

# KEOR HPE 100-125-160

960569 – 960570 – 960571



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## 1. TECHNICAL FEATURES

1. General Features			
Power (KVA)	100	125	160
UPS Topology	ON LINE – Double Conversion		
Nominal Apparent Output Power (kVA Cosφ 1.0)	100	125	160
Nominal Active Output Power (kW Cosφ 1.0)	100	125	160
Efficiency (AC ÷ AC) (%)	up to 93		
@25% load	up to 94,5		
@50% load	up to 95		
@75% load	up to 95		
@100% load	98%		
Efficiency (AC ÷ AC) (Eco Mode)	98%		
Heat dissipation at rated load, VFI voltage (kW)	5,3	6,6	8,4
UPS Ambient Temperature (°C)	0 ÷ 40		
BATTERY ambient temperature (°C)	0 ÷ +25		
UPS storage temperature (°C)	-10 ÷ +70		
BATTERY storage temperature (°C)	-10÷-60		
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 (m³/h)	1200	1200	1500
Audible noise level (according to IEC EN 62040-3)	< 60dB		
Number of cells for standard Lead acid battery	360 ÷ 372		
Protection Degree	IP20		
Electromagnetic Compatibility EMI	According to "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 and Side Access		
Installation	Against the Wall		
Dimensions (mm) (WxDxH)	560 x 940 x 1800		
Weight kg (without battery)	320	360	380
Input/output cable connection	Cables entry front bottom		
Transport	Base provided for forklift handling		
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	Liquid Cristal Display Touch-screen (optional)		
Voltage-free contact interface	Signalisations / 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)	100	125	160
Input	Three-phase /3 Ph+N		
Nominal input voltage (Vac)	400		
Input voltage range (%)	-20/+15		
Input frequency (Hz)	50 - 60		
Input frequency range (%)	±10		
Input power factor	>0,99		
Input current THD at nominal voltage and THDV <0,5% (%)	up to 93		
@25% load	up to 94,5		
@50% load	up to 95		
@75% load	up to 95		
@100% load	98%		
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)	15   20   20		
- at nominal load	15	20	20
- with DCM function (max current)	50	50	50
AC-DC converter type	IGBT-based PFC		
Input protection	Fuses		
Nominal current absorbed from mains (at nominal load and battery charged) (A)	152	190	243
Maximum current absorbed from mains (at nom. load, nom. voltage and max. recharging current) (A)	212	267	334
Rectifier soft-start (walk-in) (sec)	Settable from 5" to 30"		
Rectifier sequential start-up (hold-off) (sec)	Settable from 1" to 300"		

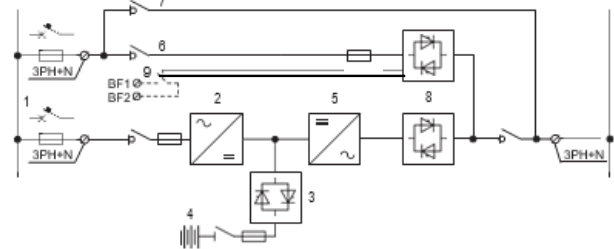
3. Batteries			
Power (KVA)	100	125	160
Type (standard) other on request	Sealed lead acid (VRLA - maintenance free)		
Number of Cells	360 - 372		
Floating Voltage at 25°C	812 for 360 cells, 840 for 372 cells		
Minimum Discharge Voltage Vdc	620 for 360 cells, 632 for 372 cells		
Power drawn by the inverter (at rated load cosφ = 1) (KW)	103,1	128,9	164,9
Power drawn by the inverter (at rated load and minimum battery voltage) (KW)	166	208	266
Battery Protection	Fuses		
Battery Test	Provided as Standard		

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4. Output Inverter			
Power (KVA)	100	125	160
Inverter Bridge	3-Level IGBT (High Frequency PWM)		
Nominal Apparent Output Power (kVA Cosφ 1.0)	100	125	160
Nominal Active Output Power (kW Cosφ 1.0)	100	125	160
Efficiency (DC ÷ AC) (%)	Up to 96		
@25% load	Up to 97		
@50% load	Up to 97		
@75% load	Up to 97		
@100% load	Up to 97		
Output	3 Phase / 4 Wires		
Rated Output Voltage (selectable) (Vac)	380-400-415		
Output Voltage Stability			
- Static (Balanced Load) (%)	± 1		
- Static (Unbalanced Load) (%)	± 2		
- Dynamic (Step Load 20%÷ 100% ÷20%) (%)	± 5		
- Output Volt. Recovery Time(after step load) (ms)	< 20		
- IEC EN 62040-3	VFI-SS-111		
Phase Angle Accuracy (°)			
- Balanced Load	± 1		
- 100% Unbalanced Load	± 1		
Output Frequency (selectable) (Hz)	50 / 60		
Output Frequency Stability			
- Free Running Quartz Oscillator (Hz)	± 0,001		
- Inverter Sync. with Mains (Hz)	± 2 (others on request)		
- Slew rate (Hz/s)	< 1		
Nominal Output Current (@ 400 Vac output) (A)	144	180	231
Overload Capability	10 min >100%...125% 30 s >125%...150% 100 ms >150%		
Short Circuit Current (A)	400	490	640
Short Circuit Characteristic	Current limited with electronic protection Automatic stop after 5 seconds		
Output Waveform	Sinewave		
Output Harmonic Distortion (%)			
- Linear Load	< 1		
- Non Linear Load	< 5		
- IEC EN 62040-3	Fully compliant		
Max Crest Factor without derating	3 : 1		

## 2. BLOCK DIAGRAM



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

## 3. OPTIONS

1. BATTERY CABINET
2. SERIAL INTERFACE RS-485 (ModBus protocol RTU)
3. SNMP ADPTER
4. PARALLEL CARD INTERFACE KIT
5. LOAD-SYNC CARD INTERFACE KIT
6. ISOLATION TRANSFORMER
7. WALL MOUNTED FUSED SWITCH BOX

## 4. SOFTWARE ENABLED FUNCTIONS

1. DIESEL MODE OPERATION
2. RECTIFIER WALK-IN TIME
3. RECTIFIER DELAY ON STARTUP (HOLD-OFF TIME)
4. DYNAMIC CHARGING MODE (DCM)
5. VFI / VFD (ECO) OPERATING MODE MANAGEMENT
6. FREQUENCY CONVERTER

5. Bypass	
Automatic static by-pass	Electronic Thyristor Switch Three-phase + Neutral
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