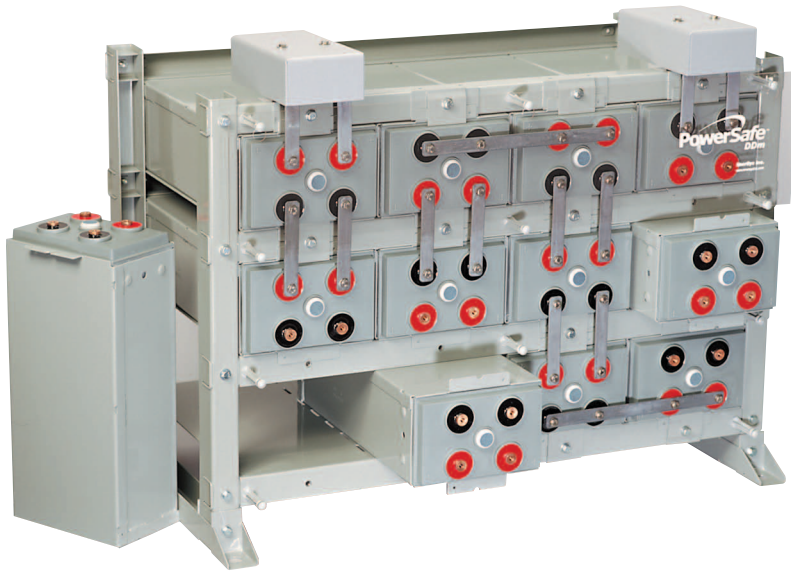


PowerSafe[®]
DDm



**BATTERY RANGE
SUMMARY**

105 Ah – 2000 Ah

EnerSys[®]

Power/Full Solutions

RESERVE
POWER

Introducing the PowerSafe® DDm Battery



The PowerSafe® DDm battery range offers an ideal solution for large capacity Valve Regulated Lead-Acid (VRLA) battery requirements. PowerSafe DDm battery's steel can (module) design, with its integral racking system, provides a cost effective battery system. This creates 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 battery, with its optimized 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 0.252" lead-calcium-tin grids minimize corrosion and prolong life
- Negative plate – Balanced lead-calcium grids optimize recombination efficiency
- AGM separator – Mechanically strong, low electrical resistance, microporous glass fiber which completely absorbs the electrolyte into its structure
- Container/Cover – Flame retardant polypropylene standard (UL94 V-0/L.O.I. 28%)
- Containers are single-piece construction
- Electrolyte – Diluted sulfuric acid
- Terminal post – Lead casting terminal, threaded copper insert, with large surface area, 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
- UL File Number MH27851

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 DDm35, 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 on most models – Optional side termination available
- Clear flame retardant safety shields allow for easy visual inspection without removal
- Inter-unit connectors and terminal plates: tin-plated copper – optional lead plated copper available

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

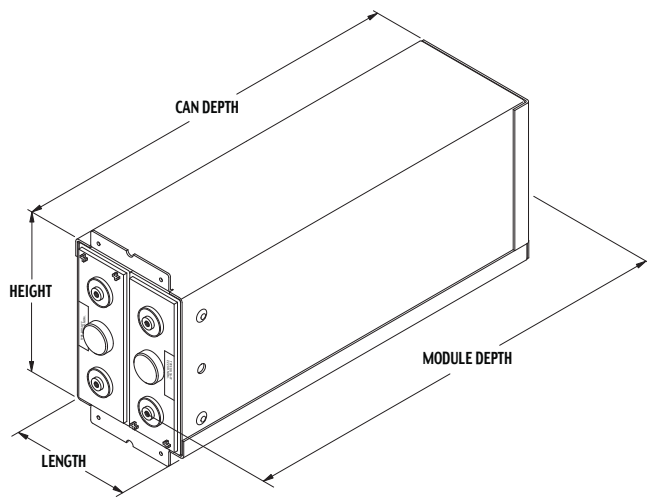
Installation

- 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
- Transition kits available to mount relay rack above battery system

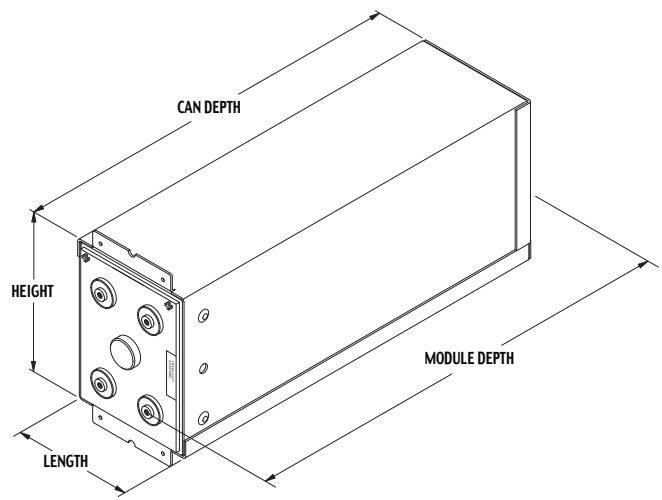
GENERAL SPECIFICATIONS

PowerSafe® DDm Battery Type	Nominal Capacity (Ah)		Nominal Dimensions								Electrolyte (1.300 S.G.)				Pure Acid (1.835 S.G.)									
	10hr. rate 1.80Vpc @ 20°C	8hr. rate 1.75Vpc @ 77°F	Length		Height		Can Depth		Module Depth		Typical Weight of Cell(s) in Can		Internal* Resistance Micro-Ohms	Short Circuit Current (Amps)	Volume (per cell)		Weight (per cell)		Volume (per cell)		Weight (per cell)		Lead Weight (per cell)	
			mm	in	mm	in	mm	in	mm	in	kg	lbs			oz	L	lbs	kg	oz	L	lbs	kg	lbs	kg
2DDm35-07	105	105	112	4.4	165	6.5	333	13.1	366	14.4	19.1	42.0	1400	1500	47	1.4	4	1.8	13.5	0.04	1.6	0.7	10.5	4.7
2DDm50-09	200	200	188	7.4	165	6.5	333	13.1	366	14.4	34.3	75.4	825	2527	77	2.3	6.5	3.0	21.8	0.6	2.6	1.2	21	9.5
2DDm50-13	300	300	265	10.4	165	6.5	333	13.1	366	14.4	49.5	108.9	550	3791	128	3.6	10.4	4.7	34.6	1.0	4.1	1.9	32	14.5
DDm50-17	400	400	176	6.9	165	6.5	333	13.1	366	14.4	34.0	74.7	413	5048	166	4.9	14.1	6.4	47.4	1.4	5.6	2.5	44	19.9
2DDm85-13	510	510	265	10.4	165	6.5	519	20.4	554	21.8	75.7	166.5	515	4049	230	6.8	19.4	8.8	64.0	1.9	7.7	3.5	48	21.8
2DDm85-15	595	595	303	11.9	165	6.5	519	20.4	554	21.8	88.5	194.8	441	4728	269	7.8	22.4	10.1	74.2	2.2	8.9	4.0	58	26.3
DDm85-21	850	850	214	8.4	165	6.5	519	20.4	554	21.8	64.5	142.0	309	6748	371	11.0	31.5	14.3	105.0	3.1	12.5	5.7	85	38.6
DDm85-25	020	1020	252	9.9	165	6.5	519	20.4	554	21.8	74.4	163.7	258	8081	435	13.0	37.3	16.9	124.0	3.7	14.8	6.7	99	44.9
DDm85-27	1105	1105	271	10.7	165	6.5	519	20.4	554	21.8	80.8	177.8	238	8761	474	14.0	40.1	18.2	133.0	3.9	15.9	7.2	109	49.4
DDm85-33	1360	1360	328	12.9	165	6.5	519	20.4	554	21.8	97.9	217.5	193	10803	576	17.2	49.3	22.3	164.0	4.8	19.5	8.8	139	63.1
DDm100-21	1000	1000	214	8.4	165	6.5	590	23.2	624	24.5	73.5	163.4	270	7722	422	12.5	35.8	16.2	119.0	3.5	14.2	6.4	105	47.6
DDm100-25	1200	1200	252	9.9	165	6.5	590	23.2	624	24.5	86.5	192.1	225	9267	499	14.9	42.7	19.4	142.0	4.2	16.9	7.7	127	57.6
DDm100-27	1300	1300	271	10.7	165	6.5	590	23.2	624	24.5	92.0	204.3	208	10024	550	16.1	46.1	20.9	154.0	4.5	18.3	8.3	138	62.6
DDm100-33	1600	1600	328	12.9	165	6.5	590	23.2	624	24.5	115.3	256.3	169	12337	666	19.7	56.4	25.6	188.0	5.6	22.3	10.1	172	78
DDm125-25	1500	1500	252	9.9	226	8.9	562	22.1	597	23.5	112.3	249.6	168	12411	640	18.8	53.9	24.5	179.0	5.3	21.4	9.7	164	74.4
DDm125-27	1625	1625	271	10.7	226	8.9	562	22.1	597	23.5	120.8	268.4	155	13452	691	20.3	58.2	26.4	193.0	5.7	23.0	10.4	178	80.7
DDm125-33	2000	2000	328	12.9	226	8.9	562	22.1	597	23.5	144.1	320.3	126	16548	845	25.0	71.6	32.5	238.0	7.0	28.4	12.9	220	99.8

* Resistance Values are for reference only and not intended to represent an ohmic value or base line measurement.



2-Cell Module



Single Cell Module

System Configurator

PowerSafe® DDm Battery	Ah Capacity	Cells per module	Nominal Voltage (V)	Nominal Row Height		Nominal Stack Depth		Nominal Stack Length				Typical System Weight Per Cell (1)							
				mm	in	mm	in	2 Wide		3 Wide		4 Wide		6 Wide		Unpacked	Packed		
Type				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lbs.	kg	lbs.
2DDm35-07	105	2	4	219.2	8.63	412.8	16.25	324.6*	12.78*	N/A	N/A	438.4*	17.26*	429.3	16.90	12.0	26.0	13.3	29.3
2DDm50-09	200	2	4	219.2	8.63	412.8	16.25	400.8*	15.78*	N/A	N/A	467.6	18.41	657.9	25.90	21.3	47.0	22.8	50.3
2DDm50-13	300	2	4	219.2	8.63	412.8	16.25	477.0*	18.78*	N/A	N/A	620.0	24.41	886.5	34.90	29.5	65.0	31.0	68.3
DDm50-17	400	1	2	219.2	8.63	412.8	16.25	441.5	17.38	619.0	24.37	791.2	31.15	1144.5	45.06	39.9	88.0	41.4	91.3
2DDm85-13	510	2	4	219.2	8.63	596.9	23.50	477.0*	18.78*	N/A	N/A	620.0	24.41	886.5	34.90	43.6	96.0	45.1	99.3
2DDm85-15	595	2	4	219.2	8.63	596.9	23.50	515.1*	20.28*	N/A	N/A	696.2	27.41	1000.8	39.40	50.4	111.0	51.9	114.3
DDm85-21	850	1	2	219.2	8.63	596.9	23.50	517.4	20.37	732.0	28.82	943.6	37.15	1412.2	55.60	72.1	159.0	73.6	162.3
DDm85-25	1020	1	2	219.2	8.63	596.9	23.50	593.6	23.37	846.3	33.32	1096.0	43.15	1640.1	64.57	83.0	183.0	84.5	186.3
DDm85-27	1105	1	2	219.2	8.63	596.9	23.50	631.7	24.87	903.7	35.58	1172.5	46.16	1755.4	69.11	90.3	199.0	91.8	202.3
DDm85-33	1360	1	2	219.2	8.63	596.9	23.50	746.0	29.37	1074.9	42.32	1400.8	55.15	2098.0	82.60	111.1	245.0	112.6	248.3
DDm100-21	1000	1	2	219.2	8.63	666.8	26.25	517.4	20.37	732.0	28.82	943.6	37.15	1412.2	55.60	83.9	185.0	85.4	188.3
DDm100-25	1200	1	2	219.2	8.63	666.8	26.25	593.6	23.37	846.3	33.32	1096.0	43.15	1640.1	64.57	99.3	219.0	100.9	222.3
DDm100-27	1300	1	2	219.2	8.63	666.8	26.25	631.7	24.87	903.7	35.58	1172.5	46.16	1172.5	69.11	107.1	236.0	108.6	239.3
DDm100-33	1600	1	2	219.2	8.63	666.8	26.25	746.0	29.37	1074.9	42.32	1400.8	55.15	2098.0	82.60	130.2	287.0	131.7	290.3
DDm125-25	1500	1	2	279.4	11.00	698.5	27.50	621.8	24.48	870.5	34.27	1127.0	44.37	1668.3	65.68	122.0	269.0	123.5	272.3
DDm125-27	1625	1	2	279.4	11.00	698.5	27.50	659.9	25.98	927.9	36.53	1203.2	47.37	1783.6	70.22	131.5	290.0	133.3	293.3
DDm125-33	2000	1	2	279.4	11.00	698.5	27.50	774.2	30.48	1099.0	43.27	1431.8	56.37	2126.2	83.71	161.0	355.0	162.5	358.3

(1) Includes hardware for calculating system weight
 * Standard top termination not available, stack length is with same side termination

FORMULA

SYSTEM HEIGHT = (ROW HEIGHT x # OF CELL HIGH) + 9.0"
 SYSTEM LENGTH = STACK LENGTH x # OF STACKS
 SYSTEM WEIGHT = CELL WEIGHT x # OF CELLS

ACTUAL EXAMPLE: 24-DDm85-21,

4 cells wide per stack x 6 cells high per stack

SYSTEM HEIGHT = (8.63" x 6) + 9.0" = 60.78"

SYSTEM LENGTH = 37.15" x 1 = 37.15"

SYSTEM WEIGHT = 159.0 lbs. x 24 = 3816.0 lbs.

ADDITIONAL EXAMPLE: 240-DDm125-25,

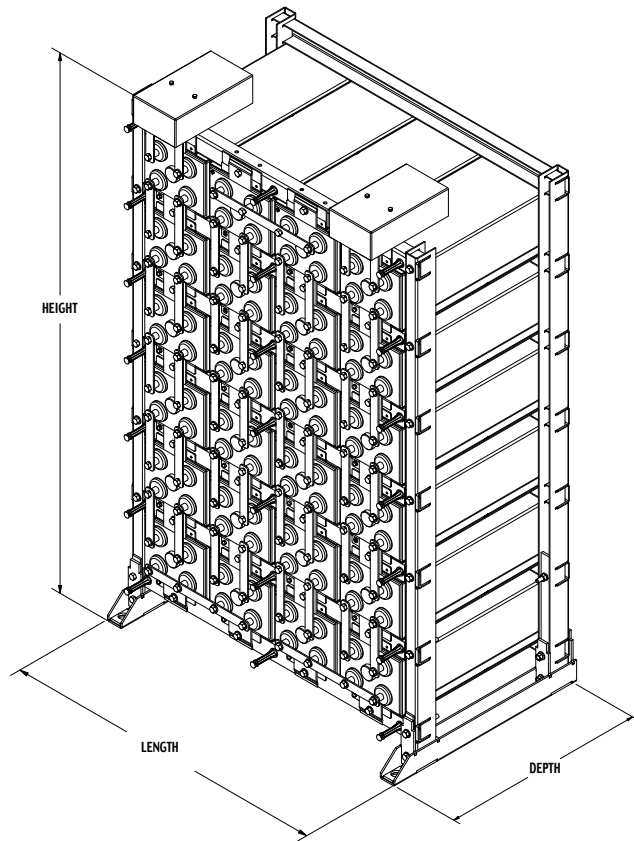
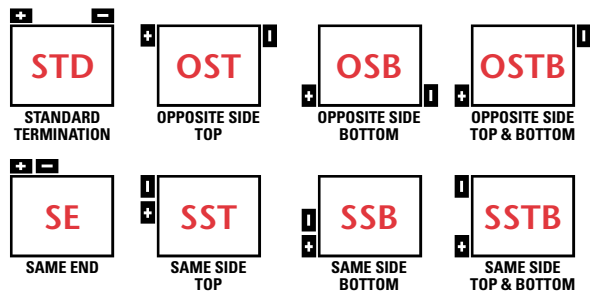
4 cells wide per stack x 6 cells high per stack

SYSTEM HEIGHT = (11.00" x 6) + 9.0" = 75.00"

SYSTEM LENGTH = 44.37" x 10 = 443.70"

SYSTEM WEIGHT = 269.0 lbs x 240 = 64,560.0 lbs.

TERMINATION LOCATIONS



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