

Eaton 9395X 1020-1360 kW UPS Technical Specification

Manufacturer's declaration in accordance with IEC 62040-3

| IEC 62040-3 Subclause | MODEL RATING | 1020 kVA/kW | 1200 kVA/kW | 1360 kVA/kW |
|-----------------------|--|--|-------------------------------|-------------------------------|
| | Model catalogue reference | 9395XP-1020(1360) | 9395XP-1200(1360) | 9395XP-1360(1360) |
| | Number of UPM's (Uninterruptible Power Modules) and UPM rating | 3 UPM's 340 kVA/kW per UPM | 4 UPM's 300 kVA/kW per UPM | 4 UPM's 340 kVA/kW per UPM |
| | UPS options: | External battery cabinets, separate battery input, integrated backfeed protection, rectifier input switch, dual feed input, G2 grade filters | | |
| | Upgradeability | Online upgrade to 1360 kW (requires empty UPM slot) | - | - |
| | External paralleling | Up to 4 units (16 UPM's) with HotSync technology | | |
| 5.1.1 | UPS topology | Double conversion, SiC technology | | |
| | Rated conditional short-circuit current, I _{cc} (fuse protection) | AC input and bypass ports: 100 kA DC-port (Common battery): 100 kA DC-port (Separate battery): 100 kA | | |
| 5.3.4 | UPS performance classification | VFI-SS-111 | | |

MECHANICAL

| | | | | |
|--|--|--|--|--|
| | UPS dimensions (W x D x H) Single feed (Small IO) Dual feed (Large IO) Separate battery (Small IO) Separate battery (Large IO) | 2495 x 920 x 2070 mm 2895 x 920 x 2070 mm 2495 x 980 x 2503 mm 2895 x 980 x 2503 mm | 2830 x 920 x 2070 mm 3230 x 920 x 2070 mm 2830 x 980 x 2503 mm 3230 x 980 x 2503 mm | 2830 x 920 x 2070 mm 3230 x 920 x 2070 mm 2830 x 980 x 2503 mm 3230 x 980 x 2503 mm |
| | Installed weight | 2600 kg | 2900 kg | 2900 kg |
| | UPS cable entry | Top / bottom entry | | |
| | UPS air flow management | Front air intake, top air exhaust | | |
| | UPS degree of protection | IP20 | | |
| | UPS colour | Black, RAL 9005 | | |

ENVIRONMENTAL

| | | | | |
|-----------------------|---|--|--|--|
| 6.5.5 | Acoustinc noise at 1 m in 25 °C ambient temperature | < 85 dBA in double conversion, full load < 72 dBA in double conversion, <50% load | | |
| 4.1.4 | Ambient UPS storage temperature range | -25 °C to +60 °C in the protective package | | |
| 4.2.1.1 and 5.4.2.2 h | Ambient operating temperature range Nominal range Recommended | 0 °C to +40 °C +20 °C to +25 °C | | |
| | | The maximum rate of temperature change shall be limited to 1.67 °C over 5 minutes (20 °C/hour), based on the ASHRAE standard 90.1-2013 | | |
| | External battery | + 20 °C to + 25 °C recommended for optimized battery life time | | |

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| 4.2.1.1 | Relative humidity range | 5 to 95%, no condensation allowed. There shall be at least a 1.0 °C difference between the dry bulb temperature and the wet bulb temperature, at all times, to maintain a non-condensing environment. | | |
| 4.2.1.2 | Operating altitude | 1000 m above sea level at rated maximum ambient temperature Maximum 2000 m with 1% de-rating per each additional 100m above 1000m | | |
| | RoHS/WEEE compliancy | Yes | | |

EFFICIENCY

| | | 1020 kVA/kW | 1200 kVA/kW | 1360 kVA/kW |
|---------------------|---|-------------|-------------|-------------|
| 5.3.2 r and 6.4.1.6 | Efficiency in double-conversion, rated linear load at 400 V input | | | |
| | 100% load | 96,1 % | 96,5 % | 96,1 % |
| | 75% load | 97,0 % | 97,1 % | 97,0 % |
| | 50% load | 97,5 % | 97,5 % | 97,5 % |
| | 25% load | 97,4 % | 97,5 % | 97,4 % |
| | Heat dissipation in double conversion | | | |
| | 100% load | 41,4 kW | 43,5 kW | 55,2 kW |
| | 75% load | 23,7 kW | 26,9 kW | 31,6 kW |
| | 50% load | 13,1 kW | 15,4 kW | 17,5 kW |
| | 25% load | 6,8 kW | 7,7 kW | 9,1 kW |
| | No load | - | - | - |

ELECTRICAL CHARACTERISTICS

INPUT

| | | | | |
|---------------------|--|---------------------------------|--------|--------|
| 5.2.1 a and 5.2.1 b | Rated input voltage | 220/380 V; 230/400 V; 240/415 V | | |
| | Voltage tolerance | 195 V - 276 V (ph) | | |
| | Rectifier input | rated voltage -10% / +10% | | |
| | Bypass input | | | |
| 5.2.1 c and 5.2.1 d | Rated input frequency | 50 or 60 Hz | | |
| | Rectifier frequency tolerance | 40 Hz to 72 Hz | | |
| 5.2.2 a and 5.2.2 b | Number of input phases | | | |
| | Rectifier input | 3 phases + neutral + PE | | |
| | Bypass input | 3 phases + neutral + PE | | |
| 5.2.2 d | Input power factor, double conversion mode | | | |
| | 25-100% load | > 0,99 | | |
| | 10-25% load | > 0,97 | | |
| 5.2.2 c | Rated rectifier input current at 400 V | 1764 A | 2075 A | 2344 A |
| 5.2.2 f | Maximum rectifier input current | 1800 A | 2400 A | 2400 A |



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| | Bypass input current, nominal/maximum | 1472 A / 2280 A | 1732 A / 2280 A | 1963 A / 2280 A |
| 5.2.2 h and 5.2.2. i | Input current distortion at rated input current Resistive load | < 3% | | |
| 5.2.2 e | In-rush current | <100% of rated current | | |
| 5.2.2 k | AC power distribution system compatibility | TN-S, TN, TT, IT (4-wire) | | |
| | Rectifier ramp-up, rectifier start and load step | Yes | | |
| | Backfeed protection | Yes, for both rectifier and bypass lines | | |

ELECTRICAL CHARACTERISTICS

OUTPUT

| | | | | |
|---------------------|--|--|-------------------|-------------------|
| 5.3.2 k | Output power rating | 1020 kVA/kW | 1360 kVA/kW | 1360 kVA/kW |
| | Output power factor | pf 1.0 | pf 1.0 | pf 1.0 |
| 5.3.2 f and 5.3.2 g | Number of output phases | 3 phase + neutral + PE | | |
| 5.3.2 b | Rated output voltage | 220/380 V; 230/400 V; 240/415 V, configurable | | |
| 5.3.2 j | Voltage transient (r.m.s) | 0% during transfer from stored energy to normal mode | | |
| 5.3.2 c | Rated output frequency | 50 or 60 Hz, configurable | | |
| | Maximum slew-rate when synchronizing | 0,5 Hz/s | | |
| 5.3.2 l | Overload capability @ maximum ambient temperature On inverter | 10 min 110% load | 10 min 110% load | 10 min 110% load |
| | | 60 sec 125% load | 60 sec 125% load | 60 sec 125% load |
| | | 10 sec 150% load | 10 sec 150% load | 10 sec 150% load |
| | | 300 ms >150% load | 300 ms >150% load | 300 ms >150% load |
| | Overload capability @ maximum ambient temperature – On bypass | Continuous < 115% load 20 ms 1000% load | | |
| 5.3.2 m | Output current limitation, short-circuit capability | 2850 A, 300 ms | 3800 A, 300 ms | 3800 A, 300 ms |
| 5.3.2 o and 5.3.2 p | Load power factor, permitted range | From 0,7 lagging to 0,9 leading without de-rating | | |

BYPASS

| | | | | |
|--|--|---|--|--|
| | Type of bypass | Static | | |
| | Bypass rating | 1360 kVA/kW | | |
| | Bypass voltage range | 220/380 V; 230/400 V; 240/415 V tolerance -10% / +10% of rated voltage | | |
| | Transfer time break | No break | | |
| | Backfeed protection | Backfeed detection. Integrated backfeed breaker is optional | | |
| | Rated conditional short-circuit current, I _{cc} Static bypass | 100 kA (internal ultra rapid fusing) | | |



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|---|-------------|----------------------------------|-------------|
| Internal static bypass ultra-rapid fuse | | Bussmann, 170M7085, 3500A 690Vac | |

BATTERY CHARACTERISTICS

| | | |
|-----------|---------------------------------|--|
| 5.4.2.2 d | Battery technology | Compatible with VRLA, Lithium-ion and NiCd batteries |
| 5.4.2.2 b | Battery quantity (VRLA) | 40 - 50 battery blocks, 240 - 300 cells per string |
| 5.4.2.2 c | Battery voltage range | 400-700 Vdc |
| 5.4.2.2 f | Stored energy time | See separate declaration |
| 5.4.2.2 o | Recharge profile | Advanced Battery Management (ABM [®]) = 90% resting, 10% floating/charging (typical) OR float charge |
| 5.4.2.2 q | End of discharge voltage (VRLA) | 1.67 VPC to 1.75 VPC Configurable or automatic (load adaptive) |

COMMUNICATION CIRCUITS

| | | |
|-----|--|---|
| 5.6 | User interface & system status | Touchscreen LCD, Status LED indicators for UPS level and UPM level state and alarms |
| | Standard connectivity ports | 4 x Mini-Slot ports for optional cards, 5 x building alarm inputs, 1 x relay output and a dedicated EPO |
| | Optional | Mini-Slot cards: Ethernet 10/100/1000BaseT, Web/SNMP, ModBus/Jbus TCP or RTU, Relay inputs/outputs Other: Environmental monitoring probe Gen 2 (up to 3 sensors daisy-chained) |
| | Cybersecurity compliance | IEC 62443-4-2, UL 2900-1 |
| | Complete list of indications and interface devices | See User's Manual |

COMPLIANCE WITH STANDARDS

| | | |
|-------------|--|---|
| IEC 62040-1 | Safety Access Degree of protection | Restricted access IP20; protection against medium sized foreign matter (incl. finger) |
| IEC 62040-2 | Electromagnetic Compatibility Immunity Emissions | EMC Category C3 EMC Category C3 |