AMB Tronic®

the power to lead

Server Telecom Industrial Network Hospitality Medical

HFS12-115W-X 12V 26Ah

MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

Overview

The new AMB HFS series batteries are designed for UPS Standby Power Aplications requiring high power output. Computer designed grids and optimized plate paste formula produce high energy density and long lasting uninterrupted power for critical systems.

Battery Construction

Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

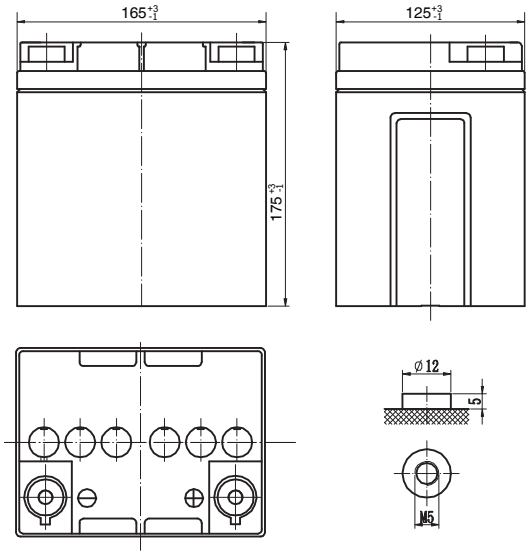
General Features

- Positive and negative plates in lead-calcium-tin alloy;
- Superior energy density;
- Operate at a low internal pressure;
- Gas recombination;
- Special separator technology;
- A recognized component of UL,IEC,TLC.etc;
- Flame retardant ABS(UL 94-FV0);
- Very hight power output for 5 to 15 minutes supply
- A covered range from 90W to 850W per cell for 15min @ 1.67Vpc;
- Six months shelf life at 20 ℃;
- Design life :12+years at 20 ℃;
- Recommended loading 1h and below;

Dimensions and Weight

Length(mm / inch)	165/6.5
Width(mm / inch)	125/4.92
Height(mm / inch)	175/6.89
Total Height(mm / inch)	175/6.89
Approx. Weight(Kg / lbs)	9.6/21.2

* Weight deviation: ± 5%



Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77°F(25℃)	
15 min wattage @ 1.67VPC	115W/cell
10 hour rate (2.60A 10.8V)	26 Ah
20 hour rate (1.40 A,10.8V)	28 Ah
Internal Resistance	
Fully Charged battery 77°F(25℃)	≤8.0mOhms
Self-Discharge	
3% of capacity declined per month at 20℃(average)	
Operating Temperature Range	
Discharge	- 20~60℃
Charge	- 10~60℃
Storage	- 20~60℃
Max. Discharge Current 77°F(25℃)	260A(5s)
Charge Methods: Constant Voltage Charge 77°F(25℃)	
Cycle use	2.40- 2.45VPC
Maximum charging current	8.4A
Temperature compensation	- 30mV/℃
Standby use	2.23- 2.30VPC
Temperature compensation	- 20mV/℃

Discharge Constant Current (Amperes at 77°F25°C)

End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60	168	131	90.2	67.3	56.1	48.1	42.1	31.1	24.7
1.65	158	125	86.2	64.8	54.0	46.3	40.7	30.0	23.9
1.67	154	123	84.6	63.8	53.2	45.6	40.2	29.5	23.5
1.70	148	116	78.5	60.3	50.3	43.1	38.3	28.0	22.5
1.75	139	108	74.2	56.8	47.5	40.1	35.1	26.6	21.3
1.80	127	103	71.1	54.8	45.6	39.4	35.0	25.7	20.8

Discharge Constant Power (Watts at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60	325	240	157	118	99	85.8	75.2	56.6	45.7
1.65	311	233	153	116	97	83.8	73.4	55.4	44.8
1.67	306	230	152	115	96	83.0	72.7	54.9	44.4
1.70	283	221	147	110	92	80.1	70.3	53.2	43.2
1.75	267	210	140	106	90	77.3	67.8	51.5	41.9
1.80	253	200	134	102	85	74.6	65.4	49.8	40.6

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.
All data shall be changed without notice, AMB reserves the right to explain and update the information contained hereinto.

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HFS12-115W-X 12V 26Ah

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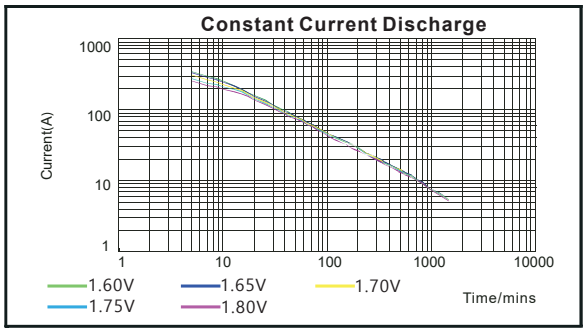
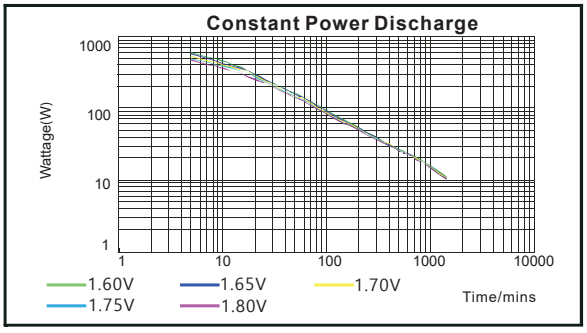
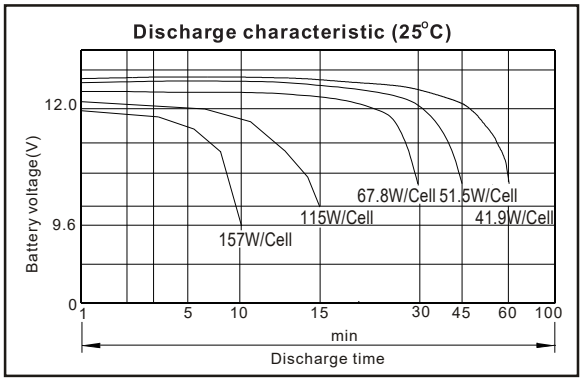
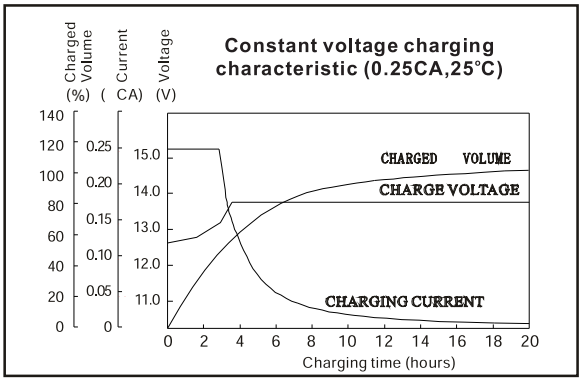
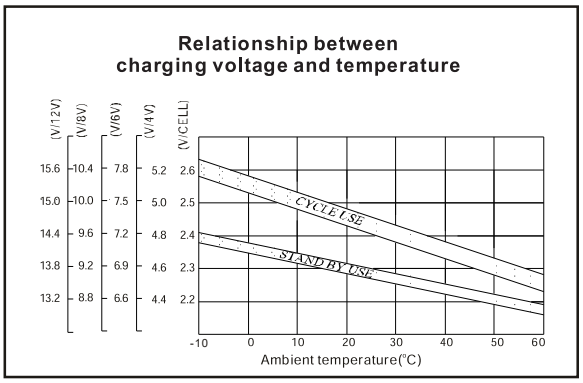
SEALED LEAD ACID BATTERY

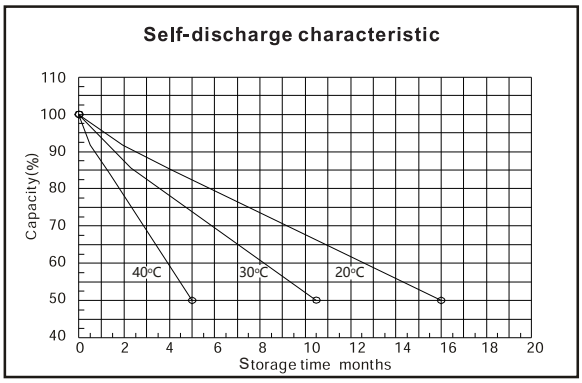


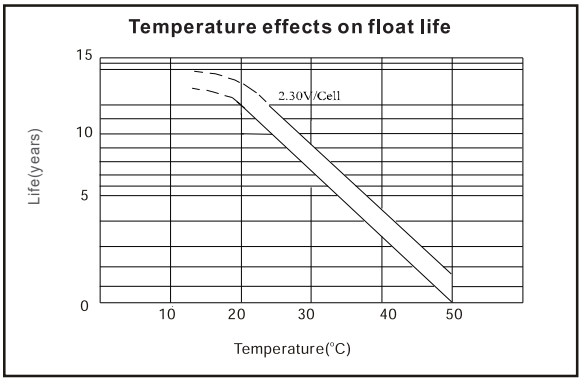


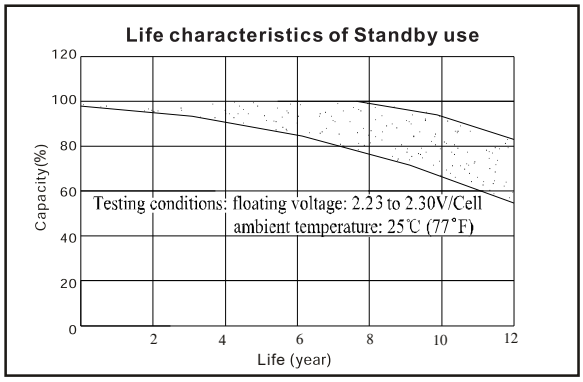












AMB Tronic®

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Server Telecom Industrial Network Hospitality Medical

HFS12-150W-X 12V 33Ah

MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

Overview

The new AMB HFS series batteries are designed for UPS Standby Power Aplications requiring high power output. Computer designed grids and optimized plate paste formula produce high energy density and long lasting uninterrupted power for critical systems.

Battery Construction

Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

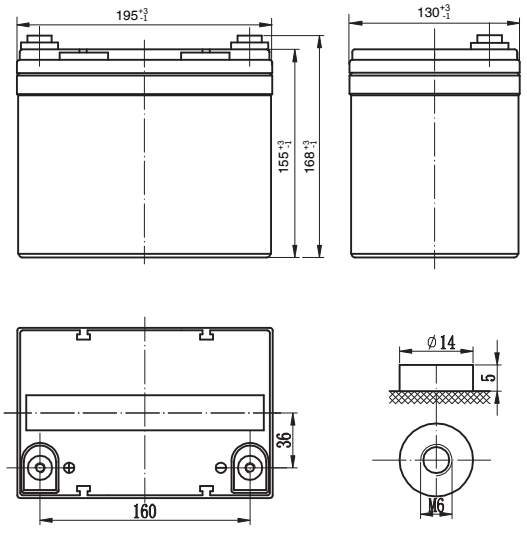
General Features

- Positive and negative plates in lead-calcium-tin alloy;
- Superior energy density;
- Operate at a low internal pressure;
- Gas recombination;
- Special separator technology;
- A recognized component of UL,IEC,TLC.etc;
- Flame retardant ABS(UL 94-FV0);
- Very hight power output for 5 to 15 minutes supply
- A covered range from 90W to 850W per cell for 15min @ 1.67Vpc;
- Six months shelf life at 20 ℃;
- Design life :12+years at 20 ℃;
- Recommended loading 1h and below;

Dimensions and Weight

Length(mm / inch)	195/7.68
Width(mm / inch)	130/5.12
Height(mm / inch)	155/6.10
Total Height(mm / inch)	168/6.61
Approx. Weight(Kg / lbs)	11.5/25.4

* Weight deviation: ± 5%



Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77°F(25℃)	
15 min wattage @ 1.67VPC	150W/cell
10 hour rate (8.30A 10.8V)	33 Ah
20 hour rate (1.75 A,10.8V)	35 Ah
Internal Resistance	
Fully Charged battery 77°F(25℃)	≤7.0mOhms
Self-Discharge	
3% of capacity declined per month at 20℃(average)	
Operating Temperature Range	
Discharge	- 20~60℃
Charge	- 10~60℃
Storage	- 20~60℃
Max. Discharge Current 77°F(25℃)	330A(5s)
Charge Methods: Constant Voltage Charge 77°F(25℃)	
Cycle use	2.40- 2.45VPC
Maximum charging current	10.5 A
Temperature compensation	- 30mV/℃
Standby use	2.23- 2.30VP C
Temperature compensation	- 20mV/℃

Discharge Constant Current (Amperes at 77°F25°C)

End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60V	234	173	116	87	71.4	61.0	52.9	38.6	30.3
1.65V	216	162	111	83	69.3	59.1	51.3	37.7	30.1
1.67V	209	158	109	82	68.4	58.4	50.6	37.3	30.0
1.70V	194	149	104	80	66.4	57.1	49.9	36.8	29.8
1.75V	175	137	98	76	64.0	54.8	48.0	35.4	29.2
1.80V	158	124	91	71	60.0	51.2	45.0	33.9	28.1

Discharge Constant Power (Watts at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60V	346	267	197	152	131	113	101	74.2	58.5
1.65V	333	261	191	151	129	111	99	73.4	58.4
1.67V	328	259	189	150	128	110	98	73.1	58.3
1.70V	317	248	183	146	126	108	94	71.9	58.1
1.75V	293	234	171	137	119	104	92	70.0	56.7
1.80V	287	224	164	131	115	100	89	67.4	54.7

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.All data shall be changed without notice, AMB reserves the right to explain and update the information contained hereinto.

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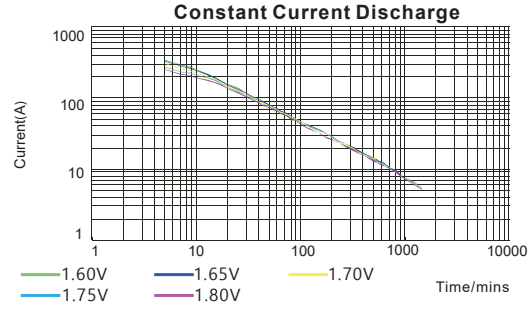
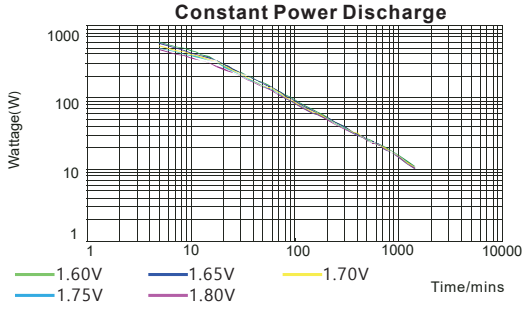
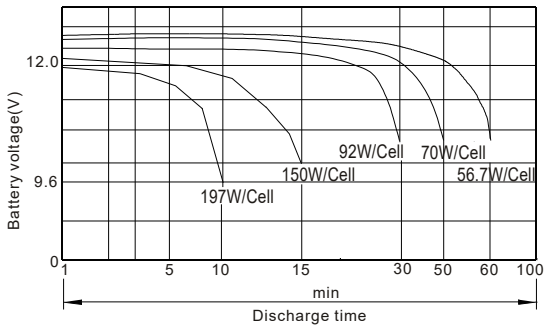
Constant Current Discharge



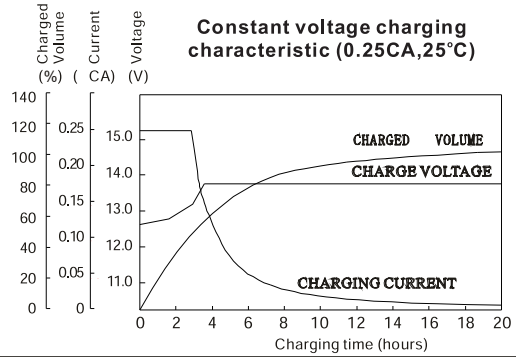
Constant Power Discharge



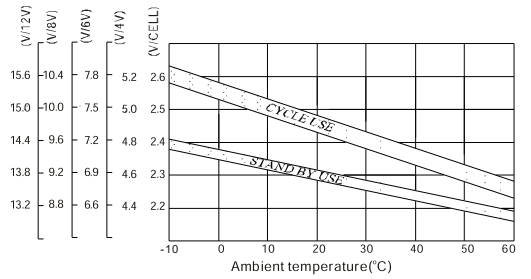
Discharge characteristic (25°C)



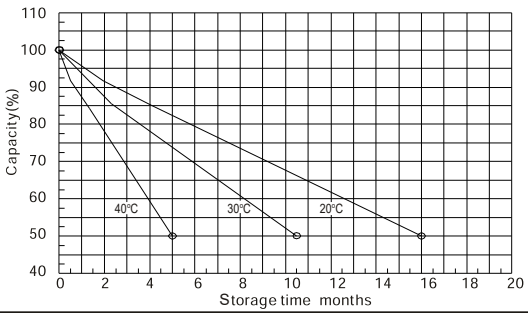
Constant voltage charging characteristic (0.25CA,25°C)



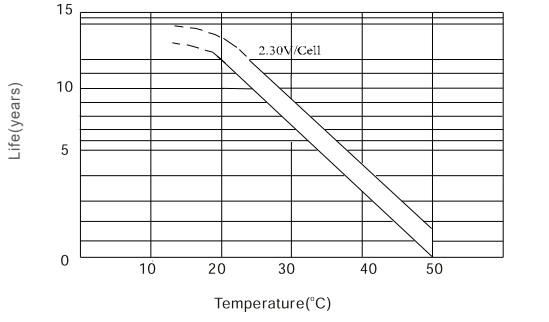
Relationship between charging voltage and temperature



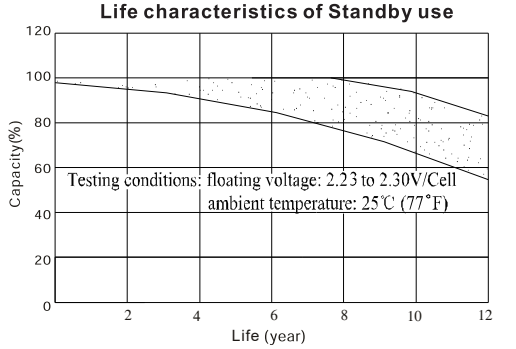
Self-discharge characteristic



Temperature effects on float life



Life characteristics of Standby use



AMB Tronic®

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Server Telecom Industrial Network Hospitality Medical

HFS12-200W-X 12V 55Ah

MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

Overview

The new AMB HFS series batteries are designed for UPS Standby Power Aplications requiring high power output. Computer designed grids and optimized plate paste formula produce high energy density and long lasting uninterrupted power for critical systems.

Battery Construction

Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

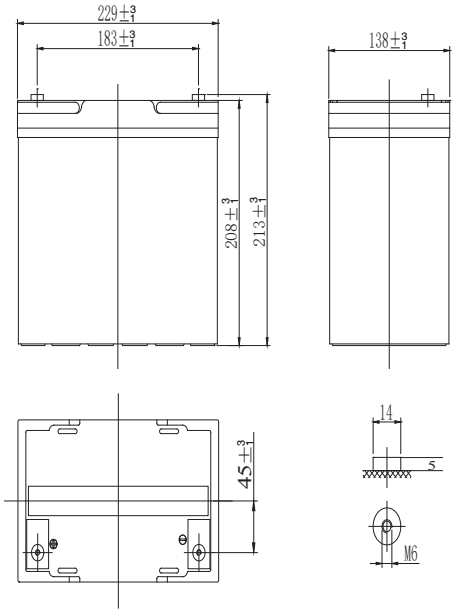
General Features

- Positive and negative plates in lead-calcium-tin alloy;
- Superior energy density;
- Operate at a low internal pressure;
- Gas recombination;
- Special separator technology;
- A recognized component of UL,IEC,TLC.etc;
- Flame retardant ABS(UL 94-FV0);
- Very hight power output for 5 to 15 minutes supply
- A covered range from 90W to 850W per cell for 15min @ 1.67Vpc;
- Six months shelf life at 20 ℃;
- Design life :12+years at 20 ℃;
- Recommended loading 1h and below;

Dimensions and Weight

Length(mm / inch)	229/9.02
Width(mm / inch)	138/5.43
Height(mm / inch)	208/8.19
Total Height(mm / inch)	213/8.39
Approx. Weight(Kg / lbs)	17.0/37.5

* Weight deviation: ± 5%



Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77°F(25℃)	
15 min wattage @ 1.67VPC	200W/cell
10 hour rate (15.0A 10.8V)	55 Ah
20 hour rate (2.90 A,10.8V)	58 Ah
Internal Resistance	
Fully Charged battery 77°F(25℃)	≤6.0mOhms
Self-Discharge	
3% of capacity declined per month at 20℃(average)	
Operating Temperature Range	
Discharge	- 20~60 ℃
Charge	- 10~60℃
Storage	- 20~60℃
Max. Discharge Current 77°F(25℃)	550 A(5s)
Charge Methods: Constant Voltage Charge 77°F(25℃)	
Cycle use	2.40- 2.45VPC
Maximum charging current	17.4 A
Temperature compensation	- 30mV/℃
Standby use	2.23- 2.30VP C
Temperature compensation	- 20mV/℃

Discharge Constant Current (Amperes at 77°F25°C)

End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1. 60V	315	248	164	119	99	84. 1	73. 3	54. 1	42. 6
1. 65V	301	238	159	116	97	83. 5	72. 8	53. 6	42. 2
1. 67V	294	228	154	115	96	83. 0	72. 3	53. 5	41. 9
1. 70V	283	213	147	113	95	82. 2	71. 7	53. 2	41. 6
1. 75V	261	195	138	108	92	79. 6	69. 5	52. 0	41. 1
1. 80V	248	183	125	99	85	72. 9	65. 1	50. 0	39. 7

Discharge Constant Power (Watts at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1. 60V	497	391	275	204	172	149	131	101	76. 4
1. 65V	488	389	274	203	171	148	130	100	76. 3
1. 67V	466	384	270	200	170	144	128	97. 7	76. 2
1. 70V	453	354	258	196	166	142	126	96. 4	76. 0
1. 75V	425	334	240	188	163	141	123	94. 3	74. 4
1. 80V	405	316	222	177	152	132	118	91. 4	72. 6

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.All data shall be changed without notice, AMB reserves the right to explain and update the information contained hereinto.

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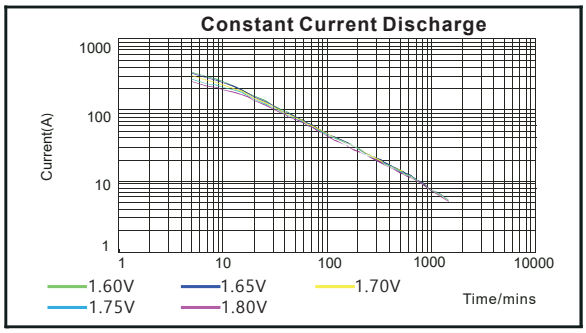

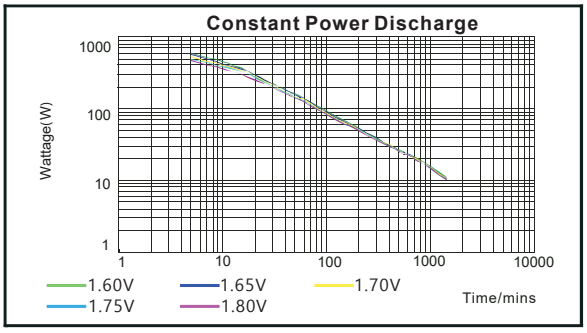

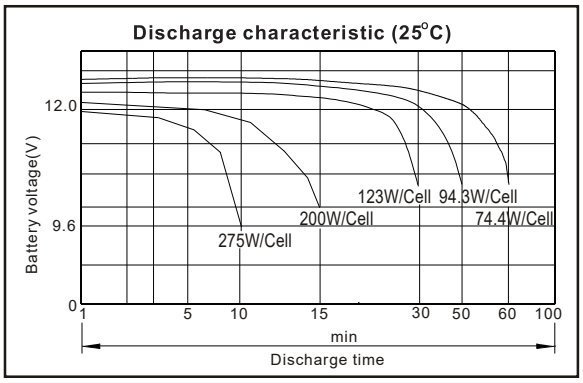

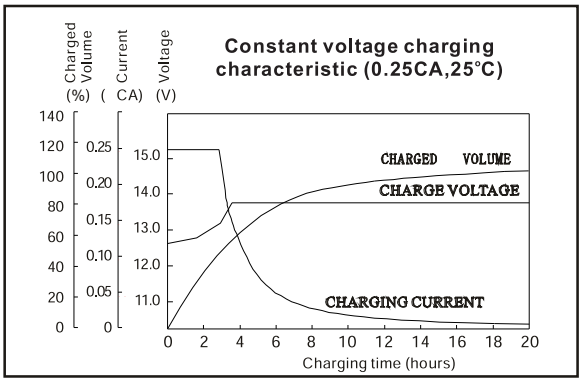

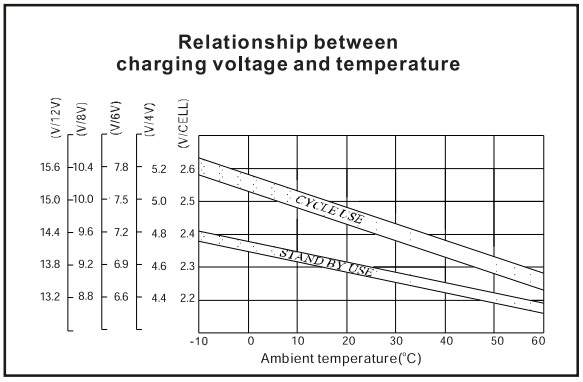

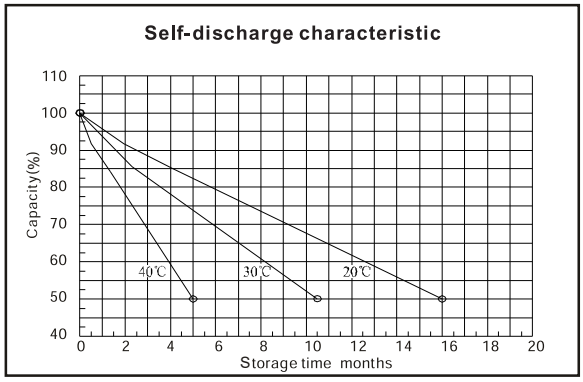

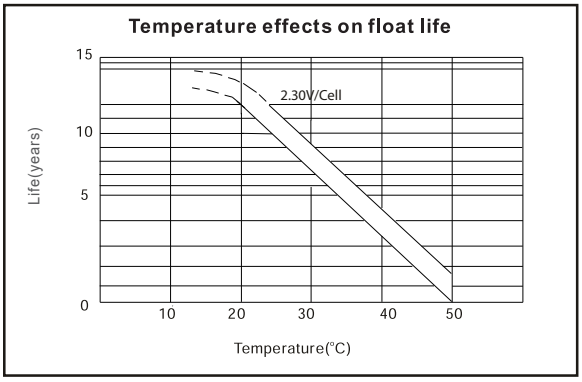

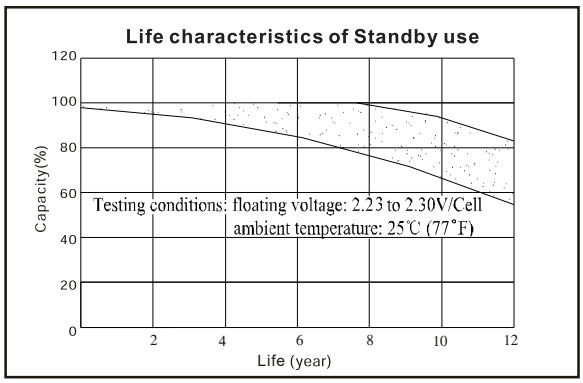

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HFS12-320W-X 12V 75Ah

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SEALED LEAD ACID BATTERY

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General Features

- Positive and negative plates in lead-calcium-tin alloy;
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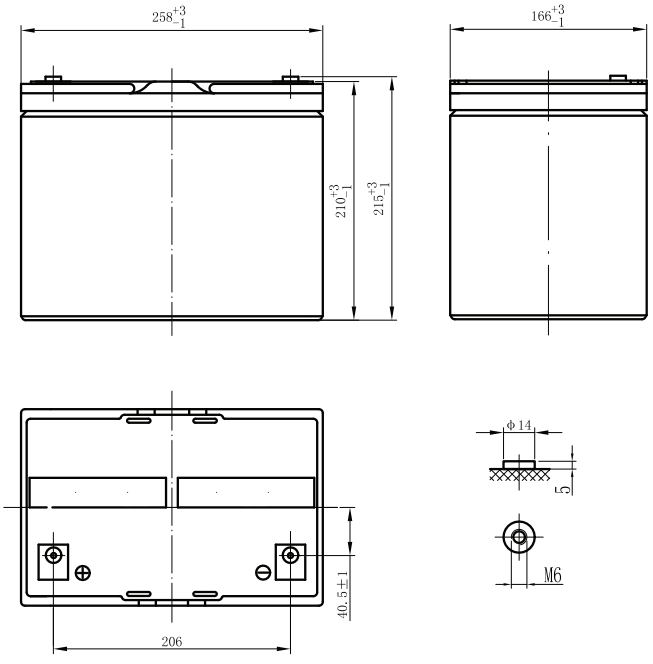
- Six months shelf life at 20℃;
- Design life : 12+years at 20℃;
- Recommended loading 1h and below;

Dimensions and Weight

Length(mm / inch)	258/10.2
Width(mm / inch)	166/6.54
Height(mm / inch)	210/8.27
Total Height(mm / inch)	215/8.46
Approx. Weight(Kg / lbs)	24.5/54.0

* Weight deviation: ± 5%



Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77°F(25℃)	
15 min wattage @ 1.67VPC	320W/cell
10 hour rate (7.50A 10.8V)	75 Ah
20 hour rate (4.00 A,10.8V)	80 Ah
Internal Resistance	
Fully Charged battery 77°F(25℃)	≤5.0mOhms
Self-Discharge	
3% of capacity declined per month at 20℃(average)	
Operating Temperature Range	
Discharge	- 20~60℃
Charge	- 10~60℃
Storage	- 20~60℃
Max. Discharge Current 77°F(25℃)	670A(5s)
Charge Methods: Constant Voltage Charge 77°F(25℃)	
Cycle use	2.40- 2.45VPC
Maximum charging current	24A
Temperature compensation	- 30mV/℃
Standby use	2.23- 2.30VP C
Temperature compensation	- 20mV/℃

Discharge Constant Current (Amperes at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1. 60	397	332	242	183	153	130	116	87. 8	69. 1
1. 65	386	319	231	174	148	127	113	85. 2	67. 3
1. 67	382	314	227	170	146	126	112	84. 2	66. 6
1. 70	372	305	216	164	140	122	109	82. 2	64. 2
1. 75	348	272	198	154	131	113	102	79. 1	62. 2
1. 80	318	249	183	144	124	108	98	73. 6	57. 9

Discharge Constant Power (Watts at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1. 60	810	640	432	327	281	241	213	158	124
1. 65	754	598	420	322	273	235	209	155	122
1. 67	732	581	415	320	270	232	207	154	121
1. 70	673	551	386	301	263	228	204	152	119
1. 75	643	500	364	288	249	216	196	150	116
1. 80	583	465	340	273	238	210	188	142	111

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.
All data shall be changed without notice, AMB reserves the right to explain and update the information contained hereinto.

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HFS12-320W-X 12V 75Ah

MAINTENANCE-FREE
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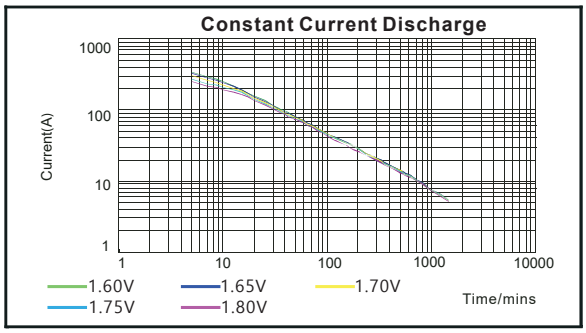

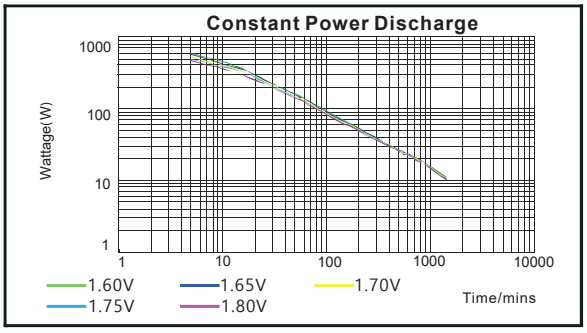

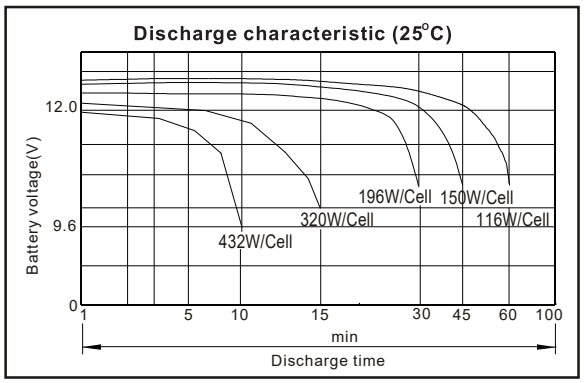

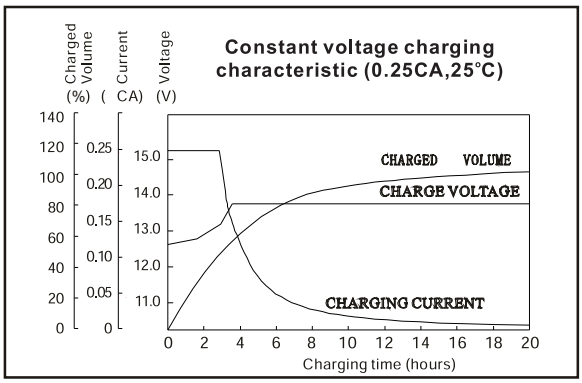

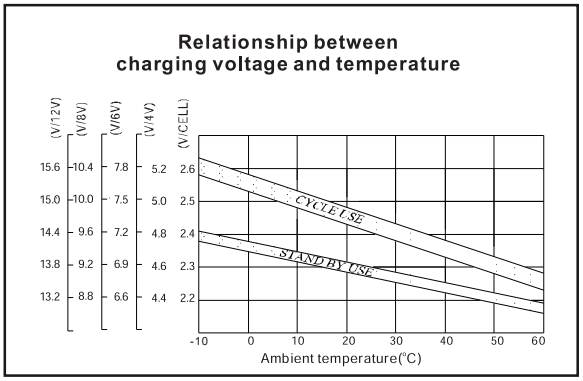

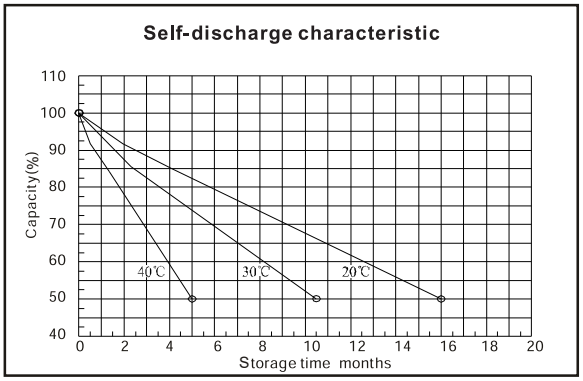

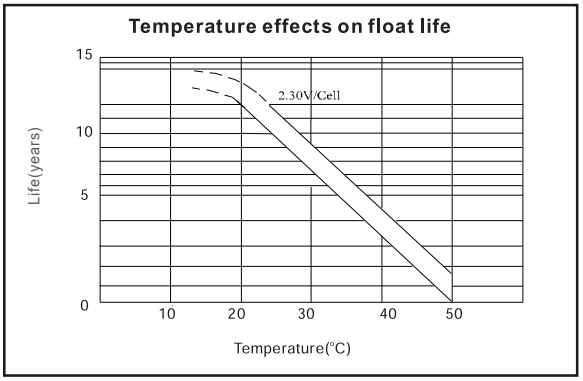

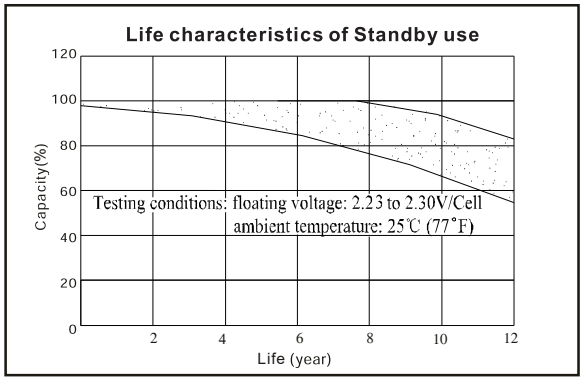

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HFS12-360W-X 12V 360W

MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

HFS Series

High Rate Discharge

The new AMB HFS series batteries are designed for UPS Standby Power Applications requiring high power output. Computer designed grids and optimized plate paste formula produce high energy density and long lasting uninterrupted power for critical systems.

Shenzhen Center Power Tech Co., Ltd has more than 20 year's experience in the manufacturing of VRLA batteries.
SZCPT is one of the largest manufacturers of SLA (or VRLA) batteries in the world, the largest one in Mainland China and the first in China to develop and commercialize the sealed lead-acid battery with brand name AMB and has been at the forefront of battery technology from day one.

SZCPT leads the world in innovative battery technology. Our global network of sales and service engineers, backed in turn by our agents and distributors, means that we are currently active in more than 100 countries.

Shenzhen Center Power Tech. Co., Ltd

General Features

- Positive and negative plates in lead-calcium tin alloy.
- Superior energy density.
- Operates at a low internal pressure.
- Gas Recombination.
- Special separator technology.
- A recognized component of UL,IEC,TLC,etc.
- Flame retardant ABS (UL 94-FV0).
- Very hight power output for 5 to15 minutes supply.
- Special design to avoid thermal runaway.
- A covered range from 90W to 850W per cell for 15' @1.67Vpc.
- Six months shelf life at 20°C.
- Design life 12+ years.
- Recommended loading 1h and below.

Dimensions and Weight

	Metric Units	*English Units*
Length	306mm	12.0inch
Width	170mm	6.69inch
Height	220mm	8.66inch
Total Height	225mm	8.86inch
Approx. Weight	28.1Kg	61.9lbs

Performance Characteristics

- Nominal Voltage 12V
- Number of cell 6
- Nominal Capacity 77°F(25°C)
  - 15 min wattage @1.67VPC 360W/cell
  - 10 hour rate (9 .0A, 10.8V) 85Ah
  - 20 hour rate (4.70A, 10.8V) 89Ah
- Torque setting:12.4NM
- Internal Resistance
  - Fully Charged battery 77°F(25°C) 4.4mOhms
- Self-Discharge
  - 3% of capacity declined per month at 20°C(average)
- Operating Temperature Range
  - Discharge -20~60°C
  - Charge -10~60°C
  - Storage -20~60°C
- Max. Discharge Current 77°F(25°C) 750A(5s)
- Charge Methods: Constant Voltage Charge 77°F(25°C)
  - Cycle use 14.4V-14.7V
  - Maximum charging current 25.5A
  - Temperature compensation -30mV/°C
- Standby use 13.38V-13.8V
  - Temperature compensation -20mV/°C

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HFS12-360W-X 12V 360W

MAINTENANCE-FREE
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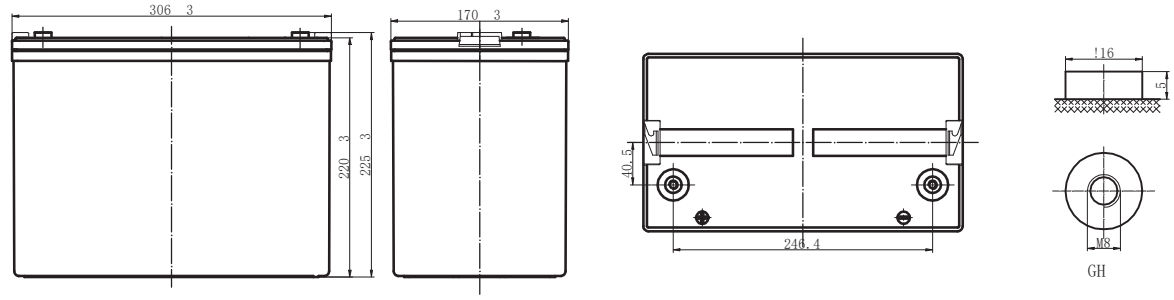
Discharge Data

Constant Current Dischaarge Date(Ampre at 25℃)									
End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60	426	345	248	194	167	145	127	89.8	64.1
1.65	418	339	240	190	162	142	124	87.2	61.8
1.67	415	336	237	189	161	141	123	86.1	60.9
1.70	403	317	229	180	154	135	117	77.7	58.3
1.75	392	306	223	175	150	128	112	75.6	57.6
1.80	376	287	213	169	141	124	109	74.0	49.5

Constant Power Discharge Date (Ampere at 25℃)									
End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60	857	648	459	365	311	270	238	168	126
1.65	833	631	451	361	302	261	227	163	124
1.67	824	624	447	360	298	257	223	161	123
1.70	764	586	433	351	287	243	210	153	119
1.75	734	557	402	322	275	235	204	147	112
1.80	687	534	387	310	264	224	198	143	108

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.
All data shall be changed without notice,AMB reserves the right to explain and update the information contained hereinto.

Performance drawings



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HFS12-360W-X 12V 360W

MAINTENANCE-FREE
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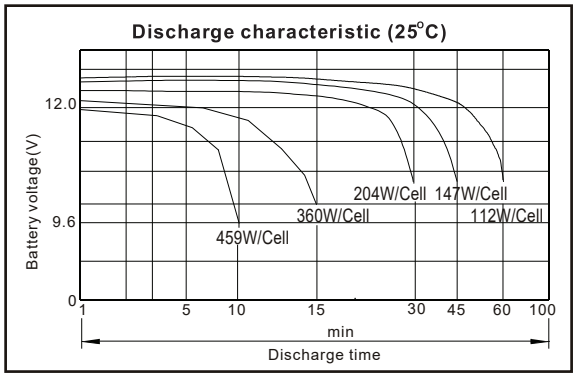
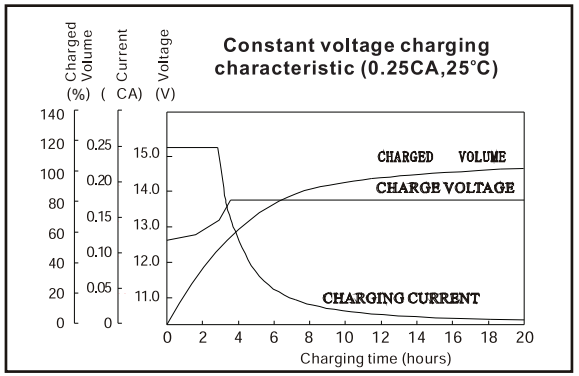
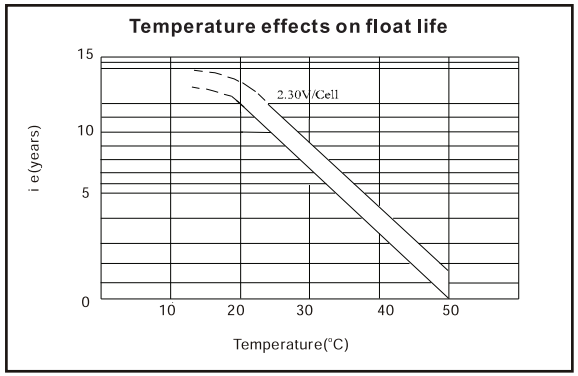
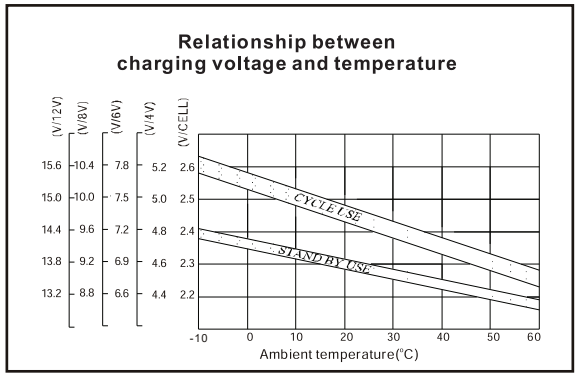
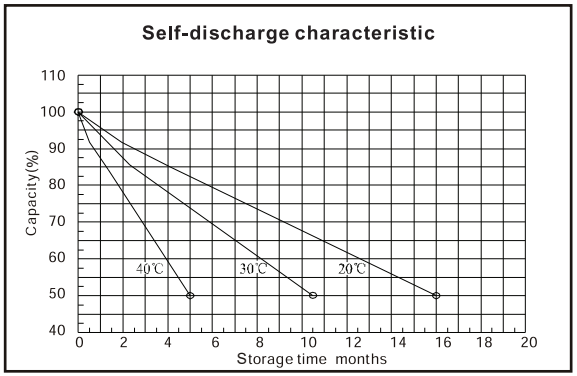
SEALED LEAD ACID BATTERY

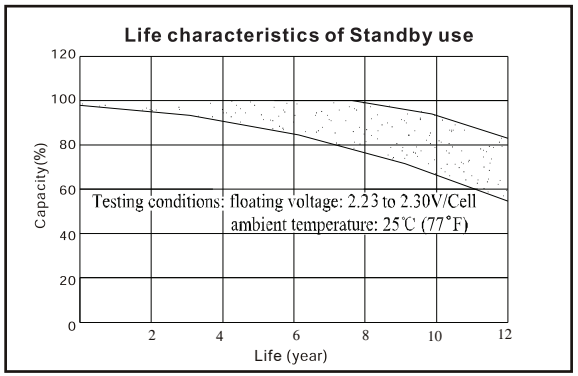












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Server Telecom Industrial Network Hospitality Medical

HFS12-450W-X 12V 120Ah

MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

Overview

The new AMB HFS series batteries are designed for UPS Standby Power Aplications requiring high power output. Computer designed grids and optimized plate paste formula produce high energy density and long lasting uninterrupted power for critical systems.

Battery Construction

Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

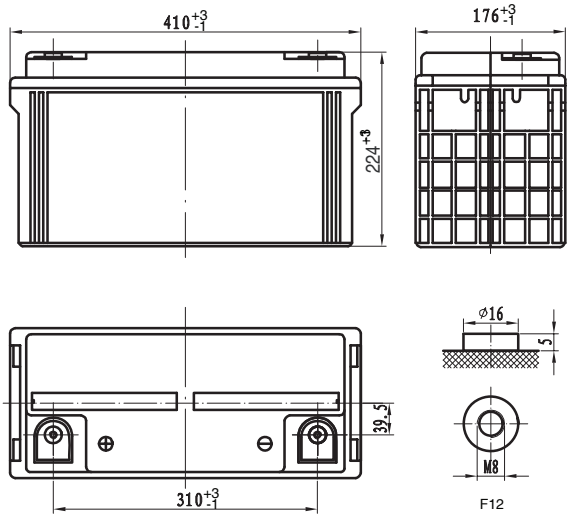
General Features

- Positive and negative plates in lead- calcium- tin alloy;
- Superior energy density;
- Operate at a low internal pressure;
- Gas recombination;
- Special separator technology;
- A recognized component of UL, IEC,TLC.etc;
- Flame retardant ABS(UL 94-FV0);
- Very hight power output for 5 to 15 minutes supply
- A covered range from 90W to 850W per cell for 15min @ 1.67Vpc;
- Six months shelf life at 20 ℃;
- Design life : 12+years at 20°C;
- Recommended loading 1h and below;

Dimensions and Weight

Length(mm / inch)	410/16.14
Width(mm / inch)	176/6.93
Height(mm / inch)	224/8.82
Total Height(mm / inch)	224/8.82
Approx. Weight(Kg / lbs)	36.5/80.5

* Weight deviation: ± 5%



Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77°F(25℃)	
15 min wattage @ 1.67VPC	450W/cell
10 hour rate (12.0A ,10.8V)	120 Ah
20 hour rate (6.30A ,10.8V)	126 Ah
Internal Resistance	
Fully Charged battery 77°F(25℃)	≤4.0mOhms
Self-Discharge	
3% of capacity declined per month at 20℃(average)	
Operating Temperature Range	
Discharge	- 20~60 ℃
Charge	- 10~60℃
Storage	- 20~60℃
Max. Discharge Current 77°F(25℃)	840 A(5s)
Charge Methods: Constant Voltage Charge 77°F(25℃)	
Cycle use	2.40- 2.45VPC
Maximum charging current	37.8 A
Temperature compensation	- 30mV/℃
Standby use	2.23- 2.30VPC
Temperature compensation	- 20mV/℃

Discharge Constant Current (Amperes at 77°F25°C)

End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60V	487	414	340	266	223	189	160	111	86.1
1.65V	471	405	318	255	211	179	151	105	81.6
1.67V	465	402	309	250	206	175	147	103	79.8
1.70V	446	384	294	244	198	168	143	99.8	77.7
1.75V	427	368	287	234	191	161	135	94.5	74.6
1.80V	406	362	282	223	183	157	131	92.4	72.5

Discharge Constant Power (Watts at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60V	904	764	593	475	403	341	294	203	161
1.65V	886	741	575	457	386	324	278	197	156
1.67V	879	732	568	450	379	317	271	194	154
1.70V	856	699	548	440	371	311	269	191	151
1.75V	832	667	538	424	358	301	261	185	147
1.80V	813	643	510	406	338	287	249	180	143

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.
All data shall be changed without notice, AMB reserves the right to explain and update the information contained hereinto.

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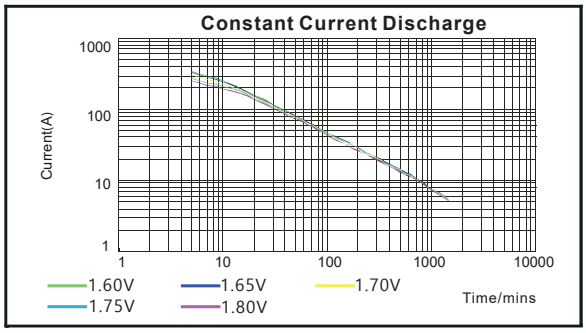
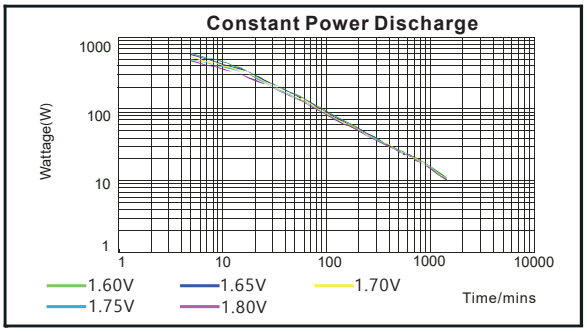
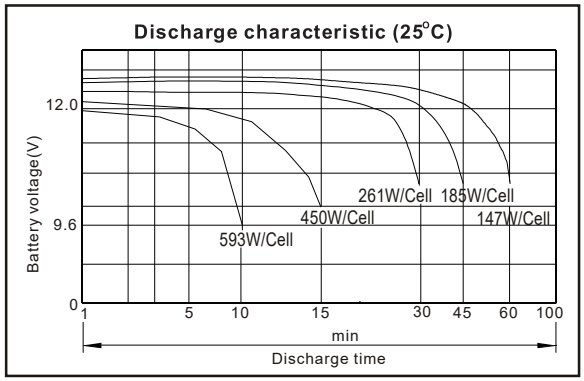
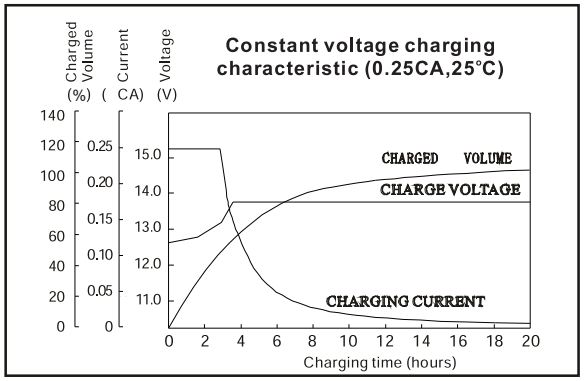
HFS12-450W-X 12V 120Ah

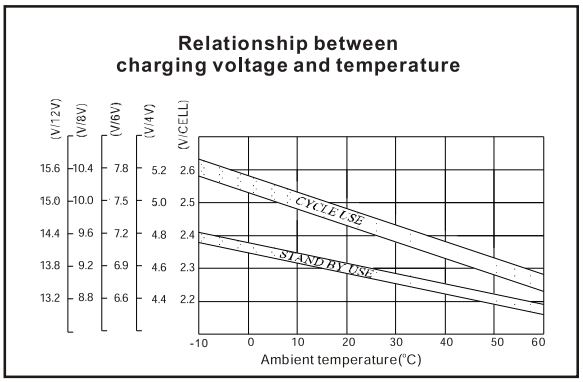
MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

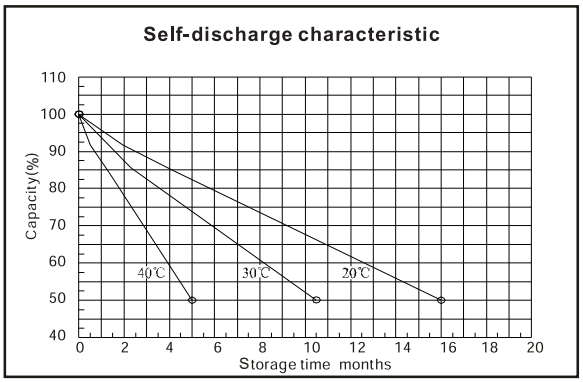


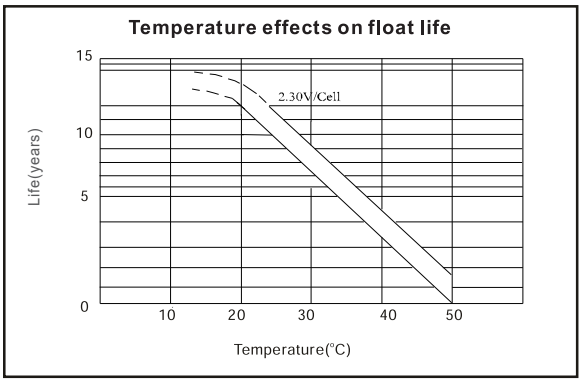


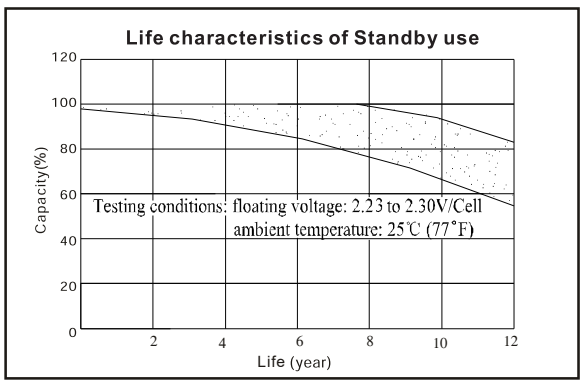












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Server Telecom Industrial Network Hospitality Medical

HFS12-560W-X 12V 150Ah

MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

Overview

The new AMB HFS series batteries are designed for UPS Standby Power Aplications requiring high power output. Computer designed grids and optimized plate paste formula produce high energy density and long lasting uninterrupted power for critical systems.

Battery Construction

Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

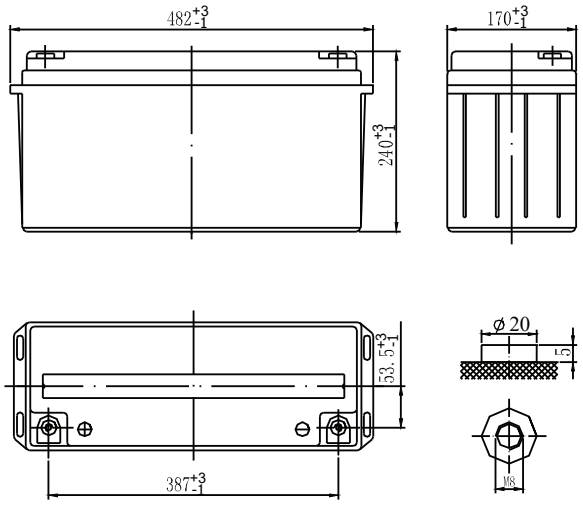
General Features

- Positive and negative plates in lead- calcium- tin alloy;
- Superior energy density;
- Operate at a low internal pressure;
- Gas recombination;
- Special separator technology;
- A recognized component of UL,IEC,TLC.etc;
- Flame retardant ABS(UL 94-FV0);
- Very hight power output for 5 to 15 minutes supply
- A covered range from 90W to 850W per cell for 15min @ 1.67Vpc;
- Six months shelf life at 20 ℃;
- Design life : 12+years at 20°C;
- Recommended loading 1h and below;

Dimensions and Weight

Length(mm / inch)	482/18.9
Width(mm / inch)	170/6.69
Height(mm / inch)	240/9.40
Total Height(mm / inch)	240/9.40
Approx. Weight(Kg / lbs)	45.0/99.2

* Weight deviation: ± 5%



Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77°F(25°C)	
15 min wattage @ 1.67VPC	560W/cell
10 hour rate (15.0A,10.8V)	150 Ah
20 hour rate (7.80A,10.8V)	156 Ah
Internal Resistance	
Fully Charged battery 77°F(25°C)	≤3.5mOhms
Self-Discharge	
3% of capacity declined per month at 20°C(average)	
Operating Temperature Range	
Discharge	- 20~60°C
Charge	- 10~60°C
Storage	- 20~60°C
Max. Discharge Current 77°F(25°C)	970A(5s)
Charge Methods: Constant Voltage Charge 77°F(25°C)	
Cycle use	2.40- 2.45VPC
Maximum charging current	46.8 A
Temperature compensation	- 30mV/°C
Standby use	2.23-2.30VPC
Temperature compensation	- 20mV/°C

Discharge Constant Current (Amperes at 77°F25°C)

End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60V	597	501	411	332	284	245	208	139	107
1.65V	586	484	392	318	271	237	205	135	105
1.67V	582	477	387	312	266	234	204	133	104
1.70V	561	454	366	301	258	221	191	130	102
1.75V	543	444	354	291	252	218	186	127	101
1.80V	518	436	342	277	242	208	176	124	98

Discharge Constant Power (Watts at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60V	1147	915	722	600	502	431	370	267	210
1.65V	1130	892	684	571	483	416	362	258	204
1.67V	1123	883	668	560	476	410	359	255	202
1.70V	1103	864	654	550	463	401	347	250	200
1.75V	1076	844	615	527	450	386	333	242	193
1.80V	1047	806	601	502	432	372	320	234	190

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.
All data shall be changed without notice, AMB reserves the right to explain and update the information contained hereinto.

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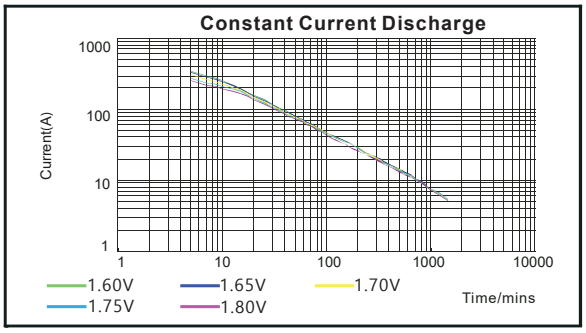
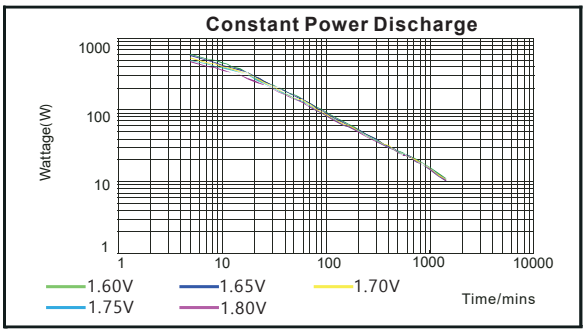
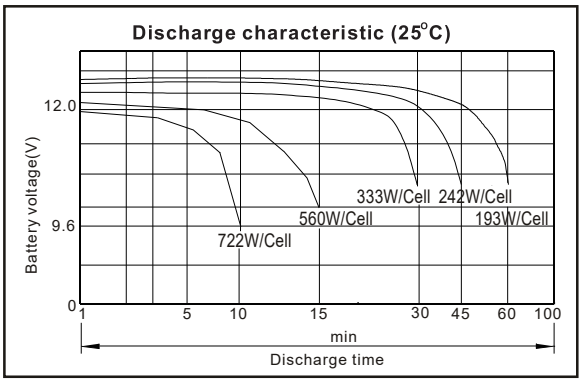
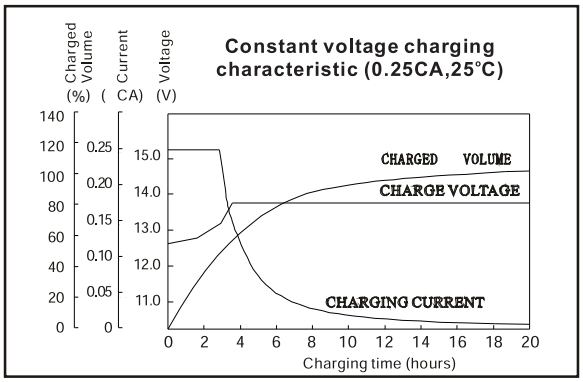
HFS12-560W-X 12V 150Ah

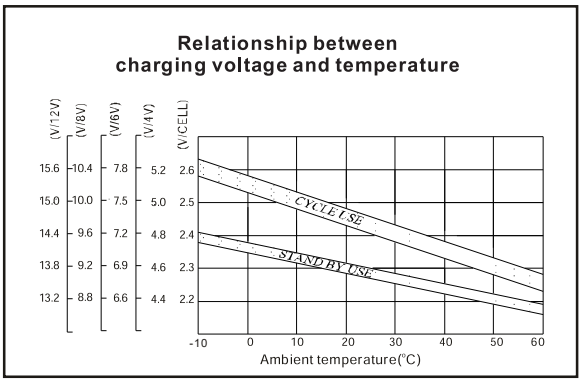
MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

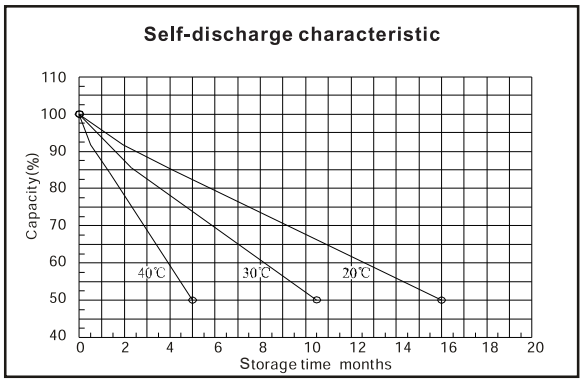


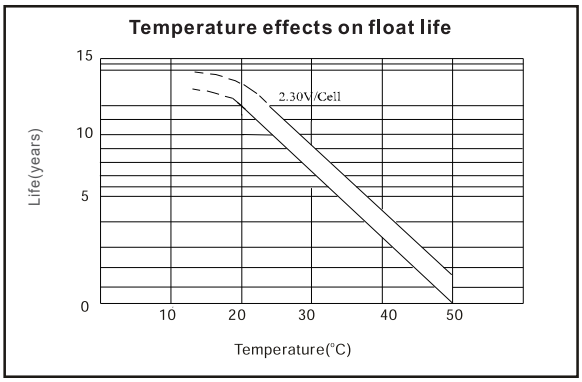


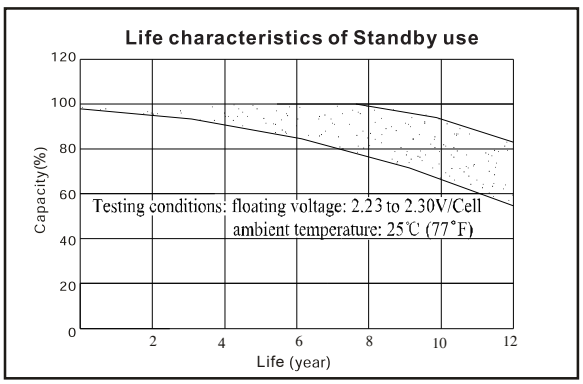












AMB Tronic®

the power to lead

Server Telecom Industrial Network Hospitality Medical

HFS12-710W-X 12V 192Ah

MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

Overview

The new AMB HFS series batteries are designed for UPS Standby Power Aplications requiring high power output. Computer designed grids and optimized plate paste formula produce high energy density and long lasting uninterrupted power for critical systems.

Battery Construction

Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

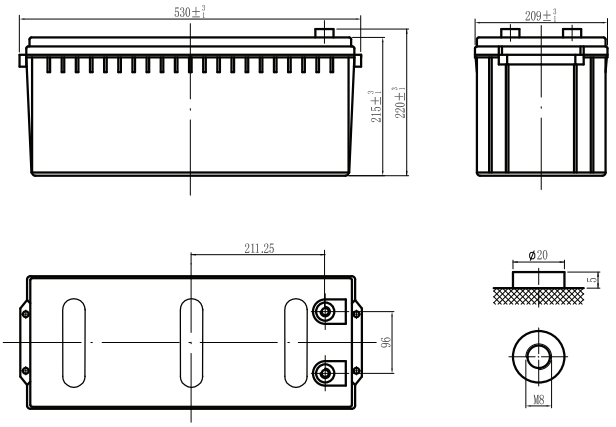
General Features

- Positive and negative plates in lead- calcium- tin alloy;
- Superior energy density;
- Operate at a low internal pressure;
- Gas recombination;
- Special separator technology;
- A recognized component of UL,IEC,TLC.etc;
- Flame retardant ABS(UL 94-FV0);
- Very hight power output for 5 to 15 minutes supply
- A covered range from 90W to 850W per cell for 15min @ 1.67Vpc;
- Six months shelf life at 20 ℃;
- Design life : 12+years at 20°C;
- Recommended loading 1h and below;

Dimensions and Weight

Length(mm / inch)	530/20.8
Width(mm / inch)	209/8.2
Height(mm / inch)	215/8.5
Total Height(mm / inch)	220/8.7
Approx. Weight(Kg / lbs)	57.0/126

* Weight deviation: ± 5%



Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77°F(25℃)	
15 min wattage @ 1.67VPC	710W/cell
10 hour rate (19.2A,10.8V)	192 Ah
20 hour rate (10.0A,10.8V)	200 Ah
Internal Resistance	
Fully Charged battery 77°F(25℃)	≤3.0mOhms
Self-Discharge	
3% of capacity declined per month at 20℃(average)	
Operating Temperature Range	
Discharge	- 20~60℃
Charge	- 10~60℃
Storage	- 20~60℃
Max. Discharge Current 77°F(25℃)	1000 A(5s)
Charge Methods: Constant Voltage Charge 77°F(25℃)	
Cycle use	2.40- 2.45VPC
Maximum charging current	60 A
Temperature compensation	- 30mV/℃
Standby use	2.27- 2.30VPC
Temperature compensation	- 20mV/℃

Discharge Constant Current (Amperes at 77°F25°C)

End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60V	943	714	492	362	330	294	265	207	162
1.65V	939	711	489	360	329	293	263	205	160
1.67V	929	702	483	356	327	290	259	198	155
1.70V	913	687	464	350	320	281	254	192	150
1.75V	899	669	454	342	314	277	248	184	143
1.80V	884	655	434	334	304	268	240	176	138

Discharge Constant Power (Watts at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1.60V	1356	1134	864	730	620	545	485	355	277
1.65V	1341	1115	852	716	608	535	472	344	270
1.67V	1335	1107	847	710	604	531	466	340	267
1.70V	1304	994	817	700	584	513	447	329	257
1.75V	1264	976	804	678	559	491	431	315	247
1.80V	1227	956	789	643	544	479	412	302	236

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.
All data shall be changed without notice, AMB reserves the right to explain and update the information contained hereinto.

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HFS12-710W-X 12V 192Ah

MAINTENANCE-FREE
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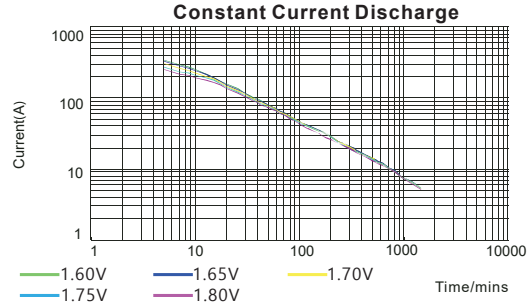
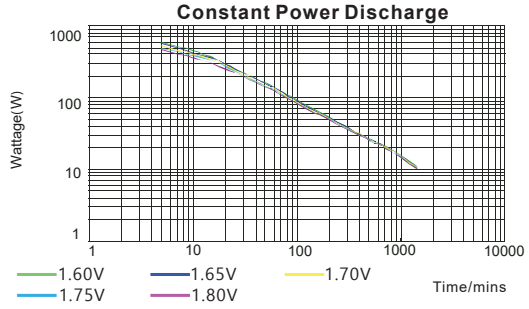
SEALED LEAD ACID BATTERY

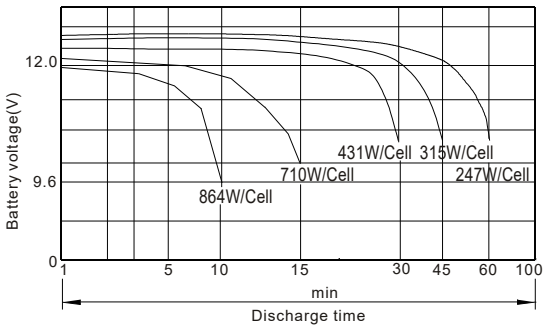
Constant Current Discharge



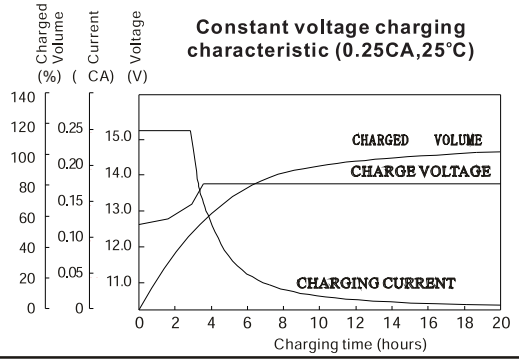
Constant Power Discharge



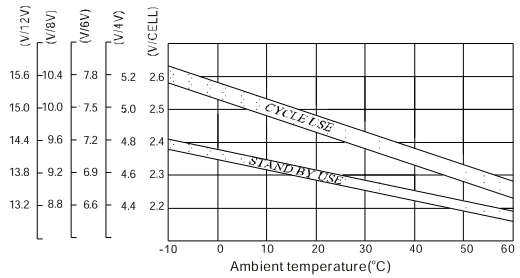
Discharge characteristic (25°C)



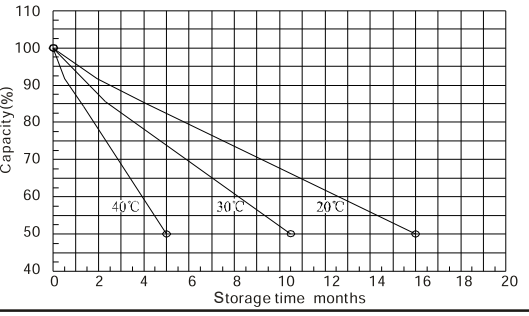
Constant voltage charging characteristic (0.25CA,25°C)



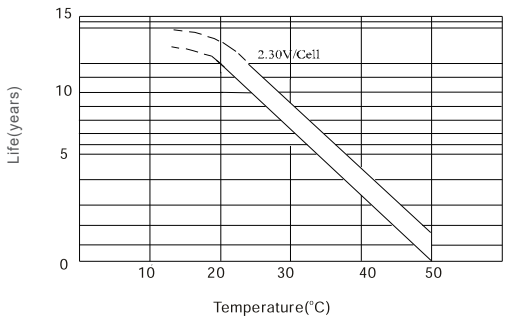
Relationship between charging voltage and temperature



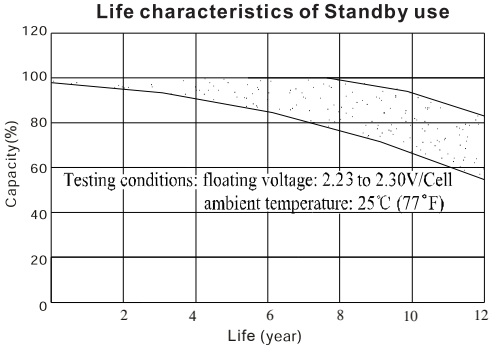
Self-discharge characteristic



Temperature effects on float life



Life characteristics of Standby use



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HFS12-820W-X 12V 220Ah

MAINTENANCE-FREE
RECHARGEABLE
SEALED LEAD ACID BATTERY

Overview

The new AMB HFS series batteries are designed for UPS Standby Power Aplications requiring high power output. Computer designed grids and optimized plate paste formula produce high energy density and long lasting uninterrupted power for critical systems.

Battery Construction

Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

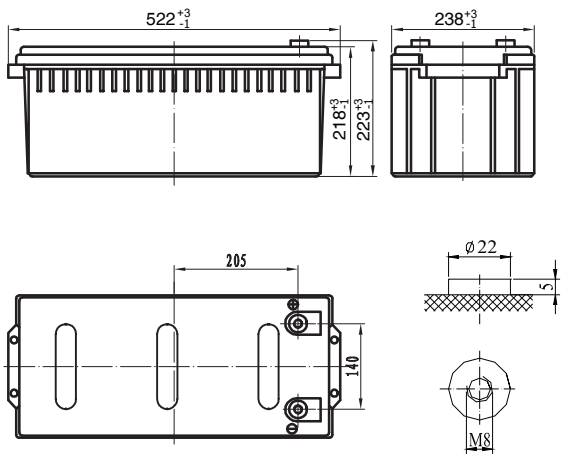
General Features

- Positive and negative plates in lead- calcium- tin alloy;
- Superior energy density;
- Operate at a low internal pressure;
- Gas recombination;
- Special separator technology;
- A recognized component of UL, IEC,TLC.etc;
- Flame retardant ABS(UL 94-FV0);
- Very hight power output for 5 to 15 minutes supply
- A covered range from 90W to 850W per cell for 15min @ 1.67Vpc;
- Six months shelf life at 20 ℃;
- Design life : 12+years at 20°C;
- Recommended loading 1h and below;

Dimensions and Weight

Length(mm / inch)	522/20.5
Width(mm / inch)	238/9.37
Height(mm / inch)	218/8.6
Total Height(mm / inch)	223/8.8
Approx. Weight(Kg / lbs)	67.5/148.9

* Weight deviation: ± 5%



Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	12 years
Nominal Capacity 77°F(25℃)	
15 min wattage @ 1.67VPC	820W/cell
10 hour rate (22.0A,10.8V)	220 Ah
20 hour rate (11.5A,10.8V)	230 Ah
Internal Resistance	
Fully Charged battery 77°F(25℃)	≤2.2 mOhms
Self-Discharge	
3% of capacity declined per month at 20℃(average)	
Operating Temperature Range	
Discharge	- 20~60 ℃
Charge	- 10~60℃
Storage	- 20~60 ℃
Max. Discharge Current 77°F(25℃)	1100 A(5s)
Charge Methods: Constant Voltage Charge 77°F(25℃)	
Cycle use	2.40- 2.45VPC
Maximum charging current	69A
Temperature compensation	- 30mV/℃
Standby use	2.23- 2.30VP C
Temperature compensation	- 20mV/℃

Discharge Constant Current (Amperes at 77°F25°C)

End Voltage Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1. 60V	971	748	558	447	389	341	303	222	171
1. 65V	931	721	544	433	377	332	294	215	167
1. 67V	915	711	538	428	372	328	291	212	165
1. 70V	882	695	511	409	355	312	279	204	159
1. 75V	876	675	486	390	337	296	267	194	151
1. 80V	862	643	465	381	320	281	254	185	145

Discharge Constant Power (Watts at 77°F25°C)

End Point Volts/Cell	3min	5min	10min	15min	20min	25min	30min	45min	60min
1. 60V	1486	1276	1018	827	683	601	534	394	305
1. 65V	1451	1265	997	822	671	584	523	386	299
1. 67V	1437	1261	984	820	667	578	519	383	297
1. 70V	1402	1200	966	780	645	554	504	373	289
1. 75V	1376	1138	907	752	621	531	488	362	281
1. 80V	1347	1114	857	680	578	508	463	352	273

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.
All data shall be changed without notice, AMB reserves the right to explain and update the information contained hereinto.

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HFS12-820W-X 12V 220Ah

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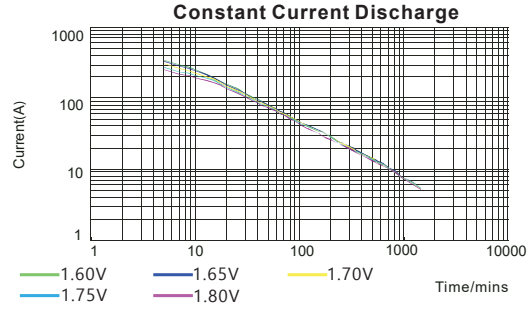
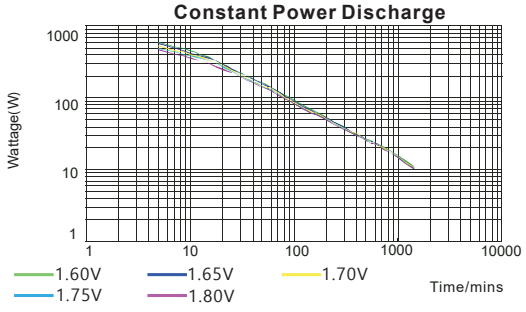
SEALED LEAD ACID BATTERY

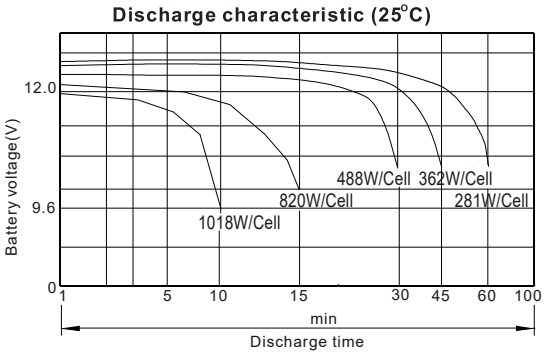
Constant Current Discharge



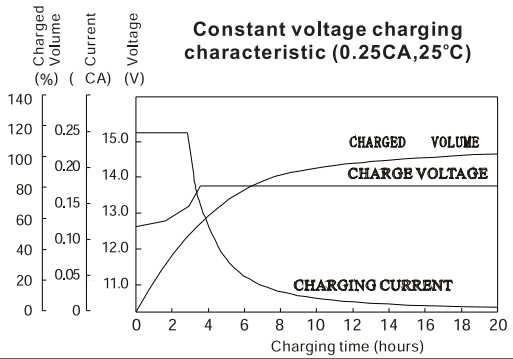
Constant Power Discharge



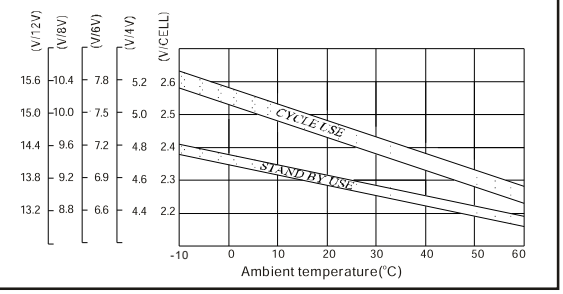
Discharge characteristic (25°C)



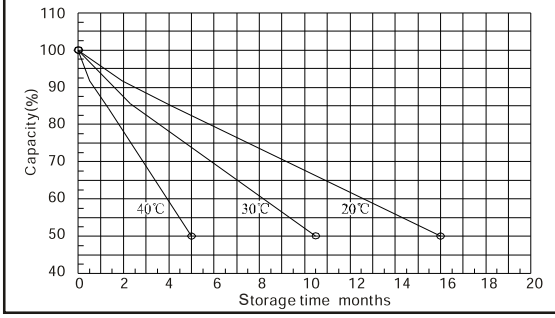
Constant voltage charging characteristic (0.25CA,25°C)



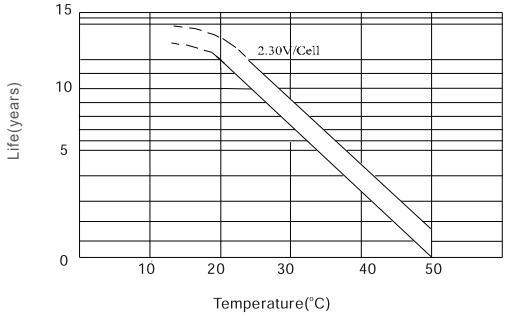
Relationship between charging voltage and temperature



Self-discharge characteristic



Temperature effects on float life



Life characteristics of Standby use