



ES4810X / ES4810



ES4820X / ES4820

Model	ES4810X	ES4810	ES4820X	ES4820
<b>General Characteristics</b>				
Nominal voltage	48V	51.2V	48V	51.2V
Nominal capacity@0.2C	12Ah	12Ah	24Ah	24Ah
Min. capacity@0.2C	11.5Ah	11.5Ah	23Ah	23Ah
Nominal energy	576Wh	614.4Wh	1152Wh	1228.8Wh
Dimensions(W*D*H)	483*373*44mm	483*373*44mm	483*365*88mm	483*365*88mm
Approx. weight	9Kg	9.2Kg	16.2Kg	16.8Kg
<b>Electrical Characteristics</b>				
Operating voltage range	42V~53.2V	44.8V~56.8V	42V~53.2V	44.8V~56.8V
Recommended charging voltage	52.5V	56V	52.5V	56V
Max. charging current	5A	5A	10A	10A
Charging current limit in parallel connection (programmable ON/OFF)	2A	2A	2A	2A
Max. continuous discharging current	10A	10A	20A	20A
Max. peak discharging current	12A (<3S)	12A (<3S)	12A (<3S)	12A (<3S)
Discharging cut-off voltage	42V	44.8V	42V	44.8V
Faraday charging efficiency	≥98%	≥98%	≥98%	≥98%
Energy charging efficiency	≥92%	≥92%	≥92%	≥92%
Internal resistance	140mΩ	150mΩ	110mΩ	120mΩ
Self-discharge	≤3.5%	≤3.5%	≤3.5%	≤3.5%
Cycle Life (@25°C,0.2C,80%DOD)	1800 Cycles	1800 Cycles	1800 Cycles	1800 Cycles
<b>Operating Conditions</b>				
Operating temperature	Charge	0°C~45°C		0°C~45°C
	Discharge	-10°C~45°C		-10°C~45°C
Storage temperature	-20°C~45°C		-20°C~45°C	
Storage duration	12 Months @20°C~25°C		12 Months @20°C~25°C	
Safety standard	UL 1642 at cell level		UL 1642 at cell level	
Water dust resistance	IP30		IP30	
Parallel function	Maximum support 16 units in parallel, recommended no more than 12 units		Maximum support 16 units in parallel, recommended no more than 12 units	



ES4830X / ES4830



ES4870X / ES4870

Model	ES4830X	ES4830	ES4870X	ES4870
<b>General Characteristics</b>				
Nominal voltage	48V	51.2V	48V	51.2V
Nominal capacity@0.2C	30Ah	30Ah	72Ah	72Ah
Min. capacity@0.2C	29Ah	29Ah	70Ah	70Ah
Nominal energy	14.4kWh	15.36kWh	34.56kWh	36.86kWh
Dimensions(W*D*H)	483*365*88mm	483*365*88mm	483*385*176mm	483*385*176mm
Approx. weight	18.6Kg	19.1Kg	38Kg	39.6Kg
<b>Electrical Characteristics</b>				
Operating voltage range	42V~53.2V	44.8V~56.8V	42V~53.2V	44.8V~56.8V
Recommended charging voltage	52.5V	56V	52.5V~54V	56V~56.8V
Max. charging current	10A	10A	50A	50A
Charging current limit in parallel connection (programmable ON/OFF)	2A	2A	10A	10A
Max. continuous discharging current	20A	20A	50A	50A
Max. peak discharging current	22A (<3S)	22A (<3S)	22A (<3S)	22A (<3S)
Discharging cut-off voltage	42V	44.8V	42V	44.8V
Faraday charging efficiency	≥98%	≥98%	≥98%	≥98%
Energy charging efficiency	≥92%	≥92%	≥92%	≥92%
Internal resistance	100mΩ	110mΩ	60mΩ	65mΩ
Self-discharge	≤3.5%	≤3.5%	≤3.5%	≤3.5%
Cycle Life (@25°C,0.2C,80%DOD)	1800 Cycles	1800 Cycles	1800 Cycles	1800 Cycles
<b>Operating Conditions</b>				
Operating temperature	Charge	0°C~45°C		0°C~45°C
	Discharge	-10°C~45°C		-10°C~45°C
Storage temperature	-20°C~45°C		-20°C~45°C	
Storage duration	12 Months @20°C~25°C		12 Months @20°C~25°C	
Safety standard	UL 1642 at cell level		UL 1642 at cell level	
Water dust resistance	IP30		IP30	
Parallel connection function	Maximum support 16 units in parallel, recommended no more than 12 units		Maximum support 16 groups in parallel, recommended no more than 12 groups	