

Front Terminal Hybrid GEL Battery - USFG-HS Series

USFG12-100HS (12V100AH)

Applications

- ◆ Telecom application (indoor or outdoor BTS) (19"/21"/23" rack or cabinet)
- ◆ Solar System
- ◆ Wind system
- ◆ Hybrid solution



Design

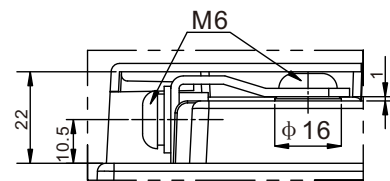
- ◆ Positive plate: flat plate and grid-plate in PbCaSn-alloy
- ◆ Negative plate: flat plate and grid-plate in PbCaSn-alloy with long life expander material
- ◆ Electrolyte: sulphuric acid, fixed as GEL by fumed silica
- ◆ Separator: high quality microporous separator
- ◆ Safety valve: valve with flame arrestor

Features

- ◆ Long life: 12 years design life
- ◆ Good deep discharge resilience performance
- ◆ Special plate design, long cycle lifetime
- ◆ High thermal capacity, reduce the risk of thermal out of control and drying hard, can be used in bad environment
- ◆ Flame retardant container UL94-V0

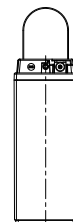
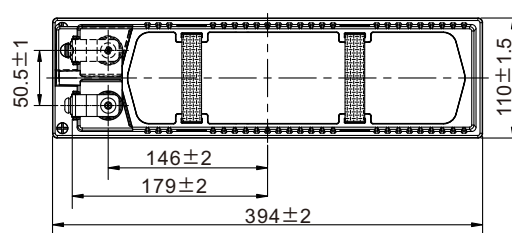
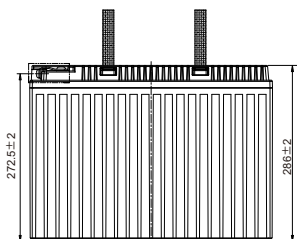
Terminal

Terminal Model: M6
Unit: mm



Layout

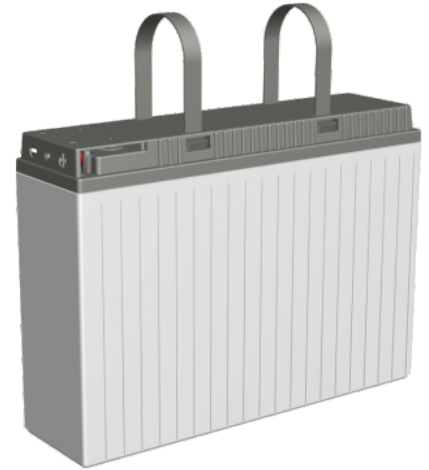
Unit: mm



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Specification

Nominal Voltage	12V	
Rated Capacity (Ah)	100.0AH/10.0A	(10hr,1.80V/cell,25°C)
	86.5AH/17.3A	(5hr,1.75V/cell,25°C)
	62.7 AH/62.7A	(1hr,1.67V/cell,25°C)
Dimension	Length	394±2mm
	Width	110±2mm
	Container Height	286±2mm
	Total Height	286±2mm
Approx Weight	Approx 31.7 kg	
Terminal	M6	
Container Material	ABS	
Max. Discharge Current	1000A (5s)	
Internal Resistance	Approx 5.5mΩ	
Operating Temp. Range	Discharge: -20~55°C Charge: 0~40°C Storage: -20~50°C	
Capacity Affected by Temperature	40°C	103%
	25°C	100%
	0°C	86%
Cycle Use	Initial Charging Current less than 25.0A.	
	Voltage: 14.4V at 25°C	Temp. coefficient -30mV/°C
Standby Use	Equalization voltage: 14.1V at 25°C Temp. coefficient -18mV/°C	
	Float voltage: 13.5V at 25°C	Temp. coefficient -18mV/°C
Self Discharge	USFG-HS series batteries may be stored for up to 6 months at 25°C and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



ISO9001



ISO14001

Performance

Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h
1.85V/cell	125.5	105.9	81.5	62.5	51.6	31.1	23.5	18.8	15.7	13.8	11.1	9.32	8.26	4.91
1.80V/cell	146.0	121.5	92.2	69.7	57.2	33.8	25.4	20.2	16.9	14.8	11.9	10.0	8.86	5.27
1.75V/cell	154.4	127.8	96.3	72.5	59.3	34.9	26.1	20.7	17.3	15.1	12.1	10.1	8.96	5.29
1.70V/cell	163.2	134.4	100.6	75.3	61.4	36.0	26.9	21.3	17.7	15.5	12.3	10.2	9.11	5.38
1.67V/cell	168.4	138.2	103.1	77.0	62.7	36.6	27.3	21.6	17.9	15.7	12.4	10.4	9.22	5.48
1.60V/cell	180.5	147.2	108.9	80.9	65.8	38.1	28.3	22.3	18.5	16.2	12.7	10.6	9.42	5.58

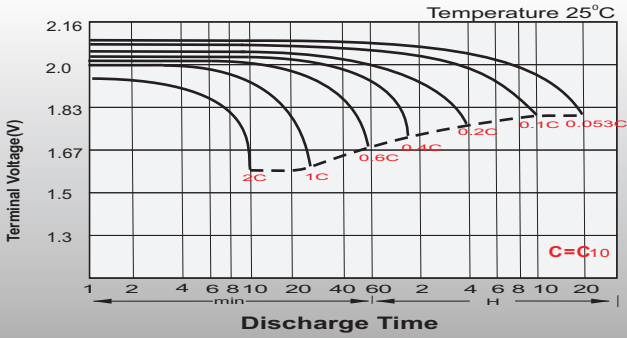
Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h
1.85V/cell	241.2	203.9	157.5	121.2	100.4	60.7	46.1	36.9	31.0	27.2	21.9	18.4	17.2	9.90
1.80V/cell	277.6	231.8	176.6	134.2	110.3	65.8	49.6	39.6	33.2	29.1	23.4	19.6	17.9	10.4
1.75V/cell	290.6	241.5	183.0	138.5	113.6	67.4	50.8	40.5	33.9	29.7	23.8	19.8	18.2	10.5
1.70V/cell	303.6	251.3	189.4	142.8	117.0	69.2	52.0	41.3	34.6	30.3	24.2	20.1	18.7	10.7
1.67V/cell	311.5	257.0	193.1	145.3	118.8	70.1	52.6	41.8	34.9	30.6	24.4	20.3	18.8	10.7
1.60V/cell	327.6	269.4	201.4	151.0	123.5	72.5	54.3	43.0	35.8	31.4	24.9	20.6	19.2	10.9

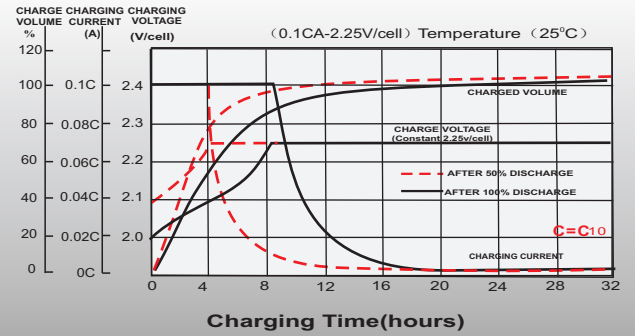
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Characteristic Curve

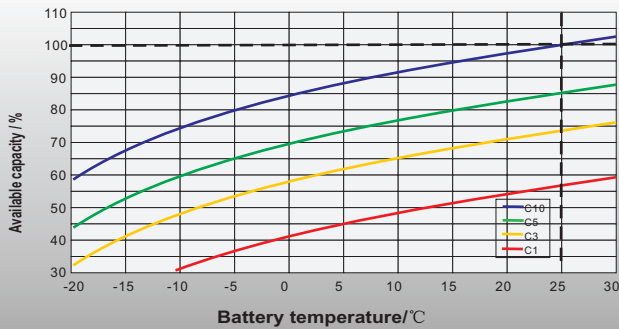
Discharge Characteristics



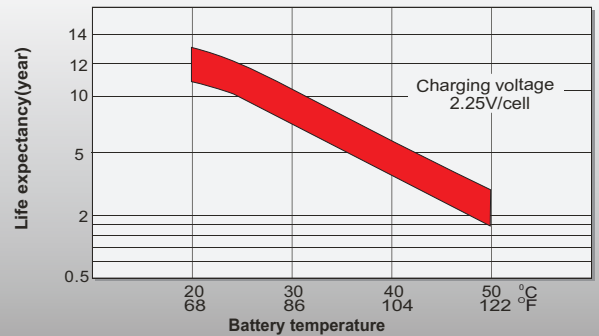
Float Charging Characteristics



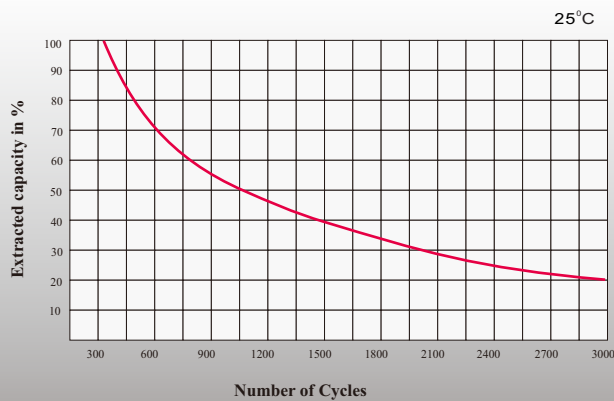
Temperature Effects in Relation to Battery Capacity



Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



General Relation of Capacity VS. Storage Time

