# Eaton 9395 200-300kVA UPS Technical Specification

| CONSTRUCTION | 200kVA | 225kVA | 275kVA | 300kVA |
|---|---|---|---|---|
| Model: | 9395E-200 | 9395-225 | 9395-275 | 9395-300 |
| Rating @ 400V | 200kVA/180kW | 225kVA/202kW | 275kVA/250kW | 300kVA/240kW |
| MTBF | 150 000h (MIL217) | | | |
| Classification | VFI-SS-111 | | | |
| UPS Dimensions: WxDxH (mm) | 1350 x 880 x 1880 | | | |
| Weight (kg) without batteries | 810kg | 830kg | | |
| **ENVIRONMENT** | | | | |
| Ambient storage temperature | Range of -25 to +55°C in the protective package | | | |
| Ambient service temperature | +0 to +40°C (Max 45°C with 7.5% derating) | | | |
| Maximum service altitude | 1000m above sea level max. 2000m with 1% derating per +100m | | | |
| Relative humidity | 5 to 95%, no condensation allowed | | | |
| Degree of protection | IP20 (EN60529) | | | |
| Acoustic noise at 1m (ISO7779) | 75 dBA | | | |
| **USER INTERFACE** | | | | |
| Display | Graphical LCD with blue backlight, 4x LEDs for notice and alarm | | | |
| Standard Communication Ports | Hardware: 1x RS232 for local support, 4 off X-Slot (Empty), 1x Relay contact, 1x Emergency Power off input, 2x Environmental inputs | | | |
| Optional | X-Slot cards: Web/SNMP, Relay, Hot Sync, Power Xpert, ModBus | | | |
| **ELECTRICAL CHARACTERISTICS – INPUT** | | | | |
| Rated input voltage and voltage tolerance | Rectifier: 3 x 230/400Vac nominal (220/380, 230/400, 240/415 Selectable)<br>Tolerance: 195/340–266/460V (-15%, +15%) at 100% load,<br>161/280-266/460V (-30%, +15%), 50% load<br>Bypass: 3 x 230/400V nominal (220/380, 230/400, 240/415 Selectable)<br>Tolerance: 207/360 – 253/438V (-10%, +10% of nominal) | | | |
| Operating Frequency / Tolerance | 50 or 60Hz; Tolerance: ±5 Hz | | | |
| Input current distortion | 3-5% THDi (Linear load condition at rated input current) | | | |
| Input power factor | 0.99pf at 30-100% load, 0.95 at 10% load | 0.99pf at 40-100% load, 0.95 at 15% load | 0.99pf at 30-100% load, 0.95 at 10% load | 0.995pf at 30-100% load, 0.95 at 10% load |
| Inrush Current | < 100% of rated current | | | |
| Number of input phases | 3 phases + Neutral | | | |
| Rated Rectifier Input Current | 3 x 282A rms | 3 x 318A rms | 3 x 388A rms | 3 x 388A rms |
| Max Rectifier Input Current | 3 x 332A rms | 3 x 373A rms | 3 x 456A rms | 3 x 456A rms |
| Bypass input fuse/CB rating | 375A | 400A | 500A | 540A |
| **ELECTRICAL OUTPUT CHARACTERISTICS – NORMAL MODE** | | | | |
| Rated apparent power | 200kVA | 225kVA | 275kVA | 300kVA |
| Rated active power – linear load | 180kW | 202kW | 250kW | 240kW |
| Rated active power – 0.9 pf non-linear load | 180kW | 202kW | 247kW | 240kW |
| Transfer–normal to stored energy | No break | | | |
| Rated output voltage | 220/380, 230/400, 240/415Vac, three phase | | | |
| Output voltage variation | ±2V rms | | | |
| Crest factor | Up to 3:1 | | | |
| Rated output frequency | 50 Hz (default) or 60 Hz | | | |
| Output frequency variation (synchronised if applicable) | ±2Hz (default), ±0.5Hz or ±1Hz with slew rate 0.5Hz/sec (default), 2.5Hz/sec or 7.5Hz/sec | | | |
| Maximum Phase Error | Maximum of 8 degrees | | | |
| Total voltage distortion | 2% (Across a linear load); 5% (Across a reference non-linear load) | | | |
| Short circuit capability | 545A, < 300ms | 613A, < 300ms | 750A, < 300ms | 800A, < 300ms |
| Overload capacity without bypass | 10min >100-110% load, 30sec >110-125% load, 10sec >125-150% load | | | |
| Overload capacity with bypass | Continuous >100-115% load, 100msec 1000% load<br>Note: Selected Bypass fuses may limit the overload capability | | | |

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|---|---|---|---|---|
| Load power factor range | 0.7 lagging - 0.8 leading without de-rating | | | |
| Number of output phases | 3 Phase | | | |
| Output Voltage dynamic variation | 1% during transfer from stored energy to normal mode<br>±3% with 40msec recovery from 10% to 90% load step | | | |
| Max output freq rate of change | 0.5Hz/s (default), or 2.5Hz/s | | | |
| **ELECTRICAL OUTPUT CHARACTERISTICS – STORED ENERGY** | | | | |
| Rated apparent power | 200kVA | 225kVA | 275kVA | 300kVA |
| Rated active power – linear load | 180kW | 202kW | 250kW | 240kW |
| Rated active power – 0.9 pf non-linear load | 180kW | 202kW | 247kW | 240kW |
| Waveform | Sine Wave | | | |
| Transfer–stored to normal energy | No break | | | |
| Rated output voltage | 220/380, 230/400, 240/415 Vac three phase | | | |
| Output voltage variation | ±3V rms | | | |
| Crest factor | Up to 3:1 | | | |
| Rated peak output voltage | 325V, ±10V | | | |
| Rated output frequency | 50Hz (default) or 60Hz | | | |
| Output frequency variation | ±0.005Hz (single module), ±0.07Hz (Parallel system) | | | |
| Total output voltage distortion | 2% (Across a linear load); 5% (Across a reference non-linear load) | | | |
| Short circuit capability | 545A, < 300ms | 613A, < 300ms | 750A, < 300ms | 800A, < 300ms |
| Overload capability | 10min >100-110% load, 30sec >110-125% load<br>10sec >125-150% load, 300msec >150% load | | | |
| Load power factor range | 0.7 lagging- 0.8 leading without de-rating | | | |
| Number of output phases | 3 Phase + Neutral | | | |
| Output voltage dynamic variation | 0% during transfer from stored energy to normal mode<br>±3% with 40msec recovery from 10% to 90% load step | | | |
| **EFFICIENCY (Input/Output)** | | | | |
| Efficiency at 100/75/50/25% linear load | 94/94/92/90% | 94/94/93/90% | 94/94/93/90% | 94/94/93/90% |
| Efficiency at 100/75/50/25% non-linear load | 94/93/92/90% | 94/94/93/90% | 94/94/93/90% | 94/93/92/90% |
| Heat dissipation<br>*Multiply heat output in kW by 3413 to convert to BTU per hour | 11.6kW at 100%<br>8.7kW at 75%<br>5.2kW at 50%<br>3.0kW at 25% | 13.1kW at 100%<br>9.8kW at 75%<br>7.7kW at 50%<br>5.7kW at 25% | 15.9kW at 100%<br>11.9kW at 75%<br>9.4kW at 50%<br>6.9kW at 25% | 15.4kW at 100%<br>11.5kW at 75%<br>9.1kW at 50%<br>6.7kW at 25% |
| **SYNCHRONISATION (If applicable)** | | | | |
| Acceptable voltage difference | ±25% | | | |
| Range of frequency synch | ±3Hz (default), ±0.5Hz, ±1Hz selectable.<br>Slew Rate 1Hz/s (default), 7Hz/s, 3Hz/s, 2Hz/s, 0.5Hz/s selectable | | | |
| Maximum phase error | 8 Degrees | | | |
| **BATTERY** | | | | |
| Battery Nominal Voltage | 480V (240 Cells) | | | |
| Float Charge Voltage | 240 x 2.30V = 552V | | | |
| Maximum Charge Voltage | 240 x 2.35V = 564V | | | |
| Restored energy time to 90% | Maximum 10 hours recommended (dependant on battery size) | | | |
| Charging Current (at full load) | 80A | | | |
| Battery recharge profile | Advanced Battery Management (ABM®) = 90% resting,10% floating/charging | | | |
| Battery cut off voltage | 1.75 with 2 minute shutdown timer, 1.67 VPC absolute value | | | |
| **BYPASS CHARACTERISTICS** | | | | |
| Type of bypass | Automatic Static Bypass, Optional Manual Maintenance Bypass | | | |
| Transfer | No break | | | |