

S4K4U-C 6 kVA and S4K6U-C 10 kVA Industrial On-Line UPS

The SolaHD S4K4U6000C and S4K6U10KC Industrial UPS Series are the first true On-Line industrial UPS that provides higher output power factor, higher efficiency, flexible output voltage, an integrated maintenance bypass switch and internal batteries all in slim 4U (7.0") and 6U (10.5") enclosures respectively.

The S4K4UC and S4K6UC features true On-Line (double conversion) topology providing the ultimate in protection against a wide range of potential power problems. The S4K4UC design of two 3 kVA, 120 V inverters allow flexible output voltage to meet mixed load voltage requirements. The UPS automatically configures the output voltage to match the input configuration without requiring tap selections. Self diagnostics simplify maintenance and troubleshooting. The standard maintenance bypass switch provides an additional level of protection.

The S4K4UC and S4K6UC also feature a wide input voltage window to support the critical load without having to transfer to the battery. This extends system availability when back-up is truly needed.

Applications

- Industrial Computers
- Robotics and Process Controls
- Industrial Automation Systems
- Network Servers
- Enterprise Telecommunication Systems
- Printing and Publishing Machinery
- Pharmaceutical and Medical Diagnosis Equipment
- Industrial and Commercial Machinery
- Micro-processor Controlled Equipment
- Mission Critical Devices

Features

- True double conversion topology
- Higher power factor of 0.80 (6kVA) and 0.90 (10kVA)
- Both models offer 208/120 V or 240/120 V
- Configurable as a tower or rack mounting
- Highest density, 6 kVA in only 4U and 10 kVA in only 6U of rack space
- Easily installed in 18" to 32" deep rack using rack mount kit # SRS1832
- User replaceable, hot-swappable internal battery module
- Extended battery cabinets
- Includes both automatic and manual maintenance bypass switch



- Automatic frequency detection (60 or 50 Hz)
- Power factor correction
- Self-diagnostics simplify maintenance and troubleshooting
- Remote emergency Power Off (REPO)
- Intellislot™ USB and terminal block communication ports
- Compatible with most standby generators
- Uses an average of 35% less energy than their standard counterparts
- Provides continuous uptime for the connected equipment, with capacity and battery back-up delivered in cabinets that use 4U to 6U of rack space
- Two year limited warranty

Certifications and Compliances

- cUL_{us} Listed, UPS Equipment
 - UL 1778
 - CSA C22.2 No. 107.3
- IEEE/ANSI C62.41 Category A & B
- ISTA Procedure 1A
- ABS Type Approved
- RoHS Compliant
- ENERGY STAR® certified



Related Products

- Portable MCR Power Conditioners
- Surge Protective Devices
- Active Tracking® Filters

S4K 6 and 10 kVA Specifications

Table 1: UPS Specifications

| Parameters | Model Number | |
|---|---|---|
| | S4K4U6000C | S4K6U10KC |
| Rating | 4800 W/6000 VA | 9000 W/10000 VA |
| Dimensions – W x D x H, in. (mm) | | |
| Unit | 6.80 x 26.10 x 16.90 (173.0 x 662.0 x 430.0) | 10.30 x 26.50 x 16.90 (261.0 x 672.0 x 430.0) |
| Shipping | 13.20 x 33.10 x 26.10 (336.0 x 842.0 x 662.0) | 16.70 x 32.80 x 24.10 (424.0 x 832.0 x 612.0) |
| Weight – lbs. (kg) | | |
| Unit | 56.2 (25.50) | 78.3 (35.50) |
| Shipping | 70.5 (32.00) | 92.6 (42.00) |
| Input AC Parameters | | |
| Nominal Operating Frequency | 50 or 60 Hz (Factory default is 60 Hz) | |
| Factory Default Vac | 120/208 Vac @ 120° | |
| L1–L2 Factory Default Input Phase Angle | 120°C | |
| Allowable Input Phase Angle | 120, 180, 240 degrees; auto-sensing on application of alternating current (Restrictions for L–N voltage other than 120 Vac) | |
| Factory Default L1–N, L2–N Vac | 120 Vac nominal | |
| User Configurable L1–N, L2–N Vac | 100/110/115/120/127 Vac (Can be modified with configuration program) | |
| Input Frequency w/o Battery Operation | 40–70 Hz | |
| Input Power Connection | Hardwire terminal block 3W + G (L–L–N–G) | |
| L1–N, L2–N Maximum Allowable Vac | 150 Vac | |
| Output AC Parameters | | |
| Factory Default Vac | 120/208 Vac @ 120°C | |
| L1–L2 Factory Default Output Phase Angle | 120°C | |
| Allowable Output Phase Angle | 120, 180, 240 degrees; auto-sensing on initial application of input alternating current | |
| Factory Default L1–N, L2–N Vac | 120 Vac nominal | |
| User Configurable L1–N, L2–N Vac | 100/110/115/120/127 Vac, ±2% | |
| L1–N, L2–N Overload Rating | | |
| 105% to 130% | 1 minute | |
| 131% to 150% | 10 seconds | |
| 151% to 200% | 1 second | |
| >200% (impact load) | At least 5 cycles | |

S4K 6 and 10 kVA Specifications - continued

Table 2: UPS Specifications

| Parameters | Model Number | |
|-----------------------------------|---|-----------|
| | S4K4U6000C | S4K6U10KC |
| Bypass Protection Limits | | |
| Disable Bypass Operation | If input voltage exceeds $\pm 15\%$ of the nominal voltage | |
| Re-enable Bypass Operation | If input voltage returns to within $\pm 10\%$ of nominal output voltage | |
| Disable Bypass Operation | When the input frequency prevents synchronous operation | |
| Environmental Requirements | | |
| Operating Temperature | 0°C to +40°C; see Table 11 for operating temperature parameters | |
| Storage Temperature | -15°C to +50°C | |
| Relative Humidity | 0% to 95%, non-condensing | |
| Operating Elevation | Up to 10,000 ft. (3,000 m) | |
| Audible Noise | <55 dBA @ 3.2 ft. (1 m) rear; <50 dBA @ 3.2 ft. (1 m) front & sides | |
| Standards | | |
| EMC | FCC Part 15, Subpart B, Class A, FCC Class A | |

Table 3: Operating Temperature Parameters

| Ambient Temperature | Model Number | |
|---------------------------------|--------------|-----------|
| | S4K4U6000C | S4K6U10KC |
| pf @ 30°C $\pm 3^\circ\text{C}$ | 0.8 pf | 0.9 pf |
| pf @ 40°C $\pm 3^\circ\text{C}$ | 0.8 pf | 0.8 pf |

Table 4: Internal Battery Specifications

| Parameters | Model Number | |
|---|---|--|
| | S4K144INTBATC | S4K288INTBATC |
| Used with UPS Models | S4K4U6000C | S4K6U10KC |
| Dimensions – W x D x H, in. (mm) | | |
| Unit | 2.80 x 19.30 x 8.10 (70.0 x 490.0 x 206.0) | 5.30 x 19.70 x 8.10 (135.0 x 500.0 x 207.0) |
| Shipping | 12.20 x 23.70 x 10.30 (310.0 x 602.0 x 262.0) | 12.20 x 23.90 x 9.50 (310.0 x 607.0 x 242.0) |
| Weight – lbs. (kg) | | |
| Unit | 75.8 (34.40) | 71.1 (32.30) |
| Shipping | 81.1 (36.80) | 76.4 (34.70) |
| Battery Parameters | | |
| Type | Valve-regulated, non-spillable, flame retardant, lead acid | |
| Qty x V x Rating | 2 x 6 x 12 V x 9.0 Ah | 2 x 12 x 12 V x 9.0 Ah |
| Battery Mfr./Part Number | CSB type UPS12460F2 | |
| Back-up Time | See Table 8 | |
| Recharge Time | 3 hours to 90% capacity after full discharge into 100% load | |
| Environmental Requirements | | |
| Operating Temperature | 0°C to +40°C | |
| Storage Temperature | -15°C to +50°C | |
| Relative Humidity | 0% to 95%, non-condensing | |
| Operating Elevation | Up to 10,000 ft. (3,000 m) at +40°C without derating | |

Table 5: External Battery Cabinet Specifications

| Parameters | Model Number | |
|---|--|---|
| | S4K144BATC | S4K288BATC |
| Used with UPS Models | S4K4U6000C | S4K6U10KC |
| Dimensions – W x D x H, in. (mm) | | |
| Unit (with bezel) | 3.30 x 26.10 x 16.90 (85.0 x 662.0 x 430.0) | 6.80 x 26.50 x 16.90 (173.0 x 672.0 x 430.0) |
| Shipping | 25.80 x 34.30 x 12.30 (655.0 x 872.0 x 312.0) | 13.20 x 33.10 x 24.50 (336.0 x 842.0 x 622.0) |
| Weight – lbs. (kg) | | |
| Unit | 99.9 (45.30) | 29.8 (13.50) |
| Shipping | 110.2 (50.00) | 44.1 (20.00) |
| Battery Parameters | | |
| Type | Valve-regulated, non-spillable, flame retardant, lead acid | |
| Qty x V x Rating | 2 x 6 x 12 V x 9.0 Ah | 2 x 12 x 12 V x 9.0 Ah |
| Battery Mfr./Part Number | CSB type UPS12460F2 | |
| Back-up Time | See Table 8 | |
| Environmental Requirements | | |
| Operating Temperature | 0°C to +40°C | |
| Storage Temperature | -15°C to +50°C | |
| Relative Humidity | 0% to 95%, non-condensing | |
| Operating Elevation | Up to 10,000 ft. (3,000 m) at +40°C without derating | |

Table 6: Power Distribution Specifications for S4K4U6000C

| Parameters | Model Number | | | | | |
|---|---|-------------------------|-------------------------|--------------------------|--------------------------|--------------|
| | S4KPAD2-001C | S4KPAD2-002C | S4KPAD2-003C | S4KPAD2-004C | S4KPAD2-005C | S4KPAD2-006C |
| Dimensions – W x D x H, in. (mm) | | | | | | |
| Unit | 5.20 x 15.50 x 3.50 (132.0 x 393.0 x 88.0) | | | | | |
| Shipping | 9.50 x 20.70 x 9.10 (242.0 x 527.0 x 230.0) | | | | | |
| Weight – lbs. (kg) | | | | | | |
| Unit | 8.8 (4.00) | 8.6 (3.90) | 8.6 (3.90) | 9.9 (4.50) | 10.6 (4.80) | 9.5 (4.30) |
| Shipping | 11.0 (5.00) | 10.8 (4.90) | 10.8 (4.90) | 12.1 (5.50) | 12.8 (5.80) | 11.7 (5.30) |
| Electrical Specifications | | | | | | |
| Amp Rating | 30 A 2-pole input breaker | | | | | |
| Input Power Connections | (1) L14-30R on a 300 mm cord | | | | | |
| Output Power Connections | (4) 5-20R (1) L14-30R (1) L6-30R | (2) 5-20R (2) L6-20R | (4) 5-20R (2) L6-30R | (4) L5-20R (2) L5-30R | (4) L5-20R (2) L6-30R | (4) L6-20R |

Table 7: Battery Back-up Times

| Number of Batteries/Cabinets | Load % of Capacity | Model Rating | |
|--|--------------------|-------------------------|----------|
| | | 6000 VA | 10000 VA |
| | | Back-up Time in Minutes | |
| Internal battery | 10% | 106 | 112 |
| | 20% | 46 | 48 |
| | 30% | 27 | 30 |
| | 40% | 19 | 21 |
| | 50% | 14 | 16 |
| | 60% | 11 | 12 |
| | 70% | 9 | 10 |
| | 80% | 7 | 8 |
| | 90% | 5 | 6 |
| | 100% | 5 | 5 |
| Internal battery + 1 external battery cabinet | 10% | 188 | 201 |
| | 20% | 108 | 120 |
| | 30% | 67 | 73 |
| | 40% | 46 | 49 |
| | 50% | 37 | 40 |
| | 60% | 28 | 31 |
| | 70% | 23 | 26 |
| | 80% | 19 | 21 |
| | 90% | 16 | 18 |
| | 100% | 14 | 16 |
| Internal battery + 2 external battery cabinets | 10% | 321 | 330 |
| | 20% | 152 | 157 |
| | 30% | 109 | 121 |
| | 40% | 77 | 82 |
| | 50% | 53 | 64 |
| | 60% | 47 | 49 |
| | 70% | 40 | 43 |
| | 80% | 33 | 37 |
| | 90% | 27 | 31 |
| | 100% | 25 | 27 |
| Internal battery + 3 external battery cabinets | 10% | 424 | 430 |
| | 20% | 192 | 204 |
| | 30% | 143 | 149 |
| | 40% | 109 | 122 |
| | 50% | 82 | 95 |
| | 60% | 68 | 73 |
| | 70% | 51 | 60 |
| | 80% | 46 | 49 |
| | 90% | 41 | 44 |
| | 100% | 36 | 40 |

The factory default is programmed for internal batteries only. Table 7 shows the estimated battery back-up times at different loads. The user may specify the number of external battery cabinets attached to the UPS.

Note: Run times in this table are approximate. They are based upon new, fully charged standard battery modules at a temperature of 25°C (77°F) with 100% resistive UPS loading. Run times listed above can vary by +/-5% due to manufacturing variances of the individual batteries

Table 7: Battery Back-up Times continued

| Number of Batteries/Cabinets | Load % of Capacity | Model Rating | |
|--|--------------------|-------------------------|----------|
| | | 6000 VA | 10000 VA |
| | | Back-up Time in Minutes | |
| Internal battery + 4 external battery cabinets | 10% | 442 | 447 |
| | 20% | 300 | 310 |
| | 30% | 161 | 165 |
| | 40% | 138 | 144 |
| | 50% | 110 | 122 |
| | 60% | 92 | 99 |
| | 70% | 74 | 79 |
| | 80% | 62 | 68 |
| | 90% | 50 | 53 |
| Internal Battery + 5 external battery cabinets | 10% | 454 | 459 |
| | 20% | 324 | 332 |
| | 30% | 194 | 206 |
| | 40% | 153 | 158 |
| | 50% | 134 | 140 |
| | 60% | 110 | 122 |
| | 70% | 95 | 102 |
| | 80% | 77 | 82 |
| | 90% | 67 | 73 |
| Internal Battery + 6 external battery cabinets | 10% | 463 | 467 |
| | 20% | 341 | 420 |
| | 30% | 219 | 301 |
| | 40% | 164 | 183 |
| | 50% | 148 | 153 |
| | 60% | 131 | 138 |
| | 70% | 110 | 122 |
| | 80% | 97 | 104 |
| | 90% | 80 | 92 |
| | 100% | 71 | 77 |

The factory default is programmed for internal batteries only. Table 7 shows the estimated battery back-up times at different loads. The user may specify the number of external battery cabinets attached to the UPS.

Note: Run times in this table are approximate. They are based upon new, fully charged standard battery modules at a temperature of 25°C (77°F) with 100% resistive UPS loading. Run times listed above can vary by +/-5% due to manufacturing variances of the individual batteries