



# EV12-45(12V45Ah)



## Specification



EV (Electric Vehicle) series is specially designed for frequent discharge deep cycle application. By using the specially designed active material, strong grids and thick plate construction, the EV series battery offers reliable performance in high load situations and could provide competitive cycle performance. Suitable for Electric Vehicle and Golf cart; Industrial equipment, Floor Machines, Forklifts, Aerial lifts, and Robotics; Marine, RV, and no-idle solutions; Mobility and Medical Equipment; and most outdoor application.



<b>Cells Per Unit</b>	6
<b>Voltage Per Unit</b>	12
<b>Capacity</b>	45Ah@10hr-rate to 1.80V per cell @25°C
<b>Weight</b>	Approx. 14.6 Kg (Tolerance ±3%)
<b>Internal Resistance</b>	Approx. 7 mΩ
<b>Terminal</b>	F11 (M6)/F4(M5)
<b>Max. Discharge Current</b>	450A (5 sec)
<b>Cold Cranking Ampere(CCA)</b>	315A
<b>Maximum Charging Current</b>	13.5 A
<b>Reference Capacity</b>	C3 34.8AH C5 38.3AH C10 45.0AH C20 48.2AH
<b>Float Charging Voltage</b>	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
<b>Cycle Use Voltage</b>	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
<b>Operating Temperature Range</b>	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
<b>Normal Operating Temperature Range</b>	25°C ±5°C
<b>Self Discharge</b>	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charged batteries before using.
<b>Container Material</b>	A.B.S. UL94-HB, UL94-V0 Optional.

## Dimensions

Length	198±1mm (7.80 inches)
Width	166±1mm (6.54 inches)
Height	169±1mm (6.65 inches)
Total Height	169±1mm (6.65 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

### Constant Current Discharge Characteristics : A(25°C)

F.V/Time	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	118.4	88.20	50.70	29.30	17.33	12.37	9.67	8.07	5.70	4.83	2.50
1.65V	114.5	85.55	49.64	28.74	17.04	12.18	9.54	7.97	5.64	4.78	2.48
1.70V	109.3	82.09	48.23	28.01	16.65	11.93	9.36	7.84	5.55	4.72	2.45
1.75V	102.4	77.44	46.32	27.01	16.11	11.58	9.12	7.65	5.44	4.63	2.41
1.80V	93.21	71.16	43.69	25.63	15.37	11.10	8.78	7.40	5.27	4.50	2.35
1.85V	80.63	62.52	39.97	23.67	14.31	10.41	8.29	7.03	5.03	4.32	2.26

### Constant Power Discharge Characteristics : WPC(25°C)

F.V/Time	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	201	154	92.1	54.8	32.9	23.6	18.6	15.6	11.1	9.49	4.93
1.65V	200	153	91.5	54.3	32.5	23.4	18.4	15.4	11.0	9.42	4.89
1.70V	193	148	89.4	53.1	31.9	23.0	18.1	15.2	10.9	9.30	4.84
1.75V	184	141	86.7	51.5	31.0	22.4	17.7	14.9	10.7	9.13	4.76
1.80V	170	132	82.7	49.1	29.7	21.6	17.1	14.5	10.4	8.89	4.65
1.85V	150	117	76.4	45.6	27.8	20.3	16.2	13.8	9.94	8.55	4.49

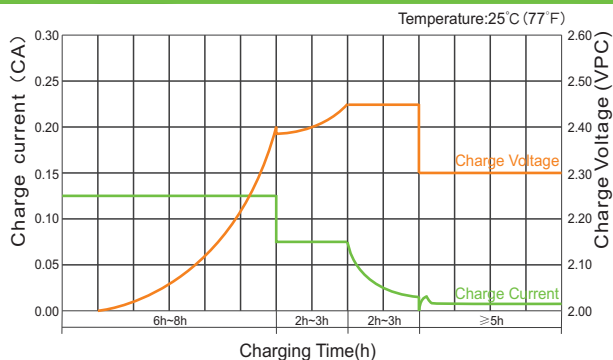
(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.



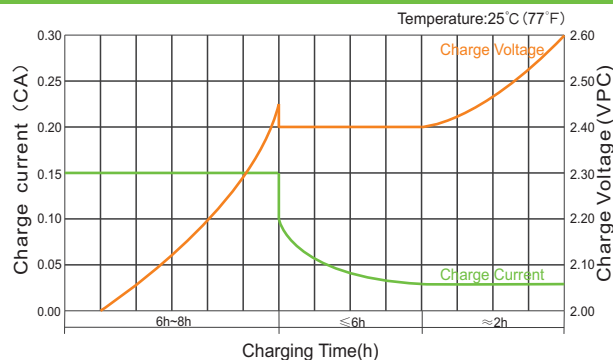
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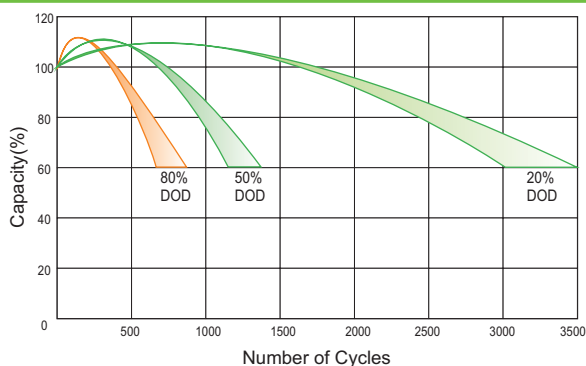
## Charge Characteristic Curve for Cycle Use(IUUU)



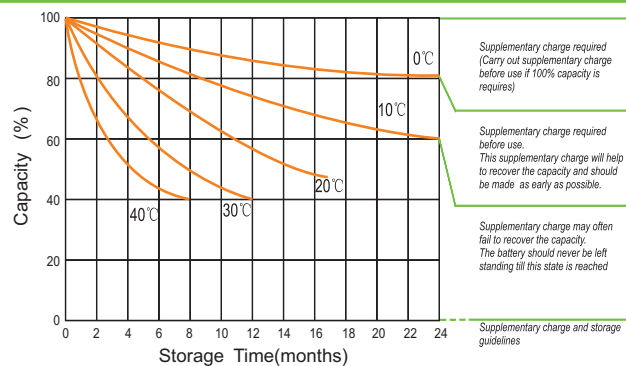
## Charge Characteristic Curve For Cycle Use(III)



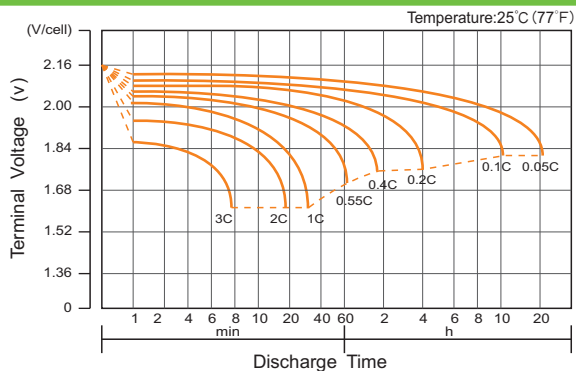
## Cycle Life in Relation to Depth of Discharge



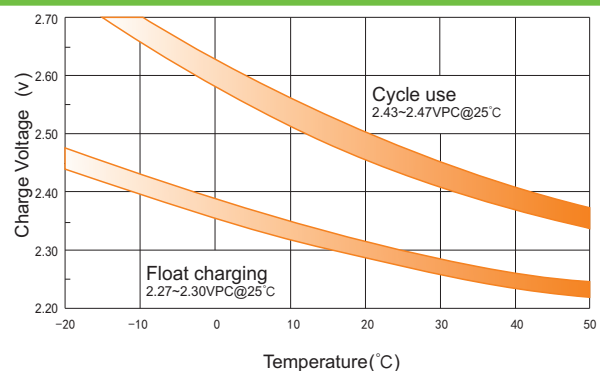
## Storage Characteristics



## Discharge Characteristics Curve



## Relationship Between Charging Voltage and Temperature



## Relationship of OCV And State of Charge(20°C)



## Temperature Effects on Capacity

