



SSG-RP Industrial Ultra-wide Temp UPS

1kVA to 3kVA, 120/230Vac Rackmount



Superior Protection in Extreme Temperature Environments

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

Industrial Ultra-wide Temperature UPS Operates from -30°C to 65°C (-22°F to 149°F)

The SSG-RP is one of the only UL 1778, UL 508, cUL and CE approved UPSs to operate from -30°C to 65°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.

10-Year Rated Wide-temperature Batteries

The batteries used inside the UPS were specifically selected due to their wide operational temperature range of -40°C to 80°C (-40°F to 176°F), far in excess of the maximum 65°C UPS specification. The batteries have a 10-year service life rating when operated in a normal ambient temperature environment of 25°C.

When battery replacement is required, simply unplug and remove the external battery bank and replace the internal battery packs with new ones. 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-RP 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:

- * UL 1778, UL 508, cUL and CE approved from -30°C to 65°C
- Avoids product safety and liability risks. One of only a few UPSs certified to operate in extreme temperatures.
- * 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 challenging environments
- * Hot-swap, 10-year rated high-temperature 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-RP Industrial Ultra-wide Temp UPS

Rackmount 1kVA to 3kVA

Model Number	SSG1KRP-1 SSG1KRP-2	SSG1.5KRP-1 SSG1.5KRP-2	SSG2KRP-1 SSG2KRP-2	SSG2.5KRP-1 SSG2.5KRP-2	SSG3KRP-1 SSG3KRP-2
Nominal VA	1000	1500	2000	2500	3000
Electrical Input					
Nominal AC Voltage	-1 Models 120Vac, -2 Models 208, 220, 230, 240Vac				
AC Voltage Range	-1 Models 80Vac to 138Vac, -2 Models 160 to 276Vac				
Frequency	50/60 Hz ± 5% (Auto Tracking)				
Power Factor Correction	>0.98 (at full load)				
Surge Suppression	IEEE/ANSI C62.41				
Efficiency (Typ.)	88%				
Electrical Output					
Watts	700	1050	1400	1750	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	110% for 40 seconds, 125% for 18 seconds, 150% immediate				
Crest Ratio	3:1				
Battery					
DC Bus Voltage (nominal)	48Vdc x 2	96Vdc			
Battery Pack Type	Hot-Swappable Pack Separate Enclosure from the UPS Module, User-Replaceable				
Battery Type (Std. Battery Module)	8 each, wide temperature range (-40°C to 80°C), Maintenance-Free, Sealed VRLA, 12Vdc, 5AH				
Backup Time (SSGH-B VRLA) Full/Half Load in Minutes	21 / 46	12.5 / 29	7.2 / 20.5	5 / 15.9	3.5 / 12.5
Recharge Time	6 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 6' Cord with 5-15P -2 6' Cord with Schuko	6' Cord with 5-15P 6' Cord with Schuko	6' Cord with 5-20P 6' Cord with Schuko	6' Cord with L5-30P 6' Cord with Schuko	6' Cord with L5-30P 6' Cord with Schuko
Output	-1 (8) 5-15R -2 (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 and Storage	-30°C to 65°C (-22°F to 149°F) (SSG3KRP-1 or -2, -30°C to 60°C) Note: 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 Fans				
Heat Dissipation BTU/Hour	342	535	683	854	1071
Audible Noise (@ 1 Meter)	<50dBA				
Controls & Indicators					
LED Display	Line, Inverter, Battery, Bypass, Battery %, Load %, Alarm, Charger, Overload				
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.					
Dimensions H x W x D inches (mm)					
(2U) UPS Module	(2U) 3.5 x 19 x 20.8 (88.9 x 482.6 x 528.3)		(2U) 3.5 x 19 x 20.1 (88.9 x 482.6 x 510.5)		
SSGH-B Battery Module	(2U) 3.5 x 19 x 20.2 (88.9 x 482.6 x 513.1)				
Weight lb. (kg)	31.9 (14.5)		35.3 (16)		
(2U) UPS Module	58.2 (26.4)		58.2 (26.4)		
SSGH-B Battery Module					
Agency Approvals	UL 1778, UL 508, cUL, CE, FCC Class B				

SSG-RP UPS Options

Extended VRLA Battery Bank Options

Extended Battery Bank Model Numbers	SSGH-B	SSGH-B1	SSGH-B2
Battery Type	10-Year Rated, Maintenance-Free, Sealed VRLA Batteries, 12Vdc, 5AH		
Temperature	Operational: -30°C to 65°C (-22°F to 149°F) When operated in temperatures above 25°C the battery service life will be reduced Storage: -30°C to 65°C (-22°F to 149°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 20.2 (88.9 x 482.6 x 513.1)		
Weight lb. (kg)	Extended Battery Module = 58.2 (26.4)		Extended Battery Module = 60.2 (27.3)

For mounting dimensions, contact factory.

Extended VRLA Battery Runtimes

(Note: Stated backup times are identical for SSGH-B, SSGH-B1, SSGH-B2 battery banks and are stated by UPS models below)

UPS Model Numbers	SSG1KRP-1 SSG1KRP-2	SSG1.5KRP-1 SSG1.5KRP-2	SSG2KRP-1 SSG2KRP-2	SSG2.5KRP-1 SSG2.5KRP-2	SSG3KRP-1 SSG3KRP-2
Backup Time by Model	700W / 350W	1050W / 525W	1400W / 700W	1750W / 875W	2100W / 1050W
Full/Half Load in Minutes					
UPS as Shipped	21 / 46	12.5 / 29	7.2 / 20.5	5 / 15.9	3.5 / 12.5
One Extended Battery Bank	50 / 110	32 / 68	22 / 50	16.4 / 39.3	12.5 / 32
Two Extended Battery Banks	84 / 170	50.5 / 115	38 / 84	28.8 / 64.2	22.3 / 50.5
Three Extended Battery Banks	118 / 230	74 / 155	52 / 116	40.2 / 91	32 / 74
Four Extended Battery Banks	150 / 290	98 / 200	69 / 150	53.2 / 118.5	42 / 98

Note: Backup time may vary depending on temperature, battery age and condition. 5U height, 40Ah battery bank/charger option supports long backup requirements.

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 SSG1KRP-1 to SSG2KRP-1 MB2K-2 used with SSG1KRP-2 to SSG2KRP-2	MB3K-1 used with SSG2.5KRP-1 MB3K-2 used with SSG2.5KRP-2 MB3K-1 used with SSG3KRP-1 MB3K-2 used with SSG3KRP-2
Nominal Input/Output Voltage	-1 = 120Vac and -2 = 208Vac to 240Vac	
VA Rating	2000	3000
Switch Type	Make-Before-Break	
Utility Input and Load Output Connection	Hardwire	
UPS Input Connection	-1, 5-15/20R Combo, -2, 6-15R/20R Combo	-1, L5-30R, -2, L6-30R
UPS Output Connection	-1 6' Line Cord with 5-15P or 5-20P -2 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 CE, FCC Class B	

*Note: Installation of MBS requires the installation of one UA88376-SSG contact interface card inside the UPS communications card slot.

Typical SSG-RP UPS Rear Panel Configuration



SSG-RP UPS with Hot-Swappable Battery Pack



Quick Facts: Falcon's SSG-RP Industrial Ultra-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 -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 ultra 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**– 10-year rated batteries with a 1-year life at 50°C; other UPSs typically require frequent battery replacements.

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.

