

# SOLAR

SOLAR PHOTOVOLTAIC BATTERIES  
BATTERIES PHOTOVOLTAÏQUES SOLAIRES

Eastpenn  
CANADA

## SOLAR PHOTOVOLTAIC BATTERIES

### FOR RENEWABLE ENERGY APPLICATIONS



#### Features

- ▶ Valve-regulated...
- ▶ Gelled electrolyte...
- ▶ Compu-cast, power path grids and computer-controlled oxide...
- ▶ Low stand loss...
- ▶ Individual plate formation...
- ▶ 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.

**VALVE-REGULATED GELLED-ELECTROLYTE**

# EAST PENN CANADA

A subsidiary of East Penn Manufacturing Co., Inc.

165 Harwood Ave. North, Ajax ON L1Z 1L9

Tel: 905-427-2718 Fax: 905-427-0854

Email: sales@eastpenncanada.com



## SOLAR PHOTOVOLTAIC BATTERIES

The East Penn 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.

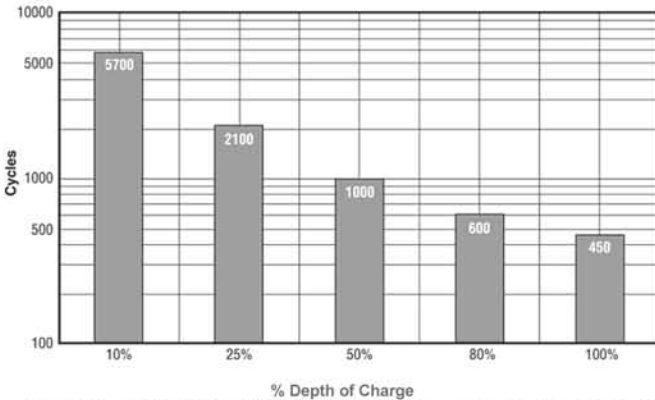
### Applications

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  
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



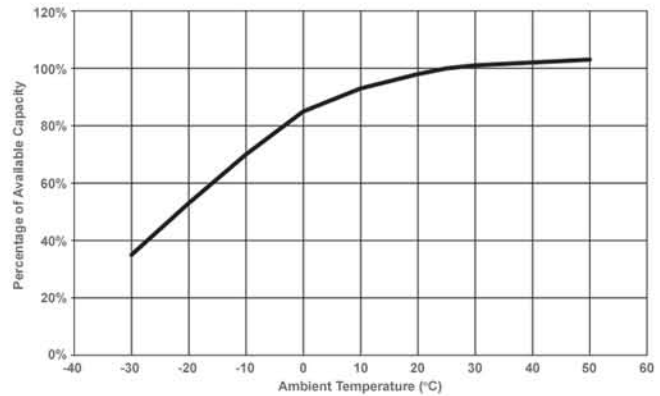
Cycle Chart applies to types with similar design characteristics, ex., U1, 22NF, 24, 27, 31.

The solar battery excels in cycling applications.  
\*Dependent upon proper charging and ambient temperatures.

Photovoltaic Charging Parameters		
Bulk Charge	Max Current (amps)	30% of 20 Hr Rate
Absorption (Regulation) Charge	Constant Voltage	2.35 - 2.40 vpc
Float Charge	Constant Voltage	2.25 - 2.30 vpc
Equalize Charge	Constant Voltage	2.40 - 2.45 vpc
Temperature Coefficient	0.005 mv / °C	

Cut-off parameters per charge & equalize intervals are application specific and will vary dependent upon site specific characteristics such as temperature, days of autonomy, array to load ratio, ect.

### 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



Type No.	Footnotes	Volts	Discharge Amps per unit to 1.75VPC at 77°F (25°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	4,Y	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 1/2 (197)	5 1/2 (130)	7 1/4 (184)
8GU1H	4,17,Y	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 3/8 (211)	5 1/2 (130)	7 1/4 (184)
8G22NF	4,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 3/8 (238)	5 1/2 (140)	9 1/4 (235)
8G24	4,17,G	12	204	152	119	100	78	48.5	35	19.77	10.75	8.30	3.68	3.12	1.68	0.845	52 (23.6)	10 1/2 (276)	6 1/2 (171)	9 1/4 (235)
8G27	4,17,G	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 3/4 (324)	6 1/2 (171)	9 1/4 (235)
8G30H	4,17,B	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 3/8 (329)	6 1/2 (171)	9 1/4 (248)
8G31	4,X	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 3/8 (329)	6 1/2 (171)	9 1/4 (238)
8GGC2	4,17,G,H	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 1/2 (260)	7 1/2 (181)	11 (279)
8G4D	4,17	12	485	375	300	255	195	122	88	49.20	26.70	20.70	9.15	7.78	4.22	2.10	127 (57.5)	20 1/2 (527)	8 1/2 (216)	10 (254)
8G8D	4,17	12	600	460	370	315	245	150	105	60.60	33.00	25.50	11.25	9.54	5.18	2.65	157 (71.1)	20 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. The open circuit voltage of a fully charged 12-volt battery is 12.8V at 68°F (20°C).

Footnotes:  
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.

Warranty: one year free replacement

WEST: 1-800-363-3166 CENTRAL: 1-800-668-9303 EAST: 1-800-361-5935

Copyright 2006 © East Penn Canada Form: S103