

# Keor HP 200-250-300

# 960433 - 960434 - 960435



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### 1. TECHNICAL FEATURES

| General Features                                    |  |      |      |
|---|--|------|------|
| Power (kVA)   | 200  | 250  | 300  |
| UPS Topology  | ON LINE - Double Conversion  |      |      |
| Nominal output power (kVA Cosφ 0.9)                 | 200  | 250  | 300  |
| Nominal output power (Cosφ 1.0)                     | 180  | 225  | 270  |
| Efficiency* (AC ÷ AC) (%)                           |  |      |      |
| @25% load   | > 92   |      |      |
| @50% load   | > 95   |      |      |
| @75% load   | > 95   |      |      |
| @100% load  | > 95   |      |      |
| Efficiency (AC ÷ AC) (Eco Mode)                     | > 98   |      |      |
| Heat dissipation at nominal load and voltage : (kW) | 12.4   | 15.4 | 18.5 |
| (kcal/h x 1000)                                     | 10.6   | 13.3 | 16.0 |
| 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)                 | 3500   | 4100 | 4500 |
| 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<br>RAL 9005   |      |      |
| Accessibility                                       | Front and top access for service   |      |      |
| Installation  | Also against wall and/or side-by-side  |      |      |
| Dimensions (mm) (WxDxH)                             | 1220 x 870 x 1905  |      |      |
| Weight kg (without battery)                         | 970  | 1090 | 1170 |
| Static load (kg/m²) (without battery)               | 1040   | 1168 | 1254 |
| 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"<br>"ISO 9001:2008" - "ISO 14001"  |      |      |
| Free contact interface                              | Standard to reinitialize the following contact:<br>EPO – MBCB – BCB – DIESEL MODE      |      |      |
| Serial communication interface                      | Standard: RS232 - USB<br>Optional: RS485 (Mod-Bus protocol)                            |      |      |
| Parallel configuration (optional)                   | Up to 5+1 (redundant parallel)<br>Up to 6 (power parallel)                             |      |      |

| Input: rectifier and battery charger   |                          |     |     |
|--|--------------------------|-----|-----|
| Power (kVA)  | 200                      | 250 | 300 |
| 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  | 30                       | 40  | 40  |
| - 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)                    | 275                      | 342 | 413 |
| Maximum current absorbed from mains (at nom. load, nom. voltage and max. recharging current) (A) | 312                      | 392 | 463 |
| Sectable walk-in (sec)   | Sectable from 5" to 30"  |     |     |
| Sectable hold-off (sec)  | Sectable from 1" to 300" |     |     |

| Batteries  |   |     |     |
|--|---|-----|-----|
| Power (kVA)  | 200   | 250 | 300 |
| 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   | 186   | 232 | 280 |
| Inverter input current (A) (at nominal load - minimum Vdc)                                 | 377   | 470 | 565 |
| Battery Protection (external to the UPS)   | Wall mounted fused switch box on request          |     |     |
| Battery Test   | Included as standard                              |     |     |
| <b>Environment</b>   |   |     |     |
| Estimated content of circular economy derived materials                                    | 11%   |     |     |
| Recyclability rate calculated using the method described in technical report IEC/TR 62635* | 69%   |     |     |

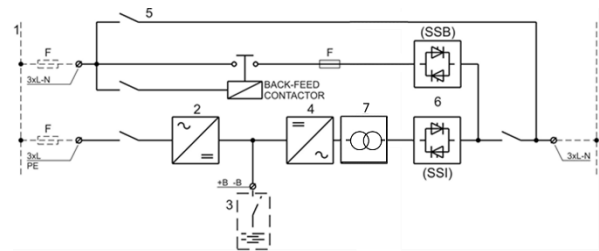
\*This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for end-of-life of this product.

## 1. TECHNICAL FEATURES *(continued)*

| Output: Inverter                                   |  |     |     |
|--|--|-----|-----|
| Power (kVA)  | 200  | 250 | 300 |
| Inverter Bridge                                    | IGBT (High Frequency PWM)  |     |     |
| Nominal output power (Cosφ 0.9)                    | 200  | 250 | 300 |
| Nominal output power (Cosφ 1.0)                    | 180  | 225 | 270 |
| 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 Degree   |     |     |
| - 100% Unbalanced Load                             | ± 2 Degrees  |     |     |
| 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)                   | 290  | 362 | 435 |
| - Cosφ 1 (purely resistive load)                   | 260  | 326 | 390 |
| Overload Capability                                |  |     |     |
| 10 min   | >100%...125%   |     |     |
| 1 min  | >125%...150%   |     |     |
| 10 s   | >150%...199%   |     |     |
| 100 ms   | at 200%  |     |     |
| Short Circuit Current (A)                          | 462  | 580 | 694 |
| 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 :<br>- Static Switch test<br>- Inverter test<br>- Inverter not operating<br>- Battery end of discharge |
| Retransfer automatic bypass - inverter | - Automatic<br>- 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:<br>- Electronically controlled<br>- 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

## 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