

Keor HPE 60-80-100-125-160



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1. TECHNICAL FEATURES

General Features					
Power (kVA)	60	80	100	125	160
UPS Topology	ON LINE - Double Conversion				
Nominal apparent output power (kVA Cos φ 1.0)	60	80	100	125	160
Nominal active output power (kW Cos φ 1.0)	60	80	100	125	160
Efficiency (AC ÷ AC) (%)	up to 94				
@25% load	up to 95				
@50% load	up to 95,5				
@75% load	up to 94,5				
@100% load					
Efficiency (AC ÷ AC) (Eco Mode)	> 98				
Heat dissipation at rated load, VFI voltage (kW)	3,2	4,2	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 % (non 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)	1000	1000	1200	1200	1500
Audible noise level (according to IEC EN 62040-3)	< 60				
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				
Paint	RAL 9005				
Accessibility	Front and side access				
Installation	Against the wall				
Dimensions (mm) (WxDxH)	560 x 940 x 1800				
Weight kg (without battery)	250	300	320	360	380
Weight with batteries kg	800	850	-	-	-
Input/output cable connection	Cables input from 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	Optional for 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)				

Input: rectifier and battery charger					
Power (kVA)	60	80	100	125	160
Input	Three-phase				
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% (%)					
@25% load	< 5				
@50% load	< 4				
@75% load	< 3				
@100% load	< 3				
DC output voltage accuracy (%)	±1				
DC output voltage ripple (%)	1				
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	15	15	15	20	20
- with DCM function (max current)	50	50	50	50	50
AC-DC converter type	PFC IGBT				
Input protection	Fuses				
Nominal current absorbed from mains (at nominal load and battery charged) (A)	91	122	152	190	243
Maximum current absorbed from mains (at nom. load, nom. voltage and max. recharging current) (A)	109	140	170	214	267
Rectifier soft-start (walk-in) (sec)	Sectable from 5" to 30"				
Rectifier sequential start-up (hold-off) (sec)	Sectable from 1" to 300"				

Batteries					
Power (kVA)	60	80	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				
Inverter input power (at nominal Load) Vdc	61,9	82,5	103,1	18,9	164,9
Inverter input current (A) (at nominal load - minimum Vdc)	100	133	166	208	266
Battery Protection	Fuses				
Battery Test	Included as standard				

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1. TECHNICAL FEATURES *(continued)*

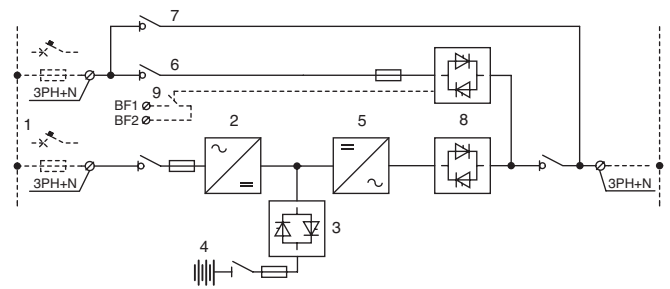
Output: Inverter					
Power (kVA)	60	80	100	125	160
Inverter Bridge	IGBT (High Frequency PWM)				
Nominal apparent output power (kVA Cosφ 1.0)	60	80	100	125	160
Nominal active output power (kW Cosφ 1.0)	60	80	100	125	160
Efficiency (AC ÷ AC) (%)					
- @25% load	> 96				
- @50% load	> 97				
- @75% load	> 97				
- @100% load	> 97				
Output	Three-phase + Neutral				
Nominal 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 (other on request)				
- Slew rate (Hz/s)	1				
Nominal Output Current (@ 400 Vac output) (A)	87	115	144	180	231
Overload Capability					
10' min	>100%...125%				
30 s	>125%...150%				
10 ms	>150%				
Short Circuit Current ² (A)	265	330	400	490	640
Short Circuit Characteristic	Current limited with electronic protection Automatic stop after 5 seconds				
Output Waveform	Sinusoidal				
Output Harmonic Distortion (%)					
- Linear Load	< 1				
- Non Linear Load	< 5				
- IEC EN 62040-3	Fully compliant				
Max Crest Factor without derating	3:1				

¹ For 160kVA Overload capability 10' >100%...110%, 5' >110...125%

² Value referred to short-circuit mode IK1 - IK2 - IK3

Bypass	
Automatic static by-pass	Electronic Thyristor Switch
Protection	Fuses
Bypass	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
Retransfer 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
Automatic bypass	No-break

2. BLOCK DIAGRAM



1. Separate mains input for rectifier and bypass
2. Rectifier battery-charger
3. Battery static switch
4. Internal battery for 60-80 kVA (Optional external cabinet)
External for 100÷160 kVA
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 TEMPERATURE VOLTAGE COMPENSATION
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