FALCON
ESS

DATASHEET

SIGNATURE GREY SERIES

CLEAN ENERGY
A BRIGHTER TOMORROW

Power Cube

THREE-PHASE HYBRID/AC

Power Cube is the latest generation of an integrated residential energy storage system, modularly designed to meet various installation scenarios.

FLEXIBLE APPLICATION

- 3 MPPTs, 20A per string.
- PV min. voltage of 120V and min. battery voltage of 80V.

EASY INSTALLATION

- Built-in gateway with 63A bypass for full house backup.
- No cables required between the inverter and batteries.

SAFE AND DURABLE

- Integrating active and passive safety.
- Intelligent AFCI function.
- IP66 and type II DC/AC surge protection.

REMOTE MONITORING

- Monitor your system remotely via smartphone App or Web portal.
- Ready for AI mode, dynamic trading and VPP.

5kW » 15kW



Advanced System Monitoring
with **FalconCloud 2.0**

POWER A CLEANER TOMORROW

www.falcon-ess.com

TECHNICAL SPECIFICATIONS

MODEL	HQ3-5.0-M	HQ3-6.0-M	HQ3-8.0-M	HQ3-10.0-M	HQ3-12.0-M	HQ3-15.0-M
PV INPUT						
Max. Array Power[W]	11000	14000	18000	20000	24000	30000
Max. Input Power [W]	11000	13200	17600	20000	24000	30000
Max. Input Voltage [V]	1000 [1]					
Nominal Operating Voltage [V]	620					
Max. MPPT Input Current [A]	20/20/20					
Max. MPPT Short-Circuit Current [A]	25/25/25					
Max. MPPT Input Power [W]	10000/10000/10000					
Min. Operating Input Voltage [V]	90 [2]					
MPPT Voltage Range [V]	120 ~ 950					
Start-Up Input Voltage [V]	140					
MPPT Voltage Range (Full Load) [V]	120 ~ 850	120 ~ 850	140 ~ 850	175 ~ 850	210 ~ 850	263 ~ 850
No. of MPP Trackers	3					
Strings per MPP Tracker	1+1+1					
Max. Inverter Backfeed Current to the Array	0					
BATTERY CONNECTION						
Battery Type	Lithium-Ion battery (LFP)					
Battery Voltage [V]	80 ~ 500					
Min. Operating Battery Voltage [V]	85					
Min. Battery Voltage @ Full AC Load [V]	108	125	160	210	250	310
Max. Battery Charge Power [W]	6000	7200	9600	12000	14400	15000
Max. Battery Discharge Power [W]	5000	6000	8000	10000	12000	15000
Max. Charge/Discharge Current [A]	50					
Communication Interface	CAN					
AC OUTPUT						
Nominal Output Power [W]	5000	6000	8000	10000	12000	15000
Max. Apparent Output Power [VA]	5500	6600	8800	11000	13200	16500
Rated Grid Voltage (AC Voltage Range) [V]	400/230; 380/220, 3L/N/PE					
Rated Grid Frequency [Hz]	50/60, ±5					
Rated Output Current (Per Phase) [A]	7.6	9.1	12.1	15.2	18.2	22.7
Max. Output Current (Per Phase) [A]	8.3	10.0	13.3	16.7	20.0	25.0
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)					
THDI [%]	<3 @rated power					
AC INPUT						
Max. Input Power [VA]	43470					
Rated Grid Voltage [V]	400/230; 380/220, 3L/N/PE					
Rated Grid Frequency [Hz]	50/60, ±5					
Max. Input Current (Per Phase) [A]	63					
EPS OUTPUT(ON GRID MODE)						
Max. Output Power For Backup Load (Per Phase) [W]	43470					
Max. Output Current For Backup Load [A]	3*63					
EPS OUTPUT(OFF GRID MODE)						
Max. Apparent Output Power [VA]	5000	6000	8000	10000	12000	15000
Peak Apparent Output Power (60s) [VA]	6000	7200	9600	12000	14400	15000
Rated Output Voltage [V]	400/230; 3L/N/PE					
Rated Grid Frequency [Hz]	50/60					
Max. Continuous Current (Per Phase) [A]	7.2	8.7	11.6	14.5	17.4	21.7
Max. Unbalanced Load Power (Per Phase) [kW]	1.6	2.0	2.6	3.3	4.0	5.0
Step-Down Start	YES					
EPS Overload Automatic Recovery Time	Try 3 times(15s) everytime will alarm a fault, after 3 failures, stop the recovery logic, clients need to clear the fault manually.					
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)					
Parallel Operation	Yes @ Max. 4 pcs					
Switch Time (Single Device) [ms]	<20					
THDV [%]	<3 @rated power					
EFFICIENCY						
MPPT Efficiency [%]	99.90					
Max. Efficiency [%]	97.80	97.80	97.90	97.90	97.90	97.90
European Efficiency [%]	97.00	97.00	97.10	97.30	97.50	97.50
Max. Battery Charge Efficiency (PV to BAT) (@ Full Load) [%]	97.00	97.10	97.20	97.40	97.50	97.60
Max. Battery Discharge Efficiency (BAT to AC) (@ Full Load) [%]	97.00	97.10	97.20	97.20	97.20	97.20

TECHNICAL SPECIFICATIONS

MODEL	HQ3-5.0-M	HQ3-6.0-M	HQ3-8.0-M	HQ3-10.0-M	HQ3-12.0-M	HQ3-15.0-M
PROTECTION						
PV Reverse Polarity Protection	YES					
Battery Reverse Protection	YES					
Anti-Islanding Protection	YES					
Output Short Protection	YES					
Leakage Current Protection	YES					
Insulation Resistor Detection	YES					
Overvoltage Category	III (AC Side), II (DC Side)					
Reverse Connect Protection	YES					
Overcurrent Protection/Overtemperature Protection	YES					
DC/AC Surge Protection	Type II (PV)/Type II (AC)					
AFCI Protection	Optional					
DC Switch	YES					
GENERAL DATA						
Dimensions (W*H*D) [mm]	570*420*380 (Inverter)					
Dimensions of Packing (W*H*D) [mm]	760*545*595 (Inverter)					
Net Weight [kg]	42.6 (Inverter)					
Gross Weight [kg]	64.5 (Inverter)					
Installation	Floor-mounted					
Operating Temperature Range [°C]	-25 ~ +60 (Derating at 45)					
Storage Temperature [°C]	-40 ~ +70					
Storage/Operation Relative Humidity [%]	0 ~ 100 (No condensation)					
Altitude [m]	<4000 @ Derating Exceeding 3000					
Protection Class	I					
Ingress Protection	IP66 (For Outdoor Use)					
Standby Consumption [W]	<15 (Only PV and Battery)					
Idle Mode	YES					
Cooling	Natural	Natural	Natural	Natural	FAN Cooling	FAN Cooling
Noise Level [dB]	<40	<40	<40	<40	<55	<55
Inverter Topology	Non-Isolated					
Monitoring Module (Integrated)	WIFI, LAN, 4G					
Communication Interface	Meter, WIFI/4G (Optional), Bluetooth, DRM, Ethernet, USB, BMS (CAN), RS485, Ripple Control, SG Ready, Dry Contact*2					
Display	LED, LCD, App, Website					
Button	Capacitive Touch Sensor					
Buzzer	1, Inside (EPS & Earth Fault)					
STANDARD						
Safety	EN/IEC62109-1, EN/IEC62109-2					
EMC	IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3, IEC61000-4-2/3/4/5/6/8					
Certification	AS4777.2-2020, VDE-AR-N 4105, VDE0126-1-1, G98, EN50549-1, CEI 0-21, IEC62116, IEC61727, IEC61683					

[1] For 1000V system, PV maximum operating voltage is 950V.
[2] The starting working voltage of the power supply is 90V.

TECHNICAL SPECIFICATIONS

MODEL	EQ3300 -S (w)_2S	EQ3300 -S (w)_3S	EQ3300 -S (w)_4S	EQ3300 -S (w)_5S	EQ3300 -S (w)_6S
ELECTRICAL CHARACTERISTICS					
Battery Type			LFP ($LiFePO_4$)		
Battery Module	2	3	4	5	6
Nominal Energy [kWh]	6.40	9.60	12.80	16.00	19.20
Nominal Voltage [V]	128.0	192.0	256.0	320.0	384.0
Operating Voltage [V]	116.0 ~ 146.0	174.0 ~ 219.0	232.0 ~ 292.0	290.0 ~ 365.0	348.0 ~ 438.0
Recommend Discharge Current [A]			25		
Max. Charge/Discharge Current [A]*1			50		
Peak Discharge Current (60S) [A]			65		
Battery Pack Round-Trip Efficiency [%]*2			>95		
Depth of Discharge [%]			90		
Communication			CAN		
Display			LED*1		
Scalability			Max. 6 Modules in Series		
OPERATING CONDITIONS					
Installation Location			Outdoor/ Indoor		
Operating Temperature [°C] (warm up function off)*3			Charge: 0 ~ 55, Discharge: -10 ~ 55		
Operating Temperature [°C] (warm up function on)			Charge: -25 ~ 55, Discharge: -25 ~ 55		
Storage Temperature [°C]			-10 ~ 50		
Cooling Method			Natural Convection		
Humidity [%]			5 ~ 95 (No Condensation)		
Altitude [m]			Max. 3,000		
PROTECTION					
Fire Protection Function			YES		
MECHANICAL CHARACTERISTICS					
Dimensions (W*H*D) [mm]	570*270*380	570*405*380	570*540*380	570*675*380	570*810*380
Weight [kg] (±5%)	72.0	108.0	144.0	180.0	216.0
Cell Net Weight [kg] (±5%)	44.0	66.0	88.0	110.0	132.0
CERTIFICATES					
Safety			IEC 62619		
EMC			EN IEC 61000-6-1/2/3/4		
Transportation			UN38.3		
Ingress Protection			IP66		

*1 The current is affected by temperature, cell voltage and SOC.

*2 @25°C, 0.3C charging/discharging.

*3 Charge and discharge power reduction applies at low temperatures.