

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.

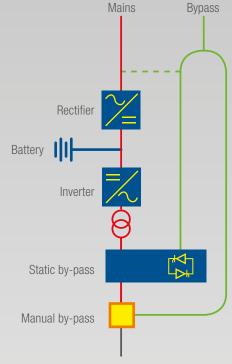
**Standard Libra Pro version** is designed with thyristor's rectifier 6 Pulse to improve the input current distortion performance (up to 200 kVA).

**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

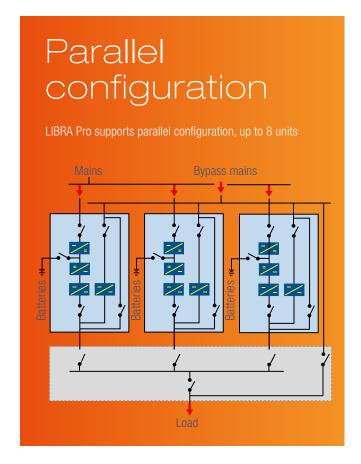
The wiring and all the electronic components are easily accessible from the front side. This allows to reduce the MTTR (Mean Time To Repair), that typically becomes less than 30 minutes.

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 LINIX

# POWER SUPPLY POWER SUPPLY SHUTDOWN SNMP TRAP WEB PAGE Windows Workstation Server 2

# Technical specifications

Model	LB010MP(B)	LB015MP(B)	LB020MP <sup>(B)</sup>	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	Hz						
Voltage range				300~	480 VAC							
Power factor					0.9							
Current THDi					ersion with input filte	r*)						
Power walk-in					0 sec (selectable)	,						
Standard features			В	ack Feed protection	and splitted bypass	line						
BYPASS INPUT												
Grid system				1 Phase + N	eutral + Ground							
Rated voltage / Frequency	220/230/240VAC (Phase-Neutral), 50/60Hz											
		Default: -20% ~ +20%										
Voltage range		Selectable: -5% ~ +25%										
Frequency range					le from 1% to 6%)							
D					30 minutes							
Bypass overload					10 minutes 1 minute							
OUTPUT				150 /0,	i illillute							
				000/000/040\/AC	bass Nautral\ FO/C(	). I =						
Rated voltage / Frequency			- 2		hase-Neutral), 50/60	JHZ						
Power factor					0.9 o 100% linear load):							
Voltage THDv			<3% (			(2040-3)						
Voltage precision		<3% (full non-linear load according to IEC/EN62040-3) ± 1%										
Transient response					n 10 msec							
'					30 minutes							
Inverter overload	125%, 10 minutes											
					1 minute							
Frequency stability					Hz ±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 ctable: 31-33 batterie				Standard 33/12 Select. 32-34/12				
Batteries arrangement	lr lr	nternal and/or exteri		Liable. 31-33 batterie	5 121	External		361661. 32-34/12				
SYSTEM	"	normal array or oxtori	iidi			Extornal						
			0.0	20/				O E0/				
Efficiency - Normal operation			97	2%	100/		9	2.5%				
Efficiency - Eco Mode operation  Efficiency - Battery operation					)8% )5%							
Display					+ LCD							
Protection degree					P20							
-		Standard e	quipment: double RS			Irv contacts 2 interf	ace intellislots					
Interface		0	ptional: SNMP, JBUS	/ModBUS converter	RS485 port, ProfiBU	S converter, Multilice	ence					
ENVIRONMENT												
Operating temperature				0 ~	40°C							
Storage temperature					~ 60°C							
Relative humidity												
Noise (dBA)	0 ~ 95% (no condensing) <54dB <63dB <63dB											
Altitude			<1000m	; load derated 1% r	er 100m, from 1000	) ~ 4000m		10000				
MECHANICAL DATA				,	., 5 1500							
			555*740*1400			200*7	40*1400	800*800*190				
Cabinet dimensions W*D*H (mm)	200	220	1	290	340							
Cabinet weight (Kg)	200 220 230 290 340 440 520 650 RAL 7016, dark grey											
Color	European direct	ivo: 2014/25/FILL	ow voltage directive			mnatibility disactive						
	Security: EN6		ow voltage directive	, anu 2014/30/EU	Electromagnetic co	IIIpatibility directive	3					
Compliance	,											
	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(B)	LB015TP(B)	LB020TP(B)	LB030TP	LB040TP	LB060TP	LB080TP	LB100TP	LB120TP	LB160TP	LB200TF	
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					380/400/418	5VAC (Phase-Ph	ase), 50/60Hz					
Voltage range						300~480 VAC						
Power factor						0.9						
Current THDi			25% (5% for	TPF version wi	th input filter*)			30%	(5% for TPF ve	rsion with input	filter*)	
Power walk-in					0 ÷ 100	% in 30 sec. (se	electable)					
Standard features					Back Feed pro	tection and split	tted bypass line	,				
BYPASS INPUT												
Grid system					3 Phas	ses + Neutral +	Ground					
Rated voltage / Frequency					380-400-41	5VAC (Phase-Ph	ase), 50/60Hz					
Voltage range					Def	ault: -20% ~ +	20%					
		Selectable: -5% ~ +25%  ± 2% (selectable from 1% to 6%)										
Frequency range												
Bypass overload		110%, 60 minutes 125%, 10 minutes 150%, 1 minute										
OUTPUT												
Rated voltage / Frequency					380-400-41	5VAC (Phase-Ph	ase), 50/60Hz					
Power factor					40/ /6	0.9						
Voltage THDv				-30		n 0% to 100% I r load according	, ,	40-3)				
Voltage precision					o (raii riori iirioo	± 1%	j to 120/211020	10 0)				
Transient response						± 5% in 10 mse	9C					
Transione rooponoo						10%, 60 minute						
Inverter overload					1	25%, 10 minute 150%, 1 minute	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				dard: 32 batterie						batteries 12V		
	lt-			ible: 31-33 batte	ries 12V		F. 4		Selectable: 32-	34 batteries 12V		
Batteries arrangement	Inte	ernal and/or exte	ernai				EXT	ernal				
SYSTEM												
Efficiency - Normal operation	90	).5%	91%		9:	2%		90	3%	93.	.5%	
Efficiency - Eco Mode operation						98%						
Efficiency - Battery operation				94%		150 100			9	5%		
Display						LED + LCD						
Protection degree			Ctondord on	innont double	DC000 nort with	IP20	tuero CD drive	antanta O intar	foos intelligiate			
Interface			Standard equi	ipment: double onal: SNMP, JBI	HSZ3Z POTEWIU JS/ModBUS coi	n monitoring sof nverter RS485 p	ort, ProfiBUS c	ontacts, 2 inter onverter, Multilio	cence			
ENVIRONMENT												
Operating temperature						0 ~ 40°C						
Storage temperature						-25 ~ 60°C						
Relative humidity					0 ~	95% (no conder	nsina)					
Noise (dBA)	<5	54dB	<6	OdB		<62dB	101119)		63 ~	68dB		
Altitude					)m; load derate	d 1% per 100m	, from 1000 ~	4000m				
MECHANICAL DATA					, 30100		,					
Cabinet dimensions W*D*H (mm)			555*740*1400	)		200*74	0*1400		200*00	00*1900		
Cabinet weight (Kg)	210	220	230	280	330	450	600	640	650	770	810	
	210	220	230	200		450 AL 7016, dark g		040	000	170	010	
Compliance	<ul><li>Security:</li><li>EMC: EN</li></ul>	directive: 2014/ EN62040-1 62040-2 ance: EN62040			and 2014/30/	EU Electromagr		ility directive				

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 + Ground											
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz											
Voltage range					~480 VAC (100%) ~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	otection and splitt	ed bypass line						
BYPASS INPUT												
Grid system				3 Pha	ases + Neutral + (	Ground						
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz											
Voltage range		Default: -20% ~ +25%										
Frequency range				± 2% (	selectable from 19	% to 6%)						
Bypass overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute											
OUTPUT												
Rated voltage / Frequency				380/400/4	5VAC (Phase-Pha	se), 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%	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 table: 37-43 batteri							
Batteries arrangement					External							
SYSTEM												
Efficiency - Normal operation	93.	93.5% 94% 94.3%										
Efficiency - Eco Mode operation					98%							
Efficiency - Battery operation					94%							
Display					LED + LCD							
Protection degree		01 1	1 2 1 1	11 00000	IP20	00 1 1	. 0'. 1 ( '					
Interface		Standai	rd equipment: dou Optional: SNMP		th monitoring soft onverter RS485 po			ntellisiots				
ENVIRONMENT												
Operating temperature					0 ~ 40°C							
Storage temperature	-25 ~ 60°C											
Relative humidity		0 ~ 95% (no condensing)										
Noise (dBA)		63 ~	68dB				70 ~ 72dB					
Altitude			<1000n	n; load derated 1%	per 100m, from	1000 ~ 4000m-2	0 ~ 70°C					
MECHANICAL DATA												
Cabinet dimensions W*D*H (mm)	800*85	50*1900		1000*850*1900		1500*10	00*1900	2100*10	000*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											

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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 Phase	s + Ground							
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz												
Voltage range					360~480 V	AC (100% load) /AC (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					2 Dhacae i N	Joutral L Ground							
Rated voltage / Frequency		3 Phases + Neutral + Ground 380/400/415VAC (Phase-Phase), 50/60Hz											
						20% ~ +20%	700112						
Voltage range						-5% ~ +25%							
Frequency range					± 2% (selectab	ole from 1% to 6%	(a)						
						60 minutes							
Bypass overload						10 minutes							
					150%	, 1 minute							
OUTPUT													
Rated voltage / Frequency				38	0-400-415VAC (	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											
	110%, 60 minutes												
Inverter overload	125%, 10 minutes												
For any or a state title .		150%, 1 minute 50/60Hz ±0.05%											
Frequency stability  Crest factor						3:1							
						0.1							
BATTERIES					6								
Battery type					Pb sealed a	cid, Wet, Ni-Cd							
Ripple					0.4	≈0 x C10							
Typical charging current					- ,	0 batteries 12V							
Number of batteries						'-43 batteries 12V							
Batteries arrangement						ternal							
SYSTEM													
Efficiency - Normal operation						95%							
Efficiency - Eco Mode operation						99%							
Efficiency - Battery operation						95%							
Display						) + LCD							
Protection degree				IP20 sta			oon request)						
Interface		IP20 standard (higher IP level available upon request)  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			Uptiona	ai. Sivivip, JBUS/N	noubus converter	no480 port, Prot	idus converter, N	тинненсе					
Operating temperature					Λ.	- 40°C							
Storage temperature						~ 60°C							
Relative humidity						no condensing)							
Noise (dBA)	<65dB <68dB <72dB												
Altitude			1		oad derated 1% i	oer 100m, from 1	000 ~ 4000m	00					
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			
	890		975		1300	1520				3950			
Cabinet weight (Kg)	890 900 975 1100 1300 1520 1670 2500 2830 3950 RAL 7016, dark grey												
Color	Furancan dir	activa 2014/25	/FILL ow voltage	directive and a			natihility directiv	Δ					
Compliance	Security: E     EMC: EN62	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											

Technical specifications Libra Pro IGBT PF1

### 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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