FALCON ESS

SIGNATURE GREY SERIES

CLEAN ENERGY
A BRIGHTER TOMORROW

RESIDENTIAL
ENERGY STORAGE

PowerQ

ALL-IN-ONE RESIDENTIAL ENERGY STORAGE SYSTEM



11.4kW/20kWh

FLEXIBILITY
Modular design to meet various backup scenarios.

EASY INSTALLATION
Integrated configuration, plug and play set-up.

TYPE 4X
Engineered to last with maximum flexibility. Suitable for outdoor installation.

FALCONCLOUD 2.0
Monitor your system remotely via smartphone app or web portal.

Falcon ESS PowerQ is the latest generation of an integrated residential energy storage system. With up to 20kWh total backup capacity, PowerQ is designed to meet various backup scenarios via modular system design and scalability.

3.8kW ››› 11.4kW

For more information about the Falcon ESS range, visit:
falcon-ess.com

302680



POWER
A CLEANER
TOMORROW

TECHNICAL SPECIFICATIONS

MODEL	AIO-AC1-3.8-US AIO-H1-3.8-US	AIO-AC1-5.7-US AIO-H1-5.7-US	AIO-AC1-7.6-US AIO-H1-7.6-US	AIO-AC1-9.6-US AIO-H1-9.6-US	AIO-AC1-11.4-US AIO-H1-11.4-US
PV INPUT (ONLY FOR HYBRID)					
Max. Solar STC Power [W]	7600	11400	15200	19200	22800
Max. Input Voltage [V]			600		
Start-up Input Voltage [V]			100		
Rated Input Voltage [V]			380		
MPPT Operating Voltage Range [V]			80 ~ 550		
MPPT Operating Voltage Range [V] (Full Load)	204 ~ 500	204 ~ 500	271 ~ 500	257 ~ 500	305 ~ 500
Max. Input Current [A]	28 / 14	28 / 14	28 / 14	28 / 14 / 14	28 / 14 / 14
Max. Short-circuit Current [A]	44 / 22	44 / 22	44 / 22	44 / 22 / 22	44 / 22 / 22
No. of Independent MPP Trackers	2	2	2	3	3
No. of Strings per MPP Tracker	2 / 1	2 / 1	2 / 1	2 / 1 / 1	2 / 1 / 1
BATTERY CONNECTION					
Battery Type			LFP ($LiFePO_4$)		
Battery Voltage Range [V]			85 ~ 460		
Rated Battery Voltage [V]			360		
Max. Continuous Charge / Discharge Current [A]			50		
Max. Continuous Charge / Discharge Power [W](for H1)	5700/4180	8550/6270	11400/8360	14400/10560	17100/12540
(for AC1)	3800/4180	5700/6270	7600/8360	9600/10560	11400/12540
Max. Discharge Current (60s) [A]			60		
AC INPUT AND OUTPUT (GRID)					
Max. AC Input Power [VA]	3800	5700	7600	9600	11400
Max. AC Input Current [A]	16	24	32	40	48
Input Voltage Range [V]			211 ~ 264		
Input Frequency Range [Hz]			57 ~ 63		
Rated Output Power [W]	3800	5700	7600	9600	11400
Max. Output Apparent Power [VA]	3800	5700	7600	9600	11400
Rated Output Current [A]	15.8	23.8	31.7	40.0	47.5
Max. Output Current [A]	15.8	23.8	31.7	40.0	47.5
Rated Grid Voltage [V]			240 (211 ~ 264)		
Rated Grid Frequency [Hz]			57 ~ 63		
Power Factor			>0.99 (Adjustable from 0.8 leading to 0.8 lagging)		
THDi [%]			<3 @rated power		
AC OUTPUT (BACKUP)					
Rated Output Power [W]			11400		
Rated output power @different batteries [W]			5760 @H2 Battery 8640 @H3 Battery 11400 @H4 Battery 11400 @H5 Battery 11400 @H6 Battery (Only for non US mainland) 11400 @H7 Battery (Only for non US mainland)		
Max. Output Apparent Power [VA]			12540		
Peak Output Apparent Power (10min) [VA]			13680		
Peak Output Apparent Power (60s) [VA]			15390		
Max. Continuous Output Current [A]			52.3		
LRA [A]			160		
Rated Output Voltage [V]			120 / 240		
Rated Output Frequency [Hz]			60		
Load Start Capacity [A] LRA			50 @H2 Battery 75 @H3 Battery 110 @H4 Battery 160 @H5 Battery 160 @H6 Battery (Only for non US mainland) 160 @H7 Battery (Only for non US mainland)		
THDv (Linear Load) [%]			<3 @rated power		
Imbalance for Split-Phase Loads [%]			100		
EFFICIENCY					
CEC Efficiency [%]			97.00		
Max. Efficiency [%]			97.60		
Max. Battery Discharge Efficiency (BAT to AC) (@full load, 340Vdc) [%]			97.40		
PROTECTION					
Insulation Monitoring			YES		
Residual Current Monitoring			YES		
DC Reverse Polarity Protection			YES		
Anti-islanding Protection			YES		
AC Short-circuit Protection			YES		
AC Overcurrent / Overvoltage Protection			YES		
DC Switch			YES		
SPD			DC: Type II / AC: Type II		
AFCI			YES		
GENERAL DATA					
Topology			Transformerless		
Cooling Method			Natural convection		
Noise Emission [dB]			<35		
Max. Operating Altitude [ft / m]			9843 / 3000 (Derating above 6560 / 2000)		
Operating Temperature [°F / °C] (North America)			-13 ~ +131 / -25 ~ +55 (Derating above 104 / 40)		
Operating Temperature [°F / °C] (Non-North America)			14 ~ +131 / 10 ~ +55 (Derating above 104 / 40)		
Humidity [%]			0 ~ 100 (No Condensation)		
Protection Degree			Type 4X		
Standby consumption [W]			<25		
Monitoring Module			WiFi, LAN		
Communication			CAN2.0, RS485, Meter, CT, ISO alarm, SUNSPEC		
Display			LED, App, Website		
Warranty [Year]			12.5		
STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)					
Safety			UL1741 SA, UL 1741 SB, UL1741 CRD, HECO SRD-V2.0, CSA C22.2 No.107.1-16, UL1998, UL1699B, Rule 21, ANSI/CAN/UL9540		
EMC			FCC part15 CLASS B		
Grid Regulation			IEEE1547-2018, IEEE1547a-2020, IEEE1547.1-2020		

MODEL	AIO-US-EQL2	AIO-US-EQL3	AIO-US-EQL4	AIO-US-EQL5	AIO-US-EQL6	AIO-US-EQL7
MECHANICAL CHARACTERISTICS						
Dimensions (W*H*D) [mm]	570*848*380	570*986*380	570*1124*380	570*1262*380	570*1400*380	570*1538*380
Dimensions (W*H*D) [inch]	22.4*33.4*15.0	22.4*38.8*15.0	22.4*44.3*15.0	22.4*49.7*15.0	22.4*55.1*15.0	22.4*60.6*15.0
Weight [kg/lbs]	128.3 / 282.9	165.2 / 364.2	202.1 / 445.6	239.0 / 526.9	275.9 / 608.3	312.8 / 689.6