Vertiv™ Liebert® APM2 30-120 kW, 400 V Site Planning Datasheet

Introducing a next generation modular and transformerless UPS design, Vertiv™ Liebert® APM2, a feature-rich high-density UPS that brings exceptional and innovative features for mission-critical applications. Powered by latest generation three-level IGBT topology in conjunction with Silicon Carbide converters, it delivers an extraordinary double conversion efficiency of up to 97% that ensures remarkable operational cost savings, reducing both the Total Cost of Ownership (TCO) and the environmental impact.



Liebert® APM2 30-120 kW

Input	
Power Module Capacity	30 kW
Nominal Input Voltage	380/400/415 V (3-phase 4-wire + N + PE)
Input voltage range without battery discharge*	228 to 478 V
Nominal input frequency	50/60 Hz
Input frequency range	40 to 70 Hz
Input power factor at full load	0.99
Current THD at full linear load*	≤ 3%
Output	
Nominal output voltage	380/400/415 V (three-phase + N + PE)
Nominal output frequency	50/60 Hz
Voltage Regulation	±1% for balanced load, ±3% for 100% unbalanced load
Dynamic Regulation	±5% deviation for 0-100% linear load step
Transient Response Time	10 msec
Voltage Distortion	<1% THD for 100% linear loads; < 3% THD for 100% nonlinear loads
Frequency Regulation	±0.05%
Load Power Factor Range	0.5 lagging to 0.5 leading
Overload	≤ 105% Continuous; 105% to 125% for 10 min; 125% to 150% for 1 min; 150% to 200% for 200 ms
Environmental	
Operating Temperature	0 °C to 40 °C full performance, 40 °C to 50 °C with automatic derating
Relative Humidity	0-95% non-condensing
Operating Altitude	<1500 m without derating
Noise within 1 m	≤ 65 dB
Standard	
General and safety requirements for UPS	IEC 62040-1
EMC requirements for UPS	IEC 62040-2
UPS classification according to IEC EN 62040-3	VFI-SS-111
UPS Environmental Factors, Requirements and Reports	EN62040-4/IEC62040-4/AS62040-4 (VFI SS 111)

*Conditions Apply

Vertiv™ Liebert® APM2 30-120 kW, 400 V Site Planning Datasheet

UPS Rating	Voltage		AC Input			Battery			AC Output					
kVA	Input Nom.	Output Nom.	Current (A)		Rec. OCPD (3Pole) *	Nom. VDC (40 no of 12V Blocks)	Max. Discharge Current (A)	Battery Disconnect Rating (A)	Nom. Current (A)	Rec. OCPD	Dimensions W X D X H (mm)	Weight (kg)	Heat Losses @ Normal Load & Battery charged	Maximum forced air cooling (front intake, rear exhaust)
			Nom.	Max.									kW	M³/h
120	400	400	179	238	250 A	384	312	400 A	179	250 A	600 x 800 x 1600 mm (Compact Version)	380	3.6	1224
120	400	400	179	238	250 A	384	312	400 A	179	250 A	603 x 931 x 2003 mm (For Internal Battery)	544	3.6	1224

1. Nominal (Nom) input current is calculated @ Nominal load, 400 V input voltage, and fully charged battery.
2. Maximum (Max) input current is calculated @ the worst-case scenario that includes charging the battery and continuous overload at 305 V input voltage.
3. UPS input cables must be run in separate conduits from output cables.
4. Nominal battery voltage is shown at 2.0 volts/cell and the battery discharging current is calculated based on the lowest battery voltage (at 1.67 V EOD and 100% Load).
5. OCPD = Overcurrent Protection Device. Recommended AC input and AC output over current protection represent 125% of nominal full load current (continuous) plus 100% of recharge current (non-continuous) per NEC 215.
6. Minimum-sized grounding conductors to be per NEC 250-122. Parity-sized ground conductors are recommended.
7. Wiring requirements: AC Input: 3-phase, 4-wire, plus ground
AC Output: 3-phase, 4-wire, plus ground
Battery: Positive and Negative.
8. All wiring is to be done in accordance with national and local electric codes.
9. In 120 kVA for four/single /no switch cabinets, cable entry is located at the bottom of the UPS. The side cabinet can support the way of cable entry.
10. Control wiring and power wiring must be run in separate conduits.
11. Weights mentioned in the table do not include internal battery weight.
12. Recommended incoming breaker capacities are based on common input configuration.

Additional Notes

- If site configuration includes a backup emergency generator, it is recommended that the engine generator set be properly sized and equipped for a UPS application.
- If site configuration requires an external isolated maintenance bypass circuit, it should be noted that utility AC input might not be in phase with the UPS AC output. Consult Vertiv sales representative or application engineer.