

RANGE SUMMARY

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 its 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 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 - Polypropylene standard. Optional flame retardant polypropylene available. (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.

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

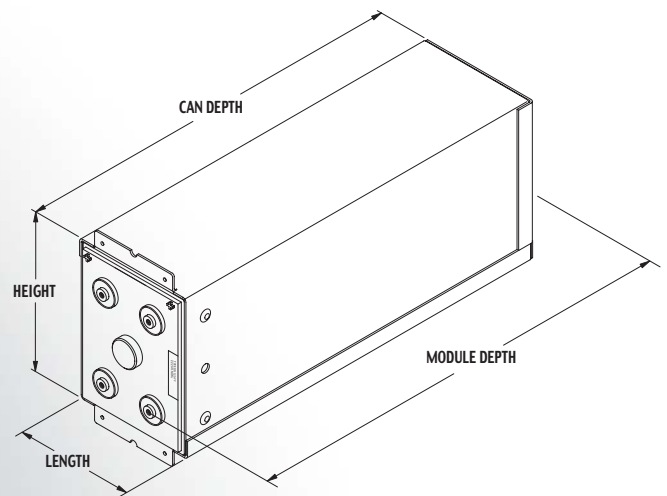
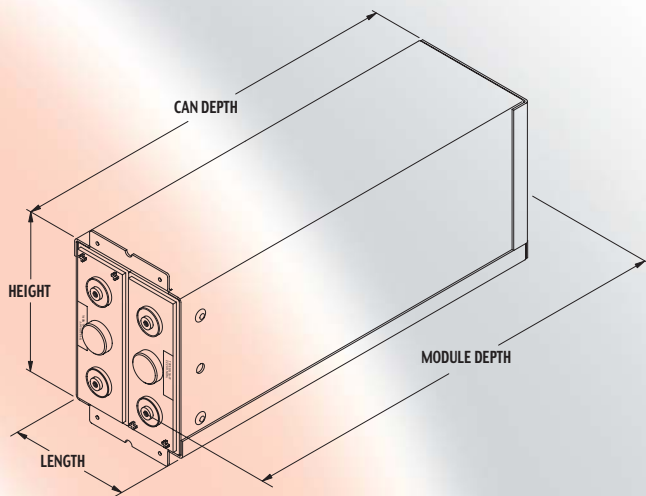
- Ease of installation. Simply set up rack and install modules.
- Uniform and consistent compression.
- "Designed-In" thermal management allows maximum air flow.
- Flexible configuration.
- Cell protection from damage during transport.

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.

GENERAL SPECIFICATIONS

Type	Cells per Module	Nominal Voltage (V)	Nominal Capacity (Ah)		Nominal Dimensions								Typical Weight	
			10hr. rate 1.80Vpc @ 20°C	8hr. rate 1.75Vpc @ 77°F	Length		Height		Depth (can)		Depth (module)		kg	lbs
					mm	in	mm	in	mm	in	mm	in		
2DDm50-09	2	4	200	200	188	7.4	165	6.5	333	13.1	366	14.4	34.3	75.4
2DDm50-13	2	4	300	300	265	10.4	165	6.5	333	13.1	366	14.4	49.5	108.9
DDm50-17	1	2	400	400	176	6.9	165	6.5	333	13.1	366	14.4	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	97.9	217.5
DDm100-21	1	2	1000	1000	214	8.4	165	6.5	590	23.2	624	24.5	73.5	163.4
DDm100-25	1	2	1200	1200	252	9.9	165	6.5	590	23.2	624	24.5	86.5	192.1
DDm100-27	1	2	1300	1300	271	10.7	165	6.5	590	23.2	624	24.5	92.0	204.3
DDm100-33	1	2	1600	1600	328	12.9	165	6.5	590	23.2	624	24.5	115.3	256.3
DDm125-25	1	2	1500	1500	252	9.9	226	8.9	562	22.1	597	23.5	112.3	249.6
DDm125-27	1	2	1625	1625	271	10.7	226	8.9	562	22.1	597	23.5	120.8	268.4
DDm125-33	1	2	2000	2000	328	12.9	226	8.9	562	22.1	597	23.5	144.1	320.3



System Configurator

Type	Ah Capacity	Cells per module	Nominal Row Height		Nominal Stack Depth		Nominal Stack Length								Typical Cell Weight (1)			
			mm	in	mm	in	2 Wide		3 Wide		4 Wide		6 Wide		Unpacked		Packed	
			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lbs.	kg	lbs
2DDm50-09	200	2	219.2	8.63	412.8	16.25	277.6	10.93	N/A	N/A	467.6	18.41	657.9	25.90	21.3	47.0	22.8	50.3
2DDm50-13	300	2	219.2	8.63	412.8	16.25	353.8	13.93	N/A	N/A	620.0	24.41	886.5	34.90	29.5	65.0	31.0	68.3
DDm50-17	400	1	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	219.2	8.63	596.9	23.50	353.8	13.93	N/A	N/A	620.0	24.41	886.5	34.90	43.6	96.0	45.1	99.3
2DDm85-15	595	2	219.2	8.63	596.9	23.50	391.9	15.43	N/A	N/A	696.2	27.41	1000.8	39.40	50.4	111.0	51.9	114.3
DDm85-21	850	1	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	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	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	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	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	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	219.2	8.63	666.8	26.25	631.7	24.87	903.7	35.58	1172.5	46.16	1755.4	69.11	107.1	236.0	108.6	239.3
DDm100-33	1600	1	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	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	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	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

FORMULA

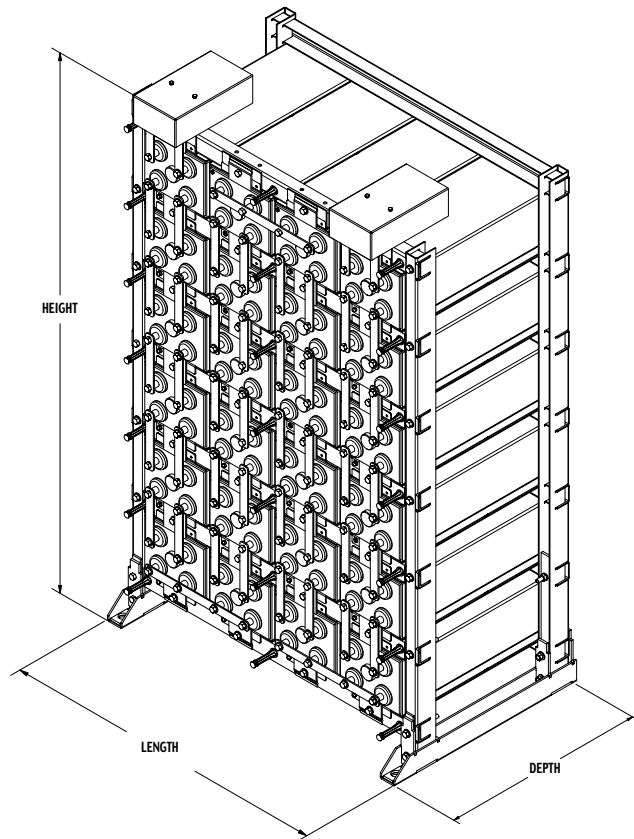
SYSTEM HEIGHT = (ROW HEIGHT x # OF CELL HIGH) + 9.0"
 SYSTEM LENGTH = STACK LENGTH x # OF STACKS
 SYSTEM WEIGHT = CELL WEIGHT x # OF CELLS

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.



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