

### OVERVIEW

LIBRA PRO is the stand-alone Threephase UPS that suits high power, up to 800 kVA, with maximum sturdiness and reliability. The system, available in different configurations, all equipped with an inverter output isolation transformer, represents the ideal solution for protecting the most critical loads.

### **MAXIMUM RELIABILITY**

LIBRA PRO series is specifically designed for mission-critical loads and ensures the highest level of reliability available on the market.

The isolation transformer, the manual bypass, and a highly efficient ventilation system are just some of the features that make LIBRA PRO an exceptionally solid UPS, which can also be configured in parallel up to 8 units.

### SIMPLIFIED MAINTENANCE

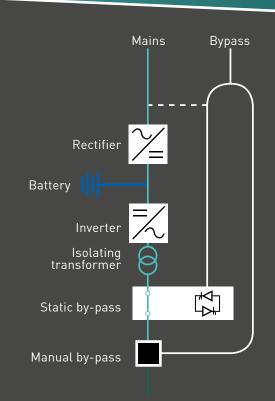
LIBRA PRO's architecture has been designed to make maintenance operations as simple as possible. Wiring and key electronic components are easily accessible from the front of the cabinet, ensuring extremely short intervention times.

At the same time, the system includes replaceable wear components, such as capacitors and fans, the latter being located on the top side and therefore accessible without needing to move the UPS (for power ratings  $\geq 100~\text{kVA}$ ).



## **TECHNOLOGY**

- Isolating transformer on the inverter
- Rectifier with IGBT technology (from 100 kVA)
- DSP (Digital Signal Processor) microprocessor control
- Intelligent battery charger system
- Manual bypass
- EPO (Emergency Power Off) system
- Walk-In mode (gradual absorption of the input current when the mains power returns)



## **PRODUCT RANGE**

#### LIBRA PRO 10-800 KVA

One of the strengths of LIBRA PRO is the wide range of options and accessories available, which allow for numerous different configurations and architectures.

The UPS is available in 3:1 mode for power ratings from 10 to 100 kVA, and in 3:3 mode for all power ratings up to 800 kVA. It is also possible to choose between versions with IGBT or SCR (Silicon Controlled Rectifier) rectifiers, as well as between Power Factor 1 or 0.9.



LB010MP, LB015MP, LB020MP, LB030MP, LB040MP.

LB010TP, LB015TP, LB020TP, LB030TP, LB040TP



LB060MP, LB080MP, LB060TP, LB080TP



LB100MP, LB100TP, LB120TP, LB160TP, LB200TP



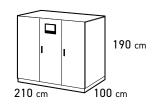
LB100IGBT, LB120IGBT, LB100IGBTPF1, LB120IGBTPF1



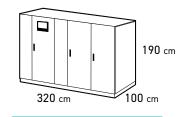
LB160IGBT, LB200IGBT, LB250IGBT, LB160IGBTPF1, LB200IGBTPF1, LB250IGBTPF1



LB300IGBT, LB400IGBT, LB300IGBTPF1, LB400IGBTPF1



LB500IGBT, LB600IGBT, LB500IGBTPF1, LB600IGBTPF1



LB800IGBTPF1

# COMMUNICATION

LIBRA PRO features a complete communication system. The multilingual display allows to view and set the main operating parameters, as well as select the various operating modes available:

- Normal Mode
- Parallel Configuration
- Eco Mode
- Smart Active
- Automatic Voltage Stabilizer
- Frequency Converter

The UPS is also equipped with a dual RS232 serial port and two slots for optional cards (SNMP network adapter, relay card and optional JBUS/ModBUS and ProfiBUS interface).



MODEL	LB010MP*	LB015MP*	LB020MP*	LB030MP	LB040MP	LB060MP	LB080MP	LB100MP			
Nominal Power	10 kVA / 9 kW	15 kVA / 13,5 kW	20 kVA / 18 kW	30 kVA / 27 kW	40 kVA / 36 kW	60 kVA / 54 kW	80 kVA / 72 kW	100 kVA / 90 kW			
MAIN INPUT											
Grid system	3PHS + PE										
Rated voltage / Frequency	380/400/415VAC (Phase-phase), 50/60Hz										
Voltage range	300~480 VAC										
Frequency range Power factor	45~65 Hz n q										
Current THDi	0.9 25% (5% in the version with MPF filter**)										
Power walk-in	0-100% from 0 to 120 seconds (selectable)										
Standard features	Back Feed protection and splitted bypass line										
BYPASS INPUT											
Grid system	1PH + N + PE										
Rated voltage / Frequency	220/230/240VAC (Phase-Neutral), 50/60Hz										
Voltage range					)% ~ +20% 5% ~ +25%						
Frequency range					e from 1% to 6%)						
Bypass overload				125%, 1	0 minutes 0 minutes 1 minute						
ОИТРИТ											
Grid system				1PH +	N + PE						
Rated voltage / Frequency			220/2		nase-Neutral), 50	/60Hz					
Power factor					).9						
Voltage THDv					100% linear lo ording to IEC/EI						
Voltage precision			1011) 07 01		1%						
Transient response				±	5%						
Transient recovery			20ms ac		lard EN 62040-	3, class 1					
Inverter overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute										
Frequency regulation from battery					± 0.05%						
Synchronized range					$\pm$ 6% from the						
Synchronized slew rate			1		ble from 0.1 to	3)					
Crest Factor				3	:1						
BATTERIES				DI.	: I M J N C						
Battery type Ripple					id, Wet, Ni-Cd 1%						
			Stan	dard: 32 batteries				Standard 33/12V			
Number of batteries in series				ble: 31-33 batte				Sel. 32-34/12V			
Nominal voltage				384Vdc	/ C10			396Vdc			
Typical charging current  Numero massimo e capacità delle batterie interne		2 x 32 12V / 9Ah		0,1 >	¢ C10						
Batteries arrangement		ernal and/or exter				External					
External battery capacity				Selec	ctable						
SYSTEM											
Efficiency - Normal operation			92	1%			92	.5%			
Efficiency - Eco Mode operation				98	3%						
Efficiency - Battery operation					5%						
Display					+ LCD						
Protection degree	C+	andard oquipme	at: double Besse		20 vring software CD	dry contacte 2	interface intellig	nte			
Interface	Si	anuaru equipmei Optional:	SNMP, JBUS/Mod	dBUS converter F	RS485 port, Profil	, dry contacts, 2 i BUS converter, Mu	ıltilicence	JIS .			
ENVIRONMENT											
Operating temperature					40°C						
Storage temperature	-25 ~ 60°C 0 ~ 95% (no condensing)										
Relative humidity  Noise (dBA at 1 meter far)	< 54 < 62 < 63										
Altitude		<i>y</i>	<1000m; loa	ad derated 1% pe	<ul><li>&lt; 02</li><li>er 100m, from 100</li></ul>	00 ~ 4000m		- νω			
MECHANICAL DATA											
Dimensions W*D*H (mm)			555*740*1400			800*74	0*1400	800*800*1900			
Weight (Kg)	200	220	230	290	340	440	520	650			
Colour	<ul><li>Security: El</li><li>EMC: EN62</li></ul>	N62040-1 1040-2	U Low voltage dir	ective; and 2014		gnetic compatibili	ty directive				

MODEL	LB010TP*	LB015TP*	LB020TP*	LB030TP	LB040TP	LB060TP	LB080TP	LB100TP	LB120TP	LB160TP	LB200TP		
Nominal Power	10 kVA / 9 kW	15 kVA / 13,5 kW	20 kVA / 18 kW	30 kVA / 27 kW	40 kVA / 36 kW	60 kVA / 54 kW	80 kVA / 72 kW	100 kVA / 90 kW	120 kVA / 108 kW	160 kVA / 144 kW	200 kVA / 180 kW		
MAIN INPUT	J KW	10,5 KW	TORW	ZIKW	JO KW	34 KW	7 Z KVV	30 KW	TOO KW	144 KW	100 KW		
Grid system						3PHS + PE							
Rated voltage / Frequency	380/400/415VAC (Phase-phase), 50/60Hz												
Voltage range		300~480 VAC											
Frequency range	45~65 Hz												
Power factor	0.9												
Current THDi	25% (5% in the version with TPF filter**)  0-100% from 0 to 120 seconds (selectable)												
Power walk-in													
Standard features				Back	Feed protec	ction and sp	olitted bypas	s line					
BYPASS INPUT													
Grid system	3PHS + N + PE												
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz Default: -20% ~ +20%												
Voltage range						table: -5% ~							
Frequency range						ectable from							
Bypass overload					12	0%, 60 minı 5%, 10 minı 50%, 1 minı	utes						
оитрит													
Grid system					3	PHS + N + F	PF						
Rated voltage / Frequency				380			Phase), 50/6	i0Hz					
Power factor						0.9							
Voltage THDv	<1% (from 0% to 100% linear load);												
				<3% (nor	n-linear load		to IEC/EN	62040-3)					
Voltage precision						± 1%							
Transient response  Transient recovery	± 5%												
Inverter overload	20ms according to standard EN 62040-3, class 1 110%, 60 minutes 125%, 10 minutes 150%, 1 minute												
Frequency regulation from battery						60Hz ± 0.0							
Synchronized range				2% (adjusta	ble from ±	1% to ± 6%	6 from the c	ontrol pane	l)				
Synchronized slew rate					1 Hz/sec (se	electable fro	om 0.1 to 3)	)					
Crest Factor						3:1							
BATTERIES													
Battery type					Pb sea	led acid, We	t, Ni-Cd						
Ripple			011	1 00 5-44	401/	< 1%			01 1 1 00	h - H - 1 - 1 0 1			
Number of batteries in series				rd: 32 batteri le: 31-33 bat						batteries 12V 34 batteries 1			
Nominal voltage				384Vdc						Vdc			
Typical charging current						0,1 x C10							
Numero massimo e capacità delle batterie interne	2	x 32 12V / 9.	Ah										
Batteries arrangement	Interi	nal and/or ex	ternal					ernal					
External battery capacity						Selectable							
SYSTEM													
Efficiency - Normal operation	90.	.5%	91%		92			90	3%	93.	0%		
Efficiency - Eco Mode operation  Efficiency - Battery operation				94%		98%			OE	5%			
Display				94%		LED + LCD	1		95	0%			
Protection degree						IP20							
			equipment:			nonitoring s							
Interface			Optional: SN	MP, JBUS/M	odBUS conv	erter RS485	port, ProfiBl	JS converter,	, Multilicence				
ENVIRONMENT						0 4000							
Operating temperature	0 ~ 40°C												
Storage temperature  Relative humidity	-25 ~ 60°C 0 ~ 95% (no condensing)												
Noise (dBA at 1 meter far)	0 ~ 95% (no condensing) <54 <60 <62 63 ~ 68												
Altitude	< 1000m; load derated 1% per 100m, from 1000 ~ 4000m												
MECHANICAL DATA													
Dimensions W*D*H (mm)			555*740*140	0		800*74	10*1400		800*80	0*1900			
Weight (Kg)	210 220 230 280 330 450 600 640 650 770								810				
Colour						RAL 7016							
Compliance	Security     EMC: EN	: EN62040-1 162040-2	14/35/EU Lov 140-3 (Voltago					tic compatibi	ility directive				

MODEL	LB100IGBT	LB120IGBT	LB160IGBT	LB200IGBT	LB250IGBT	LB300IGBT	LB400IGBT	LB500IGBT	LB600IGBT			
Nominal Power	100 kVA / 90 kW	120 kVA / 108 kW	160 kVA / 144 kW	200 kVA / 180 kW	250 kVA / 225 kW	300 kVA / 270 kW	400 kVA / 360 kW	500 kVA / 450 kW	600 kVA / 540 kW			
MAIN INPUT												
Grid system	3PHS + PE											
Rated voltage / Frequency	380/400/415VAC (Phase-phase), 50/60Hz											
Voltage range	360~480 VAC (100% load)											
Frequency range	45~65 Hz >0.00											
Power factor					>0.99							
Current THDi  Power walk-in				D-100% da 0 a	<3%	(aalazianahila	Λ					
Standard features				ack Feed prote			,					
BYPASS INPUT			ن	ack rood prote	oction and spii	ttou bypass iii						
Grid system					3PHS + N + PE	:						
Rated voltage / Frequency	380/400/415VAC (Phase-Phase ), 50/60Hz											
Voltage range	Default: -20% ~ +20%											
	Selectable: -5% ~ +25% ± 2% (selectable from 1% to 6%)											
Frequency range					lectable from 1 10%, 60 minut							
Bypass overload				12	25%, 10 minut 150%, 1 minut	es						
OUTPUT												
Grid system					3PHS + N + PE							
Rated voltage / Frequency				380-400-415	VAC (Phase-Ph	nase), 50/60Hz						
Power factor					0.9							
Voltage THDv			-00/		0% to 100%		240.2)					
Voltage precision			<3%	(non-linear loa	± 1%	LO IEC/EN 620	J4U-3)					
Transient response					± 5%							
Transient recovery			20r	ns according to		62040-3, cla	ss 1					
					10%, 60 minut							
Inverter overload					25%, 10 minut 150%, 1 minut							
Frequency regulation from battery					0/60Hz ± 0.05							
Synchronized range			2% (adjı	ustable from ±	1% to ± 6%	from the contr	ol panel)					
Synchronized slew rate				1 Hz/sec (s	selectable fror	n 0.1 to 3)						
Crest Factor					3:1							
BATTERIES												
Battery type				Pb se	aled acid, Wet,	Ni-Cd						
Ripple				Stand	< 1% ard: 40 batterie	c 12V						
Number of batteries in series					ole: 37-43 batte							
Nominal voltage					480Vdc							
Typical charging current					0,1 x C10							
Batteries arrangement					External							
External battery capacity					Selectable							
SYSTEM												
Efficiency - Normal operation  Efficiency - Eco Mode operation	93.	5%			94%			94	.3%			
Efficiency - Battery operation					96%							
Display					LED + LCD							
Protection degree					IP20							
Interface				RS232 port with					3			
ENVIRONMENT						,						
Temperatura di funzionamento	0 ~ 40°C											
Storage temperature	-25 ~ 60°C											
Relative humidity	0 ~ 95% (no condensing)											
Noise (dBA at 1 meter far)	63~68 70 ~ 72 <1000m; load derated 1% per 100m, from 1000 ~ 4000m-20 ~ 70°C											
Altitude			<1000m; lo	au derated 1% p	Jer Tuum, Irom	1000 ~ 4000r	II-20 ~ 70°C′					
MECHANICAL DATA	00000	0*1000		1000*050*100		4500	000*1000	_04.00*	000*1000			
Dimensions W*D*H (mm)  Weight (Kg)	800*850*1900 1000*850*1900 1500*1000*1900 2100*1000*1900 730 785 865 990 1090 1550 1750 2525 2700											
Colour	730	700	000	990	RAL 7016	1000	1730	2020	2700			
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											
	Periormano	e. cino2040-3	(voitage Freque	ncy maepenaen	y vrr - 55 - 11							

MODEL	LB100	LB120	LB160	LB200	LB250	LB300	LB400	LB500	LB600	LB800		
	100 kVA /	120 kVA /	160 kVA /	IGBTPF1 200 kVA /	IGBTPF1 250 kVA /	IGBTPF1 300 kVA /	IGBTPF1 400 kVA /	IGBTPF1 500 kVA /	IGBTPF1 600 kVA /	IGBTPF1 800 kVA /		
Nominal Power	100 kW	120 kW	160 kW	200 kW	250 kW	300 kW	400 kW	500 kW	600 kW	800 kW		
MAIN INPUT												
Grid system	3PHS + PE											
Rated voltage / Frequency	380/400/415VAC (Phase-phase), 50/60Hz											
Voltage range	360~480 VAC (100% load) 240~360 VAC (65% load)											
Frequency range	45~65 Hz											
Power factor		>0.99 										
Current THDi Power walk-in	<3% 0 ÷ 100% in 30 seconds (selectable)											
Standard features	Back Feed protection and splitted bypass line											
BYPASS INPUT												
Grid system					3PHS +	- N + PE						
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz											
Voltage range						)% ~ +20% ·5% ~ +25%						
Frequency range				±	2% (selectable		6%)					
					110%, 6	0 minutes	,					
Bypass overload						0 minutes 1 minute						
оитрит												
Grid system					3PHS +	- N + PE						
Rated voltage / Frequency				380-40	0-415VAC (P	hase-Phase),	50/60Hz					
Power factor						1						
Voltage THDv			<		from 0% to ear load acc		r load); C/EN 62040-	3)				
Voltage precision				0 70 (11011 11110		1%	3/211 020 10	<u> </u>				
Transient response					±	5%						
Transient recovery				20ms accor			40-3, class 1					
Inverter overload						0 minutes 0 minutes						
					150%,	1 minute						
Frequency regulation from battery				/ !!		± 0.05%						
Synchronized range Synchronized slew rate			2%		rom ± 1% to /sec (selecta		the control pa	anel)				
Crest Factor						:1	10 3)					
BATTERIES												
Battery type					Pb sealed ac	id, Wet, Ni-Cd						
Ripple						:0						
Number of batteries in series				c	Standard: 40 Selectable: 37-4	batteries 12V	οV					
Nominal voltage						)Vdc	2.V					
Typical charging current					0,1 :	C10						
Batteries arrangement						ernal						
External battery capacity					Sele	ctable						
SYSTEM												
Efficiency - Normal operation						15%						
Efficiency - Eco Mode operation  Efficiency - Battery operation						9% 5%						
Display						+ LCD						
Protection degree				IP20 s	standard (ma	ggiore su ric	hiesta)					
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		······································	ilional. Sivivir,	, JDUS/IVIUUDU	JS CONVENIEN I	15465 puit, P	TOTIBOS COTIVE	rter, Murtilleel	ice			
Temperatura di funzionamento					0 ~	40°C						
Storage temperature					-25 ~	- 60°C						
Relative humidity	0 ~ 95% (no condensing)											
Noise (dBA at 1 meter far)	<65 <68 <72 <1000m; load derated 1% per 100m, from 1000 ~ 4000m											
Altitude			<	rooom; load (	Jeraied 1% pe	a Toom, from	1000 ~ 4000	111				
MECHANICAL DATA	-000*0	0*1000		1000*050*400	0	-1500***	200*1000	-0100**	000*1000	3200*1000		
Dimensions W*D*H (mm) Weight (Kg)	800°85 890	0*1900 900	975	1000*850*190 1100	1300	1500°10 1520	000*1900 1670	2500	2830	*1900 3950		
Colour	090	900	313	1100		7016	1070	2300	2030	3900		
Compliance	<ul><li>Security:</li><li>EMC: EN6</li></ul>	EN62040-1 62040-2		oltage directive	e; and 2014/3	0/EU Electrom	nagnetic compa	atibility directi	ve			



assistance and after-sales service at the highest professional standards, so to produce the best partnership experience.



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



The TECHNICAL SUPPORT service, delivered through the dedicated Help Desk platform, guarantees prompt answers to customers' requests and allows them to directly schedule maintenance activities.



The partnership between GTEC 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 GTEC Service offers, a PROJECT CONSULTING team is available, in order to provide the best solution according to the designer's needs.

### GTEC Europe srl Strada Marosticana, 81/13 36031 Dueville (VI), Italy Tel. +39 0444.361321

info@gtec-power.eu



