EV SERIES • VRLA AGM BATTERY • ELECTRIC VEHICLE SERIES

EV12-50 (12V 50Ah)

08/12/2020

Specifications

Cells Per Unit	6
Voltage Per Unit	12
Nominal Capacity	50Ah@10hr-rate to 1.80V per cell @25℃
Weight	Approx. 14.6 Kg (Tolerance±3.0%)
Dimensions	Length 198 mm Width 166 mm Height 169 mm Total Height 169 mm
Internal Resistance	Approx. 7.0 mΩ
Terminal	T6
Layout	0
Max. Discharge Current	450A (5 sec)
Cold Cranking Ampere (CCA)	315A
Max. Charging Current	13.5A
Reference Capacity	C3 34.9AH C5 39.3AH C10 45.0AH C20 50.0AH
Float Charging Voltage	13.6 V~13.8 V @ 25℃ Temperature Compensation: -3mV/℃/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25℃ Temperature Compensation: -4mV/℃/Cell
Operating Temp. Range	Discharge: -20℃~60℃ Charge: 0℃~50℃ Storage: -20℃~60℃
Nominal Operating Temp. Range	25℃±5℃
Self Discharge	Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25℃ and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25℃.Please charged batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

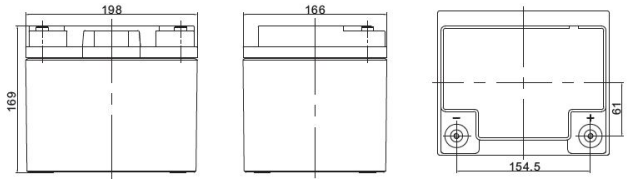
Description and Features

VRLA EV Series is specially designed for frequent discharge in deep cycle applications. EV batteries offer reliable performance in high load situations and have a high cycle durability due to the specially designed active material, strong grids and thick plate construction. The addition of carbon ensures faster full recharging of the battery and longer battery life. This stable and durable battery is completely sealed and maintenance free.

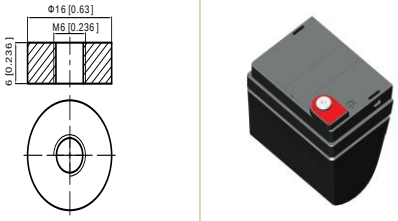
Features

- Absorbent Glass Mat technology
- Long service life – 50% more cycles than VRLA AGM
- Faster full recharging – quick use of application
- Suitable for (deep) cycle applications

Layout



Terminal



Constant Current Discharge Characteristics: A (25°C)

F.V/Time	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	4 Hr	5 Hr	8 Hr	10 Hr	20 Hr
1.60V	151.4	114.2	85.94	50.26	27.77	16.40	12.70	9.99	8.50	5.71	4.75	2.48
1.65V	145.9	107.9	82.16	48.26	26.82	15.87	12.31	9.72	8.28	5.65	4.69	2.44
1.70V	138.8	99.4	76.95	46.12	25.95	15.35	11.98	9.45	8.06	5.56	4.62	2.41
1.75V	129.6	91.0	71.61	44.08	25.00	14.81	11.62	9.21	7.86	5.48	4.56	2.38
1.80V	118.1	82.34	66.12	42.14	24.04	14.28	11.26	8.94	7.66	5.39	4.50	2.36
1.85V	103.9	67.29	54.87	36.29	21.56	13.09	10.41	8.31	7.14	5.06	4.24	2.24

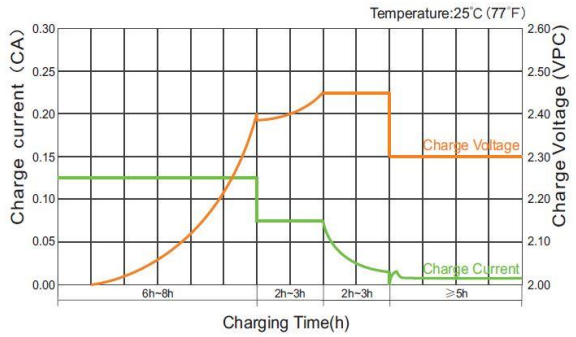
Constant Power Discharge Characteristics: Wpc (25°C)

F.V/Time	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	4 Hr	5 Hr	8 Hr	10 Hr	20 Hr
1.60V	260.5	194.2	150.2	91.3	52.2	31.1	24.3	19.2	16.4	11.2	9.33	4.89
1.65V	257.8	187.0	145.8	88.6	50.7	30.2	23.6	18.7	16.0	11.1	9.23	4.82
1.70V	248.0	175.3	138.6	85.5	49.3	29.4	23.1	18.3	15.7	10.9	9.10	4.77
1.75V	235.8	163.4	130.8	82.6	47.8	28.5	22.5	17.9	15.3	10.8	9.00	4.71
1.80V	218.6	150.5	122.5	79.7	46.3	27.6	21.9	17.4	15.0	10.6	8.89	4.67
1.85V	195.8	125.2	103.1	69.3	41.7	25.4	20.3	16.3	14.0	9.99	8.38	4.44

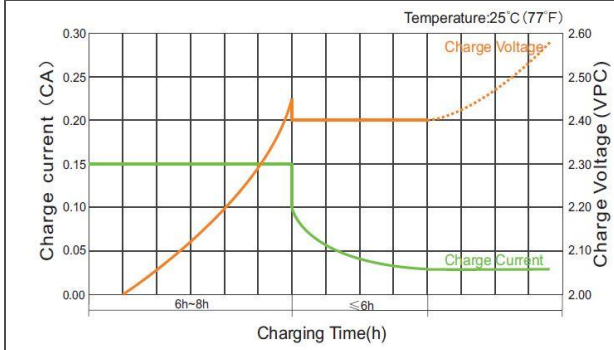
(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values. The battery must be fully charged before the capacity test.
The C10 should reach 95% after the first cycle and 100% after the third cycle.

EV12-50 (12V 50Ah)

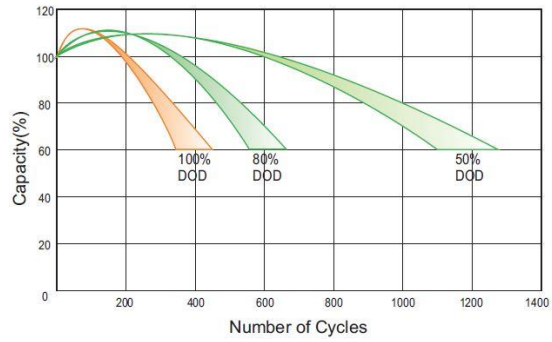
Charge Characteristic Curve For Cycle Use (IIUU)



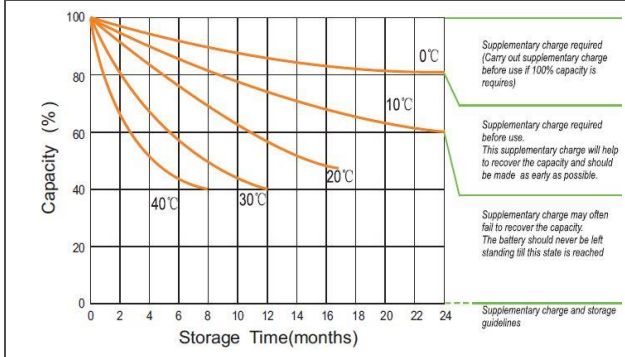
Charge Characteristic Curve For Cycle Use (IUI)



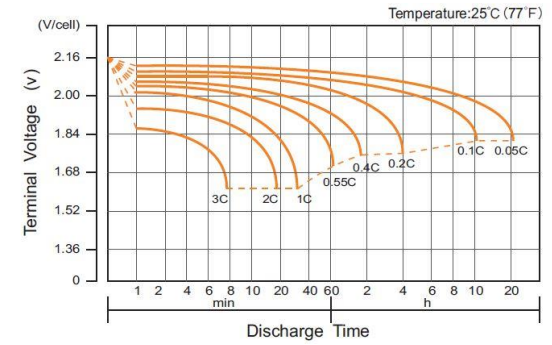
Cycle Life In Relation To Depth Of Discharge



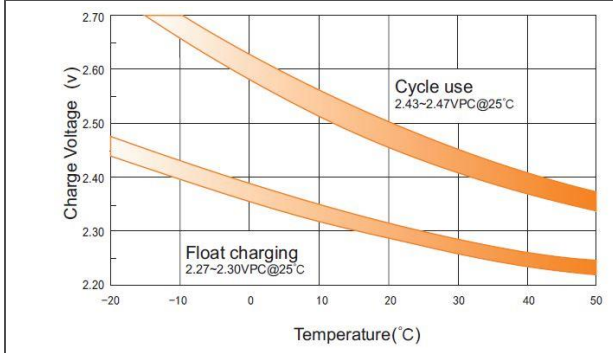
Storage Characteristics



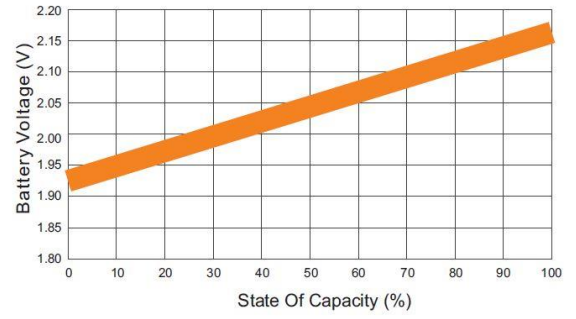
Discharge Characteristics Curve



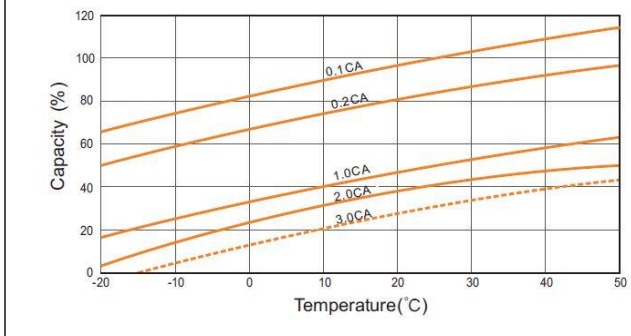
Relationship Between Charging Voltage And Temperature



Relationship Of OCV And State Of Charge (20°C)



Temperature Effects On Capacity



(Note) All above information shall be changed without prior notice, Landport Batteries reserves the right to explain and update the latest information.