6FM90D-X *12V 90Ah(10hr)*

The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.

Battery Construction

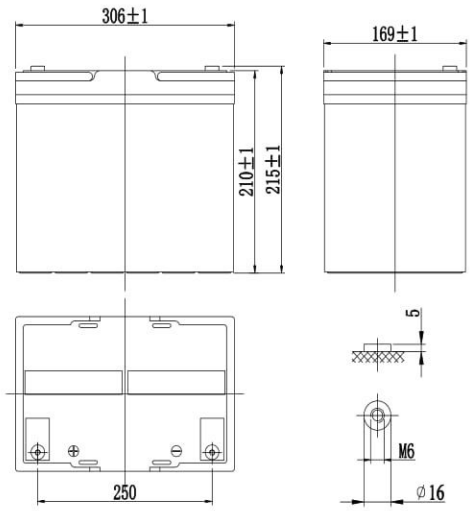
Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Pb	Fiberglass	Sulfuric acid

General Features

- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.

Dimensions and Weight

Length(mm / inch) ..... 306 / 12.05
Width(mm / inch) ..... 169 / 6.65
Height(mm / inch) ..... 208 / 8.19
Total Height(mm / inch) ..... 215 / 8.46
Approx. Weight(Kg / lbs) ..... 30 / 66.1



Performance Characteristics

Nominal Voltage 12V
Number of cell 6
Design Life ..... 10 years
Nominal Capacity 77ºF(25ºC)
10 hour rate (9.00A, 10.8V) 90.0Ah
5 hour rate (15.6A, 10.5V) 78Ah
1 hour rate (59.5A, 9.6V) 59.5Ah
Internal Resistance
Fully Charged battery 77ºF(25ºC) 5.2mOhms
Self-Discharge
3% of capacity declined per month at 20ºC(average)
Operating Temperature Range
Discharge ..... -20~60ºC
Charge ..... -10~60ºC
Storage ..... -20~60ºC
Max. Discharge Current 77ºF(25ºC) ..... 800A(5s)
Short Circuit Current 2000A
Charge Methods: Constant Voltage Charge 77ºF(25ºC)
Cycle use 14.4-14.7V
Maximum charging current 27A
Temperature compensation ..... -30mV/ºC
Standby use 13.6-13.8V
Temperature compensation ..... -20mV/ºC

Discharge Constant Current (Amperes at 77ºF25ºC)

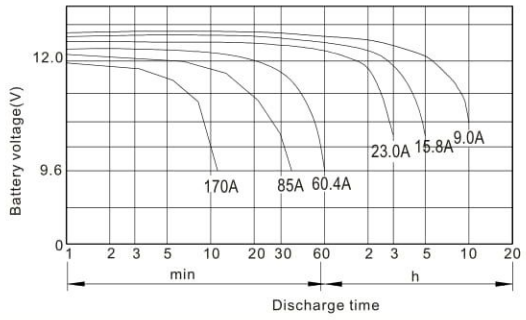
End Point Volts/cell	5min	10min	15min	30min	1h	3h	5h	10h	20h	100h
1.60V	293	201	167	96.5	60.4	24.6	16.8	9.08	4.73	1.06
1.65V	269	188	158	93.7	60.0	24.0	16.6	9.06	4.69	1.05
1.70V	245	175	159	90.6	60.2	23.6	16.3	9.04	4.63	1.04
1.75V	219	162	140	87.1	58.4	23.0	15.8	9.02	4.57	1.03
1.80V	194	148	131	85.4	56.6	22.4	15.5	9.00	4.50	1.02

Discharge Constant Power (Watts at 77ºF25ºC)

End Point Volts/cell	5min	10min	15min	30min	45min	1h	2h	3h	5h	100h
1.60V	505	355	305	183	137	119	66.5	48.1	33.6	2.16
1.65V	469	337	303	179	134	117	65.4	47.5	33.4	2.16
1.70V	434	319	290	174	131	116	64.2	47.1	33.2	2.16
1.75V	399	303	279	168	128	114	63.0	46.5	33.0	2.16
1.80V	364	282	270	162	125	110	62.4	45.7	32.7	2.16

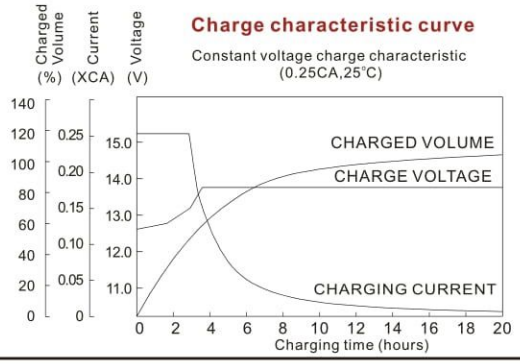
(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Discharge characteristic (25°C)

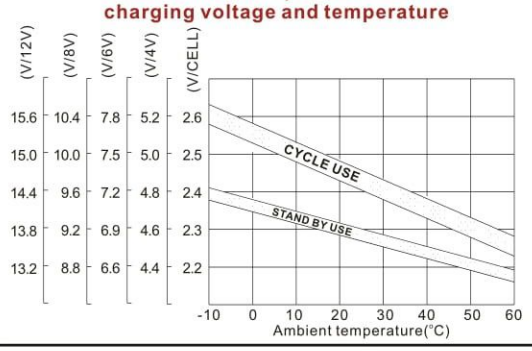


Charge characteristic curve

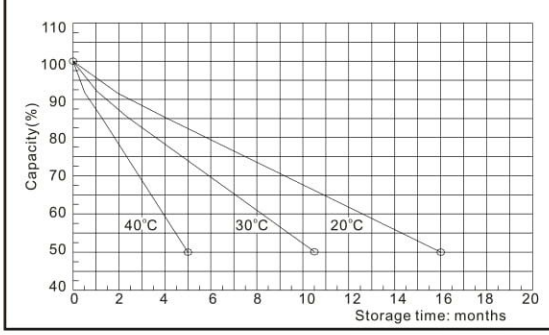
Constant voltage charge characteristic (0.25CA,25°C)



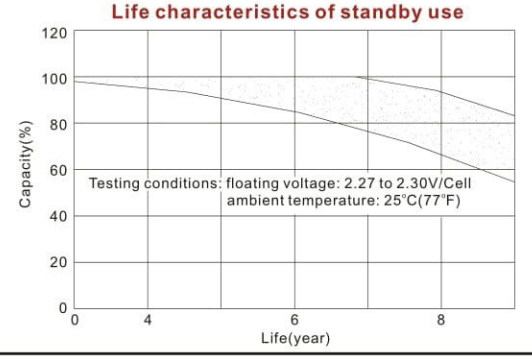
Relationship between charging voltage and temperature



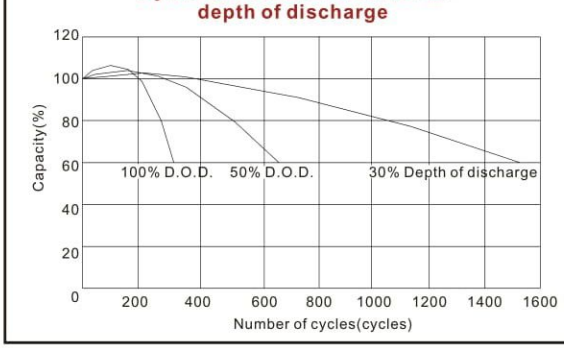
Self-discharge characteristic



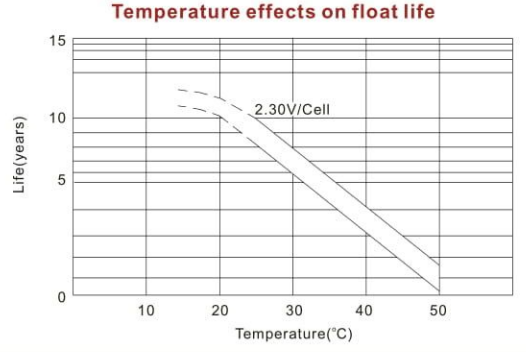
Life characteristics of standby use



Cycle service life in relation to depth of discharge



Temperature effects on float life



Temperature effects on capacity