

**TRUSTED ENERGY PARTNER  
FROM FINLAND  
SINCE 1975**



## THREE PHASE HYBRID ALL-IN-ONE SOLUTION LM-AIO-X10/X15/X19/X24



EASY INSTALLATION



10 YEARS WARRANTY



10kW DC CHARGING DISCHARGING



HIGH EFFICIENCY



INTELLIGENT O&M

## All-In-One Residential ESS

Model	LM AIO-X10	LM AIO-X15	LM AIO-X19	LM AIO-X24
<b>Battery Specification</b>				
System Energy [kWh]	9.6	14.4	19.2	24
System Rated Voltage/Range [V]	192/168~219	288/252~328.5	384/336~438	480/420~547.5
Max. Continuous Charge Power [kW]	4.8	7.2	9.6	10
Max. Continuous Discharge Power [kW]	10			
<b>PV Input</b>				
Max. DC Input Power [kW]	15			
Max. DC Input Voltage [V]	1000			
Start-up Voltage [V]	150			
MPPT Range [V]	160~950			
Max. Input Current [A]	20/30			
Max. Short Circuit Current [A]	30/40			
Number Of MPPT	2			
No. of PV Strings Per MPP Tracker	3(1/2)			
<b>AC Grid</b>				
Rated AC Output Power [kW]	10			
Max. AC Output Power [kW]	11			
Max. Grid Input Power(PF=1) [kW]	11			
Max. AC Output Current [A]	3*16.7			
Max. Input Power [kW]	15			
Max. Input Current [A]	3*25			
Rated AC Voltage [V]	380/400/415,3W+N+PE			
AC Grid Frequency [Hz]	50/60			
Grid Frequency Range [Hz]	45~55/55~65(Adjustable)			
Power Factor	>0.99 @ Rated Power(Adjustable 0.8 LD - 0.8 LG)			
THDI	<3%(Rated Power)			
<b>AC Load Output</b>				
Rated AC Output Power [kW]	10			
Rated AC Output Current [A]	3*15.2			
Peak Output Apparent Power(5min) [KVA]	12			
Peak Output Apparent Power(10s) [KVA]	15			
Rated AC Voltage [V]	380V/400V/415V,3W+N+PE			
AC Frequency [Hz]	50/60			
Transfer Time [ms]	<10			
THDV	<5%@100% R Load			
<b>Protection</b>				
DC Switch	Yes			
Anti-islanding Protection	Yes			
AC Overcurrent Protection	Yes			
DC/AC Overvoltage Protection	DC Type II, AC Type III			
AC Short Circuit Protection	Yes			
DC Reverse Protection	Yes			
Insulation Resistance Detection	Yes			
Leakage Current Protection	Yes			
<b>Efficiency</b>				
Max. Efficiency(PV to AC) [%]	98.4			
European Efficiency(PV to AC) [%]	97.9			
Max. Efficiency(BAT to AC) [%]	98			
Battery RTE <sup>①</sup> Efficiency [%]	95			
<b>Certifications and Standards</b>				
Safety EMC/Standard	IEC 62109-1&2			
Grid Certifications and Standards	VDE 4105, EN 50549-1, CEI 0-21, PPDS, RD 1699/661/647/413, UNE 217002, C10/11, G98/G100, IEC 61727/62116			
Battery Certifications and Standards	Pack: IEC/EN 62619, UN38.3 Cell: IEC/EN 62619, UN38.3, UL1973			
<b>General Data</b>				
Dimensions(W*D*H) [mm]	620*320*1523.5	620*320*1804.5	1300*320*1523.5	1300*320*1804.5
Weight [kg]	173.7	226.3	292.9	345.5
Operation Temperature Range [°C]	-20~55			
Relative Humidity	5%~95%			
Working Altitude	4000m(>2000m Derating)			
Protection Grade	IP65			
Cooling(Inverter)	Natural Cooling			
Temperature Management(Battery)	Natural Cooling/Intelligent Heating			
Display	Bluetooth & APP, LCD(Optional)			
Communication	RS 485/CAN(BMS), RS485, RS485(For Meter), WIFI			
Warranty	10Years			

① RTE: Round Trip Efficiency