



# SOLAR

## PHOTOVOLTAIC BATTERIES



### Sealed, Valve-Regulated, Gelled-Electrolyte Batteries for Renewable Energy Applications

#### Features

- Valve-regulated...
- Gelled electrolyte...
- Compu-cast, power path grids and computer-controlled oxide...
- Low stand loss...
- Tank formed plates...
- Rated non-spillable by ICAO, IATA and DOT...
- Made in the U.S.A...

#### Benefits

- Sealed construction eliminates periodic watering, corrosive acid fumes and spills.
- Electrolyte will not stratify. No equalization charging required.
- Increases durability and deep cycle ability for heavy demand applications.
- Less than 2% per month stand loss means little deterioration during transport and storage.
- Ensure voltage matching between cells.
- Transports easily and safely by air. No special containers needed.
- Ensures reliable service, support and quality.



QUALITY SYSTEM  
CERTIFIED TO  
**ISO 9001**  
**ISO/TS 16949**



UL Recognized Component

# Deka SOLAR<sup>®</sup> PHOTOVOLTAIC BATTERIES

The Deka Solar series of valve-regulated, gelled-electrolyte batteries is designed to offer reliable, maintenance-free power for renewable energy applications where frequent deep cycles are required and minimum maintenance is desirable.

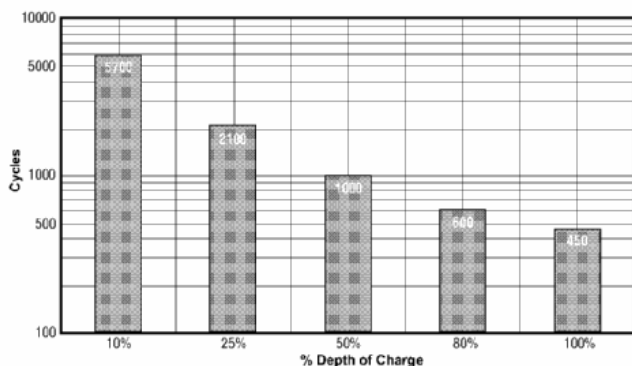
### Applications

Water pumping • Residential • Communications  
Cathodic protection • Remote monitoring • Refrigeration  
Lighting • Aids to navigation • Wind generation

### Specifications

Voltage ..... 12 volts nominal (8GGC2 is 6 volts)  
Plate alloy ..... Lead calcium  
Element, post ..... Threaded stud or "flag" terminal, forged bushing  
Container/cover ... Polypropylene  
Charge voltage ... Cycle 2.30 to 2.35; Float 2.25 to 2.30 per cell  
Electrolyte ..... Sulfuric acid thixotropic gel  
Vent ..... Self sealing

**Gel Cycle Life vs Depth of Discharge at +25°C (77°F)\*  
Based on BCI 2-hour Capacity**

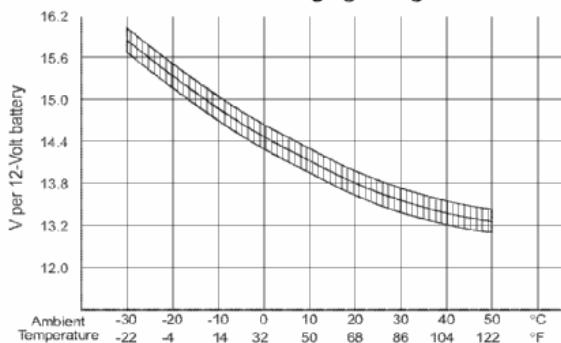


Cycle Chart applies to types with similar design characteristics, ex., U1, 22NF, 24, 27, 31.

The solar battery excels in cycling applications.

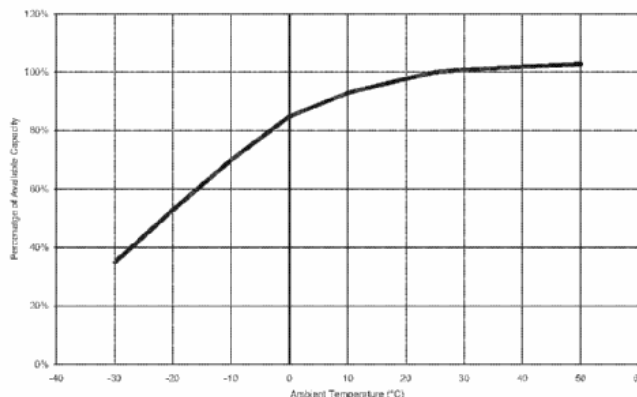
\*Dependent upon proper charging and ambient temperatures.

### Constant Charging Voltage



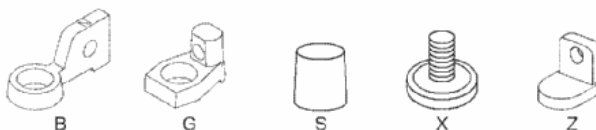
**Constant Charging Voltage:** Shown is the constant charging voltage in relation to the ambient temperature. The bandwidth shows a tolerance of  $\pm 30\text{mV/cell}$ . This constant voltage is suitable for continuous charging and cyclic operation. In a parallel standby mode it always keeps the battery in a fully charged state; in a cyclic mode, it provides for rapid recharging and high cyclic performance.

### Capacity vs. Operating Temperature



**Capacity vs. Operating Temperatures:** Above are the changes in capacity for wider ambient temperature range, giving the available capacity, as a percentage of the rated capacity, at different ambient temperatures. The curves show the behavior of the battery after a number of cycles.

### Terminal Information



### Discharge Amps per unit to 1.75VPC at 80°F (27°C)

Type No.	Foot-noles	Volts	Discharge Amps per unit to 1.75VPC at 80°F (27°C)										Approx. Wt. Lbs. (Kgs.)	Dimensions In (mm)						
			5 Min	10 Min	15 Min	20 Min	30 Min	60 Min	90 Min	3 Hr	6 Hr	8 Hr		20 Hr	24 Hr	48 Hr	100 Hr	L	W	H
8GU1	Z	12	74.7	54.3	44.6	38.8	31.9	21	15	8.50	4.67	3.56	1.58	1.33	0.73	0.36	23.4 (10.6)	7 $\frac{1}{2}$ (197)	5 $\frac{1}{2}$ (130)	7 $\frac{1}{2}$ (184)
8GU1H	HZ	12	74.7	54.3	44.6	38.8	31.9	21	15	8.50	4.67	3.56	1.58	1.33	0.73	0.36	23.4 (10.6)	8 $\frac{1}{2}$ (211)	5 $\frac{1}{2}$ (130)	7 $\frac{1}{2}$ (184)
8G22NF	G	12	120	86.7	69.1	60	47	31.8	23.2	13.30	7.65	5.74	2.55	2.15	1.16	0.58	37 (16.8)	9 $\frac{1}{2}$ (238)	5 $\frac{1}{2}$ (140)	9 $\frac{1}{2}$ (235)
8G24	GH	12	204	152	119	100	78	48.5	35	19.77	10.75	8.30	3.68	3.12	1.68	0.845	52 (23.5)	10 $\frac{1}{2}$ (276)	6 $\frac{1}{2}$ (171)	9 $\frac{1}{2}$ (251)
8G27	GH	12	242	185.3	142.5	118.8	90.25	57	41.5	23.30	12.67	9.80	4.32	3.67	1.99	0.99	62.7 (28.4)	12 $\frac{1}{2}$ (324)	6 $\frac{1}{2}$ (171)	9 $\frac{1}{2}$ (251)
8G30H	BH	12	266	199.5	161.5	137.8	104.5	64.5	47	26.20	14.20	11.00	4.88	4.10	2.15	1.08	69.5 (31.5)	12 $\frac{1}{2}$ (329)	6 $\frac{1}{2}$ (171)	9 $\frac{1}{2}$ (248)
8G31	HX	12	266	199.5	161.5	137.8	104.5	64.5	47	26.20	14.20	11.00	4.88	4.10	2.15	1.08	69.5 (31.5)	12 $\frac{1}{2}$ (329)	6 $\frac{1}{2}$ (171)	9 $\frac{1}{2}$ (238)
8GGC2	G	6	325	250	210	180	150	99	76	45.30	25.80	20.00	9.00	7.60	3.90	1.98	68.4 (31.0)	10 $\frac{1}{2}$ (260)	7 $\frac{1}{2}$ (181)	10 $\frac{1}{2}$ (276)
8G4D	HS	12	485	375	300	255	195	122	88	49.20	26.70	20.70	9.15	7.78	4.22	2.10	127 (57.6)	20 $\frac{1}{2}$ (527)	8 $\frac{1}{2}$ (216)	10 (254)
8G8D	HS	12	600	460	370	315	245	150	105	60.60	33.00	25.50	11.25	9.54	5.18	2.65	157 (71.2)	20 $\frac{1}{2}$ (527)	11 (279)	10 (254)

ALL RATINGS ARE AFTER 15 CYCLES AND CONFORM TO B.C.I. SPECIFICATIONS.

**IMPORTANT CHARGING INSTRUCTIONS: WARRANTY VOID IF OPENED OR IMPROPERLY CHARGED.** Do not install in a sealed container. Constant under or overcharging will damage any battery and shorten its life! Use a good constant potential, voltage-regulated charger. For 12-volt batteries, charge to at least 13.8 volts but no more than 14.1 volts at 68°F (20°C). For 6-volt batteries, charge to at least 6.9 volts but no more than 7.05 volts at 68°F (20°C). The open circuit voltage of a fully charged 12-volt battery is 12.8V at 68°F (20°C). However, as the battery charges, the building internal pressure (voltage) causes resistance to the charge. Therefore, the on-charge voltage must be higher (at least 13.8V) to overcome this internal pressure (voltage) during charging.

### Footnotes:

B - Flag terminal w/ 3/8" diameter hole  
G - Offset post w/ horizontal hole, stainless steel 5/16" bolt & hex nut  
H - Includes handles

S - SAE "automotive type" post  
X - 3/8" x 16 stainless steel stud posts  
Z - Terminals have round holes

Batteries manufactured in polypropylene cases and covers.

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