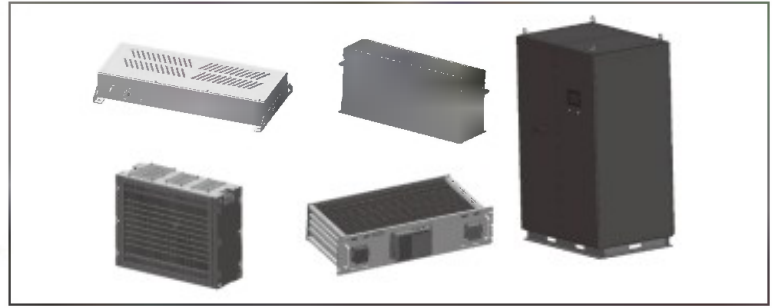


■ Typical application 典型应用

- Smart grid primary frequency modulation
智能电网一次调频系统
- Energy feedback system 能量回馈系统
- Tunnel locomotive, mining locomotive 隧道机车、矿用机车
- Port truck 码头车
- Pure electric bus 纯电动公交车
- Ferry, sightseeing car, golf cart, AGV and RGV
渡轮、观光车、高尔夫球车、AGV及RGV
- Energy saving elevator 节能电梯
- Hybrid power driven engineering machinery and harbor machinery
混合动力工程机械及港口机械
- Emergency UPS 应急后备电源
- Electric tools 电动工具
- Wind power, solar and other renewable energy storage 风电、光伏等可再生能源储能



Items 项目	Characteristics 特性					
Rated Voltage 额定电压	12~720 V					
Operating Temperature Rang 工作温度范围	-25~+55°C					
Capacitance Range 容量范围	277~14000 F					
Capacitance Tolerance 容差范围(25°C)	-20~+20%					
Temperature Characteristics 温度特性	The specifications shall be met at category temperature range from -25°C to 55°C 在-25°C至55°C温度范围内, 应满足规范	<table border="1"> <tr> <td>Capacitance change 容量变化</td> <td>Within 50% of the initial value at 25°C 在25°C时初始值的50%以内</td> </tr> <tr> <td>ESR_{AC} change 交流内阻变化</td> <td>Not more than 4 times of the initial specified value at 25°C 不超过25°C时初始规定值的4倍</td> </tr> </table>	Capacitance change 容量变化	Within 50% of the initial value at 25°C 在25°C时初始值的50%以内	ESR _{AC} change 交流内阻变化	Not more than 4 times of the initial specified value at 25°C 不超过25°C时初始规定值的4倍
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High Temperature Loaded 高温负荷	The specifications shall be met after rated voltage applied at 55°C for 1000 hours 在55°C温度下, 以额定电压恒压1000h后, 应满足规范	<table border="1"> <tr> <td>Capacitance change 容量变化</td> <td>Within 20% of the initial value 在初始值的20%以内</td> </tr> <tr> <td>ESR_{AC} change 交流内阻变化</td> <td>Not more than 2 times of the initial specified value 不超过初始规定值的2倍</td> </tr> </table>	Capacitance change 容量变化	Within 20% of the initial value 在初始值的20%以内	ESR _{AC} change 交流内阻变化	Not more than 2 times of the initial specified value 不超过初始规定值的2倍
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High Temperature Storage 高温存储	The specifications shall be met after storage at 55°C for 1000 hours 在55°C温度下, 储存1000h后, 应满足规范	<table border="1"> <tr> <td>Capacitance change 容量变化</td> <td>Within 20% of the initial value 在初始值的20%以内</td> </tr> <tr> <td>ESR_{AC} change 交流内阻变化</td> <td>Not more than 2 times of the initial specified value 不超过初始规定值的2倍</td> </tr> </table>	Capacitance change 容量变化	Within 20% of the initial value 在初始值的20%以内	ESR _{AC} change 交流内阻变化	Not more than 2 times of the initial specified value 不超过初始规定值的2倍
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ESR _{AC} change 交流内阻变化	Not more than 2 times of the initial specified value 不超过初始规定值的2倍					
Cycle Life 循环寿命	The specifications shall be met after 50,000 cycles at 25°C, cycle of charge/discharge from 2.5~4.0V 在25°C温度下, 2.5~4.0V充放电循环50000次后, 应满足规范	<table border="1"> <tr> <td>Capacitance change 容量变化</td> <td>Within 20% of the initial value 在初始值的20%以内</td> </tr> <tr> <td>ESR_{AC} change 交流内阻变化</td> <td>Not more than 2 times of the initial specified value 不超过初始规定值的2倍</td> </tr> </table>	Capacitance change 容量变化	Within 20% of the initial value 在初始值的20%以内	ESR _{AC} change 交流内阻变化	Not more than 2 times of the initial specified value 不超过初始规定值的2倍
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ESR _{AC} change 交流内阻变化	Not more than 2 times of the initial specified value 不超过初始规定值的2倍					

Ratings for HMAA Series HMAA 系列额定值

HMAA Modules HMAA 模组

U _p 额定电压	U _{min} 最低电压	Rated Cap. 25°C/额定容量	ESR _{DC} 直流内阻	Rated Current 额定电流	Size 尺寸 L×W×H	Weight 重量	P/N 产品代码
(V)	(F)	(F)	(mΩ)	(A)	(mm)	(Kg)	-
12	7.5	10600	4	100	320×140×105	5	SCMHAA012109MA
32	20	12000	5	300	650×160×345	27	SCMHAA032129MA
64	43	400	80	32	458×228×75	6.4	SCMHAA064407MA
136	90	277	100	50	305×138×415	17.5	SCMHAA136277MA

HMAA System HMAA 系统

U _p 额定电压	U _{min} 最低电压	Rated Cap. 25°C/额定容量	ESR _{DC} 直流内阻	Rated Current 额定电流	Size 尺寸 L×W×H	Weight 重量	P/N 产品代码
(V)	(F)	(F)	(mΩ)	(A)	(mm)	(Kg)	-
56	35	14000	5	1000	802×725×471	665	SCMHAA056149MA
600	375	400	100	300	950×600×2350	980	SCMHAA600407MA
640	400	1250	30	1000	2872×1450×865	2500	SCMHAA640128MA
720	460	520	110	300	1500×650×2520	1325	SCMHAA720527MA

*Customer products are available on request.