene rubber.

Terminals

The AMP quick-connect type terminals are constructed of tin plated brass and sealed with a special epoxy material.

Container

The ABS housing is resistant to chemicals and flammability.

Case Sealing

The tongue and groove joint is polyurethane sealed.