

VRLA AGM Battery

ESR18-12 [12V18Ah]



General Features

- Designed floating charging service life: 8 years (25°C)
- Sealed and maintenance free operation
- Safety valve installation for explosion proof
- Low self-discharge characteristic
- Wide operating temperature range from 0°C~40°C
- Lead Aluminum calcium Tin alloy high energy, prevent corrosion

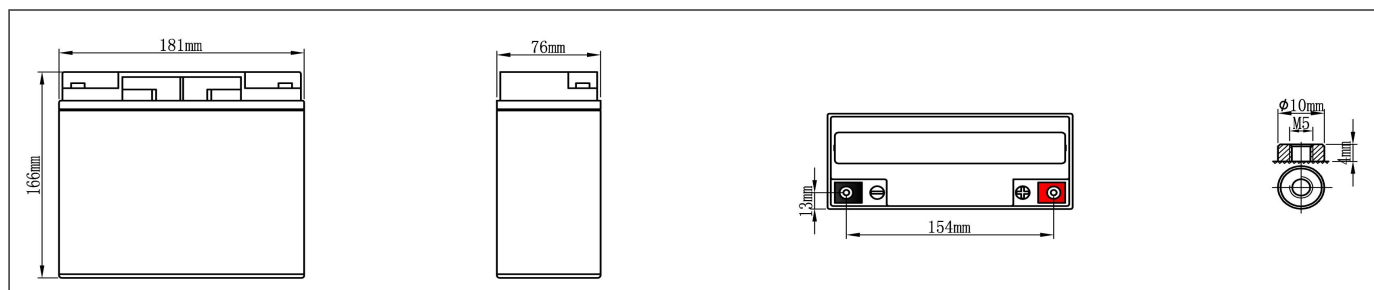
Application

- DC power supply
- Medical equipments
- UPS/EPS power supply
- Emergency lighting systems
- Alarm and security systems

Physical Specifications

Nominal Voltage	Nominal Capacity (20HR)	Dimension				Weight ±2%	Internal Resistance (In full charge status)	Standard Terminals
		L	W	H	TH			
12V	18AH	181±2mm	76±2mm	166±2mm	166±2mm	Approx 4.80kg (10.58lbs)	≈21.0 mΩ	T03 (standard)

Dimensions



Constant-Voltage Charge

Rated Capacity	
20 hour rate (0.90A)	18.00AH
10 hour rate (1.8A)	16.80AH
5 hour rate (3.06A)	15.15AH
27 minute rate (18A)	8.10AH
7 minute rate (54A)	6.30AH
Capacity affected by Temperature	
40°C(104°F)	103%
25°C(77°F)	100%
0°C(32°F)	86%

Cycle Application
1. Limit initial current less than 4.5A.
2. Charge until battery voltage (under charge) reaches 14.1V to 14.4V at 25°C(77°F).
3. Hold at 14.1V to 14.4V until current drop to under 0.108A for at least 3 hours.
4. Temperature compensation coefficient of charging voltage is -30mV/°C.
Standby Service
1. Hold battery across constant voltage source of 13.6to 13.8 volts with current limit 4.5A continuously .When held at this voltage , the battery will seek its own current level and maintain itself in a fully charge status.
2. Temperature compensation coefficient of charging voltage is -18mV/°C.

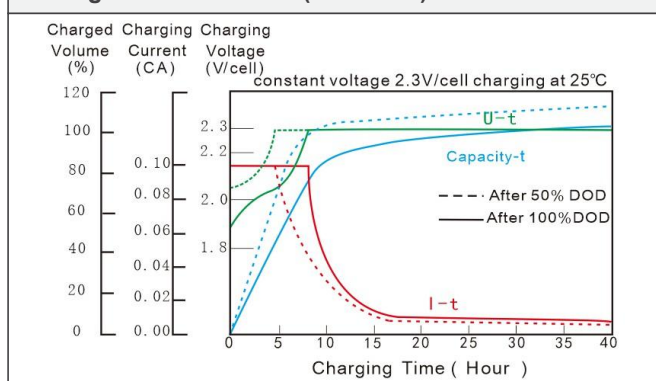
NOTE : The battery should be charged within 6 months of storage, Otherwise, permanent loss of capacity might occur as a result of sulfation

Battery Discharge Table

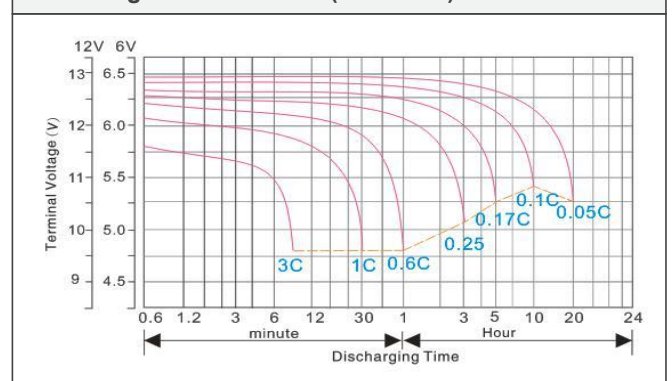
End Voltage (V)	Minute (M)				Hour (H)							
	10	15	30	45	1	1.5	2	3	5	8	10	20
Constant Current Discharge Data Sheet (@25°C) Unit: A												
9.6V	47.8	37.5	19.2	13.4	11.4	9.03	6.72	5.07	3.24	2.15	1.75	0.94
9.9V	45.4	35.7	18.2	13.0	11.1	8.81	6.55	4.94	3.16	2.11	1.74	0.93
10.2V	43.3	34.0	17.4	12.6	10.8	8.60	6.40	4.83	3.08	2.06	1.72	0.92
10.5V	42.9	33.7	17.3	12.5	10.8	8.45	6.15	4.67	3.03	2.04	1.70	0.90
10.8V	42.5	33.2	16.9	12.3	10.7	8.30	5.91	4.51	2.98	2.02	1.68	0.88
Constant Power Discharge Data Sheet (@25°C) Unit: W												
9.6V	583	473	267	188	141	108	81.3	58.0	38.2	26.7	21.2	11.4
9.9V	556	450	254	182	138	105	79.3	56.6	37.4	26.2	21.0	11.3
10.2V	529	429	242	177	134	103	77.4	55.3	36.4	25.6	20.8	11.2
10.5V	511	416	237	173	132	101	76.3	54.0	36.0	25.4	20.4	11.0
10.8V	492	402	230	168	130	100	75.3	53.0	35.6	25.2	20.1	10.9

Performance Characteristics

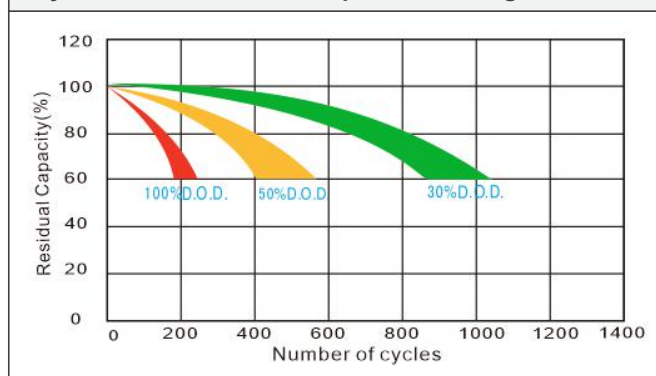
Charge Characteristics (25°C/77°F)



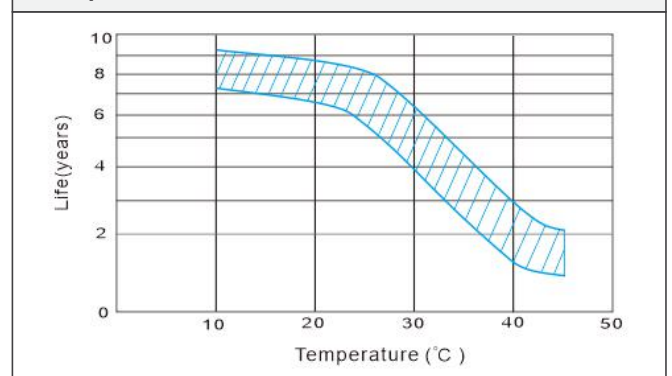
Discharge Characteristic (25°C/77°F)



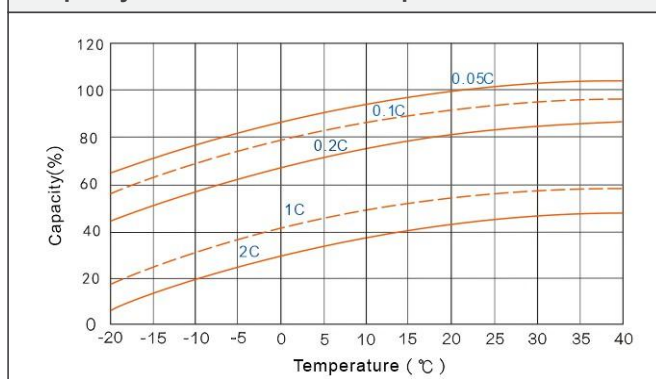
Cycle Life in Relation to Depth of Discharge



Temperature vs Float Life



Capacity Curve At Different Temperature



Self Discharge Characteristics

