

DEEP CYCLE GEL BATTERY

MG33-12



Application

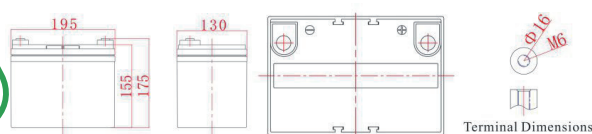
- › General purpose
- › Uninterruptable Power Supply
- › Electric Power System (EPS) Emergency
- › Backup power supply
- › Auto control system
- › Emergency light
- › Railway signal
- › Aircraft signal
- › Alarm and security system Electronic
- › Medical equipments

Specification

Nominal Voltage	12V
Nominal Capacity	33Ah
Design life	10 years
Terminal	T11
Approx. Weight	Approx 10kg (22lbs)
Container Material	ABS
Rated Capacity	33.0Ah 20Hour Rate (1.65A to 10.8V)
	30.7Ah 10Hour Rate (3.07A to 10.8V)
	25.3Ah 3Hour Rate (8.42A to 10.5V)
Internal resistance	Full charged at 25 °C: 12 Ohm
Max. Discharge Current	495A(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: 13.2
	Cycle use: 14.4-15.0V(-30mV/ °C)
	Float use : 13.5-13.8V(-20mV/ °C)
Self discharge	3% of capacity declined per month at 20 °C



Unit: mm Dimension: 195(L)×130(W)×160(H)×180(TH)



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

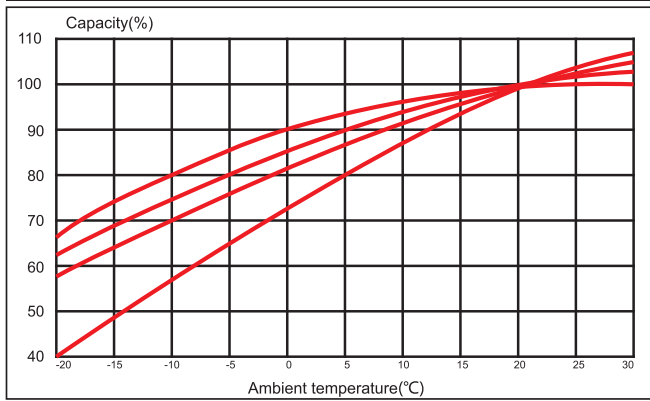
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	62.8	48.3	40.0	34.6	26.7	19.69	16.6	9.81	7.68	6.24	5.09	4.42	3.56	2.98	1.63
1.80V/cell	84.4	61.7	48.3	40.9	31.5	22.9	18.6	10.7	8.26	6.67	5.46	4.74	3.78	3.07	1.65
1.75V/cell	95.1	67.8	52.8	44.0	32.7	23.8	19.4	11.1	8.42	6.81	5.61	4.87	3.84	3.15	1.67
1.70V/cell	104.7	73.9	56.3	46.2	34.1	24.7	20.1	11.4	8.65	7.00	5.75	4.96	3.90	3.21	1.70
1.65V/cell	115.5	79.9	59.9	49.1	35.9	25.3	20.5	11.6	9.02	7.24	5.91	5.08	3.96	3.28	1.72
1.60V/cell	127.4	86.5	64.1	52.3	38.0	26.4	20.7	12.0	9.29	7.46	6.11	5.19	4.00	3.32	1.73

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

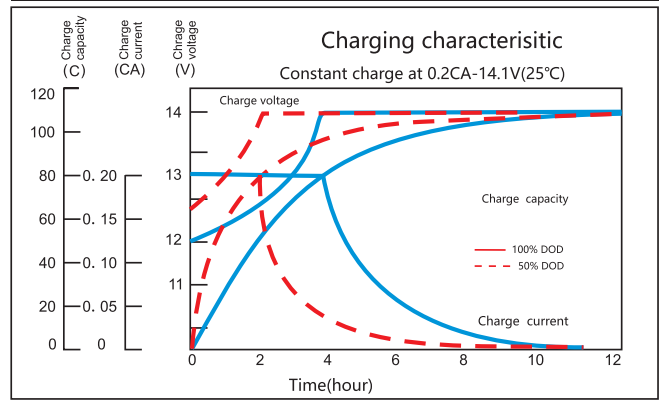
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	114.9	89.1	74.6	65.2	50.9	37.8	32.0	19.1	15.0	12.2	10.0	8.96	7.03	5.89	3.24
1.80V/cell	152.6	112.6	88.9	75.9	59.2	43.7	35.7	20.7	16.0	13.0	10.7	9.28	7.44	6.06	3.26
1.75V/cell	168.4	121.7	95.9	80.9	60.9	44.9	37.1	21.3	16.2	13.2	10.9	9.50	7.55	6.22	3.29
1.70V/cell	180.3	129.6	101.0	84.3	63.1	46.5	38.2	21.8	16.7	13.5	11.2	9.69	7.65	6.34	3.35
1.65V/cell	196.0	138.6	106.6	88.9	66.0	47.2	38.8	22.0	17.3	13.9	11.4	9.87	7.75	6.46	3.39
1.60V/cell	211.2	147.1	112.1	93.7	69.2	49.0	39.0	22.9	17.7	14.3	11.8	10.0	7.81	6.52	3.40

Model Performance Diagrams

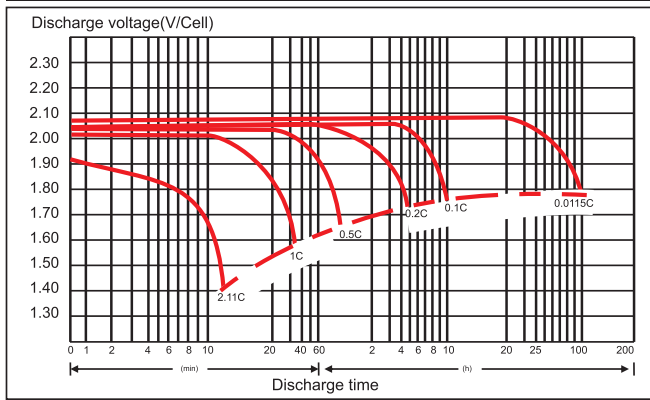
Curves of discharge capacity and ambient temperature



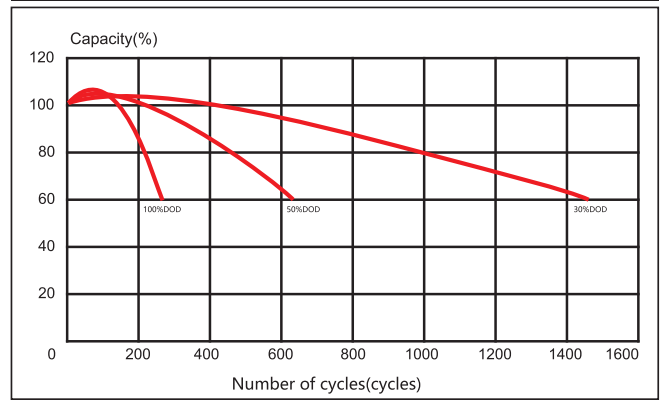
Curves of charging characteristics



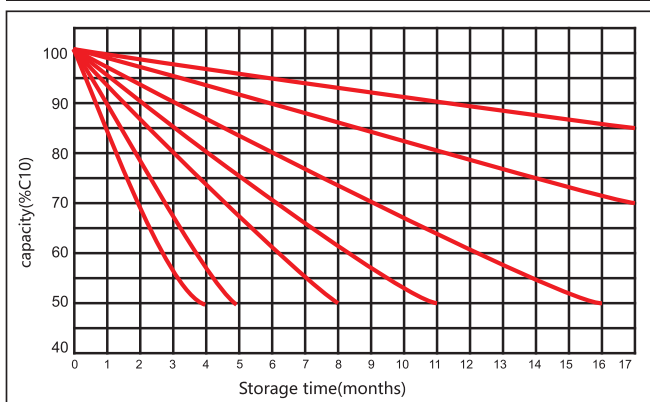
Discharge characteristics at different discharge rate(20°C)



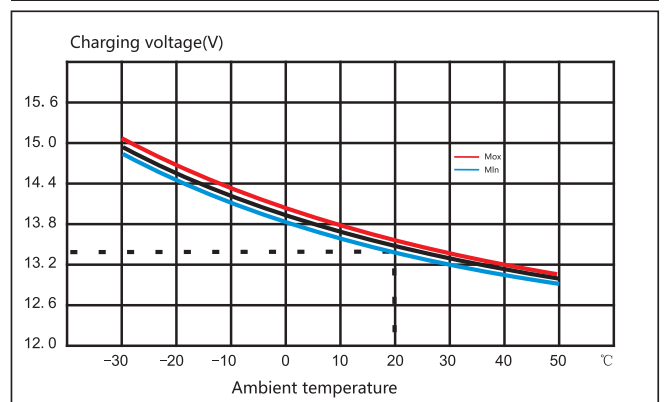
Curves of cycle life



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	0.4C
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

