



# PHOTOVOLTAIC BATTERIES



The **DEKA SOLAR DOMINATOR**<sup>®</sup> Valve-Regulated Gel electrolyte battery is designed to offer reliable, maintenance-free power. It is available as a single cell or system. The gelled electrolyte protects the battery plates making it ideal for renewable energy deep cycle applications.

## FEATURES AND BENEFITS

Valve-Regulated	Sealed construction eliminates watering, corrosive acid fumes, and spills
Gelled Electrolyte	Electrolyte will not stratify
Positive & Negative Plate	Lead calcium
Self-Discharge	Less than 2% per month stand loss means little deterioration during transport and storage
Exclusive IPF <sup>®</sup> Technology	Optimizes power capacity, cell consistency, and long-term reliability

## APPLICATIONS

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



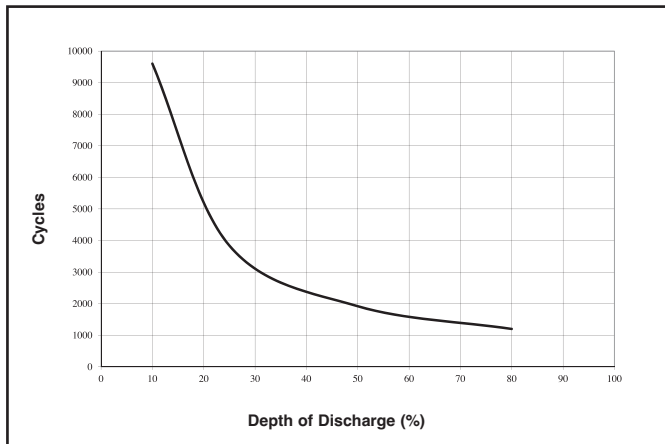
QUALITY SYSTEM  
CERTIFIED  
**ISO 9001**  
**ISO/TS 16949**  
ENVIRONMENTAL  
SYSTEM CERTIFIED  
**ISO 14001**



Photovoltaic Charging Parameters		
Bulk Charge	Max Current (amps)	15% of 20 Hr Rate
Absorption (Regulation) Charge	Constant Voltage	2.37 - 2.42 vpc
Float Charge	Constant Voltage	2.25 - 2.30 vpc
Equalize Charge	Constant Voltage	2.43 - 2.48 vpc
Temperature Coefficient	0.003 v / °C	

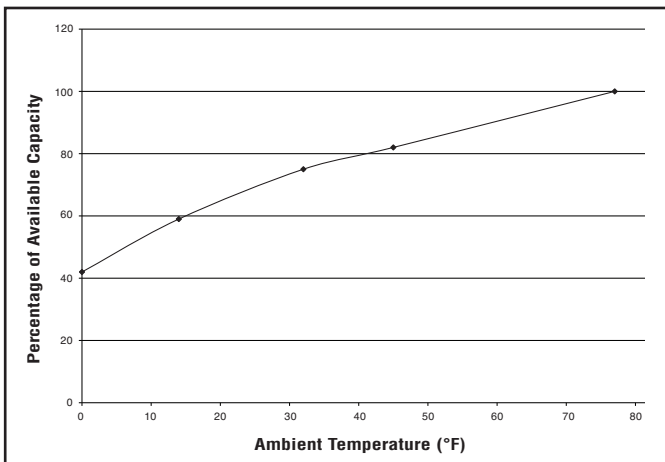
Cut-off parameters per charge & equalize intervals are application specific and will vary dependent upon site specific characteristics such as temperature, days of autonomy, array to load ratio, etc.

Cycle Life vs Depth of Discharge at +25°C (77°F)\*



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

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.

Cell Performance – Photovoltaic Batteries

Amp Hours at 77°F (25°C) to 1.75 v.p.c.					
Cell Type	10	20	24	100	Cell Weights**
G45-5	95	104	107	127	22
G45-7	141	155	159	189	29
G45-9	188	207	212	252	37
G45-11	236	259	265	316	45
G45-13	283	311	319	379	54
G45-15	330	362	371	441	67
G45-17	377	414	424	505	73
G45-19	424	466	477	568	82
G45-21	472	518	531	632	90
G45-23	518	569	583	694	99
G45-25	565	621	636	757	108
G45-27	613	673	689	821	117
G45-29	660	725	743	884	125
G45-31	707	776	795	946	134
G45-33	754	828	848	1010	143

Amp Hours at 77°F (25°C) to 1.75 v.p.c.					
Cell Type	10	20	24	100	Cell Weights**
G75-5	158	173	177	211	34
G75-7	236	259	265	316	46
G75-9	314	345	353	421	59
G75-11	392	431	442	526	71
G75-13	472	518	531	632	85
G75-15	550	604	619	737	105
G75-17	628	690	707	841	115
G75-19	707	776	795	946	130
G75-21	786	863	884	1052	142
G75-23	864	949	972	1157	150
G75-25	942	1035	1060	1262	162
G75-27	1021	1121	1148	1367	174
G75-29	1100	1208	1237	1473	182
G75-31	1178	1294	1326	1578	193
G75-33	1257	1380	1414	1683	206

Amp Hours at 77°F (25°C) to 1.75 v.p.c.					
Cell Type	10	20	24	100	Cell Weights**
G105-5	220	242	248	295	45
G105-7	330	362	371	441	63
G105-9	440	483	495	589	81
G105-11	550	604	619	737	100
G105-13	660	725	743	884	117
G105-15	769	845	866	1030	138
G105-17	880	966	990	1178	155
G105-19	990	1087	1114	1326	173
G105-21	1100	1208	1237	1473	192
G105-23	1209	1328	1360	1620	210
G105-25	1319	1449	1484	1767	229
G105-27	1430	1570	1608	1915	247

\*\* = Cell weight does not include steel tray



An East Penn Manufacturing Co. Subsidiary  
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