

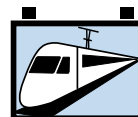
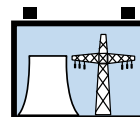
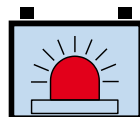
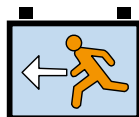
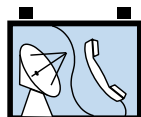
Guarantee

EverExceed[®]
power your applications

Modular Plus Max Range VRLA



»Premium quality for uninterrupted communication«



www.everexceed.com



**Modular Plus Max Range
Valve Regulated Lead Acid
2 Volt Flat Pasted Plate Battery
200AH to 2000AH @ C10**

EverExceed Modular Plus MAX batteries are special designed for application that have high-temperature environment above 35°C .

Modular Plus MAX batteries use five advanced key technologies to ensure it excellent performance in high temperature:

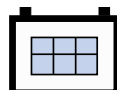
- Advanced Corrosion-resistant battery plate alloy technology;
- Anti-high-temperature casing materials technology;
- Special lead paste formula and plate formation technology;
- Unique hydrogen & oxygen composite technology;
- Advanced battery structure design;

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

Ideal Operating temperature range:
+20°C (+68°F) to +35°C (+95°F)

Applications

- | | |
|--------------------|----------------------|
| Telecommunications | Cellular Radio |
| Emergency Lighting | Control Systems |
| Navigation Aids | Standby Power Supply |
| UPS system | Photovoltaic / Solar |
| Switchgear | |



Innovative Features

- 20 years design life @ 35°C(95°F) ;
- UL Recognized component;
- Advanced Corrosion-resistant lead high-tin low-calcium alloy, ensure the best performance for continuous operation up to 35°C;
- Optimized high-compression Absorbed Glass Mat (AGM) materials significantly enhance performance and reliability, 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 capacity and uniform grid protection;
- Advanced triple stage unique terminal sealing design to ensure leak free operation;
- Heavy duty M8 Female copper plated terminals provide maximum performance and easy installation, reduce maintenance and increase safety;
- Anti-high-temperature casing materials
Standard: Reinforced anti-high-temperature ABS (UL 94HB) container and cover;
Optional: Flame-retardant U.L.94 V-0
- Wide operating temperature range:-40°C to +80°C;
- Double floating life more than traditional VRLA battery @35°C;
- Greatly reduce operational cost (more than 60% less cooling consumption);
- Greatly reduce CO2 emission, 30% reduction;
- Excellent deep cycling performance ;

Specifications

- Positive Plate: Lead-Calcium-Tin Flat Plate Grid;
- Negative Plate: Flat Pasted Grid;
- Electrolyte: Dilute Sulfuric Acid;
- Separators: Absorptive Glass Mat Separator;
- Float Voltage: 2.23 VPC at 35°C;
- Cycle service: 2.35 VPC at 35°C;
- Max. Charge Voltage: 2.35VPC at 35°C;
- Safety One-Way Value: 1-3PSI self-resealing;
- Terminals: Silver plated Integral Copper Insert.

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.

Introduction

EverExceed Modular Plus Range VRLA batteries are of the Absorbed Electrolyte type. The cells are designed so that a controlled amount of electrolyte is contained within an absorbent non-woven separator material that also separates the battery plates. This type of separator construction allows full wetting of the plates with the available electrolyte and also allows the free passage of the oxygen generated during charging. This construction is generally referred to as Absorbed Glass Mat (AGM) type.

Valve regulated batteries are fully sealed with exception of a one way valve that opens when excess pressure builds up inside the battery and closes when the pressure is released. The recombination of charge gases is accomplished by allowing oxygen produced at the positive plate. The safety valve controls the internal pressure of the battery to optimize the efficiency of the recombination reaction and minimize the possible loss of electrolyte.

General Features

Valve Regulated (Sealed) Construction

Modular Plus Range valve regulated AGM (Absorbed Glass Mat) rechargeable lead acid batteries are for safe, maintenance free operation in Vertical or Horizontal position. The acid is suspended in a specially formulated non-woven glass mat separator. All the acid is absorbed in this manner and it provides a safe leak proof & non-spillable battery.

Gas Recombination System

The gasses generated in the normal charge / discharge use of the battery are recombined during normal operation. In normal operation, more than 99% of the gases generated are efficiently recombined.

Maintenance Free

The Battery has been designed and built such that no addition of electrolyte is needed for the life of the battery. There is no need to add water or take specific gravity readings.

Battery Life – Float Service

EverExceed Modular Plus Range is designed for float (Standby) service with design life of 20 years at 35°C (95°F).

Battery Life – Cycle Service

EverExceed Modular Plus Range is designed for more than 4000 charge / discharge cycles, actual quantity will depend on the Depth of Discharge (D.O.D.).

Safety Valve

If excess pressure builds up within the battery, the safety valve automatically opens and re-closes, releasing the gas at 1-3 PSI. The valve does not allow the ingress of oxygen which is harmful and reduces the life expectation of the battery.

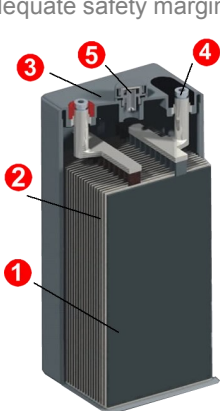
Temperature Range for Normal Operation

EverExceed Modular Plus Range has a wide operating temperature range. However for maximum life and safety, continuous operation over 45°C is not recommended.

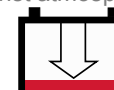
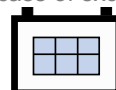
Grid Design and Paste Formation

EverExceed has optimized the grid design and paste formation to maximize the operating and storage life of the AGM battery. This optimized design provides the following advantages:

- Excellent recovery from deep discharge or over discharge;
- Low self-discharge to ensure maximum storage time when not in use;
- Adequate safety margins in tough operating conditions.



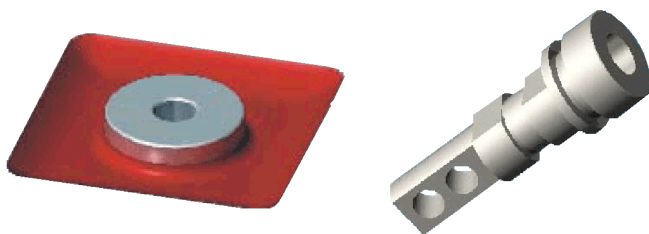
- 1 Plates:**
low calcium / high tin lead alloy, optimized for high corrosion resistance.
- 2 Separator:**
Highly porous glass micro-fibre separator, optimized for low internal resistance, for maximum Absorption of the electrolyte and for electrical separation of the positive and negative plates
- 3 Standard Housing:**
Reinforced ABS (UL 94HB) container and cover.
- Optional Housing:**
Flame-retardant reinforced ABS container and cover compliant with U.L.94 V-0 with an Oxygen limiting Index of greater than 28%.
- 4 Terminals:**
Silver plated Copper female insert for easy and safe assembly and maintenance free connection with excellent conductivity.
- 5 Valves:**
Release gas in case of excess pressure and protects the cell against atmosphere.



ModularPlus Max Range Electrical Specifications & Dimensions

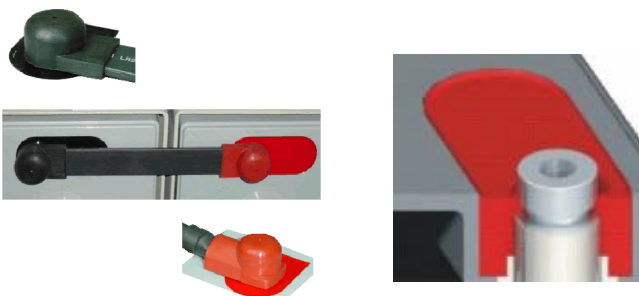
Battery Model	Nom. Voltage (V)	Capacity C10 1.80VPC	Short Circuit Amps	Internal Resistance Milli-ohms	No. of Term.	Max. Charge Current	Terminal Type	Battery Weight (kg / lb)	Outline Dimensions (mm / inch)			
									Length	Width	Height	Total Height
MP 2-200 Max	2	200	1620	0.7	2	30	F-M8	15.5 / 34.1	171 / 6.74	106 / 4.18	330 / 13.0	365 / 14.4
MP 2-300 Max	2	300	2410	0.6	2	45	F-M8	21 / 46.2	171 / 6.74	151 / 5.95	330 / 13.0	365 / 14.4
MP 2-400 Max	2	400	3220	0.53	4	60	F-M8	30 / 66	210 / 8.27	173 / 6.82	330 / 13.0	365 / 14.4
MP 2-500 Max	2	500	4100	0.42	4	75	F-M8	35 / 77	241 / 9.50	171 / 6.74	330 / 13.0	365 / 14.4
MP 2-600 Max	2	600	4860	0.39	4	90	F-M8	43 / 94.6	302 / 11.9	175 / 6.90	330 / 13.0	365 / 14.4
MP 2-800 Max	2	800	6400	0.37	8	120	F-M8	61 / 134.2	410 / 16.2	175 / 6.90	330 / 13.0	365 / 14.4
MP 2-1000 Max	2	1000	7900	0.36	8	150	F-M8	73 / 160.6	482 / 19.0	175 / 6.90	330 / 13.0	365 / 14.4
MP 2-1500 Max	2	1500	11950	0.3	8	225	F-M8	115 / 253	400 / 15.8	350 / 13.8	345 / 13.6	378 / 14.9
MP 2-2000 Max	2	2000	16200	0.22	16	300	F-M8	145 / 319	490 / 19.3	350 / 13.8	345 / 13.6	383 / 15.1

Terminal Type

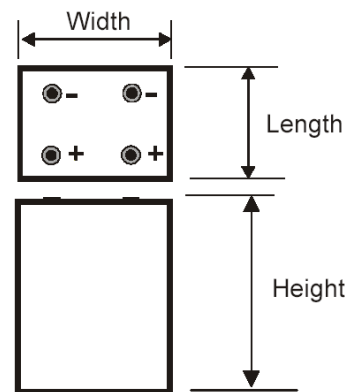


F-M6: Copper Insert type terminal with 14 mm Diameter insert. Standing 5mm above the top of the battery case with M6 thread M6 bolt. Flat and Spring washer supplied.

F-M8: Copper Insert type terminal with 20 mm Diameter insert. Standing 5mm above the top of the battery case with M8 thread M8 bolt. Flat and Spring washer supplied.



Cell Dimensions for Rack Layout



Battery Float Voltage

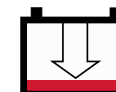
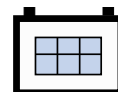
Ambient Temperature	Recommended Applied Float Voltage VPC
0~9°C	2.33-2.35
10~14°C	2.30-2.33
15~19°C	2.27-2.30
20~24°C	2.27-2.30
25~29°C	2.25-2.27
30~34°C	2.23-2.25
35~40°C	2.21-2.23



ModularPlus Max Range Cell Discharge Ampere Data @ 35°C

Battery Model	End VPC	Discharge Data Amps @ 35°C						End VPC	Discharge Data Amps @ 35°C									
		Discharge Time In Minutes							Discharge Time In Hours									
		5	10	15	30	45	60		1.5	2	3	4	5	6	8	10	12	24
MR 2-200	1.80	342	293	244	188	148	122	1.85	81.9	68.0	50.4	39.2	32.5	28.4	22.9	18.9	16.2	8.77
	1.75	402	324	277	200	157	130	1.80	86.7	72.0	53.3	41.5	34.4	30.0	24.3	20.0	17.0	9.28
	1.67	448	375	308	207	161	132	1.75	90.6	75.2	55.7	43.4	35.9	31.4	25.3	21.0	17.8	9.70
MR 2-300	1.80	512	439	366	283	222	183	1.85	123	102	75.5	58.7	48.8	42.5	34.3	28.3	24.1	13.1
	1.75	602	485	415	299	235	194	1.80	130	108	80.0	62.3	51.6	45.0	36.4	30.0	25.5	14.0
	1.67	670	562	461	310	241	198	1.75	136	113	83.5	64.9	53.8	47.0	38.0	31.3	26.6	14.5
MR 2-400	1.80	683	586	488	376	295	244	1.85	163	136	101	78.2	64.8	56.6	45.7	37.7	32.0	17.5
	1.75	801	646	553	398	313	259	1.80	173	144	107	83.0	68.8	60.0	48.5	40.0	34.0	18.6
	1.67	893	749	615	412	321	263	1.75	181	150	111	86.5	71.7	62.6	50.6	42.0	35.4	19.4
MR 2-500	1.80	854	732	610	470	370	305	1.85	205	170	126	98.0	81.2	70.8	57.2	47.2	40.1	22.0
	1.75	1003	809	693	498	392	324	1.80	217	180	133	104	86.0	75.0	60.6	50.0	42.5	23.3
	1.67	1118	937	770	516	401	329	1.75	226	189	139	108	89.8	78.3	63.3	52.2	44.4	24.2
MR 2-600	1.80	1025	878	732	564	443	366	1.85	245	204	151	117	97.4	84.9	68.6	56.6	48.1	26.3
	1.75	1203	970	831	598	470	388	1.80	260	216	160	125	103	90.0	72.8	60.0	51.0	28.0
	1.67	1341	1124	923	619	481	395	1.75	271	225	167	130	108	93.9	75.9	62.6	53.2	29.1
MR 2-800	1.80	1366	1171	976	752	590	488	1.85	327	272	201	157	130	113	91.5	75.5	64.2	35.0
	1.75	1605	1294	1108	797	626	518	1.80	347	288	213	166	138	120	97.0	80.0	68.0	37.1
	1.67	1789	1499	1231	826	642	526	1.75	362	301	223	173	144	125	101	83.5	71.0	38.8
MR 2-1000	1.80	1708	1464	1220	939	738	610	1.85	409	339	251	196	162	141	114	94.3	80.2	43.8
	1.75	2005	1617	1384	996	782	647	1.80	433	360	267	208	172	150	121	100	85.0	46.4
	1.67	2234	1873	1538	1032	802	657	1.75	452	375	278	216	179	156	126	104	88.7	48.5
MR 2-1500	1.80	2562	2196	1830	1409	1107	915	1.85	613	509	377	294	243	212	172	142	121	65.7
	1.75	3002	2421	2072	1491	1172	968	1.80	650	540	400	311	258	225	182	150	128	69.6
	1.67	3346	2805	2303	1545	1201	984	1.75	677	562	417	326	269	234	189	156	133	72.5
MR 2-2000	1.80	3416	2928	2440	1879	1476	1220	1.85	818	679	503	393	325	283	229	189	161	88.0
	1.75	4011	3235	2769	1993	1566	1294	1.80	867	720	533	415	344	300	243	200	170	92.8
	1.67	4470	3747	3077	2064	1604	1315	1.75	904	751	557	433	359	313	253	209	177	96.9

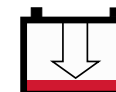
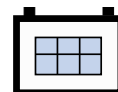
Actual Battery Discharge Data may be + / -5% of figures shown above.



ModularPlus Max Range Cell Discharge Ampere Hours Data @ 35°C

Battery Model	End VPC	Discharge Data Amps @ 35°C						End VPC	Discharge Data Ampere Hours @ 35°C									
		Discharge Time In Minutes							Discharge Time In Hours									
		5	10	15	30	45	60		1.5	2	3	4	5	6	8	10	12	24
MR 2-200	1.80	342	293	244	188	148	122	1.85	123	136	151	157	163	170	183	189	194	210
	1.75	402	324	277	200	157	130	1.80	130	144	160	166	172	180	194	200	204	223
	1.67	448	375	308	207	161	132	1.75	136	150	167	174	180	188	202	210	214	233
MR 2-300	1.80	512	439	366	283	222	183	1.85	185	204	227	235	244	255	274	283	289	314
	1.75	602	485	415	299	235	194	1.80	195	216	240	249	258	270	291	300	306	336
	1.67	670	562	461	310	241	198	1.75	204	226	251	260	269	282	304	313	319	348
MR 2-400	1.80	683	586	488	376	295	244	1.85	245	272	303	313	324	339	366	377	384	420
	1.75	801	646	553	398	313	259	1.80	260	288	321	332	344	360	388	400	408	446
	1.67	893	749	615	412	321	263	1.75	272	300	333	346	359	375	405	420	425	466
MR 2-500	1.80	854	732	610	470	370	305	1.85	308	340	378	392	406	425	458	472	481	528
	1.75	1003	809	693	498	392	324	1.80	326	360	399	416	430	450	485	500	510	559
	1.67	1118	937	770	516	401	329	1.75	339	378	417	432	449	470	506	522	533	581
MR 2-600	1.80	1025	878	732	564	443	366	1.85	368	408	453	468	487	509	549	566	577	631
	1.75	1203	970	831	598	470	388	1.80	390	432	480	500	515	540	582	600	612	672
	1.67	1341	1124	923	619	481	395	1.75	407	450	501	520	540	563	607	626	638	698
MR 2-800	1.80	1366	1171	976	752	590	488	1.85	491	544	603	628	650	680	732	755	770	840
	1.75	1605	1294	1108	797	626	518	1.80	521	576	639	664	690	720	776	800	816	890
	1.67	1789	1499	1231	826	642	526	1.75	543	602	669	692	720	752	810	835	852	931
MR 2-1000	1.80	1708	1464	1220	939	738	610	1.85	614	679	754	784	811	850	915	943	962	1051
	1.75	2005	1617	1384	996	782	647	1.80	650	720	801	832	860	900	970	1000	1020	1114
	1.67	2234	1873	1538	1032	802	657	1.75	678	751	834	866	897	940	1012	1040	1064	1164
MR 2-1500	1.80	2562	2196	1830	1409	1107	915	1.85	920	1019	1132	1176	1217	1274	1376	1420	1452	1577
	1.75	3002	2421	2072	1491	1172	968	1.80	975	1080	1200	1245	1290	1350	1456	1500	1536	1670
	1.67	3346	2805	2303	1545	1201	984	1.75	1015	1125	1251	1300	1345	1406	1515	1562	1596	1740
MR 2-2000	1.80	3416	2928	2440	1879	1476	1220	1.85	1227	1358	1509	1572	1625	1698	1832	1890	1932	2112
	1.75	4011	3235	2769	1993	1566	1294	1.80	1301	1440	1599	1660	1720	1800	1944	2000	2040	2227
	1.67	4470	3747	3077	2064	1604	1315	1.75	1356	1502	1671	1732	1795	1878	2024	2090	2124	2326

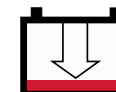
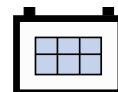
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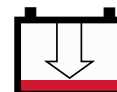
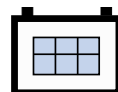
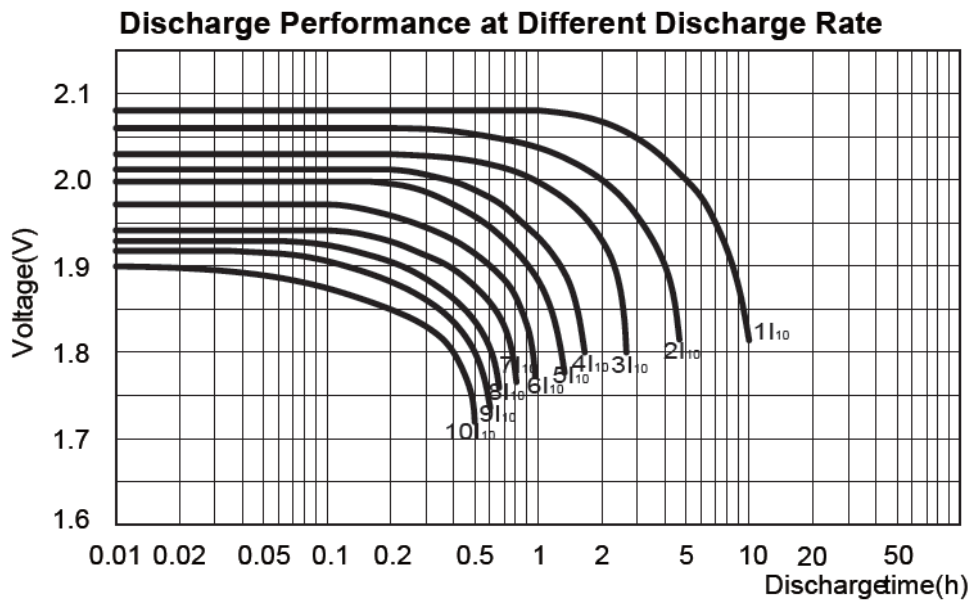
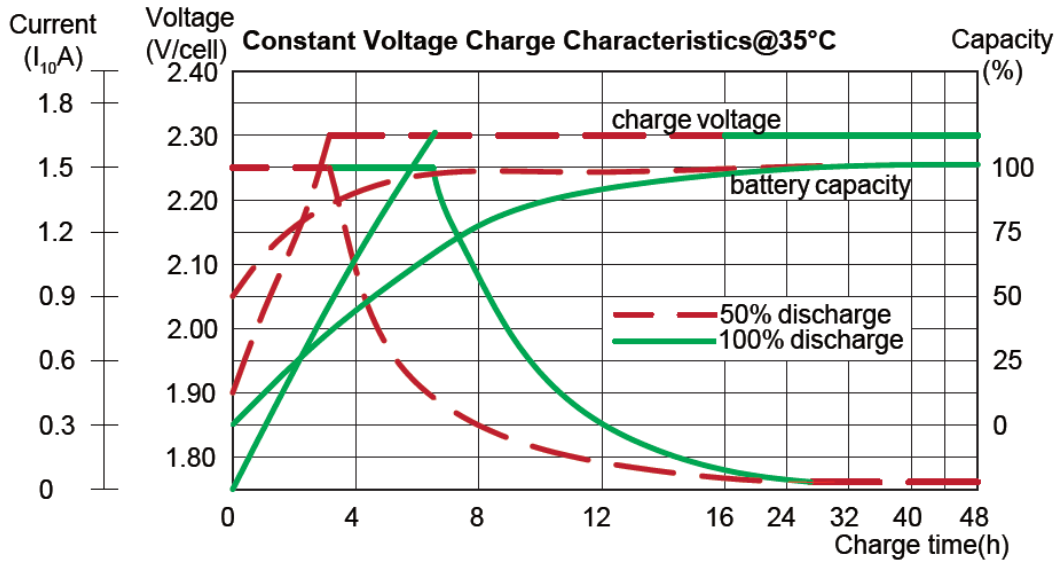
Modular Plus Range Cell Discharge Watts Data @ 35°C

Battery Model	End VPC	Discharge Data Watts @ 35°C						End VPC	Discharge Data Watts @ 35°C									
		Discharge Time In Minutes							Discharge Time In Hours									
		5	10	15	30	45	60		1.5	2	3	4	5	6	8	10	12	24
MR 2-200	1.80	615	533	448	348	280	234	1.85	158	132	96.2	76.9	64.0	56.0	45.5	37.7	32.1	17.7
	1.75	715	583	502	369	292	249	1.80	165	138	103	80.9	67.4	59.0	47.9	39.7	33.8	18.6
	1.67	770	657	552	378	299	251	1.75	171	143	107	83.8	69.8	61.1	49.7	41.3	35.2	19.3
MR 2-300	1.80	922	799	672	521	421	351	1.85	236	197	147	115	95.9	83.9	68.2	56.4	48.1	26.4
	1.75	1071	873	752	553	437	373	1.80	248	207	155	121	101	88.5	71.9	59.5	50.7	28.0
	1.67	1153	983	826	567	447	377	1.75	256	214	160	125	105	91.5	74.4	61.6	52.5	28.9
MR 2-400	1.80	1230	1066	895	695	561	468	1.85	314	262	196	153	128	112	90.8	75.2	64.1	35.1
	1.75	1427	1163	1001	737	582	496	1.80	331	276	207	162	135	118	95.9	79.4	67.6	37.1
	1.67	1536	1310	1100	755	596	502	1.75	341	285	213	167	139	122	99.1	82.1	69.9	38.4
MR 2-500	1.80	1537	1332	1119	869	701	586	1.85	394	328	245	192	160	140	114	94.1	80.2	44.0
	1.75	1786	1456	1254	922	728	621	1.80	414	346	258	202	168	147	120	99.2	84.5	46.4
	1.67	1923	1640	1377	945	746	628	1.75	426	357	267	209	174	153	124	103	87.5	48.1
MR 2-600	1.80	1845	1599	1343	1043	841	703	1.85	472	394	294	230	192	168	136	113	96.2	52.7
	1.75	2142	1747	1503	1106	874	745	1.80	496	415	310	243	202	177	144	119	101	55.7
	1.67	2306	1967	1652	1133	895	753	1.75	511	428	320	251	209	183	149	123	105	57.7
MR 2-800	1.80	2460	2132	1791	1390	1122	937	1.85	629	525	392	307	256	224	182	151	128	70.3
	1.75	2857	2330	2005	1475	1165	994	1.80	662	553	413	324	270	236	192	159	135	74.3
	1.67	3076	2624	2203	1511	1194	1005	1.75	682	571	427	335	279	244	198	165	140	77.0
MR 2-1000	1.80	3074	2664	2239	1738	1402	1171	1.85	786	656	490	384	320	280	227	188	160	87.8
	1.75	3568	2910	2505	1842	1455	1242	1.80	827	691	517	405	337	295	240	198	169	92.8
	1.67	3843	3277	2750	1888	1491	1255	1.75	852	713	533	418	348	305	248	205	175	96.1
MR 2-1500	1.80	4722	3997	3358	2607	2104	1757	1.85	1180	985	735	576	479	420	341	282	240	132
	1.75	5344	4358	3751	2759	2180	1859	1.80	1241	1037	775	607	505	442	360	298	254	139
	1.67	5755	4908	4122	2827	2233	1880	1.75	1276	1067	799	626	522	457	371	307	262	144
MR 2-2000	1.80	6149	5329	4477	3476	2805	2342	1.85	1573	1313	981	768	639	560	455	376	321	176
	1.75	7140	5823	5012	3686	2912	2484	1.80	1654	1382	1033	809	674	590	479	397	338	186
	1.67	7689	6558	5507	3778	2984	2511	1.75	1705	1426	1067	837	697	610	496	411	350	192

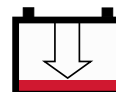
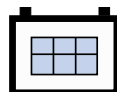
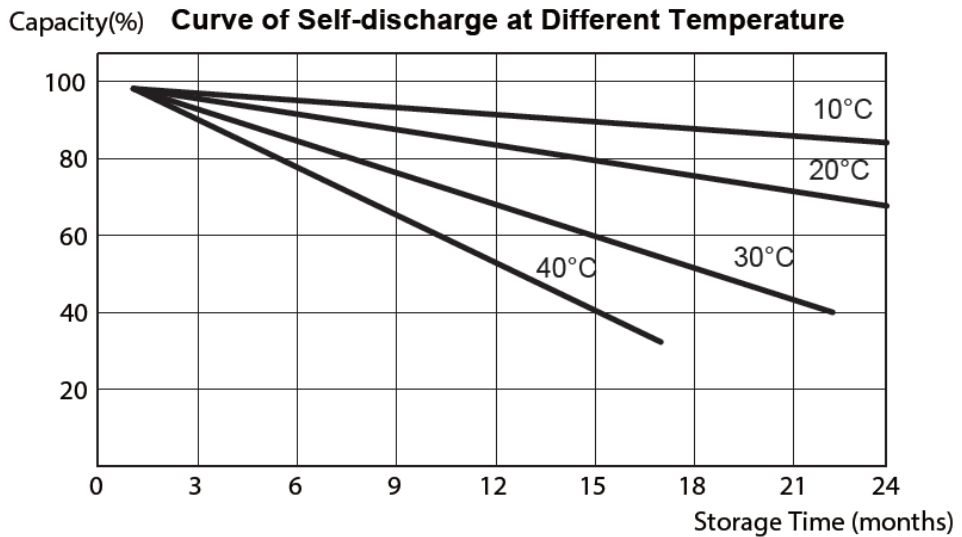
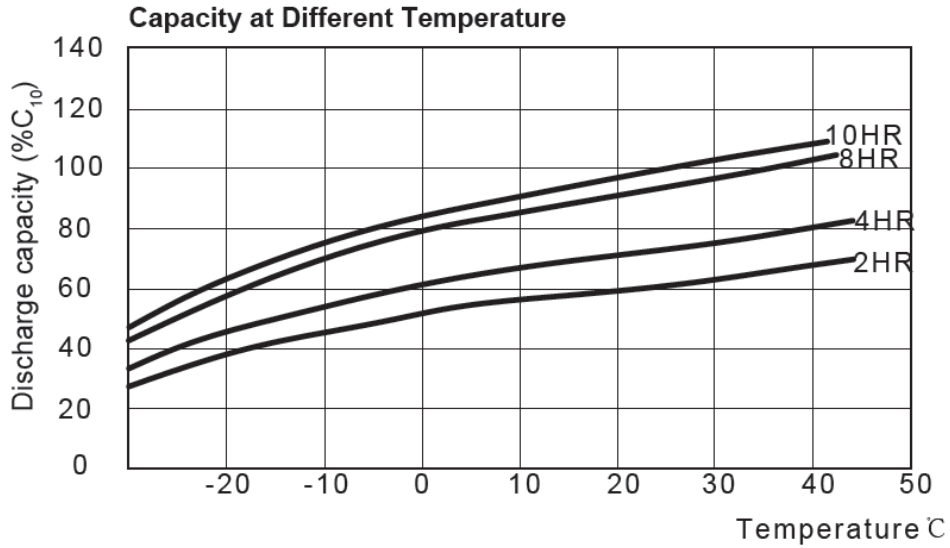
Actual Battery Discharge Data may be + / -5% of figures shown above.



MODULAR PLUS RANGE PERFORMANCE CURVES

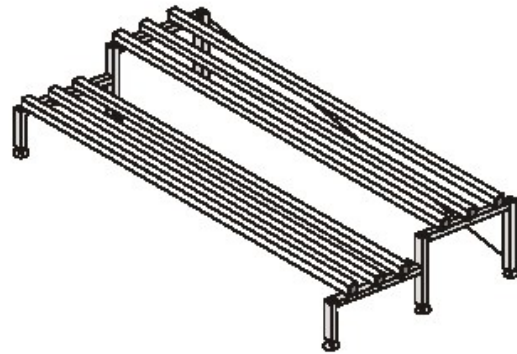
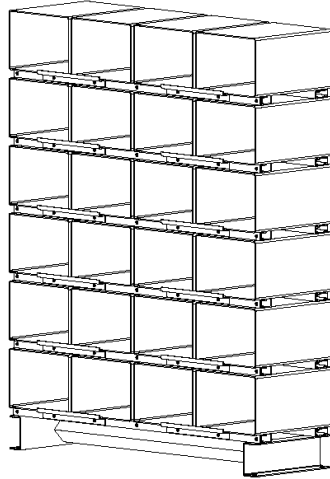


MODULAR PLUS RANGE PERFORMANCE CURVES



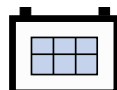
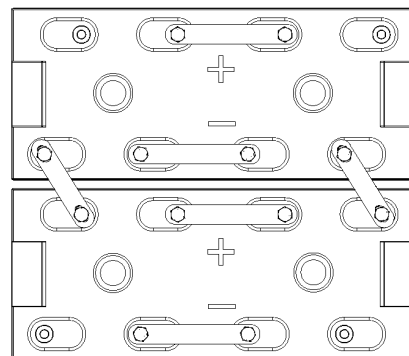
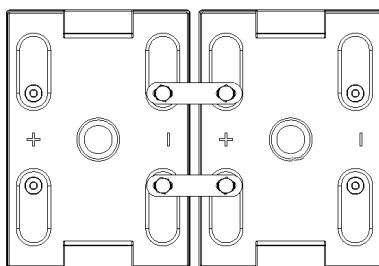
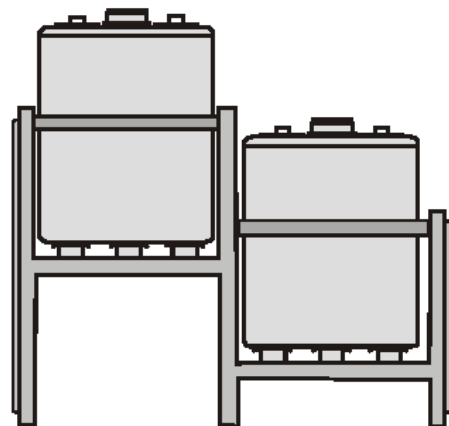
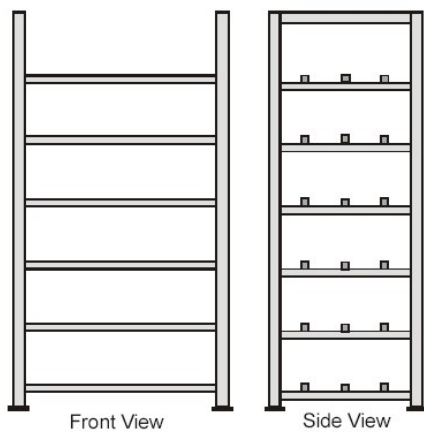
MODULAR PLUS RANGE – HORIZONTAL & VERTICAL RACKING SYSTEMS

Modular Plus Range batteries can be mounted on / in vertical or horizontal racking system. It is not recommended to mount batteries larger than 1250AH in horizontal position.



Typical rack for horizontal configuration of Modular Plus Range batteries

Typical rack for vertical configuration of Modular Plus Range batteries



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