The Champion's Choice

Higher · Faster · Smarter

FOX ESS

Power Cube

SINGLE-PHASE HYBRID/AC

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



INV: 3.7kW ···» 12kW
EV Charger: 7.3kW



Advanced System Monitoring
with **FoxCloud 2.0**

FLEXIBLE APPLICATION

- 0ms seamless switch.*
- Up to 200% PV input with 4 MPPTs, 20A per string.

EASY INSTALLATION

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

INTEGRATED AC EV CHARGER

- Dynamic load balancing.
- Direct surplus solar power for EV charging.
- Set the charging time flexible.
- EV Charger module optional.

REMOTE MONITORING

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

www.fox-ess.com

DATASHEET

*The 0 ms transfer time applies under the following conditions: In the open-circuit state of the power grid, total load power does not exceed the rated output backup power, stable grid conditions.

TECHNICAL SPECIFICATIONS

MODEL	PQ1-3.7-NH2 PQ1-3.7-NA2	PQ1-4.6-NH2 PQ1-4.6-NA2	PQ1-4.6-LH2 PQ1-4.6-LA2	PQ1-5.0-NH2 PQ1-5.0-NA2	PQ1-5.0-LH2 PQ1-5.0-LA2	PQ1-5.7-LH2 PQ1-5.7-LA2	PQ1-6.0-NH2 PQ1-6.0-NA2	PQ1-7.0-NH2 PQ1-7.0-NA2	PQ1-8.0-NH2 PQ1-8.0-NA2	PQ1-10.0-NH2 PQ1-10.0-NA2	PQ1-12.0-NH2 PQ1-12.0-NA2
PV INPUT											
Max. Array Power[W]	16000	16000	16000	16000	16000	24000	24000	24000	24000	24000	24000
Max. Input Power [W]	15700	16600	16600	17000	17000	18000	18000	19000	20000	22000	24000
Max. MPPT Input Power (Per) [W]	8000										
Max. Input Voltage [V]	600[1]										
Min. Input Voltage [V]	80										
Start-Up Input Voltage [V]	50										
Nominal Voltage [V]	360										
MPPT Voltage Range [V]	80 ~ 550										
MPPT Voltage Range (Full Load) [V]	96 ~ 550	120 ~ 550	120 ~ 550	130 ~ 550	130 ~ 550	100 ~ 550	105 ~ 550	121 ~ 550	105 ~ 550	130 ~ 550	155 ~ 550
Max. PV Input Current [A]	20/20	20/20	20/20	20/20	20/20	20/20/20	20/20/20	20/20/20	20/20/20/20	20/20/20/20	20/20/20/20
Max. Isc PV Current [A]	25/25	25/25	25/25	25/25	25/25	25/25/25	25/25/25	25/25/25	25/25/25/25	25/25/25/25	25/25/25/25
No. of MPP Trackers	2	2	2	2	2	3	3	3	4	4	4
Strings per MPP Tracker	1+1	1+1	1+1	1+1	1+1	1+1+1	1+1+1	1+1+1	1+1+1+1	1+1+1+1	1+1+1+1
BATTERY CONNECTION											
Battery Type	Lithium-Ion battery (LFP)										
Battery Voltage [V]	50 ~ 500										
Min. Operating Battery Voltage [V]	50										
Min. Battery Voltage @ Full AC Load [V]	50	60	60	68	68	75	80	92	105	130	155
Max. Battery Charge Power [W]	12000										
Max. Battery Discharge Power [W]	3680	4600	4600	5000	5000	5700	6000	7000	8000	10000	12000
Max. Charge/Discharge Current [A]	80/80										
Depth of Discharge [%]	90										
Scalability	YES										
AC OUTPUT											
Rated Output Power [W]	3680	4600	4600	5000	5000	5700	6000	7000	8000	10000	12000
Rated Apparent Power [VA]	3680	4600	4600	5000	5000	5700	6000	7000	8000	10000[2]	12000
Max. Apparent Power [VA]	3680	5060	4600	5500	5000	5700	6600	7700	8800	11000[2]	13200
Rated Grid Voltage [V]	220/230/240, L/N/PE										
Rated Grid Frequency [Hz]	50/60										
Rated Output Current [A]	16.7	20.9	20.9	22.7	22.7	24.8	27.3	31.8	36.4	45.5	54.5
Max. Output Current [A]	16.7	23.0	20.9	25.0	22.7	25.9	30.0	35.0	40.0	50.0	60.0
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)										
THDI [%]	<3 @rated power										
AC INPUT											
Max. Apparent Power [VA]	7300	7300	7300	9200	9200	11500	11500	14500 [3]	14500[3]	14500[3]	14500[3]
Rated Grid Voltage [V]	220/230/240, L/N/PE										
Rated Grid Frequency [Hz]	50/60										
Max. Input Current [A]	32.0	32.0	32.0	40.0	40.0	50.0	50.0	63.0[3]	63.0[3]	63.0[3]	63.0[3]
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)										
BACK UP OUTPUT											
Max. Apparent Power [VA]	3680	4600	4600	5000	5000	5700	6000	7000	8000	10000	12000
Load Start Capability [A]	122 @2s										
Rated Output Voltage [V]	220/230/240, L/N/PE										
Rated Grid Frequency [Hz]	50/60										
Rated Output Current for Backup Load (Bybass) [A]	16.7	20.9	20.9	22.7	22.7	25.9	27.3	31.8	36.4	45.5	54.5
Max. Output Current [A]	32.0	32.0	32.0	40.0	40.0	50.0	50.0	63.0	63.0	63.0	63.0
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)										
Parallel Operation	Yes @ Max. 3 pcs										
Switch Time [ms]	0[4]										
THDV [%]	<3 @linear load										
EFFICIENCY											
Max. Static MPPT Efficiency [%]	99.90										
Max. Conversion Efficiency [%]	97.60	97.62	97.62	97.62	97.62	97.62	97.62	97.62	97.62	97.62	97.62
European Efficiency [%]	97.16	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20
Max. Battery Charge Efficiency (PV to BAT) (@ Full Load) [%]	97.33										
Max. Battery Discharge Efficiency (BAT to AC) (@ Full Load) [%]	96.40										

TECHNICAL SPECIFICATIONS

MODEL	PQ1-3.7-NH2 PQ1-3.7-NA2	PQ1-4.6-NH2 PQ1-4.6-NA2	PQ1-4.6-LH2 PQ1-4.6-LA2	PQ1-5.0-NH2 PQ1-5.0-NA2	PQ1-5.0-LH2 PQ1-5.0-LA2	PQ1-5.7-LH2 PQ1-5.7-LA2	PQ1-6.0-NH2 PQ1-6.0-NA2	PQ1-7.0-NH2 PQ1-7.0-NA2	PQ1-8.0-NH2 PQ1-8.0-NA2	PQ1-10.0-NH2 PQ1-10.0-NA2	PQ1-12.0-NH2 PQ1-12.0-NA2
PROTECTION											
PV Reverse Polarity Protection	YES										
Anti-Islanding Protection	YES Active frequency shift										
Output Short Protection	YES										
Leakage Current Protection	YES										
Insulation Resistor Detection	YES										
Overvoltage Category	YES										
Overcurrent Protection	YES										
Overtemperature Protection	YES										
Earth Fault	YES										
DC/AC Surge Protection	Type II (PV)/Type II (AC)										
AFCI Protection	Optional										
Battery Warming Function	Optional										
DC Switch	YES										
GENERAL DATA											
Dimensions (W*H*D) [mm]	660*420*360 (Inverter)										
Dimensions of Packing (W*H*D) [mm]	793*550*592 (Inverter)										
Net Weight [kg]	46.5 (Inverter)										
Gross Weight [kg]	69.0 (Inverter)										
Installation	Floor-mounted										
Operating Temperature Range [°C]	-25 ~ +55 (Derating at 45)										
Storage Temperature [°C]	-40 ~ +70										
Storage/Operation Relative Humidity [%]	0 ~ 100 (No condensation)										
Altitude [m]	≤3000										
Protection Class	I										
Overvoltage Category	III (AC), II (DC)										
Pollution Degree	PD3 (PD2 inside)										
Ingress Protection	IP66 (For Outdoor Use)										
Standby Consumption [W]	<15 (Only PV and Grid)										
Cooling	FAN cooling	FAN cooling	FAN cooling	FAN cooling	FAN cooling	FAN cooling	FAN cooling	FAN cooling	FAN cooling	FAN cooling	FAN cooling
Noise Emission (Average) [dB]	<55	<55	<55	<55	<55	<55	<55	<55	<55	<55	<55
Inverter Topology	Non-Isolated										
Communication Interface	Ethernet, EMS(RS485), Meter, WiLAN(WiFi+LAN+Bluetooth), 4G(Optional), DRM(DRM0, AU), Airgate, Ripple Control, USB, SG Ready, Dry Contactor										
Display	LED, LCD, App, Website										
Export Limit Control	YES										
Button	Capacitive Touch Sensor										
STANDARD											
Safety	EN/IEC 62109-1, EN/IEC 62109-2, EN/IEC62477-1, EN/IEC 62040(AU)										
EMC	EN IEC 61000-6-1:2019, EN IEC 61000-6-3:2021, EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019, IEC 62920:2017										
RED	EN 50665:2017, ENIEC 62311:2020, EN 301 489-1 V2.2.3 (2019-11), EN 301 489-17 V3.2.4 (2020-09), EN 300 328 V2.2.2(2019-07), EN 55032:2015+A11:2020+A1:2020, EN 55035:2017+A11:2020										
Grid Regulation	AS/NZS 4777.2:2020										
Battery Regulation	IEC62619:2022										

[1] Voltages exceeding 600 V may damage the inverter.

[2] Under Australian standards, the maximum apparent power is 9999 VA.

[3] This parameter can be set and adjusted via the App.

[4] The 0 ms transfer time applies under the following conditions: In the open-circuit state of the power grid, total load power does not exceed the rated output backup power, stable grid conditions.

TECHNICAL SPECIFICATIONS

MODEL	VQ1-7.3-AN1
AC INPUT	
Rated Input Voltage [V ac][*1]	230±20%, L/N/PE
Rated Input AC Current [A ac]	32
Rated Input Frequency [Hz]	50/60
AC OUTPUT	
Rated Output Voltage [V ac][*1]	230±20%, L/N/PE
Rated Output AC Current [A]	32
Rated Output Frequency [Hz]	50/60
PROTECTION	
Output Overcurrent Protection	✓
Input Over/Under Voltage Protection	✓
Leakage Current Protection	✓
Ground Protection	✓
Surge Protection	✓
Over-temperature Protection	✓
GENERAL DATA	
Connector Type	Type 2 socket
Dimension (W*H*D)[mm] (without cable)	660*155*360
Net Weight (without cable) [kg]	12.9
Start Mode	App
Single/Three Phase Switching	/
ISO 15118-compliant V2G and Plug&Charge for EU	✓
Installation	Floor Mounted
Operating Temperature Range [°C]	-25 to +55
Storage Temperature [°C]	-40 to +70
Operating Humidity [%]	0-100 (No condensation)
Operating Altitude [m]	≤3000
IP Protection Rating	IP66
IK Protection rating	IK10
Residual Current Detection [mA]	DC 6
Cooling	Self Cooling
Protective Class	Class I
EMC	Class B
Certification	CE,UKCA,CB,RCM,RoHS
Certification Standard	IEC 61851-1: 2017 EN/IEC 61851-1: 2019 EN/IEC 61851-21-2: 2021 AS/NZS 61851.1:2018 AS/NZS 61851.21:2018

*1 For UK: The Rated input/output voltage of VQ1-7.3-AN1 is 230±15%;

TECHNICAL SPECIFICATIONS

MODEL	CQ5.5-S (w)	CQ7-S (w)
ELECTRICAL CHARACTERISTICS		
Battery Type	LFP (LiFePO4)	
Adaptive Inverter	1-7*1	
Nominal Voltage (V)	44.8	57.6
Nominal Energy (kWh)	5.42	6.96
Operating Voltage (V)	40.6~51.1	52.2~65.7
Recommend Charge/Discharge Current (A)	50	
Max. Charge/Discharge Current (A)*2	80	
Peak Discharge Current (60S) (A)	100	
Battery Pack Round-Trip Efficiency (%)*3	>95	
Depth Of Discharge (%)	90	
Communication	CAN	
Display	LED*1	
OPERATING CONDITIONS		
Installation Location	Outdoor / Indoor	
Operating Temperature [°C] (warm up function off)*4	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)	≤3,000	
PROTECTION		
Fire Protection Function	YES	
MECHANICAL CHARACTERISTICS		
Dimensions (W*H*D) [mm]	660*155*360	
Weight (kg) (N.W) (±5%)	44.5	50.5
Cell weight (kg) (N.W) (±5%)	28.2	36.2
CERTIFICATES		
Safety	IEC 62619 / IEC 62477	
EMC	IEC 61000-6-1/2/3/4	
Transportation	UN38.3	
Ingress Protection	IP66	
WARRANTY		
Standard Warranty (year)*3	10	

*1 When using only the CQ5.5, at least 2 units are required.
*2 The current is affected by temperature, cell voltage and SOC;
*3 @25°C, 0.3C charging/discharging;
*4 Charge and discharge power reduction applies at low temperatures.