

Keor HP 400-500-600-800



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1. TECHNICAL FEATURE

General Features				
Power (kVA)	400	500	600	800
UPS Topology	ON LINE - Double Conversion			
Nominal output power (kVA Cosφ 0.9)	400	500	600	800
Nominal output power (Cosφ 1.0)	360	450	540	720
Efficiency* (AC ÷ AC) (%)				
@25% load	> 92			
@50% load	> 95			
@75% load	> 95			
@100% load	> 94,5			
Efficiency (AC ÷ AC) (Eco Mode)	> 98			
Heat dissipation at nominal load and voltage : (kW)	24.7	30.9	37.1	48.7
(kcal/h x 1000)	21.3	26.5	31.8	41.7
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)	3500	4000	4500	7000
Audible noise level (according to IEC EN 62040-3)	< 62			
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)	1990x965 x1920	2440x965 x2020	2440x965 x2020	3640x965 x1920
Weight kg (without battery)	1820	2220	2400	3600
Static load (kg/m²) (without battery)	1037	1028	1111	1111
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)	400	500	600	800
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	60	80	80	120
- with DCM function (max current)	100	100	100	200
AC-DC converter type	PFC IGBT			
Input protection	Fuses			
Nominal current absorbed from mains (at nominal load and battery charged) (A)	553	686	830	1107
Maximum current absorbed from mains (at nom. load, nom. voltage and max. recharging current) (A)	624	784	926	1247
Sectable walk-in (sec)	Sectable from 5" to 30"			
Sectable hold-off (sec)	Sectable from 1" to 300"			

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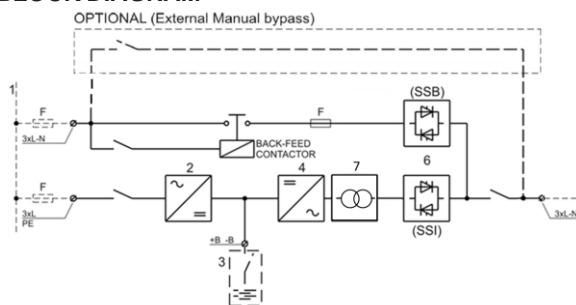
Batteries				
Power (kVA)	400	500	600	800
Type (standard) other on request	Lead Sealed maintenance free			
Number of Cells	300 - 312 adjustable			
Floating Voltage at 25°C	680 for 300 cells, 707 for 312 cells (adjustable)			
Minimum Discharge Voltage Vdc	496 for 300 cells, 516 for 312 cells (adjustable)			
Inverter input power (at nominal Load) Vdc	373	467	560	747
Inverter input current (A) (at nominal load - minimum Vdc)	753	941	1129	1507
Battery Protection (external to the UPS)	Wall mounted fused switch box on request			
Battery Test	Included as standard			

1. TECHNICAL FEATURES (continued)

Output: Inverter				
Power (kVA)	400	500	600	800
Inverter Bridge	IGBT (High Frequency PWM)			
Nominal output power (Cosφ 0.9)	400	500	600	800
Nominal output power (Cosφ 1.0)	360	450	540	720
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	± 2			
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)	580	724	870	1060
- Cosφ 1 (purely resistive load)	521	652	783	1042
Overload Capability				
	10 min	>100%...125%		
	1 min	>125%...150%		
	10 s	>150%...199%		
	100 ms	at 200%		
Short Circuit Current (A)	695	870	1044	1390
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
7. Inverter transformer

It is possible to install an external Manual Bypass, either in matching cubicle or in wall mounted box (bypass switch auxiliary contact must be connected to UPS related input port for status monitoring).

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
12. Manual bypass switch in matching cubicle or wall mounted box

4. FONCTIONS ACTIVÉE

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