POWER SOLID

The Crown of Power Solution

Power Solid Battery

PS-12180-AR

12V , 18Ah

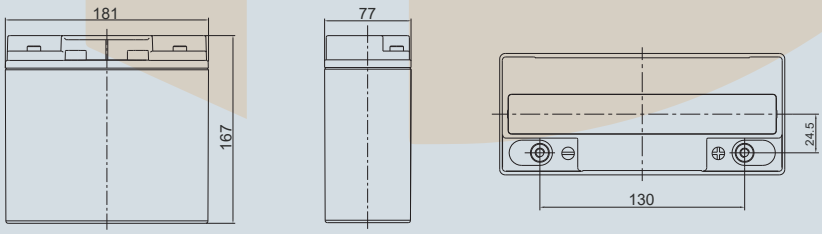
General Features

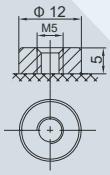
series is a general purpose battery with 6~8 years design life in float service. It meets with IEC, JIS, BS ,GB/T and YD/T standards. With advanced AGM valve regulated technology and high purity raw material, the series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/EPS, medical equipment, emergency light and security system applications.

Specification

Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	18Ah@20hour-rate to 1.75V per cell @25℃
Weight	Approx. 4.85 Kg (Tolerance±5.0%)
Internal Resistance	≤ 18 mΩ (Full Charge Condition @25℃)
Terminal	Default F13-BP(M5),F3(M5) Optional
Max. Discharge Current	180A (5 sec)
Short Circuit Current	750A
Design Life	6~8 years
Max. Charging Current	5.4 A
Reference Capacity	C_3 13.5Ah C_5 15.3Ah C_{10} 16.8Ah C_{20} 18.0Ah
Standby Use Voltage	13.7 V~13.9 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 charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

Dimensions





F13-BP TERMINAL

Length	181± 2mm (7.13 inches)
Width	77± 2mm (3.03 inches)
Height	167± 2mm (6.57 inches)
Total Height	167± 2mm (6.57 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℃)

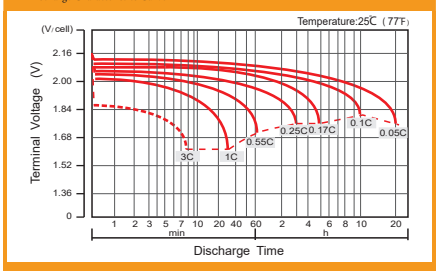
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	66.25	47.30	34.54	19.84	11.00	6.752	5.076	4.098	3.395	2.185	1.775	0.937
1.65V	61.60	44.70	33.02	19.05	10.62	6.537	4.919	3.987	3.307	2.161	1.753	0.922
1.70V	55.58	41.15	30.93	18.21	10.27	6.321	4.786	3.879	3.221	2.127	1.727	0.911
1.75V	49.80	37.67	28.78	17.40	9.899	6.101	4.643	3.779	3.140	2.098	1.704	0.900
1.80V	43.72	34.10	26.58	16.63	9.521	5.882	4.499	3.671	3.059	2.062	1.682	0.891
1.85V	34.71	27.87	22.05	14.32	8.539	5.390	4.159	3.412	2.853	1.936	1.584	0.846

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

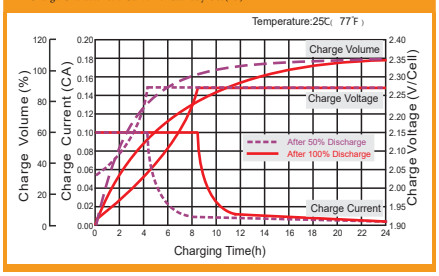
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	109.8	80.40	60.39	36.03	20.67	12.80	9.695	7.868	6.545	4.268	3.489	1.845
1.65V	103.3	77.44	58.59	34.96	20.07	12.45	9.435	7.683	6.399	4.229	3.451	1.819
1.70V	95.32	72.60	55.69	33.75	19.54	12.11	9.220	7.503	6.254	4.173	3.404	1.799
1.75V	87.30	67.65	52.58	32.59	18.94	11.74	8.983	7.338	6.118	4.123	3.363	1.779
1.80V	78.29	62.31	49.24	31.46	18.32	11.37	8.739	7.153	5.981	4.062	3.324	1.764
1.85V	63.45	51.83	41.44	27.37	16.53	10.48	8.115	6.674	5.596	3.823	3.134	1.677

(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.

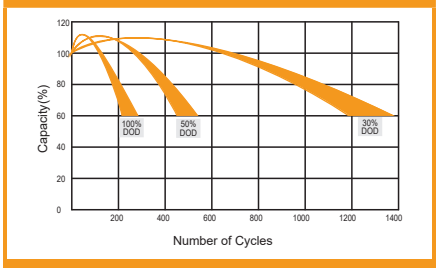
Discharge Characteristics Curve



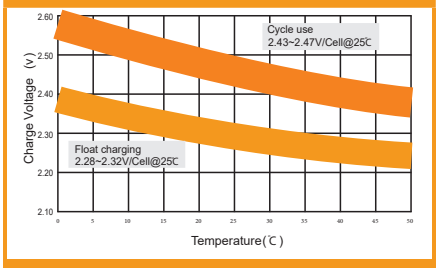
Charge Characteristic Curve For Standby Use(IU)



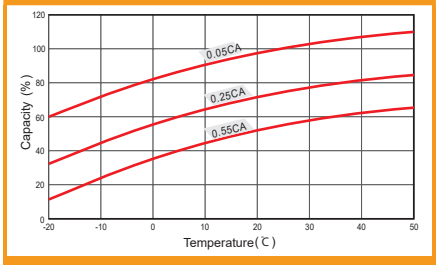
Cycle Life In Relation To Depth Of Discharge



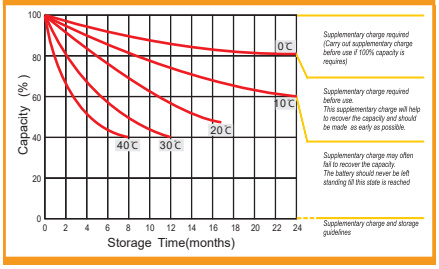
Relationship Between Charging Voltage And Temperature



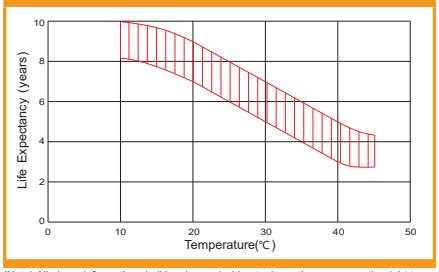
Temperature Effects On Capacity



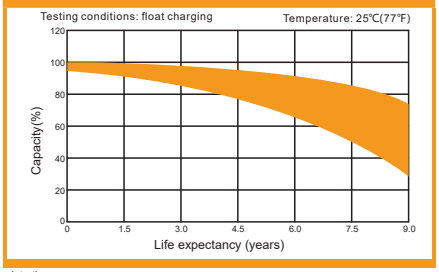
Storage Characteristics



Effect Of Temperature On Long Term Life



Life Characteristics Of Standby Use



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