



# Pre-Configured NEMA 3R UPS Systems

## SSG Industrial Wide-temp 1.5kVA to 3kVA



### Ready to Install NEMA 3R UPS Solution for Indoor/Outdoor Use

Simply hang, hardwire and it is ready to go. Falcon's SSG pre-configured NEMA 3R-rated UPS systems provide the ideal wide-temperature range UPS solution for indoor and outdoor use. NEMA 4-rated enclosures are also offered. Both locking and non-locking enclosure systems are available. Simply specify at the time of order.

### Harsh Temperature Range Protection -20°C to 55°C (-4°F to 131°F)

The SSG UPS is UL 1778, UL 508, cUL Listed and CE approved to operate from -20°C to 55°C (-4°F to 131°F). This wide-temperature, double conversion, on-line UPS family is unique in the industry. It has been specifically designed to withstand harsh temperature environments that would destroy other UPS products.

### Designed for Long Service Life and High Reliability

Falcon has carefully selected a high-grade, powder coated NEMA 3R enclosure. We next integrated it with our wide-temperature SSG UPS models to provide turnkey systems that operate reliably in harsh temperature environments of -20°C to 55°C (-4°F to 131°F). The battery modules packaged inside the system contain batteries that were specifically selected for their wide operational temperature range. The batteries are rated to provide a 12-year service life when installed in a 25°C (77°F) environment. When installed in a 50°C (122°F) location, the projected battery life is 4 years. This is over four times the average UPS battery life.

The SSG UPS offers instant access to vital UPS and power information through its feature-rich, easy-to-use LCD MIMIC graphic display.

### Optional Frequency Converter

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



### Advanced Features:

- \* True Double-Conversion On-line Sinewave Design
- \* UL Listed for -20°C to 55°C Operation
- \* Precision Output Voltage Regulation
- \* High Temperature User-Replaceable, Hot-Swappable, Battery Pack
- \* Hours of Battery Backup
- \* UL, cUL Listed NEMA 3R and 4 Rated Enclosures (all sizes) with Cooling Fan
- \* Add PLCs, VFDs, and other Devices
- \* Dry Contact Relay Card Options
- \* Hardwire Input and Output
- \* Remote Emergency Power Off (Standard)
- \* RS-232C, USB & Optional SNMP/HTTP Agent

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# SSG Pre-Configured NEMA 3R UPS Systems

# 1.5kVA to 3kVA

Model	SSG NEMA UPS Model Number Determined by Configuration Ordered		
UPS Nominal VA	1500	2200	3000
<b>UPS Electrical Input</b>			
Nominal AC Voltage	-1 Models 120Vac -2 Models 208, 220, 230, 240Vac		
AC Voltage Range	-1 Models 80Vac to 138Vac -2 Models 160Vac to 276Vac		
Frequency	50/60 Hz $\pm$ 5% (Auto Tracking)		
Power Factor Correction	>0.97 (at full load)		
Surge Suppression	IEEE/ANSI C62.41		
Efficiency (Typ.)	88%		
<b>UPS Electrical Output</b>			
Watts	1050	1540	2100
AC Voltage (User Programmable)	-1 Models = 100, 110, 115 or 120Vac (sine wave) -2 Models = 208, 220, 230 or 240Vac (sine wave)		
Frequency	50/60 Hz (Auto Tracking)		
Frequency Stability	$\pm$ 0.3% (Battery Mode), $\pm$ 5% Synchronized to the input frequency in utility mode		
Voltage Regulation	$\pm$ 2%		
Step Load Change	$\pm$ 7% for 100% load variation, recovery in 5ms		
Harmonic Distortion	< 3% Linear Load, < 5% Non-Linear Load		
Overload	110% for 40 seconds, 125% for 18 seconds, 150% immediate		
Crest Ratio	3:1		
<b>UPS Battery</b>			
DC Bus Voltage	48Vdc	96Vdc	
Battery Pack Type	User-Replaceable, Hot-Swappable Pack Separate Enclosure from UPS Module (Internal Pack for 1.5kVA)		
Battery Type (Std. Battery Module)	12-Year Rated, Maintenance-Free, Sealed VRLA Batteries, 12Vdc, 7AH		
Backup Time (With SSGR VRLA) Full/Half Load in Minutes	6 / 18	10 / 27	6 / 18.9
Recharge Time	8 Hours to 90%		
Rated Battery Life vs. Temperature	12 Years @ 25°C (77°F) Operation 4 Years @ 50°C (122°F) Operation		
<b>UPS Transfer Time</b>			
Line Fails/Recovers	Zero		
UPS to Bypass or Reverse	< 4ms		
After Overload	Auto Transfer to UPS		
With Frequency Converter Option	Bypass Disabled		
<b>System Electrical Connections</b>			
Input	Hardwire Terminal Block		
Output	Hardwire Terminal Block		
<b>System Environmental</b>			
Temperature	Operational Storage	-20°C to 55°C (-4°F to 131°F) At temperatures above 25°C battery life will be reduced -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 (UPS Only)		
Audible Noise (@ 1 Meter)	<50dBA (UPS only)		
Conformal Coating on UPS Circuit Boards	Optional upon customer request at an added cost		
<b>UPS Controls &amp; Indicators</b>			
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., Overload, Fault Alarm		
Load Segment Control	Two programmable load segments, one continuous load segment (Except on -2 models)		
Remote Emergency Power Off	(Standard)	Meets NFPA 70, NEC 645-11 (REPO hardwire connections located on the UPS rear panel)	
Communications	USB Port, RS-232C Serial Port, Optional SNMP/HTTP Agent Board (UPS Bundled UPSilon Software)		
<b>System Enclosure Mechanical</b>			
Sample Dimensions inches (mm) HxWxD (PP70399 NEMA 3R Enclosure) Note: All sizes available-contact factory	36.0 x 25.0 x 34.0 (914.4 x 635 x 863.6) (Rear mounted external mounting brackets extend beyond stated dimensional height and are supplied with the system)		
Sample Weight (PP70399 NEMA 3R Enclosure)	lb. (kg)	204 (92.5)	262 (118.8)
<b>Agency Approvals</b>	UPS - UL 1778, UL 508, cUL, CE, FCC Class B NEMA 3R Enclosure - UL, cUL Listed		

Extended VRLA Battery Bank Options				
Extended Battery Bank Model Numbers	SSGR	SSGR-1	SSGR-2	
Battery Type	12-Year Rated, Maintenance-Free, Sealed VRLA Batteries, 12Vdc, 7AH			
Temperature	Operational Storage	-20°C to 55°C (-4°F to 131°F) When operated in temperatures above 25°C the battery service life will be reduced -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		
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 (88.9 x 482.6 x 541)		
Weight	lb. (kg)	Extended Battery Module = 70.6 (32)	Extended Battery Module = 72.6 (32.9)	
<b>For mounting dimensions, contact factory.</b>				
Extended VRLA Battery Runtimes				
<b>(Note: Stated backup times are identical for SSGR, SSGR-1, SSGR-2 battery banks and are stated by UPS models below)</b>				
UPS Model Numbers	SSG1.5KRM-1 SSG1.5KRM-2	SSG2.2KRM-1 SSG2.2KRM-2	SSG3KRM-1 SSG3KRM-2	
<b>Backup Time by Model</b>	1050W / 525W	1540W / 770W	2100W / 1050W	
Full/Half Load in Minutes				
UPS as Shipped	6 / 18	10 / 27	6 / 18.9	
One Extended Battery Bank	23.7 / 60.5	20.6 / 52	13 / 34.4	
Two Extended Battery Banks	48.6 / 118	36.3 / 90	23.8 / 60.6	
Three Extended Battery Banks	76.9 / 178	54 / 128.3	35.5 / 88.9	
Four Extended Battery Banks	106 / 241	73 / 170	48.5 / 118.1	
<b>Note: Backup time may vary depending on temperature, battery age and condition. 5U height, 40Ah battery bank/charger option supports long backup requirements.</b>				
<b>Lithium Iron Phosphate (LiFePO<sub>4</sub>) battery option available. Contact factory.</b>				
Communications Options				
Internal COM Board Model Numbers	UA88376-SSG	UA88376-SSG-HW	SNMP-SG-4	SNMP-MEGA-INT
Type	Dry Relay Signal Interface		Ultra Secure SNMP/HTTP	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		Internet-based remote UPS monitoring and management via SNMP/HTTP	
External COM Board Model Numbers			SNMP-SG-5	SNMP-MEGA-EXT
Type			Ultra Secure SNMP/HTTP	Secure SNMP/HTTP
COM Interface			10/100 Ethernet (RJ45)	
Communications Specifications			Internet-based remote UPS monitoring and management via SNMP/HTTP	
External Maintenance Bypass Switch Option*				
Bypass Switch Model Numbers	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	Hardwire			
UPS Output Connection	Hardwire			
Dimensions H x W x D	inches (mm)	9.9 x 12.6 x 5.3 (251.5 x 320 x 134.6)		
Weight	lb. (kg)	11 lbs. (5 kg)		
Agency Approvals	UPS - UL 1778, UL 508, cUL, CE, FCC Class B NEMA 3R Enclosure - UL, cUL Listed			
<b>*Installation of Maintenance Bypass Switch requires the installation of one UA88376-SSG contact interface card inside the UPS communications card slot.</b>				



# Quick Facts: Falcon's SSG Industrial Wide-temperature UPS Family

- 1. Industrial On-line 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, UL 508, cUL and CE approved to operate from -20°C to 55°C (-4°F to 131°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. Other options: conformal coating of internal boards, powder coating of enclosures and more.
- 4. Batteries that Reduce Servicing, Downtime and Costs**– 12-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 On-line UPS Design**– Many UPSs are office-grade, including line-interactive UPS designs that are mislabeled as “industrial on-line.” These are not reliable to use in industrial settings. Falcon has a 25-year field-proven track record as a leader in on-line UPS design.

