

## S4K2U-C and S4K2U-5C Industrial On-Line UPS

The new SolaHD S4KC is a single-phase, on-line (double-conversion) UPS system available in 700-3000VA, 120V and 230V. On-Line design means zero transfer time from external to internal power. When utility power fails, your critical load remains supported by a seamless flow of power. Rack or tower configurable, the SolaHD S4KC UPS offers customers a higher power factor, longer battery life, higher reliability and reduced cost of ownership. Housed in a slim 2U package, the SolaHD S4KC protects equipment from virtually all power disturbances due to blackouts, brownouts, sags, surges or noise interference. The UPS includes internal batteries. Optional, matching external battery cabinets, also in a slim 2U (3.5") size, offer extended battery runtime.

The LED display indicates battery capacity, percentage of UPS load, battery operation, bypass operation and UPS fault condition.

The rack-tower models are also supplied with securing flanges and rack slide mounting hardware is available separately, if required. Units can be easily hardwired by removing the attached line cord and receptacle plate. All units include a conduit knockout cover in the box.

### Applications

- Industrial Automation Systems
- Critical Microprocessors and PC Based Systems
- Robotics and Process Control
- Programmable Logic Controllers (PLC)
- Mission Critical and High Speed Networks
- Enterprise Telecommunication Systems
- Pharmaceutical and Medical Diagnosis Equipment
- Printing and Publishing Machinery




### Features

- Hardwire capability for permanent installation
- Small 2U height maximizes available space
- Input and output noise suppression
- Higher output power factor of 0.90
- PWM inverter reduces output voltage distortion
- Add on batteries for extended back-ups
- Integral sealed non-spillable batteries
- Hot swappable user replaceable battery
- Automatic restart
- Automatic and manual battery test



- Rack-mount or stand-alone tower mounting
- Units are field configurable with a PC as a frequency converter (bypass will be disabled)
- Select S4KC models use an average of 35% less energy than their standard counterparts
- Select S4KC models provide continuous uptime for the connected equipment, with capacity and battery back-up delivered in cabinets that use 2U of rack space
- Integral dynamic bypass reduces shutdowns
- Compatible with most standby generators
- Two year limited warranty

### Certifications and Compliances

-  Listed, UPS Equipment
- S4K2U-C:
  - UL 1778
  - CSA C22.2 No. 107.3
  - ISTA Procedure 1A
- S4K2U-5C:
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  - EC/EN/AS 62040-1-1:2008
  - ISTA Procedure 1A
-  ENERGY STAR certified:
  - 700, 1000, 1500, 2000, 3000 VA 120V input

Note: The securing flanges do not support the weight of the UPS. Rack slides or shelves are required (sold separately).

Selection Table - S4K2U-C & S4K2U-5C Tower/Rack-Mount Models

Capacity (VA/W)	Catalog Number	Typical Back-up Times * (minutes)	Input Plug/Output Receptacle	Approx. Ship Weight – lbs (kg)
<b>120 Vac, 50/60 Hz Models</b>				
700/630	<b>S4K2U700-C</b>	11/27	5-15P / (6) 5-15R	52.9 (24.00)
1000/900	<b>S4K2U1000-C</b>	7/17	5-15P / (6) 5-15R	
1500/1350	<b>S4K2U1500-C</b>	4/11	5-15P / (6) 5-15R	57.3 (26.00)
2000/1800	<b>S4K2U2000-C</b>	3/11	5-20P / (6)5-20R (15/20 amp type)	61.7 (28.00)
3000/2700	<b>S4K2U3000-C</b>	3/11	L5-30P / (5)5-20R (15/20 amp type); (1) L5-30R	70.5 (32.00)
<b>230 Vac, 50/60 Hz International Models</b>				
1000/900	<b>S4K2U1000-5C</b>	6/17	IEC 320-C14 / (6) IEC 320/C13	44.0 (20.00)
2000/1800	<b>S4K2U2000-5C</b>	3/11	IEC 320-C20 / (6) IEC 320-C13	61.7 (28.00)
3000/2700	<b>S4K2U3000-5C</b>	3/11	IEC 320-C20 / (6) IEC 320-C13 (1) IEC 320-C19	70.5 (32.00)

\* Full/Half Load (in minutes) at rated wattage.

## S4K2U-C, 120 Vac, 50/60 Hz Tower/Rack-Mount Models Specifications

Catalog Number	S4K2U700-C	S4K2U1000-C	S4K2U1500-C	S4K2U2000-C	S4K2U3000-C
<b>Dimensions, D x W x H, in. (mm)</b>					
<b>Unit</b>	19.70 x 16.90 x 3.40 (500.4 x 430.0 x 86.4)				23.70 x 16.90 x 3.40 (602.0 x 430.0 x 86.4)
<b>Shipping</b>	25.50 x 23.90 x 10.60 (648.0 x 607.1 x 270.0)				29.40 x 23.40 x 10.60 (747.0 x 594.4 x 270.0)
<b>Weight, lbs. (kg)</b>					
<b>Unit</b>	37.0 (16.80)		51.1 (23.20)	51.1 (23.20)	71.4 (32.40)
<b>Shipping</b>	44.1 (20.00)		57.3 (26.00)	57.3 (26.00)	79.4 (36.00)
<b>Input AC Parameters</b>					
<b>Voltage Range (typical)</b>	120 Vac nominal; variable based on output load				
<b>90% to 100% Loading</b>	90 Vac/140 Vac		102 Vac/140 Vac		
<b>70% to 90% Loading</b>	86 Vac/140 Vac		96 Vac/140 Vac		
<b>30% to 70% Loading</b>	77 Vac/140 Vac		84 Vac/140 Vac		
<b>0% to 30% Loading</b>	60 Vac/140 Vac		60 Vac/140 Vac		
<b>Power Factor</b>	0.99				
<b>Frequency</b>	40 Hz to 70 Hz; auto sensing				
<b>Input Power Cord *</b>	10 ft. attached with NEMA 5-15P plug			10 ft. attached with NEMA 5-20P plug	10 ft. attached with NEMA L5-30P plug
<b>Output AC Parameters</b>					
<b>Output Receptacles *</b>	5-15R x 6		5-20R x 6	L5-30R x 1 + 5-20R x 6	
<b>Voltage</b>	110/115/120/127 Vac (user-configurable) $\pm$ 3%				
<b>Waveform</b>	Sine wave				
<b>Utility (Vac) Mode Overload</b>	200% for 2 seconds; 150% for 50 seconds with transfer to bypass				
<b>Power Factor</b>	0.90				
<b>Battery</b>					
<b>Type</b>	Valve-regulated, non-spillable, lead acid				
<b>Qty x V x Rating</b>	4 x 12 V x 5.0 Ah		4 x 12 V x 7.2 Ah	4 x 12 V x 9.0 Ah	6 x 12 V x 9.0 Ah
<b>Battery Mfr./Part Number</b>	YUASA/NPH5-12; CSB/HR 1221W		Panasonic/UP-RW1236; CSB/GP 1272	Panasonic/UP-RW1245; CSB/HR 1234W F2	
<b>Recharge Time</b>	3 hours to 90% capacity after full discharge with 100% load until UPS auto shutdown (internal batteries only)				
<b>Environmental Requirements</b>					
<b>Operating Temperature</b>	0°C to +40°C; See Operating Temperature Parameters				
<b>Storage Temperature</b>	-15°C to +50°C				
<b>Relative Humidity</b>	0% to 95%, non-condensing				
<b>Operating Elevation</b>	Up to 10,000 ft. [3,000 m]				
<b>Storage Elevation</b>	50,000 ft. [15,000 m] max.				

Notes:

\* Input power cord and output receptacles can be removed for hardwired applications.

**S4K2U-C, 120 Vac, 50/60 Hz Tower/Rack-Mount Models Specifications cont.**

<b>Catalog Number</b>	<b>S4K2U700-C</b>	<b>S4K2U1000-C</b>	<b>S4K2U1500-C</b>	<b>S4K2U2000-C</b>	<b>S4K2U3000-C</b>
<b>Audible Noise</b>	<43 dBA max. @ 3 ft. [1 m] front & sides; <46 dBA max. @ 3 ft. [1 m] rear	<45 dBA max. @ 3 ft. [1 m] front & sides; <50 dBA max. @ 3 ft. [1 m] rear	<46 dBA max. @ 3 ft. [1 m] front & sides; <45 dBA max. @ 3 ft. [1 m] rear	<48 dBA max. @ 3 ft. [1 m] front & sides; <48 dBA max. @ 3 ft. [1 m] rear	
<b>Standards</b>					
<b>EMC</b>	FCC Part 15, Class A				

<b>Operating Temperature Parameters</b>			
<b>Ambient Temperature</b>	+25°C to +30°C	+30°C to +35°C	+35°C to +40°C
<b>Maximum output power factor derating at maximum load</b>	100% to 93%	93% to 86%	86% to 79%

## S4K2U-5C, 230 Vac, 50/60 Hz Tower/Rack-Mount Models Specifications

Catalog Number	S4K2U1000-5C	S4K2U2000-5C	S4K2U3000-5C
<b>Dimensions, D x W x H, in. (mm)</b>			
<b>Unit</b>	19.60 x 16.90 x 3.30 (497.0 x 430.0 x 85.0)		23.70 x 16.90 x 3.30 (602.0 x 430.0 x 85.0)
<b>Shipping</b>	28.20 x 22.40 x 10.30 (717.0 x 570.0 x 262.0)		28.20 x 22.40 x 10.30 (717.0 x 570.0 x 262.0)
<b>Weight, lbs. (kg)</b>			
<b>Unit</b>	37.0 (16.80)	51.1 (23.20)	71.4 (32.40)
<b>Shipping</b>	44.1 (20.00)	57.3 (26.00)	79.4 (36.00)
<b>Input AC Parameters</b>			
<b>Voltage Range (typical)</b>	230 Vac nominal; variable based on output load		
<b>90% to 100% Loading</b>	177 Vac/280 Vac		196 Vac/280 Vac
<b>70% to 90% Loading</b>	168 Vac/280 Vac		184 Vac/280 Vac
<b>30% to 70% Loading</b>	150 Vac/280 Vac		161 Vac/280 Vac
<b>0% to 30% Loading</b>	115 Vac/280 Vac		115 Vac/280 Vac
<b>Power Factor</b>	0.99		
<b>Frequency</b>	40 Hz to 70 Hz; auto sensing		
<b>Input Power Receptacle *</b>	IEC 320 C14	IEC 320 C20	
<b>Output AC Parameters</b>			
<b>Output Receptacles *</b>	IEC 320 C13 x 6		IEC 320 C13 x 6; IEC 320 C19 x 1
<b>Voltage</b>	220/230/240 Vac (user-configurable) ±3%		
<b>Frequency</b>	50 Hz or 60 Hz		
<b>Waveform</b>	Sine wave		
<b>Overload</b>	200% for 2 seconds; 150% for 1 minute with transfer to bypass	200% for 2 seconds; 150% for 50 seconds with transfer to bypass	200% for 2 seconds; 150% for 55 seconds with transfer to bypass
<b>Power Factor</b>	0.90		
<b>Battery</b>			
<b>Type</b>	Valve-regulated, non-spillable, lead acid		
<b>Qty x V x Rating</b>	4 x 12 V x 5.0 Ah	4 x 12 V x 9.0 Ah	6 x 12 V x 9.0 Ah
<b>Battery Mfr./Part Number</b>	YUASA/NPH5-12; CSB/HR 1221W	Panasonic/UP-RW1245; CSB/HR 1234W F2	
<b>Recharge Time</b>	3 hours to 90% capacity after full discharge with 100% load until UPS auto shutdown (internal batteries only)		
<b>Environmental Requirements</b>			
<b>Operating Temperature</b>	0°C to +40°C; See Operating Temperature Parameters		
<b>Storage Temperatures</b>	-15°C to +50°C		
<b>Relative Humidity</b>	0% to 95%, non-condensing		
<b>Operating Elevation</b>	Up to 3,000 m [10,000 ft.]		
<b>Storage Elevation</b>	15,000 m [50,000 ft.] max.		

Notes:

\* Input power cord and output receptacles can be removed for hardwired applications.

**S4K2U-5C, 230 Vac, 50/60 Hz Tower/Rack-Mount Models Specifications**

Catalog Number	S4K2U1000-5C	S4K2U2000-5C	S4K2U3000-5C
<b>Audible Noise</b>	<43 dBA max. @ 1 m [3 ft.] front & sides; <46 dBA max. @ 1 m [3 ft.] rear	<48 dBA max. @ 1 m [3 ft.] front & sides; <48 dBA max. @ 1 m [3 ft.] rear	
<b>Standards</b>			
<b>EMC</b>	IEC/EN/AS 62040-2 2 <sup>nd</sup> Edition = CISPR22 Class A; IEC62040-2 2 <sup>nd</sup> Edition		

<b>Operating Temperature Parameters</b>			
<b>Ambient temperature</b>	+25°C to +30°C	+30°C to +35°C	+35°C to +40°C
<b>Maximum output power factor derating at maximum load</b>	100% to 93%	93% to 86%	86% to 79%

## External Battery Cabinets Specifications

Catalog Numbers	S4K2U48BATC	S4K2U96BATC
Used with UPS models	S4K2U700C, S4K2U1000C (-5), S4K2U1500C, S4K2U2000C (-5)	S4K2U3000C (-5)
<b>Dimensions, D x W x H, in. (mm)</b>		
Unit	19.70 x 16.90 x 3.40 (500.4 x 430.0 x 86.4)	23.70 x 16.90 x 3.40 (602.0 x 430.0 x 86.4)
Shipping	24.30 x 22.40 x 10.30 (617.2 x 570.0 x 262.0)	28.20 x 22.40 x 10.30 (717.0 x 570.0 x 262.0)
<b>Weight, lbs. (kg)</b>		
Unit	70.5 (32.00)	93.5 (42.40)
Shipping	77.2 (35.00)	101.4 (46.00)
<b>Battery</b>		
Type	Valve-regulated, non-spillable, lead acid	
Qty x V x Rating	2 x 4 x 12 V x 9.0 Ah	2 x 6 x 12 V x 9.0 Ah
Battery Mfr./Part Number	Panasonic/UP-RW1245; CSB/HR 1234W F2	
Back-up Time	Battery Back-up Times Chart	
<b>Environmental Requirements</b>		
Operating Temperature	0°C to +40°C	
Storage Temperatures	-15°C to +50°C; High ambient temperatures will reduce battery life	
Relative Humidity	0% to 95%, non-condensing	
Operating Elevation	Up to 10,000 ft. [3,000 m]	
Storage Elevation	50,000 ft. [15,000 m] max.	

S4K2U-C and S4K2U-5C Battery Back-up Times

Number of Batteries/Cabinets	Load % of Capacity	Model Rating				
		700 VA	1000 VA	1500 VA	2000 VA	3000 VA
		Back-up Time in Minutes				
Internal battery	10%	105	90	77	77	74
	20%	61	37	35	33	36
	30%	37	30	23	21	21
	40%	32	23	16	15	15
	50%	27	17	11	11	11
	60%	22	14	10	8	8
	70%	18	11	6	6	6
	80%	15	9	5	5	5
	90%	13	8	4	4	4
100%	11	7	4	3	3	
Internal battery + 1 external battery cabinet	10%	306	212	199	183	166
	20%	182	151	133	124	121
	30%	149	123	97	80	79
	40%	130	100	72	41	53
	50%	109	80	41	38	46
	60%	98	68	38	34	39
	70%	81	41	35	30	31
	80%	72	39	32	25	26
	90%	63	37	27	21	21
100%	41	35	23	17	18	
Internal battery + 2 external battery cabinets	10%	373	336	314	311	307
	20%	313	214	188	161	159
	30%	211	166	148	134	133
	40%	185	151	126	105	105
	50%	159	137	103	80	81
	60%	149	122	82	67	68
	70%	139	105	72	40	52
	80%	128	95	62	38	47
	90%	112	80	40	36	43
100%	104	73	38	33	38	
Internal battery + 3 external battery cabinets	10%	480	480	341	335	332
	20%	341	321	227	206	203
	30%	318	218	185	157	157
	40%	224	191	154	139	139
	50%	205	162	139	120	120
	60%	186	152	123	99	100
	70%	163	141	105	80	81
	80%	155	131	93	70	71
	90%	148	120	79	60	62
100%	140	106	71	40	51	
Internal battery + 4 external battery cabinets	10%	480	480	480	480	346
	20%	480	339	317	304	301
	30%	337	315	216	188	187
	40%	321	220	183	156	156
	50%	304	199	157	141	142
	60%	217	167	145	126	127
	70%	202	159	133	107	108
	80%	186	151	120	95	97
	90%	164	143	105	79	81
100%	158	134	96	71	73	

Note: S4K2U-5C models are not available in 700VA or 1500VA.