



GE
Critical Power

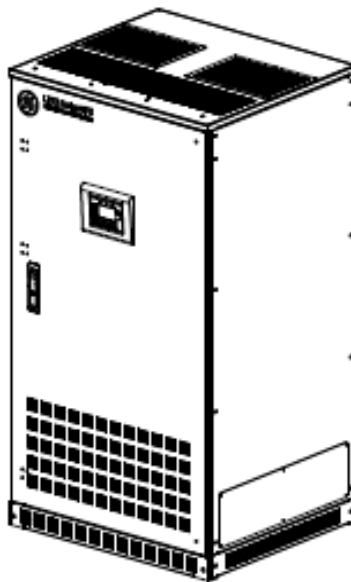
Technical Data Sheet

Uninterruptible Power Supply (UPS)

LP33U Series / 80 & 100 kVA

208/120 VAC UL Listed – S2

Date of issue: 04/01/2016



LP33U Series 80 thru 100 kVA

GE
Critical Power
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GENERAL DATA			
Topology	VFI, double conversion		
Nominal output apparent power	kVA	80 kVA	100 kVA
Power factor (output)	PF	0.9 lag	
Nominal output active power	kW	72	90
Efficiency at 100% load in Double Conversion mode	%	Up to 90%	Up to 90%
Efficiency at 100% load in ECO mode	%	Up to 98%	Up to 98%
Heat dissipation at 100% load in Double Conversion mode, nominal PF and charged battery	kW	8.4	10.8
Heat dissipation at 100% load in ECO mode, nominal PF and charged battery	kW	1.47	1.63
Cooling air (77°F...86°F / 25°C...30°C)	CFM	1400	1800
Audible noise level in Double Conversion mode (1m /3.3ft)	dB(A)	<68	<68
Audible noise level in ECO Mode (1m/3.3ft)	dB(A)	<68	<68
Battery type	Valve regulated lead-acid (VRLA)		
Operating temperature range	UPS: 32°F - 104°F (0°C - 40°C) Battery: 68°F - 77°F (20°C - 25°C) recommended		
Storage temperature range	-13°F - 131°F (-25°C - +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	1006m (3300 ft)		
Power derating (as per IEC 62040-3)	1524 m (5000 ft) : 95% / 1981 m (6500 ft) : 91% / 2499 m (8200 ft) : 86% / 2987 m (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 (as per IP 20 / NEMA PE-1)		
Transport	Cabinet and packaging suitable for handling by forklift		
Color	RAL 9003 (white)		
Installation	Can be positioned against a wall and floor		
Service access	Front and top		
External cable connections	Front Bottom conduit access / Optional Top cable access 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% to +10%		
Input frequency	60 Hz +/-10%		
Input power factor	>0.98 lag.		
Input current distortion (THDI)	<10%		
Output voltage tolerance	+/- 1%		
Battery ripple current	<400 mA (pk-pk)		
Battery charging characteristic	IU (DIN 41773), T° compensated floating voltage		
Battery charging current limit	Up to 40A		
Input power data	kVA	80 kVA	100 kVA
Nominal input at inverter nominal load, and charged battery	Current (A)	229	285
	kVA	82	102
	kW	81	101
Max. input power at inverter nominal load and max. battery recharge current (programmable)	Current (A)	263	319
	kVA	95	115
	kW	94	114
Max. battery charging current (programmable)	A	40	40
Battery boost charge	Yes (selectable)		

BATTERY			
Battery type	Standard: Valve regulated lead-acid (VRLA)		
Float voltage at 20°C (68° F)	2 x 164 VDC		
Min. discharge voltage (programmable)	2 x 118 VDC		
Recharge time @ 90% Charge Capacity (@ C/10 Recharge Current)	<5 hours		
Automatic and manual battery test	Standard		
Common battery in parallel system	Up to 4 units		
Battery power data	kVA	80 kVA	100 kVA
DC power at full load and nominal PF	kW	80.6	101
Max discharge current at 100% load and nominal PF	A	320	400
Matching battery cabinets	See separate battery cabinet drawings		

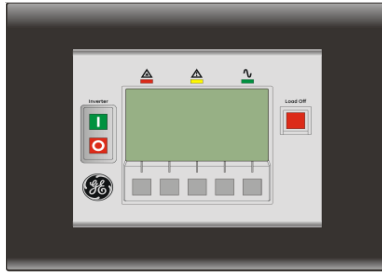
INVERTER			
Nominal output power at PF=0.6 ... 0.9 lag.	80 & 100 kVA		
Nominal output voltage (on site programmable)	3 x 208V+ N		
Inverter bridge	IGBT technology		
Output waveform	Sine wave		
Output voltage tolerance:			
- static	+/- 1%		
- dynamic (at load step 0 – 100 – 0%)	+/- 2%		
- recovery time to +/-1%	<10 ms		
- output voltage THD for 100% linear load	<2%		
- output voltage THD for 100% non-linear load (EN 50091)	<3%		
Output voltage tolerance at 100% unbalanced load (Ph-N)	+/-2%		
Output frequency	60 Hz		
Output frequency tolerance:			
- free-running	+/- 0.1%		
- with mains synchronization adjustable to.....	+/- 4%		
Phase displacement:			
- at 100% balanced load	120°: +/- .5 degrees		
- at 100% unbalanced load.....	120°: +/- 1 degrees		
Overload capability (at nominal PF)	125% - 10 minutes, 150% - 60 seconds		
Short-circuit characteristic	Electronic short-circuit protection, current limit to 2.2 times I _n for 100 ms		
Nominal output current at full load	80 kVA 224A	100 kVA 278A	
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 ½ 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 (only UPS will shutdown) -EPO along With Battery Disconnect (Optional)
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



LCD SCREEN

Shows the UPS data system data, events messages and UPS setting.

The data is displayed on 4 rows, 20 characters each, allowing the operator to select between *English, German, French, Spanish, Italian, Finnish* or *Polish* language.

CONTROL PANEL

<i>Metering</i>	Electrical parameters, operating statistics and information screens.
<i>Alarm</i>	Events (alarms, messages, commands, handling, etc.) and resets general alarm / buzzer.
<i>Menu</i>	Settings, LED-test and commands.
+	Scroll to following screen.
-	Scroll to previous screen.
<i>Enter</i>	Confirms the selected command.

INDICATION LED'S

<i>Alarm (red)</i>	On:	No mains available. Load supply at risk due to: - Battery empty; - Over temperature; - Overload.
<i>Warning (yellow)</i>	Blinking:	Alarm not jeopardizing load supply.
<i>Operation (green)</i>	On:	<i>LOAD ON INVERTER</i>
	Blinking:	<i>SERVICE REQUIRED</i>

OPTIONS

COMMUNICATION:

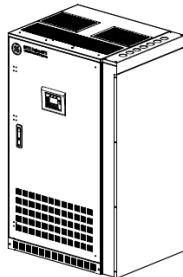
1. Advanced SNMP Card
2. GE Power Diagnostics Software – iUPSGuard subscription
3. Remote Alarm Status Panel
4. Modbus RTU Interface

OPTIONS (UPS internally mounted):

1. Extended Customer Interface Card
2. RPA (Redundant Parallel Architecture) to parallel up to 4 units
3. Dual utility input (one for rectifier / one for bypass)

OPTIONAL CABINETS:

Top Cable Entry/Exit Matching Sidecar

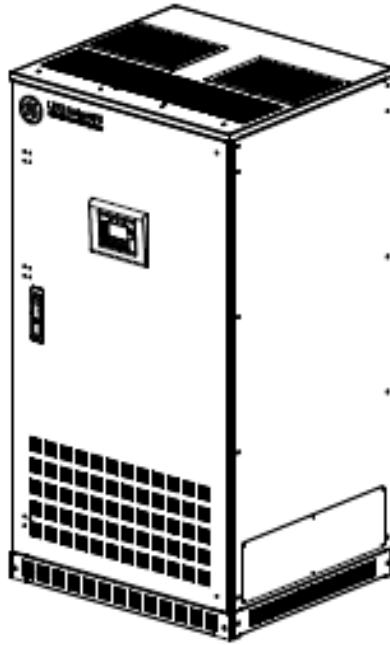


Sidecar Dimensions
(W x D x H)
6" x 36" x 75"
153 x 879 x 1905 mm

Weight (empty):
77 lbs est.
35 Kg est.

UPS with Optional Top Entry Sidecar

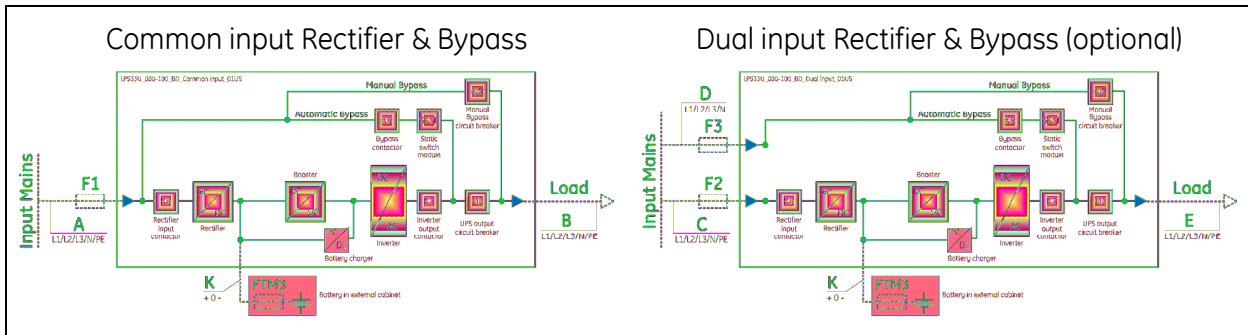
DIMENSIONS



LP33 Series 80 & 100 kVA UPS

LP33U Series 80 & 100 kVA			
UPS Rating	Weight	Dimensions W X D X H	Shipped Weight
80 kVA	600 kg 1323 lbs	1003 X 914 X 1905 mm 39.5 X 36 X 75 in	624 kg 1375 lbs
100 kVA	600 kg 1323 lbs		624 kg 1375 lbs
Battery cabinet system data supplied via separate document			

UPS BLOCK DIAGRAM, PROTECTIONS AND CABLE SECTIONS



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 at the UPS input.