



SSG Industrial Wide-temperature 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.

Industrial Wide-temperature 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 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.

12-Year Rated Batteries Reduce Servicing

Batteries are the lifeblood of all UPSs. All SSG models are equipped with 12-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 factory-configurable 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, 12-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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SSG Industrial Wide-temp UPS

Rack/Tower 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 \pm 5% (Auto Tracking)			
Power Factor Correction	>0.97 (at full load)			
Surge Suppression	IEEE/ANSI C62.41			
Efficiency (Typ.)	88%			
Electrical Output				
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			
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	12-Year Rated, Maintenance-Free, Sealed VRLA Batteries, 12Vdc, 7AH			
Backup Time Full/Half Load in Minutes	6 / 18	10 / 27	6 / 18.9	
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 - For hardwired models, contact factory.				
Input	-1 -2	6' Cord with 5-15P Plug 6' Cord with Schuko Plug	6' Cord with 5-20P Plug 6' Cord with Schuko Plug	6' Cord with L5-30P Plug 6' Cord with Schuko Plug
Output	-1 -2	(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 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		
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., Overload, Fault Alarm		
Load Segment Control		Two programmable load segments, one continuous load segment (Except on -2 models)		
Remote Emergency Power Off (or)	(Standard)	Meets NFPA 70, NEC 645-11 (REPO connections located on the UPS rear panel)		
Remote Output Receptacle Control	(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 - For mounting dimensions, contact factory.				
UPS Dimensions H x W x D	inches (mm)	(2U) 3.5 x 19 x 22.5 (88.9 x 482.6 x 571.5)	(2U) 3.5 x 19 x 21.9 (88.9 x 482.6 x 556.3)	
SSGR Battery Module		(None - Batteries inside UPS)	(2U) 3.5 x 19 x 21.3 (88.9 x 482.6 x 541)	
Weight	lb. (kg)		(2U) UPS Module = 32 (14.5)	(2U) UPS Module = 32 (14.5)
12-Year VRLA Batteries		UPS with Internal batteries = 55 (24.9)	(2U) External Battery Module = 70.6 (32)	(2U) External Battery Module = 70.6 (32)
Agency Approvals		UL 1778, UL 508, cUL, CE, FCC Class B		

SSG UPS Options			
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	-20°C to 55°C (-4°F to 131°F) When operated in temperatures above 25°C the battery service life will be reduced	
	Storage	-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)
For mounting dimensions, contact factory.			
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
Backup Time by Model	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
Note: Backup time may vary depending on temperature, battery age and condition. 5U height, 40Ah battery bank/charger option supports long backup requirements.			
Lithium Iron Phosphate (LiFePO₄) battery option available. Contact factory.			
Communications Options			
Internal COM Board Model Numbers	UA88376-SSG	UA88376-SSG-HW	SNMP-SG-4
Type	Dry Relay Signal Interface		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		Internet-based remote UPS monitoring and management via SNMP/HTTP
External COM Board Model Numbers			SNMP-SG-5
Type			Ultra 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
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 -2	5-15R/20R Combo 6-15R/20R Combo	L5-20R L6-20R
UPS Output Connection	-1 -2	6' Line Cord with 5-15P 6' Line Cord with IEC320 C14	6' Line Cord with L5-30P 6' Line Cord with IEC320 C14
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	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



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.

