

BOPH series

1 Phase In/1 Phase Out High Frequency Online UPS



Capacity

1kVA ~ 10kVA

Feature

- Double conversion on-line, zero switching time
- DSP digital control technology to provide stable and reliable sine wave power supply
- Ultra-wide voltage input and frequency input range
- Adopt active power factor correction (PFC) technology to provide high input power factor.
- SNMP+USB+RS-232 multiple monitoring functions

Application

Offices, personal computers/IT equipment, automated security systems and other non-industrial premises data processing centres, mainframe systems, integrated computer networks, ISP service providers, telecommunications, computer rooms, etc.

Introduction

BOPH series 1 Phase in/1 Phase out high-frequency online UPS have perfect detection and protection functions; small size, light weight and high working efficiency. The humanised design of the monitoring software makes it convenient to achieve centralised monitoring and remote monitoring of the UPS. Adopting LED display or LCD display, users can intuitively understand the operation status of UPS.

Technical Specification

Model	BOPH1K(L)	BOPH2K(L)	BOPH3K(L)	BOPH6K(L)	BOPH10K(L)
Capacity (W)	900	1800	2700	5400	9000
Phase	1 Phase In/1 Phase Out				
Input					
Phase	1 Phase (L,N) +PE				
Input voltage range (V a.c)	Zero-fire phase voltage: 90~300				
Frequency range (Hz)	40 ~ 70				
Power factor	≥0.99				
Output					
Phase	1 Phase (L,N) +PE				
Voltage & regulation (V a.c)	208/220/230/240±1%				
Frequency range (Hz)	50/60±4 (Synchronized range)/ 50/60±0.1% (Batt. range)				
Waveform	Pure Sinewave				
Harmonic distortion (THDV%)	<2%@linear load/<7%@non-linear load			<2%@linear load/<6%@non-linear load	
Overload capability	1min@105%~125% rated load 10S@125%~150% rated load 0.5S@>150% rated load			10min@105%~125% rated load 1min@125%~150% rated load 0.5S@>150% rated load	
Efficiency					
AC mode	88%	89%	90%	93%	
Battery mode	86%	87%	88%	91%	
Battery (Standard model)					
Capacity (V/Ah)	12/7				
Numbers (pcs)	2	4	6	12	16
Charging current (Max.) (A)	Battery external: 1				
Battery (Long-run model)					
Capacity (V/Ah)	12/7				
Numbers (pcs)	Depending on the application				
Charging current (Max.) (A)	Battery external: 4				
Physical (Standard model)					
Dimension [W x D x H](mm)	145 x 220 x 318		190 x 318 x 368	190 x 360 x 528	190 x 470 x 534
Net weight (kg)	8.4	14	20.7	37	50.5
Physical (Long-run model)					
Dimension [W x D x H](mm)	145 x 220 x 318		190 x 318 x 368		190 x 340 x 528
Net weight (kg)	4.7	4.5	7.7	9.9	13.5
Indicators					
Communication	RS232				
Environment					
Operating temperature (°C)	-10~45 (Customizable for special circumstances)				
Operating humidity	0-98% (non-condensing)				
Noise (dB)	<50@1m				

· Product specifications are subject to change without further notice.

BOTH series

3 Phase In/1 Phase Out High Frequency Online UPS



Capacity

10kVA ~ 20kVA

Feature

- Double conversion on-line, zero switching time
- DSP digital control technology to provide stable and reliable sine wave power supply
- Ultra-wide voltage input and frequency input range
- Adopt active power factor correction (PFC) technology to provide high input power factor.
- SNMP+USB+RS-232 multiple monitoring functions

Application

Offices, personal computers/IT equipment, automated security systems and other non-industrial premises data processing centres, mainframe systems, integrated computer networks, ISP service providers, telecommunications, computer rooms, etc.

Introduction

BOTH series 3 Phase in/1 Phase out high-frequency online UPS have perfect detection and protection functions; small size, light weight and high working efficiency. The humanised design of the monitoring software makes it convenient to achieve centralised monitoring and remote monitoring of the UPS. Adopting LED display or LCD display, users can intuitively understand the operation status of UPS.

High Frequency UPS

Technical Specification

Model	BOTH10K(L)	BOTH15K(L)	BOTH20K(L)
Capacity (W)	9000	13500	18000
Phase	3 Phase in / 1 Phase out		
Input			
Input lines	L1,L2,L3,N+PE		
Input voltage range (V a.c)	Three-phase line voltage: 150~500		
Frequency range (Hz)	40 ~ 70		
Power factor	≥0.99		
Output			
Output lines	L,N+PE		
Voltage & regulation (V a.c)	208/220/230/240±1%		
Frequency range (Hz)	50/60±4 (Synchronized range)/ 50/60±0.1% (Batt. range)		
Waveform	Pure Sinewave		
Harmonic distortion (THDV%)	<2%@linear load/<6%@non-linear load		
Overload capability	Line mode (240VDC): 10min@105%~125%rated load; 30S@126%~150%rated load; 0.5S@>150%rated load Batt. mode (192VDC): 10S@102%~110%rated load; 0.5S@>110%rated load		
Efficiency			
Line mode	94%		
Battery mode	192VDC: 92%/240VDC: 93%		
Battery (Standard model)			
Capacity (V/Ah)	12/7		
Numbers (pcs)	16	32	32
Charging current (Max.)(A)	Battery external: 1		
Battery (Long-run model)			
Capacity (V/Ah)	12/7		
Numbers (pcs)	Depending on the application		
Charging current (Max.)(A)	Battery external: 4		
Physical (Standard model)			
Dimension [W x D x H](mm)	190 x 456 x 534	300 x 700 x 698	
Net weight (kg)	47.8	89.6	90.1
Physical (Long-run model)			
Dimension [W x D x H](mm)	190 x 340 x 528	238 x 528 x 555	
Net weight (kg)	17	25.6	26.1
Indicators			
Communication	RS232, Ethernet card		
Environment			
Operating temperature (°C)	0~40 (Customised in case of special environments)		
Operating humidity	0-98% (non-condensing)		
Noise (dB)	<55@1m		

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BOPHR series

1 Phase In/1 Phase Out Rack-mounted
High Frequency Online UPS



Capacity

1kVA ~ 10kVA

Feature

- Zero switching time
- Adopt DSP digital control technology
- Ultra-wide voltage input and frequency input range
- Excellent load adaptability
- Compactible to generator
- High input power factor
- Reliable product design
- Dustproof design
- Frame-mounted design

Application

Offices, personal computers/IT equipment, automated security systems and other non-industrial premises data processing centres, mainframe systems, integrated computer networks, ISP service providers, telecommunications, computer rooms, etc.

Introduction

BOPHR series 1 Phase in/1 Phase out rack-mounted high-frequency online UPS have perfect detection and protection functions; small size, light weight and high working efficiency. The humanised design of the monitoring software makes it convenient to achieve centralised monitoring and remote monitoring of the UPS. Adopting LED display or LCD display, users can intuitively understand the operation status of UPS.

Technical Specification

Model	BOPH 1KR	BOPH 1KRL	BOPH 2KR	BOPH 2KRL	BOPH 3KR	BOPH 3KRL	BOPH 6KRL	BOPH 10KRL
Capacity(W)	900		1800		2700		5400	9000
Phase	1 Phase in / 1 Phase out							
Input								
Input lines	L,N+PE							
Input voltage range (V a.c)	Zero-fire phase voltage: 90~300						Zero-fire PH volt.@HV: 90~300 Zero-fire PH volt.@LV: 55~145	
Frequency range (Hz)	40 ~ 70							
Power factor	≥0.99							
Output								
Output lines	L,N+PE							
Voltage & regulation (V a.c)	208/220/230/240±1%						HV: 208/220/230/240±1% LV: 110/115/120/127±1%	
Frequency range (Hz)	50/60±4 (Synchronized range)/50/60±0.1% (Batt. range)							
Waveform	Pure Sinewave							
Harmonic distortion (THDV%)	<2%@Linear load/<7%@Non-linear load						<2%@Linear load/<6%@Non-linear load	
Overload capability	1min@105%~125%rated load 10S@125%~150%rated load 0.5S@>150%rated load						10min@105%~125% rated load 1min@125%~150%rated load 0.5S@>150%rated load	
Efficiency								
Line mode	88%		89%		90%		93%	
Battery mode	86%		87%		88%		91%	
Battery								
Voltage (V d.c)/PCS	24/2 Internal	36 External	48/4 Internal	72 External	48/4 Internal	96 External	192/240 External 16/20, Other battery voltages can be customised	
Charging current (A)	Standard (Battery internal): 1/Long-run (Battery external): 4						Long-run (Battery external): 4	
Physical								
Architecture	Rack-mounted							
Rack-mounted dimension [W x D x H](mm)	BOPH3KR: 438 x 88(2U) x 500 with battery Other long-run/standard: 438 x 88(2U) x 360						UPS host: 438 x 88(2U) x 500 without battery Pack: 438 x 132(3U) x 500	
Weight(kg)	13.0	8.5	18.5	11.2	21.9	12.0	13.6	15.5
Indicators								
Communication	RS232							
Environment								
Operating temperature (°C)	0~40 (Customised in case of special environments)							
Operating humidity	0-98% (non-condensing)							
Noise (dB)	<50@1m							

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BOTHR series

3 Phase In/1 Phase Out Rack-mounted
High Frequency Online UPS



Capacity

10kVA ~ 20kVA

Feature

- Zero switching time
- Adoption of DSP digital control technology
- Three-level inverter technology
- Compatible with 3 Phase In/1 Phase Out&3 Phase In/1 Phase Out
- Ultra-wide input voltage and frequency range
- Strong load carrying capacity
- Compactible to generator
- Intelligent monitoring support
- Reliable product design
- Frame-mounted design

Application

Offices, personal computers/IT equipment, automated security systems and other non-industrial premises data processing centres, mainframe systems, integrated computer networks, ISP service providers, telecommunications, computer rooms, etc.

Introduction

BOTHR series 3 Phase in/1 Phase out rack-mounted high-frequency online UPS have perfect detection and protection functions; small size, light weight and high working efficiency. The humanised design of the monitoring software makes it convenient to achieve centralised monitoring and remote monitoring of the UPS. Adopting LED display or LCD display, users can intuitively understand the operation status of UPS.

Technical Specification

Model	BOTH10KRL	BOTH15KRL	BOTH20KRL
Capacity(W)	9000	13500	18000
Phase	3 Phase in / 1 Phase out		
Input			
Input lines	L,N+PE/L1,L2,L3,N+PE		
Input voltage range (V a.c)	Zero-fire phase voltage: 90~300/Three-phase line voltage: 150~500		
Frequency range (Hz)	40 ~ 70		
Power factor	≥0.9		
Output			
Output lines	L,N+PE		
Voltage & regulation (V a.c)	208/220/230/240±1%		
Frequency range (Hz)	50/60±4 (Synchronized range)/ 50/60±0.1% (Batt. range)		
Waveform	Pure Sinewave		
Harmonic distortion (THDV%)	<2%@Linear load/<6%@Non-linear load		
Overload capability	Line mode (240VDC): 10min@105%~125%rated load; 30S@126%~150%rated load; 0.5S@>150%rated load Batt. mode (192VDC): 10S@102%~110%rated load; 0.5S@>110%rated load		
Efficiency			
Line mode	94%		
Battery mode	192VDC: 92%/240VDC: 93%		
Battery			
Voltage (V d.c)/PCS	192/240 External 16/20, Other battery voltages can be customised		
Charging current (A)	Long-run (battery external): 4 (8A can be customised)		
Physical			
Dimension [W x D x H](mm)	BOTH10KRL Rack-mounted: 3U 438 x132 x530 BOTH15KRL/BOTH20KRL Rack-mounted: 4U 438 x176 x530		
Net weight (kg)	14.5	24.1	25.0
Indicators			
Communication	RS232, Ethernet card		
Environment			
Operating temperature (°C)	0~40 (Customised in case of special environments)		
Operating humidity	0-98% (non-condensing)		
Noise (dB)	<55@1m		

· Product specifications are subject to change without further notice.

BODH series

3 Phase In/1 Phase Out Tower
High Frequency Online UPS



Capacity

10kVA ~ 200kVA

Feature

- Pure double conversion technology
- DSP technology to ensure high performance
- Output power factor 1.0
- Full-phase active power factor correction
- 50Hz/60Hz inverter mode
- Energy-saving ECO mode operation
- Emergency power off function (EPO)
- Generator compatible, dual AC input
- Up to 6 units in parallel operation with shared batteries
- 3-stage charging design to optimise battery performance
- Adjustable number of batteries
- Power step function, maintenance bypass as standard
- Optional isolation transformer

Application

Offices, personal computers/IT equipment, automated security systems and other non-industrial premises data processing centres, mainframe systems, integrated computer networks, ISP service providers, telecommunications, computer rooms, etc.

Introduction

BODH series 3 Phase In/1 Phase Out tower high-frequency online UPS have perfect detection and protection functions; the circuit board is placed in a completely closed space and "three-proof". Through the RS232/RS485 communication interface, SNMP network adapter, with the UPS intelligent monitoring software can be communicated with the computer, UPS parameters at a glance in the communication interface, LCD liquid crystal display, real-time recording of the UPS operating status, parameter information, etc., to facilitate the user's management of the UPS.

High Frequency UPS

Technical Specification

Model	BODH 10KL	BODH 20KL	BODH 30KL	BODH 80KL	BODH 100KL	BODH 120KL	BODH 180KL	BODH 200KL
Capacity (kW)	8	16	24	64	80	96	128	160
Input								
Nominal voltage	3x380/400/415 V a.c (3PH+N)							
Input voltage range (V a.c)	110-300@50% load; 176-276@100% load							
Frequency range (Hz)	40 ~ 70							
Power factor	≥0.99@100% load							
THDI	<3%@ full linear load							
Output								
Voltage & regulation (V a.c)	3x360*/380/400/415 (3PH+N)±1%							
Frequency range (Hz)	46 ~ 54 or 56~64							
Harmonic distortion (THDV%)	Pure Sinewave, ≤1% THD (linear load); ≤3% THD (non-linear load)							
Overload capability	100-110% 60min, 111-125% 10min, 126%-150% 1min, >150% 400mS							
Current crest ratio	3:1							
Bypass								
Voltage range	-30%~+20% (Adjustable)							
Frequency range (Hz)	46 ~ 54 or 56~64							
Overload capability	>130% 1min (default); continuously working until breaker protection (optional)							
Transfer time (Inverter to Bypass)(mS)	Synchronous mode: 0; Asynchronous mode: 10							
Overload capability	150% ~ 180% 1h~30S; 180% ~ >200% 30S~200mS; >200% 200mS							
Battery								
Type	Depending on the external batteries							
Numbers	3x400V (3PH+N)							
Charging current (Max.)	1A~12A (Adjustable)	1A~12A (Adjustable)	2A~40A (Adjustable)	3A~60A (Adjustable)				
Charging voltage	+/-13.65V*N (N=16 ~ 20)							
Efficiency (AC/ECO/Batt. mode)	96%							
Physical								
Net weight (kg)	38	40	61	85	117	155	200	230
Dimension [W x D x H](mm)	250 x 592 x 576		300 x 815 x 1010	360 x 790 x 1010	600 x 974 x 1600			
Environment								
Operating temperature (°C)	0~40 (Customizable for special circumstances)							
Operating humidity	0-95% (non-condensing)							
Altitude (m)	≤1500@ full load							
Noise (dB)	<65@1m				<70@1m			
Management								
Smart RS-232/USB	Supports Windows®2000/2003/XP/Vista/2008,WindowsR7/8, Linux and MAC							
Optional SNMP	Power management from SNMP manager and web browser							
Indicators								
7 inch LCD panel	UPS status, load level, battery level, input/output voltage discharge timer, and fault conditions							

- If output voltage is set as 3x360VAC, the output power of the unit will be de-rated to 90%.
- If the UPS is installed or used in a place where the altitude is higher than maximum height, the output power will be derated 1% per 100m.
- Charge the UPS for at least 7 hours before storing. When stored, it should be covered with suitable material and placed in an upright position in cool, dry premises.
- Product specifications are subject to change without further notice.

BODHR series

3 Phase In/1 Phase Out Rack-mounted Tower
High Frequency Online UPS



Capacity

10kVA ~ 20kVA

Feature

- Pure double conversion technology
- LCD screen auto-rotation (only for 10K-20K models)
- DSP technology ensures high performance
- Output power factor 1.0 with power factor correction
- 50Hz/60Hz inverter mode
- Energy-saving ECO mode operation
- Emergency shutdown function (EPO)
- Generator compatible, dual AC input
- 3-stage charging design to optimise battery performance
- Adjustable number of batteries for long runs
- Power step function, maintenance bypass as standard
- Shared battery pack support, optional isolation transformer
- Optional parallel operation, SNMP+USB+RS-232 communication

Application

Offices, personal computers/IT equipment, automated security systems and other non-industrial premises data processing centres, mainframe systems, integrated computer networks, ISP service providers, telecommunications, computer rooms, etc.

Introduction

BODHR series 3 Phase in/3 Phase out rack-mounted tower high-frequency online UPS have perfect detection and protection functions; small size, light weight and high working efficiency. The humanised design of the monitoring software makes it convenient to achieve centralised monitoring and remote monitoring of the UPS. Adopting LED display or LCD display, users can intuitively understand the operation status of UPS.

Technical Specification

Model	BODH10KRL	BODH15KRL	BODH20KRL
Capacity (kW)	8	12	16
Input			
Voltage range (Min. conversion volt.)	110V a.c (Ph-N)±3%@50% load; 176V a.c (Ph-N)±3%@100% load		
Voltage range (Min. return volt.)	Min. conversion volt.+10V		
Voltage range (Max. conversion volt.)	300V a.c (L-N)±3 %@50% load; 276V a.c (L-N)±3%@100% load		
Voltage range (Max. return volt.)	Min. conversion volt.-10V		
Frequency range (Hz)	46Hz ~ 54Hz@50Hz system 56Hz ~ 64Hz@60Hz system		
Phase	3Ph+N		
Power factor	≥0.99@100% load		
Output			
Phase	3Ph+N		
Voltage & regulation(V a.c)	360/380/400/415V a.c (Ph-Ph)±1%; 208*/220/230/240V a.c(Ph-N)±1%		
Frequency range (Hz)	46Hz ~ 54Hz@50Hz system; 56Hz ~ 64Hz@60Hz system (Synchronous mode) 50Hz±0.1Hz or 60Hz±0.1Hz (Batt. mode)		
Current crest ratio	3:1 (Max.)		
Harmonic distortion (THDV%)	<2%@100% linear load/<5%@100% non-linear load		
Transfer time (mS)	AC↔Batt.: 0; Inverter↔Bypass: 0 (Phase-lock failure, <4mS interruption); Inverter↔ECO: 0 (AC mode is invalid, <10mS)		
Overload capability (AC mode; Batt. mode)	100%~110% 60min; 110%~125% 10min; 125%~150% 1min; >150% immediately 100%~110% 60min; 110%~125% 10min; 125%~150% 1min; >150% immediately		
Efficiency			
AC mode	95.5%		
Battery mode	94.5%		
Battery (Long-run mode)			
Type	Depending on the application		
Numbers	32 ~ 40 (Adjustable)		
Charging current	1/2/3/4/5/6/7/8/9/10/11/12A±10% (selectable); Max. 12A		
Charging voltage	+/-13.65V d.c*N±1% (N=10)	+/-13.65 V d.c*N±1% (N=16~20)	
Physical (Long-run mode)			
Dimension [W x D x H](mm)	438 x 680 x 133 (3U)		
Net weight (kg)	26	28	
Environment			
Operating temperature (°C)	0~40 (Customizable for special circumstances)		
Operating humidity	0-95% (non-condensing)		
Noise (dB)	60@1m	62@1m	
Altitude (m)	<1000		
IP protection	IP20		
Management			
Smart RS-232/USB	Supports Windows®2000/2003/XP/Vista/2008,WindowsR7/8/10, Linux and MAC		
Optional SNMP	Power management from SNMP manager and web browser		

- If output voltage is set as 208VAC, the output power of the unit will be de-rated to 90%.
- If the UPS is installed or used in a place where the altitude is higher than maximum height, the output power will be derated 1% per 100m.
- Product specifications are subject to change without further notice.