



GE
Critical Power

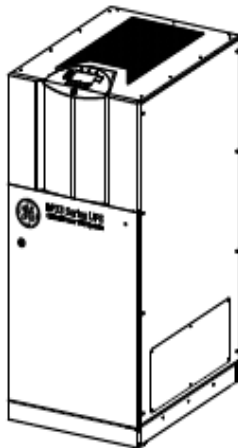
Technical Data Sheet

Uninterruptible Power Supply (UPS)

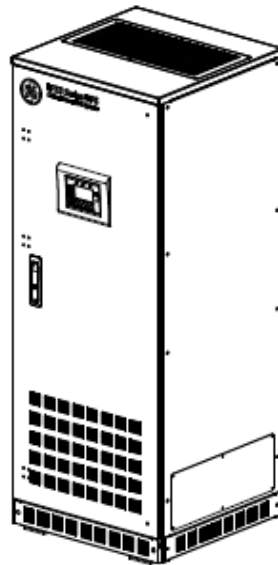
LP 33U Series / 15 – 20 – 30 – 50 – 60 kVA

208/120VAC UL Listed – S2

Date of issue: 4/1/2016 V4



LP 33U Series / 15 kVA



LP 33U Series / 20 thru 60 kVA

GE
Critical Power
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Certified
Quality System

ISO 9001

GENERAL DATA

Topology	VFI, double conversion						
Nominal output apparent power	kVA		15 kVA	20 kVA	30 kVA	50 kVA	60 kVA
Power factor (output)	PF	0.90					
Nominal output active power	kW		13.5	18	27	45	54
Overall efficiency at 100% load in VFI mode	%		Up to 90%	Up to 91%	Up to 91%	Up to 91%	Up to 90%
Overall efficiency at 100% load in ECO mode	%		Up to 98%	Up to 99%	Up to 99%	Up to 98%	Up to 98%
Heat dissipation at 100% load in VFI mode, nominal PF and charged battery	kW		1.50	1.87	2.83	4.89	6.00
Cooling air (77°F...86°F / 25°C...30°C)	CFM		260	324	490	847	1040
Audible noise level	dB(A)		55	61	62	65	65
Battery type	Valve regulated lead-acid (VRLA)						
Operating temperature range	UPS: 32°F to 104°F (0°C to 40°C) Battery: 68°F to 77°F (20°C to 25°C) recommended						
Storage temperature range	-13°F to 131°F (-25°C to +55°C)						
Storage time of the battery without recharge at 68°F (20°C)	Max. 6 months						
Relative humidity	Max. 95% (non-condensing)						
Max. altitude without power derating	3300 ft						
Power derating (according to IEC 62040-3)	5000 ft: 95% / 6500 ft: 91% / 8200 ft: 86% / 9800 ft: 82%						
Protection degree	IP 20 (IEC 60529) and NEMA-PE-1						
Safety Standards	UL 1778, IEC 62040, ISO 9001						
EMC	FCC Class A, IEC 62040-2 Class A						
Electrostatic discharge immunity	4kV contact / 8kV air discharge						
Internal protection	All live parts shrouded						
Enclosure	Metal sheet and castors						
Transport	15 kVA: Packaging suitable for handling by forklift 20 to 60 kVA: Cabinet and packaging suitable for handling by forklift						
Color	Black, RAL 9005PER						
Installation	15 kVA: Minimum distance from the wall 2 inches (5 cm) 20 to 60 kVA: Can be positioned against a wall and floor						
Service access	Front and top						
External cable connections	Front Bottom conduit access (Top Access via optional sidecar)						
Cooling	Forced to top by internal blower						
Paralleling (RPA version)	Up to 4 units in parallel for redundancy or capacity in RPA configuration (optional)						

RECTIFIER

Rectifier bridge	Three phase, over temperature protection						
Standard input voltage	Nominal: 3 x 208 + N 15 kVA: -25% to +20% 20 & 30 kVA: -20% to +15% 50 & 60 kVA: -15% to +10%						
Input frequency	60 Hz +/-10%						
Input power factor	>0.98 lag.						
Input current distortion (THDI)	15 kVA: <8% 20 to 60 kVA: <10%						
Output voltage tolerance	+/- 1%						
Battery ripple current	Max. 5% of the battery capacity [Ah], expressed in A						
Battery charging characteristic	IU (DIN 41773), T° compensated floating voltage						
Battery charging current limit	15 kVA: settable in 3 steps 20 to 60 kVA: settable by parameter						
Input power data	kVA		15 kVA	20 kVA	30 kVA	50 kVA	60 kVA
Nominal input at inverter nominal load, and charged battery	Current (A)		43	57	87	141	170
	kVA		15.3	20.4	30.6	50.9	61.2
	kW		15.0	20.0	30.0	49.9	60.0
Max. input power at inverter nominal load and max. battery recharge current (programmable)	Current (A)		46	63	96	155	183
	kVA		16.5	23	34.6	55.6	65.9
	kW		16.2	22.5	33.9	54.5	64.6
Max. battery charging current (programmable)	A		4.8/9.6*	9.6	15	16.0	16.0
Battery boost charge	Yes (selectable)						

* = with "Additional battery charger" option

BATTERY							
Battery type	Standard: Valve regulated lead-acid (VRLA)						
Number of blocks and battery capacity	See battery table on page 5 and 6						
Float voltage at 20°C	2 x 164 VDC						
Min. discharge voltage (programmable)	2 x 118 VDC						
Recharge time	6 to 8 hours						
Automatic and manual battery test	Standard						
Common battery in parallel system	Up to 4 units (only for 30 to 60 kVA)						
Battery power data	kVA		15 kVA	20 kVA	30 kVA	50 kVA	60 kVA
DC power at full load and nominal PF	kW		14.2	18.9	28.4	49.9	60.0
Max discharge current at 100% load and nominal PF	A		52	69	104	211	254
Matching battery cabinets	Available. See separate battery cabinet documents.						

INVERTER							
Nominal output power at 0.6 to 0.9 lag	15 to 60 kVA						
Nominal output voltage (on site programmable)	3 x 208V+ N						
Inverter bridge	IGBT technology						
Output waveform	Sine wave						
Output voltage tolerance:							
- static.....	+/- 1%						
- dynamic (at load step 0 - 100 - 0%).....	+/- 1%						
- recovery time to +/-1%.....	<3 ms						
- output voltage THD for 100% linear load.....		15 kVA	20 kVA	30 kVA	50 kVA	60 kVA	
		<2%	<2%	<1.5%	<2%	<2%	
- output voltage THD for 100% non-linear load (EN 50091)	<3%						
Output voltage tolerance at 100% unbalanced load (Ph-N)	+/- 3%						
Output frequency	60 Hz						
Output frequency tolerance:							
- free-running.....	+/- 0.1%						
- with mains synchronization adjustable to.....	+/- 4%						
Phase displacement:							
- at 100% balanced load.....	120°: +/- 1%						
- at 100% unbalanced load.....	120°: +/- 2%						
Overload capability (at nominal PF)	125% - 10 minutes, 150% - 1 minute						
Short-circuit characteristic	Electronic short-circuit protection, current limit to 2.2 times In for 100ms						
Nominal output current at full load		15 kVA	20 kVA	30 kVA	50 kVA	60 kVA	
		41.6A	55.5A	83.3A	139A	167A	
Crest factor	>3:1						

BYPASS	
Input connection	- Common input (Rectifier & Bypass) - Dual input (optional)
Primary components	- Thyristors (SSM - Static Switch module) - Electromechanical contactors (backfeed protection) on bypass and inverter - 2 manual switches for maintenance bypass
Voltage limits for inverter/bypass load transfers	+/- 15%
Overload on bypass	200% for 2 Minutes 2000% for 1/2 cycle, non repetitive

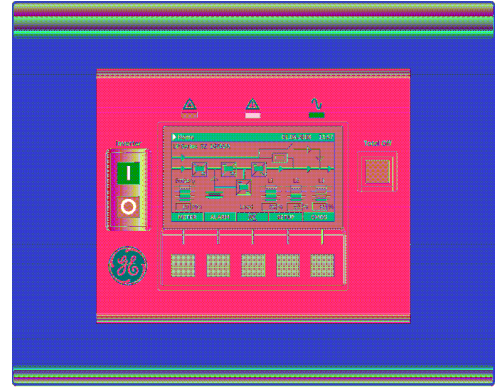
INTERFACING	
Potential free contacts	- 4 (Utility failure, General alarm, Stop operation, load on utility) - 28 user settable signals
Serial channel RS232 (on Delta 9 pin connector)	Standard
EPO (Emergency Power Off)	Standard
Extended Customer Interface Card (optional)	- EMERGENCY POWER OFF (n/c contact, customer supplied) - 6 potential free alarm contacts - 2 auxiliary contacts (one default configured as Genset)

Note: all indicated values are typical. Variations may be found from one unit to another.

FRONT PANEL CONTROLS, SIGNALS AND ALARMS



LP 33U Series 15 kVA



LP 33U Series 20 thru 60 kVA

The control panel, positioned on the UPS front door, acts as the UPS user interface and comprises of the following elements:

- Back lit Graphic Display (LCD) with the following characteristics:
 - ☞ Multilanguage communication interface: English, German, Italian, Spanish, French, Finnish, Polish, Portuguese, Czech, Slovakian, Chinese, Swedish, Russian and Dutch;
 - ☞ Graphic diagram indicating UPS status.
- Command keys and parameters setting.
- UPS status control LED.

OPTIONS

COMMUNICATION:

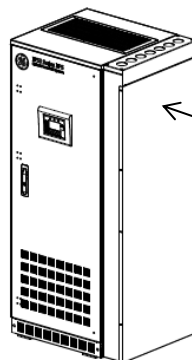
1. Advanced SNMP Card
2. Modbus RTU Interface
3. Remote Alarm Status Panel

OPTIONS (UPS internally mounted):

1. Customer Interface Card
2. RPA Card (to parallel up to 4 UPS modules)
3. Dual utility input (one for rectifier / one for bypass)

OPTIONAL CABINETY:

1. Top Entry Sidecar for 15kva unit
2. Top Entry Sidecar for 20-30kva unit
3. Top Entry Sidecar for 50-60kva unit



Sidecar only, WxDxH (inches) :

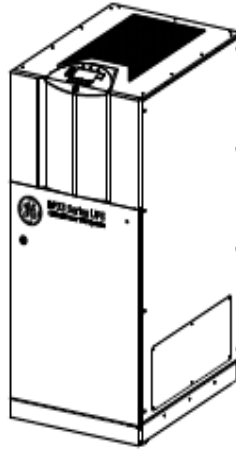
15kva: 4 x 30 x 52
 20-30kva: 6 x 30 x 75
 50-60kva: 6 x 30 x 75

Weight (empty):

43 lbs
 66 lbs
 70 lbs

TECHNICAL DATA

LP 33U Series 15 kVA



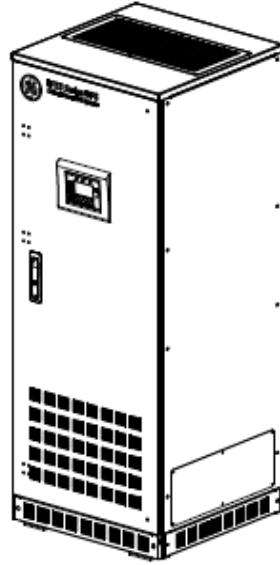
<i>LP 33U Series 15 kVA</i>						
UPS Rating	UPS without battery			UPS with internal battery		
	Weight	Dimensions (w x dp x h)	Shipped Weight	Weight w/int. battery	Dimensions (w x dp x h)	Shipped Weight
15 kVA	195 Kg 430 lbs	558mm x 787mm x 1320mm 22" x 31" x 52"	210 Kg 464 lbs	410 Kg (24 Ah) 905 lbs (24 Ah)	558mm x 787mm x 1320mm 22" x 31" x 52"	425 Kg 938 lbs

Extended battery runtime via external battery cabinets are available.

<i>LP 33U Series 15 kVA – INTERNAL BATTERY TABLE</i>			
UPS Rating	Battery capacity	Autonomy time	Cabinet
15 kVA	24 Ah (2 x 12 Ah)	11 min at 13.5kw	Mounted inside the UPS cabinet

Battery autonomy time at 100% load and Output PF=0.90 lag, only with High Rate Battery

LP 33U Series 20 & 30 kVA

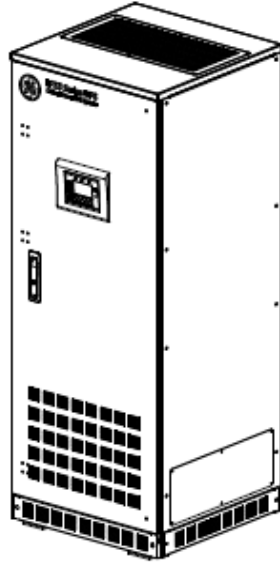


LP 33U Series 20 & 30 kVA

UPS Rating	Weight (est)	Dimensions (w x dp x h)	Shipped Weight (est)
20 kVA	270 Kg 594 lbs	609MM x 762mm x 1905mm 24" x 30" x 75"	290 Kg 640 lbs
30 kVA	270 Kg 594 lbs		290 Kg 640 lbs

Battery Cabinet System data supplied via separate document.

LP 33U Series 50 & 60 kVA

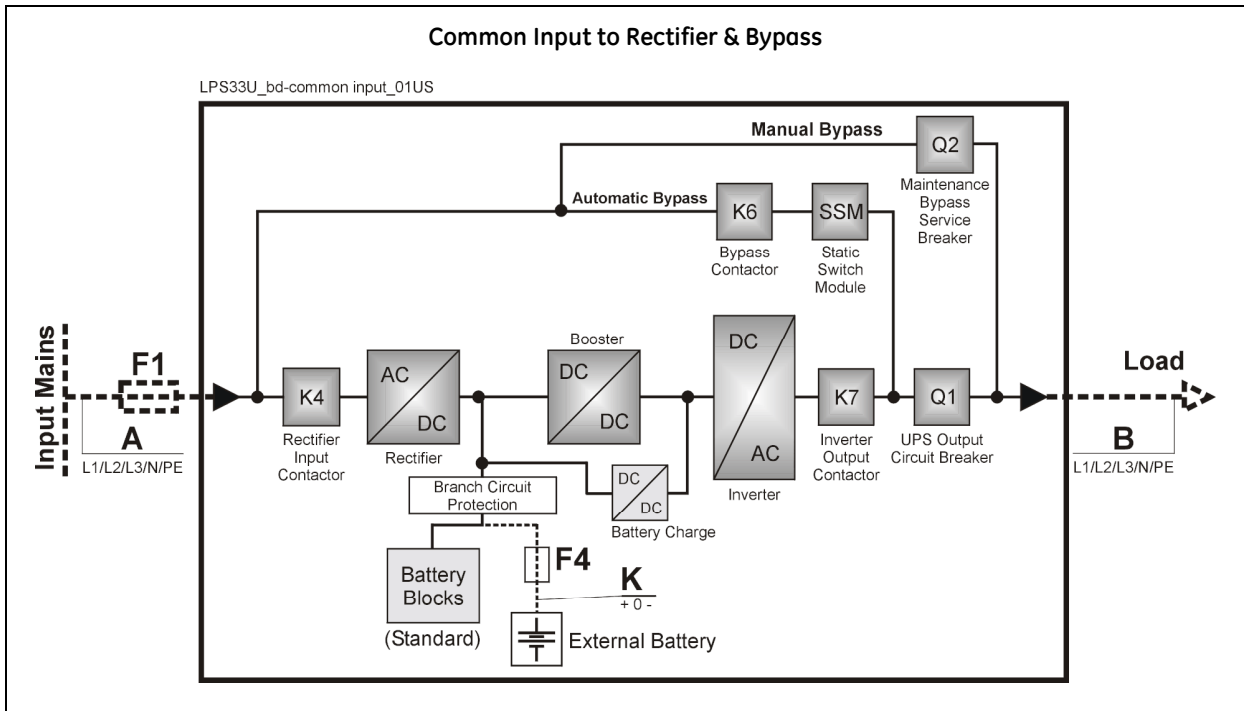


LP 33U Series 50 & 60 kVA

UPS Rating	UPS without battery		
	Weight (est)	Dimensions (w x dp x h)	Shipped Weight (est)
50 kVA	390 Kg	737mm x 762mm x 1905mm	410 Kg
60 kVA	858 lbs	29" x 30" x 75"	905 lbs

Battery Cabinet System data supplied via separate document.

UPS BLOCK DIAGRAM AND PROTECTIONS



Note: for all over current protections and wires sizing please to refer to the Installation Guide

IMPORTANT NOTES:

The UPS is designed for solidly-grounded wye input source.

The input neutral shall be grounded at source and shall never be disconnected.

4-pole circuit breaker shall not be used to feed the UPS input.