

10-100 kVA threephase/singlephase 10-800 kVA threephase/threephase



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







**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.

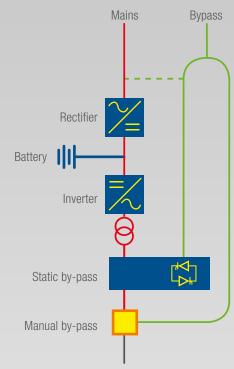
**Standard Libra Pro version** is designed with thyristor's rectifier 6 Pulse to improve the input current distortion performance (up to 200 kVA).

**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

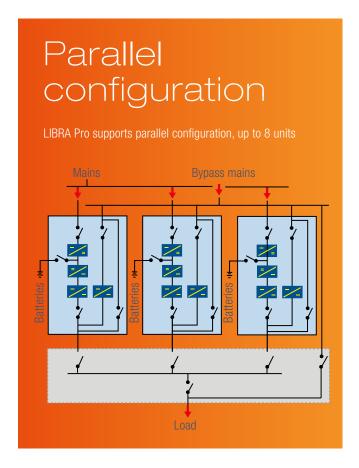
The wiring and all the electronic components are easily accessible from the front side. This allows to reduce the MTTR (Mean Time To Repair), that typically becomes less than 30 minutes.

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



# 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

# POWER SUPPLY LINK RS232 SNMP SHUTDOWN WEB PAGE Windows Workstation WEB PAGE Server 2

Technical specifications

Model	LB010MP <sup>(B)</sup>	LB015MP <sup>(B)</sup>	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 Phase	s + Ground							
Rated voltage / Frequency					Phase-Phase), 50/60	H7						
Voltage range					480 VAC							
Power factor					 0.9							
Current THDi				25% (5% for MPF v	ersion with input filte	:r*)						
Power walk-in				0 ÷ 100% in 3	0 sec (selectable)	,						
Standard features			Bi	ack Feed protection	and splitted bypass	line						
BYPASS INPUT												
Grid system				1 Phase + No	eutral + Ground							
Rated voltage / Frequency						 )H7						
		220/230/240VAC (Phase-Neutral), 50/60Hz  Default: -20% ~ +20%										
Voltage range					-5% ~ +25%							
Frequency range				± 2% (selectab	le from 1% to 6%)							
					30 minutes							
Bypass overload					10 minutes 1 minute							
OUTPUT				13070,	Tillilato							
				000 1000 10 401 14 0 15	N 1 1 1 50/0/							
Rated voltage / Frequency			2		hase-Neutral), 50/60	JHZ						
Power factor					0.9							
Voltage THDv			<3% (1		o 100% linear load); according to IEC/EN6	(2040-3)						
Voltage precision					1%							
Transient response				± 5% ir	n 10 msec							
				110%, 6	30 minutes							
Inverter overload		125%, 10 minutes										
5					1 minute							
Frequency stability					tz ±0.05%							
Crest factor				,	3:1							
BATTERIES												
Battery type					cid, Wet, Ni-Cd							
Ripple					1%							
Typical charging current					x C10							
Number of batteries				andard: 32 batteries i ctable: 31-33 batterie				Standard 33/12' Select. 32-34/12				
Batteries arrangement	Ir	nternal and/or extern		Clabic. 51-55 batteric	33 1ZV	External		301001. 32-34/12				
SYSTEM		itorriar array or oxtorr				Exterrial						
Efficiency - Normal operation			0′	2%				2.5%				
			92		18%		] 9	12.0%				
Efficiency - Eco Mode operation  Efficiency - Battery operation					15%							
					+ LCD							
Display  Protection degree					P20							
Protection degree		Standard o	quipment: double RS			Irv contacts 2 interf						
Interface			ptional: SNMP, JBUS/									
ENVIRONMENT												
Operating temperature				0 ~	40°C							
Storage temperature					~ 60°C							
Relative humidity					o condensing)							
Noise (dBA)	-5.	4dB		0 00 70 (11	<62dB			<63dB				
Altitude			<1000m	: load derated 1% n	er 100m, from 1000	) ~ 4000m		10000				
MECHANICAL DATA			17000111	, 111 10 ατοιστίο γ								
			555*740*1400			000*7	10*1400	800*800*1900				
Cabinet dimensions W*D*H (mm)	200	220	555*740*1400	290	340	440	40*1400 520	650				
Cabinet weight (Kg)	200		230		6, dark grey	440	] 320	000				
Color	European direct	ive: 2017/25/ELLL	ow voltage directive			mnatibility directive						
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

<sup>(</sup>B) Also available with internal batteries
\* Also available with input filter for lower current distorsion (MPF version)

# Technical specifications

Model	LB010TP <sup>(B)</sup>	LB015TP <sup>(B)</sup>	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 + Grou	nd					
Rated voltage / Frequency					380/400/415	VAC (Phase-Ph	ase), 50/60Hz					
Voltage range						300~480 VAC						
Power factor						0.9						
Current THDi			25% (5% for	TPF version wit	th input filter*)			30%	(5% for TPF vei	rsion with input	filter*)	
Power walk-in					0 ÷ 100	% in 30 sec. (se	electable)					
Standard features					Back Feed pro	tection and split	ted bypass line	)				
BYPASS INPUT												
Grid system					3 Phas	es + Neutral +	Ground					
Rated voltage / Frequency		380-400-415VAC (Phase-Phase), 50/60Hz										
Voltage range		Default: -20% ~ +20% Selectable: -5% ~ +25%										
Frequency range					± 2% (se	electable from 1	% to 6%)					
Bypass overload					1	10%, 60 minute 25%, 10 minute 150%, 1 minute	es					
OUTPUT												
Rated voltage / Frequency					380-400-418	VAC (Phase-Ph	ase), 50/60Hz					
Power factor					-10/ /fran	0.9 1 0% to 100% l	inaar laad\.					
Voltage THDv				<3%		r load according	, ,	40-3)				
Voltage precision						± 1%						
Transient response						± 5% in 10 mse						
Inverter overload					1	10%, 60 minuto 25%, 10 minuto 150%, 1 minuto	es e					
Frequency stability						50/60Hz ±0.05	%					
Crest factor						3:1						
BATTERIES												
Battery type					Pb se	ealed acid, Wet,	Ni-Cd					
Ripple						< 1%						
Typical charging current						0,1 x C10						
Number of batteries				lard: 32 batterie ble: 31-33 batte						batteries 12V 34 batteries 12V		
Batteries arrangement	Inte	rnal and/or exte	ernal				Ext	ernal				
SYSTEM												
Efficiency - Normal operation	90	.5%	91%		9:	2%		9:	3%	93.	5%	
Efficiency - Eco Mode operation						98%						
Efficiency - Battery operation				94%					98	5%		
Display						LED + LCD						
Protection degree						IP20						
Interface								contacts, 2 inter onverter, Multilio				
ENVIRONMENT												
Operating temperature						0 ~ 40°C						
Storage temperature						-25 ~ 60°C						
Relative humidity					0 ~	95% (no conder	nsing)					
Noise (dBA)	<5	4dB	<6	OdB		<62dB			63 ~	68dB		
Altitude				<1000	m; load derate	d 1% per 100m	, from 1000 ~	4000m				
MECHANICAL DATA												
Cabinet dimensions W*D*H (mm)			555*740*1400			800*74	0*1400		800*80	00*1900		
Cabinet weight (Kg)	210	220	230	280	330	450	600	640	650	770	810	
Color			'		RA	L 7016, dark g	rey	1	1	1	1	
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

<sup>(</sup>B) Also available with internal batteries
\* Also available with input filter for lower current distorsion (TPF version)

# Technical specifications Libra Pro IGBT

Model	LB100IGBT	LB120IGBT	LB160IGBT	LB200IGBT	LB250IGBT	LB300IGBT	LB400IGBT	LB500IGBT	LB600IGB			
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 + Groun	d						
Rated voltage / Frequency					15VAC (Phase-Pha							
					~480 VAC (100%							
Voltage range					0~360 VAC (65%							
Power factor					>0.99							
Current THDi					<3%							
Power walk-in				0 ÷ 10	0% in 30 sec. (se	ectable)						
Standard features				Back Feed p	rotection and splitt	ed bypass line						
BYPASS INPUT												
Grid system				3 Pha	ases + Neutral + (	Ground						
Rated voltage / Frequency				380/400/4	I 5VAC (Phase-Pha	se), 50/60Hz						
Voltage range				De	efault: -20% ~ +2	0%						
					ectable: -5% ~ +							
Frequency range					selectable from 19							
Dunaga guarland					110%, 60 minute							
Bypass overload	125%, 10 minutes 150%, 1 minute											
OUTPUT					10070, 1 1111111110							
	I			000/400/4	LELIA O (DL	. 50/0011						
Rated voltage / Frequency				380/400/4	15VAC (Phase-Pha	se), 50/60Hz						
Power factor				407.75	0.9	1 0						
Voltage THDv					om 0% to 100% lire ar load according		3)					
Voltage precision				< 5 /0 (Iuli 11011-11116	± 1%	to ILO/LINO2040-	3)					
Transient response					± 5% in 10 msec	<u> </u>						
Halisietit response					110%, 60 minute							
Inverter overload	125%, 10 minutes											
	150%, 1 minute											
Frequency stability					50/60Hz ±0.05%	6						
Crest factor					3:1							
BATTERIES												
Battery type				Pb	sealed acid, Wet, N	li-Cd						
Ripple					< 1%							
Typical charging current					0,1 x C10							
Number of batteries					ndard: 40 batteries							
				Selec	table: 37-43 batteri	es 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		Standar			ith monitoring soft			ntellislots				
			Optional: SNMP	, JBUS/ModBUS c	onverter RS485 pc	rt, ProfiBUS conve	erter, 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	n; load derated 1%	per 100m, from	1000 ~ 4000m-2	0 ~ 70°C					
MECHANICAL DATA												
Cabinet dimensions W*D*H (mm)	800*85	60*1900		1000*850*1900		1500*10	000*1900	2100*10	000*1900			
Cabinet weight (Kg)	730	785	865	990	1090	1550	1750	2525	2700			
Color	RAL 7016, dark grey											
Compliance	Security: EN	European directive: 2014/35/EU Low voltage directive; and 2014/30/EU Electromagnetic compatibility directive  • Security: EN62040-1										
оотпришиное	EMC: EN62     Performance		oltage Frequency	/ Independent) VF	- SS - 111							

# 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	100 120 160 200 250 300 400 500 600 80										
MAIN INPUT												
Grid system					3 Phase	s + Ground						
Rated voltage / Frequency				38	0/400/415VAC (F		1/60Hz					
Voltage range					360~480 V	AC (100% load) 'AC (65% load)	, 00112					
Power factor						0.99						
Current THDi						<3%						
Power walk-in						0 sec. (selectable	2)					
Standard features				Bac	k Feed protection	· · · · · · · · · · · · · · · · · · ·	-					
BYPASS INPUT				540	Tri ood protootion	and opinion byp						
					2 Dhagan I N	loutral - Ground						
Grid system  Pated voltage / Fraguency		3 Phases + Neutral + Ground 380/400/415/AC (Phase Phase) 50/60Hz										
Rated voltage / Frequency		380/400/415VAC (Phase-Phase), 50/60Hz  Default: -20% ~ +20%										
Voltage range						-5% ~ +25%						
Frequency range					± 2% (selectab	le from 1% to 6%	6)					
					110%,	30 minutes						
Bypass overload						10 minutes 1 minute						
OUTPUT												
Rated voltage / Frequency				38	0-400-415VAC (I	Phase-Phase), 50	)/60Hz					
Power factor						1						
Voltage THDv				<3% (ful	<1% (from 0% to							
Voltage precision					±	: 1%						
Transient response					± 5% i	n 10 msec						
Inverter overload					125%,	60 minutes 10 minutes 1 minute						
Frequency stability					50/60	Hz ±0.05%						
Crest factor						3:1						
BATTERIES												
Battery type					Pb sealed a	cid, Wet, Ni-Cd						
Ripple						≈0						
Typical charging current					0,1	x C10						
Number of batteries						0 batteries 12V -43 batteries 12V						
Batteries arrangement					Ex	ternal						
SYSTEM												
Efficiency - Normal operation					>	95%						
Efficiency - Eco Mode operation					ę	99%						
Efficiency - Battery operation					Ç	95%						
Display					LED	+ LCD						
Protection degree					ndard (higher IP							
Interface			Standard equipn Optiona	nent: double RS23 al: SNMP, JBUS/W	32 port with moni lodBUS converter	toring software C RS485 port, Prof	D, dry contacts, 2 fiBUS converter, N	2 interface intellis Aultilicence	lots			
ENVIRONMENT												
Operating temperature					0 ~	- 40°C						
Storage temperature					-25	~ 60°C						
Relative humidity		0 ~ 95% (no condensing)										
Noise (dBA)	<65dB <68dB <72dB											
Altitude				<1000m; I	oad derated 1% p	er 100m, from 1	000 ~ 4000m					
MECHANICAL DATA												
Cabinet dimensions W*D*H (mm)	800*8	50*1900		1000*850*1900		1500*10	000*1900	2100*1	000*1900	3200*1000*1900		
Cabinet weight (Kg)	890	900	975	1100	1300	1520	1670	2500	2830	3950		
Color	000		1 0,0	1100			1070			1 0000		
Compliance	RAL 7016, dark grey  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											

# 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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