

# Vertiv<sup>™</sup> Liebert<sup>®</sup> Lithium-Ion TAA Compliant UPS

High Performance Line Interactive UPS for Critical Network Power Protection

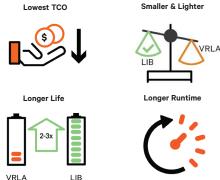




Liebert<sup>®</sup> Lithium-ion technology delivers up to 3 times the life of lead-acid batteries along with a lower total cost of ownership, making the Liebert<sup>®</sup> PSI5 Lithium-Ion TAA line-interactive UPSs ideally suited for server rooms, network closets, and other edge or distributed IT applications.

# Lithium-Ion Battery Technology

Lithium-ion is a game-changing technology when it comes to UPS batteries. When compared to traditional valve-regulated-lead-acid (VRLA) batteries , Liebert PSI5 Lithium-Ion batteries have greater power density, up to 3 times longer, recharge much more quickly, and can endure up to 10x more discharge cycles. With a 5 year standard warranty, more than double the useful life, and significantly more runtime, the Liebert PSI5 Lithium-Ion UPS is at the top of its class.



# Liebert PSI5 Lithium-Ion TAA Key Benefits vs VRLA

- Up to 3x battery life
- Lowest TCO
- 5 year standard warranty on UPS and Batteries
- Longer Runtime
- Quicker recharge times
- Smaller and lighter:
- Greater power density
- Reduced unit depth
- Up to 10x more discharge cycles





Feature	VRLA Battery	Li FePO4 Battery	Lithium-Ion Benefit
Standard battery life	3-5 years	8-10 years	up to 3 times longer life
Typical cycle life	200-260	2000	Up to 10x more discharge/recharge cycles available
Battery recharge time (to 90%)	3-6 hours	<2 hours	Fast recovery time, multiple outages can be handled over a short period
Battery weight	24lbs	13.2lbs	45% weight reduction, suited for smaller spaces and wallmount racks
Warranty	2-3 year	5 year	Install and go - ideal for remote or unmanned locations

Visit the TCO calculator at: https://www.vertiv.com/en-us/support/tools-and-application/tco-calculator to calculate the cost savings for your installation.

## Lowest Total Cost of Ownership (TCO)

The Liebert PSI5 Lithium-Ion line-interactive UPSs are ideally suited to protect critical infrastructure in edge or distributed IT applications. The life expectancy of lithium-ion batteries is up to three times that of VRLA batteries – up to 10 years. That delivers up to 50% or more in TCO savings vs. VRLA batteries, chiefly because the Liebert PSI5 Lithium-Ion requires fewer battery replacements over its lifespan. You save not only on the cost of batteries but on the labor required to replace them – an especially significant issue at remote locations with few or no IT personnel on site. In short, the Liebert PSI5 Lithium-Ion UPS is a true low-maintenance, set-it-and-forget-it solution.

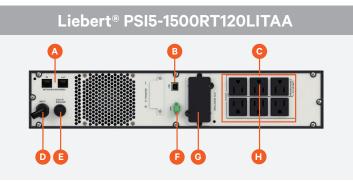
# What's In The Box

- UPS Unit
- USB Type A to USB Type B cable 1.8 meter (6ft) in length
- Printed quick start guide with safety instructions
- Rack mounting kit
  - 4-Post Kit with 2U Rack/Tower models
  - 2-Post Kit with 3U Short Depth Rack/Tower Model
- Rackmount Ears
- Support base for tower configuration (rack/tower models)
- Free download Vertiv<sup>™</sup> Power Assist, Vertiv<sup>™</sup> Power Insight software

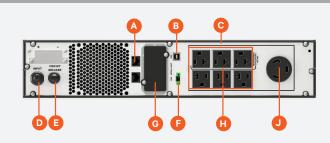


## Reliable UPS protection to keep your network up and running

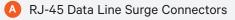
The Liebert<sup>®</sup> PSI5 Lithium-Ion also includes automatic voltage regulation (AVR) technology, which protects against utility voltage fluctuation, extends battery life by maximizing time on utility power, and provides premium protection from power disturbances. In battery mode, the Liebert PSI5 delivers pure sine wave output to protect sensitive servers and networking equipment. With up to 9 minutes of runtime at full load and 20 minutes at half load – more than comparable competing models – the Liebert PSI5 Lithium-Ion provides plenty of runtime during an outage for an orderly shutdown. It comes with a rotating LCD display to allow both rack and tower configurations, provides real time information regarding UPS status and operating conditions, and supports remote monitoring. It's also highly energy efficient, delivering up to 98% efficiency at full load in normal operating mode. You can rest assured your business is protected with this Vertiv<sup>™</sup> solution, which includes a 5-year full standard warranty.



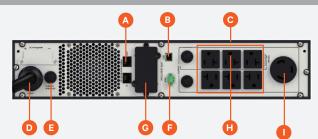
## Liebert® PSI5-2200RT120LITAA



Liebert® PSI5-3000RT120LITAA



- B USB Port
- Output Receptacles
- Input Power Cord
- Input Circuit Breaker
- Emergency Power Off (EPO) Connector
- G Liebert<sup>®</sup> IntelliSlot (Optional Communications Card)
- 🕕 Programmable Outlet Group
- NEMA L5-30R Output Receptacle
- NEMA L5-20R Output Receptacle



## Liebert® PSI5 Lithium-Ion UPS Key Features

#### **High Availability**

#### **Fewer Battery Replacements:**

Liebert<sup>®</sup> PSI5 Lithium-Ion batteries on average last up to 3 times as long as traditional VRLA batteries. That means less scheduled maintenance, reduced operating costs, and lowest overall total cost of ownership.

#### More Runtime:

The Liebert PSI5 Lithium-Ion UPS's internal batteries offer up to 9 min. of runtime at full load, more than any comparable UPS model.

#### Higher power density:

Liebert<sup>®</sup> Lithium-ion batteries can pack more power into smaller spaces.

#### **Quicker recharge:**

Get back to max capacity quickly after an outage – the Liebert PSI5 Lithium-Ion UPS can recharge to 90% capacity in 2 hours or less.

#### More discharge cycles:

Lithium-ion batteries deliver up to 10x more charge/discharge cycles than VRLA batteries. Again, lowest TCO.

#### High Availability 0.9 Output Power Factor:

More usable power enables more connected loads, saving space and costs.

#### Wide Input Voltage Window:

Prolongs battery life by allowing the UPS to maximize the use of utility power before transferring to battery when input exceeds specified limits (76 to 146 VAC @120V).

#### **Full Sequenced Battery Testing:**

The Liebert PSI5 UPS includes an automatic and manual self-diagnostic test feature. This provides a comprehensive analysis of the condition of the batteries within the UPS and will notify you when the internal batteries need to be replaced.

#### Advance Early Warning of UPS System

**Status:** The Liebert PSI5 UPS offers audible and visual alarms to alert you to an input voltage fluctuation (buck/boost), output overload, low battery or replace battery condition.



#### Flexibility

#### Up to Ten Battery-Backed Outlets:

Allows flexibility in accommodating additional equipment to be connected to the UPS.

#### **Optimized Form Factors:**

Liebert PSI5 Lithium-Ion offers Tower, 2U or 3U Short Depth Rack/Tower convertible solutions to meet your application needs. The 3U Short Depth model offers the greatest power capacity with the smallest chassis depth making it ideal for 2-Post and wall mount racks.

#### Configurable Input Voltage Window:

Properly match the UPS to incoming utility power and adjust input window and transfer points to ensure regulated power to connected loads is within the selected range.

#### Programmable Outlet Group:

Extend run time when on battery power by power-cycling connected equipment and shedding less-critical loads.

#### Hot Swappable Batteries:

Increase product life and provide prolonged UPS reliability. Batteries are easily replaced without disrupting power to connected equipment.



#### Manageability

#### **Communications:**

Power management functions through the USB port provide monitoring of UPS status and manage the automatic, orderly shutdown of attached equipment if power outage duration ever exceeds the battery capacity of the UPS or configured shutdown parameters.

#### Power Management Software:

Vertiv<sup>™</sup> Power Assist provides intelligent monitoring and management software that is easy to connect and control directly connected USB / Serial devices in personal or general business.

Vertiv<sup>™</sup> Power Insight provides on-premises and remote monitoring through the IntelliSlot networking cards that supports up to 100 devices with notification and control of your network-based devices.

For more details and Free downloads of Vertiv Power Assist or Vertiv Power Insight go <u>here</u>.

#### IntelliSlot:

Optional UNITY networking cards are available to enable SNMP and web-based management for SNMP or environment sensor support.

IS-UNITY communications card can enable SNMP and web-based management for the Liebert PSI5 Lithium-Ion UPS. The UNITY card allows monitoring and control of the UPS from a network management station or any PC.

The IS-UNITY-SNMP card provides the following features:

- Sends SNMP traps and emails for event notification.
- Auto-senses 10M/100M Ethernet Compatible with shutdown software to ensure graceful computer shutdown.
- IS-Unity-DP Communications Card also supports Vertiv<sup>™</sup> Liebert<sup>®</sup> SN Series.

#### **Environmental Sensors:**

Allows remote monitoring, start-up, or restart for connected equipment.

#### **Remote Emergency Power Off:**

Allows the UPS to be remotely shut down during an emergency.



# **Technical Specifications**

Standard Models*	PSI5-1500RT120LITAA PSI5-1500RT120LITAAN	PSI5-2200RT120LITAA PSI5-2200RT120LITAAN	PSI5-3000RT120LITAA PSI5-3000RT120LITAAN		
Form Factor	2U Rack/Tower	2U Rack/Tower 2U Rack/Tower			
Power Rating	1500VA / 1350W 1920VA / 1920W		3000VA / 2700W		
Dimensions, W X D X H, IN (MM)					
Unit	17.2 x 16.2 x 3.4 (438 x 411 x 86)	17.2 x 20.1 x 3.4 (438 x 510 x 86)	17.2 x 24.8 x 3.4 (438 x 630 x 86)		
Rackmount depth	15 (380)	18.9 (480)	23.62 (600)		
Shipping	22.4 x 22.9 x10.2 in (570 x 582 x 258 mm)	22.4 x 26.5 x 10.2 in (570 x 672 x 258 mm)	21.7 x 30.8 x 10.2 in (550 x 782 x 258 mm)		
Weight, LB (KG)					
Unit	28.3 (12.9)	39.5 (18.0)	53.5 (24.3)		
Shipping	42.1 (19.1)	53.8 (24.4)	67.9 (30.8)		
Input/Output AC Parameters					
Input Plug	NEMA 5-15P	NEMA L5-20P (5-20 Adapter included)	NEMA L5-30P		
Input Cord	8ft (2.4m) Attached	8ft (2.4m) Attached	8ft (2.4m) Attached		
Non-Programmable Receptacles	(3) NEMA 5-15R	(1) NEMA L5-20R, (3) NEMA 5-20R	(1) NEMA L5-30R, (3) NEMA 5-20R		
Programmable Receptacles	(3) NEMA 5-15R	(3) NEMA 5-20R	(3) NEMA 5-20R		
Nominal Voltage Setting		120VAC Default; 100/110/115/125VAC User Selectable			
Voltage Range Without Battery Operation	75 - 146VAC				
Frequency Range		55~65Hz (57~63Hz Battery to Normal Comeback)			
Surge Protection		ANSI C62.41, Category A, Level 3			
Transfer Time		4 - 6ms Typical			
Battery Waveform		Pure Sine Wave			
Efficiency					
Normal (Line) Mode	98%	98%	98%		
Battery Parameters					
Туре		Lithium-Ion (LiFePO4)			
Recharge Time (from full discharge)	2hrs to 90%	2hrs to 90%	2hrs to 90%		
Full-Load Runtime	7.5 min	7.5 min 8.6 min			
Half-Load Runtime	17.7 min	19.0 min	20.0 min		
Environmental					
Operating Temperature,°F (°C)		32° to 104° (0° to 40°)			
Storage Temperature °F (°C)		5° to 120° (-15° to 50°)			
Relative Humidity		20% – 90%, non-condensing			
Operating Altitude, ft (m)	Operating ten	0 to 9,942 (0 to 3,000) without derating. operature reduced 9°F (5 °C) for each additional 1,640ft (50	Om) of altitude		
Audible Noise		< 45 dB @ line mode, < 55 dB @ battery mode			
Certifications					
Safety	UL 1	642 (LiFe cells), UL 1973 (LiFe pack), UL 1778, CSA 22.2 no.	107.3		
Agency		UL 1778, c-UL, NOM, FCC Part 15, Class B			
Environmental		RoHS2 / REACH / WEEE			
Network Surge		ANSI C62.41, Category A, Level 3			
Transportation	ISTA Procedure 2A UN 38.3 (Lithium-ion)				
Warranty		5 years on UPS and Battery			
Protection Plan					
Equipment Protection Plan			\$400,000		

\*Liebert® PSI5 2U Rack/Tower UPS + IS-UNITY-SNMP card bundles available - Add an "N" to the end of the model number. Available through select distributors."

# **UPS Battery Runtime Tables**

Runtime Table for Liebert® PSI5 Lithium-Ion is available at <u>https://www.vertiv.com/en-us/support/tools-applications/vertiv-ups-interactive-runtime-tools/</u> liebert-psi5-lithium-ion-ups-runtime-tool/

# **Accessories and Options**

#### **Mounting Kit Options**

These mounting kits are only applicable to Liebert PSI5 Rack/Tower Products

Application	Model Supported	Style	Part Number	Description
	PSI5 Rack/Tower 2U UPS	Bracket	2POSTRMKIT	Flexible installation capability on typical 2 post network equipment racks. Securely mount the UPS into a typical 3-6" rail width solution
2 Post-Telecom rack		Shelf	RS500	Flush-mount shelf for 19" rack wide
		Shelf	RS600	Center-mount shelf for 19" rack wide
		Shelf	RS700	Flush-mount shelf for 23" rack wide
		Shelf	RS800	Center-mount shelf for 23" rack wide
4 Post Rack	PSI5 Rack/Tower 3U Short Depth UPS	4-Post Rail Kit	RMKIT12-18	4-Post Fixed Shallow Depth 12-18" rail kit
		4-Post Rail Kit	201193G1L	4-Post Fixed 18-32" rail kit

Note: RS600 and RS800 kits include adapter brackets for installation of up to (2) Liebert PSI5 2U model

## Liebert<sup>®</sup> Intellislot Communication Cards

Model Number	Description
IS-UNITY-SNMP	10/100 Mbit Ethernet SNMP, Device Web Page, with MIB and configuration cable
IS-UNITY-DP	Same as IS-UNITY-SNMP, plus SN Series environmental sensor support
IS-RELAY	Lieber® Intellislot Interface Kit for Relay Contacts



Liebert® PSI5 2U with 2POSTRMKIT



#### **Internal Battery Replacement Kits** Model Number Applicable To

Model Number	Applicable To	Shipping Weight (lbs)
PSI5-1500LIBATKIT	PSI5-1500MT120LI PSI5-1500RT120LI	10.0 lbs
PSI5-2200LIBATKIT	PSI5-2200RT120LI	14.6 lbs
PSI5-3000LIBATKIT	PSI5-3000RT120LI	14.6 lbs

## Liebert<sup>®</sup> MicroPod Features & Benefits:

- Power continuity during UPS maintenance .
- 2U height minimizes rack space requirements
- Plug-and-play installation ٠



Critical IT infrastructure should never be without power. The Liebert MicroPod ensures continuous uptime, including during scheduled UPS maintenance. It allows you to manually transfer connected equipment to utility power permitting scheduled service or UPS replacement without the need to shut down connected equipment.

#### Liebert MicroPod - Maintenance Bypass and Output Distribution

UPS Model Number	MicroPod Model Number	Plug to Utility	Output Receptacles
PSI5-1500RT120LITAA	MP2-115HW	Hardwired	Hardwired
	MP2-115A	5-15P	8 x 5-15R
PSI5-2200RT120LITAA	MP2-120HW	Hardwired	Hardwired, 5-20R
	MP2-120C	5-20P	5-20R, 8 x 5-15/20R
	MP2-120E	5-20P	L5-20R, 5-20R, 4 x 5-15/20R
PSI5-3000RT120LITAA	MP2-130HW	Hardwired	Hardwired, L5-30R
	MP2-130C	L5-30P	8 x 5-15/20R
	MP2-130E	L5-30P	2 x 5-15/20R; 1 x L5-30R, 4 x 5-15/20R
	MP2-130P	L5-30P	4 x 5-15/20R; 2 x L5-20R



## Liebert® PSI5 UPS Lithium-Ion TAA - Power Assurance Services

Power Assurance Package				
Bundled Start-up Service AND 5-Year On-site Emergency Response	Standard	With LIFE™ Services	With Removal	With LIFE™ and Removal
Equipment Model / Type	Part Number	Part Number	Part Number	Part Number
Liebert PSI5 Lithium-Ion UP TO 3KVA	PAPPSI-1K3KLI	PAPPSI-1K3KLILF	PAPPSI-1K3KLIRMV	PAPPSI-1K3KLIRLF
Power Start-up Services				
Startup service Only	Standard		With Removal	
Equipment Model / Type	Part Number		Part Number	
Liebert PSI5 Lithium-Ion UP TO 3KVA	SUPSI-1K3K		SUPSI-1K3KRMV	
Power Emergency Services				
5-Year On-site Emergency Coverage - Only	Standard		With LIFE Services	
Equipment Model / Type	Part Number		Part Number	
Liebert PSI5 Lithium-Ion 1500VA	PEPPSI-1500LI5Y		PEPPSI-1500LILF	
Liebert PSI5 Lithium-Ion 2200VA	PEPPSI-2200LI5Y		PEPPSI-2200LILF	
Liebert PSI5 Lithium-Ion 3000VA	PEPPSI-3000LI5Y		PEPPSI-3000LILF	

#### **Power Assurance Package - Summary**



Includes all "Power Start-up Services" and "Power Emergency Services" support

# Power Startup Services - Summary

# • Installation includes mounting and start-up of new UPS (excludes hard-wired applications)

- Services performed by Vertiv factory trained technician
- Services performed 7 X 24, excluding national holidays within the 48 contiguous states and Hawaii
- Removal and disposal of existing UPS or equipment, if selected

### **Power Emergency Services - Summary**

- On Site Service Support
- Full-service five (5) year contract term commencing upon the start-up date
- 100% parts coverage, including internal batteries, POD and web card
- 100% labor and travel coverage 7 days/week, 24 hours/day
- 24-Hour Customer Resolution Center via 1-800-LIEBERT
- Access to Customer Services Network portal

### LIFE<sup>™</sup> Services includes above plus:

Continuous Monitoring, Expert Analysis, and Proactive Response

Note: LIFE Services requires an UNITY card. Please refer to the appropriate Scope of Work for additional details.



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