FALCON ESS

SIGNATURE GREY SERIES

CLEAN ENERGY
A BRIGHTER TOMORROW

IP66 RATED | EPS FUNCTION | -20°C ~ 55°C | 95% DOD



POWER
HOMES
FOR A BRIGHTER
TOMORROW

DATASHEET

P100

A next-generation all-in-one energy storage solution with a fully integrated inverter and battery, offering a range of advanced features.

5kW >> 30kW
10kWh >> 120kWh
Off-Grid



Advanced System Monitoring
with **FalconCloud 2.0**

www.falcon-ess.com

P100

ENERGY STORAGE SYSTEM

FULLY INTEGRATED STORAGE SYSTEM
Seamlessly integrated, truly all-in-one solution.

LESS IS MORE
Sleek, minimalist design for effortless one-step installation.

DOUBLE OFF-GRID BACKUP CAPABILITY
The system experienced a 200% overload for 10 seconds.

DC EXPANSION AND AC PARALLEL OPERATION AVAILABLE
Support 3 ET10 battery expansion units and 3 AC parallel units.

4MS
Support 4ms parallel off-grid switching.

POWER A CLEANER TOMORROW

TECHNICAL SPECIFICATIONS

MODEL		P100E-5-H	P100E-6-H	P100E-8-H	P100E-10-H
PV INPUT (ONLY FOR HYBRID)					
Max. PV Array Power [Wp]		16000	16000	20000	20000
Max. Input Power [W]		15000	16000	18000	20000
Max. MPPT Input Power [W]		8000/8000	8000/8000	8000/8000/8000	8000/8000/8000
Max. Input Voltage [V]			600 [1]		
Start-up Input Voltage [V]			80		
Nominal Voltage [V]			360		
MPPT Operating Voltage Range [V]			80 ~ 550		
Max. Input Current [A]		20/20	20/20	20/20/20	20/20/20
Max. Short-circuit Current [A]		25/25	25/25	25/25/25	25/25/25
No. of MPP Trackers		2	2	3	3
Strings per MPP Tracker		1+1	1+1	1+1+1	1+1+1
BATTERY CONNECTION					
Battery Type			LFP ($LiFePO_4$)		
Battery Energy [kWh]			10.24		
Max. Charge Power [W]			10000		
Depth of Discharge [%]			95		
DC Expansion			Yes, max. 3*ET10 batteries		
AC INPUT AND OUTPUT (GRID)					
Output	Rated Power [W]	5000	6000	8000	10000
	Rated Apparent Power [VA]	5000	6000	8000	10000
	Max. Apparent Power [VA]	5500	6600	8800	11000
	Rated Current (per phase) [A]	22.7/21.7/20.8	27.3/26.1/25.0	36.4/34.8/33.3	45.5/43.5/41.7
	Max. Current (per phase) [A]	25.0/23.9/22.9	30.0/28.7/27.5	40.0/38.3/36.7	50.0/47.8/45.8
	THDi [%]		<3 @rated power		
Input	Max. Apparent Power [VA]	8800	11000	14500 [2]	14500 [2]
	Max. Current [A] (per phase)	40.0	50.0	63.0 [2]	63.0 [2]
Output & Input	Nominal Voltage [V]		220/230/240, L/N/PE		
	Nominal Frequency [Hz]		50/60, ±5		
	Power Factor		1 (Adjustable from 0.8 leading to 0.8 lagging)		
	Inrush Current [A]		3.2 @ 1ms		
EPS OUTPUT					
Max. Apparent Power [VA]		5000	6000	8000	10000
Load Start Capability [A]			100 @2s		
Nominal Voltage [V]			220/230/240		
Nominal Frequency [Hz]			50/60, ±5		
Max. Output Current (per phase) [A]		22.7/21.7/20.8	27.3/26.1/25.0	36.4/34.8/33.3	45.5/43.5/41.7
Power Factor			1 (Adjustable from 0.8 leading to 0.8 lagging)		
Switch Time [ms]			<4		
THDV [%]			<3@Linear Load		
Parallel Operation			Yes @max 3PCS		
EFFICIENCY					
Max. Conversion Efficiency [%]			97.62		
European Efficiency [%]			97.20		
Max. Battery Charge Efficiency (PV To BAT) @full Load [%]			97.33		
Max. Battery Charge/Discharge Efficiency (BAT To AC) @full Load [%]			96.40		
PROTECTION					
PV Reverse Polarity Protection			YES		
Anti-Islanding Protection			YES		
Output Short Protection			YES		
Leakage Current Protection			YES		
Insulation Resistance Detection			YES		
Overcurrent Protection			YES		
Overtemperature Protection			YES		
Earth Fault			YES		
DC/AC Surge Protection			DC: Type II /AC: Type II		
AFCI Protection			YES		
DC Switch			YES		
GENERAL DATA					
Dimensions (W*H*D) [mm]			584*1009*197		
Weight [kg]			108		
Installation			Floor-mounted/Wall-mounted		
Cooling Method			Intelligent air cooling		
Operating Temperature (Limited Performance without Warm Up)			-20 ~ 55		
Operating Temperature (Full Performance with Warm Up)			-25 ~ 55		
Storage Temperature [°C]			0 ~ 35		
Humidity (No Condensation) [%]			0 ~ 100		
Altitude [m]			<4000@Derating exceeding 2000		
Ingress Protection			IP66 (For Outdoor Use)		
Standby Consumption [W]			<20		
Noise Emission [dB]			<45, Average [3]		
Inverter Topology			Non-Isolated		
Communication Interface			Ethernet, EMS, Meter, WiLAN(WiFi+LAN+Bluetooth), 4G(Optional), DRM, Ripple Control, USB, SG Ready, Dry Contactor		
Display			LED, LCD, APP, Website		
Export Limit Control			YES		
Button			Capacitive Touch Sensor * 1		
STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)					
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			G98, CEI 0-21, AS/NZS 4777.2:2020, NRS 097-2-1, IEC 61727, EN 50549-1, P140/P515		
Battery Regulation			IEC62619:2022		
Transportation			UN 38.3		

[1] Voltages above 600V may damage the inverter.
[2] Can be configured via the app or web portal.
[3] Noise data are measured in decibels with the decorative cover installed.