

Deep Cycle MAX Range VRLA

EverExceed®
power your applications



DEEP CYCLE MAX RANGE VRLA 20Ah to 280Ah @ C20 SEALED VRLA MONOBLOC AGM BATTERIES

The extremely powerful, compact AGM VRLA batteries of EverExceed Deep Cycle MAX Range which is designed to cope with the most extreme temperatures and environments, is an ideal energy source for durability in Photovoltaic, RV, Mobility, Wind and Telecom applications, the EverExceed top terminal Deep Cycle MAX Range provides high performance and reliability in long duration cycling applications. Our development team combines the market demand with design optimization, precision component selection and state-of-the-art manufacturing process to produce the most cost effective battery solution for today applications.

Applicable Operating temperature range:
-40°C (-40°F) to +80°C (+176°F)

Ideal Operating temperature range:
+15°C (+59°F) to +35°C (+95°F)

Storage time from a fully charged condition:
12 months at 20°C-25°C / 68°F-77°F.
For each 9°C / 15°F rise, reduce the storage time by half.

Applications

Deep Cycle MAX range batteries incorporate EverExceed advanced VRLA technology designed for long life and high performance in:

Solar / Photovoltaic	Water Pumping
Wind Generation	Communications
Power Wheelchair	Cathodic Protection
Microwave	Signaling
Broadband	Golf Cart

Compliant Standards

IEC 60896-21/22-2004	IEC 61427-2005
DIN 43539-T5	YD/T 1360-2005
BS 6290 PART 4	UL Compliant

Innovative Features

- Thick optimized positive plate design for maximum service life - 12 years @ 35°C (95°F), 15 years @ 20°C (68°F);
- Nano-Carbon enhanced for improved durability.
- UL Recognized component.
- Advanced Corrosion-resistant lead high-tin low-calcium alloy, ensure the best performance for continuous operation up to 35°C;
- Extreme temperature High-Compression Absorbed Glass Mat technology (AGM) for greater than 99% recombination efficiency.
- Proprietary Fixed Orifice Plate Pasting technology applying active materials on both sides of the grid for consistent cell-to-cell performance, higher density & capacity and uniform grid protection.
- Advanced deep cycle high tin lead alloy, reduces grid corrosion and promotes long battery life.
- Over-sized, through the partition inter-cell welds provide low resistance connections, with minimal power loss.
- Flame arresting, low pressure safety release venting system for individual cells, recognized per U.L. 924.
- Anti-high-temperature casing materials.
Standard: Reinforced anti-high-temperature ABS (UL 94HB) container and cover;
Optional: Flame-retardant U.L.94 V-0;
- One-way relief valve, Explosion Resistant.
- Double floating life more than traditional VRLA battery @35°C;
- Better performance for high / low outdoor applications, extended service life for non-temperature controlled outdoor enclosures.

Designed in Quality Manufacturing

Quality manufacturing processes for the Deep Cycle MAX Range batteries incorporate the industry most advanced technologies including: an automated sealing detection system, a computer controlled "fill by weight" acid filler, and a temperature controlled water bath formation process. Each and every unit is capacity tested.

No transport restrictions

Surface transport. Classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189.

Marine transport. Classified as non-hazardous material as per IMDG amendment 27.

Air transport. Complies with IATA/ICAO, Special provision A67.



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مبيعات صنعاء / الحديدة 776222922

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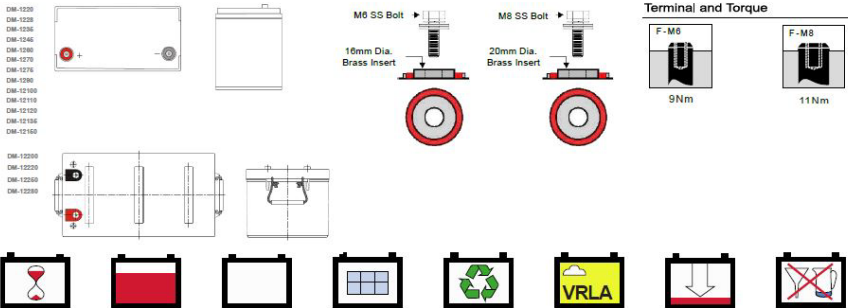
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Deep Cycle MAX Range Electrical Specifications & Dimensions

Battery Model	Nom. Voltage (V)	Capacity C/20 125°C @ 20°C	Capacity C/100 175°C @ 20°C	Short Circuit Amps	Internal Resistance Milli-ohms	Terminal Type	Battery Weight (kg/lb)		Outline Dimensions (mm/inch)					
									Length	Width	Height			
DM-1220	12	20	22	680	15	F-M5	6.2	13.6	181	7.13	76	2.99	167	6.57
DM-1228	12	28	31	890	13.5	F-M5	8.4	18.5	165	6.54	175	6.89	126	4.96
DM-1235	12	35	38	1270	11.0	F-M6	10.5	23.1	195	7.68	130	5.12	180	7.07
DM-1245	12	45	50	1700	9.0	F-M6	14.5	32.0	197	7.76	165	6.5	172	6.78
DM-1260	12	60	66	1900	7.4	F-M6	18.5	40.7	228	9.00	137	5.40	215	8.41
DM-1270	12	70	78	2000	6.5	F-M6	21.5	47.3	350	13.8	167	6.56	180	7.03
DM-1275	12	75	83	2400	6.5	F-M6	22.5	49.5	259	10.2	168	6.62	215	8.46
DM-1290	12	90	100	2600	5.2	F-M6	24	52.8	259	10.2	168	6.62	215	8.46
DM-12100	12	100	110	2800	5.0	F-M6	28	61.6	305	12	168	6.62	210	8.27
DM-12110	12	110	120	3000	4.8	F-M6	31	68.2	332	13.1	174	6.86	215	8.5
DM-12120	12	120	132	3400	4.6	F-M6	32.5	71.5	332	13.1	174	6.86	215	8.5
DM-12135	12	135	148	3700	4.0	F-M6	36.5	80.3	408	16.1	175	6.9	238	9.38
DM-12150	12	150	165	4100	3.5	F-M6	42	92.4	340	13.4	173	6.81	268	11.3
DM-12165	12	165	180	4300	3.4	F-M6	45	99	483	19.0	170	6.70	240	9.45
DM-12200	12	200	220	4400	3.0	F-M6	56.5	124	520	20.5	238	9.37	220	8.67
DM-12220	12	220	250	4600	2.8	F-M6	62	136	520	20.5	238	9.37	220	8.67
DM-12250	12	250	280	5200	2.6	F-M6	65	143	520	20.5	269	10.6	210	8.27
DM-12280	12	280	300	5700	2.5	F-M6	75	165	520	20.5	269	10.6	225	8.86



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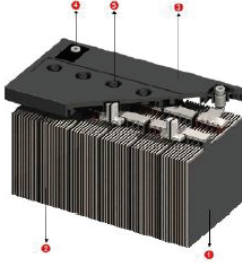
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CONSTRUCTION - The EverExceed deep cycle MAX battery construction is as shown in the diagram below. The positive and negative grids are cast from a high tin lead alloy to reduce grid growth and corrosion. The active material is manufactured from high purity lead (99.9999%) to minimize the negative effects of impurities.

The EverExceed deep cycle MAX battery separator adopted is top quality mat of random woven acid resistant glass fibres, which acts as sponge - soaking up and immobilizing the electrolyte whilst maintaining good acid to plate contact and availability during discharge. "U wrapping" is employed to eliminate the risk of short circuits due to mousing and debris at the bottom of the cell.

The purpose of the separator is to maintain a constant distance between the positive and negative plates, thus removing the possibility of short circuits whilst allowing the active material to fully react with the electrolyte. The random weaving also results in an open structure, which offers minimal resistance to the flow of electrolyte during filling.



- ❶ **Plates:** High Tin Pb alloy, optimized for high corrosion resistance and deep cycle use.
- ❷ **Separator:** Highly porous glass micro-fibre separator, optimized for low internal resistance, for maximum Absorption of the electrolyte and for electrical separation.
- ❸ **Standard housing:** Reinforced special high temperature resistant ABS container and cover adopted.
- ❹ **Terminals:** Silver plated Copper female insert for easy and safe assembly and maintenance free connection with excellent conductivity.
- ❺ **Valves:** Release gas in case of excess pressure and protects the cell against atmosphere.

ELECTROLYTE FILLING - Special production and stringent QC systems are utilized to ensure the electrolyte saturation is optimized for each cell.

Measured high vacuum acid fill, reduces electrical variability between cells. The battery design and construction negates the need for electrolyte addition and the battery remains maintenance free throughout its design life.

SAFETY RELEASE VALVE - The battery will operate above atmospheric pressure under normal operating conditions, however the maximum pressure is governed by the safety one-way release valve. Open is activated by pressures in excess of approx. 2 PSI (14 Kpa), resealing at approx 1.2 PSI (8.4Kpa).



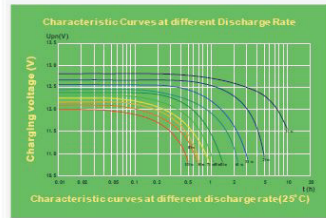
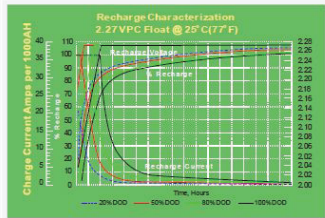
GAS RECOMBINATION - The gasses generated during normal operation of the battery are internally recombined. In fact more than 99% of the gas achieves recombination.

TERMINAL CONSTRUCTION - The contact quality between the insert terminal and the lead post is of vital importance during short duration / high Amp discharges. Elevated terminal temperatures are the result of poor contact, eventually causing seal degradation and electrolyte leaks.

EverExceed's design and assembly technique for terminal casting ensures trouble free operation for the design life of the battery.

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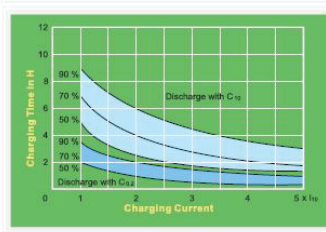
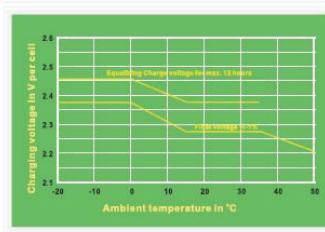
Float Voltage & charging

Constant Voltage charging is recommended

Recommended float voltage: 2.27VPC @ 25°C (77°F)
Float Voltage Range: 2.25VPC to 2.30 VPC @ 25°C (77°F)
Equalize voltage: 2.35VPC for 12 Hours

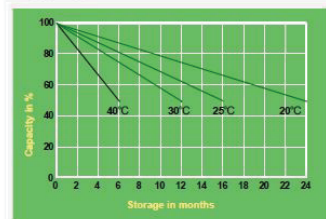
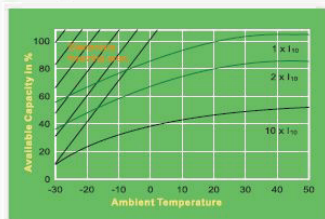
Temperature compensation:

Apply for temperature range of 0°C / 32°F to 40°C / 104°F. Subtract 3 mV / °C / cell or 1.7 mV / °F / cell, above 25°C / 77°F. Add 3mV / °C / cell or 1.7 mV / °F / cell, below 25°C / 77°F.



For charging 2.27 V/cell is recommended. The charging voltage must be compensated according to the curve for continuously different battery ambient temperature.

Recharging time in dependence of charging current (guide values) for up to 50, 70 and 90% of capacity at 25°C and with a charging voltage of 2.27 V/cell.



Extracted capacity in relation to the temperature.

Self-discharge in relation to the storage temperature.



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