DATASHEET Single Phase Hybrid / AC Inverter KH7 / KH8 / KH9 / KH10 / KH10.5 KA7 / KA8 / KA9 / KA10 / KA10.5





## KSERIES SINGLE PHASE INVERTER

Harness the power of the sun day and night with the ground-breaking range of Hybrid & AC inverters from FOX. Full of advanced features and compatible with our very own range of high-voltage batteries, the hybrid range from FOX is a new class of Inverter.



FOX storage solutions are available with advanced and intuitive app based remote control and monitoring functionality.



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



Connects to high-voltage batteries for maximum round-trip efficiency.



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



**Remote Monitoring** 

Monitor your system remotely via smartphone app or web portal.



## BATTERY EXPANSION EASY UPGRADE

Expand your system easily by simply adding additional batteries. Seven batteries can be installed in series, providing up to 20.16kWh of storage capacity.

For more about the FOX range, visit: WWW.FOX-ESS.COM



## TECHNICAL SPECIFICATIONS

Model	KH7 KA7		КН8 КА8	КН9 Ка9	KH10 KA10	KH10.5 KA10.5
ELECTRICAL CHARACTERISTICS						
Battery Type				Li-Ion		
Battery Voltage Range [V]				85-480		
Recommended Battery Voltage [V]				300VDC		
Max. Charge Current [A]				50 50		
Max. Discharge Current [A] Communication Interfaces				CAN / RS485		
Reverse Connect Protection				YES		
INPUT PV (FOR KH ONLY)						
Max. Recommended DC Power [W]	10500		12000	13500	15000	15000
Max. DC Voltage [V]				600		
Norminal DC Operating Voltage [V]				360		
Max. Input Current (Input A / Input B) [A]		16 / 16 / 16[1]			16 / 16 / 16 / 16[1]	
Max. Short Circuit Current (Input A / Input B) [A]		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			4	
Strings Per MPP Tracker				1		
DC Disconnection Switch				Optional		
OUTPUT AC Norminal AC Power [VA]	7000		8000	0000	10000	10500
Max. Apparent AC power [VA]				9000		
Rated Grid Voltage (AC Voltage Range) [V]	7700		8800	9900 220 / 230 / 240 (180 to 270)	10500	10500
Rated Grid Frequency [Hz]				220 / 230 / 240 (180 to 270) 50 / 60, ±5		
Norminal 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	00.0			0.8 Leading to 0.8 Lagging		
Total Harmonic Distortion (THDi, Rated Power)				<3%		
INPUT AC						
Max AC Power [VA]	14000		16000	18000	18000	18000
Max. AC Current [A]	60.9		69.6	78.3	78.3	78.3
Rated Grid Voltage (AC Voltage Range) [V]				220 / 230 / 240 (180 to 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 [W]		10000, 60s			12000, 60s	
Switch Time [s]				<20ms <2%		
Total Harmonic Distortion (THDv, Linear Load) Parallel Operation				Yes @max10PCS		
				Tes @maxiores		
EFFICIENCY MPPT Efficiency				99.90%		
Euro-efficiency				97.40%		
Max. Efficiency				97.80%		
Max. Battery Charge Efficiency (PV to BAT) (@Full Load)				98.50%		
Max. Battery Charge / Discharge Efficiency (BAT to AC) (@Fi	ull Load)			97.00%		
PROTECTION						
PV Reverse Polarity Protection				YES		
Battert Reverse Protection				YES		
Anti-islanding Protection				YES		
Output Short Protection				YES		
Leakage Current Protection				YES		
Insulation Resistor Detection				YES		
Over-current Protection / Over-temperature Protection				YES		
Over Voltage Category				III (AC side), II (DC side)		
AC/DC Surge Protection				Type II / Type II		
AFCI Protection				Optional		
POWER CONSUMPTION						
as a field of a						
				<15		
STANDARD						
STANDARD Safety				IEC62109-1 / IEC62109-2 / IEC 62477-1		
STANDARD Safety EMC				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000-	6-3	
STANDARD Safety EMC Cetification				IEC62109-1 / IEC62109-2 / IEC 62477-1	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65	6-3	
Standby Consumption [W] (Ldle) STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operatina Temperature Ranae [°C]				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C]				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C)	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%]				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C) 0~95 (Non-condensing)	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%] Altitude [m] Storage Temperature [°C]				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C) 0~95 (Non-condensing) <2000	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%] Altitude [m] Storage Temperature [°C] Noise Emission (Typical) [dB]				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C) 0~95 (Non-condensing) <2000 -40 +70°C	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%] Altitude [m] Storage Temperature [°C] Noise Emission (Typical) [dB] DIMENSION AND WEIGHT				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C) 0~95 (Non-condensing) <2000 -40 +70°C	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%] Altitude [m] Storage Temperature [°C] Noise Emission (Typical) [dB] DIMENSION AND WEIGHT Demensions (W * H * D) [mm]				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C) 0~95 (Non-condensing) <2000 -40 +70°C <30	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%] Altitude [m] Storage Temperature [°C] Noise Emission (Typical) [dB] DIMENSION AND WEIGHT Demensions (W * H * D) [mm] Weight [kg]				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C) 0~95 (Non-condensing) <2000 -40 +70°C <30 450*527*208mm	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%] Altitude [m] Storage Temperature [°C] Noise Emission (Typical) [dB] DIMENSION AND WEIGHT Demensions (W * H * D) [mm] Weight [kg] Cooling Concept				IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C) 0~95 (Non-condensing) <2000 -40 +70°C <30 450*527*208mm 29kg (KH) / 27.5kg (KA)	6-3	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%] Altitude [m] Storage Temperature [°C] Noise Emission (Typical) [dB] DIMENSION AND WEIGHT Demensions (W * H * D) [mm] Weight [kg] Cooling Concept Topology			G99 /AS477	IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25+60°C (Derating at +45°C) 0~95 (Non-condensing) <2000 -40+70°C <30 450*527*208mm 29kg (KH) / 27.5kg (KA) Natural	6-3 !-1 and so on	
STANDARD Safety EMC Cetification ENVIRONMENT LIMIT Ingress Protection Protective Class Operating Temperature Range [°C] Humidity [%] Altitude [m]			G99 /AS477	IEC62109-1 / IEC62109-2 / IEC 62477- 61000-6-1 / EN 61000-6-2 / EN 61000- 7.2 / EN50549-1 / CEI 0-21 / NRS 097-2 IP65 Class I -25 +60°C (Derating at +45°C) 0~95 (Non-condensing) <2000 -40 +70°C <30 450*527*208mm 29kg (KH) / 27.5kg (KA) Natural Non-isolated	6-3 !-1 and so on	

\* More technical characteristics are avaliable on demand and customized. 10 The maxium generating power of each pv string is limited to 3300 watts.