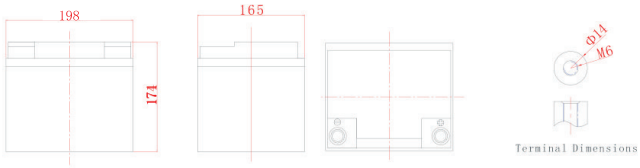
DEEP CYCLE GEL BATTERY

MG40-12

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	40Ah	
Design life	10 years	
Terminal	T11	
Approx. Weight	Approx 13.4kg (29.54 lbs)	
Container Material	ABS	
Rated Capacity	40.0Ah	10Hour Rate (4.0A to 10.8V)
	29.4Ah	3Hour Rate (9.80A to 10.8V)
	21.3Ah	1Hour Rate (21.3A to 10.5V)
Internal resistance	Full charged at 25°C: 10 Ohm	
Max. Discharge Current	456A(5S)	
Operating Temperature	Discharge: -15 ~50℃(5~ 122 °F) Charge : 0~40℃ (32~104 °F) Storage: -15~40℃(5~104 °F)	
Charge Method (25 °C)	Max. charge Current: 16.0A 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: 198(L)×165(W) ×171(H)×171(TH)

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

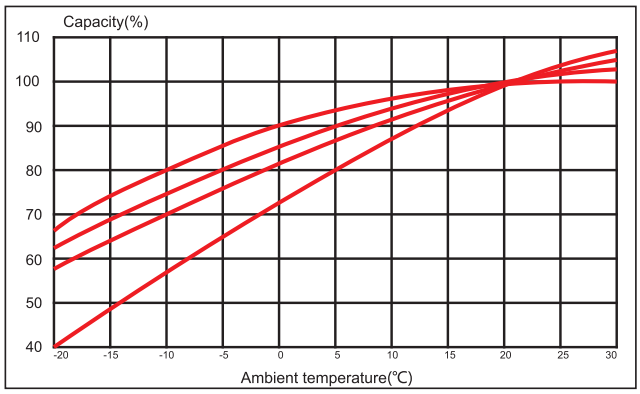
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	65.9	51.7	44.0	36.8	31.7	22.1	18.2	11.5	9.1	7.46	6.01	5.23	4.25	3.95	1.98
1.80V/cell	88.4	66.2	53.2	43.0	34.9	25.8	20.3	12.6	9.8	7.96	6.46	5.62	4.51	4.00	2.00
1.75V/cell	99.6	72.7	58.1	46.2	37.2	26.7	21.3	13.1	10.1	8.14	6.62	5.77	4.59	4.03	2.02
1.70V/cell	109.7	79.2	62.5	48.6	39.1	27.8	21.9	13.6	10.3	8.36	6.79	5.88	4.65	3.06	2.06
1.65V/cell	121.0	85.5	66.0	51.6	40.7	28.5	22.7	13.9	10.8	8.64	6.98	6.02	4.72	4.09	2.09
1.60V/cell	133.5	92.8	70.5	55.0	42.0	29.7	23.5	14.4	11.1	8.91	7.21	6.15	4.77	4.12	2.10

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

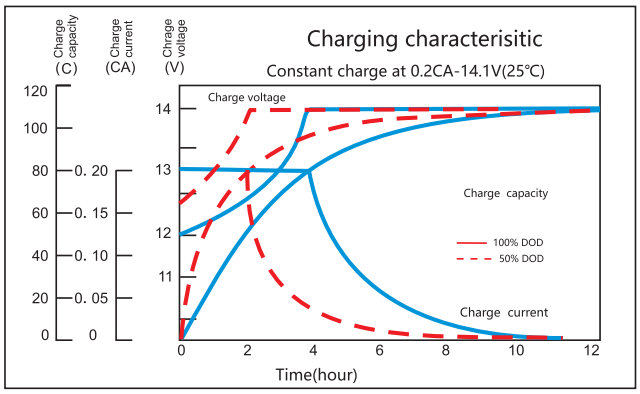
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	120.4	95.6	82.1	69.4	55.8	42.6	35.0	22.4	17.8	14.62	11.83	10.29	8.39	7.18	3.92
1.80V/cell	159.8	120.7	97.9	80.9	64.8	49.1	38.9	24.3	19.0	15.48	12.60	10.96	8.88	7.60	3.95
1.75V/cell	176.3	130.5	105.6	86.2	66.7	50.5	40.6	25.1	19.3	15.77	12.88	11.25	9.00	7.66	3.99
1.70V/cell	188.8	139.0	111.2	89.8	69.0	52.3	41.7	26.1	19.8	16.15	13.17	11.44	9.13	7.74	4.07
1.65V/cell	205.8	148.7	117.3	94.7	72.2	53.2	42.8	26.6	20.6	16.63	13.46	11.73	9.24	7.88	4.12
1.60V/cell	221.5	157.7	123.4	99.8	75.8	55.1	44.1	27.4	21.2	17.12	13.94	11.92	9.32	7.95	4.13

Model Performance Diagrams

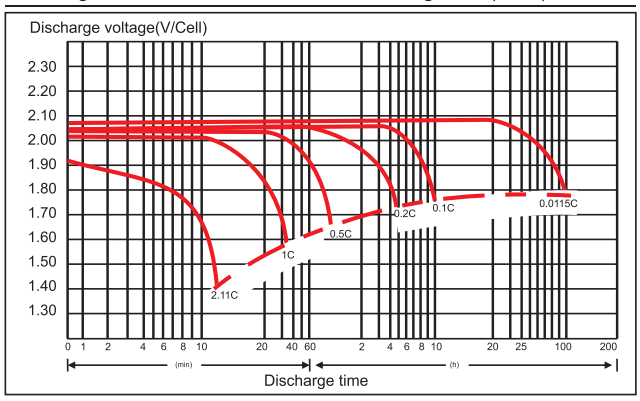
Curves of discharge capacity and ambient temperature



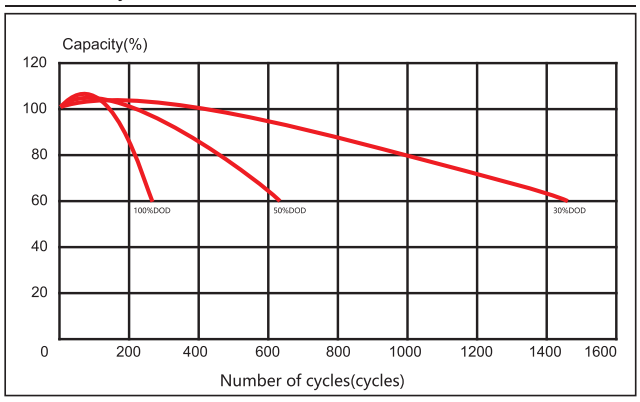
Curves of charging characteristics



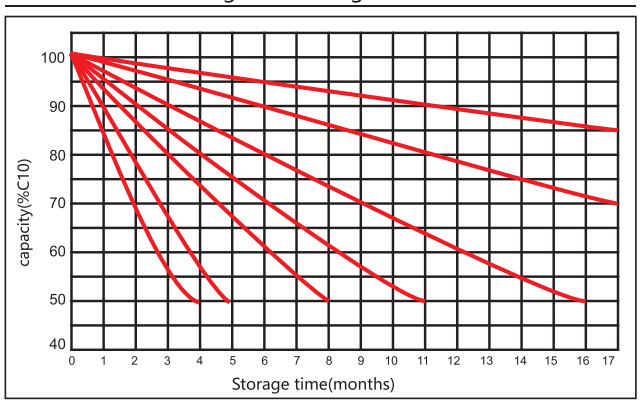
Discharge characteristics at different discharge rate(20℃)



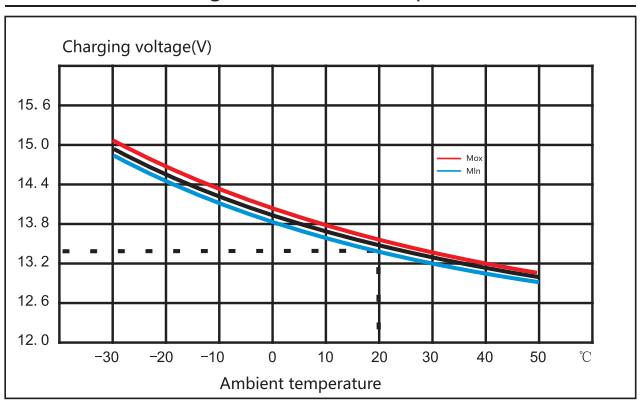
Curves of cycle life



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 (℃)	Set point	Temperature compensation	
Cycle use	25	14.4	-5mV/℃/cell	0.4C
Float use	25	13.65	-3mV/℃/cell	

The ralationship between discharge current and voltage

Discharge rate	1hr	3hr	8hr	10hr
End voltage (V)	10.5	10.8	10.8	10.8
Discharge current (A)	0.55C	0.25C	0.12C	0.1C

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