



SMARTRONICS

MH26866

12-24E 303

12V 24Ah

Valve Regulated Lead Acid Battery / AGM Technology

Specifications

Nominal Voltage(V) 12V

Nominal Capacity

20 hr rate	(1.20A to 10.50V,25°C (77°F))	24AH
10 hr rate	(2.37A to 10.50V,25°C (77°F))	23.7AH
5 hr rate	(4.1A to 10.50V,25°C (77°F))	20.5AH
1C	(16A to 9.60V,25°C (77°F))	16.0AH

Weight Approx. 8.1 kg (17.8lbs)

Internal Resistance Approx. 12mΩ

Maximum Discharge Current 300A (5sec)

Charging Methods at 25°C (77°F)

Cycle use:

Initial Charging Current less than	9.6Av
Charging Voltage	2.40~2.45 VPC
Coefficient	-30.0mV/°C

Standby use:

No limit on Initial Charging Current Voltage	
Charging Voltage	2.20~2.28VPC
Coefficient	-20.0mV/°C

Operating Temperature Range

Charge	-10~60°C (14~140°F)
Discharge	-20~60°C (-4~140°F)
Storage	-20~60°C (-4~104°F)
Case Material	ABS
Terminal	F3

Description of torque value of hard ware for the terminals

Recommended torque value	M6: 7 N-m (122kgf-cm)
Maximum allowable torque value	M6: 9 N-m (153kgf-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.



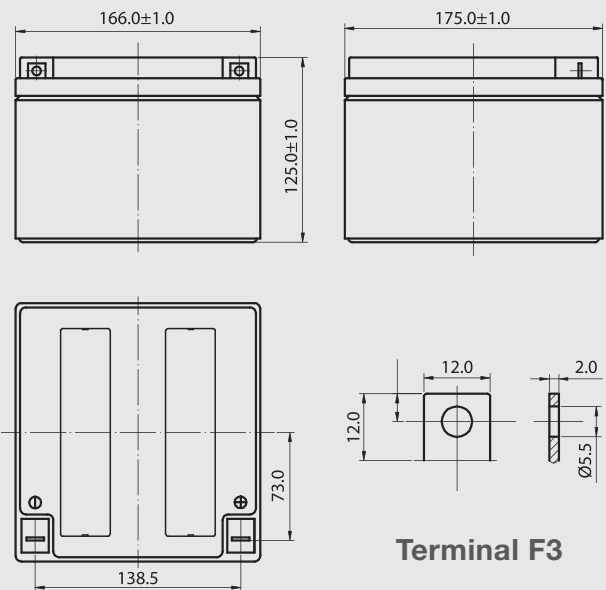
P# 12-24Ah 303

*E: Economic series

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

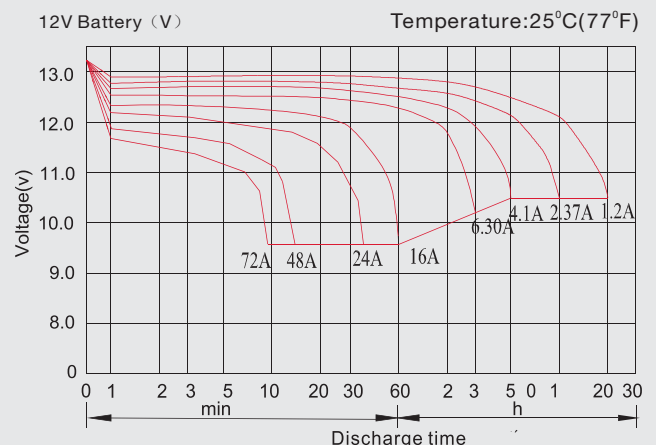
Design life: 3-5 years (Ambient Temperature 20°C)

Dimensions



Terminal F3

Discharge Characteristics



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

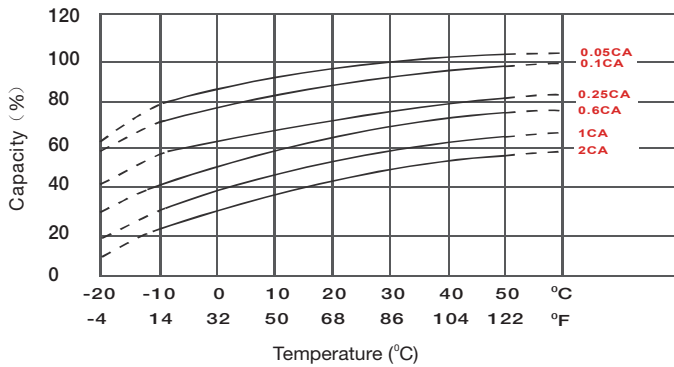
F.V (V/cell)	Time	5min	10min	15min	30min	60min	3h	5h	10h	20h
1.80		74.3	51.3	39.1	23.6	13.5	5.78	3.95	2.31	1.18
1.75		79.7	54.5	41.1	24.9	14.2	6.05	4.10	2.37	1.20
1.70		84.9	57.8	43.7	26.2	14.8	6.30	4.24	2.42	1.22
1.65		90.1	60.9	45.9	27.4	15.4	6.53	4.36	2.47	1.23
1.60		95.0	64.0	48.0	28.5	16.0	6.74	4.47	2.52	1.24

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

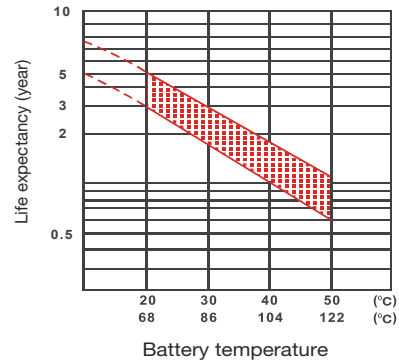
F.V (V/cell)	Time	5min	10min	15min	30min	45min	1h	2h	3h	5h
1.80		139	92.7	70.3	43.7	32.3	26.0	16.9	13.4	8.54
1.75		151	99.7	75.2	46.6	34.3	27.5	19.0	13.1	8.39
1.70		161	107	80.2	49.4	36.3	28.9	18.3	12.5	8.22
1.65		173	114	85.1	52.3	38.2	30.3	17.6	12.0	8.03
1.60		185	121	90.0	55.0	40.0	31.7	16.9	11.4	7.83

Specifications subject to change without notice.

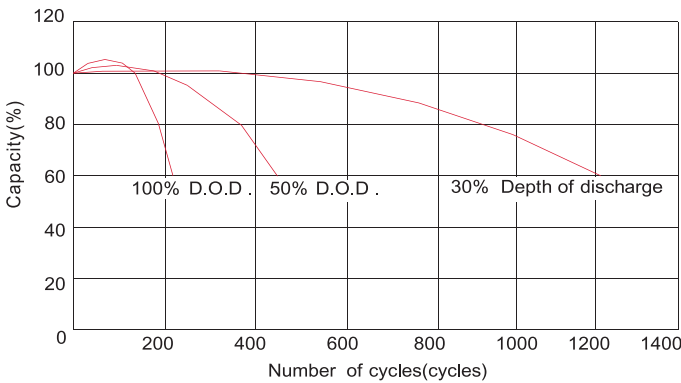
Temperature Effects in Relation to Battery Capacity



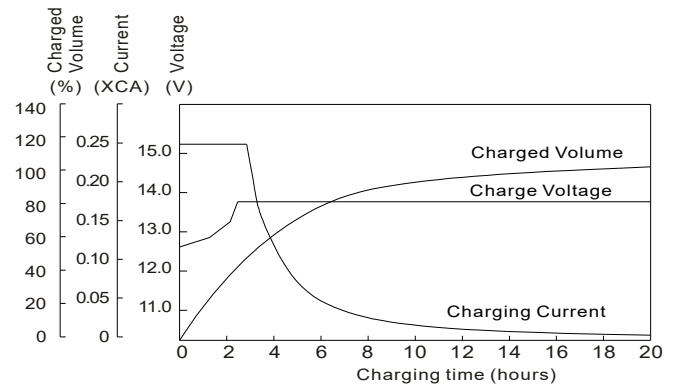
Effect of Temperature on Long Term Float Life



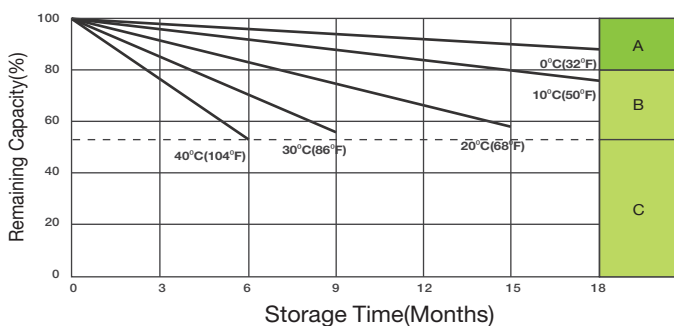
Cycle Life in Relation to Depth of Discharge



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.