

Liebert® APS™

5-20 kVA UPS

Flexible, efficient modular UPS for row-based applications



A Modular Power Protection Solution for Today and the Future



Provide mission-critical availability while reducing costs and maintaining flexibility for the future with the Liebert® APST™ UPS, a modular power protection solution for 5 – 20kVA applications.

- Reliability
- Flexibility
- Economy
- Efficiency

Low TCO

With the Liebert APS, you can maintain flexibility for the future and ensure the availability of your critical systems– all without sacrificing cost or energy efficiency.

Additional features to help lower costs include:

- **Industry-leading efficiency:**
 - **91.5-92%** efficiency: 200-240V in/out transformer-free systems.
 - **90-91%** efficiency: 200/100-240/120V in/out transformer-free systems.
 - **88.5-89.9%** efficiency: transformer-based systems.
- **Scalability** that allows you to cost-effectively add power capacity or battery modules as needed.
- **Modular batteries, controls and power components** to help reduce maintenance costs with user replacement.
- **Two year hassle-free factory warranty program** for repair or replacement of your Liebert APS UPS.
- **Module-level redundancy** eliminates the expense of purchasing and planning for any additional cabinets.
- **Reduced installation time and cost** because units are shipped in modules and on site assembly is easy and simple
- **Everything you need for efficiency and availability in one box:** power modules, batteries, maintenance bypass, and distribution in a single, small-footprint cabinet.
- **Integral battery monitoring** with temperature compensated charging to prolong battery life and help reduce replacement costs.

Reliability and Serviceability

At the core of your business sits your data center and the services running in it. With the Liebert APS UPS solution, you get peace of mind that **your critical IT functions – and your business – will be available and running as expected through power disruptions, fluctuations and outages.**

- **Internal redundancy capability** (N+2/20kVA) enhances reliability and provides multiple layers of power protection.
- **No single point of failure** - Full redundant design allows the critical load to run on conditioned power if there is a failure of any component in the system.
- **Configurable** design allows you to customize the Liebert APS UPS for your desired level of capacity and redundancy.
- **Fault-tolerant design**, enables the power, battery and control modules to take themselves off line if there is a problem, without sacrificing overall system integrity.
- **Superior overload capabilities**, able to provide conditioned power to temporary overloads without transfers to/from bypass power.
- **Internal wrap-around maintenance bypass and Frame-level bypass with independent controls in separate assembly** provide higher reliability and availability.



The Liebert APS UPS can be installed on raised floors, traditional flooring, or in rack enclosures.



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Low TCO for Today, Flexibility for the Future

Flexibility

What is the key to your business' success in the future? Being able to adapt efficiently and effectively as the needs of your users and core business power requirements change. It's about managing uncertainty, equipment density and capacity. The Liebert® APS™ UPS helps you stay ready for what's next:

- **Capacity on demand** with FlexPower™ core modules that allow you to change capacity as needed in 5 kVA/4.5 kW increments - without powering down.
- **More real kW** - 0.9 power factor provides more real power to support the I.T. load than other solutions in this size range.
- **Isolated and non-isolated models** to provide the right solution for your power protection needs.
- **Integrated distribution PODs** allow selection of a variety of distribution options to meet application requirements.
- **Trellis™ platform connectivity**, so the Liebert APS can easily be integrated with this robust, real-time data center optimization solution.
- **Three Liebert Intellislot® ports** allow integration and communication with a variety of infrastructure management solutions, leading to better power optimization and visibility.
- **Optional matching external battery cabinets** provide longer battery run times to protect against sustained power issues.
- **Installation Flexibility** – use on raised floors, traditional flooring, or in rack enclosures.
- **Large input voltage window**, which minimizes transfer to battery and increases battery life; low line transfer can range down to 110v.

FlexPower core hardware assemblies enable quick and easy capacity increases

Hot-swappable FlexPower assemblies and battery modules may be added without powering down connected equipment.



Service Solutions to Keep You Up and Running

To enhance the availability and trouble-free operation of your Liebert APS UPS, Emerson Network Power offers a range of optional service programs, including:

- **Included two year warranty** includes onsite repair.
- **Start-up** by factory-trained engineers to ensure proper installation and operation.
- **Customer resolution center** provides direct access to our engineers, whenever you need them.



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Liebert® APS™ UPS

| Parameters | Units | 10 Bay | 16 Bay | 12 Bay | 16 Bay | 10 Bay | 16 Bay |
|--------------|-------|-----------|--------|------------|--------|-------------------------|--------|
| | | Xfmr-free | | Xfmr-based | | Xfmr-free dual inverter | |
| Frame Rating | kVA | 15 | 20 | 15 | 20 | 15 | 20 |
| | kW | 13.5 | 18 | 13.5 | 18 | 13.5 | 18 |

| General & Environmental | | | | | | | |
|-----------------------------------|--|---|--|--|--|---------------------------------------|--|
| Conducted and radiated EMC levels | | IEC/EN/AS 62040-2 Cat 2, CISPR22 Class A, FCC Part 15 Class A | | | | | |
| Compliant safety standards | | IEC/EN/AS 62040-1:2008, UL 1778 4th Ed and CSA 22.2 No. 107.1 | | | | UL 1778 4th Ed and CSA 22.2 No. 107.1 | |
| Compliant immunity standards | | IEC/EN/AS 61000-4-2, 3, 4, 5, 6 | | | | | |
| Environmental | | WEEE and ROHS2 (6 by 6), REACH Compliant | | | | | |

| Mechanical | | Units | 10 Bay | 16 Bay | 12 Bay | 16 Bay | 10 Bay | 16 Bay |
|---------------------------------|-----------------|----------|-------------|-------------|-------------|-------------|-------------|-------------|
| Width | | mm (in) | 440 (17) | 440 (17) | 440 (17) | 440 (17) | 440 (17) | 440 (17) |
| Depth | | mm (in) | 800 (32) | 850 (34) | 800 (32) | 850 (34) | 800 (32) | 850 (34) |
| Height | | mm (in) | 695 (27) | 970 (38) | 1060 (42) | 1240 (49) | 695 (27) | 970 (38) |
| Weight (frame rating populated) | Unit weight | kg (lbs) | 256.3 (565) | 317.5 (700) | 360.6 (795) | 417.3 (920) | 256.3 (565) | 317.5 (700) |
| | Shipping weight | kg (lbs) | 274.4 (605) | 335.7 (740) | 378.7 (835) | 435.4 (960) | 274.4 (605) | 335.7 (740) |

| Environmental | | Units | | | | | | |
|--------------------------|--|--------------|----------------------------|-----------|-----------|-----------|-----------|-----------|
| Operating temperature | | °C (°F) | 0 - 40 (32 - 104) | | | | | |
| Relative humidity | | % | 0 - 95%, non-condensing | | | | | |
| Altitude | | m (ft) | 3000 (10000) @ 25°C (77°F) | | | | | |
| Efficiency (AC-AC) | | % | 91.8-92.0 | 91.6-92.0 | 88.5-89.9 | 88.6-89.7 | 90.4-91.0 | 90.0-91.0 |
| Nominal heat dissipation | | BTU/Hr (max) | 4208 | 5747 | 5528 | 7965 | 4904 | 6768 |

| Input Data | | Units | | | | | |
|-----------------------|-----|---|--|--|----------------------------|---|--|
| Nominal input voltage | VAC | 200/208/220/230/240; Single Phase | | | | 200/100, 208/120, 220/110, 230/115, 240/120; Single Phase | |
| | | 380/400/415; 3 Phase | | | | | |
| Input voltage range | VAC | The input voltage range based on the output loading, refer to User Manual | | | | | |
| Power factor | Cos | Single-phase input, > 0.99; three-phase input, > 0.95 | | | Single-phase input, > 0.99 | | |
| Input frequency range | Hz | 40 to 70 auto-sensing | | | | | |

| Battery Module | | Units | | | | | |
|------------------------------------|--|---------|--|--|--|--|--|
| Battery capacity | | W | 36W @ 15min-rate to 1.67V per cell @ 25°C (77°F) | | | | |
| Backup time (full load) | | minutes | 5 (for non-redundant system which has equal number of battery strings and power modules) | | | | |
| Maximum charge current (full load) | | Amps | Power module internal charger: 1.8A / Charger module: 10A | | | | |
| Nominal voltage | | VDC | 144 | | | | |
| Recharge time | | Hrs | < 5 to 90% capacity (PM internal charger with 1:1 ratio of PM to Battery Strings) | | | | |

| Output Data | | Units | | | | | |
|------------------------------------|--|-------|-----------------------------------|--|---|--|----------------------|
| Output voltage | | VAC | 200/208/220/230/240; Single Phase | 100/100/173/200, 110/110/190/220, 115/115/199/230, 120/120/208/240; Single Phase | 200/100, 208/120, 220/110, 230/115, 240/120; Single Phase | | |
| Voltage regulation | | % | ±3 | | | | |
| Voltage stability (100% step load) | | % | ±7 | | | | |
| Voltage Recovery time | | ms | ≤ 60 | | | | |
| Voltage distortion | | % | ≤ 3, linear load | | ≤ 5, non-linear load | | |
| | | | ≤ 5, non-linear load | | ≤ 7, non-linear load | | ≤ 5, non-linear load |
| Output frequency | | Hz | 50/60 | | | | |
| Output overload capability | | % | < 104% continuous | | | | |
| | | | 105% - 130% for 1 min | | | | |
| | | | 131% - 150% for 10 sec | | | | |
| | | | 151% - 200% for 1 sec | | | | |
| | | | > 201% for 250 msec | | | | |

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