87045 LIMOGES Cedex
Numéro de téléphone (+33) 05 55 06 87 87 - Fax : (+33) 05 55 06 88 88

Keor HPE 600

1. TECHNICAL FEATURES

1. General Features	
Power (KVA)	600
UPS Topology	ON LINE – Double Conversion
Nominal Apparent Output Power (kVA)	600
Nominal Active Output Power (kW Cosφ 1.0)	600
Efficiency (AC ÷ AC)	Without inverter contactor / With inverter contactor
@25% load	≥ 95,2% / ≥ 95,8%
@50% load	≥ 96,0% / ≥ 96,4%
@75% load	≥ 95,9% / ≥ 96,3%
@100% load	≥ 95,5% / ≥ 96,0%
Efficiency (AC ÷ AC) (Eco Mode)	➢ 98,0%
Heat dissipation at rated load, VFI voltage (kW)	25,7
UPS Ambient Temperature (°C)	0 ÷ 40
BATTERY ambient temperature (°C)	0 ÷ 25
UPS storage temperature (°C)	-10 ÷ 70
BATTERY storage temperature (°C)	-15 ÷ 40
Relative humidity (not condensing)	< 95%
Altitude (m)	<1000 (Above Sea level)
Power derating for altitude > 1000 m	According to "IEC62040-3", 0,5% every 100m
Ventilation	Forced
Requested cooling air volume (m^3/h)	4800
Audible noise level (according to IEC EN 62040-3)	< 80dB
Number of cells for standard Lead acid battery	360 ÷ 372
Protection Degree	IP20
Electromagnetic Compatibility	IEC / EN 62040-2 (CE Marking)
Safety	IEC / EN 62040-1
Test and performance	IEC / EN 62040-3
Colour	RAL9005 (Black) RAL9003 (White)
Accessibility	Front Access
Installation	Against the Wall
Dimensions (mm) (W x D x H)	1630 x 970 x 1978
Weight kg (without battery)	1400
Input/output terminals	Cables input from bottom
Handling	Base provided for forklift
Storage and transport conditions	According to "IEC EN 62040-3"
Reference standards	EN 62040-1 - EN62040-2 - EN62040-3 ISO 9001:2008 - ISO 14001
Front panel	10" Touch-screen
Voltage-free contact interface	Optional for signalizations / alarms
Serial communication interface	Standard: RS232 – USB Optional: RS485 (Mod-Bus RTU protocol)
Parallel configuration (optional)	Up to 5+1 (redundant parallel) Up to 6 (power parallel)

2. Input: rectifier and battery charger	
Power (KVA)	600
Input	3 Phase / 3Ph+N
Nominal input voltage (Vac)	400
Input voltage range (%)	-20 / +20
Input frequency (Hz)	50 - 60
Input frequency range (%)	±10
Input power factor	>0,99
Input current THD at nominal voltage and THDV <0,5% (%)	
@25% load	< 10
@50% load	< 4
@75% load	< 3
@100% load	< 3
DC output voltage accuracy (%)	±1
DC output voltage ripple (%)	<1 (RMS)
Battery recharging characteristic	Intermittent charging with prevailing state of complete rest and control of the battery status IU (DIN 41773)
Maximum recharging current (A)	
- at nominal load	70
- with DCM function (max current)	140
AC-DC converter type	IGBT-based PFC
Input protection	Fuses
Nominal current absorbed from mains (at nominal load and battery charged) (A)	903
Maximum current absorbed from mains (at nom. load, min voltage and max. recharging current) (A)	1204
Rectifier soft-start (walk-in) (sec)	Settable from 5'' to 30''
Rectifier sequential start-up (hold-off) (sec)	Settable from 1'' to 300''

3. Batteries	
Power (KVA)	600
Type (standard) other on request	Sealed lead acid (VRLA - maintenance free)
Number of Cells	360 - 372
Floating Voltage at 25°C	812 for 360 cells, 840 for 372 cells
Minimum Discharge Voltage Vdc	620 for 360 cells, 632 for 372 cells
Power drawn by the inverter (at rated load cosϕ = 1) (KW)	611,6
Current drawn by the inverter (at rated load and minimum battery voltage) (A)	986
Battery Protection	Fuses
Battery Test	Provided as standard

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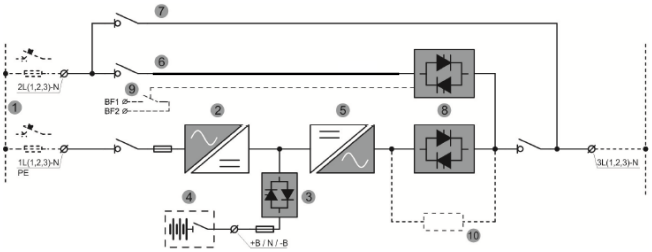
4. Output Inverter	
Power (KVA)	600
Inverter Bridge	3-Level IGBT (High Frequency PWM)
Nominal Apparent Output Power (kVA)	600
Nominal Active Output Power (kW Cosφ 1.0)	600
Efficiency (DC ÷ AC) (%) @25% load @50% load @75% load @100% load	 Up to 96% Up to 97% Up to 97% Up to 98,1%
Output	3 Phase / 4 Wires
Rated Output Voltage (selectable) (Vac)	380-400-415
Output Voltage Stability - Static (Balanced Load) (%) - Static (Unbalanced Load) (%) - Dynamic (Step Load 20%÷ 100%÷20%) (%) - Output Volt. Recovery Time (after step load) (ms) - IEC EN 62040-3	 ± 1 ± 2 ± 5 < 20 VFI-SS-111
Phase Angle Accuracy (°) - Balanced Load - 100% Unbalanced Load	 ± 1 ± 1
Output Frequency (selectable) (Hz)	50 / 60
Output Frequency Stability - Free Running Quartz Oscillator (Hz) - Inverter Sync. with Mains (Hz) - Slew rate (Hz/s)	 ± 0,001 ± 2 (other on request) <1
Nominal Output Current (@ 400 Vac output) (A)	866
Overload Capability	10 min >100%... 110% 5 min >110%…125% 30 s >125%…150% 100 ms >150%
Short Circuit Current (A)	2100
Short Circuit Characteristic	Current limited with electronic protection Automatic stop after 5 seconds
Output Waveform	Sinewave
Output Harmonic Distortion (%) - Linear Load - Non-Linear Load - IEC EN 62040-3	 < 1 < 5 Fully compliant
Max Crest Factor	Up to 3:1

5. Bypass	
Automatic static by-pass	Electronic Thyristor Switch
Nominal input voltage (Vac)	380 – 400 - 415
Input voltage range (%)	±10
Input frequency (Hz)	50 - 60
Input frequency range (%)	±10
Transfer mode	Without break
Transfer: inverter - automatic bypass	In case of: - Short-circuit - Battery discharged - Inverter test - Inverter failure
Transfer: automatic bypass - inverter	- Automatic - Block on bypass after 6 transfers within 2 minutes, reset by front panel
Overload Capability (%)	150 Continuously / 1000 For 1 Cycle
Manual By-Pass	- Electronically controlled - No-break assisted re-start procedure
Back-feed protection	NC contact for the control of an external device

6. Block Diagram



1. Separate mains input for rectifier and bypass
2. Rectifier battery-charger
3. Battery static switch
4. External battery
5. Inverter
6. Emergency line (bypass)
7. Maintenance bypass line
8. Inverter (SSI) and bypass(SSB) static switch
9. Embedded contact for external back-feed protection
10. Energy enhancement kit (Option)

OPTIONS

- SERIAL INTERFACE RS-485 (ModBus protocol RTU)
- SNMP ADPTER
- PARALLEL CARD INTERFACE KIT
- LOAD-SYNC CARD INTERFACE KIT
- ISOLATION TRANSFORMER
- WALL MOUNTED FUSE SWITCH BOX
- SPECIAL COLOUR
- ENERGY ENHANCEMENT KIT

SOFTWARE ENABLED FUNCTIONS

- DIESEL MODE OPERATION
- RECTIFIER WALK-IN TIME
- RECTIFIER DELAY ON STARTUP (HOLD-OFF TIME)
- DYNAMIC CHARGING MODE (DCM)
- VFD (ECO) OPERATING MODE MANAGEMENT
- FREQUENCY CONVERTER

7. Sustainability	
Estimated content of circular economy derived materials	**33%**
Recyclability rate calculated using the method described in technical report IEC/TR 62635*	**90,1%**

*This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for end-of-life of this product.