

Reliability is your Security

Utilizing the latest advance design Oxygen Recombination Technology, Yuasa have applied their 80 years experience in the lead acid battery field to produce the optimum design of Sealed Lead Acid batteries.

FEATURES

- Superb recovery from deep discharge.
- Electrolyte suspension system.
- Gas Recombination.
- Multipurpose: Float or Cyclic use.
- Usable in any orientation.
- Superior energy density.
- Lead calcium grids for extended life.
- Manufactured World wide.
- Application specific designs.

Technical Features

Sealed Construction

Yuasa's unique construction and sealing technique ensures no electrolyte leakage from case or terminals.

Electrolyte Suspension System

All NP batteries utilize Yuasa's unique electrolyte suspension system incorporating a microfine glass mat to retain the maximum amount of electrolyte in the cells. The electrolyte is retained in the separator material and there is no free electrolyte to escape from the cells. No gels or other contaminants are added.

Control of Gas Generation

The design of Yuasa's NP batteries incorporates the very latest oxygen recombination technology to effectively control the generation of gas during normal use.

Low Maintenance Operation

Due to the perfectly sealed construction and the recombination of gasses within the cell, the battery is almost maintenance free.



Terminals

NP batteries are manufactured using a range of terminals which vary in size and type. Please refer to details as shown.

Operation in any Orientation

The combination of sealed construction and Yuasa's unique electrolyte suspension system allows operation in any orientation, with no loss of performance or fear of electrolyte leakage.

Valve Regulated Design

The batteries are equipped with a simple, safe, low pressure venting system which releases excess gas and automatically reseals should there be a build up of gas within the battery due to severe overcharge. Note. On no account should the battery be charged in a sealed container.

General Specifications

Nominal Capacity (Ah)	NP38-12
20hr to 1.75vpc 30°C	38
10hr to 1.75vpc 20°C	35.3
5hr to 1.70vpc 20°C	32.3
1hr to 1.60vpc 20°C	22.8
Voltage	12
Energy Density (Wh.L.20hr)	83
Specific Energy (Wh.kg.20hr)	32
Int. Resistance (m.Ohms)	7.5
Maximum discharge (A)	300
Short Circuit current (A)	500
Dimensions (mm)	
Length	197
Width	165
Height overall	170
Weight (Kg)	14.2
Terminal	F
Layout	2
Terminal Torque Nm	2.45

NP SERIES - NP 38-12

Lead Calcium Grids

The heavy duty lead calcium alloy grids provide an extra margin of performance and life in both cyclic and float applications and give unparalleled recovery from deep discharge.

Long Cycle Service Life

Depending upon the average depth of discharge, over a thousand discharge/charge cycles can be expected.

Float Service Life

The expected service life is five years in float standby applications.

Separators

The use of the special separator material provides a very efficient insulation between plates preventing inter-plate short circuits and prohibiting the shedding of active materials.

Long shelf Life

The extremely low self discharge rate allows the battery to be stored for extended periods up to one year at normal ambient temperatures with no permanent loss of capacity.

Operating Temperature Range

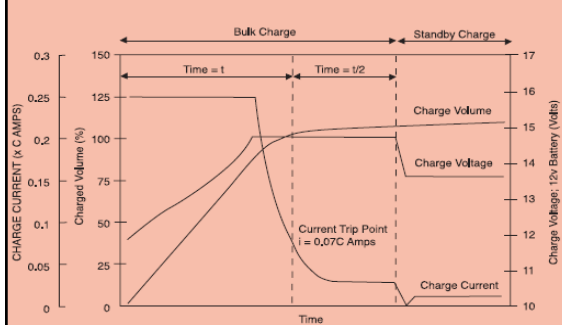
The batteries can be used over a broad temperature range permitting considerable flexibility in system design and location.

Charge – 15°C to 50°C

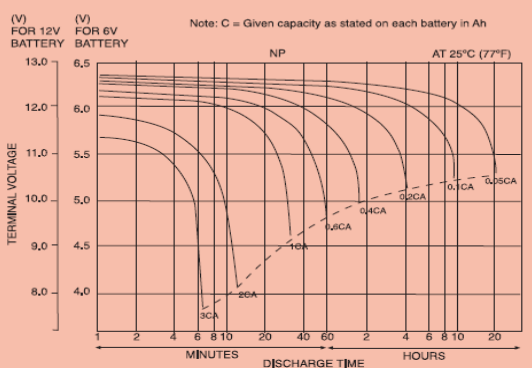
Discharge – 20°C to 60°C

Storage – 20°C to 50°C (fully charged battery)

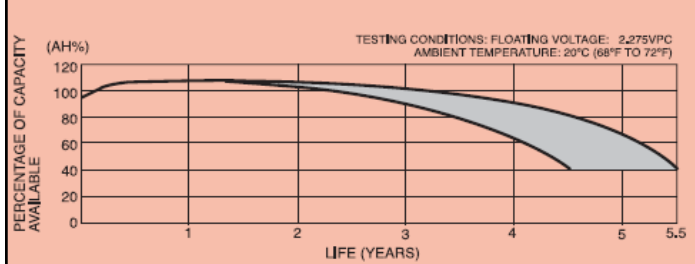
CYCLIC RECHARGE REGIME



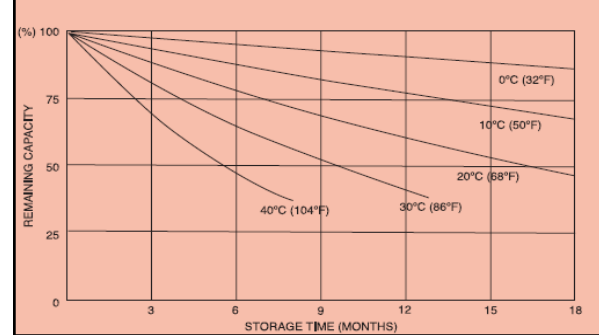
NP DISCHARGE CHARACTERISTICS CURVES AT 25°C (77°F)



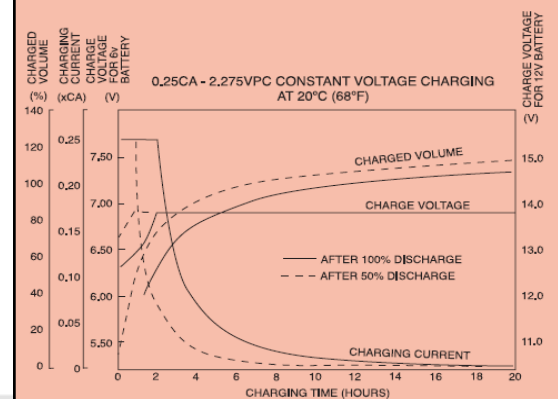
FLOAT SERVICE LIFE NP RANGE



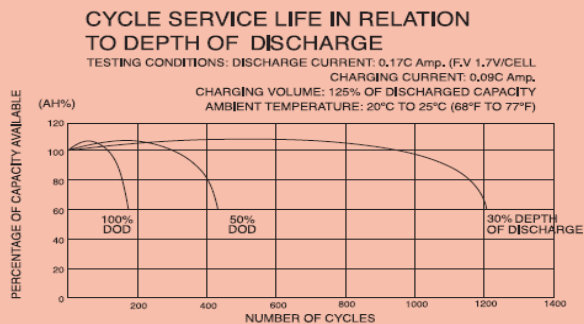
SELF DISCHARGE CHARACTERISTICS



FLOAT CHARGE CHARACTERISTICS



TYPICAL DISCHARGE CHARACTERISTICS NP RANGE



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Battery Range Summary

Genesis® NP batteries feature heavy duty thick lead calcium grids for years of dependable performance. The high energy density design, factory sealed case and leak proof construction ensures that these rechargeable sealed lead acid batteries are extremely reliable and virtually maintenance-free.

The batteries are completely sealed by the factory, meaning zero watering requirements. The Genesis NP battery design includes a low pressure relief valve to release any build-up of pressure within the case. This vent is completely self-resealing ensuring the highest possible rate of internal recombination is reached within each battery.

With an expected life span of three to five years in float applications at 77°F (25°C) ambient temperature, more than 1,000 discharge/recharge cycles can be realized depending on the DoD for each cycle. The internal grid design has been perfected over 10 decades of battery experience to yield a battery that can recover even after repeated deep discharges.

Features and Benefits

- Capacity range 1- 200Ah
- Lead calcium alloy
- Sealed design, no watering required
- 1,000+ cycles can be realized depending on Depth of Discharge (DoD)
- Heavy duty grids maximize life
- Three to five year life expectancy in float applications at 77°F (25°C) ambient temperature

Construction

- Heavy duty thick lead-calcium grids
- Sealed case for leak-proof operation
- Designed to promote internal recombination for longer life
- Integral pressure relief valve operates at 2-3 PSI and is self-resealing
- Flame retardant UL94-V0 case and cover available

Installation and Operation

- Space efficient footprint
- Compact, quick and simple installation process
- Three to five year life expectancy in float applications at 77°F (25°C) ambient temperature
- Low maintenance - no watering required
- Operating temperature: -5°F (-15°C) to 122°F (50°C); Recommended temperature: 68°F (20°C) to 86°F (30°C)

Standards

- Approved for air transportation (IATA A67)
- Recognized by UL File no. MH16464 and MH15740
- Non-spillable classification (UN2800)
- IEC 61056-1, IEC 60896-21 and IEC60896-22 compliant

General Specifications

Genesis® NPH Battery Series

Battery Type	FR Battery Type*	Volts	Nominal Capacity 10hr rate-Ah	Nominal Dimensions						Typical Weight		Layout	Terminal Illustration	Electrolyte (1.300 SG)			
				Length		Width		Height †		lbs	kg			Volume		Volume	
				in	mm	in	mm	in	mm					gal	L	lbs	kg
NPH3.2-12	NPH3.2-12FR	12	3.2	5.25	134	2.64	67	2.52	64	3.05	1.38	3	A/C	0.051	0.192	0.556	0.252

Genesis® NP Battery Series

Battery Type	FR Battery Type*	Volts	Nominal Capacity 20hr rate-Ah	Nominal Dimensions						Typical Weight		Layout	Terminal Illustration	Electrolyte (1.300 SG)			
				Length		Width		Height †		lbs	kg			Volume		Volume	
				in	mm	in	mm	in	mm					gal	L	lbs	kg
NP1-6	NP1-6FR	6	1.0	2.01	51	1.65	42	2.24	57	0.61	0.28	5	A	0.012	0.045	0.130	0.059
NP1.2-6	NP1.2-6FR	6	1.2	3.82	97	0.98	25	2.20	56	0.67	0.30	1	A	0.014	0.053	0.152	0.069
NP2.8-6	NP2.8-6FR	6	2.8	2.64	67	1.30	33	4.13	105	1.30	0.59	5	A/C	0.025	0.095	0.271	0.123
NP3-6	NP3-6FR	6	3.0	5.28	134	1.30	33	2.64	67	1.53	0.69	1	A	0.030	0.114	0.325	0.147
NP3.2-6	NP3.2-6FR	6	3.2	2.60	66	1.30	33	4.09	104	1.30	0.59	5	A	0.030	0.114	0.325	0.147
NP3.8-6	NP3.8-6FR	6	3.8	2.60	66	1.30	33	4.92	125	1.65	0.75	1	A	0.035	0.132	0.379	0.172
NP4-6	NP4-6FR	6	4.0	2.76	70	1.85	47	4.15	105	1.76	0.80	5	A/C	0.038	0.144	0.412	0.187
NP4.5-6	NP4.5-6FR	6	4.5	2.76	70	1.85	47	4.15	105	1.80	0.82	5	A/C	0.040	0.151	0.433	0.196
NP5-6	NP5-6FR	6	5.0	2.76	70	1.85	47	4.15	105	1.83	0.83	5	A/C	0.046	0.172	0.493	0.223
NP7-6	NP7-6FR	6	7.0	5.95	151	1.30	33	3.94	100	2.76	1.25	1	A/C	0.065	0.246	0.704	0.319
NP8.5-6	NP8.5-6FR	6	8.5	3.86	98	2.20	56	4.65	118	3.53	1.60	9	A/C	0.080	0.303	0.866	0.393
NP10-6	NP10-6FR	6	10.0	5.95	151	1.97	50	3.98	101	3.81	1.73	1	A/C	0.100	0.379	1.08	0.491
NP12-6	NP12-6FR	6	12.0	5.95	151	1.97	50	3.98	101	4.23	1.92	1	A/C	0.100	0.379	1.08	0.491
NP0.8-12	NP0.8-12FR	12	0.8	3.78	96	0.98	25	2.42	61	0.82	0.37	7	H/I	0.013	0.049	0.14	0.064
NP1.2-12	NP1.2-12FR	12	1.2	3.82	97	1.89	48	2.20	56	1.25	0.57	3	A	0.025	0.095	0.27	0.123
NP2-12	NP2-12FR	12	2.0	5.91	150	0.79	20	3.50	89	1.54	0.70	8	B	0.034	0.129	0.37	0.167
NP2-12-C	NP2-12CFR	12	2.0	7.17	182	0.93	24	2.40	61	1.61	0.73	6	L	0.035	0.132	0.38	0.172
NP2.3-12	NP2.3-12FR	12	2.3	7.01	178	1.38	35	2.64	67	2.23	1.01	1	A	0.036	0.136	0.39	0.177
NP2.6-12	NP2.6-12FR	12	2.6	5.28	134	2.64	67	2.60	66	2.79	1.27	3	A	0.045	0.170	0.49	0.221
NP2.9-12	NP2.9-12FR	12	2.9	3.11	79	2.20	56	4.13	105	2.73	1.24	1	A/C	0.053	0.201	0.57	0.260
NP3-12	NP3-12FR	12	3.0	5.20	132	1.30	33	4.13	105	2.60	1.18	1	A	0.053	0.201	0.57	0.260
NP3.4-12	NP3.4-12FR	12	3.4	5.28	134	2.64	67	2.64	67	3.06	1.39	3	A/C	0.059	0.223	0.64	0.290
NP4-12	NP4-12FR	12	4.0	3.54	90	2.76	70	4.21	107	3.74	1.70	1	A/C	0.075	0.284	0.81	0.368
NP4.5-12	NP4.5-12FR	12	4.5	3.54	90	2.76	70	4.21	107	3.75	1.70	1	A/C	0.083	0.312	0.89	0.405
NP5-12	NP5-12FR	12	5.0	3.54	90	2.76	70	4.21	107	3.88	1.76	1	A/C	0.085	0.322	0.92	0.417
NP7-12	NP7-12FR	12	7.0	5.95	151	2.56	65	3.94	100	5.29	2.40	4	A/C	0.120	0.454	1.30	0.589
NP9-12	NP9-12FR	12	9.0**	5.95	151	2.56	65	3.94	100	5.94	2.69	4	C/N	0.148	0.560	1.60	0.726
NP12-12	NP12-12FR	12	12.0	5.95	151	3.86	98	3.94	100	8.26	3.75	4	C	0.180	0.681	1.95	0.884
NP18-12	NP18-12FR	12	17.2	7.13	181	3.00	76	6.57	167	13.6	6.17	2	D/E	0.280	1.06	3.03	1.38
NP22-12	n/a	12	20.9	7.13	181	3.00	76	6.57	167	15.1	6.90	2	G	0.347	1.31	3.76	1.71
NP24-12	NP24-12FR	12	24.0	6.54	166	6.89	175	4.92	125	20.0	9.07	2	C/D/E	0.430	1.63	4.66	2.11
NP33-12	NP33-12FR	12	33.0	7.76	197	5.16	131	6.22†	158*	25.1	11.39	1	E/F	0.480	1.82	5.20	2.36
NP35-12	NP35-12FR	12	35.0	7.90	198	5.20	132	6.69	170	27.8	12.61	1	F	0.540	2.04	5.85	2.65
NP38-12	NP38-12FR	12	38.0	7.76	197	6.50	165	6.77	172	29.8	143.5	2	F/G	0.680	2.57	7.36	3.34
NP55-12	NP55-12FR	12	55.0	9.02	229	5.43	138	8.15*	207*	40.8	18.50	1	M/E	0.850	3.22	9.21	4.17

* FR: UL94-V0, Flame Retardant Case and Cover (Oxygen index 28)

** Nominal capacity 10hr rate-Ah

† Height is top cover. Overall height, including terminal is dependent on the terminal configuration.

Note: All dimensions are +/- 0.08 inches (2mm); Weights are +/- 5%

Torque Specifications:

M5 Bolt: 26.6 lbf.in (3Nm) +/- 5%

M6 Bolt: 44.31 lbf.in (5Nm) +/- 5%

M5 Receptacle: 35.4 lbf.in (4Nm) +/- 5%

M6 Receptacle: 65 lbf.in (6.8Nm) +/- 5%

Battery Range Summary

General Specifications Continued

Genesis® NP Battery Series

Battery Type	FR Battery Type*	Volts	Nominal Capacity 20hr rate-Ah	Nominal Dimensions						Typical Weight		Layout	Terminal Illustration	Electrolyte (1.300 SG)			
				Length		Width		Height †						Volume		Volume	
				in	mm	in	mm	in	mm	lbs	kg			gal	L	lbs	kg
NP65-12	NP65-12FR	12	65.0	13.78	350	6.54	166	6.85	174	50.1	22.72	2	F/G	1.10	4.16	11.91	5.40
NP75-12	NP75-12FR	12	75.0	10.20	259	6.65	169	8.19 [‡]	208 [‡]	57.0	25.85	1	M/G	1.25	4.73	13.54	6.14
NP90-12	NP90-12FR	12	90.0	11.97	304	6.61	168	9.02 [‡]	229 [‡]	66.51	30.17	1	M/G	1.50	5.68	16.24	7.37
NP100-12	NP100-12FR	12	100.0	12.95	329	6.85	174	8.43 [‡]	214 [‡]	72.62	32.94	1	J/G	1.60	6.06	17.33	7.86
NP120-12	NP120-12FR	12	120.0	16.02	407	6.81	173	9.25	235	84.68	38.41	1	J/G	1.90	7.19	20.58	9.33
NP150-12	NP150-12FR	12	150.0	19.02	483	6.69	170	9.49	241 [‡]	103.90	47.13	1	J/G	2.30	8.71	24.91	11.30
NP200-12	NP200-12FR	12	200.0	20.55	522	9.45	240	8.58	218 [‡]	139.92	63.60	3	K/O	3.40	12.9	36.82	16.70

DataSafe® NPX Battery Series

Battery Type	FR Battery Type*	Volts	Watts/Cell to 1.67 End Voltage	Nominal Capacity 20hr rate-Ah	Nominal Dimensions						Typical Weight		Layout	Terminal Illustration	Electrolyte (1.300 SG)			
					Length		Width		Height †						Volume		Volume	
					in	mm	in	mm	in	mm	lbs	kg			gal	L	lbs	kg
NPX-35-6	NPX-35-6FR	6	35W/Cell	8	5.95	151	1.30	33	3.94	100	3.15	1.43	1	A/C	0.048	0.182	0.520	0.236
NPX-50-6	NPX-50FR	6	50W/Cell	13	5.95	151	1.97	50	3.94	100	4.60	2.09	1	A/C	0.070	0.265	0.758	0.344
NPX-25	NPX-25FR	12	23W/Cell	5	3.54	90	2.75	70	4.21	107	4.30	1.95	1	A/C	0.065	0.246	0.704	0.319
NPX-35	NPX-35FR	12	35W/Cell	8	5.95	151	2.56	65	3.94	100	6.06	2.75	4	A/C	0.102	0.386	1.10	0.501
NPX-80	NPX-80FR	12	80W/Cell	20	7.13	181	2.39	76	6.57	167	13.87	6.29	2	D/E	0.250	0.946	2.71	1.23
NPX-100	NPX-100FR	12	95W/Cell	28	6.54	166	4.92	125	6.89	175	21.38	9.70	2	D/E	0.375	1.42	4.06	1.84
NPX-135	NPX-135FR	12	135W/Cell	33	7.76	197	5.16	131	6.22†	158†	26.32	11.94	1	E/F	0.438	1.66	4.74	2.15
NPX-150	NPX-150FR	12	150W/Cell	40	7.76	197	6.50	165	6.77	172	31.50	14.29	2	F/G	0.570	2.16	6.17	2.80

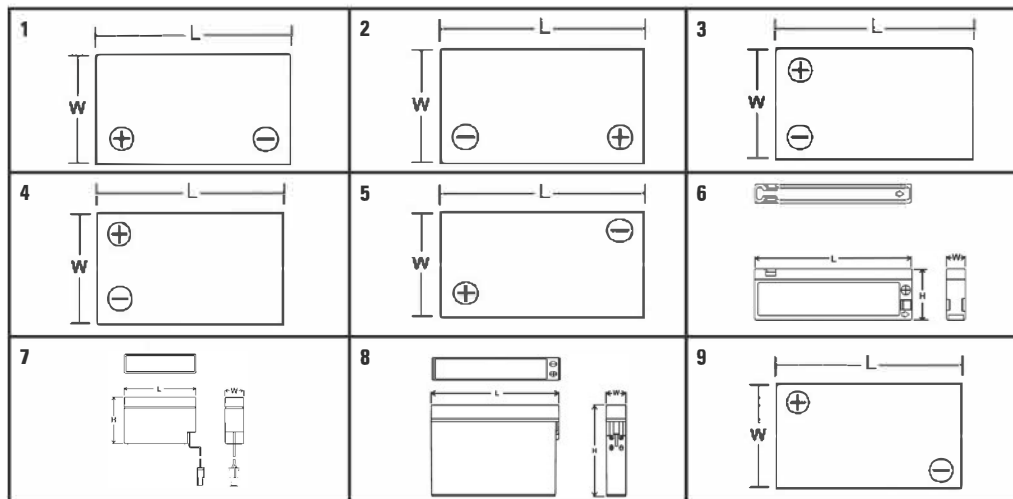
* FR: UL94-VO, Flame Retardant Case and Cover (Oxygen index 28)
† Height is top cover. Overall height, including terminal is dependent on the terminal configuration.
Note: All dimensions are +/- 0.08 inches (2mm); Weights are +/- 5%

Torque Specifications:
M5 Bolt: 26.6 lbf.in (3Nm) +/- 5%
M6 Bolt: 44.31 lbf.in (5Nm) +/- 5%
M5 Receptacle: 35.4 lbf.in (4Nm) +/- 5%
M6 Receptacle: 65 lbf.in (6.8Nm) +/- 5%

Terminal Illustrations

A in. (mm) 0.250 (6.35) 0.187 (4.75) 0.124 (3.15) 0.098 (2.49) 0.059 (1.50) 0.031 (0.79) 0.020 (0.51) 0.004 (0.10)	B in. (mm) 0.472 (11.99) 0.250 (6.35) 0.236 (5.99) 0.187 (4.75) 0.130 (3.30) 0.079 (2.01) 0.020 (0.51)	C in. (mm) 0.313 (7.95) 0.250 (6.35) 0.180 (4.57) 0.098 (2.49) 0.059 (1.50) 0.031 (0.79) 0.020 (0.51) 0.004 (0.10)	D in. (mm) 0.472 (11.99) 0.453 (11.51) 0.217 (5.51) 0.079 (2.01)
E in. (mm) 0.880 (21.84) 0.530 (13.46) 0.430 (10.92) 0.295 (7.49)	F in. (mm) 0.709 (18.01) 0.551 (14.00) 0.256 (6.50) 0.236 (5.99)	G in. (mm) 1.024 (26.01) 0.910 (23.11) 0.430 (10.92) 0.335 (8.51) 0.315 (8.00)	H in. (mm) 0.530 (13.46) 0.420 (10.67) 0.310 (7.87) 0.230 (5.84) 0.160 (4.06)
I in. (mm) 0.880 (21.84) 0.530 (13.46) 0.430 (10.92) 0.295 (7.49)	J in. (mm) 1.024 (26.01) 0.910 (23.11) 0.430 (10.92) 0.335 (8.51) 0.315 (8.00)	K in. (mm) 1.083 (27.5) 0.484 (12.3) 0.335 (8.5) 0.315 (8.0)	L in. (mm) 0.870 (22.01) 0.550 (13.97) 0.430 (10.92) 0.230 (5.84)
M in. (mm) 0.806 (20.47) 0.760 (19.30) 0.690 (17.53) 0.630 (16.00) 0.394 (10.01) 0.335 (8.50)	N in. (mm) 0.209 (5.30) 0.394 (10.0) 0.059 (1.50) 0.472 (12.0) 0.197 (5.00)	O in. (mm) 1.083 (27.5) 0.484 (12.3) 0.335 (8.5) 0.315 (8.0)	Part Number Reference: "T" = 0.250 in wide (reference C) "R" = Receptacle (reference E and G) "B" = Bolt-On (reference D, F, J, K and N) "W" = Wide (reference I) Terminal Tolerances are: ±0.02 in. for dimensions < 5mm ±0.04 in. for dimensions ≥ 5mm ±0.08 in. for all height dimensions unless otherwise specified
"B" M8 "Universal" Bolt Fastened Terminal	M5 Bolt	"B" M8 Bolt Fastened Terminal	

Layout Illustrations



Charging

- Standby use: Apply constant voltage charging at 2.28 volts per cell (or 2.25-2.30Vpc)
- Cyclic use: Apply constant voltage charging at 2.40-2.50 Vpc. Initial charging current should be set at less than 0.25CA
- Top charge: Product in storage (ambient temperature 77°F (25°C)) requires a top charge every six months. Apply constant voltage at 2.40 Vpc, initial charging should be set at less than 0.1CA for 15-20 hours

Temperature

- Keep within ambient temperatures of 5°F (-15°C) to 122°F (50°C) for both charging and discharging

Discharge

- Stop operation when voltage has reached the minimum permissible voltage per cell*. Recharge immediately
- Do not operate at 6CA or more current continuously

*Reference EnerSys Publication No. US-NP-AM

Storage

- Always store battery in a fully charged condition
- If battery is to be stored for a long period, apply a recovery top-charge every 6 months
- Store batteries in a dry and cool location

Incorporating Battery into Equipment

- Encase battery in a well ventilated compartment
- Avoid installing battery near heated units such as transformer
- House the battery in the lowest section of the equipment enclosure or rack to prevent unnecessary battery temperature rise

Others

- Avoid terminal short circuit
- DO NOT expose to open flame
- WARNING: Avoid exposure of the battery to any type of oil, solvent, detergent, petroleum-based solvent or ammonia solutions. These materials could potentially cause permanent damage to the battery jar and cover and will void the warranty