POWER SOLID

The Crown of Power Solution

Power Solid Battery
PS-12400-DCR
12V , 40Ah

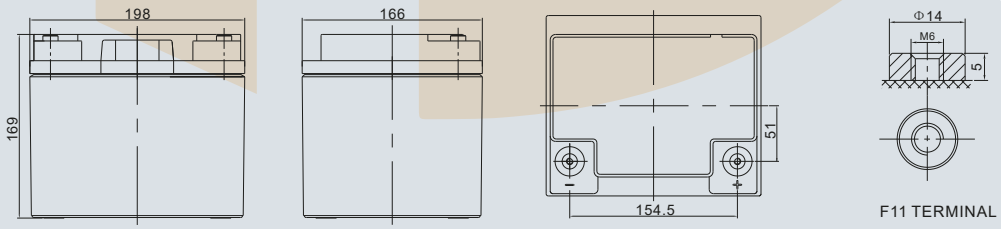
General Features

DC (Deep Cycle) series batteries provide superior high integrity and reliability. It is specially designed for frequent cyclic charge and discharging. By using strong grids, thick plate and specially active material are designed for repeated deep-discharge applications. The DC series batteries offer 30% more cyclic life than the standby series.
It is suitable for UPS, solar & wind renewable energy, medical equipment ,telecom system, electric power system, electric vehicles, golf cars And Cable TV etc.

Specification

Cells Per Unit	6
Voltage Per Unit	12V
Capacity	40Ah@20hr-rate to 1.75V per cell @25℃
Weight	Approx. 12.4 Kg (Tolerance±5%)
Internal Resistance	≤ 11 mΩ (Full Charge Condition @25℃)
Terminal	Default F11 (M6) ,F4(M5)Optional
Max. Discharge Current	400A (5 sec)
Design Life	12 years
Max. Charging Current	12.0 A
Reference Capacity	C_3 30.0Ah C_5 34.0Ah C_{10} 38.4Ah C_{20} 40.0Ah
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 Temperature Range	Discharge: -20℃ ~60℃ Charge: 0℃ ~50℃ Storage: -20℃ ~60℃
Normal Operating Temperature 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.

Dimensions(mm)



Length	198±2mm (7.80 inches)
Width	166±2mm (6.54 inches)
Height	169±2mm (6.65 inches)
Total Height	169±2mm (6.65 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

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Constant Current Discharge Characteristics :A(25℃)

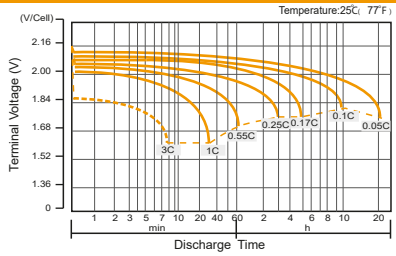
F.V/Time	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	97.13	73.83	43.56	24.29	14.47	11.27	8.840	7.519	4.823	4.000	2.073
1.65V	89.47	69.04	41.26	23.47	13.98	10.92	8.576	7.283	4.785	3.962	2.062
1.70V	82.92	64.93	39.12	22.71	13.61	10.46	8.311	7.086	4.709	3.886	2.036
1.75V	76.07	60.81	37.58	22.00	13.09	10.19	8.084	6.889	4.633	3.848	2.000
1.80V	69.23	55.69	36.19	21.02	12.64	10.00	7.896	6.800	4.557	3.810	1.981
1.85V	54.17	46.08	30.69	18.77	11.56	9.308	7.404	6.260	4.291	3.581	1.962

Constant Power Discharge Characteristics : W/Cell (25℃)

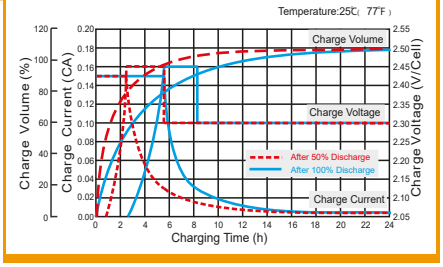
F.V/Time	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	165.4	128.8	79.15	45.61	27.35	21.40	17.04	14.23	9.399	7.845	4.139
1.65V	159.2	125.2	77.30	44.83	26.62	20.87	16.62	13.85	9.324	7.769	4.102
1.70V	148.6	118.5	73.58	43.51	25.95	20.07	16.09	13.50	9.211	7.618	4.065
1.75V	138.3	111.9	71.00	42.31	25.03	19.57	15.72	13.19	9.061	7.543	3.991
1.80V	127.4	103.4	68.71	40.58	24.46	19.46	15.41	13.02	8.910	7.467	3.954
1.85V	101.1	86.88	58.92	36.44	22.52	18.15	14.51	12.04	8.422	7.053	3.917

(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 C_{20} should reach 95% after the first cycle and 100% after the third cycle.

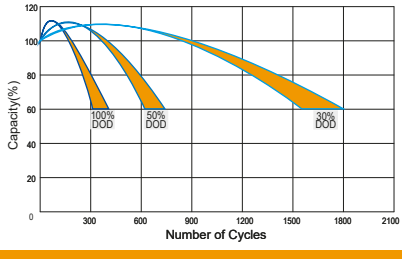
Discharge Characteristics Curve



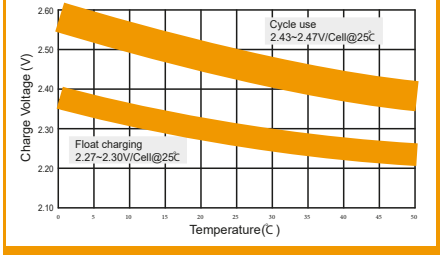
Charge Characteristic Curve for Cycle Use(IUU)



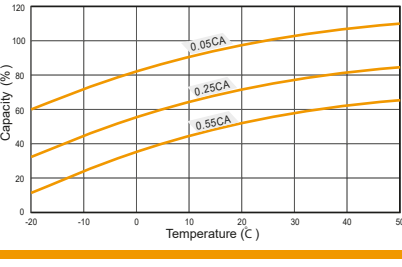
Cycle Life in Relation to Depth of Discharge



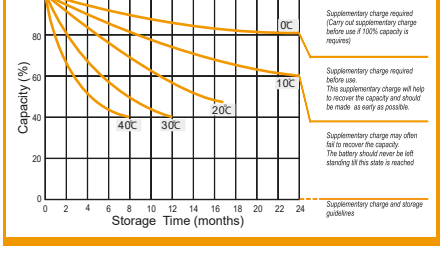
Relationship Between Charging Voltage and Temperature



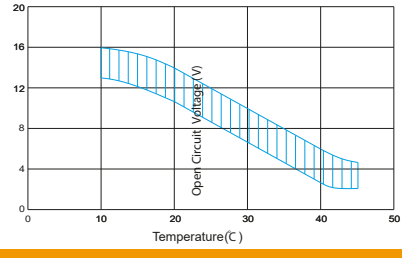
Temperature Effects on Capacity



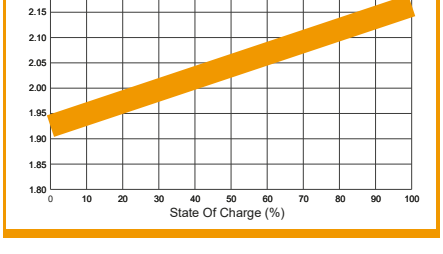
Storage Characteristics



Effect of Temperature on Long Term Life



Relationship of OCV And State of Charge(20℃)



Life Expectancy(years)