

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. 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

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



- Units are field configurable with a PC as a frequency converter (bypass will be disabled)
- 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:
 - 
 - EC/EN/AS 62040-1-1:2008
 - ISTA Procedure 1A

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)
120 Vac, 50/60 Hz Models				
700/630	S4K2U700-C	11/27	5-15P / (6) 5-15R	52.9 (24.00)
1000/900	S4K2U1000-C	7/17	5-15P / (6) 5-15R	
1500/1350	S4K2U1500-C	4/11	5-15P / (6) 5-15R	57.3 (26.00)
2000/1800	S4K2U2000-C	3/11	5-20P / (6)5-20R (15/20 amp type)	61.7 (28.00)
3000/2700	S4K2U3000-C	3/11	L5-30P / (5)5-20R (15/20 amp type); (1) L5-30R	70.5 (32.00)
230 Vac, 50/60 Hz International Models				
1000/900	S4K2U1000-5C	6/17	IEC 320-C14 / (6) IEC 320-C13	44.0 (20.00)
2000/1800	S4K2U2000-5C	3/11	IEC 320-C20 / (6) IEC 320-C13	61.7 (28.00)
3000/2700	S4K2U3000-5C	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
Dimensions, D x W x H, in. (mm)					
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	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)
Weight, lbs. (kg)					
Unit	37.0 (16.80)		51.1 (23.20)	51.1 (23.20)	71.4 (32.40)
Shipping	44.1 (20.00)		57.3 (26.00)	57.3 (26.00)	79.4 (36.00)
Input AC Parameters					
Voltage Range (typical)	120 Vac nominal; variable based on output load				
90% to 100% Loading	90 Vac/140 Vac		102 Vac/140 Vac		
70% to 90% Loading	86 Vac/140 Vac		96 Vac/140 Vac		
30% to 70% Loading	77 Vac/140 Vac		84 Vac/140 Vac		
0% to 30% Loading	60 Vac/140 Vac		60 Vac/140 Vac		
Power Factor	0.99				
Frequency	40 Hz to 70 Hz; auto sensing				
Input Power Cord *	10 ft. attached with NEMA 5-15P plug			10 ft. attached with NEMA 5-20P plug	10 ft. attached with NEMA L5-30P plug
Output AC Parameters					
Output Receptacles *	5-15R x 6			5-20R x 6	L5-30R x 1 + 5-20R x 6
Voltage	110/115/120/127 Vac (user-configurable) ±3%				
Waveform	Sine wave				
Utility (Vac) Mode Overload	200% for 2 seconds; 150% for 50 seconds with transfer to bypass				
Power Factor	0.90				
Battery					
Type	Valve-regulated, non-spillable, lead acid				
Qty x V x Rating	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
Battery Mfr./Part Number	YUASA/NPH5-12; CSB/HR 1221W		Panasonic/UP-RW1236; CSB/GP 1272	Panasonic/UP-RW1245; CSB/HR 1234W F2	
Recharge Time	3 hours to 90% capacity after full discharge with 100% load until UPS auto shutdown (internal batteries only)				
Environmental Requirements					
Operating Temperature	0°C to +40°C; See 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]				
Storage Elevation	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.

Catalog Number	S4K2U700-C	S4K2U1000-C	S4K2U1500-C	S4K2U2000-C	S4K2U3000-C
Audible Noise	<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	
Standards					
EMC	FCC Part 15, Class A				

Operating Temperature Parameters			
Ambient Temperature	+25°C to +30°C	+30°C to +35°C	+35°C to +40°C
Maximum output power factor derating at maximum load	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
Dimensions, D x W x H, in. (mm)			
Unit	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)
Shipping	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)
Weight, lbs. (kg)			
Unit	37.0 (16.80)	51.1 (23.20)	71.4 (32.40)
Shipping	44.1 (20.00)	57.3 (26.00)	79.4 (36.00)
Input AC Parameters			
Voltage Range (typical)	230 Vac nominal; variable based on output load		
90% to 100% Loading	177 Vac/280 Vac		196 Vac/280 Vac
70% to 90% Loading	168 Vac/280 Vac		184 Vac/280 Vac
30% to 70% Loading	150 Vac/280 Vac		161 Vac/280 Vac
0% to 30% Loading	115 Vac/280 Vac		115 Vac/280 Vac
Power Factor	0.99		
Frequency	40 Hz to 70 Hz; auto sensing		
Input Power Receptacle ¹	IEC 320 C14	IEC 320 C20	
Output AC Parameters			
Output Receptacles ¹	IEC 320 C13 x 6		IEC 320 C13 x 6; IEC 320 C19 x 1
Voltage	220/230/240 Vac (user-configurable) ±3%		
Frequency	50 Hz or 60 Hz		
Waveform	Sine wave		
Overload	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
Power Factor	0.90		
Battery			
Type	Valve-regulated, non-spillable, lead acid		
Qty x V x Rating	4 x 12 V x 5.0 Ah	4 x 12 V x 9.0 Ah	6 x 12 V x 9.0 Ah
Battery Mfr./Part Number	YUASA/NPH5-12; CSB/HR 1221W	Panasonic/UP-RW1245; CSB/HR 1234W F2	
Recharge Time	3 hours to 90% capacity after full discharge with 100% load until UPS auto shutdown (internal batteries only)		
Environmental Requirements			
Operating Temperature	0°C to +40°C; See Operating Temperature Parameters		
Storage Temperatures	-15°C to +50°C		
Relative Humidity	0% to 95%, non-condensing		
Operating Elevation	Up to 3,000 m [10,000 ft.]		
Storage Elevation	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
Audible Noise	<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	
Standards			
EMC	IEC/EN/AS 62040-2 2 nd Edition = CISPR22 Class A; IEC62040-2 2 nd Edition		

Operating Temperature Parameters			
Ambient temperature	+25°C to +30°C	+30°C to +35°C	+35°C to +40°C
Maximum output power factor derating at maximum load	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)
Dimensions, D x W x H, in. (mm)		
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)
Weight, lbs. (kg)		
Unit	70.5 (32.00)	93.5 (42.40)
Shipping	77.2 (35.00)	101.4 (46.00)
Battery		
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	
Backup Time	Battery Back-up Times Chart	
Environmental Requirements		
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
		Backup 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.