FALCON
ESS

SIGNATURE GREY SERIES

CLEAN ENERGY
A BRIGHTER TOMORROW

DATASHEET

KH/KA

SINGLE-PHASE HYBRID/AC INVERTER

Harness the power of the sun day and night with the ground-breaking range of hybrid inverter from Falcon ESS. Full of advanced features and compatible with our very own range of high-voltage batteries, the hybrid range from Falcon ESS.



7kW » 10.5kW

HIGH EFFICIENCY

Delivers maximum energy harvest and round-trip efficiency for higher savings.

EASY INSTALLATION

Flexible configuration, plug and play set-up, with built-in protection.

IP65 RATED

Engineered to last with maximum flexibility. Suitable for outdoor installation.



Advanced System Monitoring
with **FalconCloud 2.0**

REMOTE MONITORING

Monitor your system remotely via smartphone App or Web portal. An intelligent assistant helps you understand and manage your system.

www.falcon-ess.com

POWERING A CLEANER TOMORROW

TECHNICAL SPECIFICATIONS

MODEL	KH7 KA7	KH8 KA8	KH9 KA9	KH10 KA10	KH10.5 KA10.5
ELECTRICAL CHARACTERISTICS					
Battery Type			Li-Ion		
Battery Voltage Range [V]			85 ~ 480		
Recommended Battery Voltage [V]			300		
Max. Charge Current [A]			50		
Max. Discharge Current [A]			50		
Communication Interfaces			CAN / RS485		
Reverse Connect Protection			YES		
INPUT PV (FOR KH ONLY)					
Max. Array Power [Wp]	15000	16000	18000	20000	21000
Max. Input Power [W]	10500	12000	13500	15000	15000
Max. DC Voltage [V]			600		
Nominal DC Operating Voltage [V]			360		
Max. Input Current (Input A / Input B) [A]	16 / 16 / 16	16 / 16 / 16	16 / 16 / 16 / 16	16 / 16 / 16 / 16	16 / 16 / 16 / 16
Max. Short Circuit Current (Input A / Input B) [A]	20 / 20 / 20	20 / 20 / 20	20 / 20 / 20 / 20	20 / 20 / 20 / 20	20 / 20 / 20 / 20
Max. Inverter Backfeed Current to the Array [mA]			0		
MPPT Voltage Range [V]			80 ~ 500		
Start-up Voltage [V]			75		
No. of MPP Trackers	3	3	4	4	4
Strings per MPP Tracker			1		
DC Disconnection Switch			Optional		
OUTPUT AC					
Nominal AC Power [VA]	7000	8000	9000	10000	10500
Max. Apparent AC power [VA]	7700	8800	9900	10500	10500
Rated Grid Voltage (AC Voltage Range) [V]			220 / 230 / 240 (180 ~ 270)		
Rated Grid Frequency [Hz]			50 / 60, ±5		
Nominal AC Current [A]	30.4	34.8	39.1	43.5	45.7
Max. AC Current [A]	33.5	38.3	43.0	45.7	47.7
Displacement Power Factor			0.8 Leading to 0.8 Lagging		
THDi (Rated Power) [%]			<3		
INPUT AC					
Max AC Power [VA]	14000	14500	14500	14500	14500
Max. AC Current [A]	60.9	63.0	63.0	63.0	63.0
Rated Grid Voltage (AC Voltage Range) [V]			220 / 230 / 240 (180 ~ 270)		
Rated Grid Frequency [Hz]			50 / 60, ±5		
EPS OUTPUT (WITH BATTERY)					
Max. EPS Power [VA]	7000	8000	9000	10000	10500
EPS Rated Voltage [V], Frequency [Hz]			220/230/240, 50 / 60		
Max. EPS Current [A]	31.8	36.4	40.9	45.5	47.7
EPS Peak Power (60s) [W]	10000	10000	12000	12000	12000
Switch Time [ms]			<6		
THDv (Linear Load) [%]			<2		
Parallel Operation			Yes @max10PCS		
EFFICIENCY					
MPPT Efficiency [%]			99.90		
European Efficiency [%]			97.40		
Max. Efficiency [%]			97.80		
Max. Battery Charge Efficiency (PV to BAT) (@Full Load) [%]			98.50		
Max. Battery Discharge Efficiency (BAT to AC) (@Full Load) [%]			97.00		
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		
Overcurrent Protection / Overtemperature Protection			YES		
Overvoltage Category			III (AC side), II (DC side)		
AC/DC Surge Protection			Type II / Type II		
AFCI Protection			Optional		
POWER CONSUMPTION					
Standby Consumption [W] (Idle)			<15		
STANDARD					
Safety			IEC62109-1 / IEC62109-2 / IEC 62477-1		
EMC			EN 61000-6-1 / EN 61000-6-2 / EN 61000-6-3		
Certification			G99 / EN50549 / NRS 097-2-1		
ENVIRONMENT LIMIT					
Ingress Protection			IP65		
Protective Class			Class I		
Operating Temperature Range [°C]			-25 ~ +60 (Derating at +45)		
Humidity [%]			0 ~ 95 (No condensation)		
Altitude [m]			<2000		
Storage Temperature [°C]			-40 ~ +70		
Noise Emission (Typical) [dB]			<30		
DIMENSION AND WEIGHT					
Dimensions (W * H * D) [mm]			450*527*208		
Weight [kg]			29 (KH) / 27.5 (KA)		
Cooling Concept			Natural		
Topology			Non-isolated		
Communication			Meter(Optional), WIFI, 4G (Optional), DRM, USB, CT, RS485		

* More technical characteristics are available on demand and customized.