



# SMARTRONICS

MH61491

## 12-40H

## 12V 40Ah

Valve Regulated Lead Acid Battery / AGM Technology

### Specifications

Nominal Voltage(V) 12V

#### Nominal Capacity

20 hr rate	(2.0A to 1.80V/cell,25°C (77°F))	40.0AH
10 hr rate	(3.80A to 1.80V/cell,25°C (77°F))	38.0AH
5 hr rate	(6.8A to 1.750V/cell,25°C (77°F))	34.0AH
3C	(120A to 1.75V/cell,25°C (77°F))	16.0AH
1C	(40A to 1.60V/cell,25°C (77°F))	22.67AH

Weight Approx. 13.4 kg (29.5lbs)

Internal Resistance Approx. 7.5mΩ

Maximum Discharge Current 480A (5sec)

#### Charging Methods at 25°C (77°F)

##### Cycle use:

Initial Charging Current less than	12A
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 UL94 HB
Terminal	F8

#### 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.



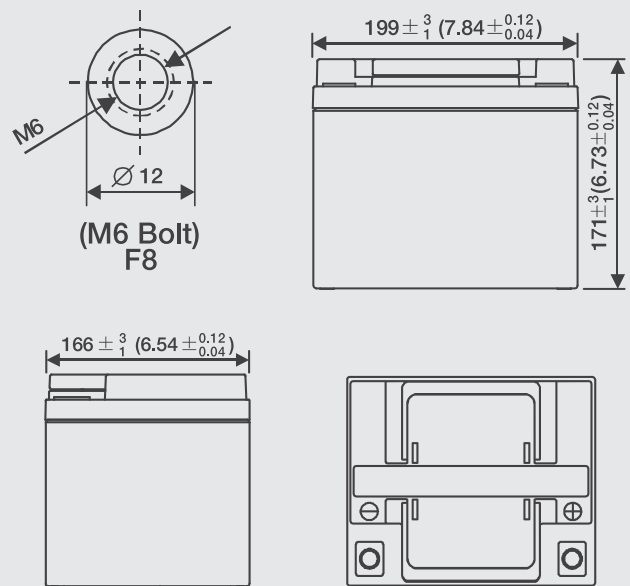
P# 12-40H 200

\*H: High performance series

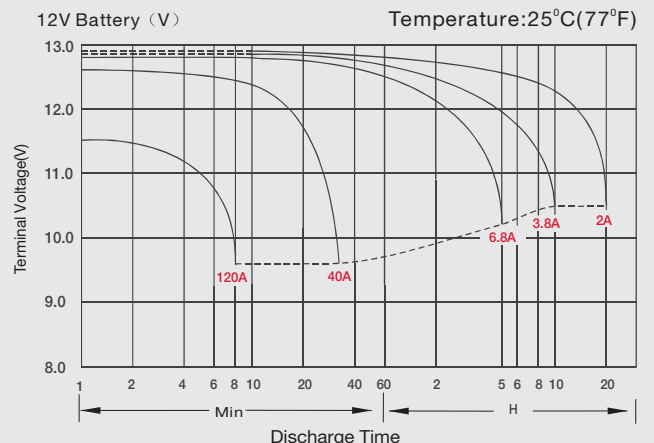
For: Backup Power i.e. UPS, ...

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

### Dimensions



### Discharge Characteristics



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

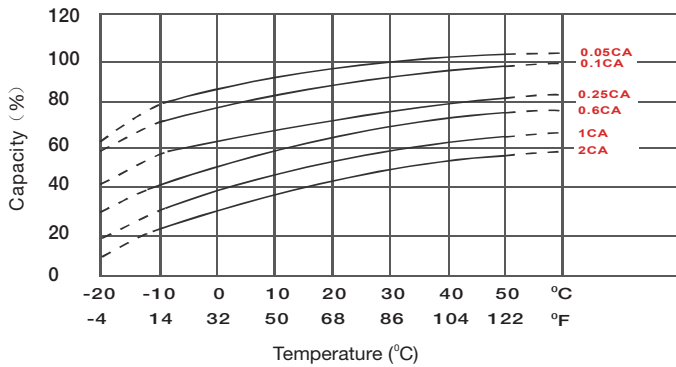
F.V (V/cell)	Time	6min	10min	15min	20min	30min	60min	90min	2h	3h	4h	5h	8h	10h	20h
1.85		141	97.0	72.1	58.5	43.5	31.7	21.9	16.8	11.6	8.94	7.29	4.75	3.92	2.08
1.80		150	103	76.1	61.4	45.5	32.9	22.7	17.5	12.0	9.25	7.54	4.91	4.04	2.14
1.75		159	108	79.6	64.0	47.1	33.6	23.1	17.8	12.2	9.40	7.66	4.98	4.10	2.17
1.70		164	111	81.4	65.4	48.0	33.8	23.3	17.9	12.3	9.47	7.72	5.01	4.13	2.19
1.65		167	113	82.6	66.2	48.5	34.1	23.5	18.0	12.4	9.53	7.77	5.04	4.15	2.20
1.60		169	114	83.5	66.9	49.0	34.2	23.6	18.1	12.5	9.57	7.80	5.06	4.17	2.20

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

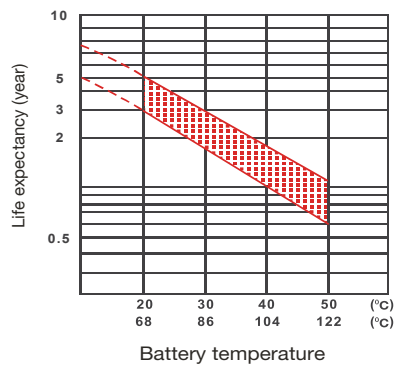
F.V (V/cell)	Time	6min	10min	15min	20min	30min	60min	90min	2h	3h	4h	5h	8h	10h	20h
1.85		249	178	135	112	84.8	62.9	43.5	33.5	23.3	18.0	14.6	9.56	6.93	3.55
1.80		266	189	142	118	88.6	65.3	45.2	34.8	24.1	18.6	15.2	9.88	7.15	3.75
1.75		281	198	149	123	91.8	66.6	46.0	35.4	24.5	18.9	15.4	10.0	7.35	3.93
1.70		290	204	152	125	93.5	67.1	46.3	35.6	24.7	19.0	15.5	10.0	7.55	4.08
1.65		295	207	154	127	94.6	67.6	46.7	35.92	24.8	19.1	15.6	10.1	7.73	4.23
1.60		299	209	156	128	95.5	67.9	46.9	36.1	24.9	19.2	15.7	10.2	7.87	4.35

Specifications subject to change without notice.

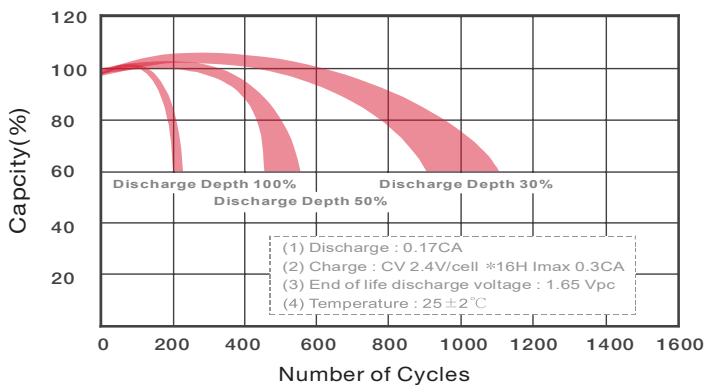
**Temperature Effects in Relation to Battery Capacity**



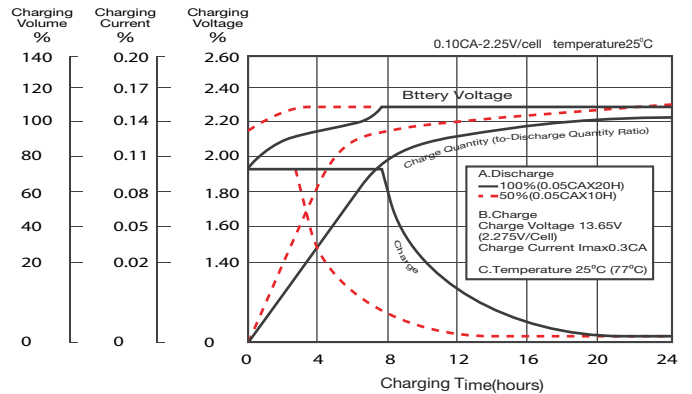
**Effect of Temperature on Long Term Float Life**



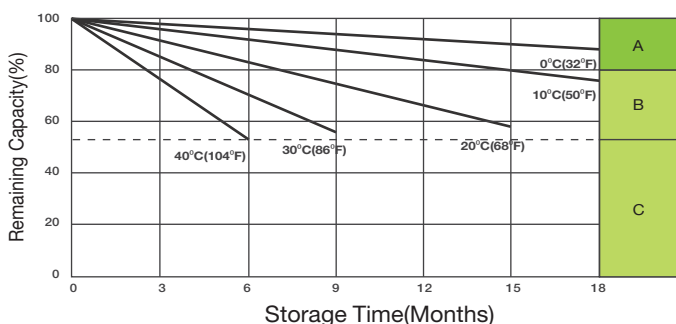
**Cycle Life in Relation to Depth of Discharge**



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