



PHOTOVOLTAIC BATTERIES

UNIGY II MODULES



The DEKA UNIGY II LINE features two module designs with a wide range of capacities and sizes to fit the requirements of renewable energy applications. These modules are constructed using the finest quality materials and state-of-the-art manufacturing techniques enhancing their performance in these demanding applications.

Built-in advanced features such as:

- “Two Way” Post design is lead plated solid copper providing a large contact area with front access bolting for easier installation and maintenance.
- Pure Virgin Lead (99.99%) positive grid alloy is very resistant to corrosion/growth.
- Positive and Negative plates are formed with IPF® technology to ensure plates operate at 100% capacity.
- Collapsible bottom bridge accommodates for normal plate growth, reducing stress on battery post seals.
- Air Gap between cells has been designed to reduce foot print while maintaining required cooling.
- Front safety shield design easily slides on and off without tools for quicker assembly.

DEKA UNIGY II INTERLOCK™ SYSTEM utilizes:

- Interlocking modules require only front access bolts for mounting, providing quick and safe installation.
- Modules are coated with acid resistant epoxy powder paint.
- Each module has mounting holes for grounding option.
- Standard one-piece base enables it to be used as anchoring template. Anchors can be drilled and installed with base in place.
- Meets UBC Zone 4 certification of ground level in most applications up to 8 modules high.

DEKA UNIGY II NON-INTERLOCK SYSTEM utilizes:

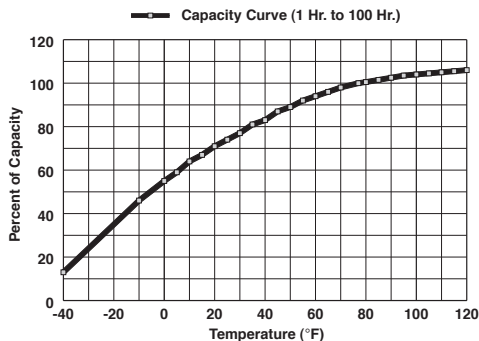
- Non-Interlock modules require front and rear access bolts for mounting, providing easy and safe installation.
- Modules are coated with acid resistant epoxy powder paint.
- Each module has mounting holes for grounding option.
- Standard two-piece base enables anchors to be drilled and installed with base in place.
- Meets UBC Zone 4 certification of ground level in most applications up to 8 modules high.

FEATURES AND BENEFITS

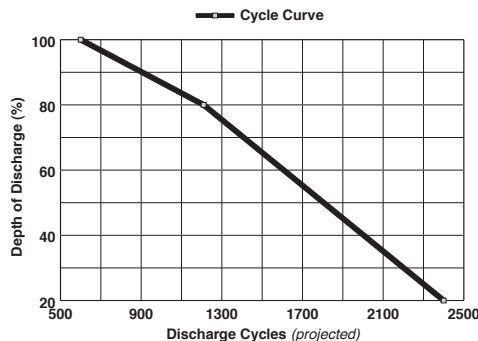
Container and Cover	Impact-Resistant Polypropylene, UL 94 V-0, 28% L.O.I.
Separators	Microporous Glass Mat
Individual Plate Formation	Shipped at 100% Capacity
Cycle Life	2400 cycles @ 20% DOD

CELL TYPE	Ah Ratings at 77°F (25°C) to											
	1.75 v.p.c.				1.81 v.p.c.				1.84 v.p.c.			
	10 HR.	20 HR.	24 HR.	100 HR.	10 HR.	20 HR.	24 HR.	100 HR.	10 HR.	20 HR.	24 HR.	100 HR.
AVR45-5	96.0	107	110	121	93.4	105	108	120	91.4	103	106	118
AVR45-7	144	161	165	181	140	157	162	180	137	154	159	177
AVR45-9	192	214	220	242	187	210	215	239	183	206	212	236
AVR45-11	240	268	275	302	234	262	269	299	229	257	265	294
AVR45-13	288	322	330	363	280	314	323	359	274	309	318	353
AVR45-15	336	375	385	423	327	367	377	419	320	360	371	412
AVR45-17	384	429	440	484	374	419	431	479	366	412	424	471
AVR45-19	432	482	495	544	420	471	485	539	411	463	477	530
AVR45-21	480	536	550	605	467	524	539	599	457	515	530	589
AVR45-23	528	590	605	665	514	576	592	658	503	566	583	648
AVR45-25	576	643	660	726	561	629	646	718	549	618	636	707
AVR45-27	624	697	715	786	607	681	700	778	594	669	689	766
AVR45-29	672	750	770	847	654	733	754	838	640	721	742	824
AVR45-31	720	804	825	907	701	786	808	898	686	772	795	883
AVR45-33	768	858	880	968	747	838	862	958	731	824	848	942
AVR75-5	164	185	192	209	154	165	168	200	148	165	168	196
AVR75-7	246	278	288	314	230	257	264	300	230	257	264	294
AVR75-9	328	371	384	418	312	350	360	400	302	347	360	391
AVR75-11	410	463	480	523	395	443	456	500	379	422	432	489
AVR75-13	487	539	552	627	467	515	528	600	457	512	528	587
AVR75-15	573	635	648	732	543	608	624	699	533	604	624	685
AVR75-17	661	728	744	836	619	700	720	799	609	680	696	783
AVR75-19	737	820	840	941	697	772	792	899	681	769	792	881
AVR75-21	819	913	936	1046	779	865	888	999	763	844	864	978
AVR75-23	901	1006	1032	1150	855	958	984	1099	835	934	960	1076
AVR75-25	983	1099	1128	1255	933	1047	1080	1199	911	1026	1056	1174
AVR75-27	1066	1191	1224	1359	1009	1123	1152	1299	989	1099	1128	1272
AVR75-29	1148	1284	1320	1464	1086	1215	1248	1399	1060	1191	1224	1370
AVR75-31	1230	1377	1416	1568	1168	1308	1344	1499	1142	1284	1320	1468
AVR75-33	1312	1469	1512	1673	1240	1380	1416	1599	1214	1356	1392	1565
AVR95-7	298	339	348	403	294	334	345	399	289	329	341	394
AVR95-9	398	452	464	538	392	445	460	532	386	439	454	526
AVR95-11	497	565	580	672	490	556	575	666	482	549	568	657
AVR95-13	596	678	696	807	589	667	690	799	579	659	681	789
AVR95-15	696	791	812	941	687	778	804	932	675	768	795	920
AVR95-17	795	904	928	1076	785	890	919	1065	772	878	908	1052
AVR95-19	895	1016	1044	1210	883	1001	1034	1198	868	988	1022	1183
AVR95-21	994	1129	1160	1345	981	1112	1149	1331	965	1098	1135	1315
AVR95-23	1093	1242	1276	1479	1079	1223	1264	1464	1061	1207	1249	1446
AVR95-25	1193	1355	1392	1613	1177	1334	1379	1597	1158	1317	1362	1578
AVR95-27	1292	1468	1508	1748	1275	1445	1494	1731	1254	1427	1476	1709
AVR95-29	1392	1581	1624	1882	1373	1557	1609	1864	1351	1537	1590	1841
AVR95-31	1491	1694	1740	2017	1471	1668	1724	1997	1447	1646	1703	1972
AVR95-33	1591	1807	1856	2151	1569	1779	1839	2130	1544	1756	1817	2104
AVR125-33	2104	2367	2423	2930	2073	2336	2392	2895	2043	2301	2357	2853

Temperature Effects on Capacity



Depth of Discharge vs. Cycles



"POWERED FOR PERFORMANCE"®
EAST PENN manufacturing co., inc.

Lyon Station, PA 19536-0147 • Fax: 610-682-4781
 Domestic & International Inquiries Call: 610-682-3263
 www.eastpennunigy.com • e-mail: sales@eastpennunigy.com



Domestic Inquiries Call: 1-800-372-9253
 www.mkbattery.com • e-mail: sales@mkbattery.com

No part of this document may be copied or reproduced, electronically or mechanically, without written permission from the company.

MORE POWER - LESS SPACE™



unigy II

Tomorrow's energy systems...today

SPACESAVER™ SYSTEMS



INTERLOCK™ MODULE

Module requires only front access bolts for mounting.

NON-INTERLOCK MODULE

Module has front and rear access bolts for mounting.



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

Made in
U.S.A.



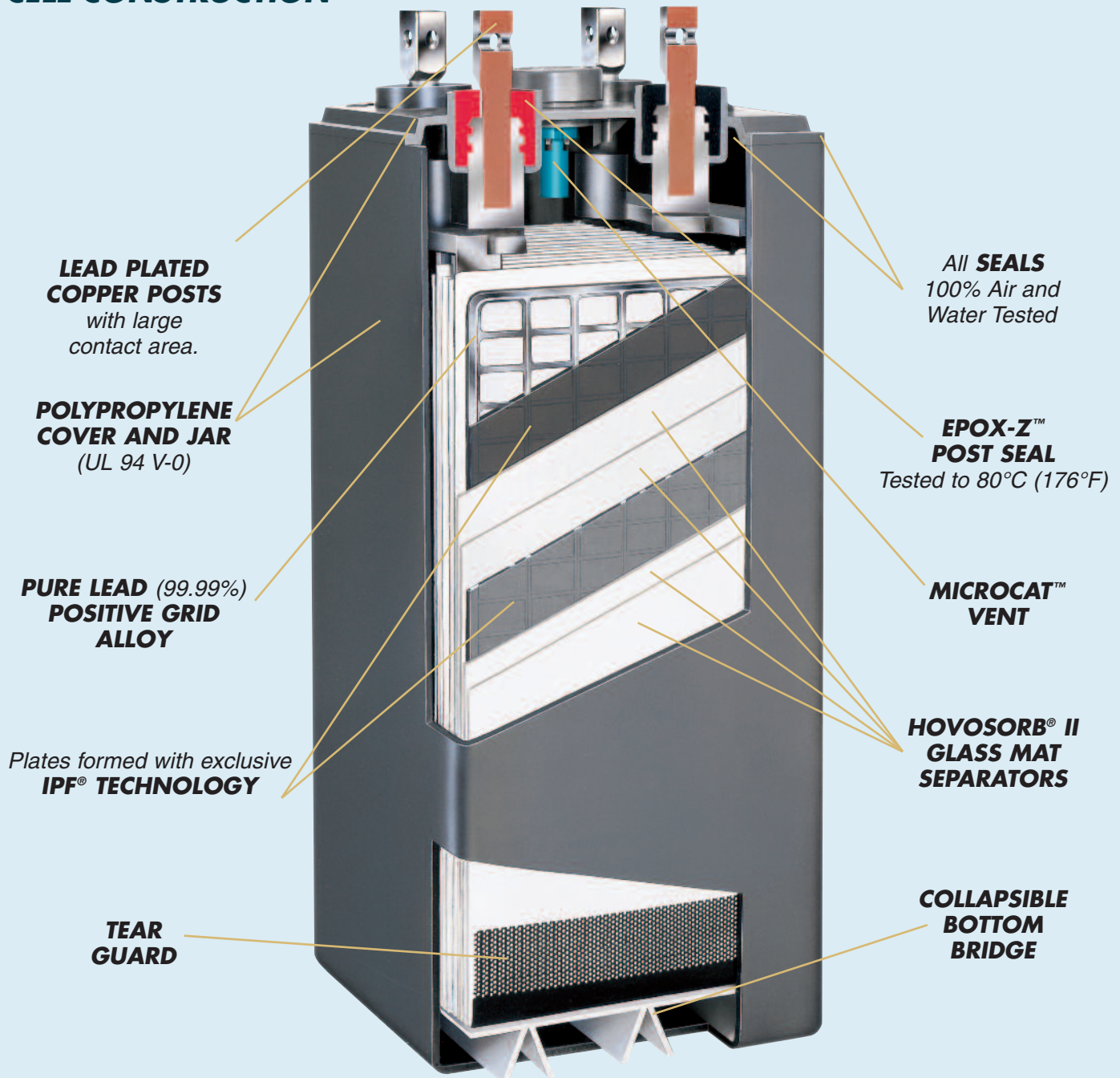
NON-INTERLOCK & INTERLOCK™ MODULES

SPACESAVER™ SYSTEMS

DEKA UNIGY II SPACESAVER™ BATTERIES are constructed using the finest quality materials and state-of-the-art manufacturing techniques and are known for their high reliability and superior performance. This line of batteries utilizes a smaller footprint to save space while providing optimal power. The new reduction in space enables less restriction for ground and vertical space confinements and meets UBC 97 Zone 4 (Interlock™ only) specifications, certified up to 8 modules high. Assembly is quick and easy with a simplified, yet advanced layout configuration and "two-way" post design allowing quick connector assembly and optimized current transfer.

DEKA UNIGY II SPACESAVER™ BATTERY SYSTEMS are ideal for a variety of applications: telecommunications, switchgear control, cellular radio, renewables, railroad signs/communications and uninterruptible power sources (UPS).

CELL CONSTRUCTION



SYSTEM CONFIGURATIONS

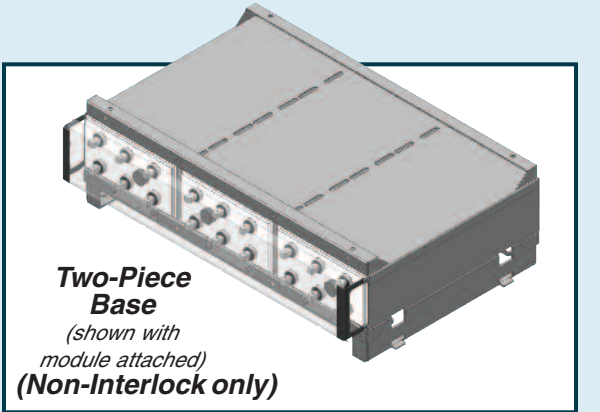
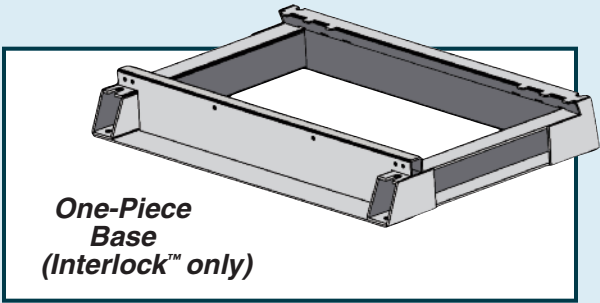
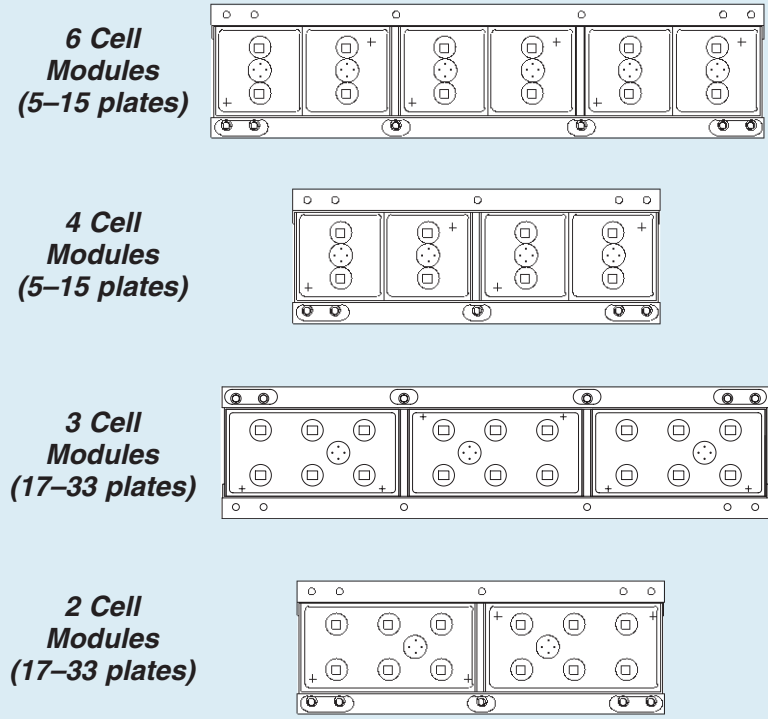
- 24- and 48-volt for Telecommunications
- 120-, 240-, and 480-volt for UPS and Switchgear Control

FEATURES AND BENEFITS

- Reengineered **AIR GAP** between cells reduces footprint while maintaining required cooling
- **FRONT SHIELD** design allows for quicker assembly without tools
- **TWO-WAY POST** design allows for easier connector installation
- **MICROCAT™ VENT** improves high temperature performance (standard on 95 and 125 models only)
- **TWO-PIECE BASE** (Non-Interlock) meets UBC 97 Zone 2B top of building requirements – Zone 4 to 8 modules high on ground level
- **ONE-PIECE BASE** meets UBC 97 (*Interlock™* only) Zone 4 top of building requirements – certified to 8 modules high, top of building

- **AVR95 CELL** delivers up to 28% more power in the same space compared to larger competitor models while maintaining a 20-year design life
- Patented design (**INTERLOCK™ MODULE** only) allows for front access bolting – rear bolting is eliminated
- New 48-volt AVR95-33 is reduced by 3.5" in height and 6" in width compared to previous Unigy offering
- AVR95-33 is rated at 1520 A.H. at the 8 hour rate, to 1.75 volts per cell (vpc)
- All plates are individually formed using exclusive **IPF™ TECHNOLOGY** allowing systems to be shipped at 100% rated capacity.

EPM Unigy II products are designed to meet the requirements of IEC 60896-21/22, BS 6290 and SR-4228.





NON-INTERLOCK & INTERLOCK™ MODULES

SPACESAVER™ SYSTEMS

PRODUCT INFORMATION

Module/Cell

Configurations: All Unigy II cells are inserted into the modules in a **STANDARDIZED DROPPING PATTERN** for easier system installation.

Container Material: **FLAME RETARDANT POLYPROPYLENE** – This material is a V-0 halogenated polypropylene. This material has an LOI (Limiting Oxygen Index) of greater than or equal to 28%.

Termination: **TOP OR SIDE TERMINATION** is available as a standard feature at no additional cost.

Module Size: Numerous module sizes are available:

Interlock™ and Non-Interlock:

- 6-cell module for 5 to 15 plate cells
- 3-cell module for 17 to 33 plate cells

Interlock™ (only):

- 4-cell module for 5 to 15 plate cells
- 2-cell module for 17 to 33 plate cells

These options offer more choices in configuring the right battery system, provides more flexibility when selecting configurations, and saves premium space while providing optimal power.

Maximum Modules: Modules can be stacked up to eight modules high.

Connector Package: Standard 1CU connector package meets discharge rates as low as the two hour rate to 1.75 vpc. Optional packages are available to provide the proper hardware for higher rate applications.

Base Support: See information on inside right page of this brochure.

OPTIONAL ACCESSORIES

- **Top Mounting Plates for Electronics** – used to bolt electronics on top of battery/system.
- **System Current Shunt Kit** – a device used to test/monitor the condition of the battery.
- **High Voltage Buss Bar Kit** – permits multiple battery strings to be connected for easy distribution to system connections.
- **Floor Loading Plates** – distributes system weight evenly.



**48-volt Deka Unigy II
AVR95 INTERLOCK™ System**

"POWERED FOR PERFORMANCE"™

DISTRIBUTED BY:

EAST PENN manufacturing co., inc.

Lyon Station, PA 19536-0147 • Phone: 610-682-6361 • Fax: 610-682-4781

Order Department Hotline: 610-682-3263

www.eastpennunigy.com • e-mail: sales@eastpennunigy.com

E.P.M. Form No. 0975 Rev. 3/11 © 2011 by EPM Printed in U.S.A.

All data subject to change without notice.
No part of this document may be copied or reproduced, electronically or mechanically, without written permission from the company.