


LIBRA Pro

10-100 kVA threephase/singlephase

10-800 kVA threephase/threephase

- DATA CENTER
- TELECOMMUNICATION DEVICES
- MEDICAL DEVICES
- EMERGENCY APPLICATION
- TRANSPORT
- INDUSTRIAL APPLICATION

GTEC Smart Energy Solutions

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Overview

LIBRA Pro series is available with a power range from 10 to 100 kVA threephase/singlephase and 10 to 800 kVA threephase/threephase, using double conversion on-line technology (VFI) with an inverter transformer for output galvanic isolation.

The load is continuously powered by the inverter with a filtered, stabilised and regulated sinewave supply. The input and output EMI filters considerably increase the immunity of the load to mains disturbances and surges, making LIBRA Pro an very high reliability system, perfectly suitable for security or industrial applications.

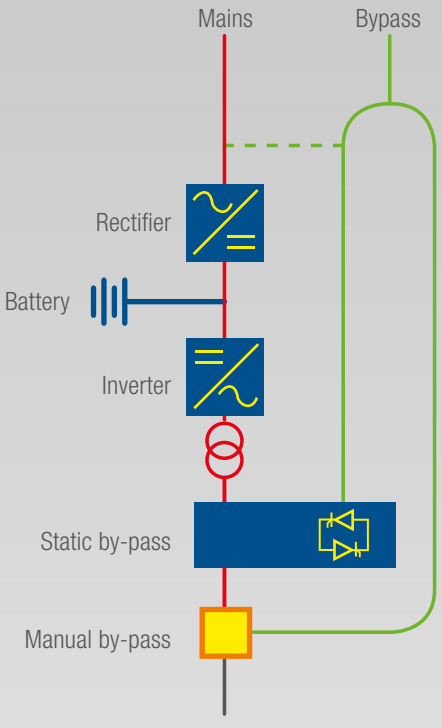
Standard Libra Pro version is designed with thyristor's rectifier 6 Pulse to improve the input current distortion performance (up to 200 kVA).

Libra Pro IGBT version, available from 100 to 800 kVA, is a low impact source solution, because the rectifier has an IGBT technology with Power Factor Correction that allows to reach input PF >0,99.

- ISOLATING TRANSFORMER ON THE INVERTER
- EXTREMELY HIGH SHORT-CIRCUIT CURRENT
- SINUSOIDAL ABSORPTION (THDi% less than 3% for LIBRA Pro IGBT version)

Main features

- **Reliable, filtered, stabilised and regulated sinewave output**: double conversion online technology VFI according to EN50091-3 specifications with filters for atmospheric disturbance suppression
- **High reliability**: IGBT technology, full microprocessor control with no break – in static and manual transferring, high short-circuit current (up to 3 x **I** nominal) to ensure compatibility with the most difficult application (lighting, drives and industrial processes) and an isolating transformer on the inverter output
- **Low impact on the supply network**: the input current distorsion is less than 3% for LIBRA Pro IGBT model 100-800 kVA. That reduces resonance problems, network disturbs, as well as design costs
- **High level diagnostics**: event log, states, measurements and alarms are all available from the built-in LCD, in several languages
- **Selectable power walk-in** allows to limit the input rushing current
- **Maximum reliability and power availability** thanks to parallel configuration, up to 8 units
- **EPO (Emergency Power Off)**: allows UPS shut-down using remote emergency button
- **Front access**
- **Smart battery system** suitable for use with most common battery types such as Sealed, Wet and Ni-Cd
- **Back-feed protection** fitted as standard



Double-conversion online technology with isolating transformer

Specific solutions

SIMPLIFIED MAINTENANCE

The wiring and all the electronic components are easily accessible from the front side. This allows to reduce the MTTR (Mean Time To Repair), that typically becomes less than 30 minutes.

A complete range of informations is available from the synoptic LCD and the main operating system parameters are software configurable by a local PC, in order to adjust or improve the operating specifications.

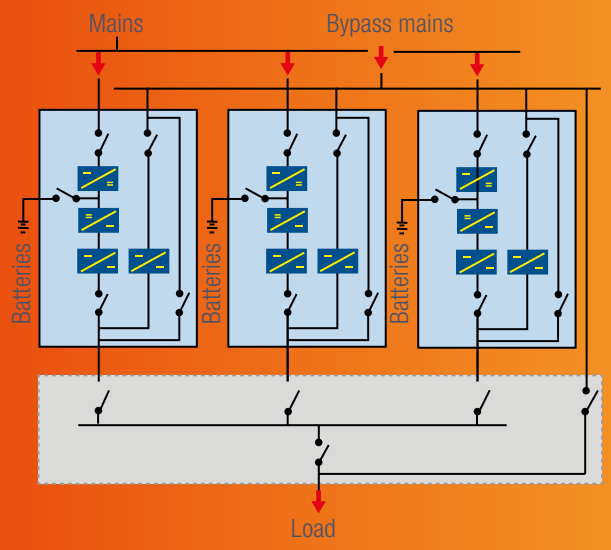
OPERATION MODES

All LIBRA Pro operation modes can be easily selected by LCD display:

- **Single mode operation** - online
- **Parallel mode configuration** - up to 8 units
- **Ecomode** - for energy saving
- **Smart Active** - to adapt operation to the quality of main supply
- **Automatic Voltage Stabilizer** - with or without batteries
- **Frequency converter** - with or without batteries

Parallel configuration

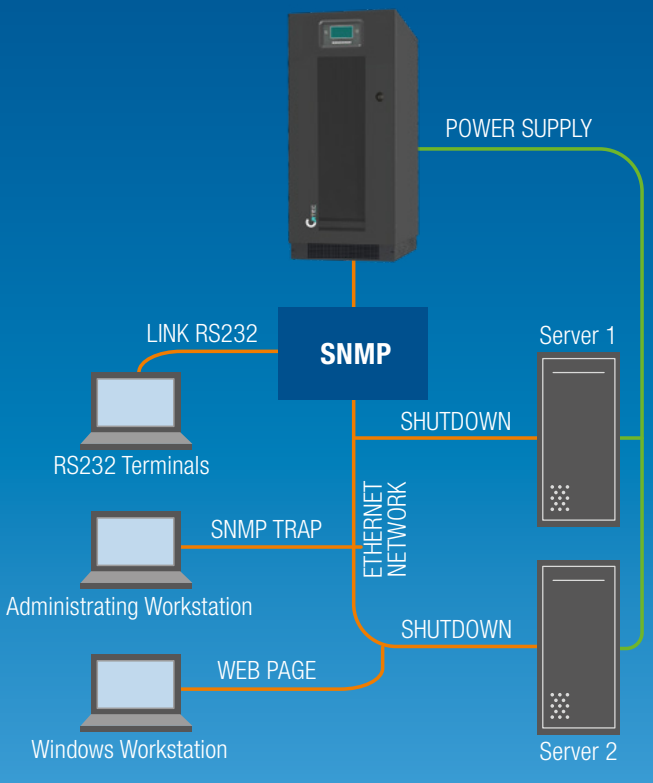
LIBRA Pro supports parallel configuration, up to 8 units



Advanced communication

- Remote maintenance available
- Advanced, multi-platform communication, for all operating system and network environments: UPSmod 5 supervision and shut-down software included, with SNMP agent, for Linux, Windows and Mac OS.
- The UPS is equipped as standard with CD and cable for direct connection to the PC (Plug & Play).
- Double RS232 serial ports
- Network adapter slot for SNMP agent
- EPO (Emergency Power Off) shut down input contact
- SNMP card for Ethernet Network (optional)
- Remote LCD display panel (optional)
- Interfaces JBUS/ModBUS and ProfiBUS (optional)
- Upon request the shut-down software can also be provided for: IBM AIX; Free BSD; BSDI UNIX; BSD/OS; Unixware; SCO Openserver; Solaris; SUN; DEC; Compaq True64; HP UNIX; SGI Irix MIPS; NCR UNIX.

Direct connection with Ethernet Network



Technical specifications

Model	LB010MP(B)	LB015MP(B)	LB020MP(B)	LB030MP	LB040MP	LB060MP	LB080MP	LB100MP
Nominal power	10	15	20	30	40	60	80	100
Active power	9	13.5	18	27	36	54	72	90
MAIN INPUT								
Grid system	3 Phases + Ground							
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz							
Voltage range	300~480 VAC							
Power factor	0.9							
Current THDi	25% (5% for MPF version with input filter*)							
Power walk-in	0 ÷ 100% in 30 sec (selectable)							
Standard features	Back Feed protection and splitted bypass line							
BYPASS INPUT								
Grid system	1 Phase + Neutral + Ground							
Rated voltage / Frequency	220/230/240VAC (Phase-Neutral), 50/60Hz							
Voltage range	Default: -20% ~ +20% Selectable: -5% ~ +25%							
Frequency range	± 2% (selectable from 1% to 6%)							
Bypass overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute							
OUTPUT								
Rated voltage / Frequency	220/230/240VAC (Phase-Neutral), 50/60Hz							
Power factor	0.9							
Voltage THDv	<1% (from 0% to 100% linear load); <3% (full non-linear load according to IEC/EN62040-3)							
Voltage precision	± 1%							
Transient response	± 5% in 10 msec							
Inverter overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute							
Frequency stability	50/60Hz ±0.05%							
Crest factor	3:1							
BATTERIES								
Battery type	Pb sealed acid, Wet, Ni-Cd							
Ripple	< 1%							
Typical charging current	0,1 x C10							
Number of batteries	Standard: 32 batteries 12V Selectable: 31-33 batteries 12V							Standard 33/12V Select. 32-34/12V
Batteries arrangement	Internal and/or external			External				
SYSTEM								
Efficiency - Normal operation	92%						92.5%	
Efficiency - Eco Mode operation	98%							
Efficiency - Battery operation	95%							
Display	LED + LCD							
Protection degree	IP20							
Interface	Standard equipment: double RS232 port with monitoring software CD, dry contacts, 2 interface intellislots Optional: SNMP, JBUS/ModBUS converter RS485 port, ProfiBUS converter, Multilicence							
ENVIRONMENT								
Operating temperature	0 ~ 40°C							
Storage temperature	-25 ~ 60°C							
Relative humidity	0 ~ 95% (no condensing)							
Noise (dBA)	<54dB		<62dB					<63dB
Altitude	<1000m; load derated 1% per 100m, from 1000 ~ 4000m							
MECHANICAL DATA								
Cabinet dimensions W*D*H (mm)	555*740*1400					800*740*1400		800*800*1900
Cabinet weight (Kg)	200	220	230	290	340	440	520	650
Color	RAL 7016, dark grey							
Compliance	European directive: 2014/35/EU Low voltage directive; and 2014/30/EU Electromagnetic compatibility directive • Security: EN62040-1 • EMC: EN62040-2 • Performance: EN62040-3 (Voltage Frequency Independent) VFI - SS - 111							

(B) Also available with internal batteries
* Also available with input filter for lower current distorsion (MPF version)

Note: technical specifications and data could be changed without notification

Technical specifications

Model	LB010TP(B)	LB015TP(B)	LB020TP(B)	LB030TP	LB040TP	LB060TP	LB080TP	LB100TP	LB120TP	LB160TP	LB200TP
Nominal power	10	15	20	30	40	60	80	100	120	160	200
Active power	9	13.5	18	27	36	54	72	90	108	144	180
MAIN INPUT											
Grid system	3 Phases + Ground										
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz										
Voltage range	300~480 VAC										
Power factor	0.9										
Current THDi	25% (5% for TPF version with input filter*)							30% (5% for TPF version with input filter*)			
Power walk-in	0 ÷ 100% in 30 sec. (selectable)										
Standard features	Back Feed protection and splitted bypass line										
BYPASS INPUT											
Grid system	3 Phases + Neutral + Ground										
Rated voltage / Frequency	380-400-415VAC (Phase-Phase), 50/60Hz										
Voltage range	Default: -20% ~ +20% Selectable: -5% ~ +25%										
Frequency range	± 2% (selectable from 1% to 6%)										
Bypass overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute										
OUTPUT											
Rated voltage / Frequency	380-400-415VAC (Phase-Phase), 50/60Hz										
Power factor	0.9										
Voltage THDv	<1% (from 0% to 100% linear load); <3% (full non-linear load according to IEC/EN62040-3)										
Voltage precision	± 1%										
Transient response	± 5% in 10 msec										
Inverter overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute										
Frequency stability	50/60Hz ±0.05%										
Crest factor	3:1										
BATTERIES											
Battery type	Pb sealed acid, Wet, Ni-Cd										
Ripple	< 1%										
Typical charging current	0,1 x C10										
Number of batteries	Standard: 32 batteries 12V Selectable: 31-33 batteries 12V							Standard: 33 batteries 12V Selectable: 32-34 batteries 12V			
Batteries arrangement	Internal and/or external			External							
SYSTEM											
Efficiency - Normal operation	90.5%		91%	92%				93%		93.5%	
Efficiency - Eco Mode operation	98%										
Efficiency - Battery operation	94%							95%			
Display	LED + LCD										
Protection degree	IP20										
Interface	Standard equipment: double RS232 port with monitoring software CD, dry contacts, 2 interface intellislots Optional: SNMP, JBUS/ModBUS converter RS485 port, ProfiBUS converter, Multilicence										
ENVIRONMENT											
Operating temperature	0 ~ 40°C										
Storage temperature	-25 ~ 60°C										
Relative humidity	0 ~ 95% (no condensing)										
Noise (dBA)	<54dB		<60dB		<62dB			63 ~ 68dB			
Altitude	<1000m; load derated 1% per 100m, from 1000 ~ 4000m										
MECHANICAL DATA											
Cabinet dimensions W*D*H (mm)	555*740*1400					800*740*1400		800*800*1900			
Cabinet weight (Kg)	210	220	230	280	330	450	600	640	650	770	810
Color	RAL 7016, dark grey										
Compliance	European directive: 2014/35/EU Low voltage directive; and 2014/30/EU Electromagnetic compatibility directive • Security: EN62040-1 • EMC: EN62040-2 • Performance: EN62040-3 (Voltage Frequency Independent) VFI - SS - 111										

(B) Also available with internal batteries
* Also available with input filter for lower current distorsion (TPF version)

Note: technical specifications and data could be changed without notification

Technical specifications Libra Pro IGBT

Model	LB100IGBT	LB120IGBT	LB160IGBT	LB200IGBT	LB250IGBT	LB300IGBT	LB400IGBT	LB500IGBT	LB600IGBT
Nominal power	100	120	160	200	250	300	400	500	600
Active power	90	108	144	180	225	270	360	450	540
MAIN INPUT									
Grid system	3 Phases + Ground								
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz								
Voltage range	360~480 VAC (100% load) 240~360 VAC (65% load)								
Power factor	>0.99								
Current THDi	<3%								
Power walk-in	0 ÷ 100% in 30 sec. (selectable)								
Standard features	Back Feed protection and splitted bypass line								
BYPASS INPUT									
Grid system	3 Phases + Neutral + Ground								
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz								
Voltage range	Default: -20% ~ +20% Selectable: -5% ~ +25%								
Frequency range	± 2% (selectable from 1% to 6%)								
Bypass overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute								
OUTPUT									
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz								
Power factor	0.9								
Voltage THDv	<1% (from 0% to 100% linear load); <3% (full non-linear load according to IEC/EN62040-3)								
Voltage precision	± 1%								
Transient response	± 5% in 10 msec								
Inverter overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute								
Frequency stability	50/60Hz ±0.05%								
Crest factor	3:1								
BATTERIES									
Battery type	Pb sealed acid, Wet, Ni-Cd								
Ripple	< 1%								
Typical charging current	0,1 x C10								
Number of batteries	Standard: 40 batteries 12V Selectable: 37-43 batteries 12V								
Batteries arrangement	External								
SYSTEM									
Efficiency - Normal operation	93.5%		94%					94.3%	
Efficiency - Eco Mode operation	98%								
Efficiency - Battery operation	94%								
Display	LED + LCD								
Protection degree	IP20								
Interface	Standard equipment: double RS232 port with monitoring software CD, dry contacts, 2 interface intellislots Optional: SNMP, JBUS/ModBUS converter RS485 port, ProfiBUS converter, Multilicence								
ENVIRONMENT									
Operating temperature	0 ~ 40°C								
Storage temperature	-25 ~ 60°C								
Relative humidity	0 ~ 95% (no condensing)								
Noise (dBA)	63 ~ 68dB				70 ~ 72dB				
Altitude	<1000m; load derated 1% per 100m, from 1000 ~ 4000m-20 ~ 70°C								
MECHANICAL DATA									
Cabinet dimensions W*D*H (mm)	800*850*1900		1000*850*1900			1500*1000*1900		2100*1000*1900	
Cabinet weight (Kg)	730	785	865	990	1090	1550	1750	2525	2700
Color	RAL 7016, dark grey								
Compliance	European directive: 2014/35/EU Low voltage directive; and 2014/30/EU Electromagnetic compatibility directive • Security: EN62040-1 • EMC: EN62040-2 • Performance: EN62040-3 (Voltage Frequency Independent) VFI - SS - 111								

Note: technical specifications and data could be changed without notification

Technical specifications Libra Pro IGBT PF1

Model	LB100 IGBTPF1	LB120 IGBTPF1	LB160 IGBTPF1	LB200 IGBTPF1	LB250 IGBTPF1	LB300 IGBTPF1	LB0400 IGBTPF1	LB500 IGBTPF1	LB600 IGBTPF1	LB800 IGBTPF1
Nominal power	100	120	160	200	250	300	400	500	600	800
Active power	100	120	160	200	250	300	400	500	600	800
MAIN INPUT										
Grid system	3 Phases + Ground									
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz									
Voltage range	360~480 VAC (100% load) 240~360 VAC (65% load)									
Power factor	>0.99									
Current THDi	<3%									
Power walk-in	0 ÷ 100% in 30 sec. (selectable)									
Standard features	Back Feed protection and splitted bypass line									
BYPASS INPUT										
Grid system	3 Phases + Neutral + Ground									
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz									
Voltage range	Default: -20% ~ +20% Selectable: -5% ~ +25%									
Frequency range	± 2% (selectable from 1% to 6%)									
Bypass overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute									
OUTPUT										
Rated voltage / Frequency	380-400-415VAC (Phase-Phase), 50/60Hz									
Power factor	1									
Voltage THDv	<1% (from 0% to 100% linear load); <3% (full non-linear load according to IEC/EN62040-3)									
Voltage precision	± 1%									
Transient response	± 5% in 10 msec									
Inverter overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute									
Frequency stability	50/60Hz ±0.05%									
Crest factor	3:1									
BATTERIES										
Battery type	Pb sealed acid, Wet, Ni-Cd									
Ripple	≈0									
Typical charging current	0,1 x C10									
Number of batteries	Standard: 40 batteries 12V Selectable: 37-43 batteries 12V									
Batteries arrangement	External									
SYSTEM										
Efficiency - Normal operation	>95%									
Efficiency - Eco Mode operation	99%									
Efficiency - Battery operation	95%									
Display	LED + LCD									
Protection degree	IP20 standard (higher IP level available upon request)									
Interface	Standard equipment: double RS232 port with monitoring software CD, dry contacts, 2 interface intellislots Optional: SNMP, JBUS/ModBUS converter RS485 port, ProfiBUS converter, Multilicence									
ENVIRONMENT										
Operating temperature	0 ~ 40°C									
Storage temperature	-25 ~ 60°C									
Relative humidity	0 ~ 95% (no condensing)									
Noise (dBA)	<65dB		<68dB			<72dB				
Altitude	<1000m; load derated 1% per 100m, from 1000 ~ 4000m									
MECHANICAL DATA										
Cabinet dimensions W*D*H (mm)	800*850*1900		1000*850*1900			1500*1000*1900		2100*1000*1900		3200*1000*1900
Cabinet weight (Kg)	890	900	975	1100	1300	1520	1670	2500	2830	3950
Color	RAL 7016, dark grey									
Compliance	European directive: 2014/35/EU Low voltage directive; and 2014/30/EU Electromagnetic compatibility directive • Security: EN62040-1 • EMC: EN62040-2 • Performance: EN62040-3 (Voltage Frequency Independent) VFI - SS - 111									

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G-Tec Service

G-Tec supports its customers throughout the whole product life cycle, providing technical assistance and after-sales service at the highest professional standards.

MAINTENANCE is an essential activity in order to guarantee a safe and stable load protection. G-Tec shows maximum care about this topic, providing the best service in terms of experience, instrumentation and safety level.

Through the dedicated **CALL CENTER**, customers receive prompt answers to any request, and the specialized technicians directly schedule maintenance activities.

The partnership between G-Tec and its customers gets consolidated through the **TRAINING SESSIONS** proposal for technical staff, so that each user can operate on the UPSs with maximum consciousness and safety.

Also, in the G-Tec Service offers, a **PROJECT CONSULTING** team is available, in order to provide the best solution according to the designer's needs.

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