AP12-110-GXD

High Temperature Gel Battery

Datasheet

The AP12-110-GXD is a gel battery with 12-year design life designed for frequent deep cycling and for high temperature applications. The battery is made with a heavy duty Calcium Tin alloy as well as double thickness of plates; the plates are made of a special alloy designed to reduce corrosion thus resulting in the long battery life. These features also mean that batteries will operate safely and reliably in high temperature and outdoor applications.

The AP12-110-GXD comes with 3 years warranty provided it is installed and have been having regular maintenance in accordance with manufacturer recommendation and specification.

Key features include:

- Maintenance-free operation
- Compact design
- Gelled Electrolyte Technology
- Stable and reliable
- High quality
- Up to 12 years design life at 25°C

Applications include:

- Solar and wind systems
- Alarm and security systems
- Backup power for test instruments
- UPS
- Emergency Lighting
- Fire alarm and security systems
- Auto-control systems
- Electronic apparatus and equipment
- Communications power supply
- Telecommunications systems
- DC power supply

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Product Specifications

Model / Part Number		AP12-110-GXD / GXD-110
Nominal Voltage		12V (6cells)
Nominal Capacity At 25°C		116Ah (20hr; 1.8V/cell) 110Ah (10hr; 1.8V/cell) 93.5Ah (5hr; 1.75V/cell) 66Ah (1hr; 1.6V/cell)
Terminal		T5 or F7
Container Material		ABS
Maximum Discharge Current		1000A (5s)
Internal Resistance		≈ 5.8mΩ
Operating Temperature Range	Discharge	-20 – 50°C
	Charge	0 – 40°C
	Storage	-20 – 40°C
	Nominal	25°C ± 3°C
Capacity Affected by Temperature	40°C	103%
	25°C	100%
	0°C	86%
Cycle Use		14.4 – 14.8V (25°C) Temperature coefficient -30mV/°C Initial charge current < 27A
Standby Use		13.5 – 13.8 (25°C) Temperature coefficient -20mV/°C No limit on initial charge current
Dimensions W x D x H		329 x 172 x 216 mm ± 2mm
Weight		31kg
Self-Discharge		May be stored for up to 9 months at 25°C after which a freshening charge is required. The time interval will be shorter for higher temperatures.

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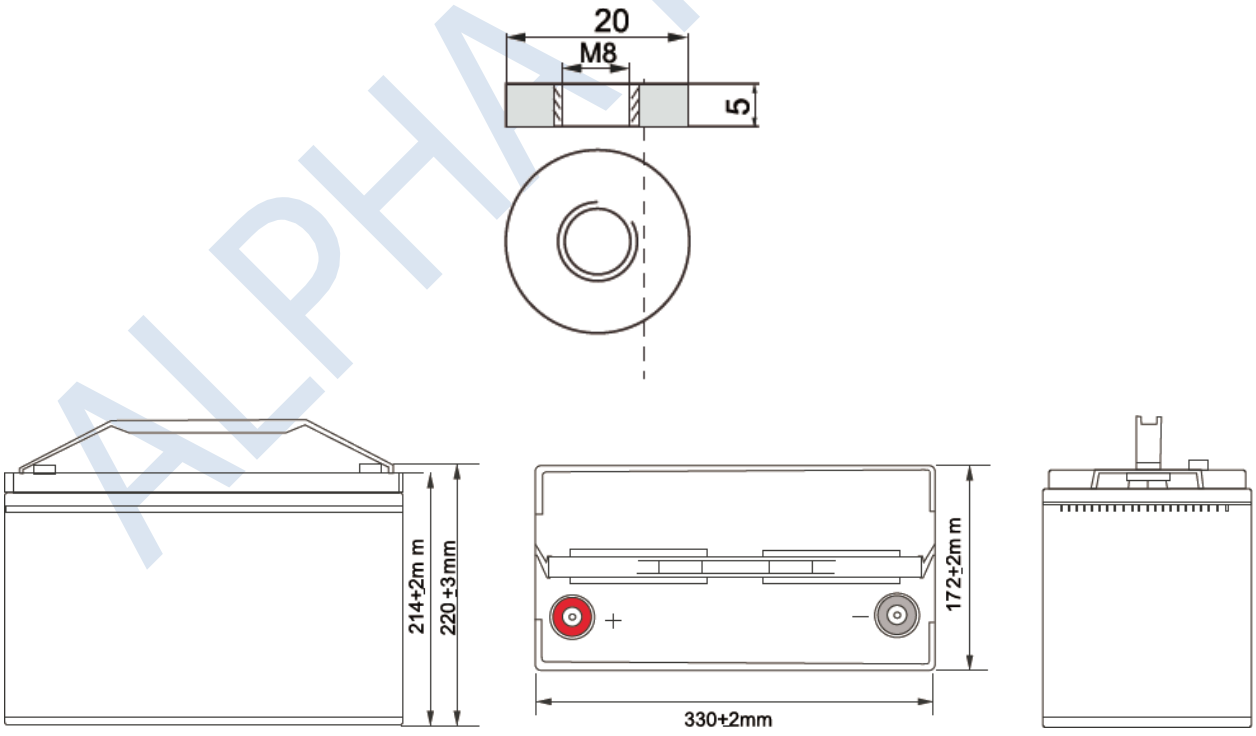
Constant Current Discharge (Amps @ 25°C)

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.8V/cell	/	184.4	150.4	93.7	72.5	59.6	35.2	26.4	18.2	11.0	5.78
1.75V/cell	/	202.5	163.1	97.6	75.2	61.5	36.2	27.1	18.6	11.2	5.87
1.7V/cell	/	216.3	176.1	100.9	77.6	63.3	37.2	27.7	18.9	11.3	5.92
1.65V/cell	/	230.7	186.2	106.5	80.9	65.8	38.2	28.5	19.3	11.5	6.01
1.6V/cell	/	246.5	194.7	111.2	83.9	68.0	39.3	28.9	19.7	11.6	6.07

Constant Power Discharge (Watts @ 25°C)

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.8V/cell	/	337.9	285.3	176.1	137.7	116.1	67.7	51.2	35.9	21.8	11.39
1.75V/cell	/	362.1	299.6	183.3	143.4	118.7	69.5	52.3	36.5	22.1	11.56
1.7V/cell	/	381.1	315.2	189.5	148.1	120.4	71.2	53.4	36.9	22.3	11.68
1.65V/cell	/	398.9	326.8	199.8	152.3	124.3	72.7	54.3	37.6	22.4	11.79
1.6V/cell	/	415.1	340.9	206.0	156.3	128.2	74.2	55.4	38.2	22.6	11.91

Terminal



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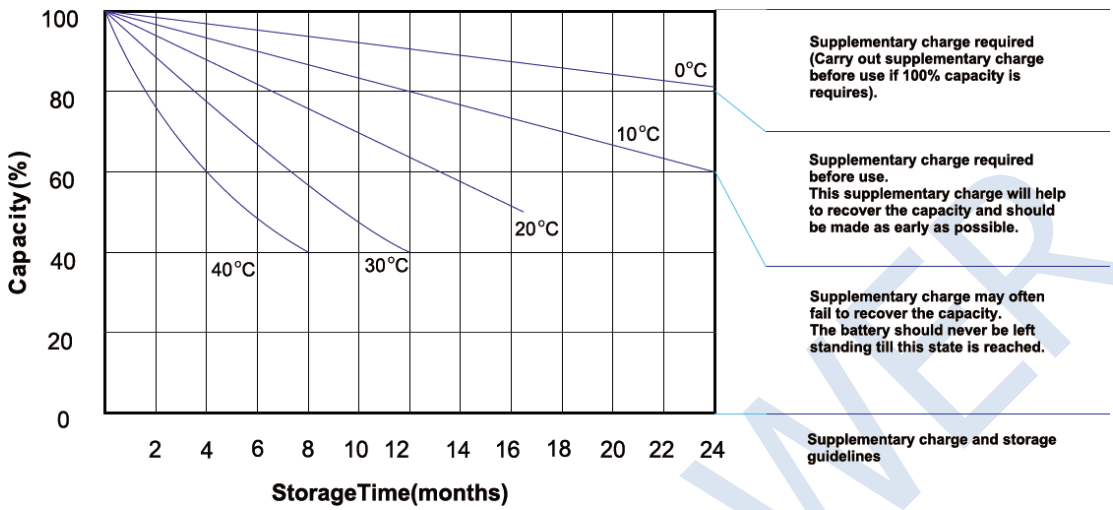
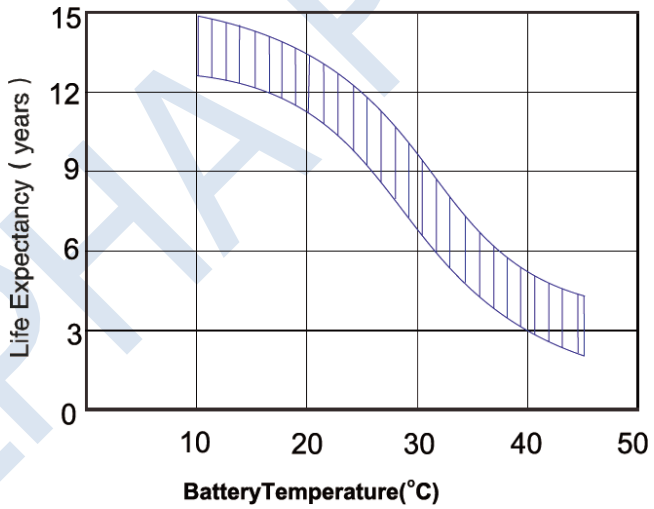
Storage Characteristics



Effect of Temperature on Long Term Float Life



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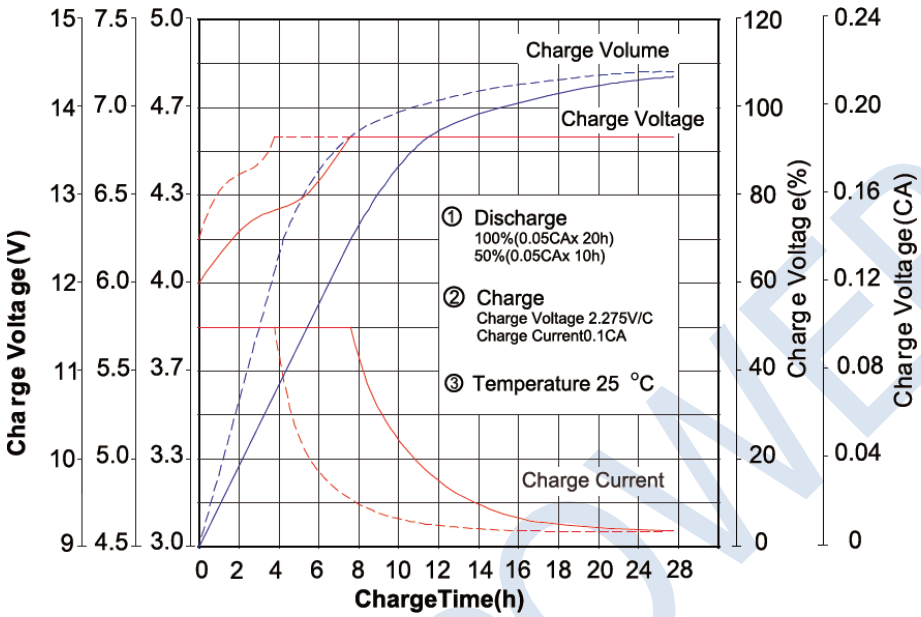
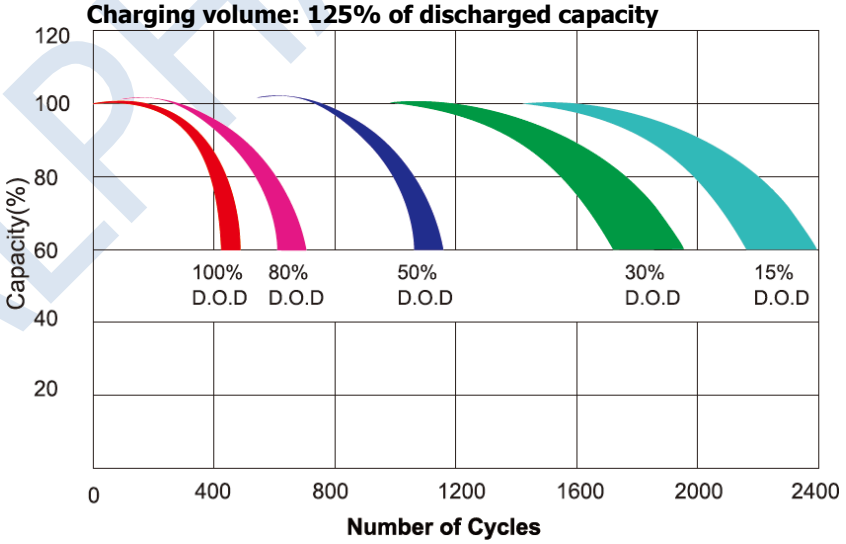
Charge Characteristic Curve for Standby Use



Cycle Life in Relation to Depth of Discharge

Testing Condition
Discharging: current 0.17C (FV 1.7V/cell)
Charging: current 0.25C max, voltage 2.45V/cell
Charging volume: 125% of discharged capacity



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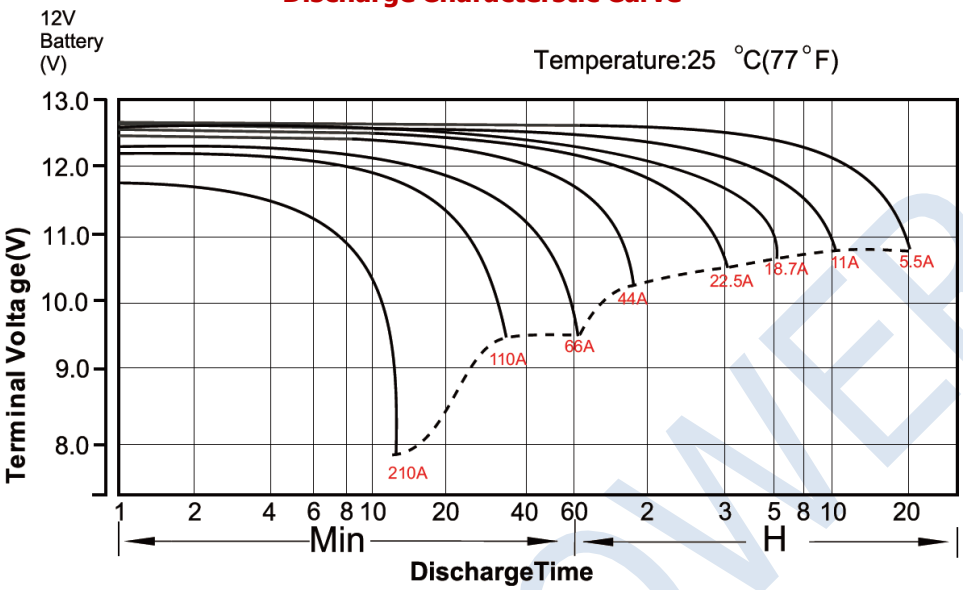
Discharge Characterstic Curve



Temperature Effects in Relation to Battery Capacity