



SSG Series Industrial UPS

1.5kVA to 3kVA, 120/230Vac Rack/Tower



Superior Protection for a Wide Range of Applications

Harsh industrial environments demand an on-line industrial UPS. Falcon's on-line industrial SSG® UPS is specifically designed with high-grade components, plastics and batteries to provide superior protection in stressful environments. The SSG delivers continuous, clean power required by sensitive microprocessor-based equipment, SCADA, PLCs, VFDs and networks.

On-line Industrial UPS Operates from -20°C to 55°C (-4°F to 131°F)

The SSG is one of the only UL 1778, UL 508, cUL and CE approved UPSs to operate from -20°C to 55°C, far beyond the limited 0°C to 40°C temperature range of office grade on-line UPSs. In addition, unlike off-line and line-interactive designs, Falcon's on-line UPS acts as an electronic firewall between the incoming "dirty" power source and your sensitive equipment. Its double-conversion, on-line design regenerates continuous, clean, tightly regulated power regardless of the incoming power anomalies.

10-Year Rated Batteries Reduce Servicing

Batteries are the life blood of all UPSs. All SSG models are equipped with 10-year rated batteries when installed in an ambient 25°C (77°F) environment and offer a 4-year battery life in a 50°C (122°F) location. In contrast, most UPSs typically need batteries replaced every 1 to 2 years in high temperature environments. The SSG's batteries reduce costly battery replacements, servicing and downtime.

When battery replacement is required, simply slide out the user-replaceable, hot-swappable battery pack and replace with a new one. Replacement is accomplished while the UPS continues to power the critical load and without having to remove the UPS from the equipment rack.

Optional Frequency Converter

The SSG is easily programmed for use as a 50Hz or 60Hz frequency converter, making it the ideal choice for worldwide power applications.

RS-232, USB & SNMP/HTTP UPS Management

With the supplied UPSilon® software, all models support unattended shutdown, UPS management, data logging and a power diagnostic tool. The software supports Windows® and other major platforms. For UNIX users, UPSilon is available as an option. Falcon also offers an optional SNMP/HTTP agent board.

Remote Emergency Power Off (REPO)

The SSG is equipped with an NFPA-70, NEC 645-11 compliant REPO interface assuring code compliant integration. If REPO is not required, remote output receptacle control is a factory configurable option. This allows outlets to be remotely controlled using a wired connection with a remote switch.

Features & Benefits:

- * **Certified UPS:** UL 1778, UL 508, cUL and CE approved from -20°C to 55°C (-4°F to 131°F)
 - Avoids product safety and liability risks
- * **On-line industrial UPS design**
 - Prevents costly failures ensuring the highest level of uptime
- * **Tested and designed with robust components and plastics**
 - Assures reliable operation in stressful environments
- * **Hot-swap, 10-year rated batteries**
 - Reduces battery replacements and costs
- * **External Battery Banks**
 - Hours of battery backup time
- * **Unique optional SNMP Agent**
 - Unlimited shutdown client license

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1.5kVA to 3kVA

Model Number		SSG1.5KRM-1 SSG1.5KRM-2		SSG2.2KRM-1 SSG2.2KRM-2		SSG3KRM-1 SSG3KRM-2	
Nominal VA		1500		2200		3000	
Electrical Input							
Nominal AC Voltage		-1 Models 120Vac, -2 Models 208, 220, 230, 240Vac					
AC Voltage Range		-1 Models 80-138Vac, -2 Models 160-276Vac					
Frequency		50/60 Hz ± 5% (Auto Tracking)					
Power Factor Correction		> 0.97 (at full load)					
Surge Suppression		IEEE/ANSI C62.41					
Efficiency (Typ.)		> 87%					
Electrical Output							
Watts		1050		1540		2100	
AC Voltage (User Programmable)		-1 Models = 100, 110, 115 or 120Vac (sinewave) -2 Models = 208, 220, 230 or 240Vac (sinewave)					
Frequency		50/60 Hz (Auto Tracking)					
Frequency Stability		± 0.3% (Battery Mode), ±5% Synchronized to the input frequency in utility mode					
Voltage Regulation		± 2%					
Step Load Change		± 7% for 100% load variation, recovery in 5ms					
Harmonic Distortion		< 3% Linear Load, < 5% Non-Linear Load					
Overload		105% for 120 Seconds, 110% for 50 Seconds, 150% for 10 Seconds					
Crest Ratio		3:1					
Battery							
DC Bus Voltage (nominal)		48Vdc		96Vdc			
Battery Pack Type		User-Replaceable, Hot-Swappable Pack Separate Enclosure from UPS Module (Internal Pack for 1.5kVA)					
Battery Type		10-Year Rated, Maintenance-Free, Sealed VRLA Batteries, 12Vdc, 7AH					
Back Up Time Full/Half Load in Minutes		6 / 18		10 / 27		6 / 18	
Recharge Time		8 Hours to 90%					
Transfer Time							
Line Fails/Recovers		Zero					
UPS to Bypass or Reverse		< 4ms					
After Overload		Auto Transfer to UPS					
With Frequency Converter Option		Bypass Disabled					
Electrical Connections							
Input		-1 Models = 6' Cord with 5-15P Plug -2 Models = 6' Cord with Schuko Plug		-1 Models = 6' Cord with 5-20P Plug -2 Models = 6' Cord with Schuko Plug		-1 Models = 6' Cord with L5-30P Plug -2 Models = 6' Cord with Schuko Plug	
Output		(8) 5-15R (4) IEC320 C13 Outlets		(4) 5-15R & (1) L5-20R (4) IEC320 C13 Outlets		(4) 5-15R & (1) L5-30R (4) IEC320 C13 Outlets	
Environmental							
Temperature		Operational -20°C to 55°C (-4°F to 131°F) At temperatures above 25°C battery life will be reduced Storage -20°C to 55°C (-4°F to 131°F) At temperatures above 25°C battery life will be reduced					
Humidity		10% to 95% Non – Condensing					
Altitude		10,000 Feet (3,000 meters) without derating					
Cooling		Low Velocity Forced Air Fan					
Heat Dissipation		BTU/Hour 535		784		1071	
Audible Noise (@ 1 Meter)		<50dBA					
Controls & Indicators							
LCD Display		MIMIC Graphical Display, Input/Output Voltage, Frequency & Load, Alarm, Programmable settings & UPS state icons					
Audible Alarms		DC Mode, Low Battery, Over/Under Voltage, Over/Under Frequency, High Temp., Over Load, Fault Alarm					
Load Segment Control		Two programmable load segments, one continuous load segment (Except on -2 models)					
Remote Emergency Power Off (or) Remote Output Receptacle Control		(Standard) Meets NFPA 70, NEC 645-11 (REPO connections located on the UPS rear panel) (Optional) UPS Load Segment Controlled Output Receptacles can be turned off and on using a remote isolated switch contact.					
Communications		USB Port, RS-232C Serial Port, Optional SNMP/HTTP Agent Board (UPS Bundled UPSilon Software)					
Mechanical							
Dimensions H x W x D inches (mm)		(2U) 3.5 x 19 x 21.3 (88 x 482.6 x 540)		(2U) 3.5 x 19 x 21.3 (88 x 482.6 x 540)			
SSGR Battery Module		(None - Batteries inside UPS)		(2U) 3.5 x 19 x 21.3 (88 x 482.6 x 540)			
Weight lb. (kg)		UPS with Internal batteries = 55 (24.5)		(2U) UPS Module = 32 (14.5) (2U) External Battery Module = 70.6 (32)		(2U) UPS Module = 32 (14.5) (2U) External Battery Module = 70.6 (32)	
Ten-Year VRLA Batteries							
Agency Approvals		UL 1778, UL 508, cUL, CE, FCC Class B					

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SSG UPS Options					
Extended VRLA Battery Bank Options					
Extended Battery Bank Model Numbers		SSGR		SSGR-1	SSGR-2
Battery Type		10-Year Rated, Maintenance-Free, Sealed VRLA Batteries, 12Vdc, 7AH			
Temperature	Storage Operational	-20°C to 55°C (-4°F to 131°F) (Batteries stored at 50°C will require monthly recharging and have about a 1 year service life) -20°C - 55°C (-4°F to 131°F) (When operated in temperatures above 25°C the battery service life will be reduced)			
Internal 2A Charger		No		Yes	
Charger Input Voltage & Current		None		120Vac, 2.5A	208Vac to 240Vac, 2.5A
Dimensions H x W x D inches (mm)		(2U) 3.5 x 19 x 21.3 (88.5 x 482.6 x 540)			
Weight	lb. (kg)	Extended Battery Module = 70.6 (32)		Extended Battery Module = 72.6 (32.9)	
Extended VRLA Battery Runtimes					
(Note: Stated backup times are identical for SSGR, SSGR-1, SSGR-2 battery banks and are stated by UPS models below)					
UPS Model Numbers		SSG1.5KRM-1 SSG1.5KRM-2		SSG2.2KRM-1 SSG2.2KRM-2	SSG3KRM-1 SSG3KRM-2
Back Up Time by Model		1050W / 525W		1540W / 770W	2100W / 1050W
Full/Half Load in Minutes					
UPS as Shipped		6 / 18		10 / 27	6 / 18
One Extended Battery Bank		30 / 90		28 / 68	19 / 58
Two Extended Battery Banks		60 / 150		46 / 120	32 / 80
Three Extended Battery Banks		94 / 220		68 / 150	58 / 115
Four Extended Battery Banks		125 / 290		110 / 210	75 / 155
Note: Back up time may vary depending on temperature, battery age and condition. 5U height, 40Ah battery bank/charger option supports long backup requirements.					
Lithium-ion Battery Options: Available on Select Models (Please See Separate Lithium-ion Battery Datasheet)					
Communications Options					
Internal COM Board Model Numbers		UA88376-SSG	UA88376-SSG-HW	SNMP-SG-4	SNMP-MEGA-INT
Type		Internal Dry Relay Signal Interface		Internal Ultra Secure SNMP/HTTP	
COM Interface		DB-9F	Hardwire Terminal Block	10/100 Ethernet (RJ45)	
Communications Specifications		Dry contact for: Utility Loss, Low Battery, Summary Alarm & On Bypass, Remote Shutdown while on Battery			
External COM Board Model Numbers				SNMP-SG-5	SNMP-MEGA-EXT
Type				External Secure SNMP/HTTP	
COM Interface				10/100 Ethernet (RJ45)	
Communications Specifications				See SNMP/HTTP datasheets	
External Maintenance Bypass Switch Option*					
Bypass Switch Model Number		MB2K-1, MB2K-2		MB3K-1, MB3K-2	
Model Selection		MB2K-1 used with SSG1.5KRM-1 MB2K-2 used with SSG1.5KRM-2		MB3K-1 used with SSG2.2KRM-1 MB3K-2 used with SSG2.2KRM-2	MB3K-1 used with SSG3KRM-1 MB3K-2 used with SSG3KRM-2
Nominal Input/Output Voltage		-1, 120Vac and -2, 208Vac to 240Vac			
VA Rating		2000		3000	3000
Switch Type		Make-Before-Break			
Utility Input and Load Output Connection		Hardwire			
UPS Input Connection		-1, 5-15R/20R Combo -2, 6-15R/20R Combo		-1, L5-20R -2, L6-20R	-1, L5-30R -2, L6-30R
UPS Output Connection		-1, 6' Line Cord with 5-15P -2, 6' Line Cord with IEC320 C14		-1, 6' Line Cord with L5-20P -2, 6' Line Cord with IEC320 C14	-1, 6' Line Cord with L5-30P -2, 6' Line Cord with IEC320 C14
Dimensions H x W x D inches (mm)		9.9 x 12.6 x 5.3 (250.1 x 319.8 x 133.4)			
Weight lb. (kg)		11 lbs. (4.98 kg)			
Agency Approvals		UL 1778, UL 508, cUL, CE, FCC Class B			
*Note: Installation of Maintenance Bypass Switch requires the installation of one UA88376-SSG contact interface card inside the UPS communications card slot.					

Typical SSG Rear Panel Configuration



SSG UPS with Hot-Swappable Battery Pack



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Quick Facts: Falcon's SSG Industrial UPS Family

1. **Industrial Online UPS** - Ruggedly designed for harsh environments. All plastics, batteries and electronics are rated to operate in extreme temperatures.
2. **Wide-Temperature Range** - [Agency Certified](#): UL 1778, UL508, cUL and CE approved to operate from -20°C to 55°C (-4°F to 131°F) and -30°C to 65°C (-22°F to 149°F).
Many UPSs are rated from 0°C to 40°C, or are not agency certified at the wide temperature range listed in their specs; they offer no guarantee to operate reliably in harsh environments.
3. **NEMA Rated Enclosures and Many Other Options** - [Ready-to-install](#) indoor/outdoor UPS systems—one of the only UPSs with all agency certifications. Also, conformal coating of internal boards, powder coating of enclosures and more.
4. **Batteries that Reduce Servicing, Downtime and Costs** - 10-year rated batteries with a [4-year life at 50°C](#). In industrial environments, other UPSs typically require battery replacements every 1 to 2 years.

Extended Battery Runtimes - Add minutes, hours or days of backup time.

5. **True Online Sinewave Design** - Many UPSs are office-grade, including line-interactive UPS designs that are mislabeled as “industrial online.” These are not reliable to use in industrial settings. Falcon has a 25-year field-proven track record as a leader in online UPS design.

