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Purpose of this Document

This document provides site planning data and information, including electrical and thermal data, conductor data, dimensions and weights, and one-line drawings and connection details, for the SL-80282 Vertiv™ PowerUPS 9000 UL 415 V 4-Wire SPG.

Procedures related to the provisioning, start-up, and acceptances of associated telecom equipment are not covered in this document and are provided in the installation and user manuals: SL-80202.

Equipment Overview

The SL-80282 Vertiv™ PowerUPS 9000 UL 415 V 4-Wire is a high-power density, energy-efficient, and compact uninterruptible power supply (UPS) system. It is designed to support IT applications from traditional computing to high-density applications, including space-constrained environments. It is Vertiv's most efficient UPS in its product class, with a physical footprint 32% smaller than previous generations. Manage space constraint while meeting increasing data center power demands with room to prefabricated deployment. This system offers double-conversion efficiency of up to 97.5% for superior reliability. It can achieve up to 97.5% double conversion efficiency and up to 99% with dynamic online mode. It is compatible with Vertiv™ EnergyCore lithium battery cabinet, and other battery technologies, including Valve-Regulated Lead-Acid (VRLA) and Nickel-Zinc. It includes scalable 125 kVA power modules to grow with your power needs with ease. It supports large-scale data centers. It is designed to provide continuous power quality and availability and to meet the contemporary resilience benchmarks.

Electrical and Thermal Data - Single and Distributed Parallel UPS Modules Without Options (1.0 Nominal Output Power Factor)

UPS Rating		Input/Output Voltage (VAC)	Rectifier AC Input Current			Bypass AC Input/ UPS AC Output Current		Battery			Max. Heat Dissipation Full Load (kW)	Cooling Air (m³/h)
Apparent Power (kVA)	Real Power (kW)		Nominal (A)	Maximum (A)	External Breaker Trip (100% Rated) (A)	Nominal (A)	External Breaker Trip (100% Rated) (A)	Nominal Voltage (VDC)	Max. Current at EOD (A)	External Breaker Trip (100% Rated) (A)		
1250	1250	415	1804	2255	2500	1739	2000	480	3249	4000	45.3	5935
1200	1200	415	1732	2165	2500	1669	2000	480	3119	4000	43.5	5935
1125	1125	415	1623	2029	2500	1565	1600	480	2924	3000	40.8	5935
1100	1100	415	1587	1984	2000	1530	1600	480	2859	3000	39.9	5935
1000	1000	415	1443	1804	2000	1391	1400	480	2599	3000	36.3	5935
875	875	415	1263	1578	1600	1217	1400	480	2274	2500	31.7	5935
800	800	415	1154	1443	1600	1113	1200	480	2079	2500	29	5935
750	750	415	1082	1353	1400	1043	1200	480	1949	2000	27.2	5935
625	625	415	902	1127	1200	870	900	480	1625	2000	22.7	5935

Notes:

1. Nominal rectifier AC input current (considered continuous) is based on a full rated output load. Maximum current is based on the lowest rectifier AC input voltage and full rated output load.

2. Nominal AC output current (considered continuous) is based on full rated output load.

3. Bypass AC input current (considered continuous) is based on full rated output load.

4. Vertiv recommends that feeder protection (by others) for the rectifier AC input and the bypass AC input be provided by separate overcurrent protection devices.

5. UPS output load cables must be run in separate conduit from input cables.

6. Grounding conductors and neutral conductors to be sized per NEC100 and per national wiring standards.

7. All wiring is to be in accordance with national and local electrical codes.

8. Power cable from module DC bus to battery should be sized for a total maximum 2.0 volt line drop (power cable drop plus return cable drop as measured at the module) at maximum discharge current. Nominal battery voltage is shown at 480 V and the battery discharging current is calculated based on the lowest battery voltage (at 400.8 V EOD and 100% Load).

9. **Rectifier AC Input:** 3ph + N + PE
   Bypass AC Input: 3ph + N + PE
   AC Output to Load: 3ph + N + PE
   Module DC Input from Battery: 2-wire (positive and negative) + PE

10. Control wiring and power cables must be run in separate conduits. Control wiring must be stranded tinned conductors.

11. Tinned lugs are required if aluminum cable is to be used. If aluminum cable is to be used, top and bottom cable entry may be required. Contact Vertiv Technical Support for more information.

12. 1250 kVA ratings offer top and bottom cable entry gland plate as standard. Remove the gland plate prior to cutting to suit conduit size and reinstall. Contact Vertiv Technical Support for more information.

13. 1270 mm front access is required for service, rear clearance is 500 mm, 610 mm minimum above the unit required for air exhaust and service.

14. If the UPS is fed from an automatic transfer switch, the UPS can transfer to and from an alternate out-of-phase source in double conversion mode without applying a break-before-make delay to the automatic transfer switch operation.

Conductor Data - Single and Distributed Parallel UPS Modules Without Options

UPS Rating			Rectifier AC Input			Bypass AC Input/UPS AC Output			Battery, External +, -			Neutral	
Apparent Power (kVA)	Real Power (kW)	Input/Output Voltage (VAC)	Max Current (A)	Max number of conductors and cross section for each phase1 (kcmil)	Screw size	Max Current (A) 400 V	Max number of conductors and cross section for each phase[1] (kcmil)	Screw size	Max Current at 400.8 V (A)	Max number of conductors and cross section[1] (kcmil)	Screw size	Max number of conductors and cross section[1] (kcmil)	Screw size
1250	1250	415	2255	10*350	M12	1739	8*350	M12	3249	9*750	M12	52*350	M12

Notes:

1. Maximum number of conductors is connectable to respective busbar.

2. The maximum battery current specified in the table above is considered non-continuous. The number and cross section of battery conductors can be sized for a maximum continuous current at 400.8 V EOD.

3. Coefficient for oversizing neutral line conductor when non-linear load is supplied = 1.

4. All conductors terminated on the designated bus bar inside UPS.

5. Overload current specified in the User Manual must be considered.

6. To select the appropriate conductor cross section, refer to actual installation data and national and local codes.

Dimensions and Weights - Single and Distributed Parallel UPS Modules Without Options

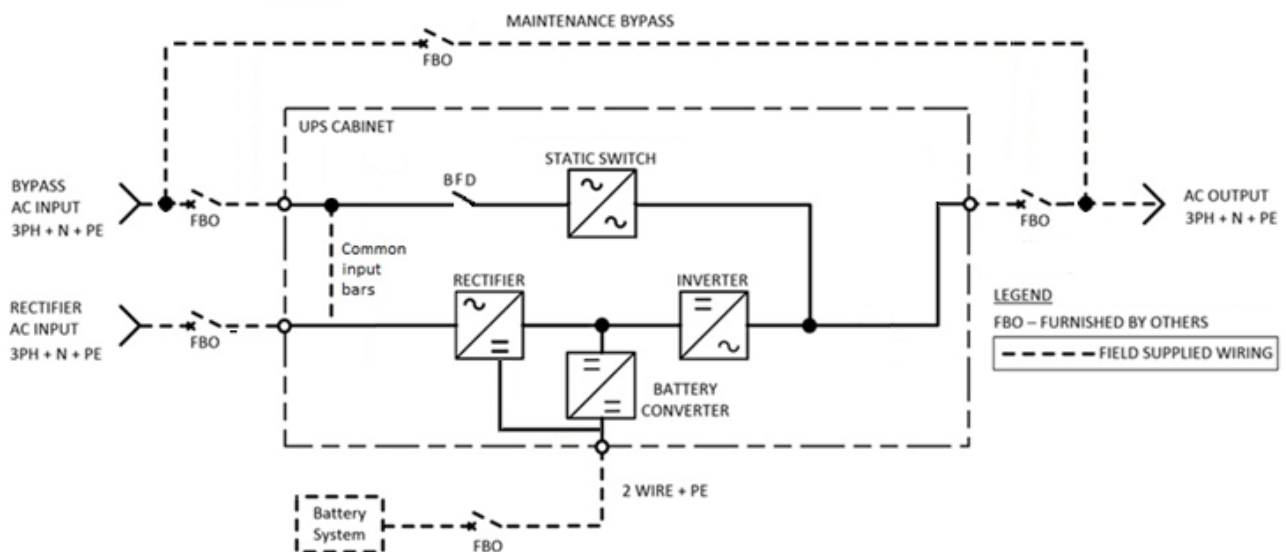| UPS Rating		Input/Output Voltage (VAC)	Dimensions WxDxH (inch)	Approx. Weight Unpackaged (lbs)
Apparent Power (kVA)	Real Power (kW)			
1250	1250	415	106.4 x 40.8 x 79.5	4598

Notes:

1. 500 mm minimum rear clearance of unit required for air exhaust and service. 1270 mm front access is required for service, 610 mm minimum above the unit required for air exhaust and service.

2. 1250 kVA ratings offer top or bottom cable entry gland plate as standard. Remove the gland plate prior to cutting to suit conduit size and reinstall. Contact Vertiv Technical Support for more information.

3. Control wiring and power cables must be run in separate conduits. Control wiring must be stranded tinned conductors.

One-line Diagram – PowerUPS 9000, 1250 KVA, 415 V UL
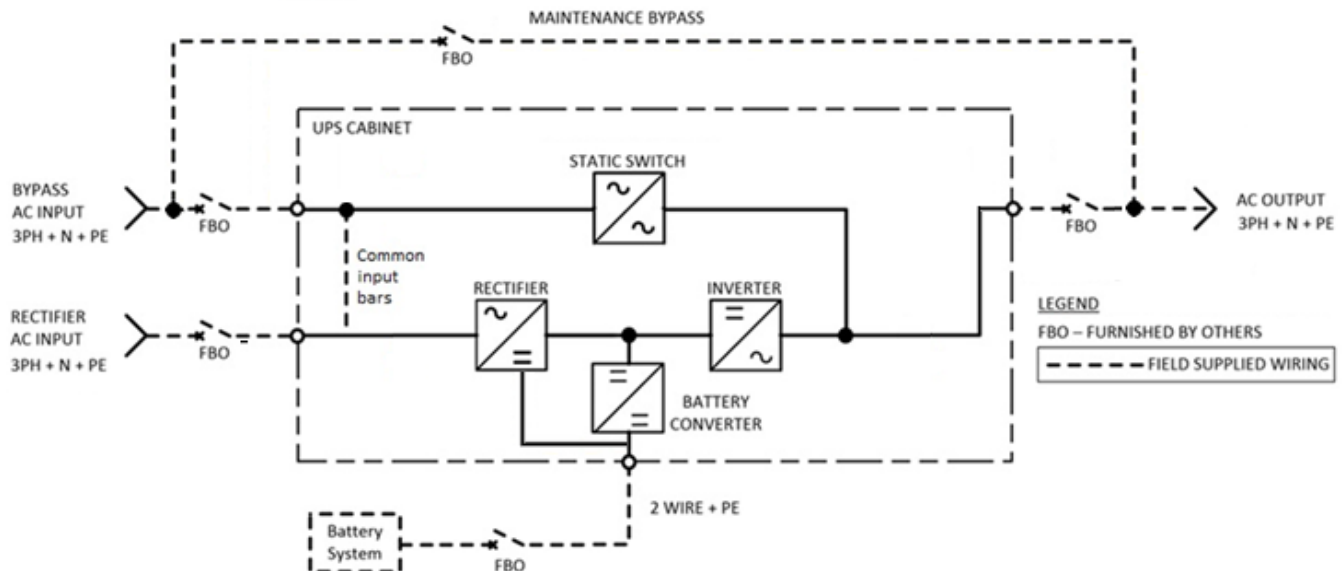
Note: 1250 kVA ratings are shipped without single input links connecting the rectifier and bypass AC input phase bus bars. Links can be ordered if needed.

One-line Diagram – PowerUPS 9000, 1250 KVA, 415 V UL, with Backfeed Contactor Option

Note: 1250 kVA ratings are shipped without single input links connecting the rectifier and bypass AC input phase bus bars. Links can be ordered if needed.