



# SMARTRONICS

MH61491

## 12-36WH

## 12V 9Ah

Valve Regulated Lead Acid Battery / AGM Technology

### Specifications

Nominal Voltage(V) 12V

#### Nominal Capacity

15 min rate	(216W to 1.60V/cell,25°C (77°F))	54WH
5 hour rate	(1.53A to 1.70V/cell,25°C (77°F))	7.65AH
3C	(27A to 1.60V/cell,25°C (77°F))	3.6AH
1C	(9A to 1.60V/cell,25°C (77°F))	5.7AH

Weight Approx. 2.7 kg (5.94lbs)

Internal Resistance Approx. 14mΩ

Maximum Discharge Current 135A (5sec)

#### Charging Methods at 25°C (77°F)

##### Cycle use:

Initial Charging Current less than	2.7Av
Charging Voltage	14.4V~15.0
Coefficient	-30mV/°C

##### Standby use:

No limit on Initial Charging Current Voltage	
Charging Voltage	13.5V~13.8V
Coefficient	-20.0mV/°C

#### Operating Temperature Range

Charge	-15~40°C (5~104°F)
Discharge	-15~50°C (5~122°F)
Storage	-15~40°C (5~104°F)
Case Material	ABS
Terminal	F2(Fasten Tab 250)

#### Description of torque value of hard ware for the terminals

Recommended torque value	M6: 7 N-m (71kgf-cm)
Maximum allowable torque value	M6: 9 N-m (92kgf-cm)

#### Self-Discharge

This 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.



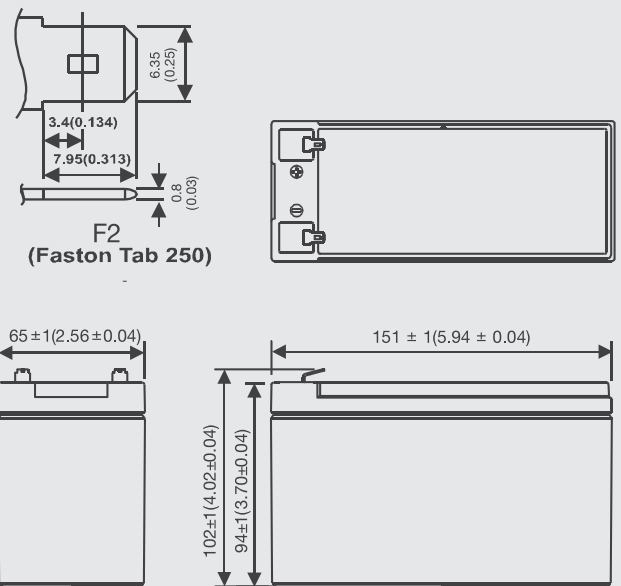
P# 12-36WH 201

\*H: High performance series

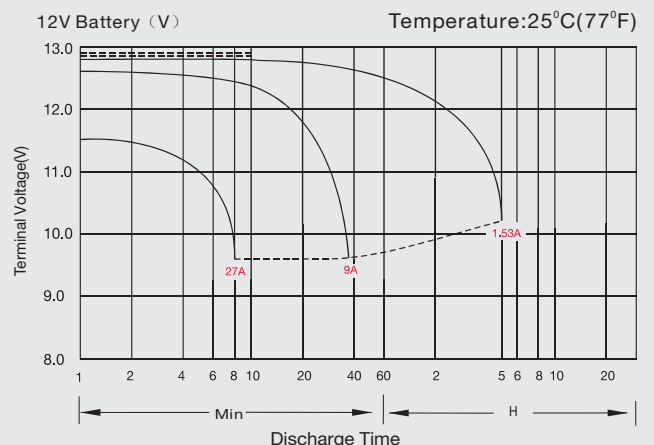
### For: Backup Power i.e. UPS, ...

### Design life: 3-5 years (Ambient Temperature 20°C)

### Dimensions



### Discharge Characteristics



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

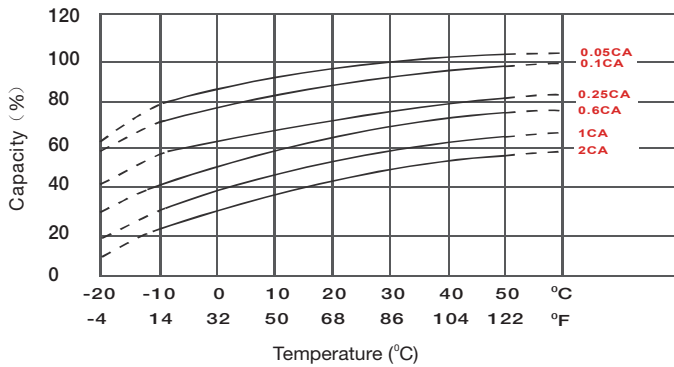
F.V (V/cell)	Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
1.85		30.4	19.1	14.3	8.09	5.17	2.63	2.12	1.69	1.46	0.827	0.427
1.80		32.6	20.4	14.9	8.45	5.29	2.72	2.18	1.74	1.51	0.841	0.422
1.75		35.0	21.9	15.8	8.93	5.37	2.78	2.23	1.77	1.53	0.855	0.451
1.70		36.7	22.9	16.5	9.35	5.45	2.84	2.27	1.80	1.55	0.866	0.456
1.65		38.5	24.1	17.3	9.77	5.52	2.89	2.31	1.82	1.57	0.877	0.462
1.60		40.3	25.2	18.0	10.2	5.57	2.93	2.34	1.83	1.58	0.884	0.466

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

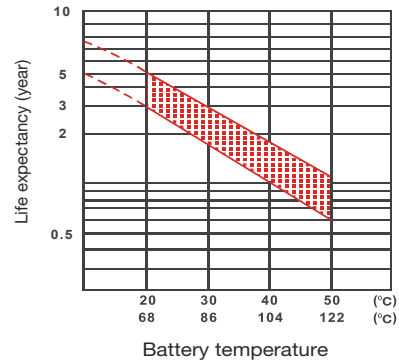
F.V (V/cell)	Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
1.85		342	219	181	94.7	59.8	32.4	25.2	20.4	17.3	9.73	5.12
1.80		316	234	187	97.3	62.4	33.4	26.1	21.2	17.9	10.1	5.29
1.75		388	252	194	102	64.2	34.1	26.9	21.8	18.3	10.3	5.41
1.70		407	264	200	106	65.8	34.9	27.7	22.4	18.6	10.5	5.44
1.65		427	277	208	108	67.6	35.4	28.5	23.1	18.9	10.7	5.48
1.60		448	290	216	114	68.8	35.7	29.1	23.5	19.1	10.8	5.51

Specifications subject to change without notice.

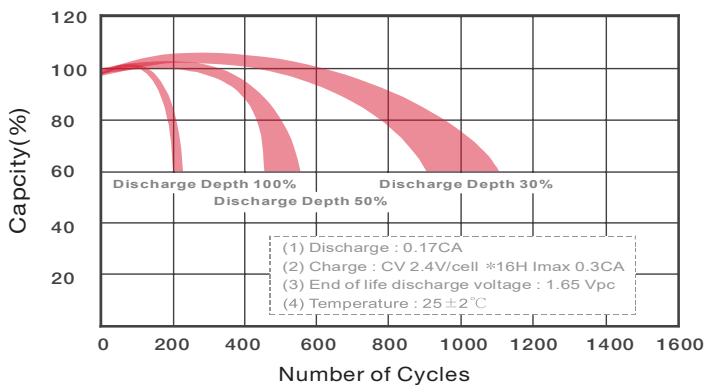
**Temperature Effects in Relation to Battery Capacity**



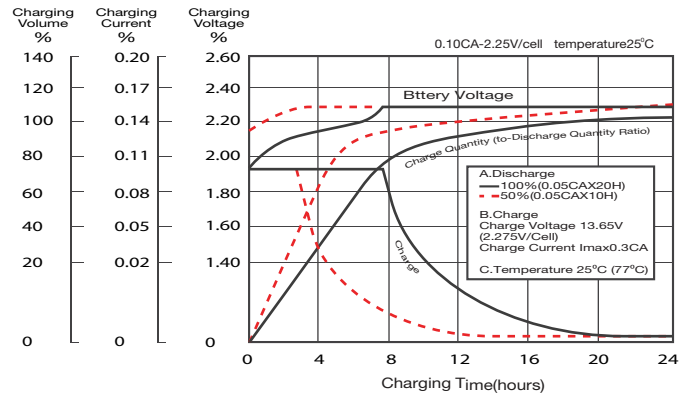
**Effect of Temperature on Long Term Float Life**



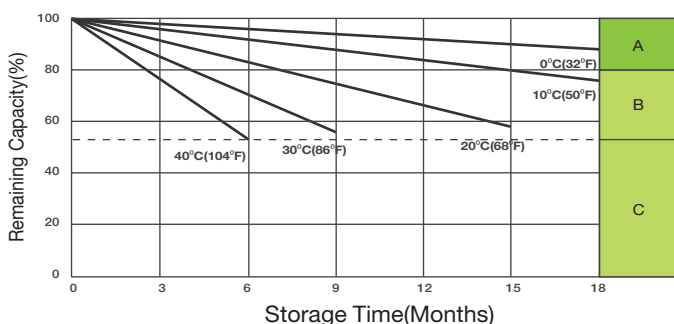
**Cycle Life in Relation to Depth of Discharge**



**Float Charging Characteristics**



**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:
  - Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
  - Charged for above 20hours at limited current 0.25CA and constant voltage 2.45V/cell.
  - 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.