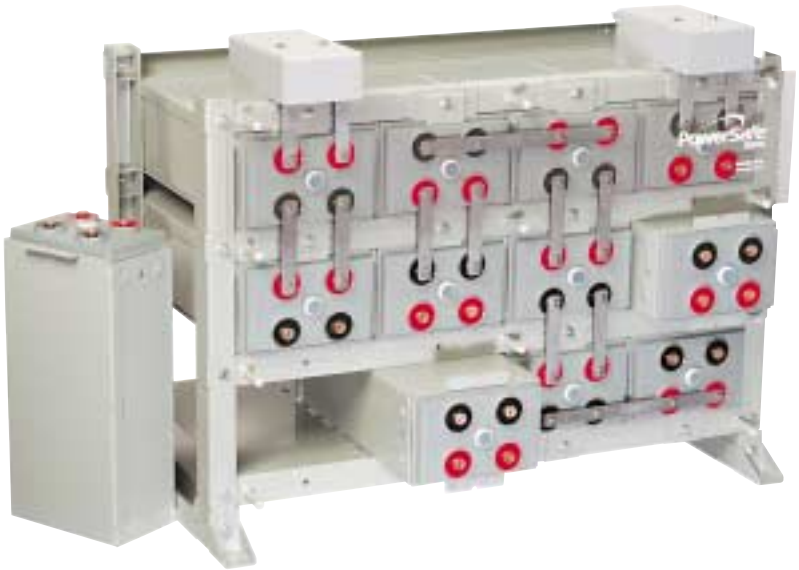
PowerSafe DDm



RANGE SUMMARY

EnerSys™
Power/Full Solutions™

Publication No: EN-DDm-RS-001. January 2003

Introducing the PowerSafe DDm

PowerSafe DDm

The **PowerSafe** DDm range offers an ideal solution for large capacity valve regulated lead-acid battery requirements. **PowerSafe** DDm's steel can (module) design concept, with it's integral racking system, provides a cost effective battery system with a compact, quick and simple installation process.

The PowerSafe DDm battery system's cutting-edge technology incorporates an enhanced cell design with a superior racking system. The enhanced cell incorporates thicker positive plates for longer life. The welded/epoxy, dual post seal design provides the highest integrity seal in the industry. The large copper post design also enhances the high rate performance.

Cells are encased in dedicated protective steel cans (modules) that maintain constant, uniform compression for the life of the cell. The easy to assemble racking system provides total flexibility for system configuration and allows fast, simple installation even in the most difficult locations.

PowerSafe DDm, with its optimised recombination technology and extra thick plates, provides excellent performance and service life across a wide range of applications including: telecommunications, power generation/distribution sites, and UPS.

Construction

- Positive plate - Thick lead-calcium grids minimise corrosion and prolong life.
- Negative plate - Balanced lead-calcium grids optimise recombination efficiency.
- AGM separator - Mechanically strong, low electrical resistance, microporous glass fibre which completely absorbs the electrolyte into its structure.
- Container/Cover - Polypropylene standard. Optional flame retardant polypropylene available. (UL94 V-0/L.O.I. 28%).
- Containers are single-piece construction.
- Electrolyte - Diluted sulphuric acid.
- Terminal post - Lead casting with large surface area, threaded copper insert to provide maximum conductivity.
- Terminal seal - Ring burn with secondary epoxy resin seal is 100% water bath tested in the factory and proven in service.
- Relief valve - Operates at 2-3 psi and is complete with integral flame arrestor.

Features

- 100% "out of box" initial battery capacity.
- VRLA recombinant technology - low maintenance - no watering required.
- Up to 2000 Ah in a single cell.
- Frame design allows for maximum heat dissipation.
- Certified to 1997 UBC Zone 4 to six high (48V) on DDm125 and eight high on DDm50, DDm85 and DDm100 sizes.
- Steel module design. Cells factory installed in permanent steel modules with 1 or 2 cells per can.
- Module can be configured 2, 3, 4 or 6 cells wide in single cell modules; 2, 4 or 6 cells wide in 2-cell modules for maximum flexibility.
- Simplified installation.
- Top termination standard.
- Clear flame retardant safety shields allow for easy visual inspection without removal.

Benefits of the steel can (module) design

- Ease of installation. Simply set up rack and install modules.
- Uniform and consistent compression.
- "Designed-In" thermal management allows maximum air flow.
- Flexible configuration.
- Cell protection from damage during transport.

Installation

- Steel module design is easier to install. Does not require removal from protective steel cans (modules) during installation.
- Flexible configuration - 2, 3, 4 or 6 cells wide in single cell modules or 2, 4 or 6 cells wide in 2-cell modules.
- Total front access for easy maintenance.
- Floor anchoring - easy access during install, rack can be set before stowing modules.
- Top termination standard - optional side termination available.
- Transition kits available to mount relay rack above battery system.
- Grounding kits available for bonding of all steel components.

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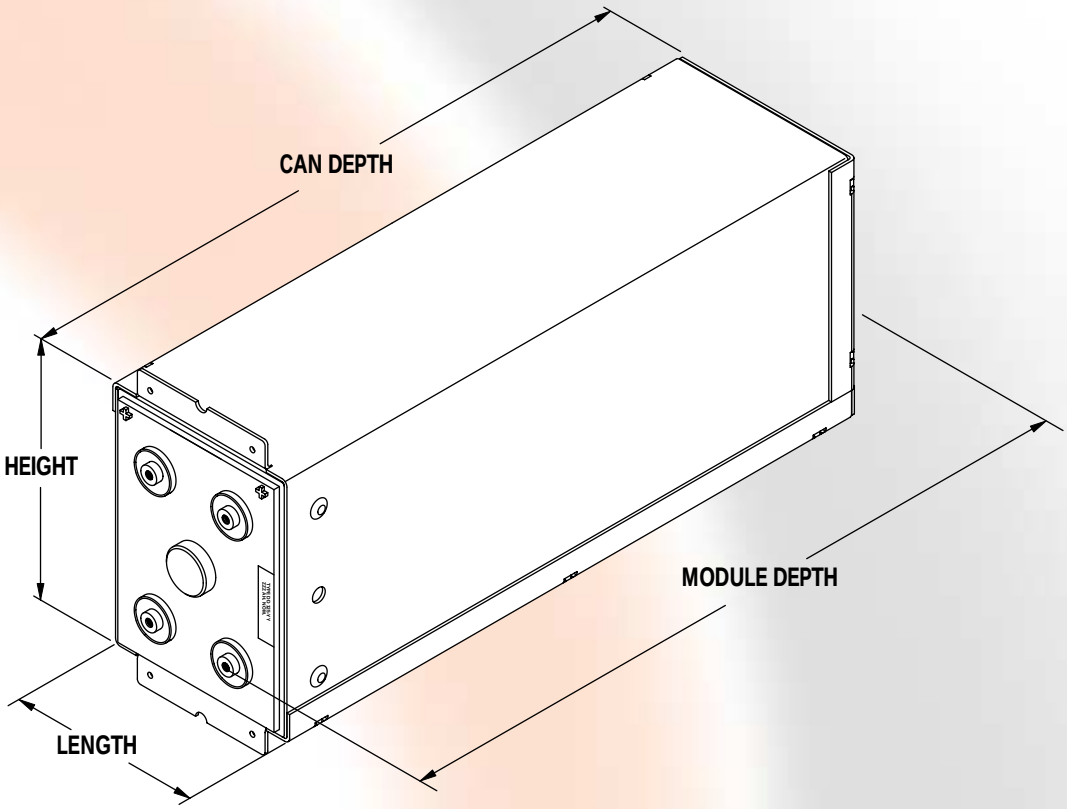
General Specifications

Type	Cells per Module	Nominal Voltage (V)	Nominal Capacity (Ah) 10hr. rate 1.80Vpc @ 20°C	Nominal Capacity (Ah) 8hr. rate 1.75Vpc @ 77°F	Nominal Dimensions Length mm	Length in	Height mm	Height in	Depth (can) mm	Depth (can) in	Depth (module) mm	Depth (module) in	Typical Weight kg	Typical Weight lbs
2DDm50-09	2	4	200	200	189	7.4	165	6.5	334	13.1	368	14.5	34.3	75.4
2DDm50-13	2	4	300	300	265	10.4	165	6.5	334	13.1	368	14.5	49.5	108.9
DDm50-17	1	2	400	400	176	6.9	165	6.5	334	13.1	368	14.5	34.0	74.7
2DDm85-13	2	4	510	510	265	10.4	165	6.5	519	20.4	554	21.8	75.7	166.5
2DDm85-15	2	4	595	595	303	11.9	165	6.5	519	20.4	554	21.8	88.5	194.8
DDm85-21	1	2	850	850	214	8.4	165	6.5	519	20.4	554	21.8	64.5	142.0
DDm85-25	1	2	1020	1020	252	9.9	165	6.5	519	20.4	554	21.8	74.4	163.7
DDm85-27	1	2	1105	1105	271	10.7	165	6.5	519	20.4	554	21.8	80.8	177.8
DDm85-33	1	2	1360	1360	328	12.9	165	6.5	519	20.4	554	21.8	99.6	219.2
DDm100-21	1	2	1000	1000	214	8.4	165	6.5	589	23.2	623	24.5	77.3	170.1
DDm100-25	1	2	1200	1200	252	9.9	165	6.5	589	23.2	623	24.5	91.8	201.9
DDm100-27	1	2	1300	1300	271	10.7	165	6.5	589	23.2	623	24.5	99.0	217.9
DDm100-33	1	2	1600	1600	328	12.9	165	6.5	589	23.2	623	24.5	120.8	265.7
DDm125-25	1	2	1500	1500	252	9.9	225	8.8	562	22.1	596	23.5	114.4	251.6
DDm125-27	1	2	1625	1625	271	10.7	225	8.8	562	22.1	596	23.5	123.4	271.5
DDm125-33	1	2	2000	2000	328	12.9	225	8.8	562	22.1	596	23.5	150.5	331.1



System Configurator

Type	Ah Capacity	Cells per module	Nominal Row Height mm	Nominal Row Height in	Nominal Stack Depth mm	Nominal Stack Depth in	Nominal Stack Length 2 Wide mm	2 Wide in	3 Wide mm	3 Wide in	4 Wide mm	4 Wide in	6 Wide mm	6 Wide in	Typical Cell Weight (1) Unpacked kg	Unpacked lbs.	Packed kg	Packed lbs
2DDm50-09	200	2	219	8.6	457	18.0	295	11.6	N/A	N/A	484	19.1	672	26.5	21.3	47.0	22.8	50.3
2DDm50-13	300	2	219	8.6	457	18.0	372	14.6	N/A	N/A	636	25.1	901	35.5	29.5	65.0	31.0	68.3
DDm50-17	400	1	219	8.6	457	18.0	458	18.1	634	25.0	810	31.9	1162	45.7	39.9	88.0	41.4	91.3
2DDm85-13	510	2	219	8.6	705	27.8	372	14.6	N/A	N/A	636	25.1	901	35.5	43.6	96.0	45.1	99.3
2DDm85-15	595	2	219	8.6	705	27.8	410	16.1	N/A	N/A	712	28.1	1015	40.0	50.4	111.0	51.9	114.3
DDm85-21	850	1	219	8.6	705	27.8	535	21.1	749	29.5	962	37.9	1390	54.7	72.1	159.0	73.6	162.3
DDm85-25	1020	1	219	8.6	705	27.8	611	24.1	863	34.0	1115	43.9	1657	65.2	83.0	183.0	84.5	186.3
DDm85-27	1105	1	219	8.6	705	27.8	649	25.6	920	36.2	1191	46.9	1771	69.7	90.3	199.0	91.8	202.3
DDm85-33	1360	1	219	8.6	705	27.8	763	30.1	1091	43.0	1420	55.9	2114	83.2	111.1	245.0	112.6	248.3
DDm100-21*	1000	1	219	8.6	667	26.2	518	20.4	732	28.8	944	37.2	1412	55.6	83.9	185.0	85.4	188.3
DDm100-25*	1200	1	219	8.6	667	26.2	594	23.4	846	33.3	1096	43.2	1640	64.6	99.3	219.0	100.9	222.3
DDm100-27*	1300	1	219	8.6	667	26.2	632	24.9	903	35.6	1173	46.2	1756	69.1	107.1	236.0	108.6	239.3
DDm100-33*	1600	1	219	8.6	667	26.2	746	29.4	1075	42.3	1401	55.2	2098	82.6	130.2	287.0	131.7	290.3
DDm125-25	1500	1	279	11.0	723	28.5	611	24.1	863	34.0	1115	43.9	1657	65.2	122.0	269.0	123.5	272.3
DDm125-27	1625	1	279	11.0	723	28.5	649	25.6	920	36.2	1191	46.9	1771	69.7	131.5	290.0	133.1	293.3
DDm125-33	2000	1	279	11.0	723	28.5	763	30.1	1091	43.0	1420	55.9	2114	83.2	161.0	355.0	162.5	358.3

* Preliminary Data
(1) Includes hardware for calculating system weight

FORMULA

SYSTEM HEIGHT = (ROW HEIGHT x No. OF CELL HIGH) + 229mm
SYSTEM LENGTH = STACK LENGTH x No. OF STACKS
SYSTEM WEIGHT = CELL WEIGHT x No. OF CELLS

ACTUAL EXAMPLE:

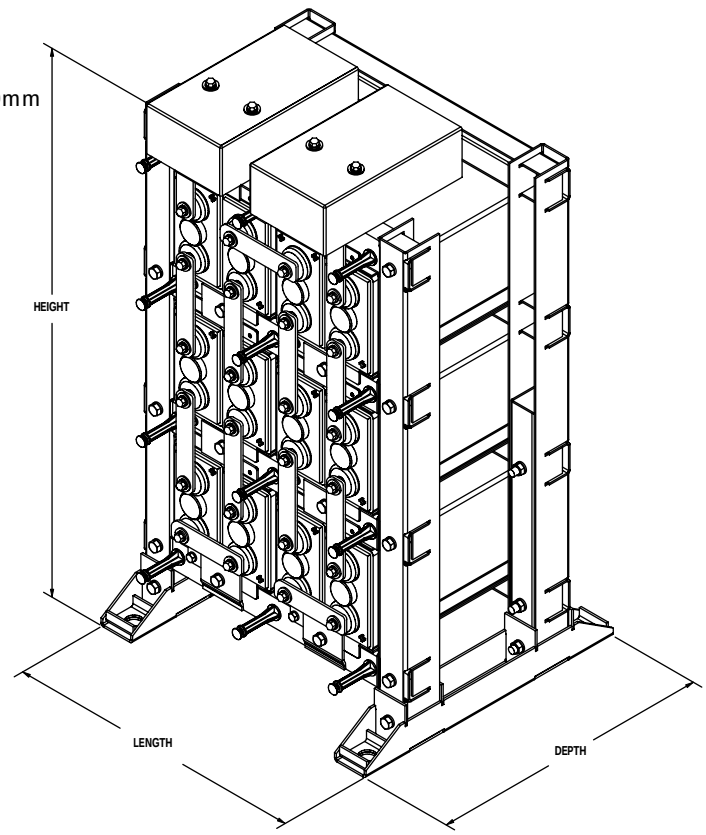
12 DDm85-13, 4 cells wide per stack, 3 cells high per stack

SYSTEM HEIGHT = (219 x 3) + 229 = 886mm
SYSTEM LENGTH = 636 x 1 = 636mm
SYSTEM WEIGHT = 43.6 x 12 = 523.2 kg.

ADDITIONAL EXAMPLE:

240 DDm125-25, 4 cells wide per stack, 6 cells high per stack

SYSTEM HEIGHT = (279 x 6) + 229 = 1903mm
SYSTEM LENGTH = 1115 x 10 = 11150mm
SYSTEM WEIGHT = 122.0 x 240 = 29280 lbs.



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