

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.



UPN 100 (2V100AH)

Deep Cycle Premium Gel with Longer Life

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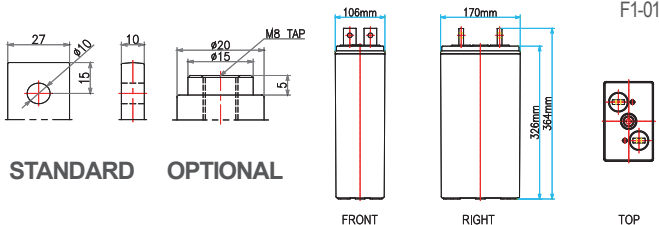
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

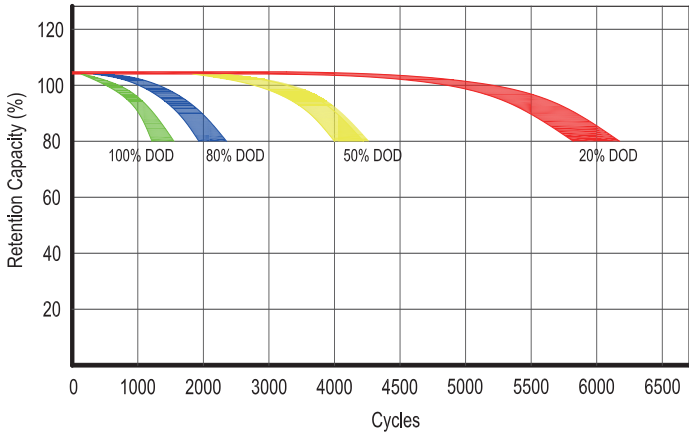


Active Carbon™

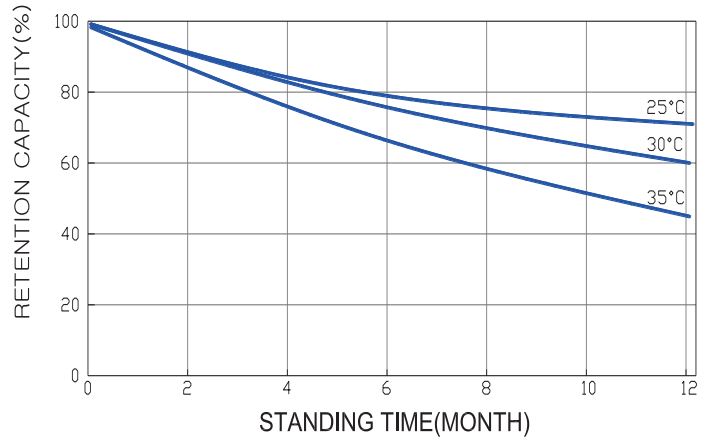
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoc) environment.

Battery Model	UPN 100 (2V100AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	100AH	93AH	86AH	69AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	106(4.17)	170(6.69)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	8.5kg±5% (18.74 lbs)			
Internal resistance (mΩ)	≤1.30mΩ (25°C, 77°F)			
Max. discharge current (@5 sec.)	800 A	Max. discharge current(continuous)		300A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	12,00A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

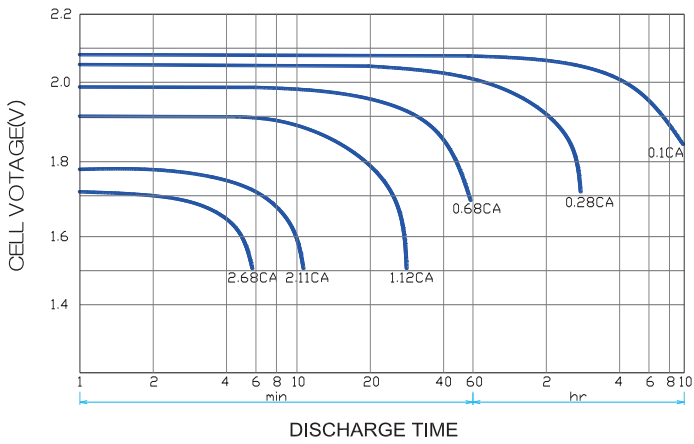
Cycle life vs Depth of Discharge @25°C



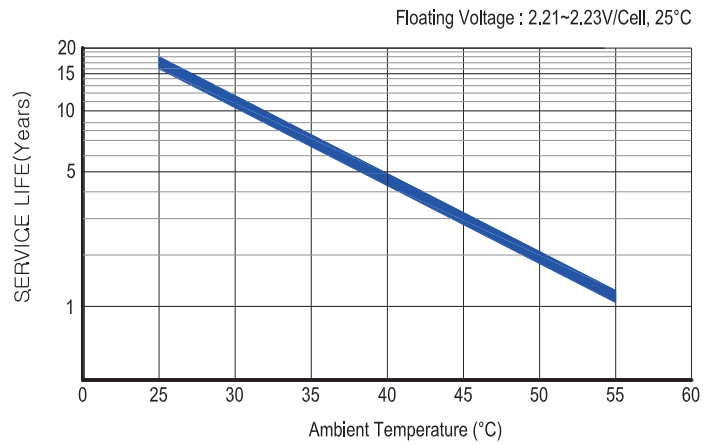
Self discharge characteristics



Discharge time vs Current @25°C

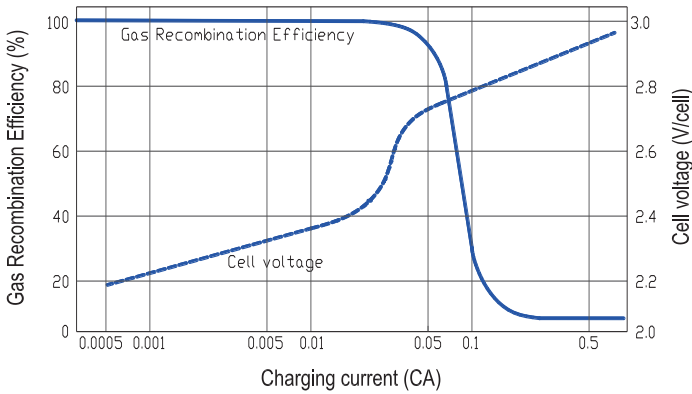


Floating life characteristics

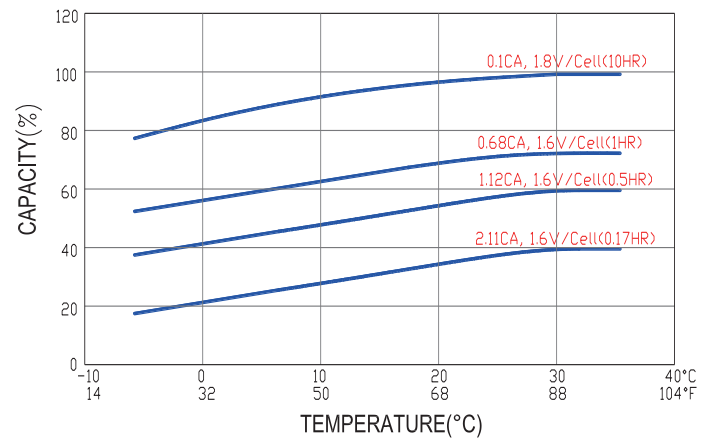


Gas recombination efficiency @25°C

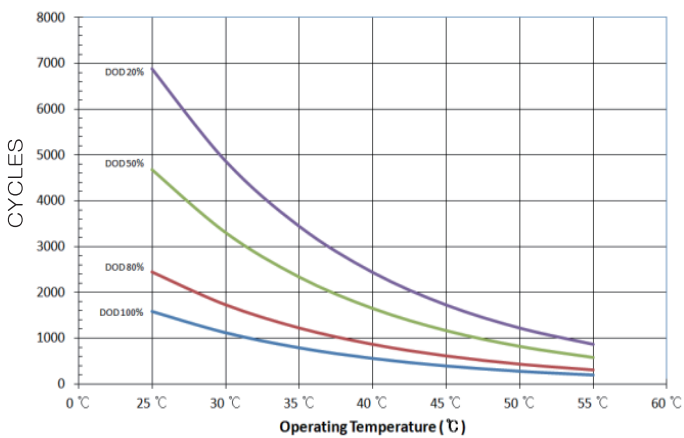
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

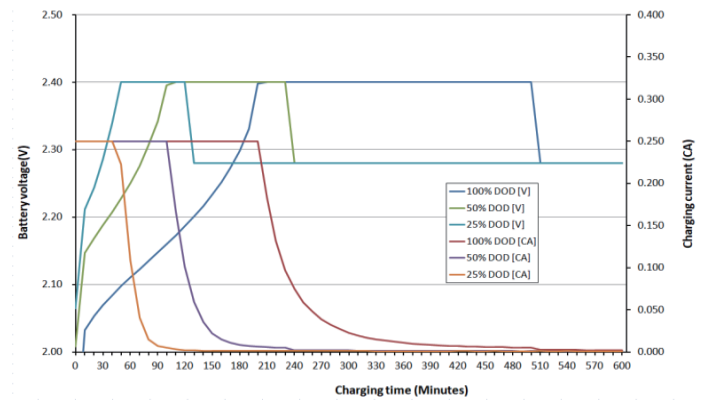


Relationship between Cycle life & Temp.



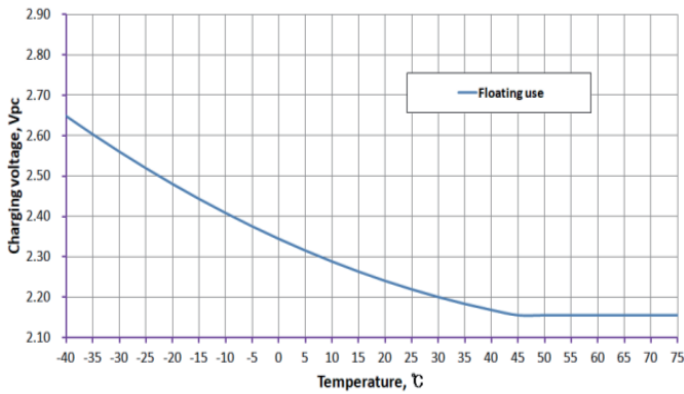
Relationship between Charging time & Current

(For Solar charging system)



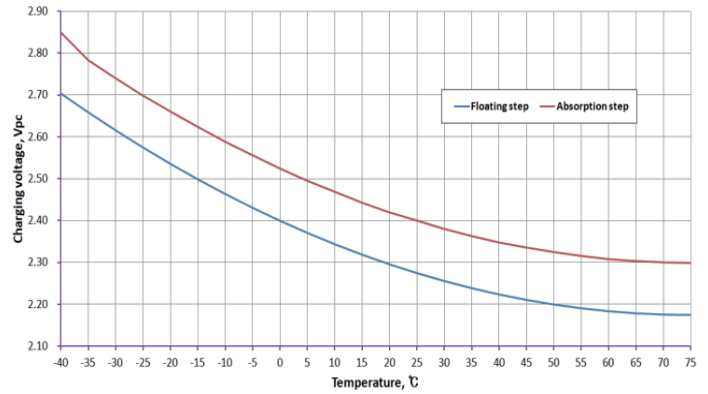
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	131	117	105	95	78	66	53.0	32.7	24.5	16.1	11.1	9.4
1.80V	175	149	127	113	93	77	59.3	35.6	26.5	17.5	12.0	10.0
1.75V	198	163	139	121	96	82	62	37.0	26.9	18.0	12.3	10.1
1.70V	218	178	149	127	100	84	64	38.4	27.6	18.5	12.4	10.2
1.65V	239	192	158	135	105	87	66	39.6	28.8	18.9	12.7	10.4
1.60V	265	209	169	144	111	91	69	40.8	29.7	19.6	12.7	10.5

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	242	216	195	177	147	125	100	62.7	47.1	31.1	21.6	18.4
1.80V	315	267	229	205	170	143	111	68	50.5	33.5	23.1	19.4
1.75V	346	291	249	218	175	151	116	70	51.2	34.4	23.6	19.6
1.70V	374	304	265	229	181	154	119	73	52.5	35.3	24.1	19.8
1.65V	401	331	278	241	189	157	125	75	54.5	36.2	24.8	20.2
1.60V	433	350	291	253	199	164	126	77	56.0	37.1	24.4	20.5

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UPN 150 (2V150AH)

Deep Cycle Premium Gel with Longer Life

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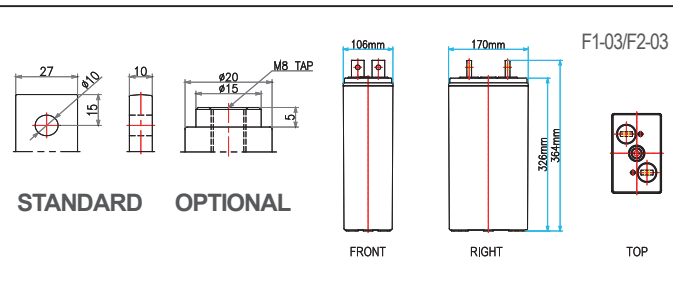
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

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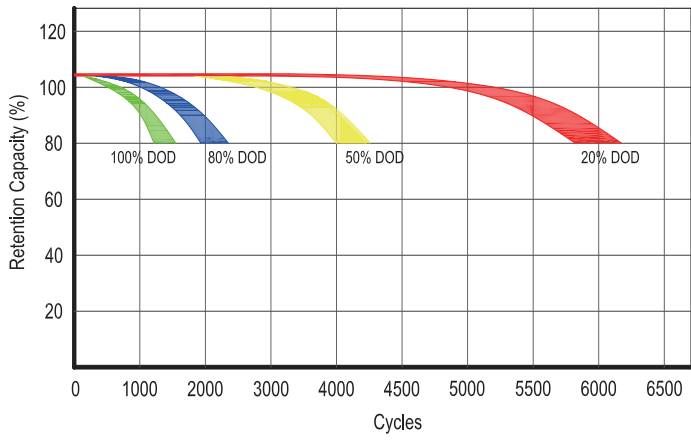


Active Carbon™

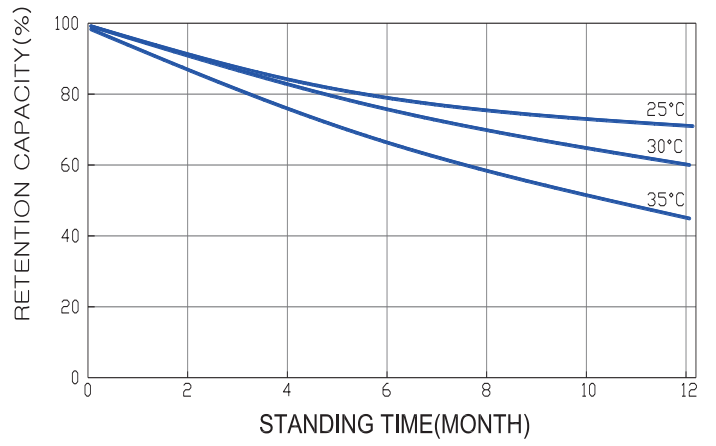
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 150 (2V150AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	150AH	139AH	130AH	103AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	106(4.17)	170(6.69)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	11.4kg±5% (25.13lbs)			
Internal resistance (mΩ)	≤0.8mΩ (25°C, 77°F)			
Max. discharge current (@5 sec.)	1200 A	Max. discharge current(continuous)		450A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	1,730A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

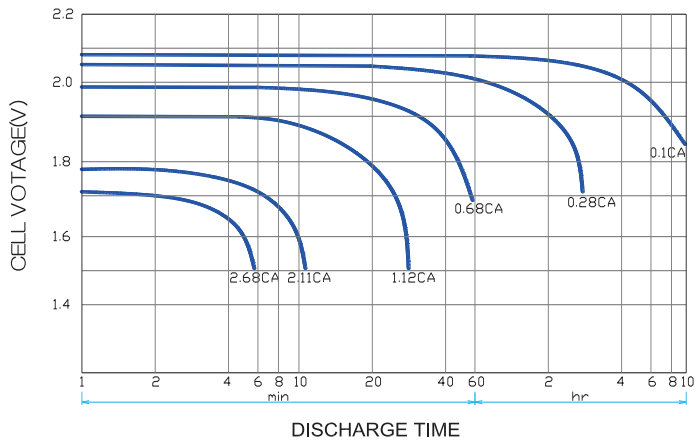
Cycle life vs Depth of Discharge@25°C



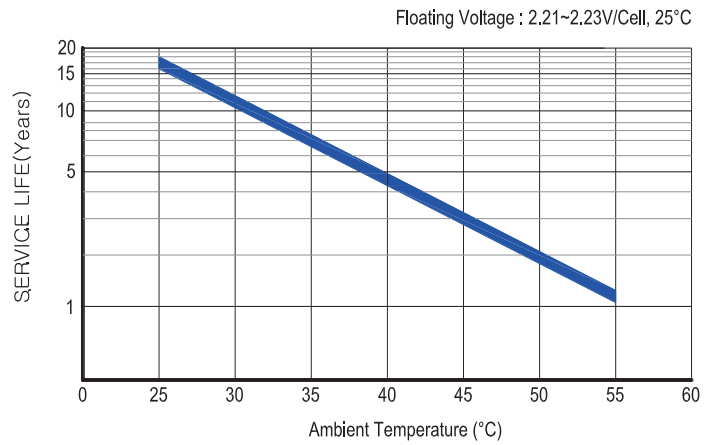
Self discharge characteristics



Discharge time vs Current @25°C

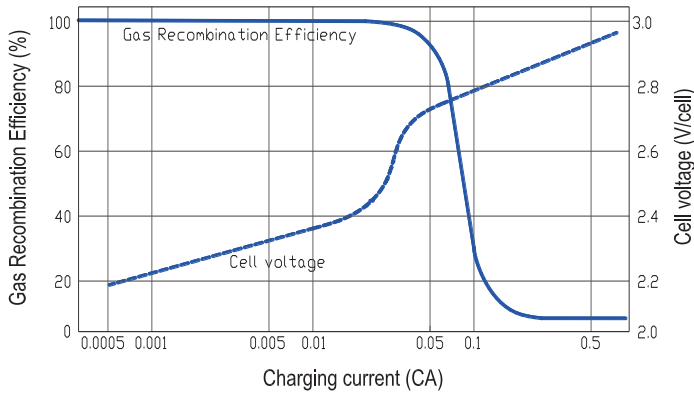


Floating life characteristics

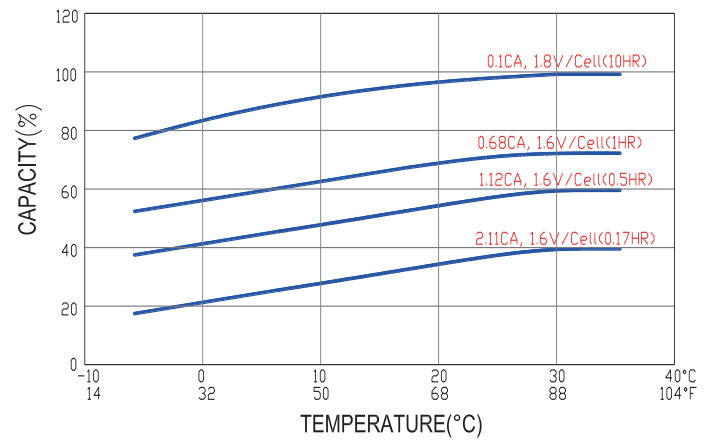


Gas recombination efficiency @25°C

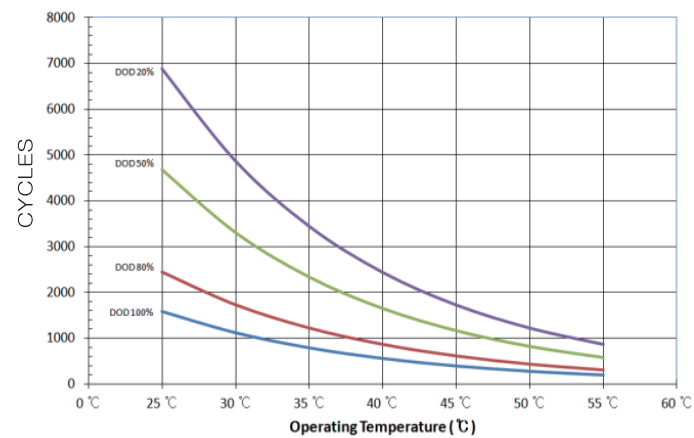
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

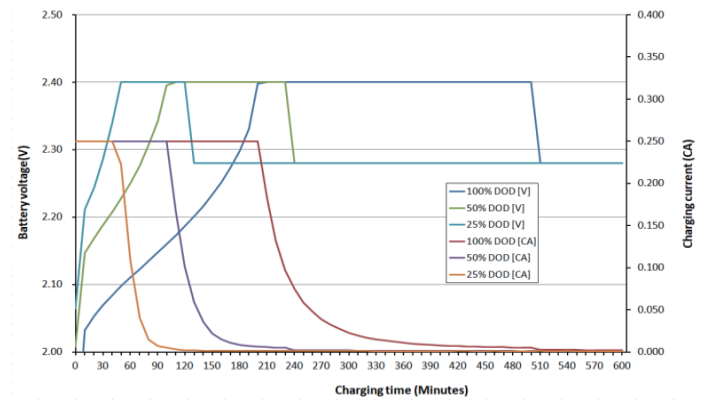


Relationship between Cycle life & Temp.



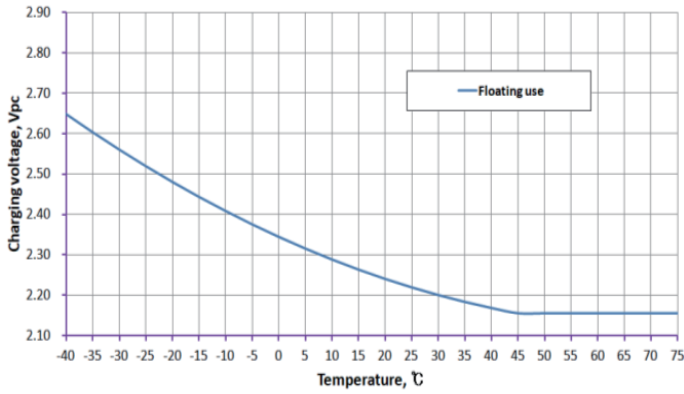
Relationship between Charging time & Current

(For Solar charging system)



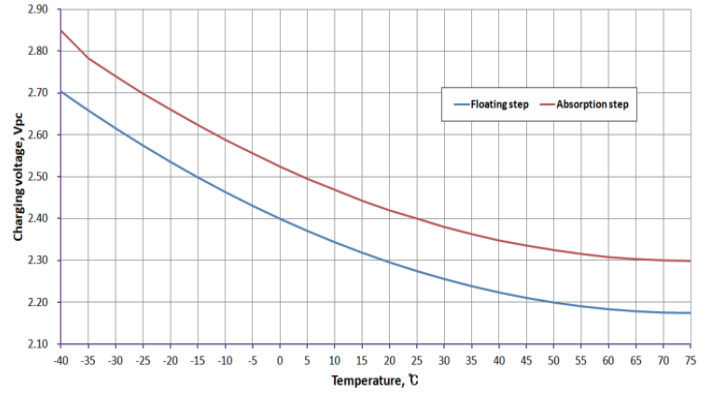
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	196	175	158	143	118	99	79.4	49.0	36.8	24.1	16.7	14.2
1.80V	263	223	191	169	139	116	89.0	53.5	39.7	26.3	17.9	15.0
1.75V	297	245	209	182	144	123	93	55.5	40.3	27.0	18.4	15.2
1.70V	327	268	223	191	150	127	96	57.7	41.4	27.7	18.6	15.3
1.65V	359	288	237	203	158	130	99	59.4	43.2	28.3	19.1	15.6
1.60V	398	313	254	216	167	136	103	61.3	44.6	29.4	19.1	15.8

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	363	324	293	265	221	187	151	94.1	70.7	46.6	32.5	27.6
1.80V	473	401	344	307	255	215	167	102	75.8	50.3	34.7	29.1
1.75V	520	436	373	328	263	226	174	105	76.8	51.5	35.3	29.4
1.70V	561	457	397	343	272	231	179	109	78.7	52.9	36.1	29.7
1.65V	601	497	417	361	284	236	187	112	81.7	54.3	37.2	30.3
1.60V	649	524	437	380	299	246	189	115	84.0	55.6	36.6	30.8

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2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.



UPN 200 (2V200AH) Deep Cycle Premium Gel with Longer Life

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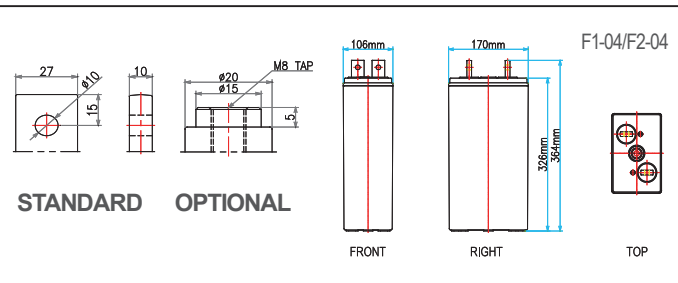
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



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Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

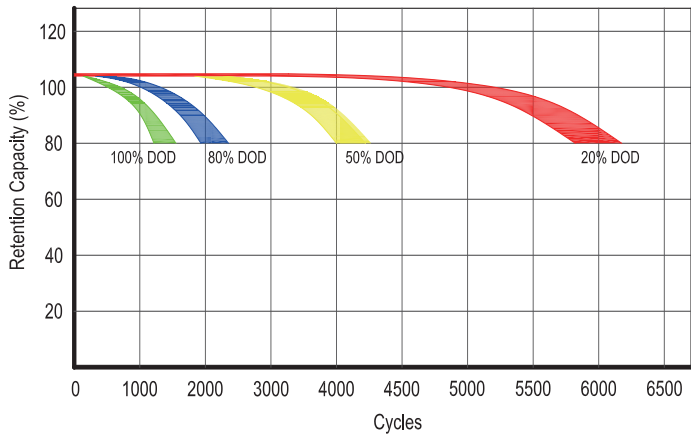


Active Carbon™

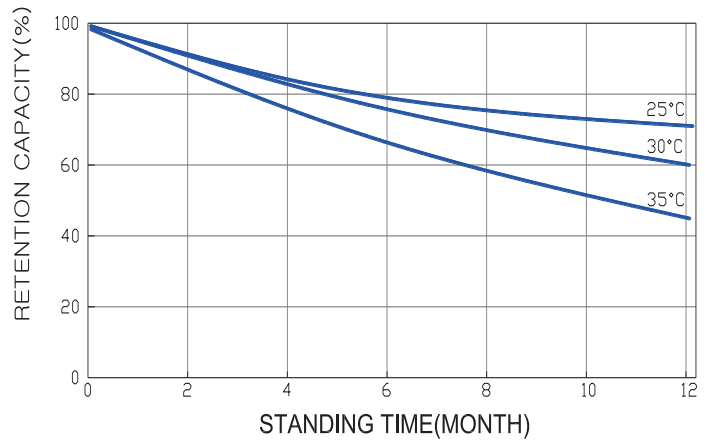
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 200 (2V200AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	200AH	185AH	173AH	137AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	106(4.17)	170(6.69)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	13.5kg±5% (29.8lbs)			
Internal resistance (mΩ)	≤0.74mΩ (25°C, 77°F)			
Max. discharge current (@5 sec.)	1600 A	Max. discharge current(continuous)		600A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	2,300A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

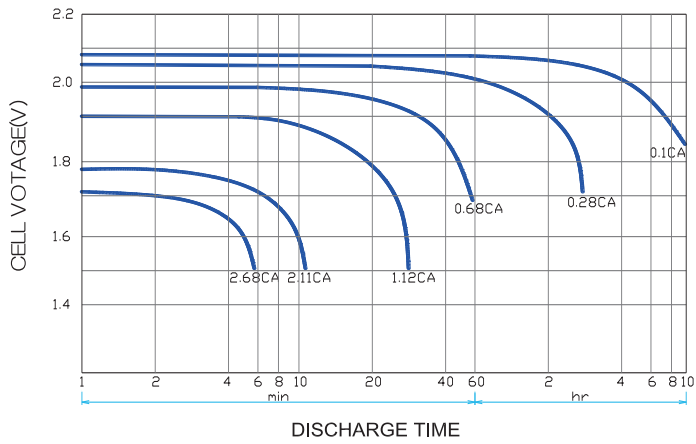
Cycle life vs Depth of Discharge@25°C



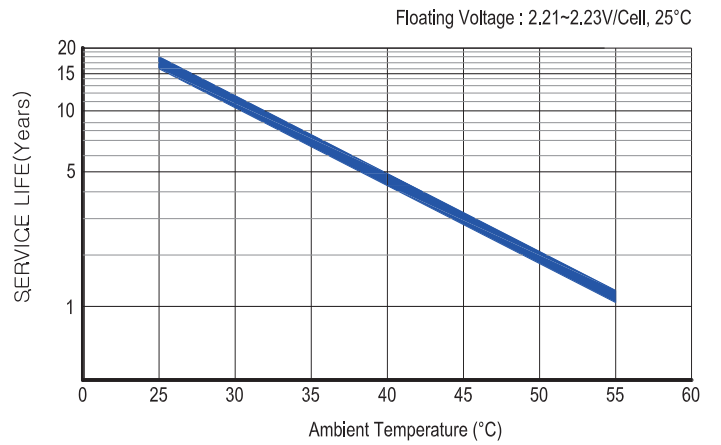
Self discharge characteristics



Discharge time vs Current @25°C

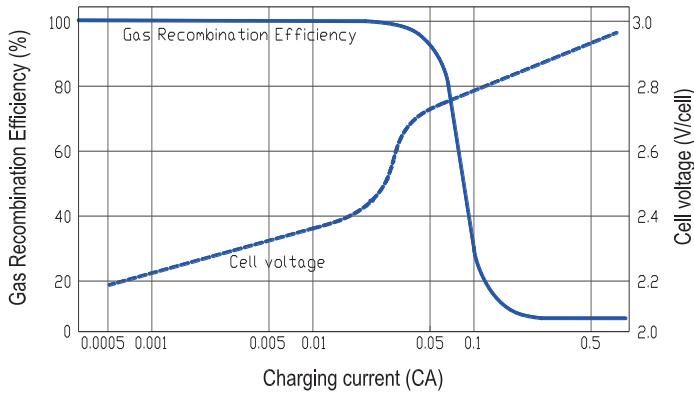


Floating life characteristics

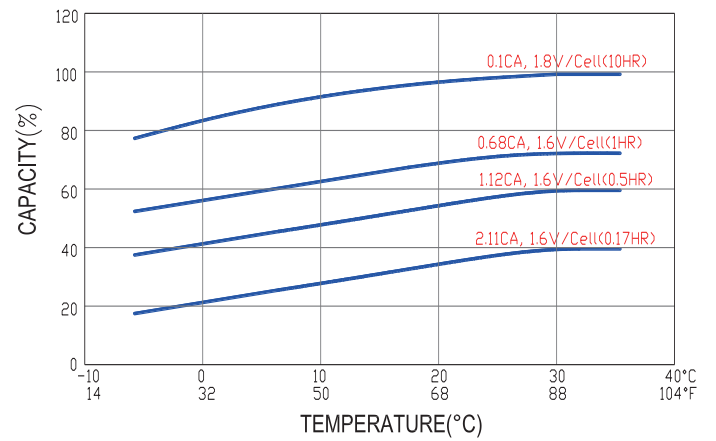


Gas recombination efficiency @25°C

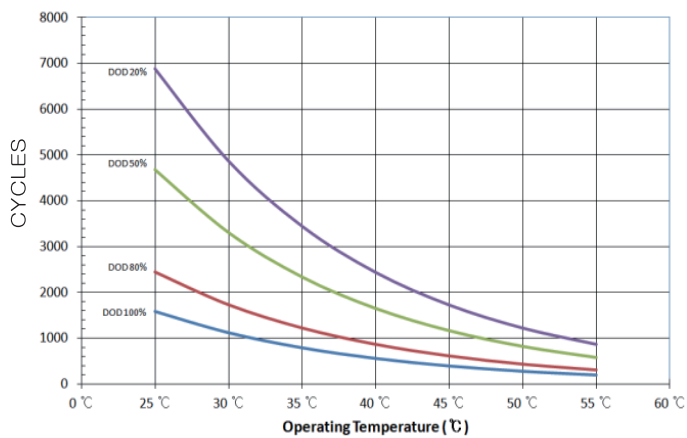
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

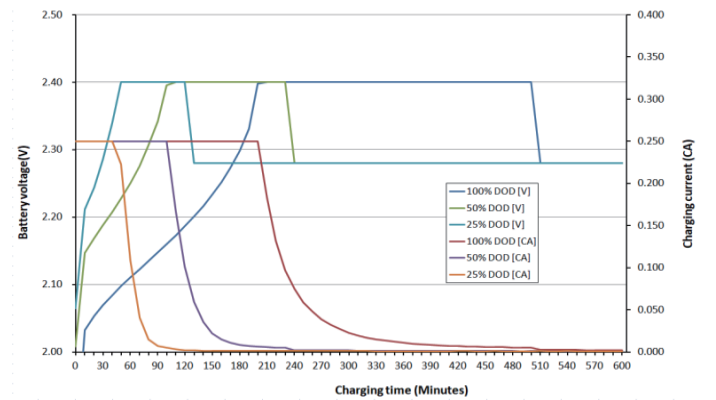


Relationship between Cycle life & Temp.



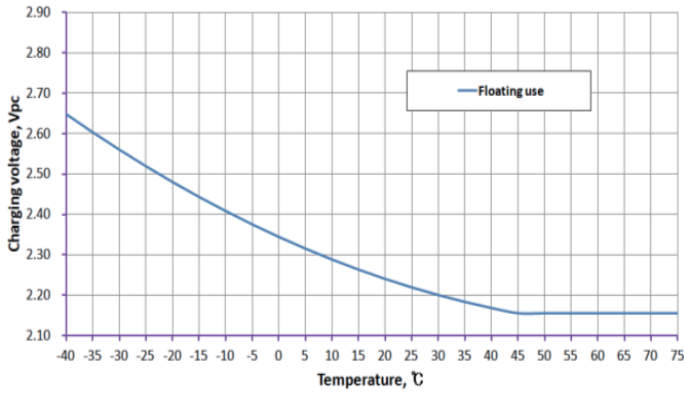
Relationship between Charging time & Current

(For Solar charging system)



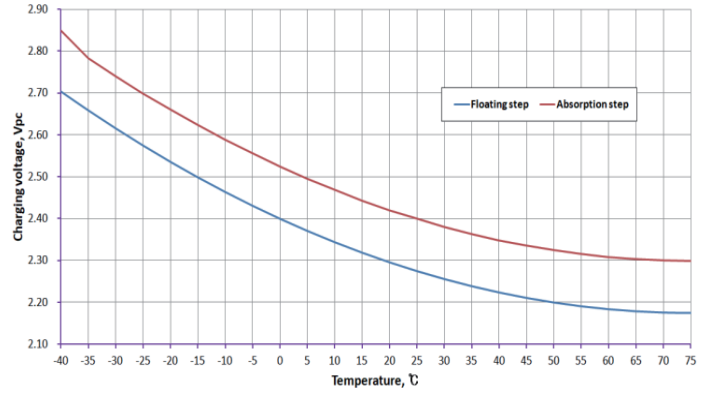
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	262	233	211	190	157	132	106	65.3	49.0	32.2	22.3	18.9
1.80V	350	297	255	225	185	154	119	71.3	53.0	35.0	23.9	20.0
1.75V	396	327	278	242	192	164	125	74.0	53.7	36.0	24.5	20.2
1.70V	435	357	297	255	200	169	128	76.9	55.2	37.0	24.8	20.4
1.65V	478	384	316	271	211	173	132	79.3	57.6	37.7	25.5	20.8
1.60V	530	417	338	288	223	181	137	81.7	59.4	39.2	25.5	21.1

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	484	432	390	353	294	250	201	125	94	62.2	43.3	36.8
1.80V	630	535	459	410	340	286	223	136	101	67.1	46.3	38.8
1.75V	693	581	498	437	351	302	232	140	102	68.7	47.1	39.2
1.70V	748	609	530	457	363	309	239	145	105	70.5	48.1	39.6
1.65V	801	663	555	481	378	315	249	149	109	72.3	49.6	40.4
1.60V	865	699	583	506	399	328	252	154	112	74.2	48.9	41.0

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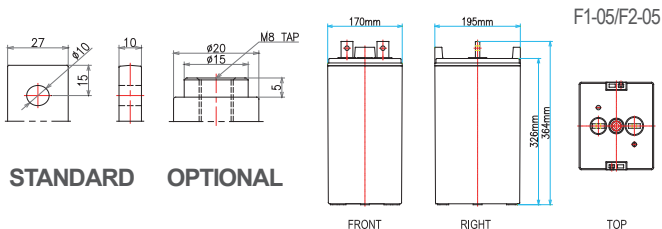
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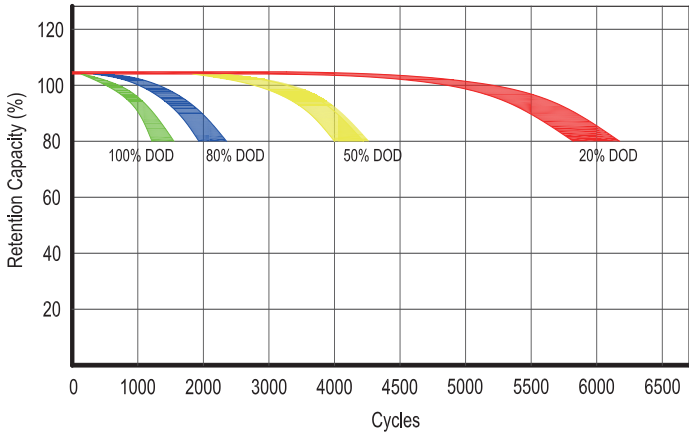


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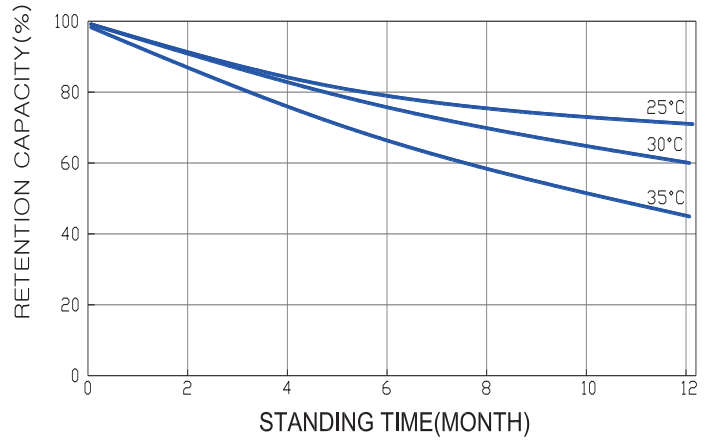
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Battery Model	UPN 250 (2V250AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	250AH	231AH	216AH	172AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	195(7.68)	170(6.69)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	17.5kg±5% (38.6 lbs)			
Internal resistance (mΩ)	≤0.68mΩ (25°C, 77°F)			
Max. discharge current (@5 sec.)	2000 A	Max. discharge current(continuous)		750A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	3,000A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

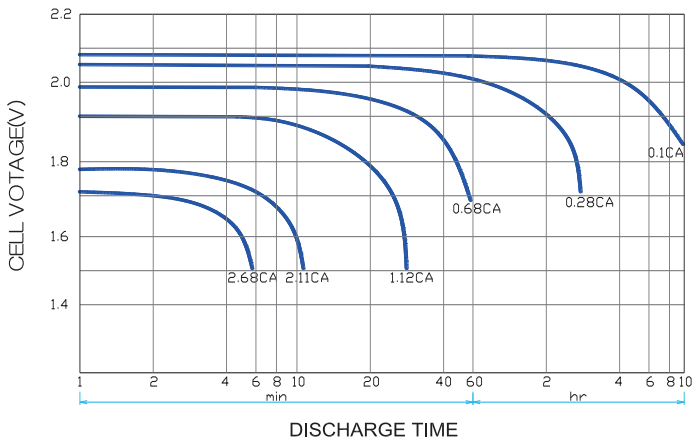
Cycle life vs Depth of Discharge @25°C



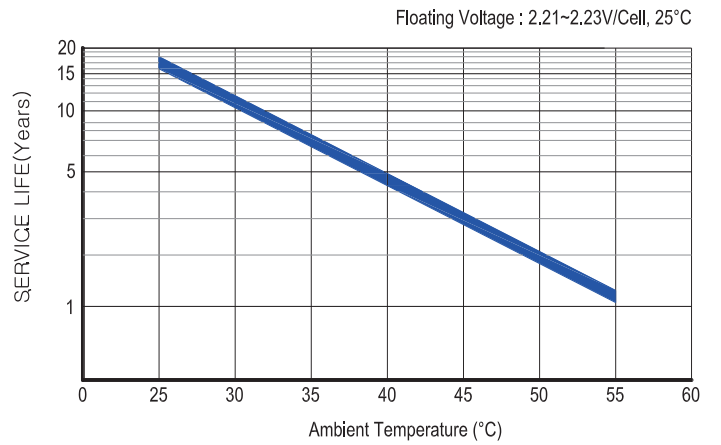
Self discharge characteristics



Discharge time vs Current @25°C

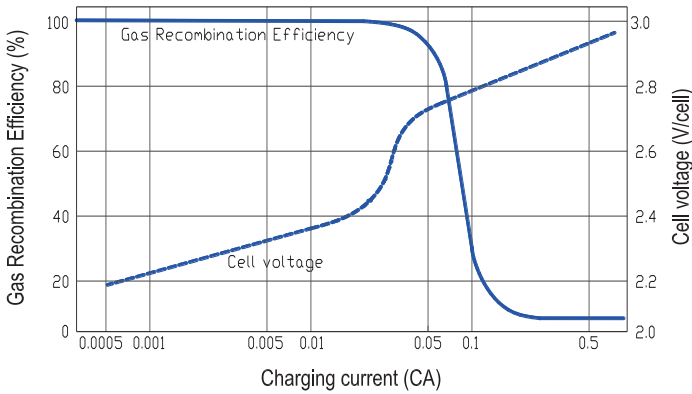


Floating life characteristics

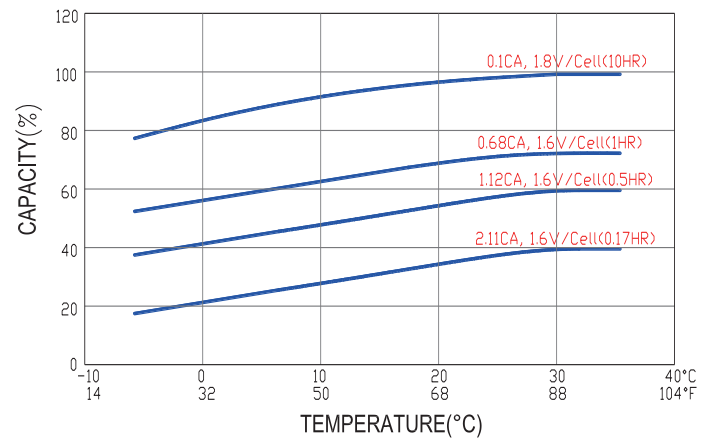


Gas recombination efficiency @25°C

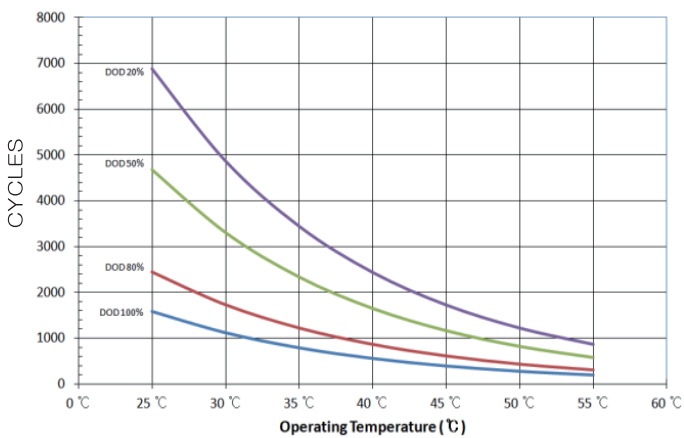
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

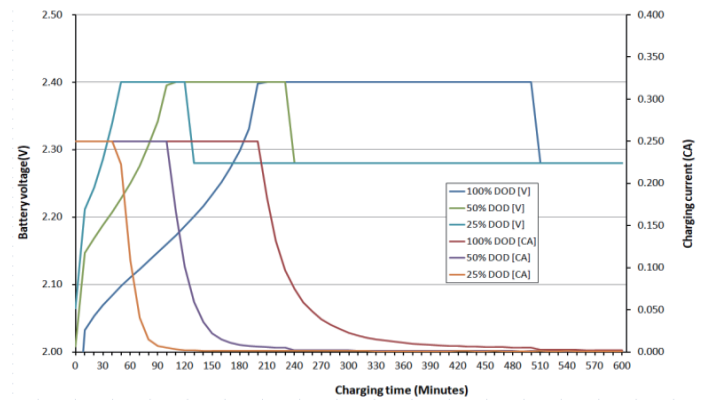


Relationship between Cycle life & Temp.



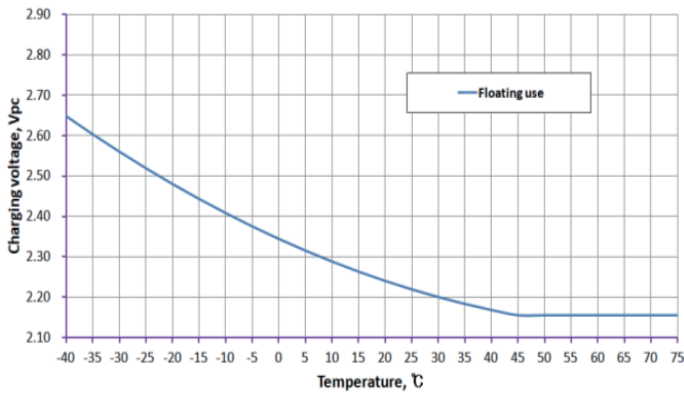
Relationship between Charging time & Current

(For Solar charging system)



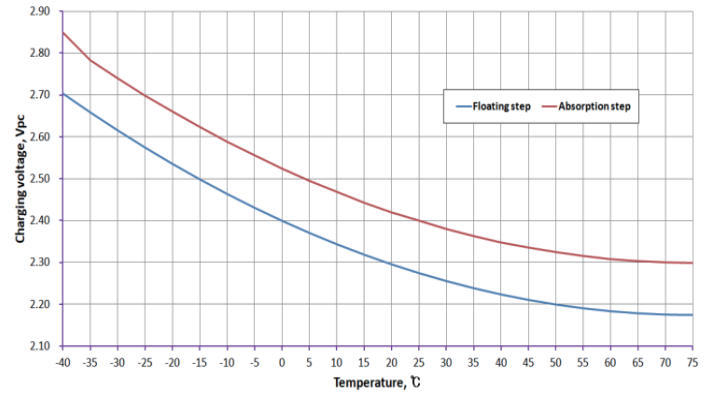
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	327	292	263	238	196	165	132	81.7	61.3	40.2	27.8	23.6
1.80V	438	371	318	282	231	193	148	89.1	66.2	43.8	29.9	25.0
1.75V	495	408	348	303	240	204	156	92	67.2	45.0	30.6	25.3
1.70V	544	446	371	319	250	211	160	96	69.0	46.2	31.0	25.5
1.65V	598	480	396	338	263	217	165	99	72.0	47.2	31.9	26.0
1.60V	663	522	423	360	278	227	172	102	74.3	49.0	31.9	26.3

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	605	539	488	441	368	312	251	157	118	77.7	54.1	46.0
1.80V	788	668	574	512	424	358	278	169	126	83.8	57.8	48.5
1.75V	866	727	622	546	439	377	291	175	128	85.9	58.9	49.0
1.70V	936	761	662	571	454	386	298	181	131	88.2	60.1	49.5
1.65V	1,001	828	694	601	473	393	311	187	136	90	62.0	50.6
1.60V	1,082	874	729	633	498	410	315	192	140	93	61.1	51.3

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.

UPN 300 (2V300AH) Deep Cycle Premium Gel with Longer Life

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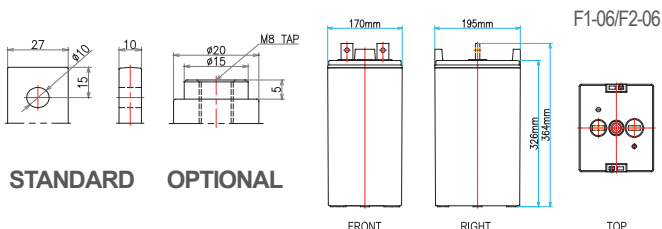
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



ThixoPure™ GEL Technology

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FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

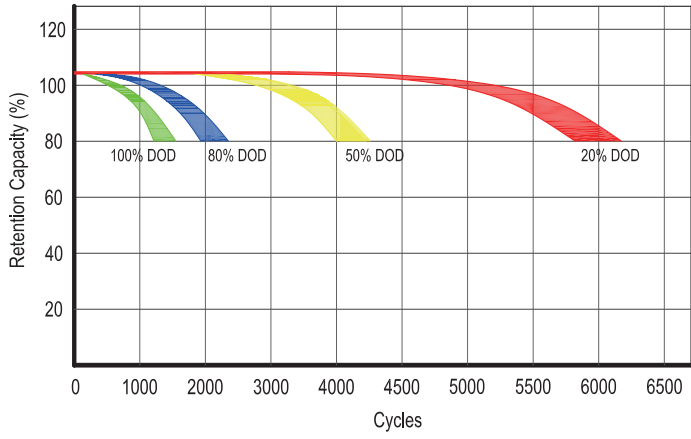


Active Carbon™

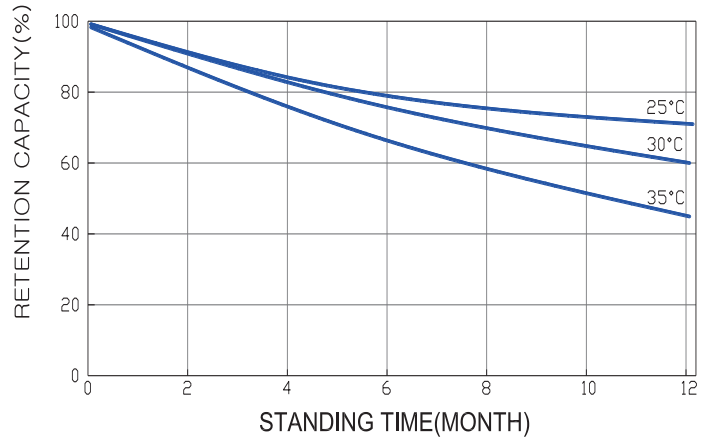
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 300 (2V300AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	300AH	278AH	259AH	206AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	195(7.68)	170(6.69)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	20.5kg±5% (45.2 lbs)			
Internal resistance (mΩ)	≤0.61mΩ (25°C, 77°F)			
Max. discharge current (@5 sec.)	2400 A	Max. discharge current(continuous)		900A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	3,600A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

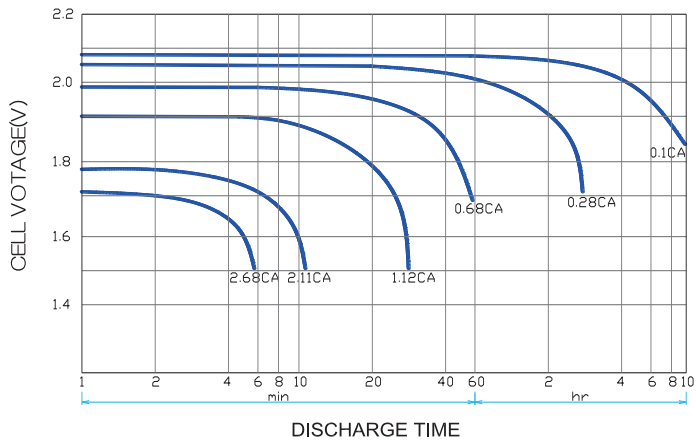
Cycle life vs Depth of Discharge@25°C



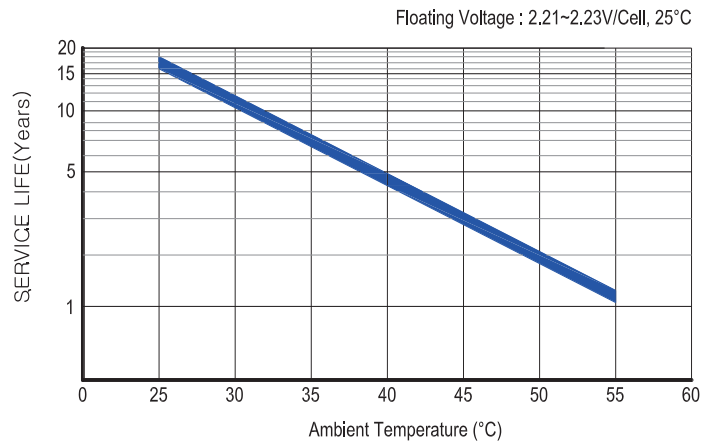
Self discharge characteristics



Discharge time vs Current @25°C

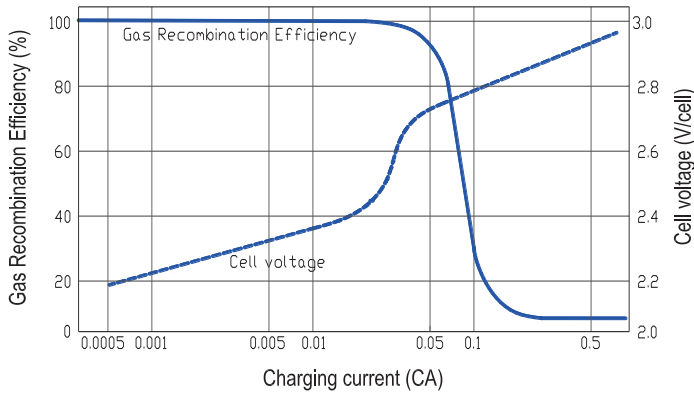


Floating life characteristics

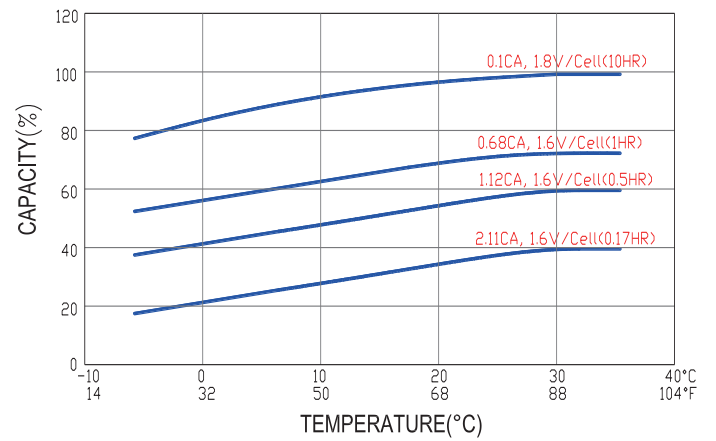


Gas recombination efficiency @25°C

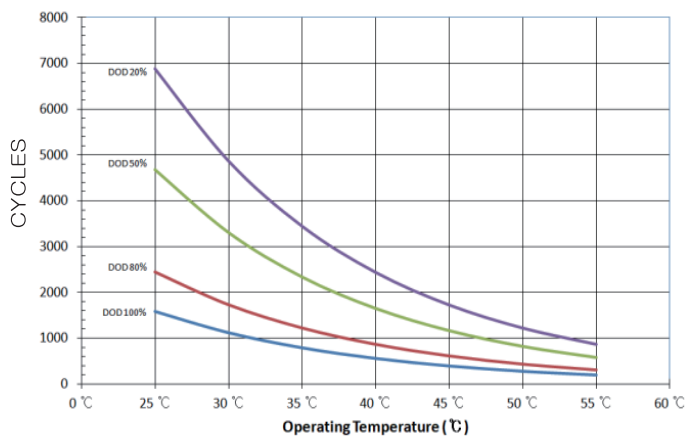
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

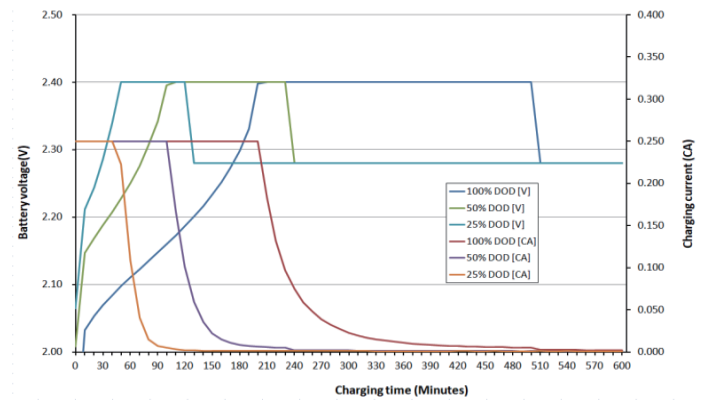


Relationship between Cycle life & Temp.



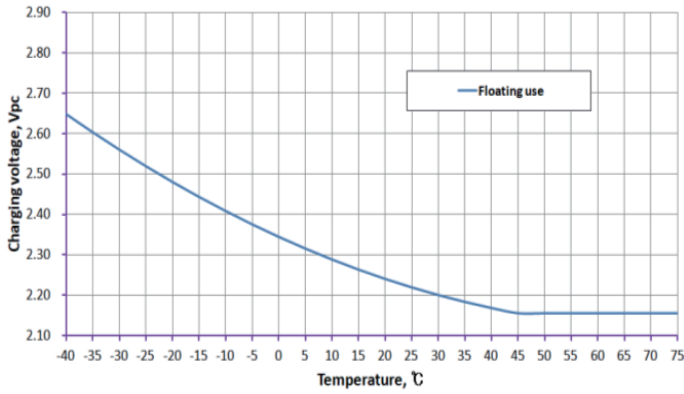
Relationship between Charging time & Current

(For Solar charging system)



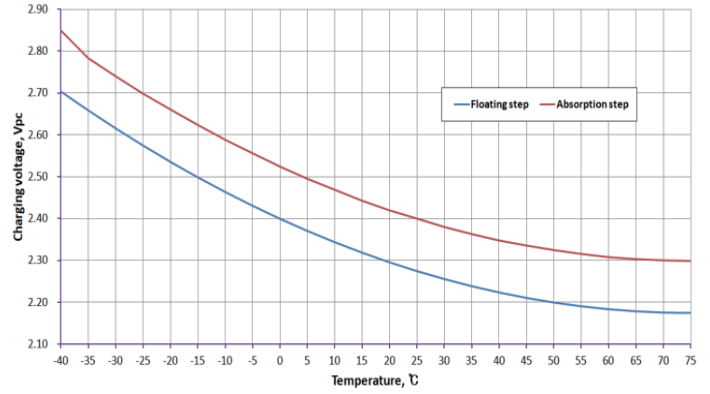
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	392	350	316	285	235	199	159	98	73.5	48.2	33.4	28.3
1.80V	525	446	382	338	278	231	178	107	79.5	52.5	35.9	30.0
1.75V	594	490	417	363	288	245	187	111	80.6	53.9	36.8	30.3
1.70V	653	535	446	382	300	253	192	115	82.8	55.5	37.2	30.6
1.65V	718	577	475	406	316	260	199	119	86.4	56.6	38.2	31.2
1.60V	795	626	507	432	334	272	206	123	89.1	58.8	38.2	31.6

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	726	647	586	530	442	375	301	188	141	93	64.9	55.2
1.80V	945	802	688	615	509	429	334	203	152	101	69.4	58.2
1.75V	1,039	872	747	655	526	453	349	210	154	103	70.7	58.8
1.70V	1,123	913	795	686	544	463	358	218	157	106	72.2	59.4
1.65V	1,202	994	833	722	567	472	374	224	163	109	74.4	60.7
1.60V	1,298	1,049	874	759	598	492	378	231	168	111	73.3	61.5

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.



UPN 400 (2V400AH)

Deep Cycle Premium Gel with Longer Life

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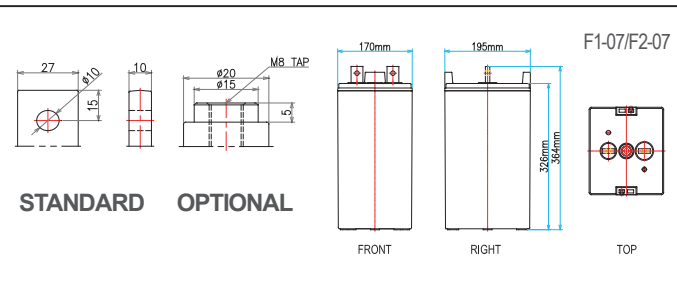
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

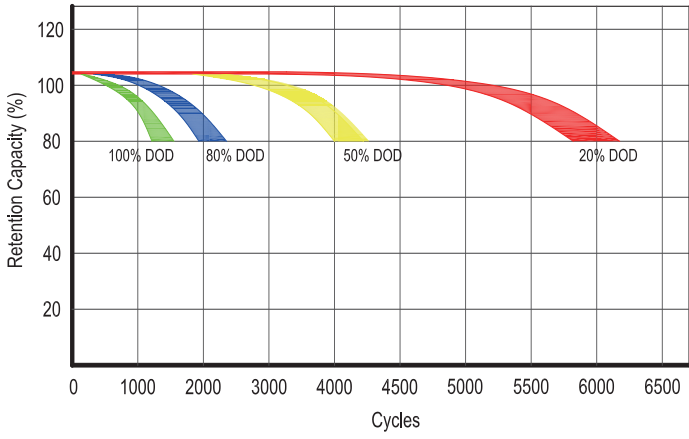


Active Carbon™

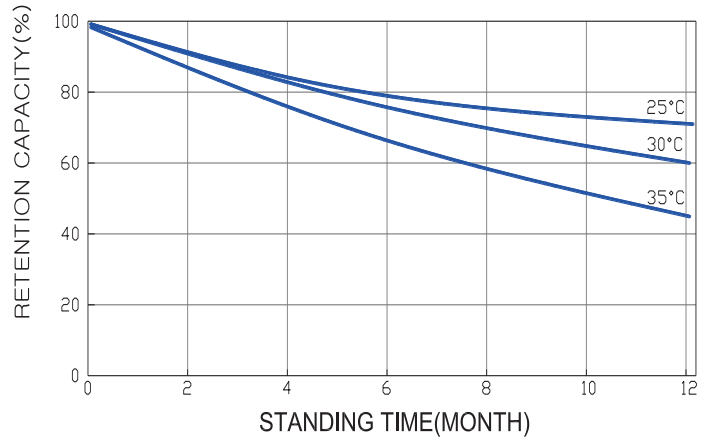
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Battery Model	UPN 400 (2V400AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	400AH	370AH	346AH	274AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	195(7.68)	170(6.69)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	25.5kg±5% (56.2 lbs)			
Internal resistance (mΩ)	≤0.55mΩ (25°C, 77°F)			
Max. discharge current (@5 sec.)	3200 A	Max. discharge current(continuous)		1200A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	4,800A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

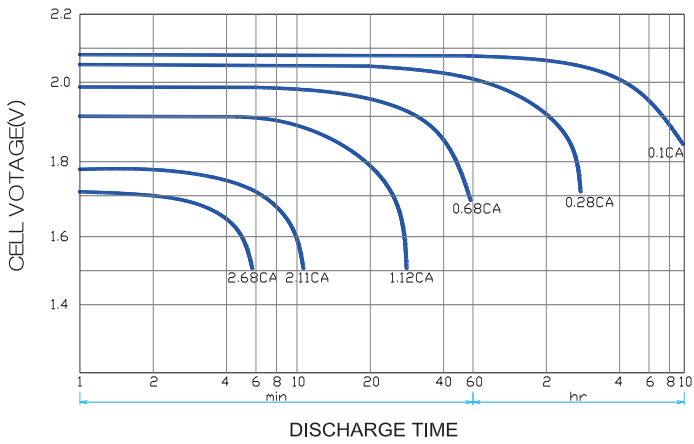
Cycle life vs Depth of Discharge@25°C



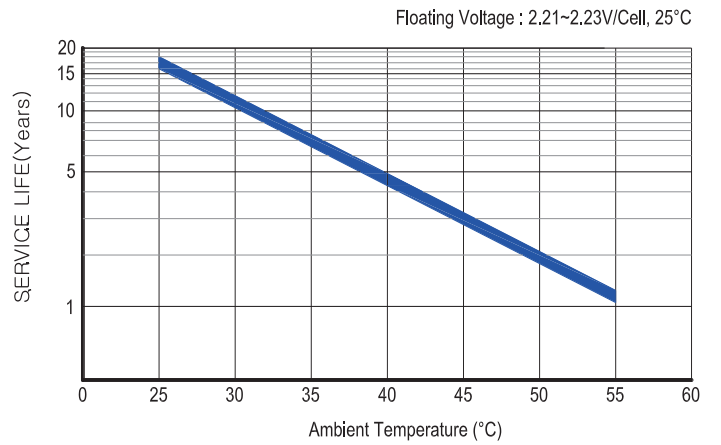
Self discharge characteristics



Discharge time vs Current @25°C

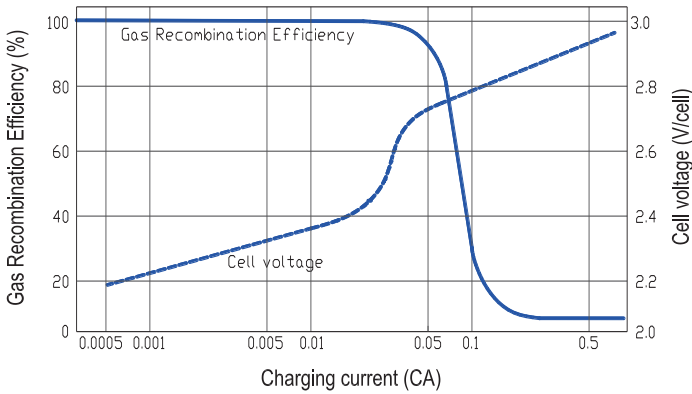


Floating life characteristics

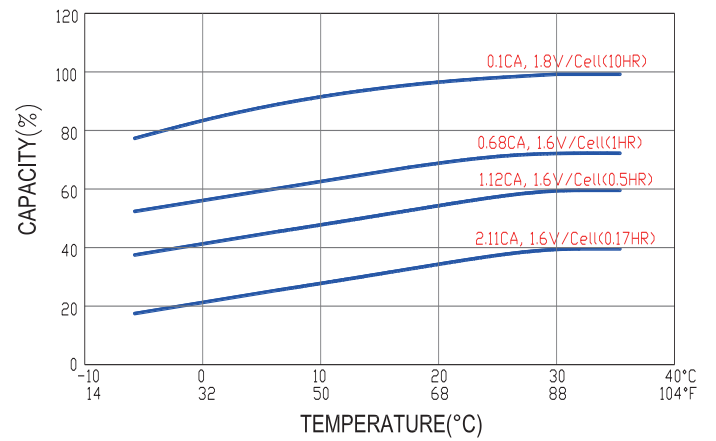


Gas recombination efficiency @25°C

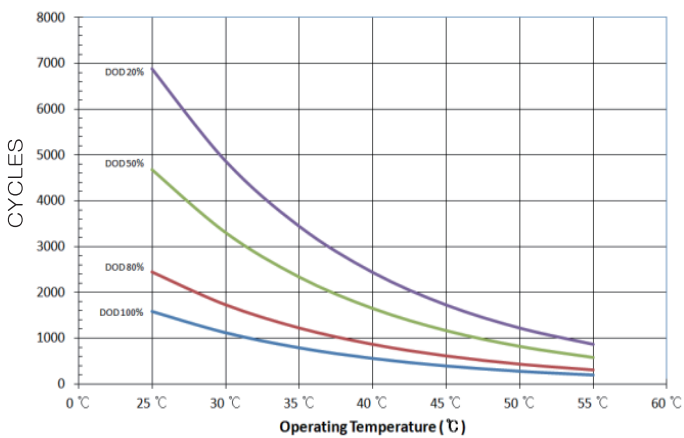
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

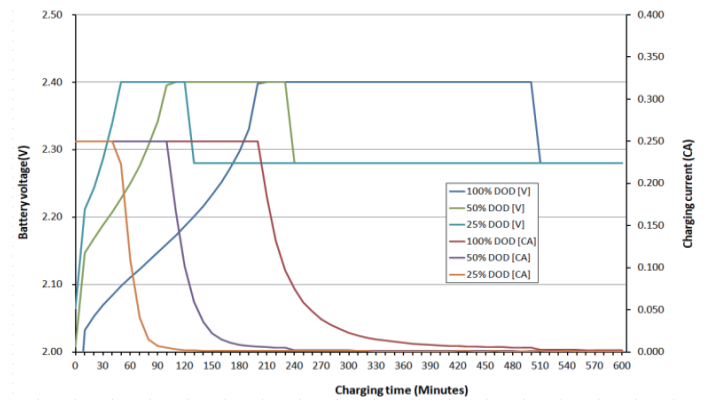


Relationship between Cycle life & Temp.



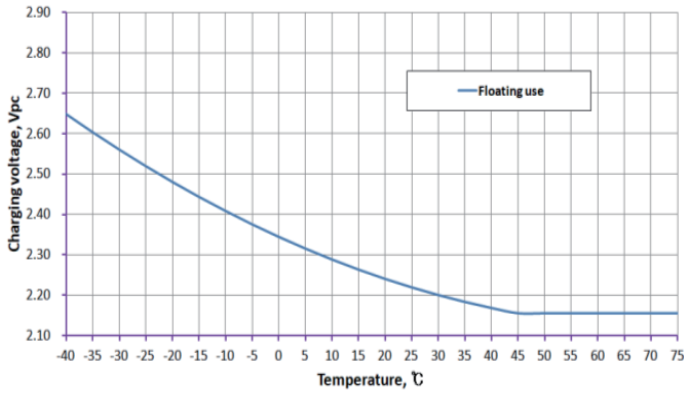
Relationship between Charging time & Current

(For Solar charging system)



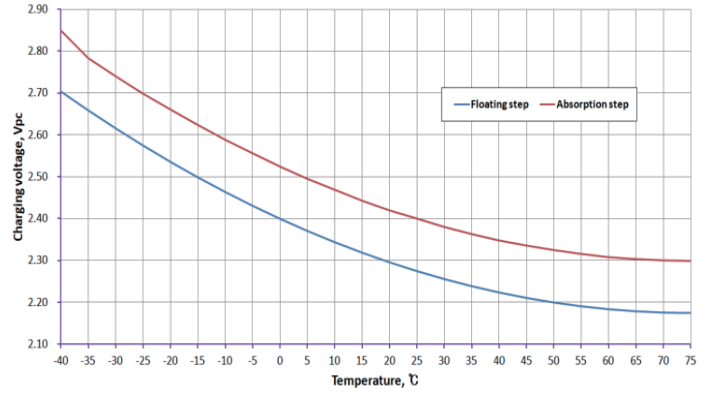
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	523	467	422	380	314	265	212	131	98	64.3	44.5	37.8
1.80V	700	594	510	451	370	308	237	143	106	70.1	47.8	40.0
1.75V	792	653	557	484	384	327	249	148	107	71.9	49.0	40.4
1.70V	871	713	594	510	400	338	257	154	110	74.0	49.6	40.8
1.65V	957	769	633	541	421	347	265	159	115	75.5	51.0	41.6
1.60V	1,060	835	676	577	445	363	274	163	119	78.4	51.0	42.2

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	968	863	781	706	589	500	401	251	189	124	86.6	73.6
1.80V	1,260	1,069	918	820	679	572	446	271	202	134	93	77.6
1.75V	1,386	1,163	996	874	702	604	465	280	205	137	94	78.4
1.70V	1,497	1,218	1,060	914	726	617	477	290	210	141	96	79.2
1.65V	1,602	1,325	1,111	962	756	630	498	299	218	145	99	80.9
1.60V	1,730	1,398	1,166	1,012	797	656	504	307	224	148	98	82.0

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

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UPN 500 (2V500AH)

Deep Cycle Premium Gel with Longer Life

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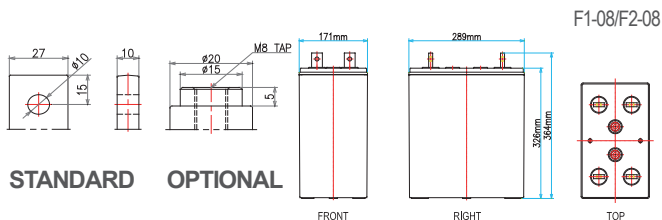
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



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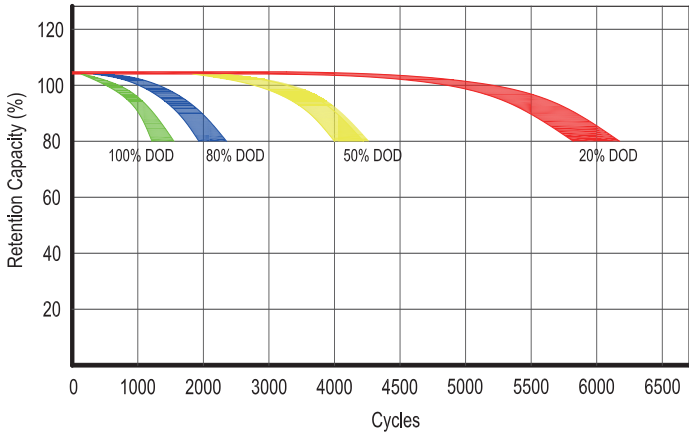


Active Carbon™

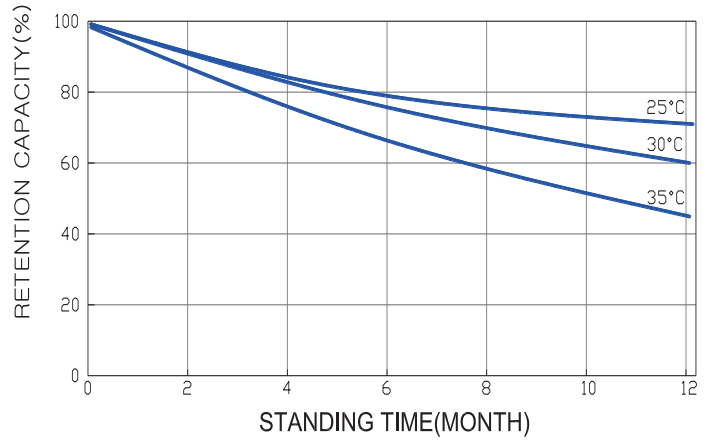
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoc) environment.

Battery Model	UPN 500 (2V500AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	500AH	463AH	432AH	343AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	289(11.38)	171(6.73)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	32.5kg±5% (71.7 lbs)			
Internal resistance (mΩ)	≤0.59mΩ (25°C, 77°F)			
Max. discharge current (@5 sec.)	4,000 A	Max. discharge current (continuous)		1,500A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	6,000A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

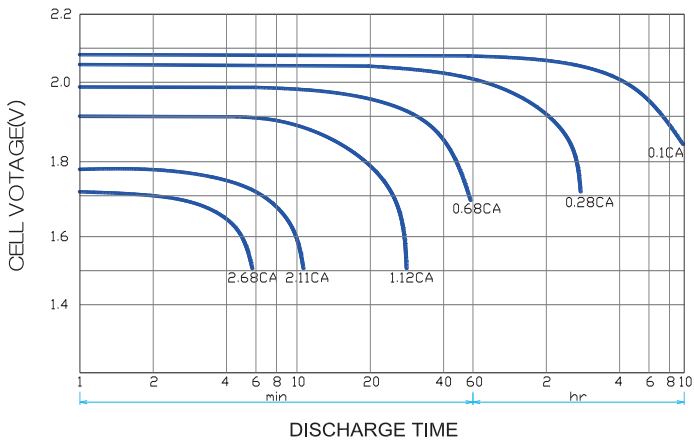
Cycle life vs Depth of Discharge@25°C



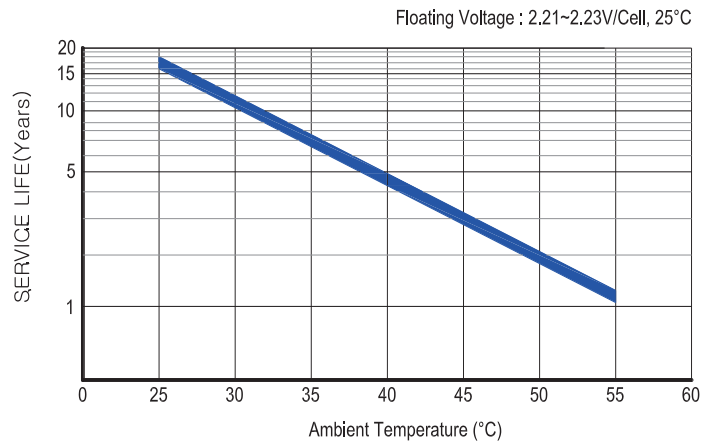
Self discharge characteristics



Discharge time vs Current @25°C

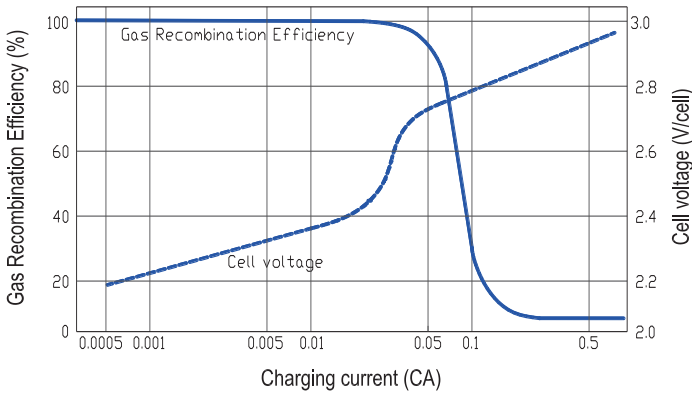


Floating life characteristics

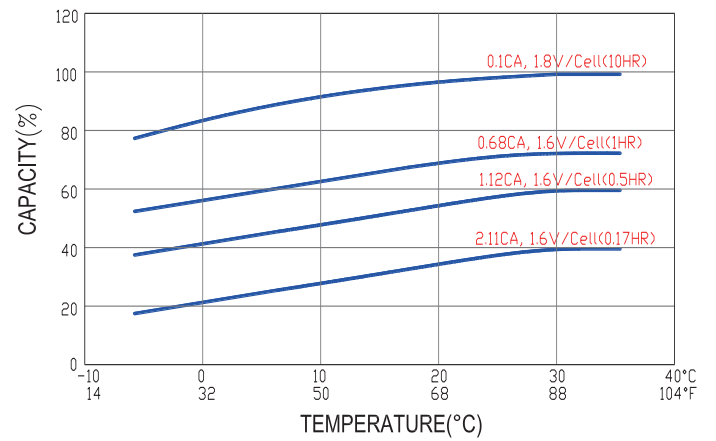


Gas recombination efficiency @25°C

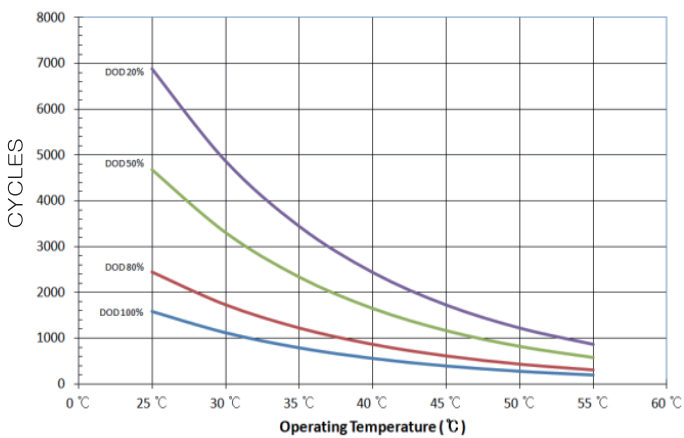
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

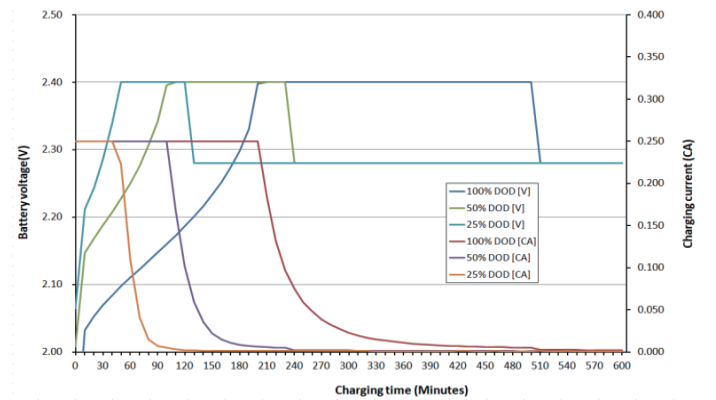


Relationship between Cycle life & Temp.



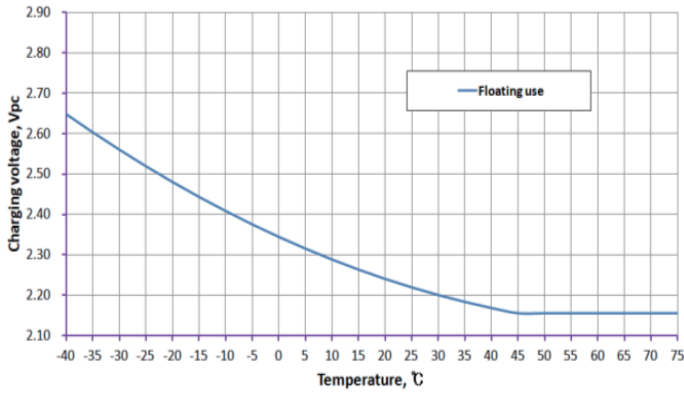
Relationship between Charging time & Current

(For Solar charging system)



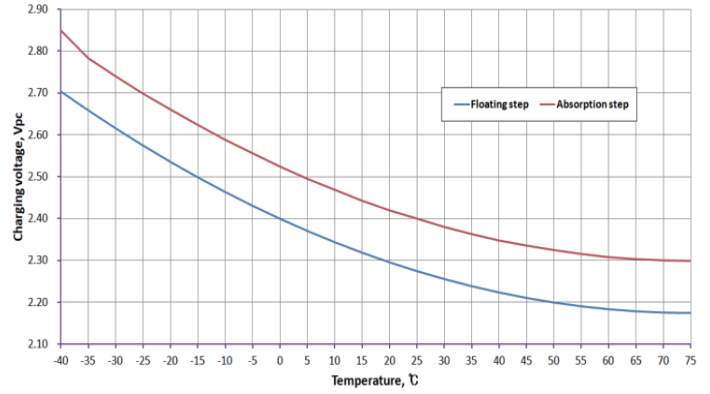
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	654	583	527	476	392	331	265	163	123	80.4	55.7	47.2
1.80V	875	743	637	563	463	385	297	178	132	87.6	59.8	50.0
1.75V	990	816	696	605	480	409	311	185	134	89.9	61.3	50.5
1.70V	1,089	892	743	637	500	422	321	192	138	92	62.0	51.0
1.65V	1,196	961	791	676	527	434	331	198	144	94	63.7	52.0
1.60V	1,325	1,044	845	721	557	454	343	204	149	98	63.7	52.7

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	1,210	1,079	976	883	736	625	502	314	236	155	108	92
1.80V	1,575	1,337	1,147	1,025	849	715	557	339	253	168	116	97
1.75V	1,732	1,453	1,245	1,092	877	755	581	350	256	172	118	98
1.70V	1,871	1,522	1,325	1,143	907	771	596	363	262	176	120	99
1.65V	2,003	1,656	1,389	1,203	946	787	623	374	272	181	124	101
1.60V	2,163	1,748	1,457	1,265	996	821	630	384	280	185	122	103

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.

UPN 600 (2V600AH)

Deep Cycle Premium Gel with Longer Life

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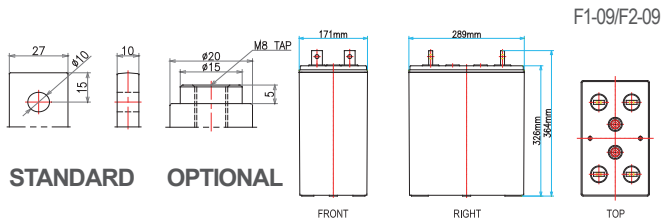
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

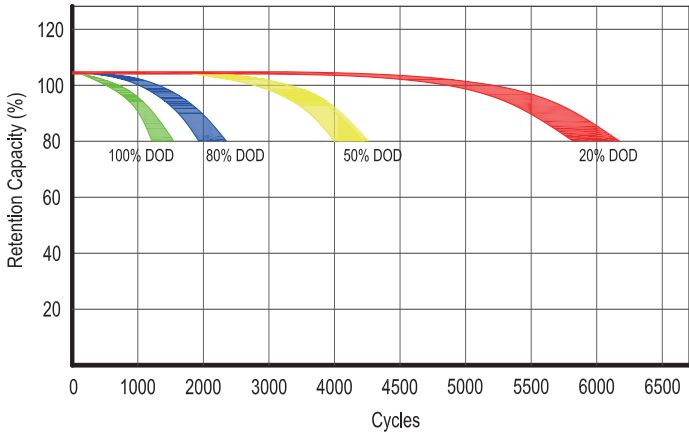


Active Carbon™

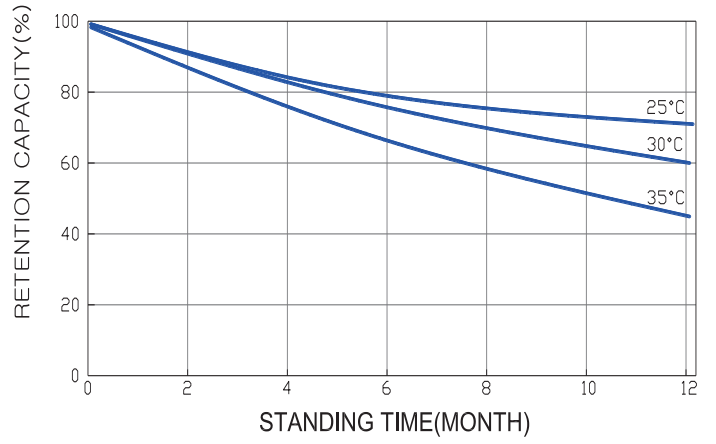
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoc) environment.

Battery Model	UPN 600 (2V600AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	600AH	555AH	518AH	412AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	289(11.38)	171(6.73)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	38.5kg±5% (84.88 lbs)			
Internal resistance (mΩ)	≤0.55mΩ (25°C, 77°F)			
Max. discharge current (@5 sec.)	4,800 A	Max. discharge current (continuous)		1,800A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	7,200A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

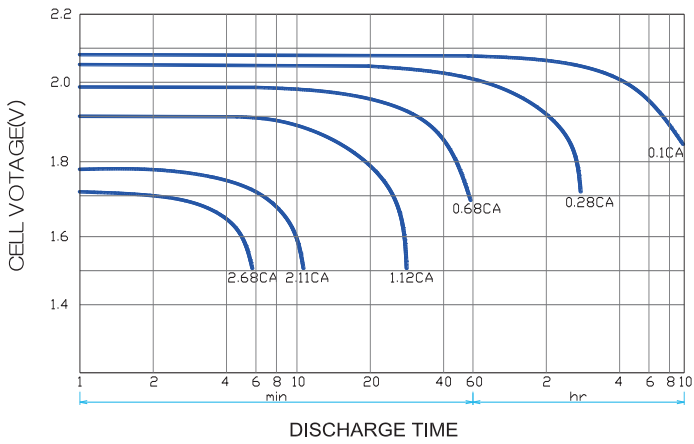
Cycle life vs Depth of Discharge @25°C



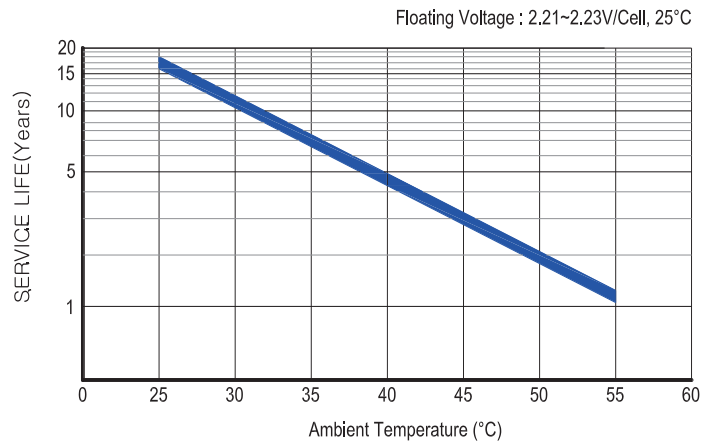
Self discharge characteristics



Discharge time vs Current @25°C

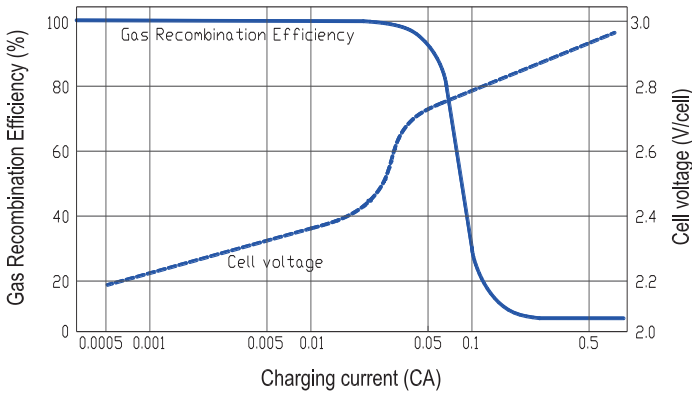


Floating life characteristics

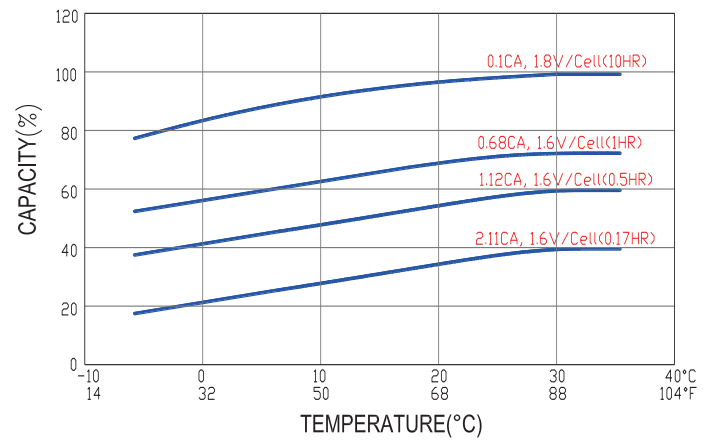


Gas recombination efficiency @25°C

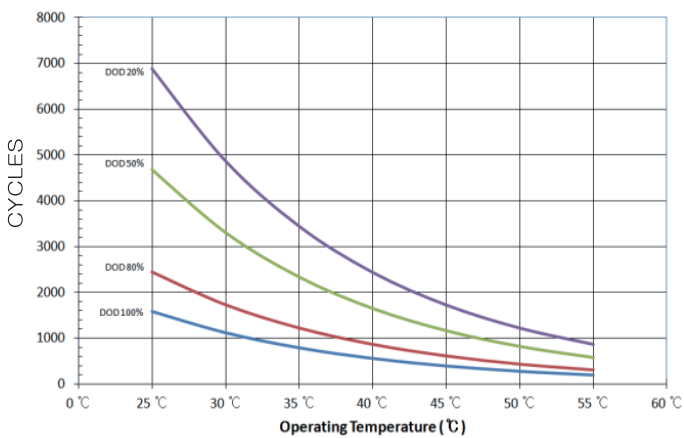
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

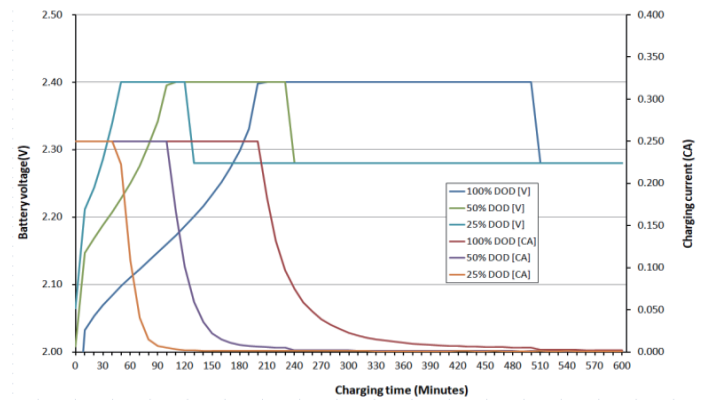


Relationship between Cycle life & Temp.



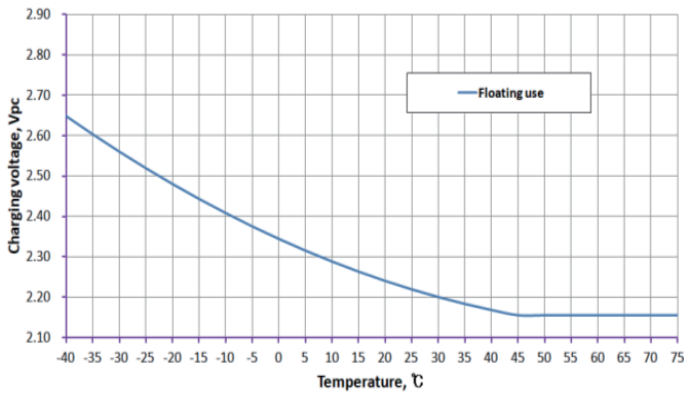
Relationship between Charging time & Current

(For Solar charging system)



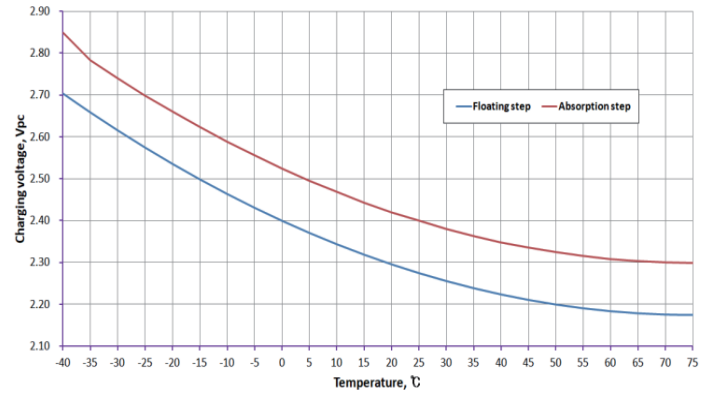
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	785	700	632	571	471	397	318	196	147	96	66.8	56.6
1.80V	1,050	891	764	676	556	462	356	214	159	105	71.8	60.0
1.75V	1,188	980	835	726	576	491	374	222	161	108	73.5	60.6
1.70V	1,306	1,070	891	764	600	506	385	231	166	111	74.5	61.2
1.65V	1,435	1,153	949	812	632	520	397	238	173	113	76.4	62.4
1.60V	1,590	1,252	1,014	865	668	544	412	245	178	118	76.5	63.2

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	1,451	1,295	1,171	1,059	883	749	602	376	283	187	130	110
1.80V	1,890	1,604	1,377	1,230	1,019	858	668	407	303	201	139	116
1.75V	2,079	1,744	1,493	1,311	1,053	906	697	420	307	206	141	118
1.70V	2,245	1,827	1,590	1,371	1,089	926	716	435	315	212	144	119
1.65V	2,403	1,988	1,666	1,443	1,135	944	748	448	327	217	149	121
1.60V	2,596	2,097	1,749	1,518	1,196	985	756	461	336	222	147	123

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

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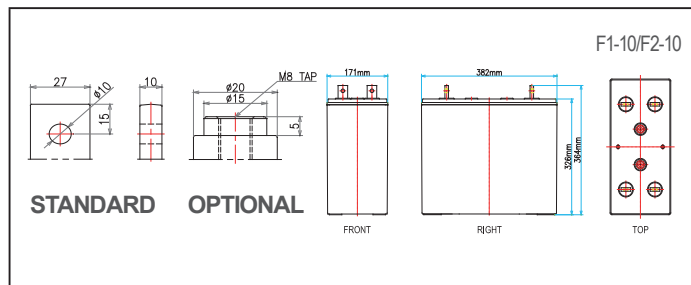
UPN 700 (2V700AH)

Deep Cycle Premium Gel with Longer Life

*** The color and the printed specifications of the products are subject to change without prior notice.

General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.
High quality and high reliability and low self discharge characteristic	
Exceptional deep discharge recovery performance	
Flexibility design for multiple install positions (Position Free) / GEL Technology	



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

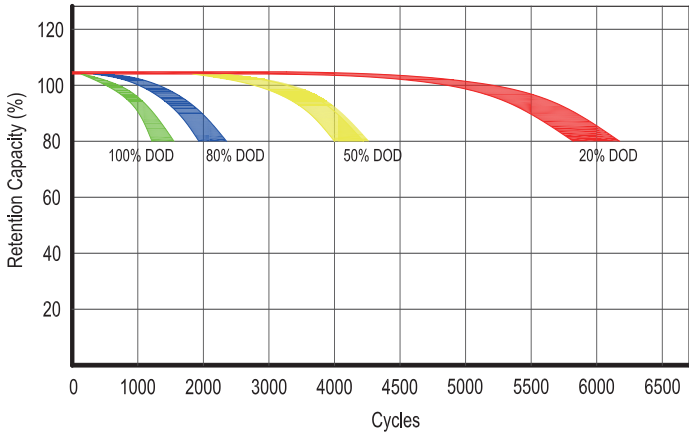


Active Carbon™

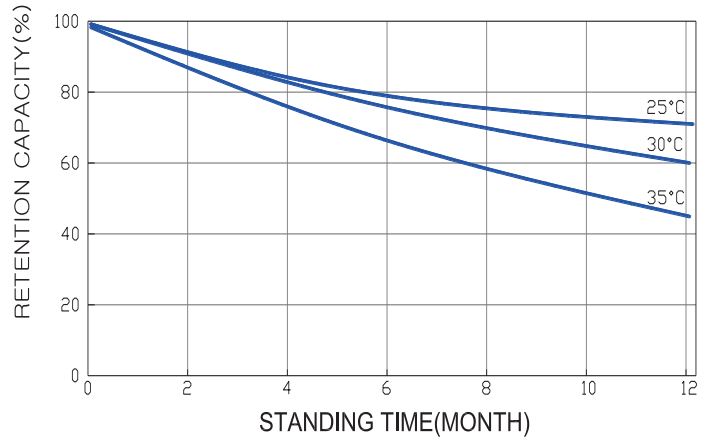
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 700 (2V700AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	700AH	648AH	605AH	480AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	382(15.04)	171(6.73)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	46.5kg±5% (102.51 lbs)			
Internal resistance (mΩ)	≤0.58mΩ per cell (25°C, 77°F)			
Max. discharge current (@5 sec.)	5,600 A	Max. discharge current (continuous)		2,100A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	8,400A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

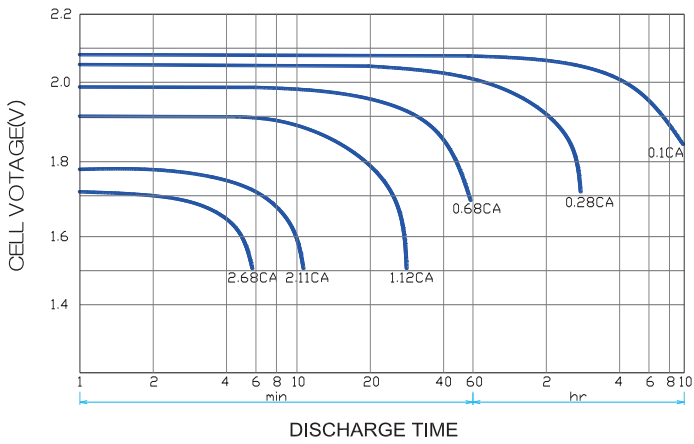
Cycle life vs Depth of Discharge@25°C



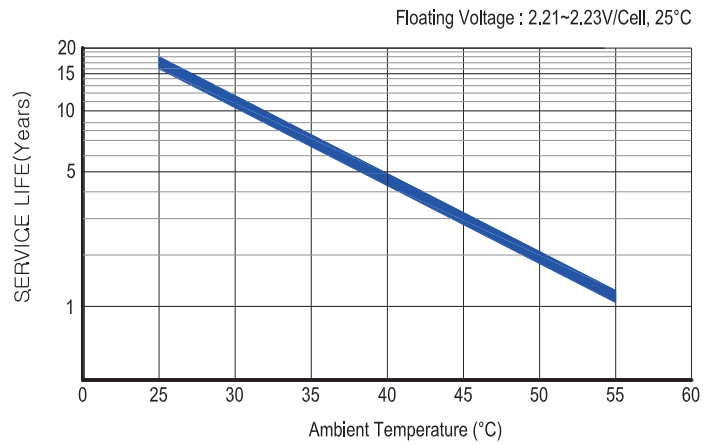
Self discharge characteristics



Discharge time vs Current @25°C

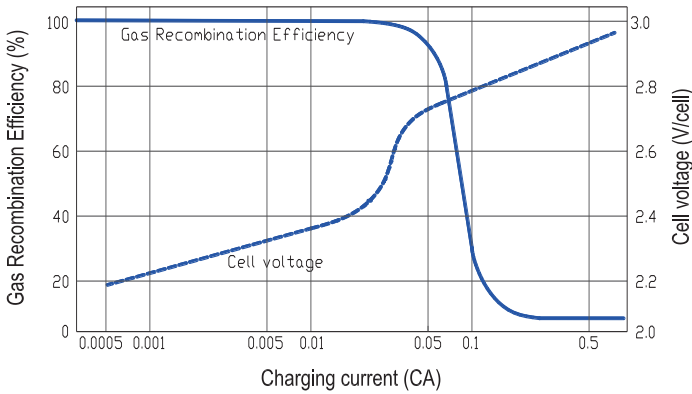


Floating life characteristics

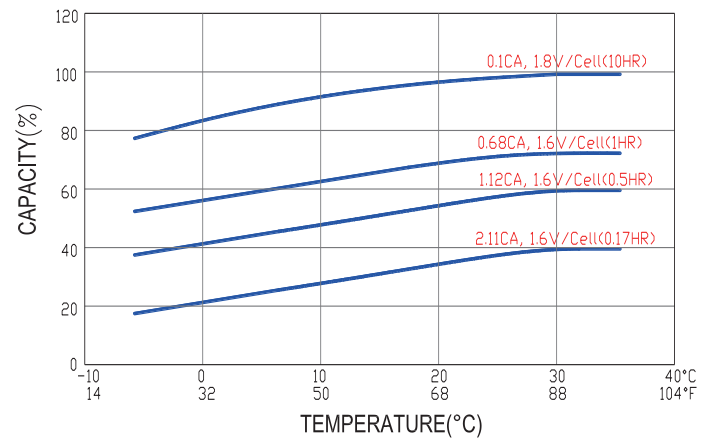


Gas recombination efficiency @25°C

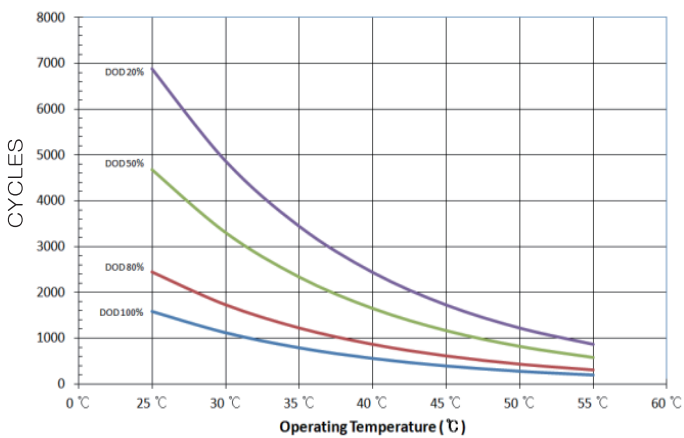
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

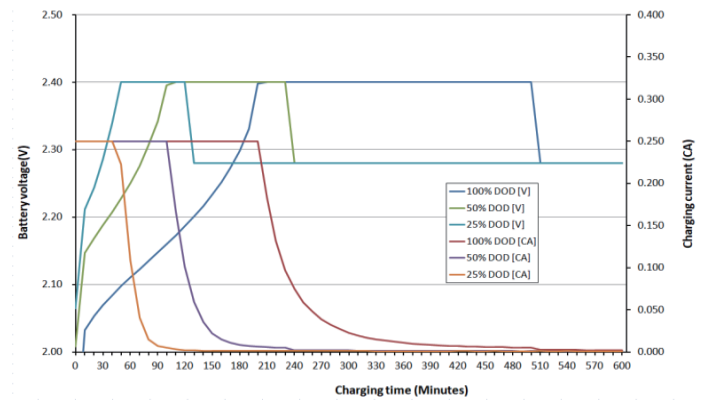


Relationship between Cycle life & Temp.



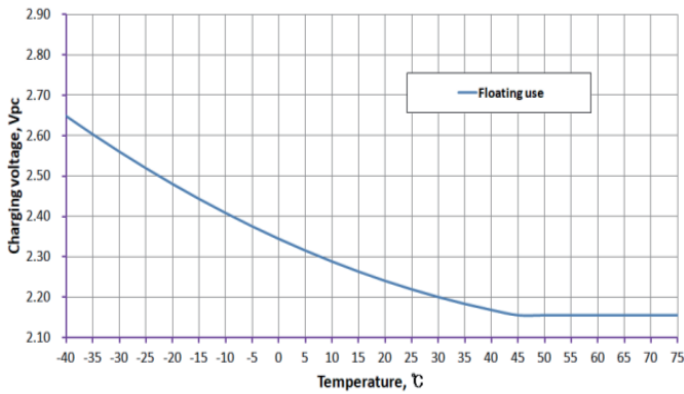
Relationship between Charging time & Current

(For Solar charging system)



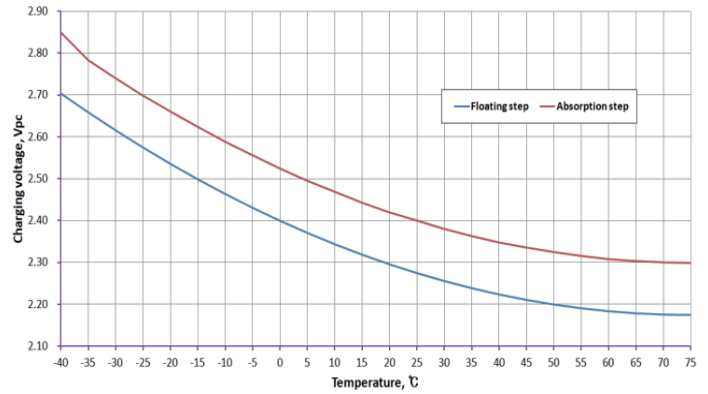
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	916	817	738	666	549	463	371	229	172	113	78.0	66.1
1.80V	1,225	1,040	892	789	648	539	415	249	185	123	83.7	70.0
1.75V	1,386	1,143	974	847	673	572	436	259	188	126	85.8	70.7
1.70V	1,524	1,248	1,040	892	700	591	449	269	193	129	86.9	71.4
1.65V	1,674	1,345	1,108	947	737	607	463	277	202	132	89.2	72.8
1.60V	1,855	1,461	1,184	1,009	779	635	480	286	208	137	89.2	73.8

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	1,693	1,511	1,366	1,236	1,030	874	703	439	330	218	152	129
1.80V	2,205	1,872	1,606	1,434	1,188	1,001	780	475	354	235	162	136
1.75V	2,425	2,035	1,742	1,529	1,228	1,057	814	490	358	241	165	137
1.70V	2,619	2,131	1,855	1,600	1,270	1,080	835	508	367	247	168	139
1.65V	2,804	2,319	1,944	1,684	1,324	1,102	872	523	381	253	174	142
1.60V	3,028	2,447	2,040	1,771	1,395	1,149	882	538	392	260	171	144

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

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UPN 800 (2V800AH)

Deep Cycle Premium Gel with Longer Life

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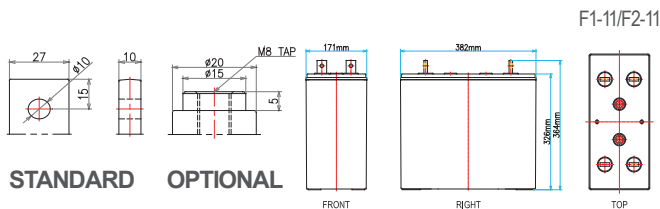
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



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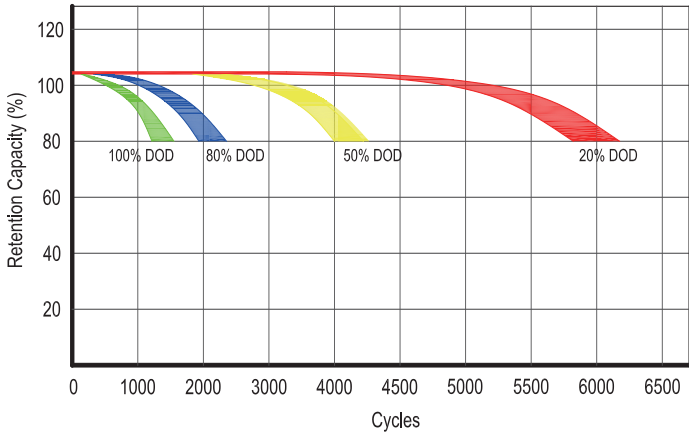


Active Carbon™

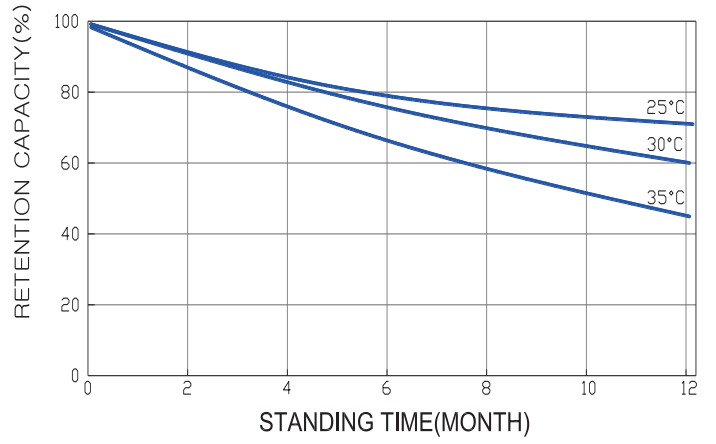
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Battery Model	UPN 800 (2V800AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	800AH	740AH	691AH	549AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	382(15.04)	171(6.73)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	50.5kg±5% (111.3 lbs)			
Internal resistance (mΩ)	≤0.55mΩ per cell (25°C, 77°F)			
Max. discharge current (@5 sec.)	6,400 A	Max. discharge current (continuous)		2,400A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	9,600A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

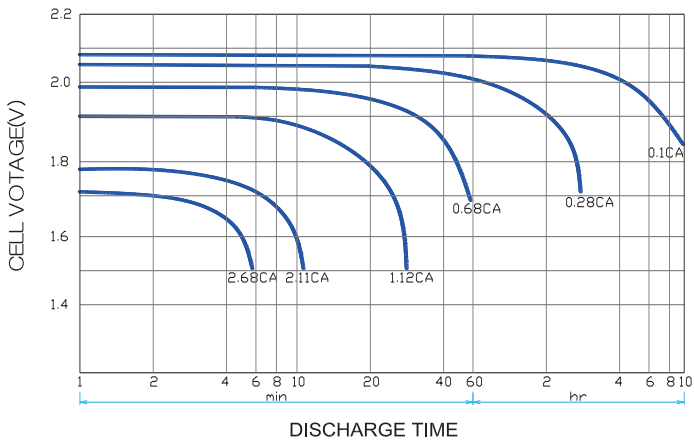
Cycle life vs Depth of Discharge@25°C



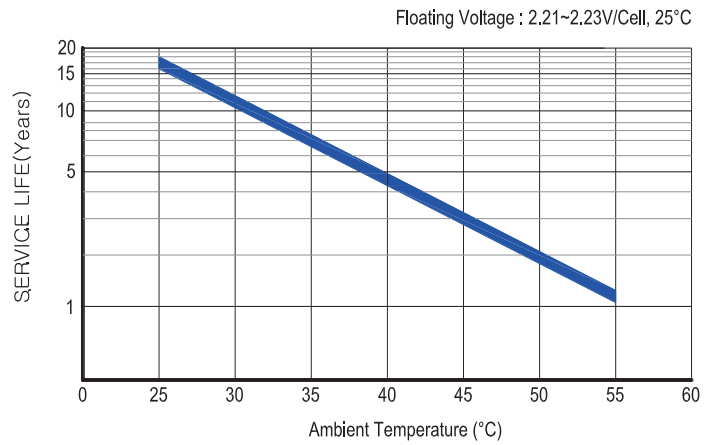
Self discharge characteristics



Discharge time vs Current @25°C

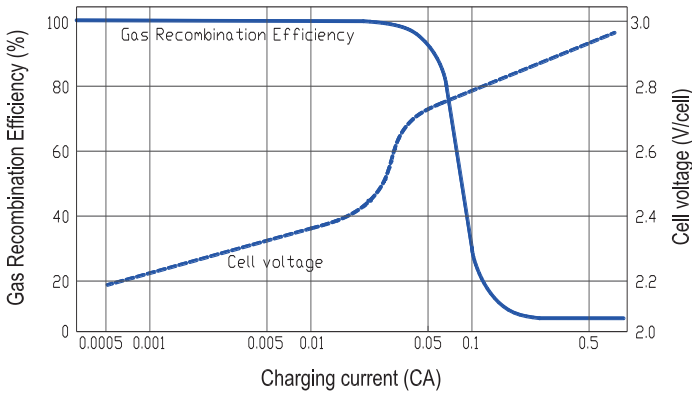


Floating life characteristics

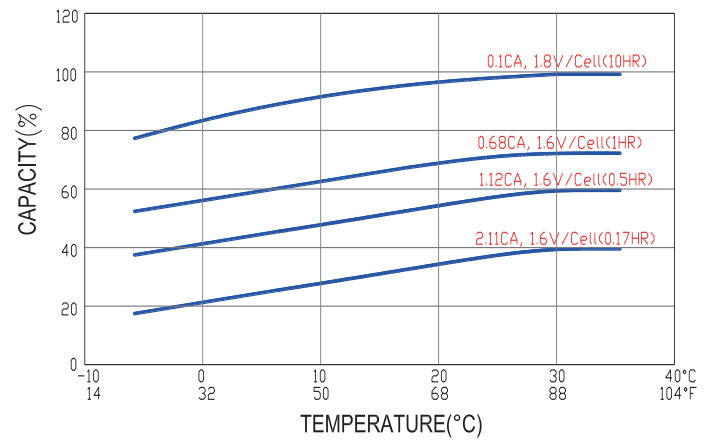


Gas recombination efficiency @25°C

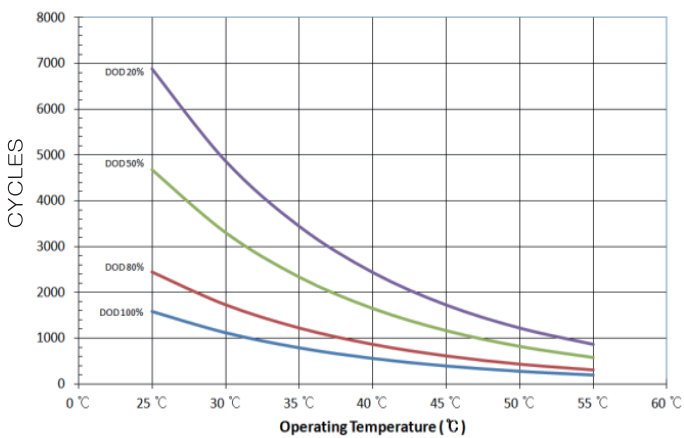
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

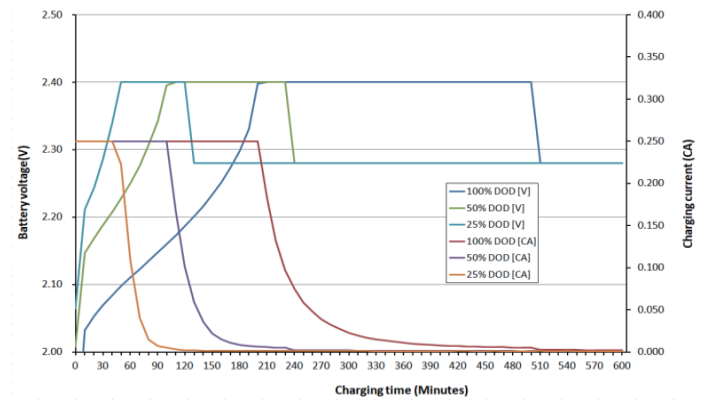


Relationship between Cycle life & Temp.



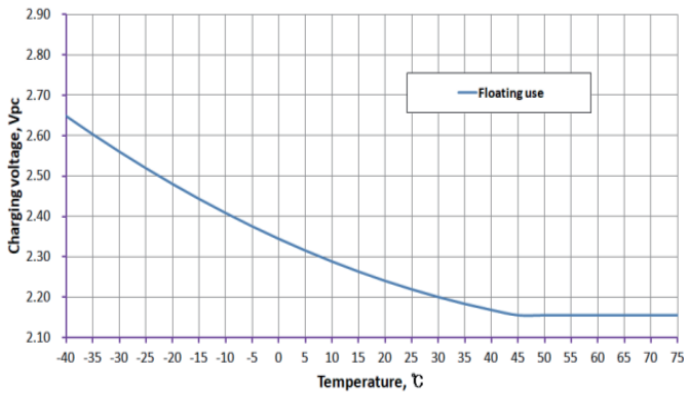
Relationship between Charging time & Current

(For Solar charging system)



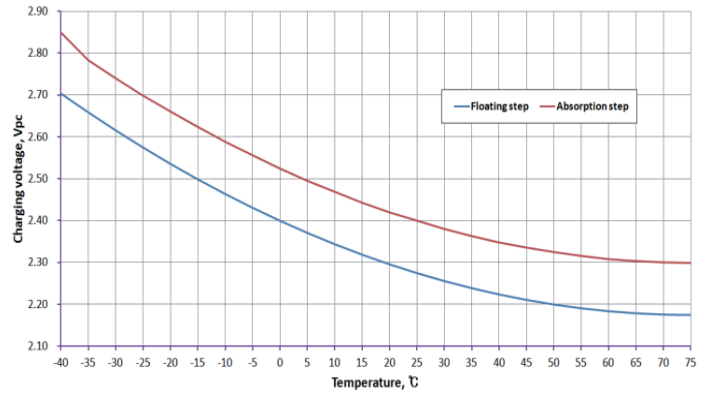
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	1,046	933	843	761	627	530	424	261	196	129	89.1	75.5
1.80V	1,400	1,188	1,019	902	741	616	475	285	212	140	96	80.0
1.75V	1,584	1,306	1,113	968	769	654	498	296	215	144	98	80.8
1.70V	1,742	1,427	1,188	1,019	800	675	513	308	221	148	99	81.6
1.65V	1,914	1,537	1,266	1,082	843	694	530	317	230	151	102	83.2
1.60V	2,121	1,670	1,353	1,153	891	726	549	327	238	157	102	84.3

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	1,935	1,726	1,562	1,413	1,177	999	803	502	377	249	173	147
1.80V	2,520	2,139	1,835	1,639	1,358	1,144	891	542	404	268	185	155
1.75V	2,772	2,325	1,991	1,747	1,404	1,208	930	560	409	275	188	157
1.70V	2,994	2,435	2,120	1,828	1,452	1,234	954	580	420	282	192	158
1.65V	3,204	2,650	2,222	1,924	1,513	1,259	997	598	436	289	198	162
1.60V	3,461	2,796	2,332	2,024	1,594	1,313	1,008	615	448	297	195	164

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.

UPN 900 (2V900AH)

Deep Cycle Premium Gel with Longer Life

*** The color and the printed specifications of the products are subject to change without prior notice.



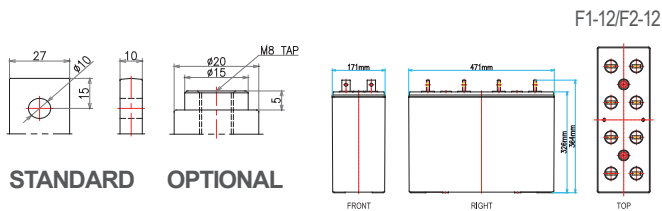
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

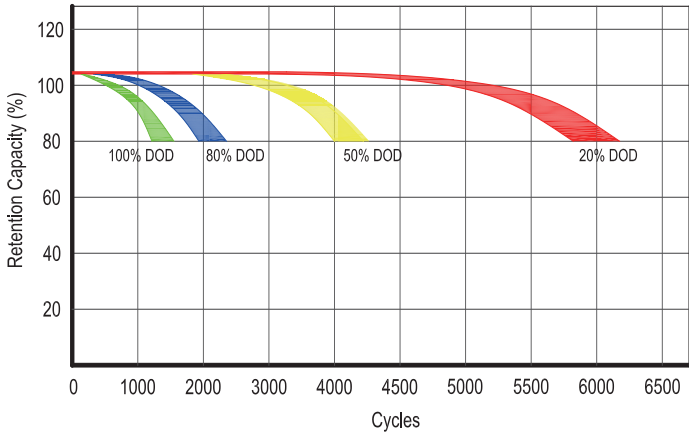


Active Carbon™

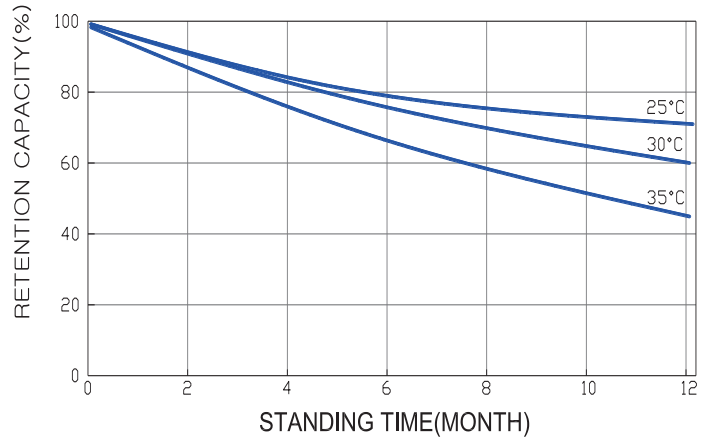
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 900 (2V900AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	900AH	833AH	778AH	617AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	471(18.54)	171(6.73)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	59.0kg±5% (130.1 lbs)			
Internal resistance (mΩ)	≤0.57mΩ per cell (25°C, 77°F)			
Max. discharge current (@5 sec.)	7,200 A	Max. discharge current (continuous)		2,700A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	10,800A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

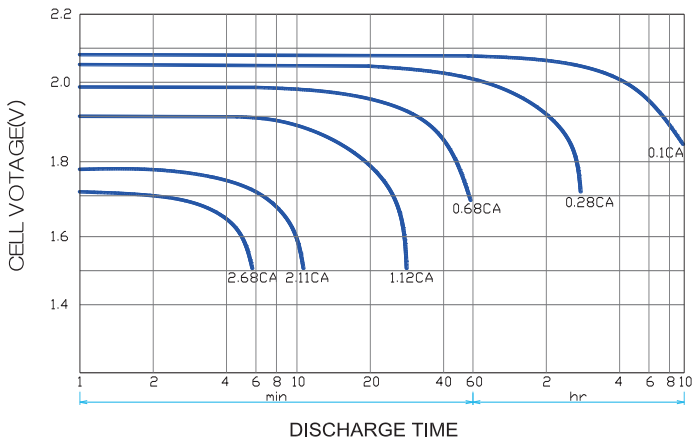
Cycle life vs Depth of Discharge @25°C



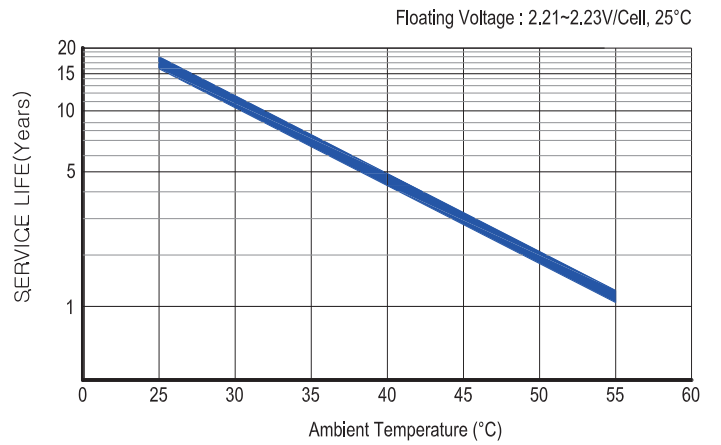
Self discharge characteristics



Discharge time vs Current @25°C

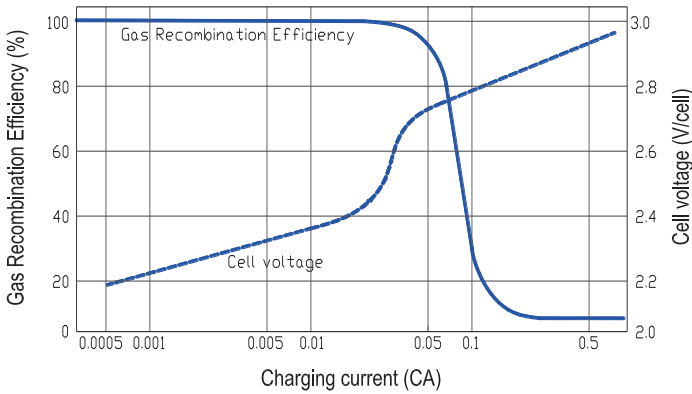


Floating life characteristics

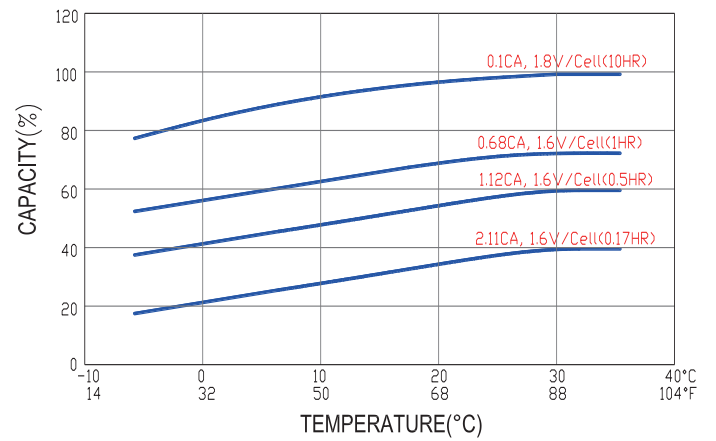


Gas recombination efficiency @25°C

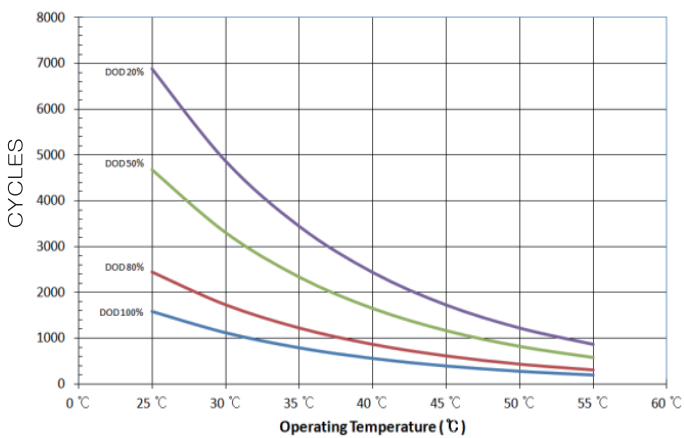
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

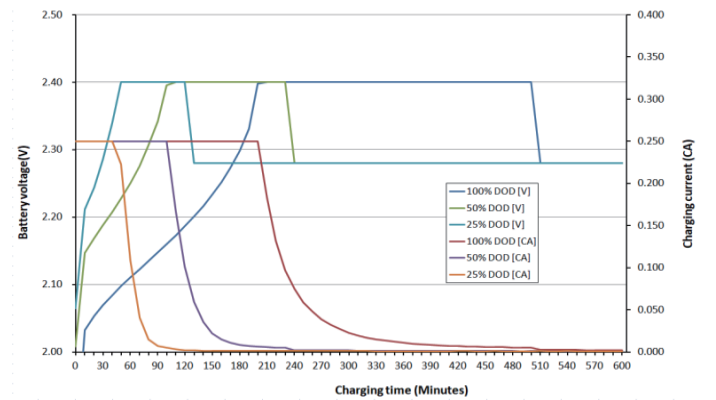


Relationship between Cycle life & Temp.



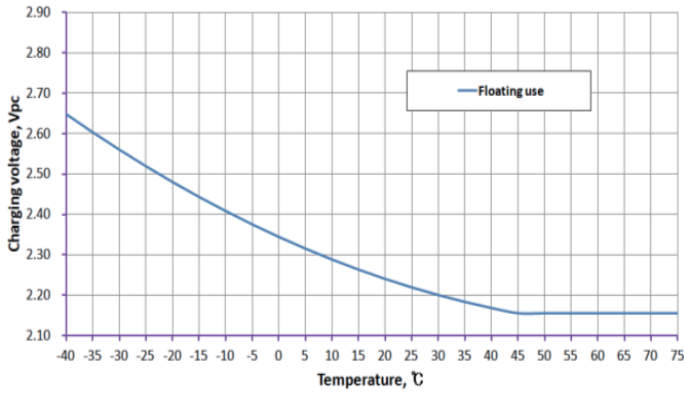
Relationship between Charging time & Current

(For Solar charging system)



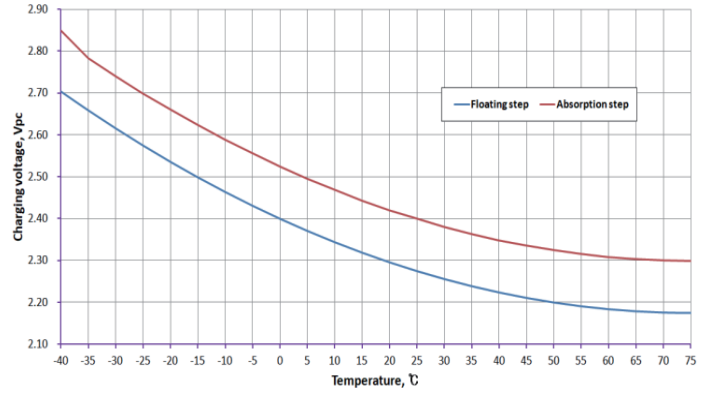
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	1,177	1,050	949	856	706	596	477	294	221	145	100	85.0
1.80V	1,575	1,337	1,147	1,014	833	693	534	321	238	158	108	90.0
1.75V	1,782	1,470	1,252	1,089	865	736	560	333	242	162	110	90.9
1.70V	1,959	1,605	1,337	1,147	900	759	577	346	249	166	112	91.8
1.65V	2,153	1,730	1,424	1,218	948	781	596	357	259	170	115	93.6
1.60V	2,386	1,878	1,522	1,297	1,002	817	618	368	267	176	115	94.8

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	2,177	1,942	1,757	1,589	1,325	1,124	903	565	424	280	195	166
1.80V	2,835	2,406	2,065	1,844	1,528	1,287	1,003	610	455	302	208	175
1.75V	3,118	2,616	2,240	1,966	1,579	1,359	1,046	631	461	309	212	176
1.70V	3,368	2,740	2,385	2,057	1,633	1,388	1,074	653	472	317	217	178
1.65V	3,605	2,981	2,500	2,165	1,702	1,417	1,121	672	490	326	223	182
1.60V	3,894	3,146	2,623	2,277	1,793	1,477	1,134	692	504	334	220	185

UPN SERIES

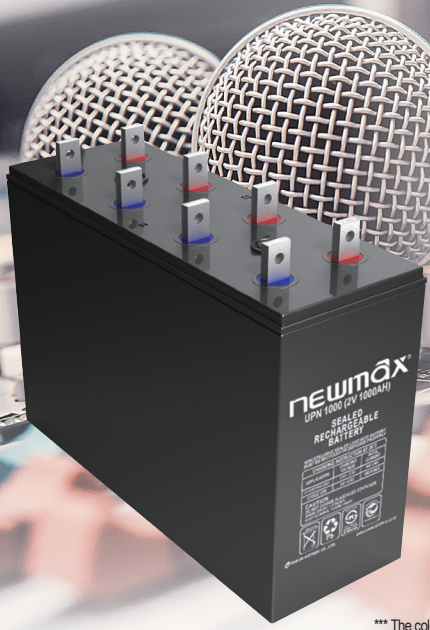
2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.

UPN 1000 (2V1000AH)

Deep Cycle Premium Gel with Longer Life

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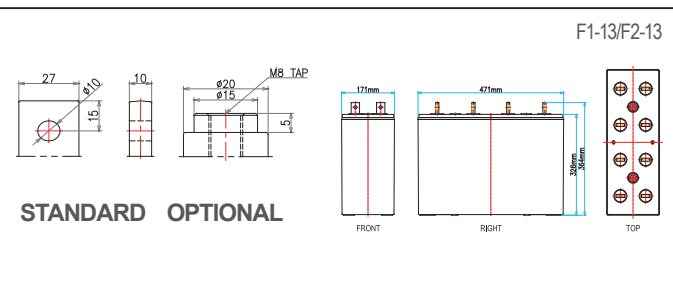
General Features

◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

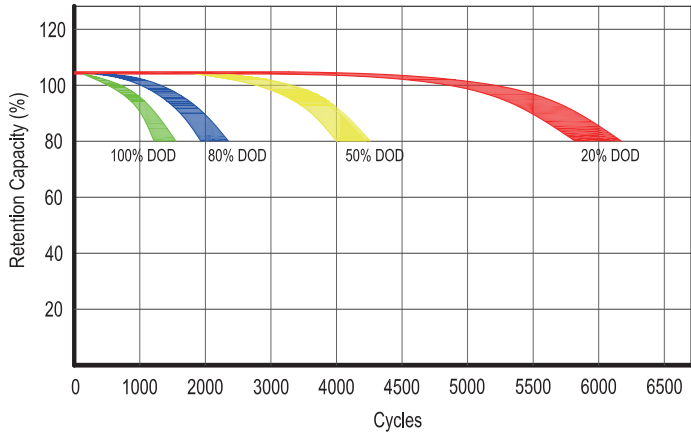


Active Carbon™

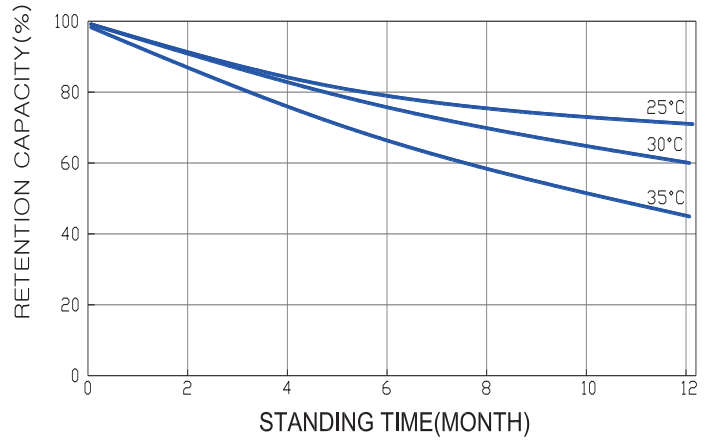
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 1000 (2V1000AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	1000AH	925AH	864AH	686AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	471(18.54)	171(6.73)	326(12.83)	364(14.33)
Approx. weight (kg/lbs)	65.0kg±5% (143.3 lbs)			
Internal resistance (mΩ)	0.59mΩ per cell (25°C, 77°F)			
Max. discharge current (@5 sec.)	8,000A	Max. discharge current(continuous)		3,000A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	12,000A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

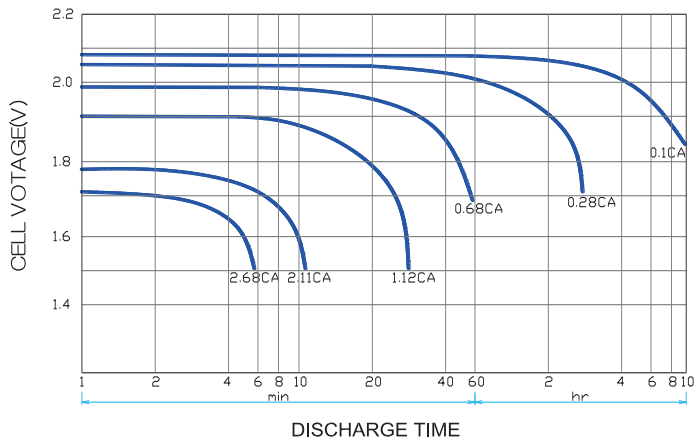
Cycle life vs Depth of Discharge @25°C



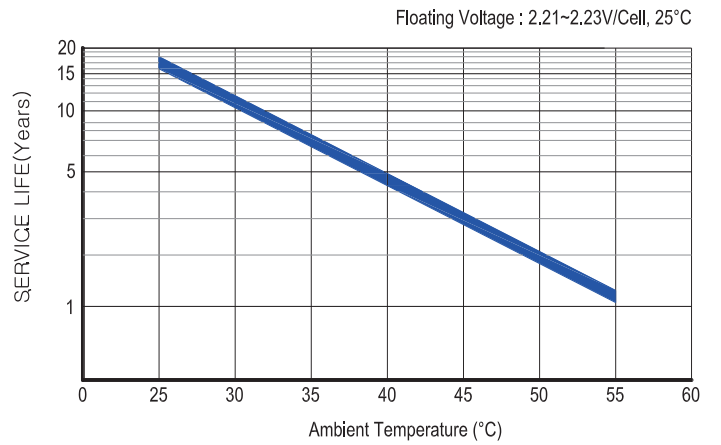
Self discharge characteristics



Discharge time vs Current @25°C

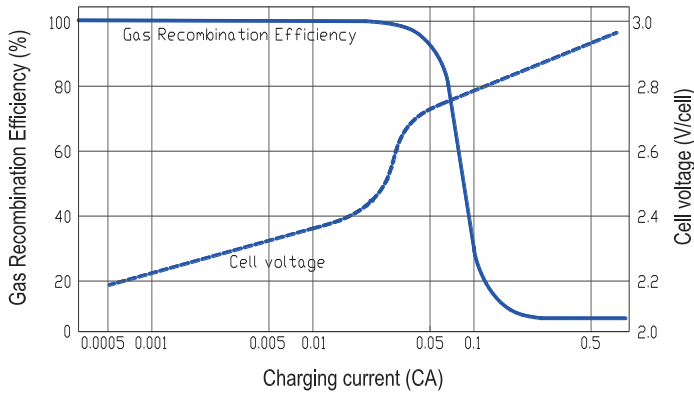


Floating life characteristics

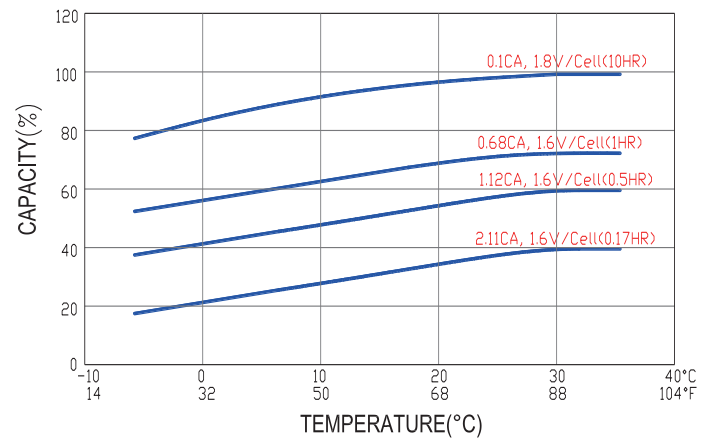


Gas recombination efficiency @25°C

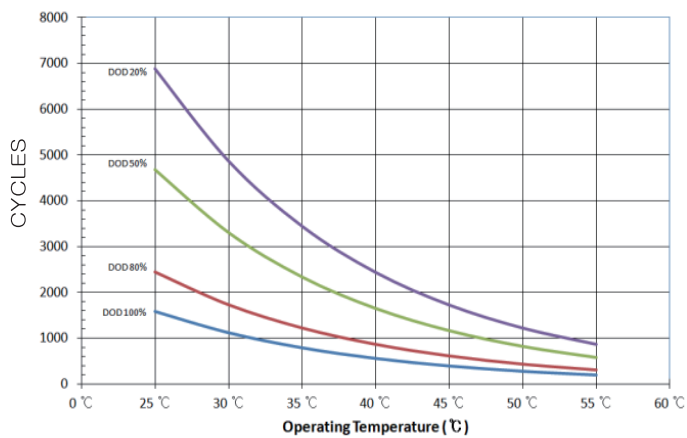
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

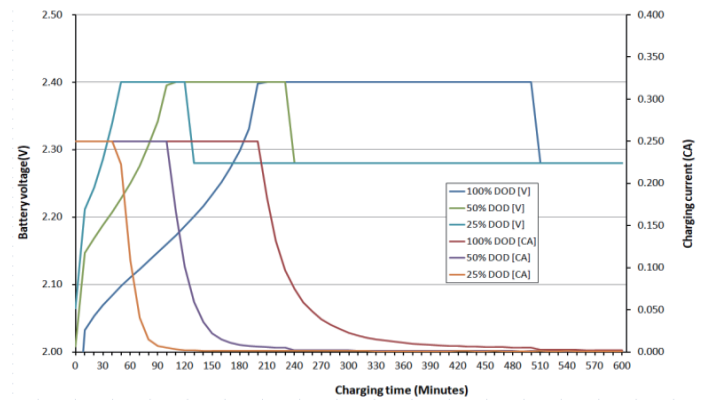


Relationship between Cycle life & Temp.



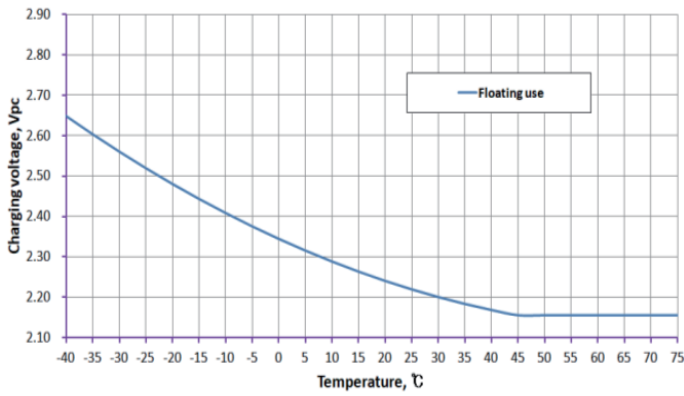
Relationship between Charging time & Current

(For Solar charging system)



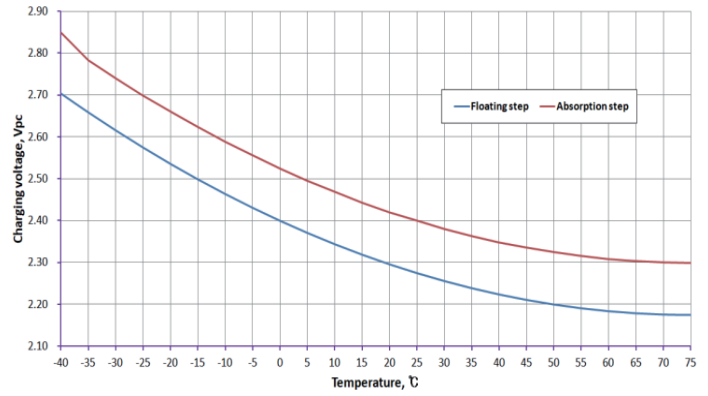
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	1,308	1,167	1,054	951	784	662	530	327	245	161	111	94
1.80V	1,750	1,485	1,274	1,127	926	770	593	356	265	175	120	100
1.75V	1,980	1,633	1,391	1,210	961	818	623	370	269	180	123	101
1.70V	2,177	1,783	1,485	1,274	1,000	844	641	384	276	185	124	102
1.65V	2,392	1,922	1,582	1,353	1,053	867	662	396	288	189	127	104
1.60V	2,651	2,087	1,691	1,442	1,113	907	686	408	297	196	127	105

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	2,419	2,158	1,952	1,766	1,472	1,249	1,004	627	471	311	216	184
1.80V	3,150	2,674	2,294	2,049	1,698	1,430	1,114	678	505	335	231	194
1.75V	3,465	2,907	2,489	2,184	1,755	1,510	1,162	701	512	344	236	196
1.70V	3,742	3,044	2,650	2,285	1,814	1,543	1,193	725	525	353	241	198
1.65V	4,005	3,313	2,777	2,405	1,891	1,574	1,246	747	545	362	248	202
1.60V	4,326	3,495	2,915	2,531	1,993	1,641	1,260	769	560	371	244	205

UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.

UPN 1400 (2V1400AH)

Deep Cycle Premium Gel with Longer Life

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General Features

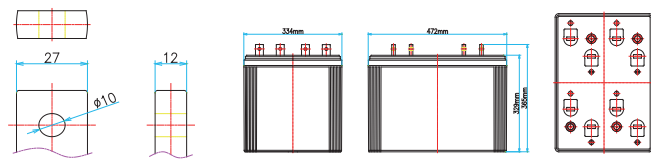
◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology

F1-14



Technical Features



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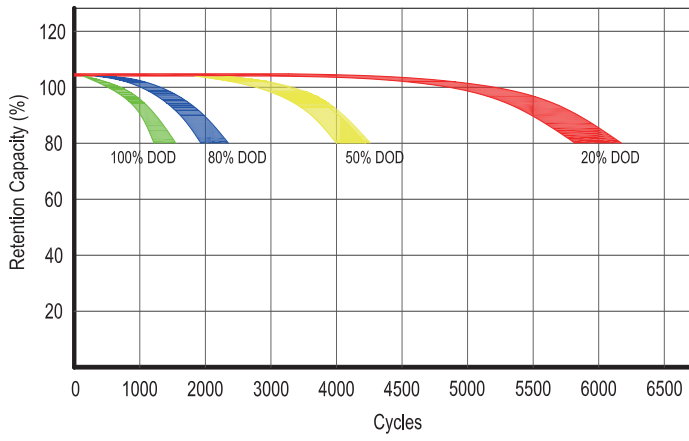


Active Carbon™

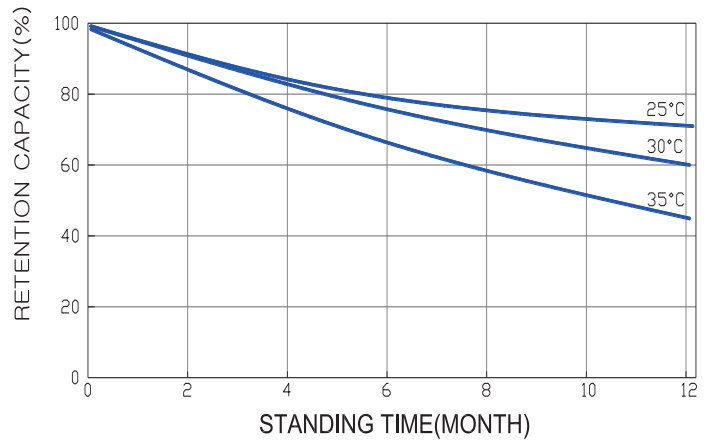
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 1400 (2V1400AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	1400AH	1295AH	1210AH	960AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	472(18.58)	334.5(13.17)	329(12.95)	366(14.41)
Approx. weight (kg/lbs)	95.0kg±5% (209.44 lbs)			
Internal resistance (mΩ)	≤0.58mΩ per cell (25°C, 77°F)			
Max. discharge current (@5 sec.)	11,200 A	Max. discharge current (continuous)		4,200A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	16,800A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

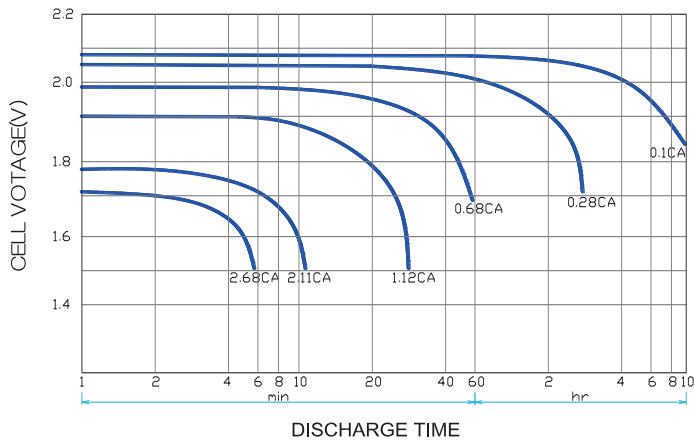
Cycle life vs Depth of Discharge @25°C



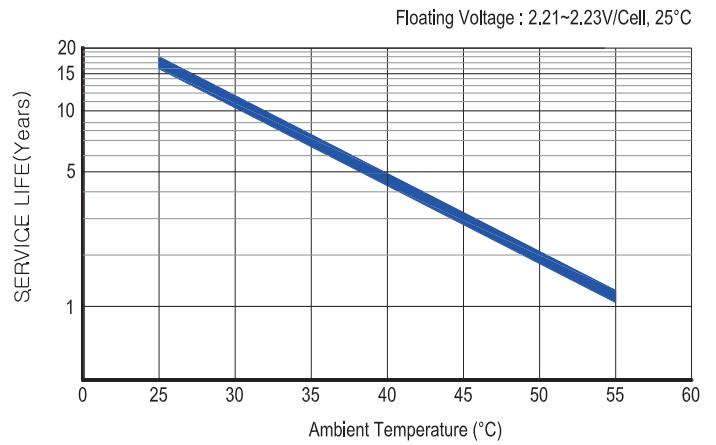
Self discharge characteristics



Discharge time vs Current @25°C

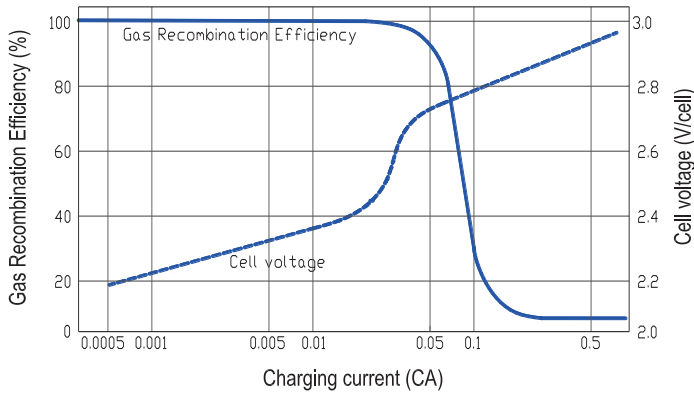


Floating life characteristics

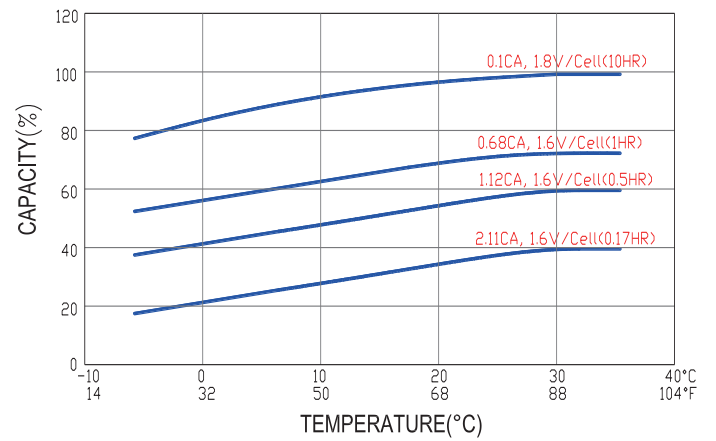


Gas recombination efficiency @25°C

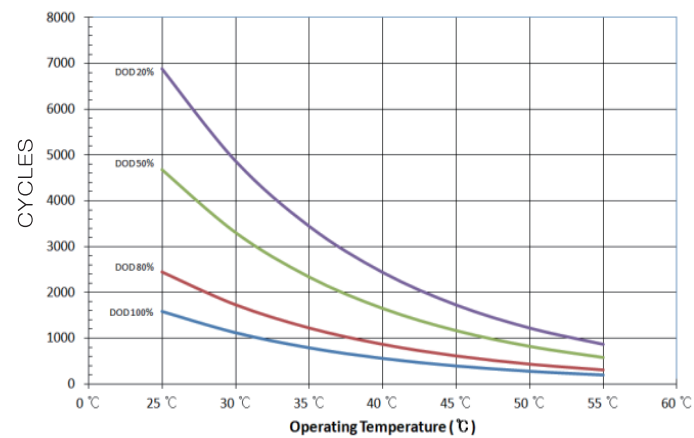
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

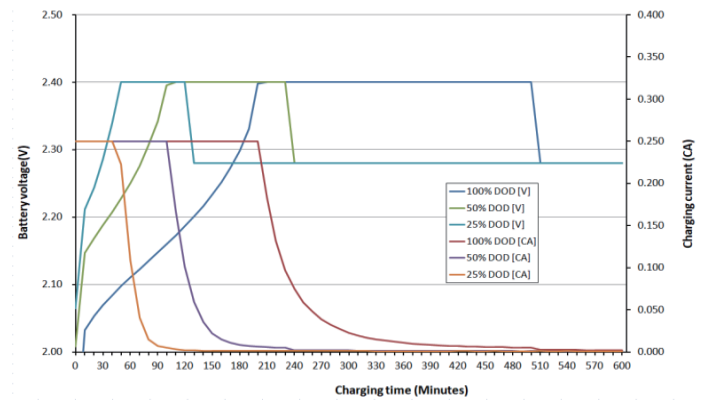


Relationship between Cycle life & Temp.



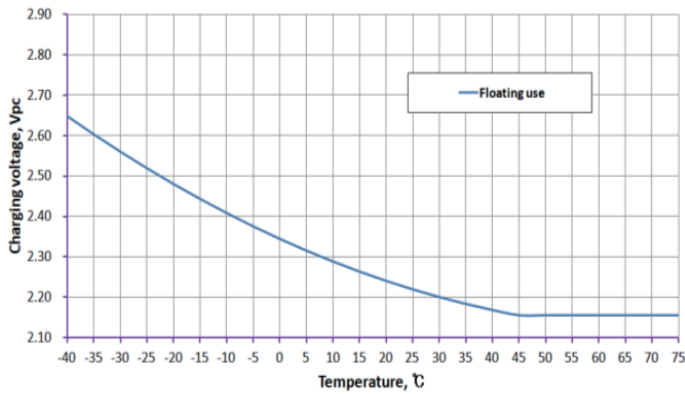
Relationship between Charging time & Current

(For Solar charging system)



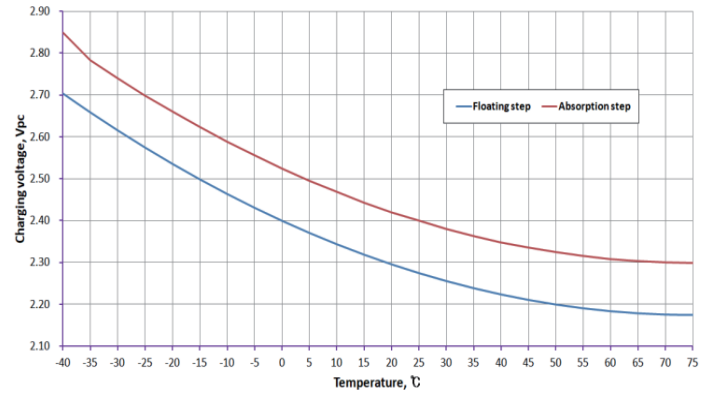
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	1,831	1,633	1,476	1,332	1,098	927	741	457	343	225	156	132
1.80V	2,450	2,079	1,784	1,578	1,296	1,079	831	499	371	245	167	140
1.75V	2,773	2,286	1,948	1,694	1,345	1,145	872	518	376	252	172	141
1.70V	3,048	2,497	2,079	1,784	1,400	1,181	898	538	387	259	174	143
1.65V	3,349	2,690	2,215	1,894	1,474	1,214	927	555	403	264	178	146
1.60V	3,711	2,922	2,367	2,018	1,559	1,270	961	572	416	275	178	148

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	3,387	3,021	2,733	2,472	2,060	1,749	1,405	878	660	435	303	258
1.80V	4,411	3,743	3,212	2,869	2,377	2,002	1,560	949	708	470	324	272
1.75V	4,851	4,069	3,485	3,058	2,457	2,113	1,627	981	717	481	330	274
1.70V	5,239	4,262	3,709	3,199	2,540	2,160	1,670	1,016	735	494	337	277
1.65V	5,607	4,638	3,888	3,367	2,648	2,203	1,744	1,046	763	506	347	283
1.60V	6,057	4,893	4,080	3,543	2,790	2,297	1,764	1,076	784	519	342	287



UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.

UPN 1600 (2V1600AH)

Deep Cycle Premium Gel with Longer Life

*** The color and the printed specifications of the products are subject to change without prior notice.

General Features

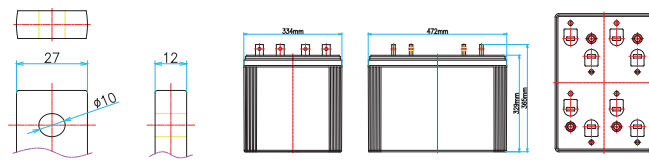
◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology

F1-15



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

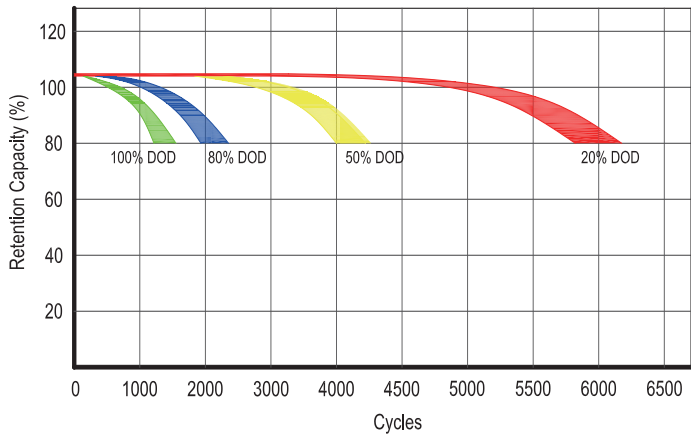


Active Carbon™

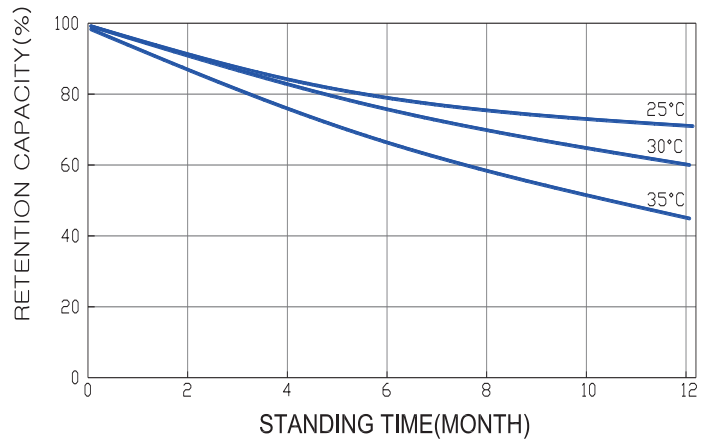
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 1600 (2V1600AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	1600AH	1480AH	1382AH	1098AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	472(18.58)	334.5(13.17)	329(12.95)	366(14.41)
Approx. weight (kg/lbs)	105.0kg±5% (231.49 lbs)			
Internal resistance (mΩ)	≤0.55mΩ per cell (25°C, 77°F)			
Max. discharge current (@5 sec.)	12,800 A	Max. discharge current (continuous)		4,800A
	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
Capacity affected by Temperature (%)	105%	103%	95%	78%
	Self-discharge (@25°C,77F)	After 1 month ≤2%	After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	19,200A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

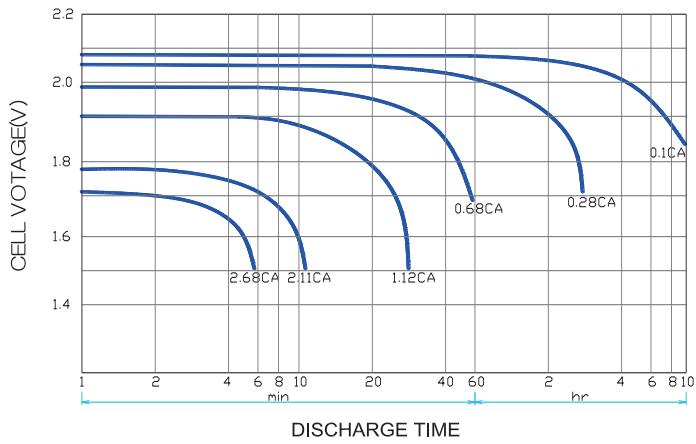
Cycle life vs Depth of Discharge@25°C



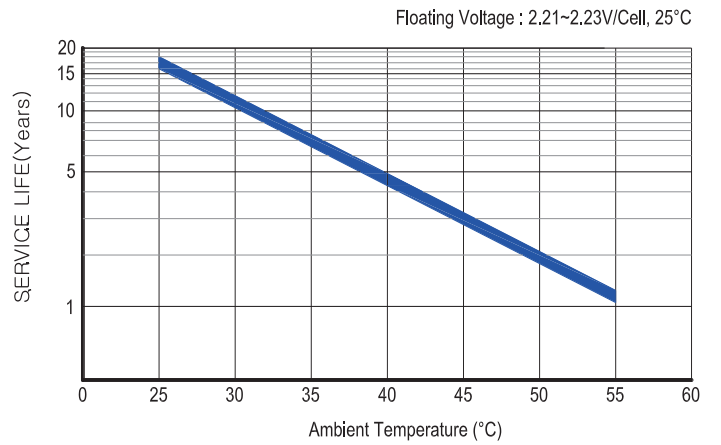
Self discharge characteristics



Discharge time vs Current @25°C

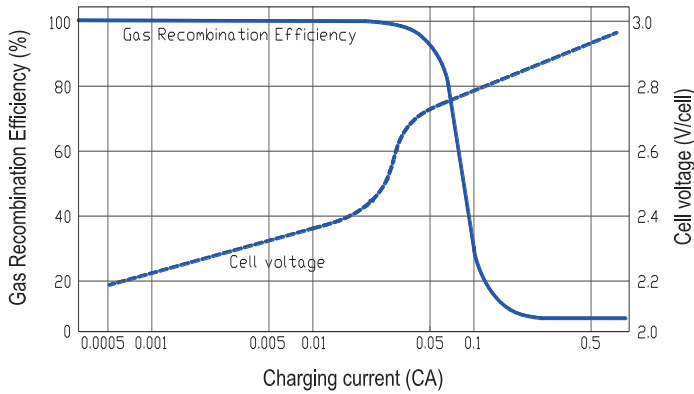


Floating life characteristics

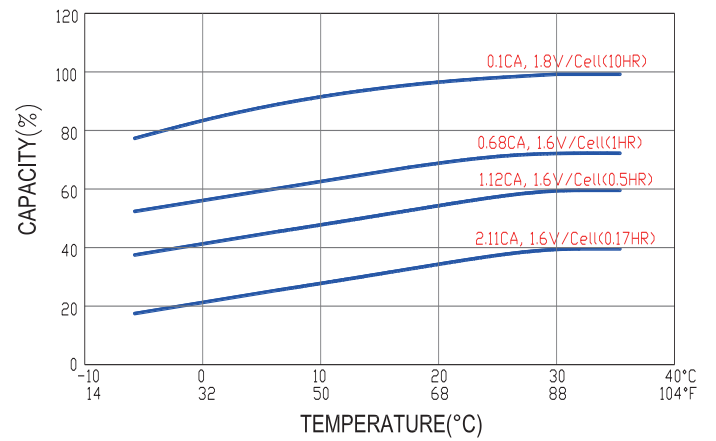


Gas recombination efficiency @25°C

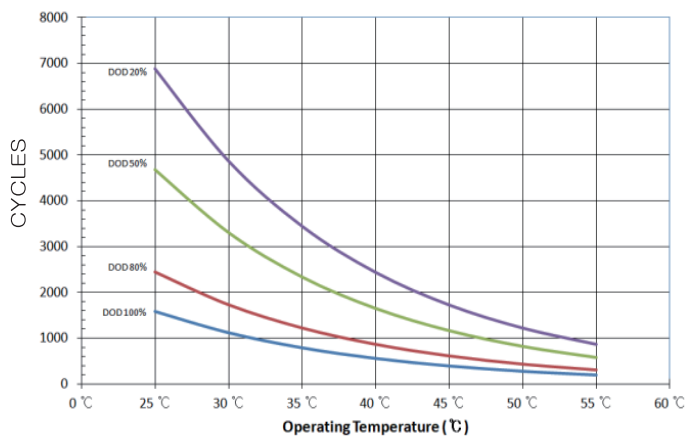
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

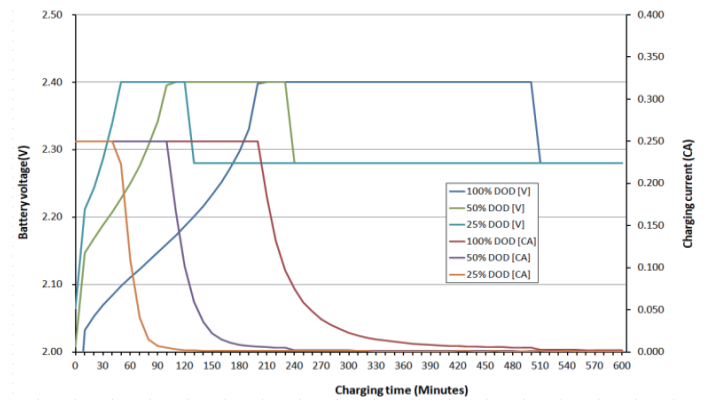


Relationship between Cycle life & Temp.



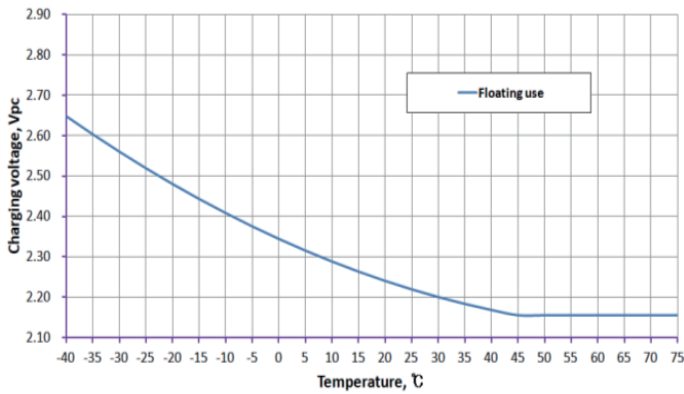
Relationship between Charging time & Current

(For Solar charging system)



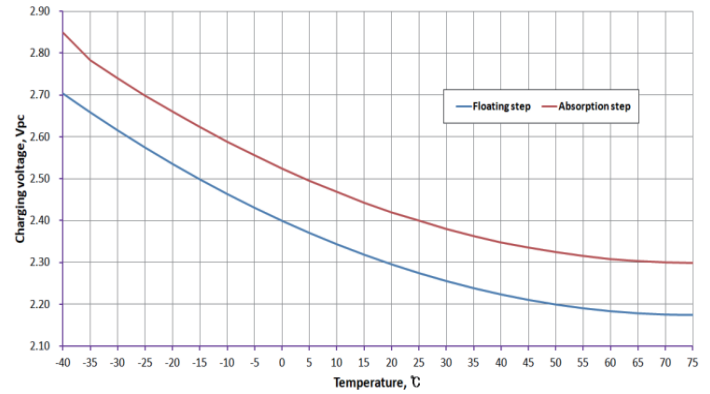
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	2,093	1,867	1,686	1,522	1,255	1,059	847	523	392	257	178	151
1.80V	2,800	2,377	2,038	1,803	1,482	1,233	949	570	424	280	191	160
1.75V	3,169	2,612	2,226	1,936	1,537	1,308	996	592	430	288	196	162
1.70V	3,483	2,853	2,377	2,038	1,600	1,350	1,026	615	442	296	199	163
1.65V	3,827	3,075	2,532	2,165	1,685	1,388	1,059	634	461	302	204	166
1.60V	4,241	3,340	2,705	2,307	1,781	1,452	1,098	653	475	314	204	169

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	3,871	3,453	3,123	2,825	2,355	1,998	1,606	1,004	754	497	346	294
1.80V	5,041	4,278	3,671	3,279	2,716	2,288	1,782	1,085	809	537	370	310
1.75V	5,544	4,651	3,983	3,495	2,808	2,415	1,860	1,121	819	550	377	314
1.70V	5,987	4,871	4,239	3,656	2,903	2,468	1,909	1,161	839	564	385	317
1.65V	6,408	5,300	4,444	3,848	3,026	2,518	1,994	1,195	872	579	397	324
1.60V	6,922	5,592	4,663	4,049	3,188	2,626	2,016	1,230	896	593	391	328

UPN SERIES

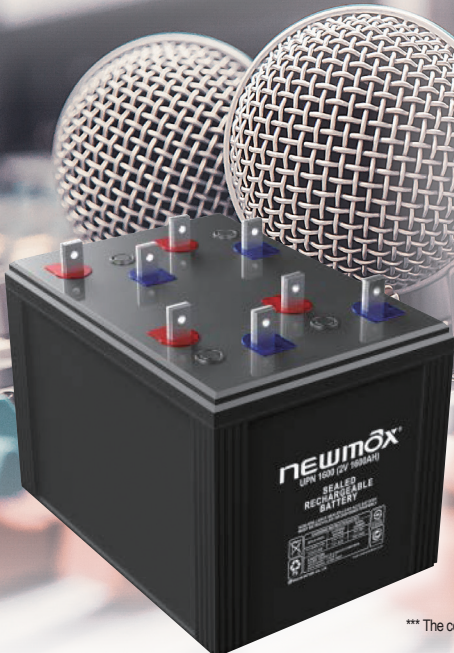
2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.

UPN 1800 (2V1800AH)

Deep Cycle Premium Gel with Longer Life

*** The color and the printed specifications of the products are subject to change without prior notice.



General Features

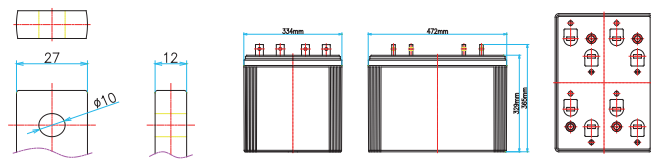
◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology

F1-16



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

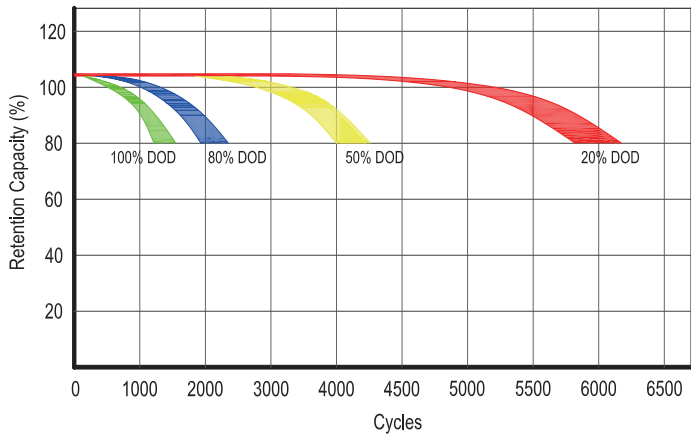


Active Carbon™

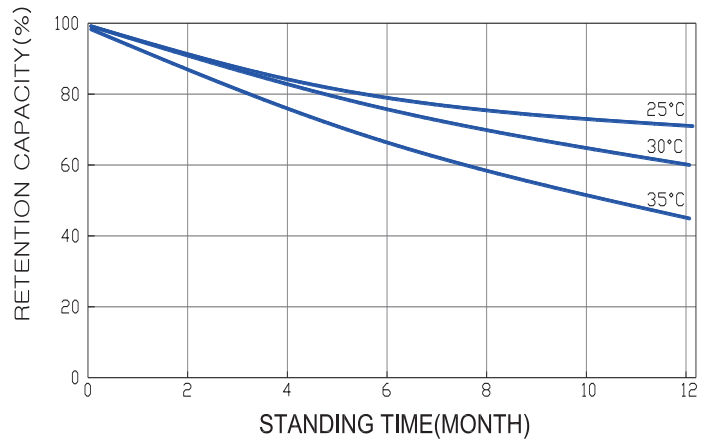
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 1800 (2V1800AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	1800AH	1665AH	1555AH	1235AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	472(18.58)	334.5(13.17)	329(12.95)	366(14.41)
Approx. weight (kg/lbs)	116.0kg±5% (255.74 lbs)			
Internal resistance (mΩ)	≤0.53mΩ per cell (25°C, 77°F)			
Max. discharge current (@5 sec.)	14,400 A	Max. discharge current (continuous)		5,400A
	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
Capacity affected by Temperature (%)	105%	103%	95%	78%
	Self-discharge (@25°C,77F)	After 1 month ≤2%	After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	21,600A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

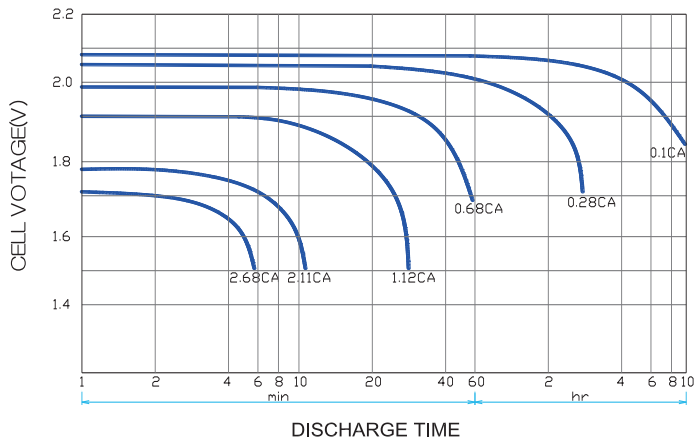
Cycle life vs Depth of Discharge@25°C



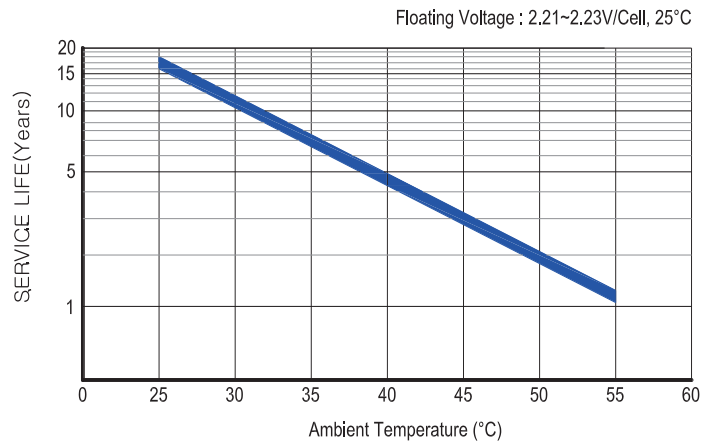
Self discharge characteristics



Discharge time vs Current @25°C

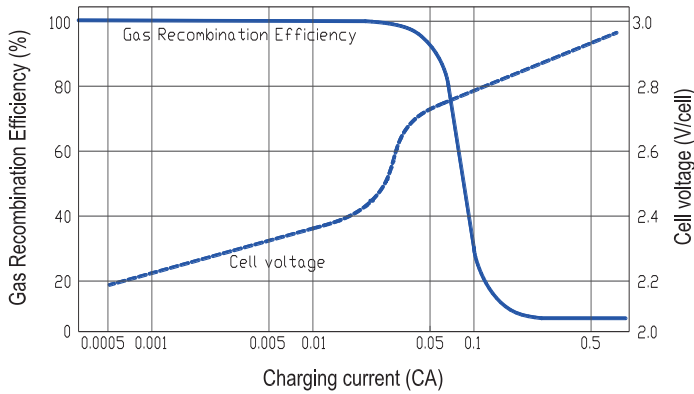


Floating life characteristics

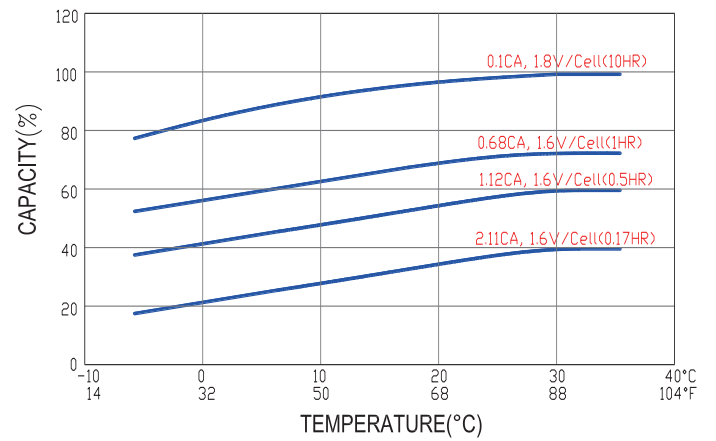


Gas recombination efficiency @25°C

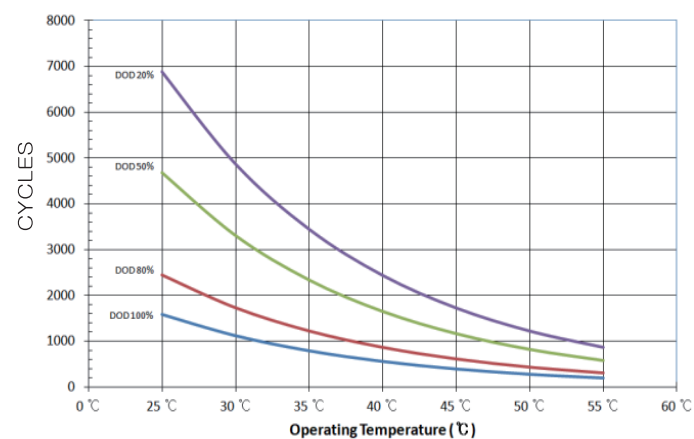
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

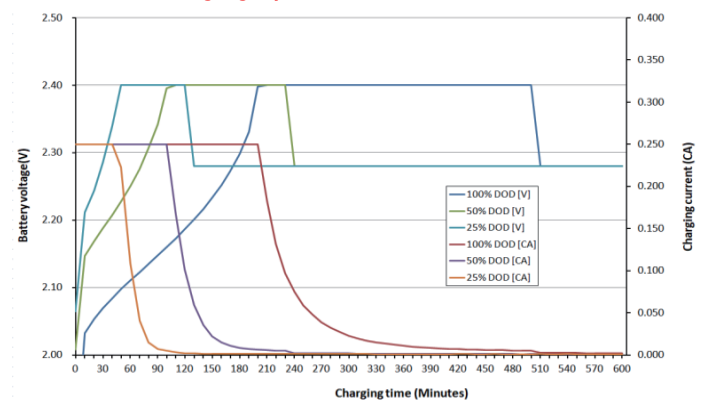


Relationship between Cycle life & Temp.



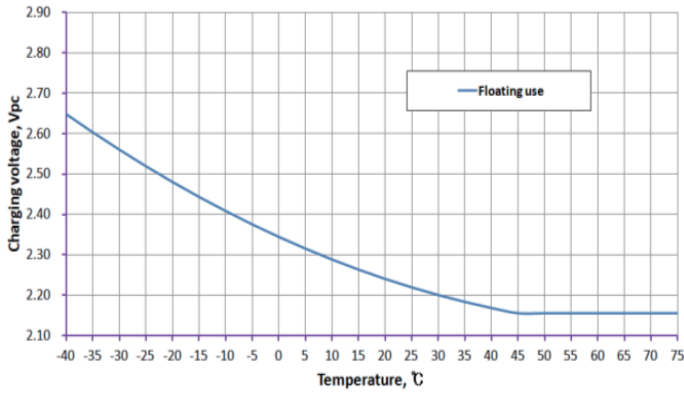
Relationship between Charging time & Current

(For Solar charging system)



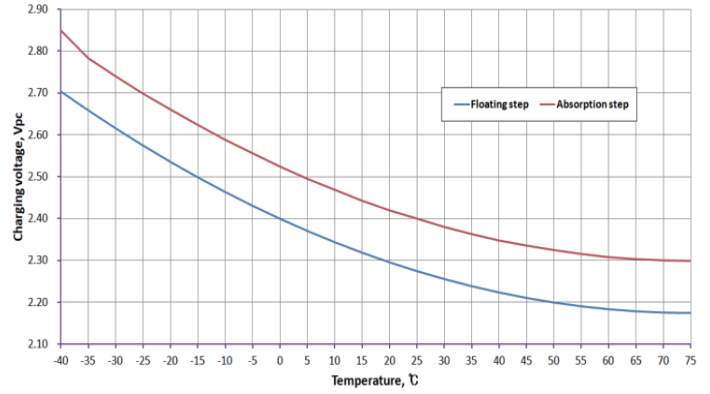
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)

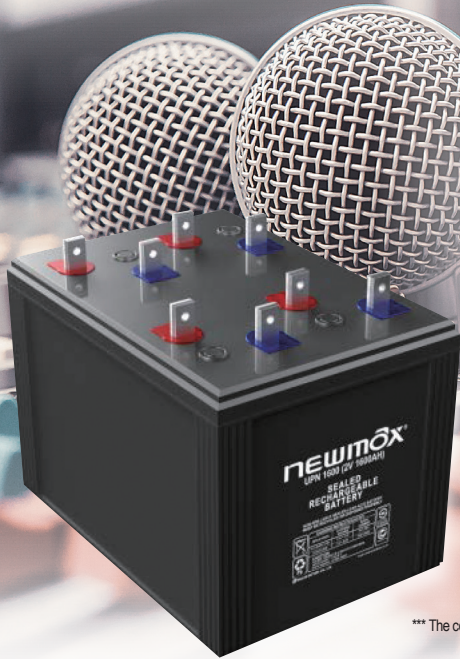


Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	2,354	2,100	1,897	1,712	1,412	1,192	953	588	441	289	200	170
1.80V	3,150	2,674	2,293	2,029	1,667	1,387	1,068	641	477	315	215	180
1.75V	3,565	2,939	2,505	2,178	1,729	1,472	1,121	666	484	324	221	182
1.70V	3,919	3,210	2,674	2,293	1,800	1,519	1,155	692	497	333	223	184
1.65V	4,305	3,459	2,848	2,435	1,896	1,561	1,192	713	519	340	229	187
1.60V	4,771	3,757	3,043	2,595	2,004	1,633	1,235	735	535	353	229	190

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	4,354	3,884	3,513	3,178	2,649	2,248	1,807	1,129	848	560	390	331
1.80V	5,671	4,812	4,130	3,689	3,056	2,574	2,005	1,220	910	604	416	349
1.75V	6,236	5,232	4,480	3,932	3,159	2,717	2,092	1,261	921	618	424	353
1.70V	6,736	5,480	4,769	4,113	3,266	2,777	2,147	1,306	944	635	433	356
1.65V	7,210	5,963	4,999	4,329	3,404	2,833	2,243	1,345	981	651	446	364
1.60V	7,787	6,291	5,246	4,555	3,587	2,954	2,268	1,384	1,008	667	440	369



UPN SERIES

2V Deep Cycle Premium Gel with Longer Life

The Newmax UPN Series is an ultra efficient premium quality UPS battery series. This innovative and technology intensive product has proven to last up to 60% longer than its predecessor, the PNGB series. Constant drive for true innovation was the key to the success of our UPN series.

UPN 2000 (2V2000AH)

Deep Cycle Premium Gel with Longer Life

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General Features

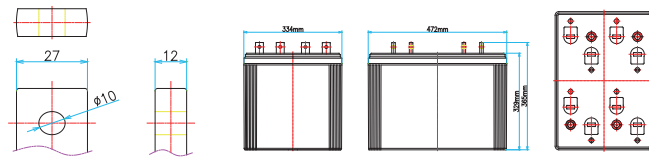
◆ Plate	Paste type
◆ Battery type	Sealed GEL type and Maintenance free operation
◆ Structure	Sealed GEL type and Maintenance free operation
◆ Container/cover	ABS resin (Optional Flame retardant, UL94-V0)
◆ Safety	Safety valve and flame arrestor installation for explosion proof.

High quality and high reliability and low self discharge characteristic

Exceptional deep discharge recovery performance

Flexibility design for multiple install positions (Position Free) / GEL Technology

F1-17



Technical Features



ThixoPure™ GEL Technology

Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.



FlexSealing™ Anti Explosion Filter

Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.

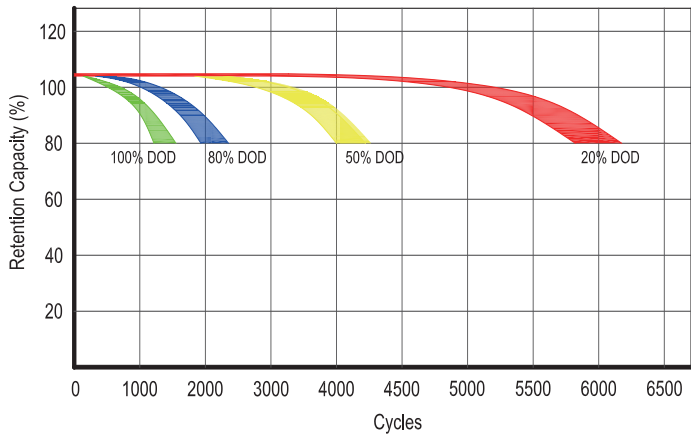


Active Carbon™

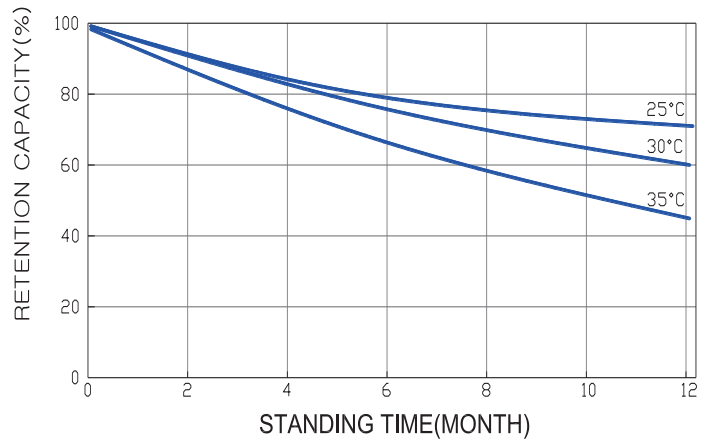
In every NEWMAX battery, proprietary active carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. Active Carbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.

Battery Model	UPN 2000 (2V2000AH / 10 HOUR RATE)			
Rated Capacity (Ah, @20°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.65VPC)	1HR (1.60VPC)
	2000AH	1850AH	1728AH	1372AH
Dimensions (mm/inch)	Length	Width	Height	Total Height
	472(18.58)	334.5(13.17)	329(12.95)	366(14.41)
Approx. weight (kg/lbs)	126.0kg±5% (277.8 lbs)			
Internal resistance (mΩ)	≤0.51mΩ per cell (25°C, 77°F)			
Max. discharge current (@5 sec.)	16,000 A	Max. discharge current (continuous)		6,000A
Capacity affected by Temperature (%)	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	24,000A ±10%			
Charging method (@25°C)	Stand-by use (UPS) / Floating		Solar system use	
	2.21~2.23V (±3.3mV/°C)		1 st Bulk step 0.25CA max, 2 nd Absorption step 2.40V, 3 rd Floating step 2.28V	

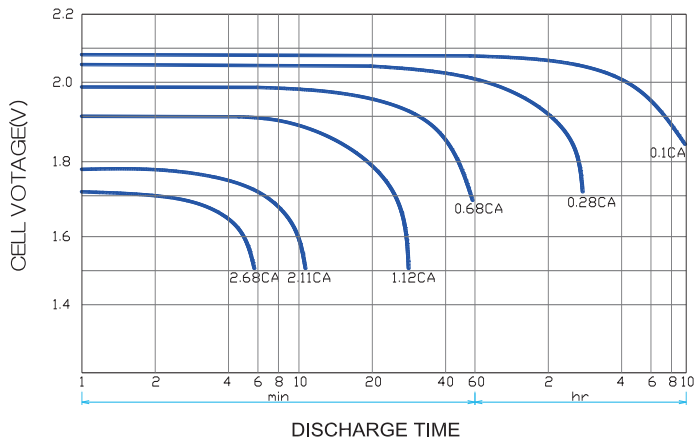
Cycle life vs Depth of Discharge@25°C



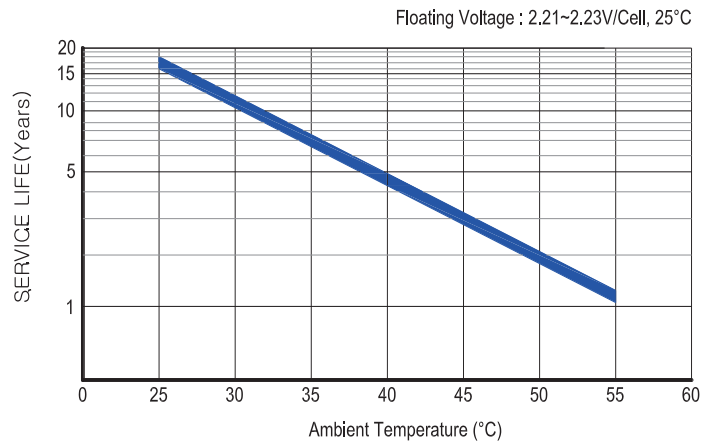
Self discharge characteristics



Discharge time vs Current @25°C

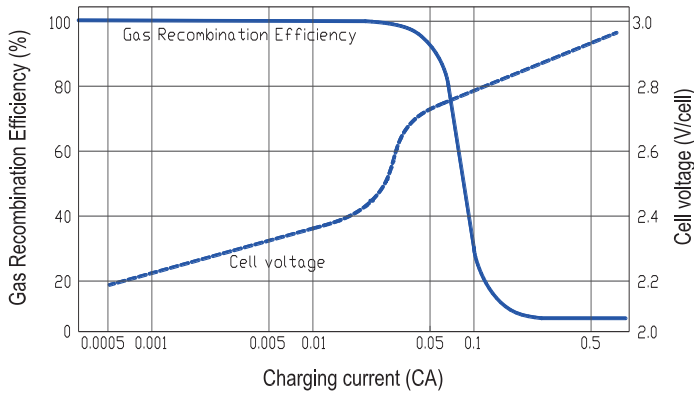


Floating life characteristics

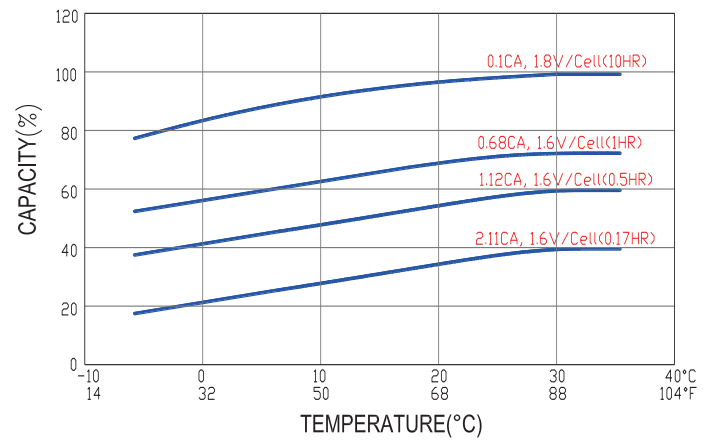


Gas recombination efficiency @25°C

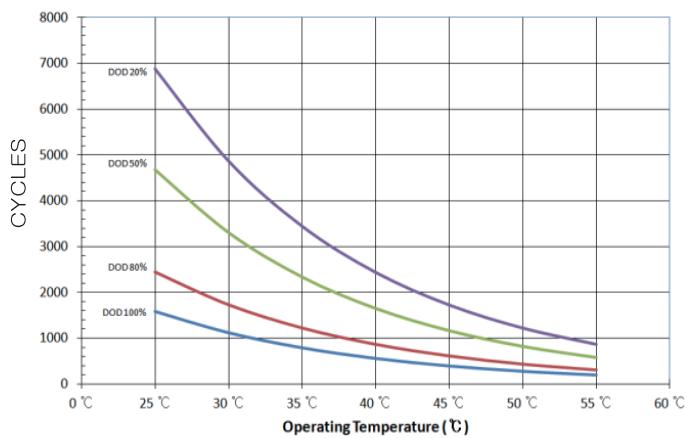
(Gas recombination efficiency 100% at 2.22V/cell)



Effect of temperature on capacity

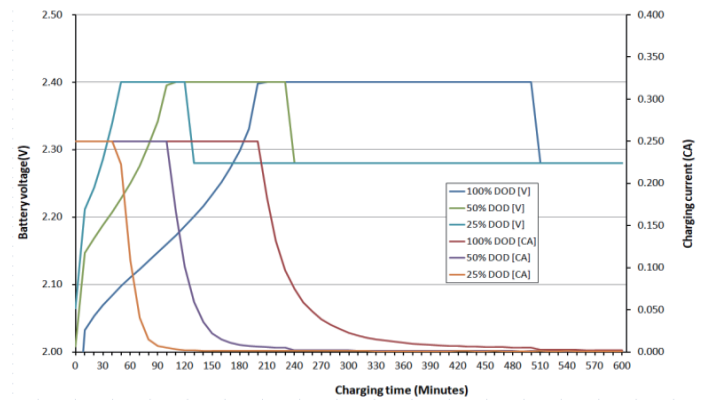


Relationship between Cycle life & Temp.



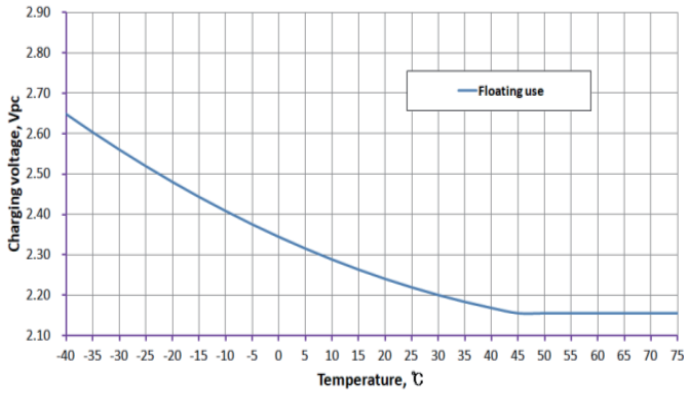
Relationship between Charging time & Current

(For Solar charging system)



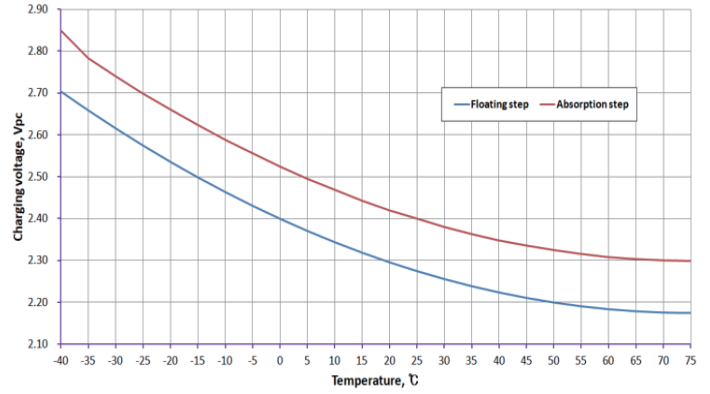
Voltage compensation according to Temperature

(Stand-by system)



Voltage compensation according to Temperature

(Solar system)



Constant current discharge ratings – Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	2,616	2,334	2,108	1,902	1,569	1,324	1,059	653	490	322	223	189
1.80V	3,501	2,971	2,548	2,254	1,852	1,541	1,187	713	530	350	239	200
1.75V	3,961	3,266	2,783	2,420	1,922	1,636	1,245	740	537	360	245	202
1.70V	4,354	3,567	2,971	2,548	2,000	1,688	1,283	769	552	370	248	204
1.65V	4,784	3,843	3,165	2,706	2,106	1,735	1,324	793	576	377	255	208
1.60V	5,301	4,174	3,382	2,883	2,227	1,815	1,372	817	594	392	255	211

Constant power discharge ratings – Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	4,838	4,316	3,904	3,532	2,943	2,498	2,007	1,255	943	622	433	368
1.80V	6,301	5,347	4,588	4,098	3,395	2,860	2,228	1,356	1,011	671	463	388
1.75V	6,929	5,813	4,978	4,368	3,509	3,019	2,325	1,401	1,024	687	471	392
1.70V	7,484	6,089	5,299	4,570	3,629	3,085	2,386	1,451	1,049	705	481	396
1.65V	8,011	6,625	5,555	4,810	3,782	3,148	2,492	1,494	1,090	723	496	404
1.60V	8,652	6,990	5,829	5,061	3,985	3,282	2,519	1,537	1,120	742	489	410