

# MK12-9 12V9Ah (20hr)



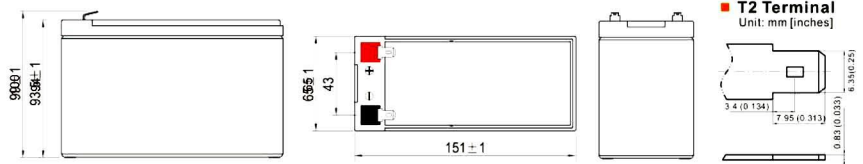
## Specification

Nominal Voltage	12V
Nominal Capacity	9Ah
Design life	5 years
Terminal	T1/T2
Approx. Weight	Approx. 2.50 kg (5.51lbs)
Container Material	ABS
Rated Capacity	<b>9Ah</b> 20Hour Rate (4.50A to 10.8V)
	<b>8.31Ah</b> 10Hour Rate (0.831A to 10.8V)
	<b>6.84AH</b> 3Hour Rate (2.28A to 10.5V)
Internal resistance	Full charged at 25°C: 180hm
Max. Discharge Current	135A(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 Voltage(25 °C)	Max. charge Current: 3.6A
	Cycle use: 14.1-15.0V(-30mV/ °C)
	Float use: 13.5-13.8V(-20mV/ °C)
Self discharge	3% of capacity declined per month at 20°C

## 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

Unit: mm Dimension: 151(L)×65(W) ×94(H)×100(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	30.8	21.5	16.1	13.1	10.1	7.24	5.65	3.12	2.19	1.72	1.44	1.25	0.98	0.812	0.446
1.80V/cell	34.3	23.2	17.1	13.9	10.5	7.42	5.80	3.18	2.23	1.76	1.47	1.28	1.00	0.831	0.450
1.75V/cell	37.9	24.8	18.0	14.5	10.8	7.61	5.93	3.24	2.28	1.80	1.51	1.30	1.03	0.843	0.455
1.70V/cell	41.7	26.3	18.6	15.0	11.1	7.77	6.02	3.30	2.32	1.83	1.54	1.33	1.05	0.858	0.463
1.65V/cell	43.9	27.4	19.4	15.6	11.3	7.95	6.13	3.35	2.36	1.87	1.57	1.36	1.06	0.874	0.469
1.60V/cell	47.0	28.5	20.2	16.3	11.7	8.08	6.24	3.40	2.40	1.91	1.60	1.39	1.08	0.887	0.472

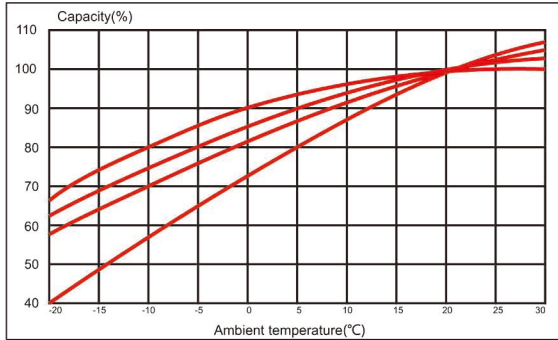
## Constant Power Discharge (Watts) at 25 °C (77°F )

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	57.5	40.3	30.2	24.7	19.2	13.9	10.9	6.05	4.27	3.36	2.83	2.45	1.93	1.61	0.883
1.80V/cell	62.0	42.6	31.6	26.0	19.8	14.1	11.1	6.13	4.32	3.42	2.87	2.50	1.98	1.64	0.890
1.75V/cell	67.8	45.0	33.0	26.9	20.2	14.4	11.3	6.22	4.39	3.49	2.93	2.54	2.01	1.66	0.898
1.70V/cell	73.6	47.1	33.7	27.7	20.7	14.6	11.5	6.32	4.47	3.55	2.98	2.59	2.05	1.69	0.913
1.65V/cell	76.4	48.3	34.8	28.5	21.0	14.9	11.6	6.40	4.54	3.59	3.04	2.64	2.08	1.72	0.925
1.60V/cell	80.3	49.6	35.6	29.2	21.3	15.0	11.7	6.46	4.59	3.66	3.09	2.69	2.11	1.74	0.929

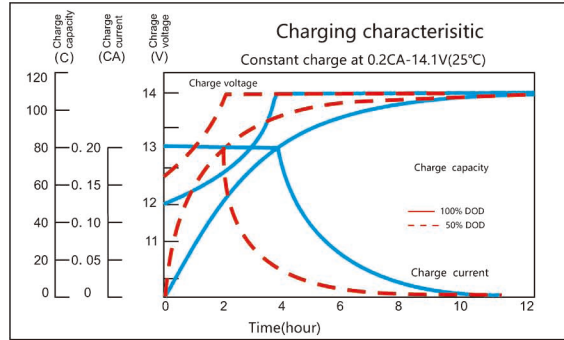
# MK12-9 12V9Ah (20hr)

## Model Performance Diagrams

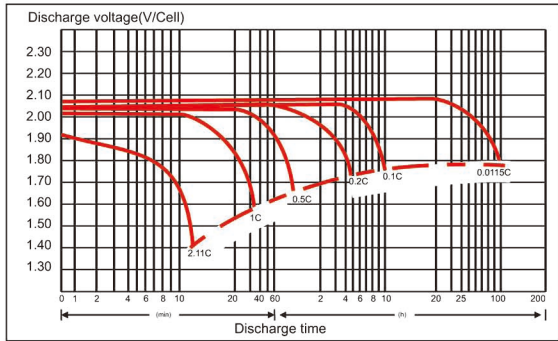
Curves of discharge capacity and ambient temperature



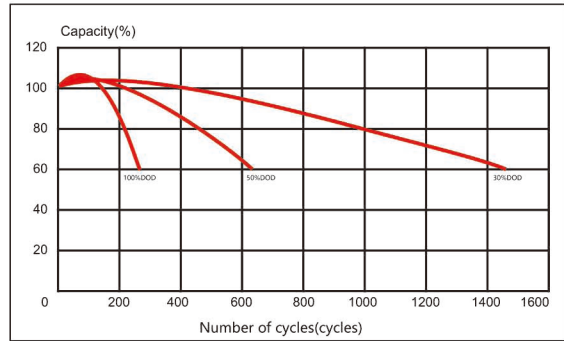
Curves of charging characteristics



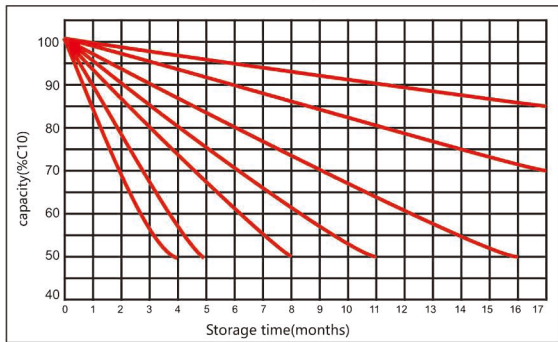
Discharge characteristics at different discharge rate(20°C)



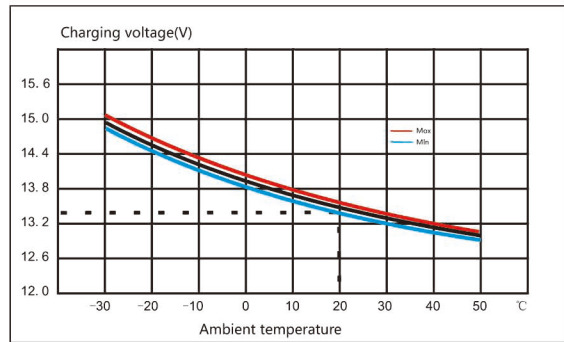
Curves of cycle life



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	0.25C
Float use	25	13.65	-3mV/°C/cell	

### The relationship 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