

GOLD SMF UPS

Product Data Sheet

Short Code: NS70L

General

Enertec Code:	20BUG-NS70L-BLG
Technology:	Wet_Sealed Maintenance Free
Alloy:	Silver/Calcium
Maintenance:	Sealed Maintenance Free
Short Code:	NS70L-BLG
Charge Eye:	Yes

Electrical Specifications

Voltage:	12.8
Capacity (20 hrs):	70 AH

Test Specifications

CCA SAE (-18°C):	550
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Transportation

Classified as:	Lead Acid
Batteries, wet, filled with acid, electrical storage	
UN number:	UN 2794
Classification (ADR/RID)	Class 8
Packing Group	Not Assigned



LONGER LIFE



PUNCHED GRID



HIGH HEAT



SILVER (Ag)
CALCIUM (Ca)

Dimensions / Mass

Max Length (L):	256 mm
Max Width (W):	173 mm
Max Height (H):	203 mm
Total Height (TH):	225 mm
Mass (Weight):	16.9 kg

Container

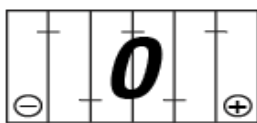
Flame Arrestor (FA)	Yes
Group Size:	D26L / NS70L
Case Material:	Polypropylene
Colour:	Grey
Bottom Hold Down:	B02
Terminal Type:	Tapered (1)
Layout:	RHP (0)

Terminal

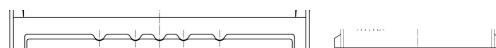


01

Layout

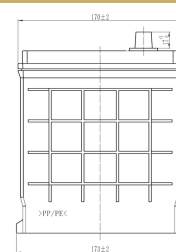
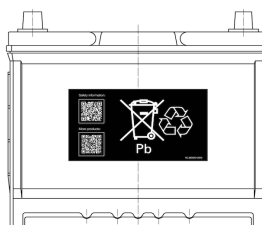
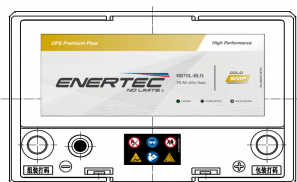


Hold-down



B02

Drawings



Grid Design

Silver - Calcium Duralife[®] Technology delivers consistent power reserves to meet any challenge. The grid alloy is formed of a positive Calcium - Silver grid and a negative Calcium grid, reducing the battery's water consumption to a minimum. Battery expected design life in a UPS application is between 3-5 years under the correct operating conditions.

Warranty

The **ENERTEC GOLD** battery is guaranteed for one year when used in UPS applications. The guarantee does not cover flat, or deeply discharged batteries, bent, burnt or broken terminals or casing, and if battery is fitted in applications for which it was not designed. The warranty covers the replacement of the defective battery with an equivalent new battery. This warranty does not in any way cover personal loss or damage owing to hidden defects. Before validating the warranty, Enertec Batteries (Pty) Ltd will recharge and test the battery. Enertec Batteries (Pty) Ltd or its associates, distributors, or dealers will be final after testing.

Float charging of Enertec GOLD standby power batteries

ENERTEC GOLD standby power batteries, can be ***maintained at a full charge by float charging at 13.5 volts / 27°C (80 °F) for long periods of time**. Battery electrolyte consists of a mixture of sulphuric acid (37%) at a full charge and water. Acid is heavier than water and will collect at the bottom of the cell, in stationary applications. To overcome this electrolyte stratification, it is recommended that the battery be given an equalisation charge at six-month intervals. An equalisation charge entails charging the battery (which is fully charged) at 15.8 volts / 27°C (80°F) for six hours. An equalisation charge promotes gassing which will effectively mix the electrolyte. Both float and equalisation voltages should be compensated for temperatures that are either above or below 27°C (80°F). For each degree below 27°C (80°F) add 0.033 (0.019) volts. Conversely for each degree rise above 27°C (80°F) subtract 0.033 (0.019) volts. Please note, however, that a battery has a large mass and does not respond quickly to changes in ambient temperature. It is also typical for standby batteries to be exposed to temperature swings and it may be necessary to select an average temperature value. The following table should be of help in applying temperature compensation to standby power applications.

***NOTE: 13.5 Volts will not recharge discharged batteries in cyclic applications.**

Battery Temp	Float Voltage	Equalisation Voltage
- 9.4 °C / 15 °F	14.7	16.7
- 6.7 °C / 20 °F	14.61	16.61
- 1.1 °C / 30 °F	14.42	16.42
4.4 °C / 40 °F	14.24	16.24
10 °C / 50 °F	14.06	16.06
15.6 °C / 60 °F	13.87	15.87
21.1 °C / 70 °F	13.69	15.69
27 °C / 80 °F	13.5	15.5
32.2 °C / 90 °F	13.32	15.32
37.6 °C / 100 °F	13.14	15.14
43.3 °C / 110 °F	12.96	14.96
48.9 °C / 120 °F	12.77	14.77

NOTE:

The above table is a guideline for exact charging at various temperatures. It may not be possible to adjust voltages on the existing charger. In this case, an average float voltage of 13.5 volts per 12 volt battery should be noted that 13.5 volts represents float voltage only. (ie: maintenance voltage once the battery is fully charged) A flat battery will not be fully recharged at 13.5 volts.

DURALIFE® Technology

DURALIFE®:

Duralife® Technology - (Battery separator technology)

1. Oxidation resistance increased by more than 40%;
2. Soluble organic carbon reduced by 50%;
3. Compared with other similar materials, the electric resistance is reduced by 10%;
4. The patented design of cross ribs on inner face improves the intensity of the separator;

New alloy Technology - (Grid technology)

1. The corrosion of the new alloy is 30% lower than that of the old alloy;
2. The corrosion interface of the new alloy is more uniform. And the grain structure is more compact resisting ACID corrosion.
3. **This technology can increase the battery's heavy duty life by more than 25%.**

Optimised frame design to minimise grid corrosion.



Carbon additives - (Lead paste formula)

The addition of highly conductive carbon materials can refine the crystal size of lead sulphate during high-rate discharge, effectively delaying the sulphation of the negative plate. **Cycle life performance is 2 times longer than that of ordinary batteries.**

Features:

- Ideal for high-temperature applications.
- Oxidation resistance improved by 40%
- Leachable organic carbons reduced by 50%
- 10% lower electrical resistance compared to similar polyethylene separators.
- Patented negative cross-rib design enhances separator strength.

Benefits:

- Extends battery life by up to 25%
- Reduces battery water loss by over 40% for antimony alloys and over 20% for non-antimony alloys.
- Improved envelope durability reduces early malfunction by up to 60%
- Reduces envelope punctures by more than 50% when used with expanded metal grids.

DURALIFE® PUNCHED GRIDS

“Power Inside Grid” is a patented technology that incorporates specific design features within the battery's internal grid structure (often a punched silver-calcium grid) to enhance its performance and durability.

Performance characteristics for 70 Amp Hour battery in UPS applications

OUTPUT VOLTS	12.2	12	11.5	11	10.5	10	9
Discharge at 2.5 Amps							
Run time Minutes	400	580	940	1100	1130	1150	1200
Amp / Hours	16.6	24.2	39.2	45.8	47	47.9	50
Watts / Batt	30.5	30	28.8	27.5	26.3	25	22.5
Watt / Hours	203	290	451	504	495	479	450
Discharge at 5 Amps							
Run time Minutes	160	300	470	525	560	570	600
Amp / Hours	13.3	25	39	44	47	47.5	50
Watts / Batt	61	60	57	55	52	50	45
Watt / Hours	163	300	446	481	485	475	450
Discharge at 10 Amps							
Run time Minutes	35	75	160	235	250	260	280
Amp / Hours	5.8	12.5	26.6	39	41	43	46
Watts / Batt	122	120	115	110	105	100	90
Watt / Hours	71	150	306	430	437	433	419
Discharge at 15 Amps							
Run time Minutes		60	110	140	150	155	162
Amp / Hours		15	27	35	37	39	40
Watts / Batt		180	172	165	157	150	135
Watt / Hours		180	315	385	393	387	364
Discharge at 25 Amps							
Run time Minutes		7	40	60	70	75	80
Amp / Hours		2.9	17	25	29	31	33
Watts / Batt		300	287	275	262	250	225
Watt / Hours		35	191	275	305	312	299
Discharge at 35 Amps							
Run time Minutes			28	43	50	52	55
Amp / Hours			16.3	25	29	30	32
Watts / Batt			402	385	365	350	315
Watt / Hours			187	295	304	303	288
Discharge at 50 Amps							
Run time Minutes			11	22	30	31	33
Amp / Hours			9.1	18.3	25	26	28
Watts / Batt			575	550	525	500	450
Watt / Hours			105	201	262	259	247
Discharge at 75 Amps							
Run time Minutes			10	14	16	17	20
Amp / Hours			12.5	17.5	20	21	25
Watts / Batt			862	825	787	750	675
Watt / Hours			143	192	209	212	225
Discharge at 100 Amps							
Run time Minutes				6	9	10	13
Amp / Hours				10	15	17	21
Watts / Batt				1100	1050	1000	900
Watt / Hours				110	157	166	194