

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 500-3000VA, 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.

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)
- Integral dynamic bypass reduces shutdowns
- Compatible with most standby generators
- Two-year limited warranty

Note:

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



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

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	6/14	5-15P / (6) 5-15R	52.9 (24)
1000/900	S4K2U1000-C	5/15	5-15P / (6) 5-15R	
1500/1350	S4K2U1500-C	5/16	5-15P / (6) 5-15R	57.3 (26)
2000/1800	S4K2U2000-C	4/11	5-20P / (6)5-20R (15/20 amp type)	61.7 (28)
3000/2700	S4K2U3000-C	4/14	L5-30P / (5)5-20R (15/20 amp type): (1) L5-30R	70.5 (32)
230 Vac, 50/60 Hz International Models				
1000/900	S4K2U1000-5C	5/15	IEC 320-C14 / (6) IEC 320/C13	44.0 (20)
2000/1800	S4K2U2000-5C	4/11	IEC 320-C20 / (6) IEC 320-C13	61.7 (28)
3000/2700	S4K2U3000-5C	4/14	IEC 320-C20 / (6) IEC 320-C13 (1) IEC 320-C19	70.5 (32)

* Full/Half Load (in minutes).

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	19.7 x 16.9 x 3.4 [497 x 430 x 85]				23.7 x 16.9 x 3.4 [602 x 430 x 85]
Shipping	25.5 x 23.9 x 10.6 [647 x 607 x 270]				29.4 x 23.4 x 10.6 [747 x 5607 x 270]
Weight, lb. [kg]					
Unit	37.0 [16.8]		51.1 [23.2]	51.1 [23.2]	71.4 [32.4]
Shipping	44.1 [20.0]		57.3 [26.0]	57.3 [26.0]	79.4 [36.0]
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 ¹	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 ¹	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	
Backup Time ²	6/14	5/15	5/16	4/11	4/14
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 [+32°F to +104°F]; See Operating Temperature Parameters				
Storage Temperature	-15°C to +50°C [+5°F to +122°F]				
Relative Humidity	0% to 95%, non-condensing				
Operating Elevation	Up to 10,000 ft. [3,000 m] at +40°C [+104°F] without derating				
Storage Elevation	50,000 ft. [15,000 m] max.				

Notes:

1. Full/half load (in minutes.) See selection table for more information.
2. Input power cord and 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	
Agency					
Safety	UL1778, cUL Listed				
RFI/EMI	FCC Part 15, Class A = CISPR22 Class B				
Surge Immunity	IEC62040-2 2 nd Ed.				
Transportation	ISTA Procedure 1A				

Operating Temperature Parameters			
Ambient temperature	+25°C to +30°C [+77°F to +86°F]	+30°C to +35°C [+86°F to +95°F]	+35°C to +40°C [+95°F to +104°F]
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	497 x 430 x 85 [19.6 x 16.9 x 3.3]		602 x 430 x 85 [23.7 x 16.9 x 3.3]
Shipping	717 x 570 x 262 [28.2 x 22.4 x 10.3]		717 x 570 x 262 [28.2 x 22.4 x 10.3]
Weight, lb. [kg]			
Unit	37.0 [16.8]	51.1 [23.2]	71.4 [32.4]
Shipping	44.1 [20.0]	57.3 [26.0]	79.4 [36.0]
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	
Backup Time ²	5/15	4/11	4/14
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 [+32°F to +104°F]; See Operating Temperature Parameters		
Storage Temperatures	-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		
Storage Elevation	15,000 m [50,000 ft.] max.		

Notes:

1. Full/half load (in minutes.) See selection table for more information.
2. Input power cord and 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	
Agency			
Safety	EC/EN/AS 62040-1-1:2008		
RFI/EMI	IEC/EN/AS 62040-2 2 nd Ed. = CISPR22 Class A		
Surge Immunity	IEC62040-2 2 nd Ed.		
Transportation	ISTA Procedure 1A		

Operating Temperature Parameters			
Ambient temperature	+25°C to +30°C [+77°F to +86°F]	+30°C to +35°C [+86°F to +95°F]	+35°C to +40°C [+95°F to +104°F]
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	19.7 x 16.9 x 3.4 [497 x 430 x 85]	23.7 x 16.9 x 3.4 [602 x 430 x 85]
Shipping	24.3 x 22.4 x 10.3 [617 x 570 x 262]	28.2 x 22.4 x 10.3 [717 x 570 x 262]
Weight, lbs. [kg]		
Unit	70.5 [32.0]	93.5 [42.4]
Shipping	77.2 [35.0]	101.4 [46.0]
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 [+32°F to +104°F]	
Storage Temperatures	-15°C to +50°C [+19°F to +122°F]; High ambient temperatures will reduce battery life	
Relative Humidity	0% to 95%, non-condensing	
Operating Elevation	Up to 10,000 ft. [3,000 m] at +40°C [+104°F] without derating	
Storage Elevation	50,000 ft. [15,000 m] max.	
Agency		
Safety	UL1778, cUL Listed	
RFI/EMI	FCC Part 15, Class A = CISPR22 Class B	
Surge Immunity	IEC62040-2 2 nd Ed.	
Transportation	ISTA Procedure 1A	

S4K2U-C and S4K2U-5C Battery Back-up Times¹

Number of Batteries	Model VA ¹	Backup Time (minutes) at Load (watts) ²												
		200 W	400 W	600 W	800 W	1000 W	1200 W	1400 W	1600 W	1800 W	2000 W	2500 W	100% Load	
		Minutes												Min.
Internal battery	700	26	14	6	--	--	--	--	--	--	--	--	6	630
	1000	28	15	9	5	--	--	--	--	--	--	--	4	900
	1500	--	26	16	10	8	5	--	--	--	--	--	4	1350
	2000	--	--	20	11	10	8	6	5	4	--	--	4	1800
	3000	--	--	--	25	20	14	10	9	8	5	4	4	2700
Internal battery + 1 external battery cabinet	700	126	78	54	--	--	--	--	--	--	--	--	50	630
	1000	128	74	52	41	--	--	--	--	--	--	--	27	900
	1500	--	110	72	48	36	28	--	--	--	--	--	24	1350
	2000	--	--	54	34	34	26	22	17	15	--	--	15	1800
	3000	--	--	--	102	80	56	50	44	38	26	22	18	2700
Internal battery + 2 external battery cabinets	700	264	122	88	--	--	--	--	--	--	--	--	82	630
	1000	252	126	84	60	--	--	--	--	--	--	--	58	900
	1500	--	208	132	94	74	54	--	--	--	--	--	48	1350
	2000	--	--	120	82	60	52	44	36	29	--	--	29	1800
	3000	--	--	--	124	114	106	92	74	66	62	46	44	2700
Internal battery + 3 external battery cabinets	700	280	140	120	--	--	--	--	--	--	--	--	116	630
	1000	320	148	118	80	--	--	--	--	--	--	--	78	900
	1500	--	310	204	138	102	90	--	--	--	--	--	82	1350
	2000	--	--	180	126	92	72	62	52	45	--	--	45	1800
	3000	--	--	--	174	150	122	110	105	104	76	62	62	2700
Internal battery + 4 external battery cabinet	700	560	300	146	--	--	--	--	--	--	--	--	140	630
	1000	600	250	138	116	--	--	--	--	--	--	--	109	900
	1500	--	400	256	180	144	110	--	--	--	--	--	100	1350
	2000	--	--	240	166	130	108	94	84	64	--	--	64	1800
	3000	--	--	--	184	172	150	128	120	119	105	92	84	2700

¹Backup times are valid for all models rated with the listed VA

²Approximate backup times are in minutes and at +25°C [+77°F] with a resistive load

Note:

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