



# KH/KA

## SINGLE PHASE INVERTER

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



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



### Easy Installation

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



### High Voltage

Includes high-voltage batteries for maximum round-trip efficiency.



### IP65 Rated

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



### Remote Monitoring

Monitor your system remotely via smartphone app or web portal.



up to  
**10.5kW**  
 charge/  
 discharge

REFINED – POWERFUL – FLEXIBLE

## BATTERY EXPANSION EASY UPGRADE



Expand your system easily by simply adding additional batteries. Seven batteries can be installed in series, providing up to 33.24kWh of storage capacity.

For more about the Fox ESS range, visit:

[WWW.FOX-ESS.COM](http://WWW.FOX-ESS.COM)



# TECHNICAL SPECIFICATIONS

| Model  | KH7<br>KA7                 | KH8<br>KA8 | KH9<br>KA9  | KH10<br>KA10                    | KH10.5<br>KA10.5 |
|--|----------------------------|------------|---|---------------------------------|------------------|
| <b>ELECTRICAL CHARACTERISTICS</b>                              |                            |            |   |                                 |                  |
| 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   |                                 |                  |
| <b>INPUT PV (FOR KH ONLY)</b>                                  |                            |            |   |                                 |                  |
| 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 <sup>II</sup> |            |   | 16 / 16 / 16 / 16 <sup>II</sup> |                  |
| 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  |                                 |                  |
| <b>OUTPUT AC</b>   |                            |            |   |                                 |                  |
| Norminal 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   |                                 |                  |
| 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                                      |                            |            | 0.8 Leading to 0.8 Lagging                                |                                 |                  |
| Total Harmonic Distortion (THDi, Rated Power) [%]              |                            |            | <3  |                                 |                  |
| <b>INPUT AC</b>  |                            |            |   |                                 |                  |
| 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 - 270)                               |                                 |                  |
| Rated Grid Frequency [Hz]                                      |                            |            | 50 / 60, ±5   |                                 |                  |
| <b>EPS OUTPUT (WITH BATTERY)</b>                               |                            |            |   |                                 |                  |
| 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 [ms]   |                            |            | <20   |                                 |                  |
| Total Harmonic Distortion (THDv, Linear Load) [%]              |                            |            | <2  |                                 |                  |
| Parallel Operation   |                            |            | Yes @max10PCS   |                                 |                  |
| <b>EFFICIENCY</b>  |                            |            |   |                                 |                  |
| 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 Discharge Efficiency (BAT to AC) (@Full Load) [%] |                            |            | 97.00   |                                 |                  |
| <b>PROTECTION</b>  |                            |            |   |                                 |                  |
| PV Reverse Polarity Protection                                 |                            |            | YES   |                                 |                  |
| Batter 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  |                                 |                  |
| <b>POWER CONSUMPTION</b>                                       |                            |            |   |                                 |                  |
| Standby Consumption [W] (Ldle)                                 |                            |            | <15   |                                 |                  |
| <b>STANDARD</b>  |                            |            |   |                                 |                  |
| 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                               |                                 |                  |
| <b>ENVIRONMENT LIMIT</b>                                       |                            |            |   |                                 |                  |
| Ingress Protection   |                            |            | IP65  |                                 |                  |
| Protective Class   |                            |            | Class I   |                                 |                  |
| Operating Temperature Range [°C]                               |                            |            | -25 - +60 (Derating at +45)                               |                                 |                  |
| Humidity [%]   |                            |            | 0 - 95 (Non-condensing)                                   |                                 |                  |
| Altitude [m]   |                            |            | <2000   |                                 |                  |
| Storage Temperature [°C]                                       |                            |            | -40 - +70   |                                 |                  |
| Noise Emission (Typical) [dB]                                  |                            |            | <30   |                                 |                  |
| <b>DIMENSION AND WEIGHT</b>                                    |                            |            |   |                                 |                  |
| 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 |                                 |                  |
| LCD Display  |                            |            | Backlight 16*4 Character                                  |                                 |                  |

\* More technical characteristics are available on demand and customized.

<sup>II</sup> The maximum generating power of each pv string is limited to 3300 watts.