

## S4K5U-5C 6 kVA International On-Line UPS

The new SolaHD S4K5U6K5C Industrial On-Line UPS Series is designed for international usage and provides flexible output voltage, an integrated maintenance bypass switch and internal batteries all in a slim 5U (8.7") enclosure. The S4K5U-5C features true On-Line (double conversion) topology providing the ultimate in protection against a wide range of potential power problems. Flexible output voltages (220/230/240 Volt) are available through the configuration program to allow for international use. One of the three L-N output voltages is selected to match the local voltage. Self diagnostics simplify maintenance and troubleshooting, and the UPS can be serviced by the customer. The standard maintenance bypass switch provides an additional level of protection.

The S4K5U-5C also features 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.

### Features

- True double conversion topology
- Higher Power Factor of 0.80
- Flexible L-N output voltage (220/230/240V)
- Configurable as a Tower or Rack Mount model
- High density, 6 kVA in only 5U of rack space
- Easily installed in 18" to 32" deep rack using rack mount kit # SRS1832
- User replaceable, hot-swappable internal battery module
- Matching 3U Extended Battery Cabinets
- Includes both automatic and manual maintenance bypass switch
- Automatic frequency detection of either 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
- Two Year Limited Warranty



### Applications

- Industrial Computers
- Robotics and Process Controls
- Industrial Automation Systems
- Network Servers
- Enterprise Telecommunication Systems
- Printing and Publishing Machinery
- Industrial and Commercial Machinery
- Pharmaceutical and Medical Diagnosis Equipment

### Related Products

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

<b>Table 10: UPS Specifications</b>	
<b>Parameters</b>	<b>Model Number: S4K5U6K5C</b>
Rating	6000 VA/4800 W
<b>DIMENSIONS, D x W x H, mm [in.]</b>	
Unit	570 x 430 x 220 [22.4 x 16.9 x 8.7]
Shipping	745 x 530 x 516 [29.3 x 20.9 x 20.3]
<b>WEIGHT, kg [lb.]</b>	
Unit	60 [132.2]
Shipping	71 [156.5]
<b>INPUT AC PARAMETERS</b>	
Nominal Operating Frequency	50 or 60 Hz (Factory default is 50 Hz)
Factory Default V ac	230 V ac
User-configurable V ac	220/230/240 V ac (Can be modified using included configuration program)
Operating Voltage Range without Battery Operation	176–280 V ac
Maximum Allowable V ac	280 V ac
Input Frequency without Battery Operation	40–70 Hz
Input Power Connection	S4KPAD2-CEHWMBSC Standard (See “3.3 Removable Power Distribution Box”)
<b>OUTPUT AC PARAMETERS</b>	
Factory Default V ac	230 V ac
Output Connections	S4KPAD2-CEHWMBSC Standard (See “3.3 Removable Power Distribution Box”)
Frequency	50 or 60 Hz, nominal
Wave form	Sine wave
Main Mode Overload	>200% for 5 cycles; 151–200% for 1 second; 131–150% for 10 seconds; 105–130% for 1 minute
<b>BYPASS PROTECTION LIMITS</b>	
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
<b>ENVIRONMENTAL REQUIREMENTS</b>	
Operating Temperature	0°C to +40°C [+32°F to +104°F]; See Table 9
Storage Temperature	-15°C to +50°C [+5°F to +122°F]
Relative Humidity	0% to 95%, non-condensing
Operating Elevation	Up to 1,000 m [3,281 ft.] at +30°C [+86°F] without derating
Audible Noise	<55 dBA @ 1 m [3.2 ft.] rear; <50 dBA @ 1 m [3.2 ft.] front & sides

Table 11: UPS Specifications	
Parameters	Model Number: S4K5U6K5C
<b>AGENCY</b>	
Safety	IEC62040-1:2008 Version
EMI/EMC	IEC/EN/AS 62040-2 2 <sup>nd</sup> Edition (Cat 2—Table 6)
ESD	EN61000-4-2, Level 4, Criteria A
Radiated Susceptibility	EN61000-4-3, Level 3, Criteria A
Electrical Fast Transient	EN61000-4-4, Level 4, Criteria A
Surge Immunity	EN61000-4-5, Level 3, Criteria A
Transportation	ISTA Procedure 1A

Table 12: Operating Temperature Parameters	
Ambient Temperature	Model Number: S4K5U6K5C
pf @ 30°C ±3°C [pf @ 86°F ±5.4°F]	0.8 pf
pf @ 40°C ±3°C [pf @ 104°F ±5.4°F]	0.8 pf

Table 13: Power Distribution Specifications	
Parameters	Model Number: S4KPAD2-CEHWMBSC
Used with UPS Model	S4K5U6K5C
Power Distribution Box Includes:	Two (2) IEC320 C19 16 A/250 V Sockets Eight (8) C13 10 A/250 V Sockets Manual bypass switch with indicator lamp
Ampere Rating	32 A
Input/Output Power Connections	3-wire hard wired, 6–10 mm <sup>2</sup> (8–10 AWG)
User-supplied Input Branch Circuit Breaker	32 A

<b>Table 14: Internal Battery Specifications</b>	
<b>Parameters</b>	<b>Model Number: S4K240INTBATC</b>
Used with UPS Model	S4K5U6K5C
<b>DIMENSIONS, D x W x H, mm [in.]</b>	
Unit	390 x 113 x 184 [15.4 x 4.4 x 7.2]
Shipping	467 x 178 x 262 [18.4 x 7.0 x 10.3]
<b>WEIGHT, kg [lb.]</b>	
Unit	20.6 [45.1]
Shipping	23.0 [50.7]
<b>BATTERY PARAMETERS</b>	
Type	Valve-regulated, non-spillable, lead acid
Qty x V x Rating	20 x 12 V x 9.0 Ah
Battery Mfr./Part Number	Yuasa/REW 45-12
Backup Time	See Table 13
Recharge Time	3 hours to 90% capacity after full discharge into 100% load
<b>ENVIRONMENTAL REQUIREMENTS</b>	
Operating Temperature	0°C to +40°C [+32°F to +104°F]; see Table 9
Storage Temperature	-15°C to +50°C [+5°F to +122°F]
Relative Humidity	0% to 95%, non-condensing
Operating Elevation	Up to 3,000 m [10,000 ft.] at +40°C [+104°F] without derating
<b>AGENCY</b>	
Safety	IEC62040-1:2008 Version
Transportation	ISTA Procedure 1A

<b>Table 15: External Battery Cabinet Specifications</b>	
<b>Parameters</b>	<b>Model Number: S4K240BATC</b>
Used with UPS Model	S4K5U6K5C
<b>DIMENSIONS, D x W x H, mm [in.]</b>	
Unit (with bezel)	570 x 430 x 148 [22.4 x 16.9 x 5.8]
Shipping	745 x 530 x 407 [29.3 x 20.8 x 16.0]
<b>WEIGHT, kg [lb.]</b>	
Unit	50.4 [111]
Shipping	54.0 [119]
<b>BATTERY PARAMETERS</b>	
Type	Valve-regulated, non-spillable, lead acid
Qty x V	1 x 20 x 12 V
Battery Mfr./Part Number	Yuasa/NPH5-12
Backup Time	See Table 13
<b>ENVIRONMENTAL REQUIREMENTS</b>	
Operating Temperature	0°C to +40°C [+32°F to +104°F]
Storage Temperature	-15°C to +50°C [+5°F to +122°F]
Relative Humidity	0% to 95%, non-condensing
Operating Elevation	Up to 1,000 m [3,281 ft.] at +40°C [+104°F]
<b>AGENCY</b>	
Safety	IEC62040-1:2008 Version
Transportation	ISTA Procedure 1A

Number of Batteries	Output to Connected Load, W									100% Load, W
	1400	1800	2200	2600	3000	3400	3800	4200	4600	
Internal battery	28	18	14	11	9.5	7.5	6.5	5	4	4800
Internal battery + 1 external battery cabinet	56	36	28	22	19	15	13	10	8	4800
Internal battery + 2 external battery cabinets	84	54	42	33	28.5	22.5	19.5	15	12	4800
Internal battery + 3 external battery cabinets	112	72	56	44	38	30	26	20	16	4800
Internal battery + 4 external battery cabinets	140	80	70	55	47.5	37.5	32.5	25	20	4800

Using the configuration program, the user may specify the number of external battery cabinets attached to the UPS. The factory default is programmed for internal batteries only. Table 13 shows the estimated battery backup times at different loads.

UPS Extended Warranty Offering for the SolaHD 1K, S3K and S4K Series

S1K

Catalog Number	Description
<b>1-Year Extended Warranty</b>	
1EWPS1K320	1-year extended warranty for S1K320
1EWPS1K520	1-year extended warranty for S1K520
1EWPS1K650	1-year extended warranty for S1K650
1EWPS1K850	1-year extended warranty for S1K850
1EWPS1K1200	1-year extended warranty for S1K1200
1EWPS1K1500	1-year extended warranty for S1K1500
<b>3-Year Extended Warranty</b>	
3EWPS1K320	3-year extended warranty for S1K320
3EWPS1K520	3-year extended warranty for S1K520
3EWPS1K650	3-year extended warranty for S1K650
3EWPS1K850	3-year extended warranty for S1K850
3EWPS1K1200	3-year extended warranty for S1K1200
3EWPS1K1500	3-year extended warranty for S1K1500

S3K

Catalog Number	Description
<b>1-Year Extended Warranty</b>	
1EWPS3K700	1-year extended warranty for S3K700
1EWPS3K1000	1-year extended warranty for S3K1000
1EWPS3K1600	1-year extended warranty for S3K1600
<b>3-Year Extended Warranty</b>	
3EWPS3K700	3-year extended warranty for S3K700
3EWPS3K1000	3-year extended warranty for S3K1000
3EWPS3K1600	3-year extended warranty for S3K1600

S4K4UC AND S4K6UC – Maintenance Bypass Switch

Catalog Number	Description
<b>1-Year Extended Warranty</b>	
1EWPS4K06KPAD	1-year extended warranty for S4K4UC PADs
1EWPS4K10KPAD	1-year extended warranty for S4K6UC PADs
<b>3-Year Extended Warranty</b>	
3EWPS4K06KPAD	3-year extended warranty for S4K4UC PADs
3EWPS4K10KPAD	3-year extended warranty for S4K6UC PADs

S4K Industrial – UPS Models

The extended warranty program extends the standard two-year product warranty by the term of the extension purchased, 1-year or 3 years. This results in warranty terms of 3 or 5 years (depending on the extension selected) from the date of purchase. SolaHD will repair or replace the unit at any point during the extension period, subject to the same conditions as the standard warranty. The warranty extension is not transferable.

Catalog Number	Description
<b>1-Year Extended Warranty</b>	
1EWPS4K2U700C	1-year extended warranty for S4K2U700C
1EWPS4K2U1000C	1-year extended warranty for S4K2U1000C
1EWPS4K2U1500C	1-year extended warranty for S4K2U1500C
1EWPS4K2U2000C	1-year extended warranty for S4K2U2000C
1EWPS4K2U3000C	1-year extended warranty for S4K2U3000C
1EWPS4K4U6000C	1-year extended warranty for S4K4U6000C
1EWPS4K6U10KC	1-year extended warranty for S4K6U10KC
<b>3-Year Extended Warranty</b>	
3EWPS4K2U700C	3-year extended warranty for S4K2U700C
3EWPS4K2U1000C	3-year extended warranty for S4K2U1000C
3EWPS4K2U1500C	3-year extended warranty for S4K2U1500C
3EWPS4K2U2000C	3-year extended warranty for S4K2U2000C
3EWPS4K2U3000C	3-year extended warranty for S4K2U3000C
3EWPS4K4U6000C	3-year extended warranty for S4K4U6000C
3EWPS4K6U10KC	3-year extended warranty for S4K6U10KC

**Note:** Warranty on S4K4U6000 covers electronics and internal battery.

S4K Industrial – Battery Cabinets

Catalog Number	Description
<b>1-Year Extended Warranty</b>	
1EWPS4K2U48BATC	1-year extended warranty for S4K2U48BATC
1EWPS4K2U96BATC	1-year extended warranty for S4K2U96BATC
1EWPS4K144BATC	1-year extended warranty for S4K144BATC
1EWPS4K288BATC	1-year extended warranty for S4K288BATC
<b>3-Year Extended Warranty</b>	
3EWPS4K2U48BATC	3-year extended warranty for S4K2U48BATC
3EWPS4K2U96BATC	3-year extended warranty for S4K2U96BATC
3EWPS4K144BATC	3-year extended warranty for S4K144BATC
3EWPS4K288BATC	3-year extended warranty for S4K288BATC

## Field Service Programs for the S4K4UC/6UC Industrial and S5K Series

These programs are for Domestic coverage (valid only within the continental United States and Canada); additional travel expenses may be billed to customers with site locations more than 150 miles from a major metropolitan area.

### S4K4UC/6UC Industrial Start-Up Programs

**Start-Up** expands the warranty to include remedial onsite parts and labor for 2 years (in lieu of the 2-year parts/depot labor included with the standard unit). Start-up includes one site trip within the contiguous 48 states by a customer service engineer, after the UPS has been installed. Any additional trips by the customer service engineer as a result of the site not being ready for start-up may result in additional costs to the customer. The site trip includes the following services for one UPS module: non powered inspection, UPS electrical and operation check out, full parts and labor for any remedial work required on the UPS or battery cabinets, and customer operation training at the time of start-up. Two plans are offered: Monday-Friday, 8 a.m. to 5 p.m. and 7 days/week, 24 hours/day.

**Start-Up Plus** includes the standard start-up as defined above plus one preventive maintenance (PM) service site trip within the contiguous 48 states. The PM must be scheduled during the two-year warranty period and during normal business hours (Monday through Friday, 8 a.m. to 5 p.m.). The PM will include the following services for one UPS module: consult with personnel responsible for the equipment, visually inspect internal subassemblies and major components, check all mechanical connections for tightness and heat discoloration, clean any foreign material and dust from internal compartments, calibrate equipment to manufacturer's specifications, check the normal operation of the system, check battery transfer/discharge and perform a short duration battery run, perform any required engineering field changes, return unit to operational service with the normal load and verify output power. Two plans are offered: Monday-Friday, 8 a.m. to 5 p.m. and 7 days/week, 24 hours/day.

### S5K Modular Start-Up Programs

**Start-Up** is included in the cost of the S5K Modular UPS.

A separate Preventative Maintenance Only plan is available in addition to the standard Start-Up plan included in the cost of the S5K UPS.

### Service Programs - S4K4UC/6UC and S5K Series

**Preferred service level options** include 6-hour on-site response, 24x7 within 150 miles of nearest service centers. 24x7 emergency service includes parts (including internal batteries), labor, and travel. Also includes one (1) Preventive Maintenance (PM) visit per year, scheduled at the customer's convenience (24x7).

**Essential service level options** include 6-hour on-site response, 24x7 within 150 miles of nearest service centers. 24x7 emergency service includes parts (including internal batteries), labor, and travel. Also includes one (1) Preventive Maintenance (PM) visit per year, scheduled by the customer for M-F 8AM-5PM.

**Basic service level options** include 6-hour on-site response, 24x7 within 150 miles of nearest service centers. 24x7 emergency service includes parts (excluding internal batteries), labor, and travel. Preventive Maintenance (PM) not included and is not available if the Basic Service plan is selected.



Field Service Programs for the S4K4UC, S4K6UC Industrial and S5K Series - continued

S4K4UC and S4K6UC Industrial Start-Up Programs

Catalog Number	Description
<b>Domestic Only (Monday – Friday, 8am – 5pm)</b>	
SUS4K061UM	6 kVA Start-Up
SUS4K101UM	10 kVA Start-Up
SUS4K061PM	6 kVA Start-Up Plus
SUS4K101PM	10 kVA Start-Up Plus
<b>Domestic Only (7–Days/Week, 24 Hrs/Day)</b>	
SUS4K061U7	6 kVA Start-Up
SUS4K101U7	10 kVA Start-Up
SUS4K061P7	6 kVA Start-Up Plus
SUS4K101P7	10 kVA Start-Up Plus

S4K4UC and S4K6UC Industrial Service Programs

<b>1 PM Only (Mon–Fri, 8 am – 5 pm)</b>	
Catalog Number	Equipment
MS4K061PM85	S4K4U6000C
MS4KBAT1PM85	S4K144BATC & S4K288BATC
MUUS4K10PM85	S4K6U10KC

<b>1 PM Only (7 days, 24 hours)</b>	
Catalog Number	Equipment
MS4K061PM24	S4K4U6000C
MS4KBAT1PM24	S4K144BATC & S4K288BATC
MUUS4K10PM24	S4K6U10KC

S4K4UC and S4K6UC Industrial Service Programs

<b>Preferred Service (w/ 1 PM)</b>	
Catalog Number	Equipment
MUUS4K06PR1	S4K4U6000C
MEUS4KBATPR1	S4K144BATC & S4K288BATC
MUUS4K10PR1	S4K6U10KC

<b>Essential Service (w/ 1 PM)</b>	
Catalog Number	Equipment
MUUS4K06ES1	S4K4U6000C
MEUS4KBATES1	S4K144BATC & S4K288BATC
MUUS4K10ES1	S4K6U10KC

<b>Basic Service (PM not available)</b>	
Catalog Number	Equipment
MUUS4K06BA0	S4K4U6000C
MEUS4KBATBA0	S4K144BATC & S4K288BATC
MUUS4K10BA0	S4K6U10KC

S5K Modular Service Programs

Contact Technical Services to obtain the catalog number for any of the Preferred, Essential or Basic Services (catalog number depends on the S5K configuration).

X = Number of Power Modules (#1 through #6)

YY = Number of Battery Modules (# 01 through #11)

Catalog Number	Service Program
MUUS5KXPRYY	Preferred Service
MUUS5KXESYY	Essential Service
MUUS5KXBAYY	Basic Service
MS5K1PM24	PM Only (7-Days/Week, 24 Hrs/Day) for all configurations

**Note:** Service programs are valid for one year.