

Keor HP 100-120-160



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1. TECHNICAL FEATURES

General Features			
Power (kVA)	100	120	160
UPS Topology	ON LINE - Double Conversion		
Nominal output power (kVA Cosφ 0.9)	100	120	160
Nominal output power (Cosφ 1.0)	90	112.5	144
Efficiency* (AC ÷ AC) (%)			
@25% load	> 92		
@50% load	> 95		
@75% load	> 94,5		
@100% load	> 94,5		
Efficiency (AC ÷ AC) (Eco Mode)	> 98		
Heat dissipation at nominal load and voltage : (kW)	6.6	8.3	10.6
(kcal/h x 1000)	5.6	7.1	9.0
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% power derating every 100m above 1000m, up to max 2000m		
Ventilation	Forced		
Requested cooling air volume (m³/h)	2100	2300	2500
Audible noise level (according to IEC EN 62040-3)	< 60		
Standard battery type lead acid	300 - 312 adjustable		
Protection degree	IP 20		
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 7016 RAL 9005		
Accessibility	Front and top access for service		
Installation	Also against wall and/or side-by-side		
Dimensions (mm) (WxDxH)	815 x 825 x 1670		
Weight kg (without battery)	625	660	715
Static load (kg/m²) (without battery)	1040	1098	1190
Input/output cable connection	Bottom Side (Top Side on Request)		
Transport	Base provided for forklift handling		
Transport mechanical stress	According to "IEC EN 62040-3"		
Design standard	"IEC EN 62040" "ISO 9001:2008" - "ISO 14001"		
Free contact interface	Standard to remotize the following contact: EPO – MBCB – BCB – DIESEL MODE		
Serial communication interface	Standard: RS232 - USB Optional: RS485 (Mod-Bus protocol)		
Parallel configuration (optional)	Up to 5+1 (redundant parallel) Up to 6 (power parallel)		

* Certified by TÜV NORD GmbH

Input: rectifier and battery charger			
Power (kVA)	100	120	160
Input	Three-phase		
Nominal input voltage (Vac)	400		
Input voltage range %	-20/+15		
Input frequency (Hz)	50 – 60		
Input frequency range	±5 / ±10 adjustable		
Input power factor	> 0.99		
Input current THD at nominal voltage and THDV <0,5% * (%)			
@25% load	< 10		
@50% load	< 7		
@75% load	< 5		
@100% load	< 3		
DC output voltage accuracy	±1		
DC output voltage ripple	1		
Battery recharging characteristic	IU (DIN 41773)		
Maximum recharging current (A)			
- at nominal load	15	20	20
- with DCM function (max current)	100	100	100
AC-DC converter type	PFC IGBT		
Input protection	Fuses		
Nominal current absorbed from mains (at nominal load and battery charged) (A)	138	173	221
Maximum current absorbed from mains (at nom. load, nom. voltage and max. recharging current) (A)	156	196	246
Sectable walk-in (sec)	Sectable from 5" to 30"		
Sectable hold-off (sec)	Sectable from 1" to 300"		

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Batteries			
Power (kVA)	100	120	160
Type (standard) other on request	Lead Sealed maintenance free		
Number of Cells	300 – 312 adjustable		
Floating Voltage at 25°C	680 for 300 cells, 707 for 312 cells (adjustable)		
Minimum Discharge Voltage Vdc	496 for 300 cells, 516 for 312 cells (adjustable)		
Inverter input power (at nominal Load) Vdc	93	117	149
Inverter input current (A) (at nominal load - minimum Vdc)	188	235	300
Battery Protection (external to the UPS)	Wall mounted fused switch box on request		
Battery Test	Included as standard		

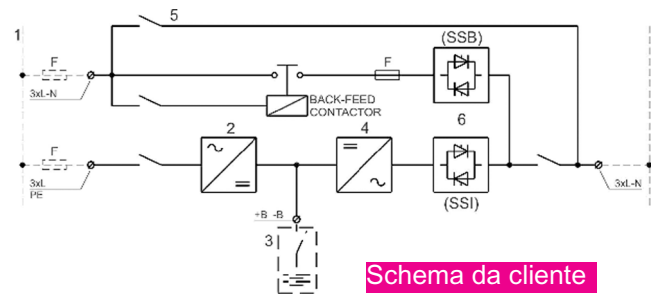
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1. TECHNICAL FEATURES *(continued)*

Output: Inverter			
Power (kVA)	100	120	160
Inverter Bridge	IGBT (High Frequency PWM)		
Nominal output power (Cosφ 0.9)	100	120	160
Nominal output power (Cosφ 1.0)	90	112.5	144
Efficiency (AC ÷ AC) (%)			
@25% load	> 92		
@50% load	> 96		
@75% load	> 96		
@100% load	> 96		
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	Class 1		
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)			
- Cosφ 0.9 (leading and lagging)	145	181	232
- Cosφ 1 (purely resistive load)	130	163	209
Overload Capability	10 min	>100%...125%	
	1 min	>125%...150%	
	10 s	>150%...199%	
	100 ms	at 200%	
Short Circuit Current IK1 (phase-neutral) (A)	455	570	731
Short Circuit Current IK2 (phase-phase) (A)	260	326	418
Short Circuit Current IK3 (three phase) (A)	221	277	355
Short Circuit Characteristic	Elect. short circuit protection, current limited at above values. Automatic stop after 5 seconds		
Selectivity	Within ½ cycle (Fuse gl 20% In)		
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		

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 (%)	± (1±5) ±10 adjustable
Transfer mode	Without break
Transfer inverter - automatic bypass	In case of : - Static Switch test - Inverter test - Inverter not operating - Battery end of discharge
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	Standard: - Electronically controlled - No break

2. BLOCK DIAGRAM



1. Input mains (separate for by-pass and rectifier)
2. Rectifier and battery charger
3. External battery
4. Inverter
5. Emergency line (by-pass) with backfeed
6. Inverter (SSI) and by-pass (SSB) static switch

3. OPTIONS

1. Insulation transformer on by-pass
2. Voltage adaptation auto-transformers
3. Serial interface rs-485 (mod-bus protocol)
4. Snmp adapter
5. Remote monitoring panel
6. Parallel card interface kit
7. External battery cabinet
8. Wall mounted fused switch box
9. In/out top cable entry
10. Special paint
11. Load-sync bus card interface kit

4. SOFTWARE ENABLED FUNCTIONS

1. Diesel-mode
2. Eco-mode
3. Boost-charge
4. Rectifier walk-in time
5. Rectifier delay on startup (hold-off time)
6. Frequency converter mode
7. Dcm function