

# DEEP CYCLE GEL BATTERY

## MG100-12



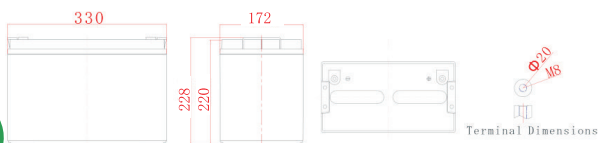
### Application

- > General purpose
- > Uninterruptable Power Supply
- > Electric Power System (EPS) Emergency
- > Backup power supply
- > Auto control system
- > Emergency light
- > Railway signal
- > Aircraft signal
- > Alarm and security system Electronic
- > Medical equipments



### Specification

Nominal Voltage	12V
Nominal Capacity	100Ah
Design life	10 years
Terminal	T13
Approx. Weight	Approx 30.5kg (67.24lbs)
Container Material	ABS
Rated Capacity	104.0Ah → 20Hour Rate (5.20A to 10.8V)
	100.0Ah → 10Hour Rate (10.0A to 10.8V)
	76.2Ah → 3Hour Rate (25.4A to 10.5V)
Internal resistance	Full charged at 25°C: 4.9 Ohm
Max. Discharge Current	1200A(5S)
Operating Temperature	Discharge: -15 ~50°C (5~ 122 °F)
	Charge: 0~40°C (32~104 °F)
	Storage: -15~40°C (5~104 °F)
Charge Method (25 °C)	Max. charge Current: 40A
	Cycle use: 14.4-14.9V(-30mV/ °C)
	Float use : 13.5-13.8V(-20mV/ °C)
Self discharge	3% of capacity declined per month at 20°C
Unit: mm	Dimension: 330(L)×172(W) ×220(H)×228(TH)



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

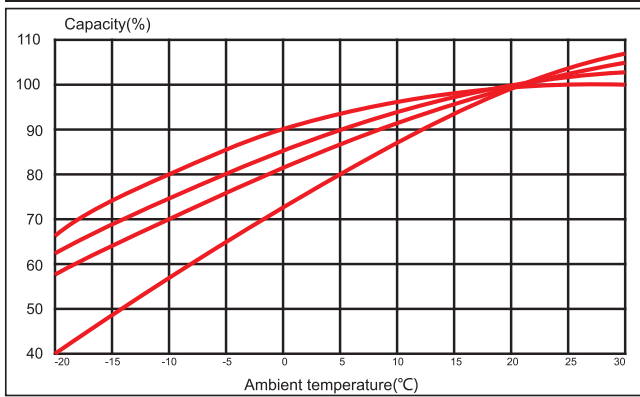
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	173.6	146.4	130.2	115.3	87.5	65.2	52.4	31.3	23.5	19.2	16.4	14.4	11.6	9.65	5.13
1.80V/cell	210.0	167.6	143.7	123.5	92.1	68.7	55.1	33.1	24.6	20.2	17.2	15.0	12.0	10.0	5.20
1.75V/cell	237.0	186.3	154.0	130.8	96.5	71.3	57.1	34.4	25.4	20.7	17.6	15.3	12.2	10.1	5.29
1.70V/cell	261.6	199.5	165.1	138.9	101.8	74.6	59.5	35.3	26.0	21.2	17.9	15.6	12.4	10.2	5.34
1.65V/cell	291.7	215.1	178.5	146.6	106.7	77.4	61.9	36.3	26.7	21.7	18.3	15.9	12.6	10.3	5.40
1.60V/cell	330.8	232.5	188.5	154.3	112.3	80.5	63.8	37.5	27.6	22.2	18.6	16.2	12.7	10.5	5.45

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

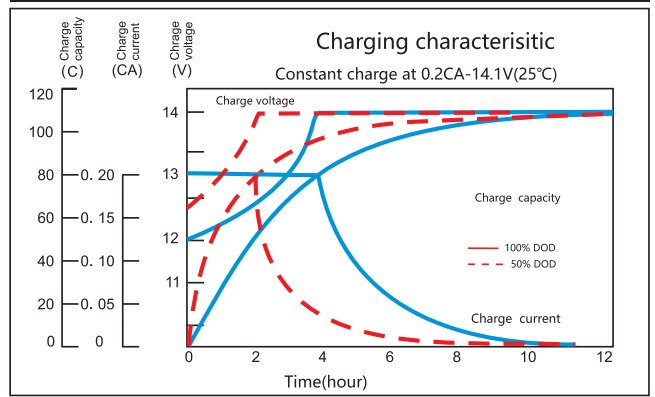
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	322.5	274.9	247.1	220.5	168.5	126.4	102.2	60.8	45.7	37.5	32.2	28.2	22.9	19.1	10.2
1.80V/cell	386.4	312.2	271.0	235.1	176.8	132.7	107.2	63.8	47.7	39.2	33.6	29.4	23.7	19.8	10.3
1.75V/cell	431.3	344.9	288.7	247.8	184.3	137.3	110.8	66.0	49.1	40.1	34.3	29.9	24.0	19.9	10.4
1.70V/cell	470.9	366.5	307.7	261.8	193.6	143.0	115.0	67.6	50.1	41.0	34.8	30.4	24.3	20.1	10.5
1.65V/cell	519.3	391.4	330.2	274.5	201.9	147.7	119.1	69.2	51.3	41.8	35.3	30.8	24.6	20.3	10.6
1.60V/cell	578.9	418.2	345.1	286.6	211.1	152.9	122.4	71.1	52.7	42.6	35.9	31.3	24.8	20.5	10.7

# Model Performance Diagrams

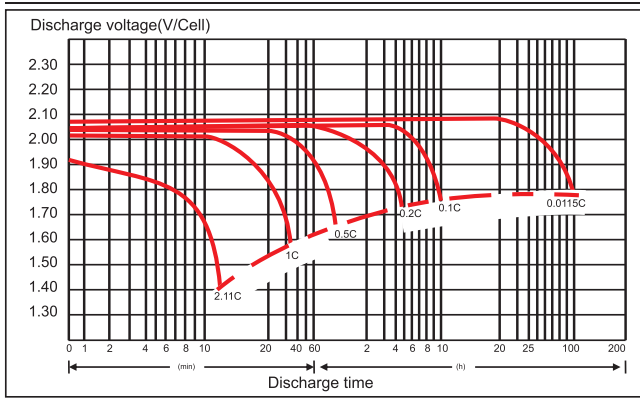
Curves of discharge capacity and ambient temperature



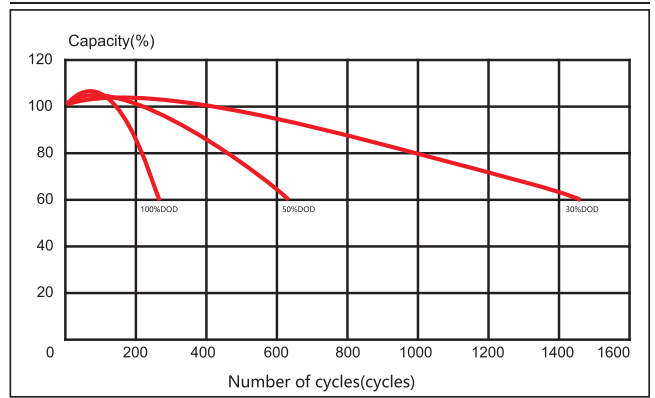
Curves of charging characteristics



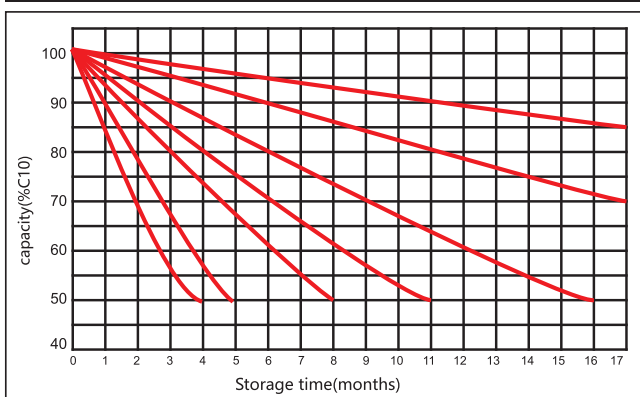
Discharge characteristics at different discharge rate(20°C)



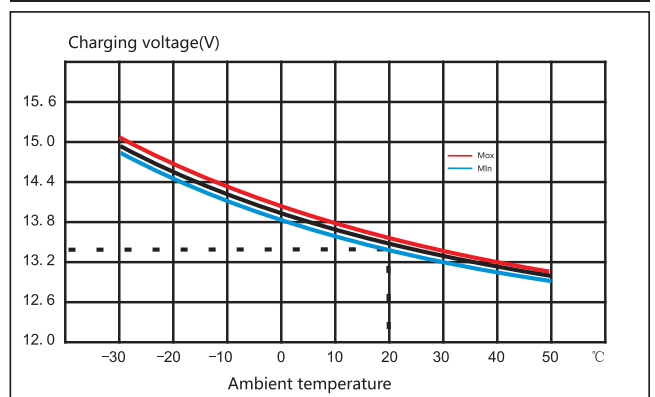
Curves of cycle life



Curves of self-discharge and storage time



Curves of float voltage and ambient temperature



## Charging procedures

Application type	Charge Voltage(V)			Max charge current (A)
	Temp (°C)	Set point	Temperature compensation	
Cycle use	25	14.4	-5mV/°C/cell	0.3C
Float use	25	13.65	-3mV/°C/cell	

## The relationship between discharge current and voltage

Discharge rate	3C	1C	10hr	20hr
End voltage (V)	9.6	9.6	10.5	10.5
Discharge current (A)	3C	1C	0.093C	0.05C