

Liebert GXT3 Solution by GSE

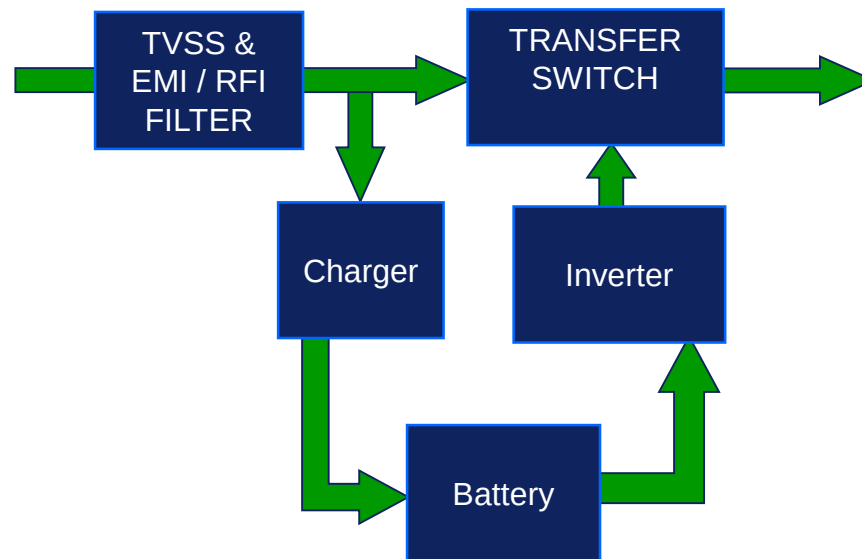


UPS Topologies

- **Stand-by / Offline**
- **Line Interactive**
- **On-Line Double Conversion**

UPS Topologies Stand-by

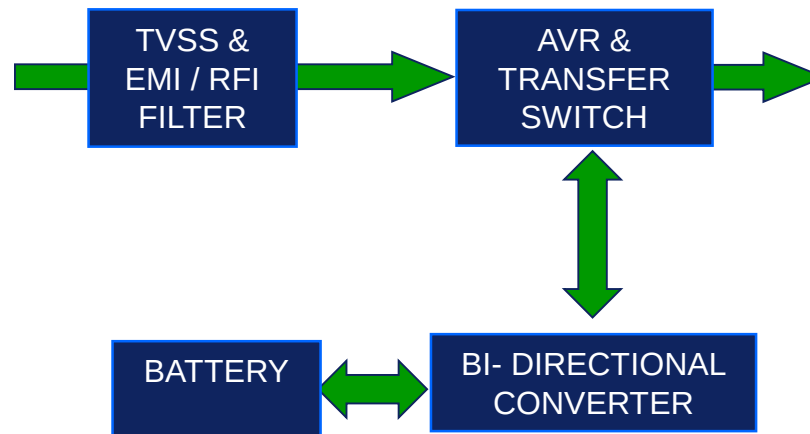
- Inexpensive, economical
- Effective Power Conditioner



UPS Topologies

Line Interactive

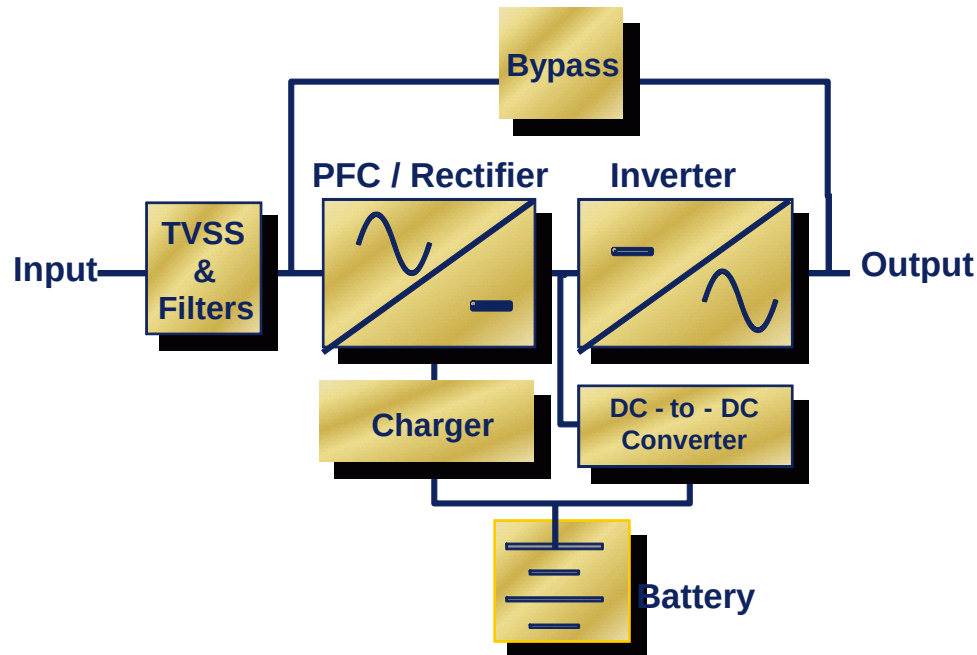
- Moderate Cost
- Highly Effective Power Conditioner
- Input Buck and Boost (AVR) Circuitry
- Can be designed for extended battery operation



UPS Topologies

On-Line Double Conversion

- Highest level of power protection
 - Double conversion
 - Zero transfer time
- Dynamic bypass for critical bus
- Recommended for mission-critical applications
- Recommended for generator applications
- Allows for extended battery options



Liebert Product Topologies Single Phase UPS

- **Liebert PSP – Stand-by (step-wave)**
 - **Models:**
 - 350VA – 500VA, 120 VAC
 - 500VA – 650VA, 230 VAC
- **Liebert PSA – Line Interactive (step-wave)**
 - **Models:**
 - 500VA – 1000VA, 120 VAC
 - 500VA – 1000VA, 230 VAC
- **Liebert PSI – Line Interactive (sinewave)**
 - **Models:**
 - 1000VA – 3000VA, 120 VAC
 - 1000VA – 3000VA, 230 VAC
- **Liebert GXT3 – On-Line (sinewave)**
 - **Models:**
 - 500VA – 3000VA, 120 VAC
 - 500VA – 3000VA, 230 VAC
 - 3000 VA, 208 VAC
 - 5-10 kVA, 208/120 VAC
 - 5-10 kVA, 230 VAC

On-Line Topology Benefits

- **UPS continuously generates and regulates precise sinewave output**
 - Continuous, no-break power
 - Reduces stress on connected equipment
 - Provides stable output voltage
 - Provides stable output frequency
 - Uses battery only when utility fails
 - Can not discharge AND charge simultaneously
- **Input Power Factor Correction circuitry**
 - Reduces reflected distortion to building service
 - Improves operating efficiency
 - Reduces peak currents caused by electronic loads

Liebert GXT3 Micro Product Range



Model		500VA	700VA	1000VA	1500VA	2000VA	3000VA
120V	RT	✓	✓	✓	✓	✓	✓
	MT			✓			
208V	RT						✓
	MT						
230V	RT		✓	✓	✓	✓	✓
	MT						

Liebert GXT3

Micro Specifications

Feature	GXT3
Output PF	0.9
Input PF	0.99
Input Protection	Circuit Breaker
Voltage Regulation	+3% steady state
Input THDi	5%
Audible Noise	≤ 47dBA
Recharge Time	3 hours to 90%
Overload	105% to 125% - 60 seconds 125% to 150% - 50 seconds 150% to 200% - 2 seconds >200% - 250ms

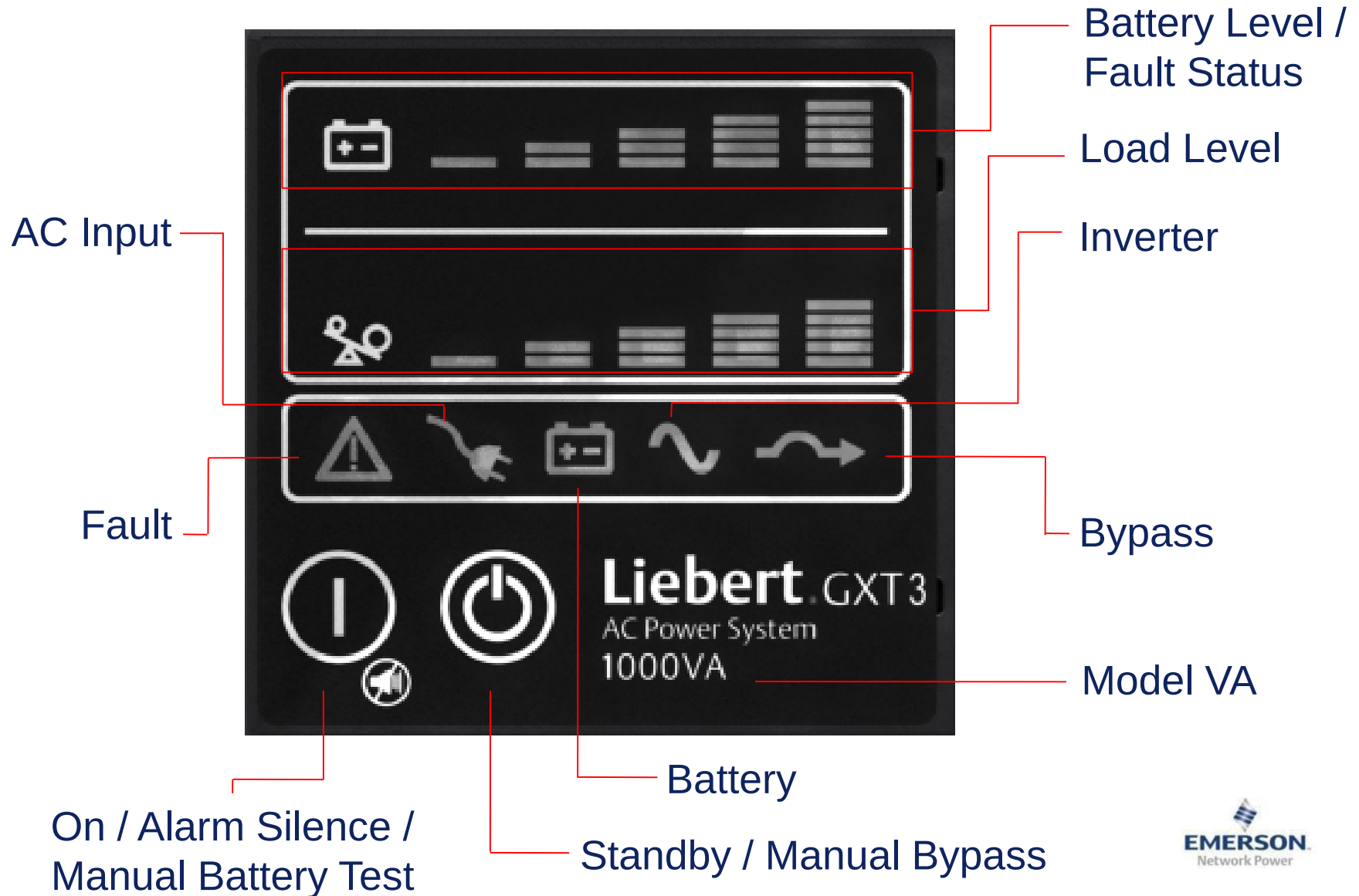
Liebert GXT3

Micro Specifications

Load Level	500-1000 VA 120 VAC Input Voltage	1500-3000 VA 120 VAC Input Voltage	3000 VA 208 VAC Input Voltage	700-2000 VA 230 VAC Input Voltage	3000 VA 230 VAC Input Voltage
100%	90 VAC	102 VAC	177 VAC	177 VAC	196 VAC
90%	86 VAC	96 VAC	168 VAC	168 VAC	184 VAC
80%	81 VAC	90 VAC	159 VAC	159 VAC	173 VAC
70%	77 VAC	84 VAC	150 VAC	150 VAC	161 VAC
60%	73 VAC	78 VAC	142 VAC	142 VAC	150 VAC
50%	69 VAC	72 VAC	133 VAC	133 VAC	138 VAC
40%	64 VAC	66 VAC	124 VAC	124 VAC	127 VAC
30%	60 VAC	60 VAC	115 VAC	115 VAC	115 VAC

- **Variable Input Voltage Window**
 - Input voltage transfer level is dependent upon load level
 - Prolongs battery life as there are fewer transfers to battery for brown out conditions at lighter loads

Liebert GXT3 Micro LED Display



Liebert GXT3 Micro Internal Battery

Model	Load %	Runtime (minutes)					
		500VA	700VA	1000VA	1500VA	2000VA	3000VA
GXT3 RT/MT	50 %	34	27	17	11	11	11
	100%	17	11	7	4	3	3

- Hot-swappable Internal Battery Kit
- Battery Management includes efficient three-stage charging technique and comprehensive discharging protection
 - Automatically raise EOD voltage for lighter loads to protect against over discharging



Liebert GXT3

External Battery options

- **500 VA through 2000 VA**
 - 48V, 2U Matching Battery Cabinet
 - Up to (4) can be applied for extended backup time
- **3000 VA**
 - 72V, 2U Matching Battery Cabinet
 - Up to (4) can be applied for extended backup time
- **External Battery Cabinets, with separate charger is available for longer runtime requirements**
- **GXT3-1000MT120 doesn't have external battery capability**

Liebert GXT3

Micro Rear Panel View



3kVA 120V



2kVA 120V



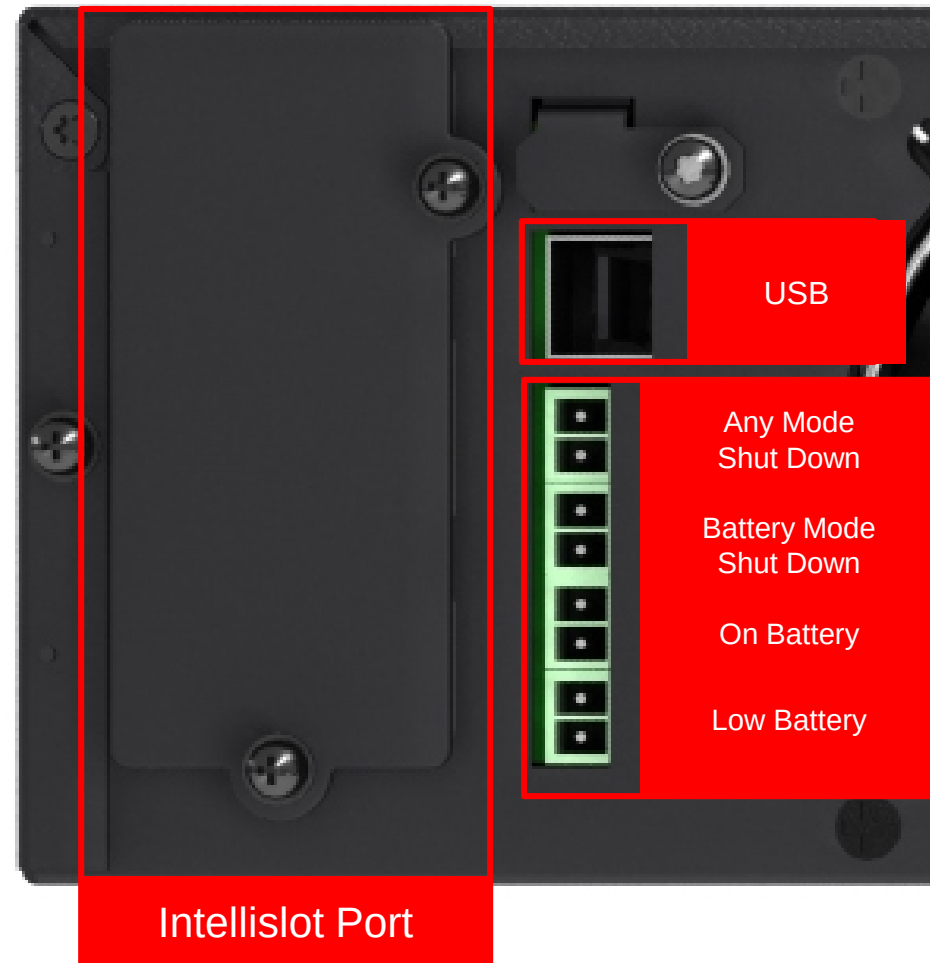
≤1.5kVA 120V



1kVA 120V

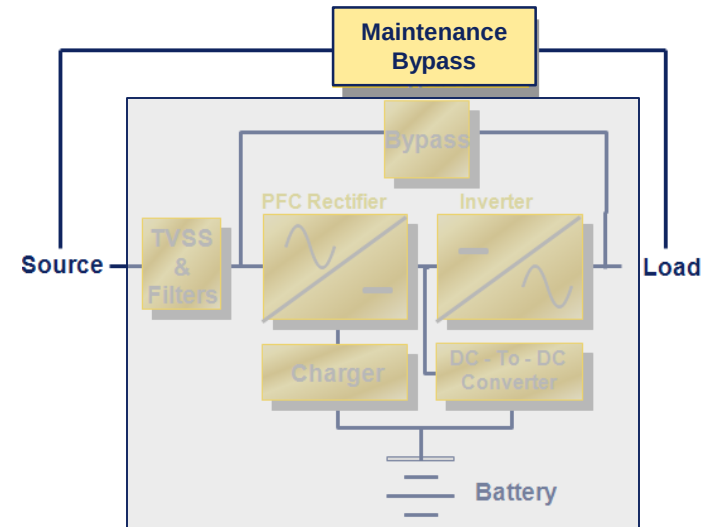
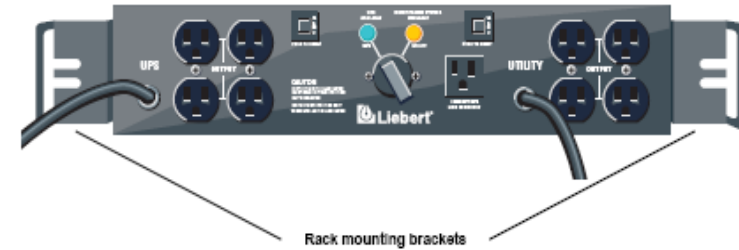
Liebert GXT3 Communication Options

- Terminal Block
- USB Port
 - Used for Configuration Program and MultiLink software
- Intellislot Communication Port
 - IS-RELAY
 - IS-MULTIPOINT
 - IS-WEBCARD
 - OC-485



Liebert MicroPOD

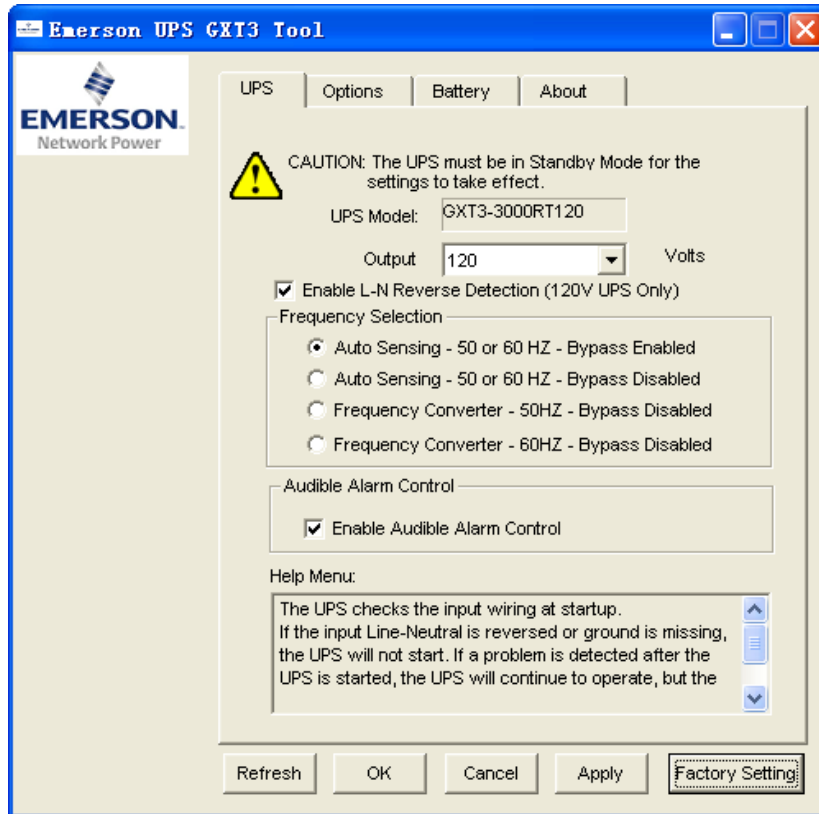
MicroPOD Model Number	Output Distribution	Model Compatibility	
		UPS Model VA	Utility Voltage
MP2-115A	(8) 5-15R	500 - 1500	120
MP2-120C	(8) 5-20R (T-slot)	2000	120
MP2-130C	(8) 5-20R (T-slot)	3000	120
MP2-130E	(2) 5-15R, (4) 5-20R (T-slot), (1) L5-30R	3000	120
MP2-130P	(4) 5-15R, (2) L5-20R	3000	120
MP2-220N	(2) L6-15R, (2) L6-20R or Hardwired	3000	208
MP2-210K	(8) EN 60320/C13	700 - 1500	230
MP2-220K	(8) EN 60320/C13	2000	230
MP2-220L	(6) EN 60320/C13 (1) EN 60320/C19	3000	230
MP2-115HW	Hardwired	500 - 1500	120
MP2-120HW	Hardwired	2000	120
MP2-130HW	Hardwired	3000	120



Configuration Program To Customize Your UPS Settings

- **Windows™ based configuration program included with each Liebert GXT3 UPS**
- **Customization without the need for special part numbers**
 - **Selectable output voltages 110, 115, and 127**
 - **Enable or disable auto restart feature**
 - **Enable or disable Line-Neutral reversal detection circuit**
 - **Setup UPS as a frequency converter**
 - **(60Hz-50Hz or 50Hz-60Hz)**
 - **Change default Low Battery Time Warning**
 - **From 2 minutes up to a maximum of 30 minutes**
 - **Change default Auto Battery test time**
 - **From 14 days to 7, 21, or 28 days or Disable**
 - **Program number of Extended Battery Cabinets for more accurate run time reporting**

Configuration Program Menu



This Configuration Utility is included with all GXT3 models

Install Configuration Utility on your PC and connect the included USB cable between any USB port on your PC and the USB Port on the GXT3

Pull down menus and selection boxes make custom configuration easy to do

Liebert GXT3

Small Product Range

Model		5000VA	6000VA	8000VA	10000VA
120/208V	Rack-Tower	✓	✓	✓	✓
	Tower				✓
208V	Rack-Tower		✓		
	Tower				
230V	Rack-Tower	✓	✓		✓
	Tower				✓

Liebert GXT3

Small Specifications

Feature	Liebert GXT3
Output PF	0.7 - 0.9
Input PF	0.99
AC-AC Efficiency	92%
Recharge Time	3 hours to 90%
Communications	USB, Terminal Block, Intellislot

Liebert GXT3

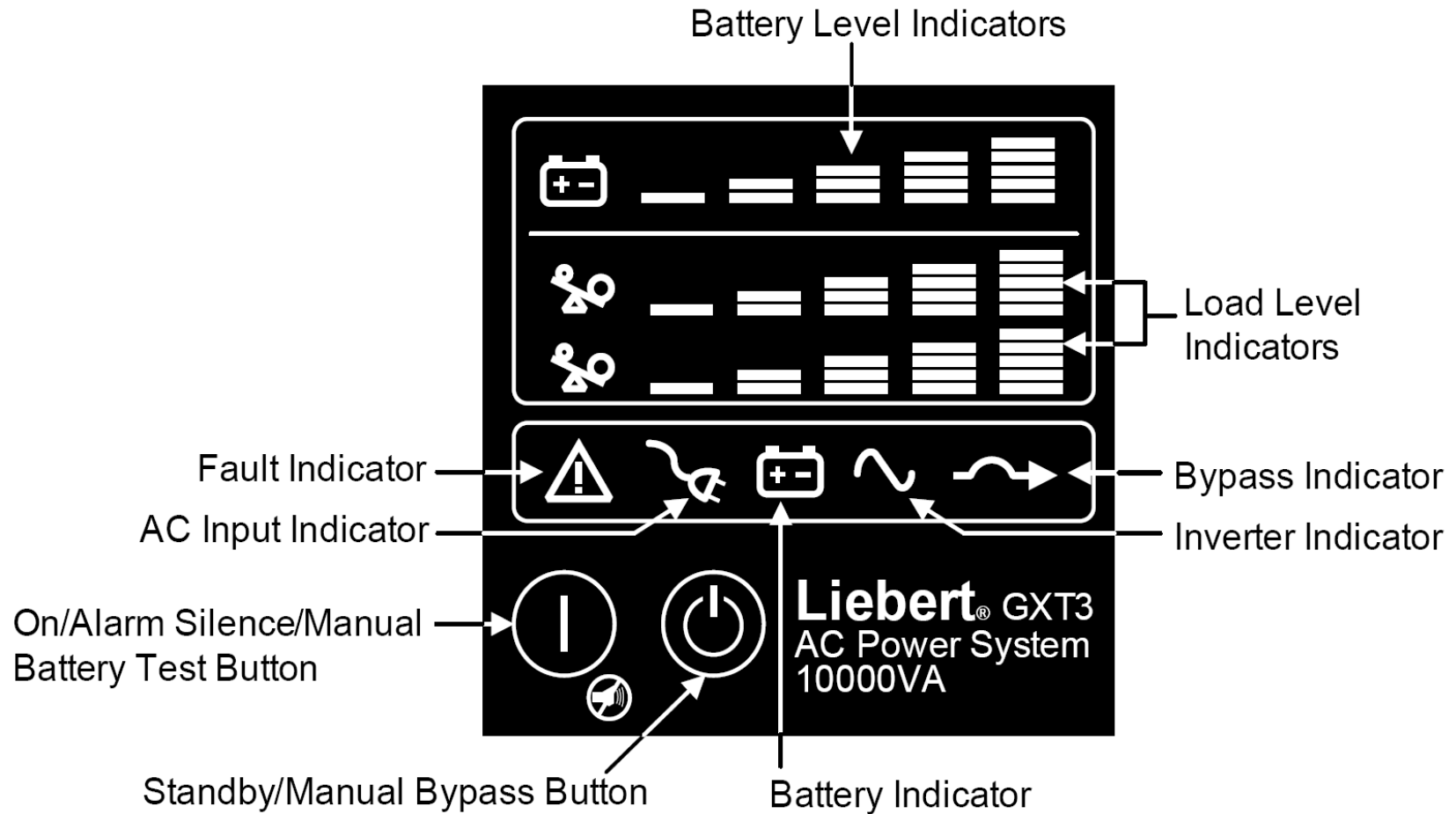
Small Specifications

Load Level	5 & 8 kVA 208/120 VAC Input Voltage	6 kVA 208/120 VAC Input Voltage	10 kVA 208/120 VAC Input Voltage	5 & 10 kVA 230 VAC 6 kVA 208 VAC Input Voltage	6 kVA 230 VAC 10 kVA Tower Input Voltage
100%-91%	153 VAC	170 VAC	161 VAC	176 VAC	185 VAC
90%-71%	146 VAC	153 VAC	146 VAC	159 VAC	167 VAC
70%-31%	121 VAC	128 VAC	121 VAC	139 VAC	139 VAC
30%-0%	104 VAC	104 VAC	104 VAC	100 VAC	100 VAC

- **Variable Input Voltage Window**
 - Input voltage transfer level is dependent upon load level
 - Prolongs battery life as there are fewer transfers to battery for brown out conditions at lighter loads

Liebert GXT3

Small LED Display



Liebert GXT3

5 & 6 kVA, 208/120 VAC Models

- **Configurable as a Tower or Rackmount model**
 - Requires only 4U of rack space
- **Dual inverter design provides 208/120 or 240/120 VAC**
 - 0.8 output power factor rating
- **Hardwired input/output**
 - Removable I/O section for use with optional PODs
- **External battery cabinet**
 - Only requires 2U of rack space
 - Up to 4 can be connected



Liebert GXT3

5 & 6 kVA, 208/120 VAC Models

Removable Power Output Distribution (POD) Options

- Models ship with hardwire input and output POD standard
- Optional PODs include wrap around maintenance bypass and plug-n-play connect-ability



Liebert GXT3

5 & 6 kVA, 208/120 VAC Models

Model Number	Rating	Output Receptacles	Shipping Weight	
			lbs	kg
Power Output Distribution (POD)				
PD2-HDWR	30A, No Bypass	Input – Hardwired Output - Hardwired	7.3	3.3
PD2-HDWR-MBS	30A, With Bypass	Input – Hardwired Output - Hardwired	8.2	3.7
PD2-001	30A, With Bypass	Input – L14-30P Output – (1) L6-30R, (1) L14-30R, (4) 5-15/20R T-slot	11.0	5.0
PD2-002	30A, With Bypass	Input – L14-30P Output – (2) L6-20R, (2) 5-15/20R T-slot	10.8	4.9
PD2-003	30A, With Bypass	Input – L14-30P Output – (2) L6-30R, (4) 5-15/20R T-slot	10.8	4.9
PD2-004	30A, With Bypass	Input – L14-30P Output – (4) L5-20R, (2) L5-30R	12.1	5.5
PD2-005	30A, With Bypass	Input – L14-30P Output – (4) L5-20R, (2) L6-30R	12.8	5.8
PD2-006	30A, With Bypass	Input – L14-30P Output – (4) L6-20R	11.7	5.3

Liebert GXT3

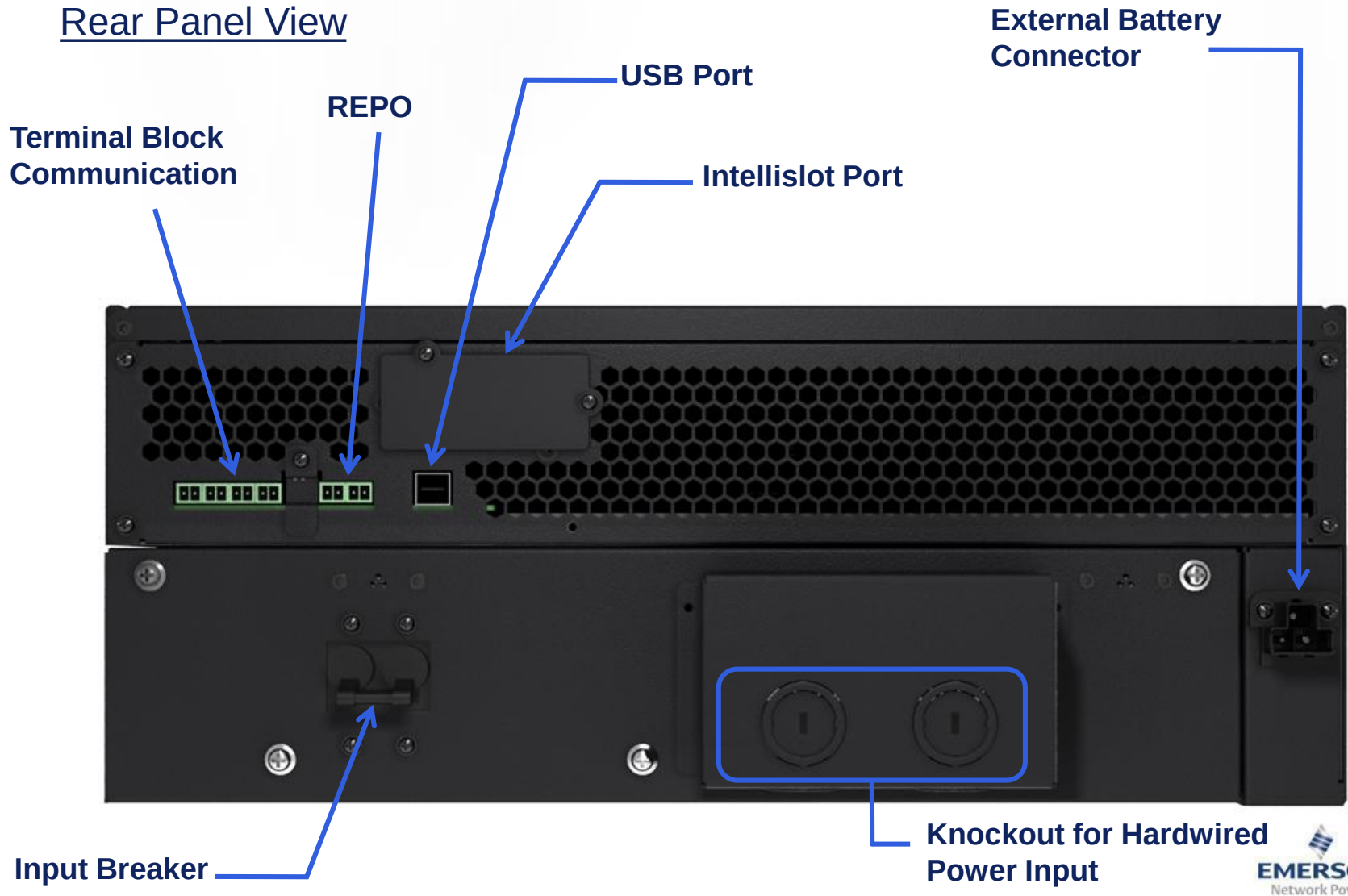
5 & 6 kVA, 208/120 VAC Models

- **Internal Battery Kit**
 - Internal battery modules are Hot Swappable
 - Battery ships separately for easy installation in rack applications
 - (1) GXT3-144BATKIT is required for complete UPS system



Liebert GXT3

5 & 6 kVA, 208/120 VAC Models



Liebert GXT3

6 kVA 208VAC Only L6-30 Model

- **Configurable as a Tower or Rackmount model**
 - Requires only 5U of rack space
- **Single inverter design provides 208 or 240 VAC**
 - 0.7 output power factor
- **L6-30P input; (2)L6-20R / (2)L630-R output receptacles**
- **External battery cabinet**
 - Only requires 3U of rack space
 - Up to 4 can be connected



Liebert GXT3

6000VA 208V Only Model

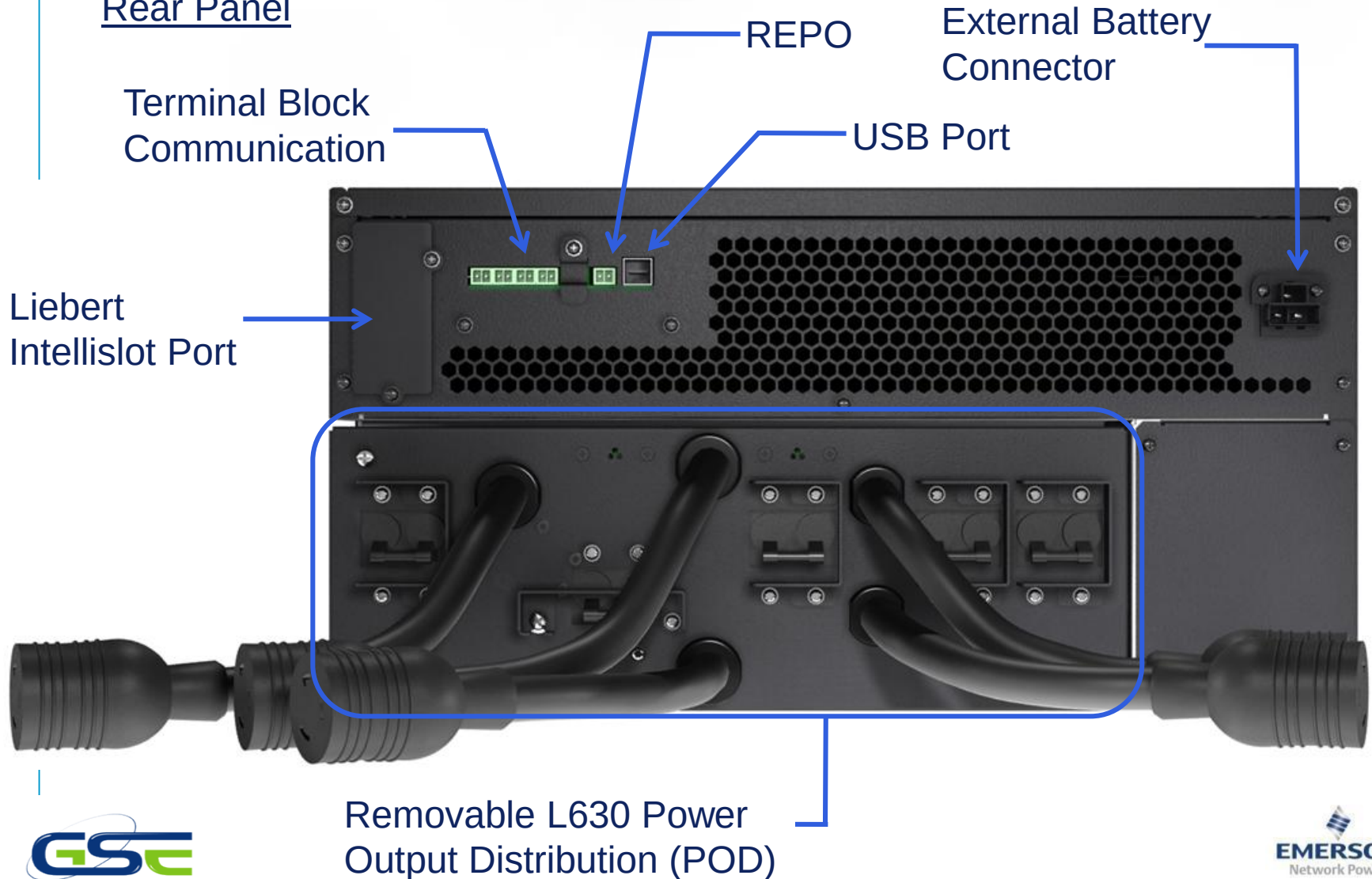
- **Internal Battery Kit**
 - Internal battery modules are Hot Swappable
 - Battery trays ship separately for easy installation in rack applications
 - (2) GXT3-240BATKIT are required for complete UPS system



Liebert GXT3

6 kVA 208V Only Model

Rear Panel



Liebert GXT3

8 & 10 kVA, 208/120 VAC Models

- **Configurable as a Tower or Rackmount model**
 - Requires only 6U of rack space
- **Dual inverter design provides 208/120 or 240/120**
 - 0.9 output power factor
- **Hardwired input/output**
 - Removable I/O section for use with optional PODs
- **External battery cabinet**
 - Only requires 4U of rack space
 - Up to 4 can be connected



Liebert GXT3

8 & 10 kVA, 208/120 VAC Models

Removable Power Output Distribution (POD) Options

- Models ship with hardwire input and output POD standard
- Optional PODs provide plug-n-play connect-ability



Liebert GXT3

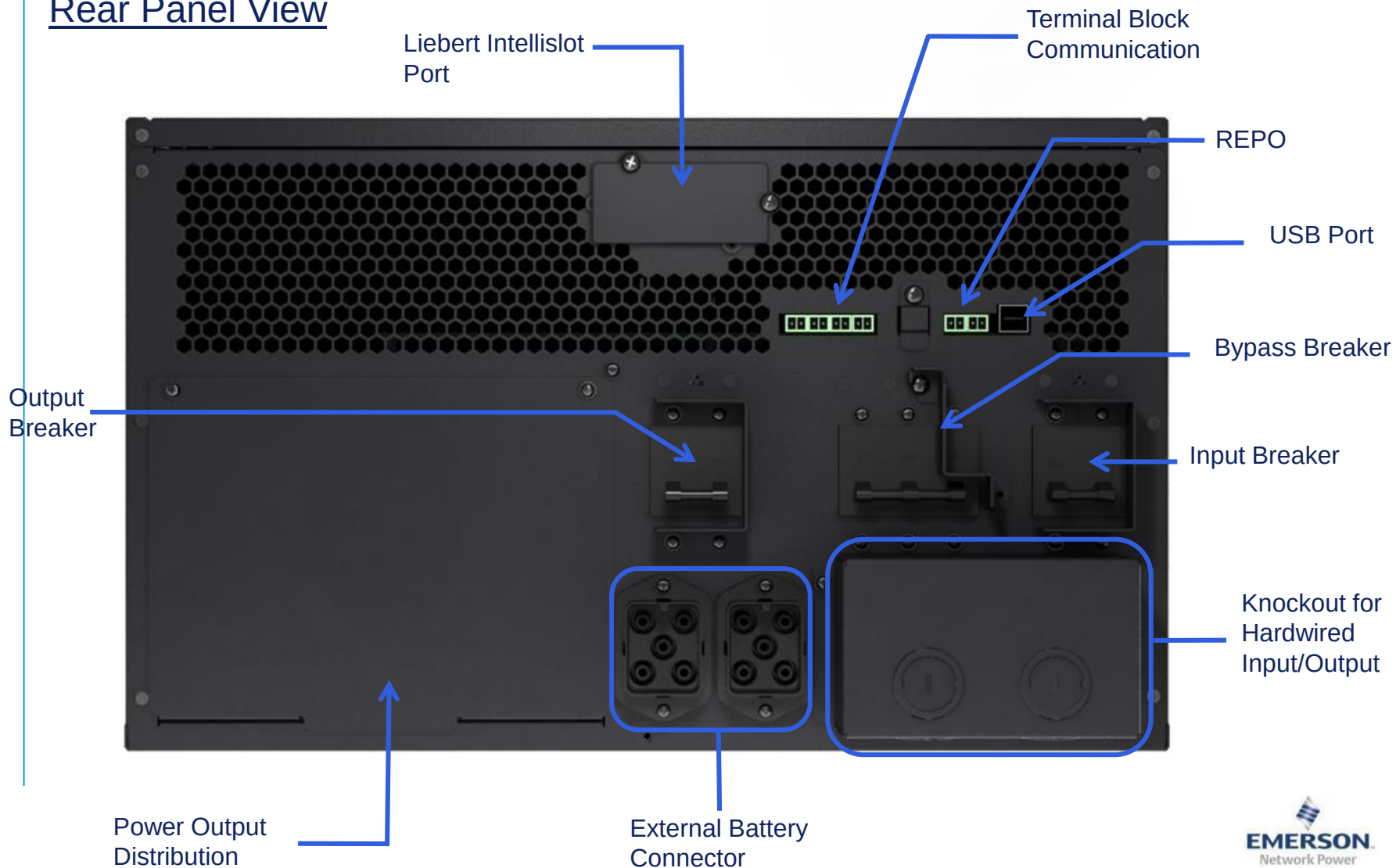
8 & 10 kVA, 208/120 VAC Models

Model Number	Rating	Output Receptacles	Shipping Weight	
			lbs	kg
Power Output Distribution (POD)				
PD2-101	60A	Output – (8) 5-20R T-type, (2) L6-30R	6.6	3.0
PD2-102	60A	Output – (4) 5-20R T-type, (4) L6-20R	8.8	4.0
PD2-103	60A	Output – (4) 5-20R T-type, (4) L6-30R	8.8	4.0
PD2-104	60A	Output – (4) 5-20R T-type, (2) L6-30R, (2) L6-20R	8.8	4.0
PD2-105	60A	Output – (4) 5-20R T-type, (2) L5-30R, (2) L5-20R	6.6	3.0
PD2-106	60A	Output – (4) L5-20R, (4) L6-20R	8.8	4.0

Liebert GXT3

8 & 10 kVA, 208/120 VAC Models

Rear Panel View



Liebert GXT3

8 & 10 kVA, 208/120 VAC Models

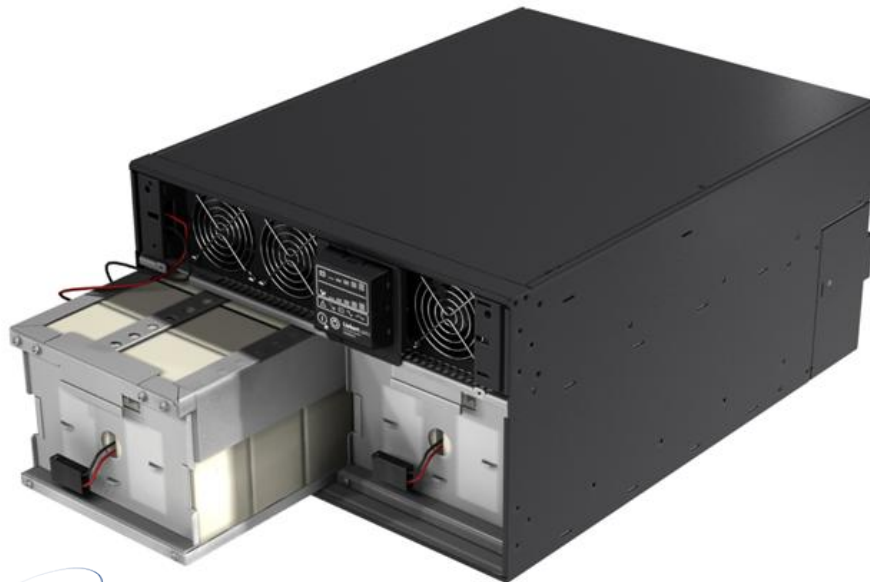
- **Replaceable Power Module**
 - Modular design allows power module replacement while still providing power to the connected equipment
 - Wrap around bypass built into UPS frame



Liebert GXT3

8 & 10 kVA, 208/120 VAC Models

- **Internal Battery Kit**
 - Internal battery modules are Hot Swappable
 - Battery trays ship separately for easy installation in rack applications
 - (2) GXT3-288BATKIT are required for complete UPS system



Liebert GXT3

10 kVA 220/110 (240/120) VAC Model



- Tower model
- Includes output isolation transformer to provide 220/110 (240/120)
 - 0.9 output power factor
- LCD Display
- Dual source input supply capable
- External battery cabinet option

Liebert GXT3

10 kVA 208/120 VAC Model

Rear View

Maintenance
Bypass Breaker

Bypass Input
Breaker

Liebert
Intellislot Port

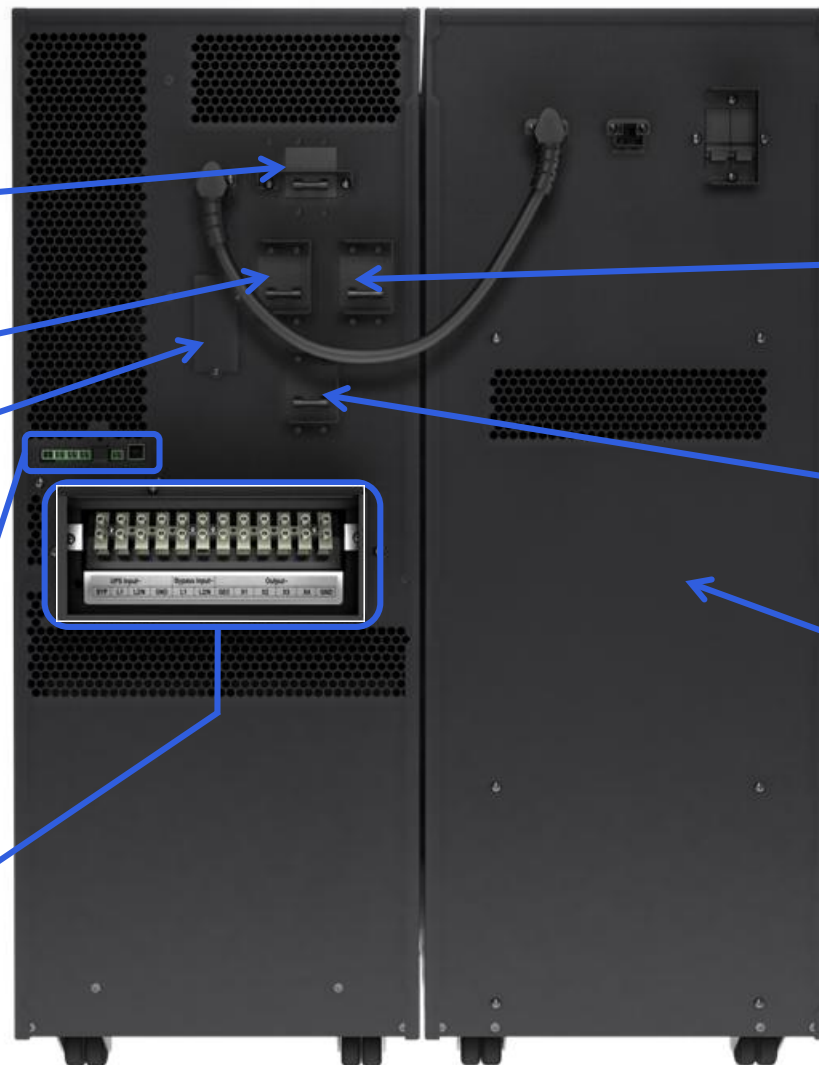
Terminal Block
Communication,
REPO, USB Port

Input / Output
Terminal Block

Input Breaker

120V Output
Breaker

Extended
Battery Cabinet



Liebert GXT3 Summary

- **Liebert GXT3 – On-Line topology**
 - **Models:**
 - 500VA – 3000VA, 120 VAC
 - 500VA – 3000VA, 230 VAC
 - 3000 VA, 208 VAC
 - 5-10 kVA, 208/120 VAC
 - 5-10 kVA, 230 VAC
- **Rack-Tower design**
 - **Facilitates multiple applications in one design**
- **Variety of distribution options with integrated maintenance bypass**
- **Customizable**
 - **Units can be tailored to specific application needs**

Liebert GXT3

- **For more information please contact:**

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