

On-Line Transformer Base UPS

# FARPAK

EP

TB C Series 10~800Kva 3:3 phase



Control Panel



500kVA



300kVA

## Features

### • Online double conversion

Adopting Online Double Conversion design. UPS transfers among different working mode without output interruption, thereby powering the load uninterruptedly.

### • Full DSP control

Full DSP Control avoids the risks caused by analog devices failure and makes the control system more stable and reliable.

### • High power factor

The output power factor is up to 0.9 .

The input power factor 0.98 with filter helps to improve the efficiency, reduce the harmonic pollution to the Grid and lower the UPS running cost.

### • Wide input adaptability

The range of AC input voltage is (380Va/400Vac/415Vac) (-25%/+20%), minimizing the chance of transferring to battery mode, thereby greatly prolonging the battery life.

Wide input frequency ranging from 45Hz to 65Hz. Compatible with all kinds of UPS.

### • Optimized battery management

Intelligent battery management system and advanced battery auto float/boost charge technology, reduces the frequency of battery maintenance, greatly improves the battery efficiency and extends battery life.

Battery discharge time prediction: the system will display the backup time of battery calculated by discharge current and voltage.

Battery self-test: battery is automatically tested at regular intervals

Flexible battery configuration ranging from 360~408Vdc / 480Vdc.

### • N+X parallel redundancy

N+X parallel redundant design, up to 6 units available, makes the configuration more flexible.

Any unit in parallel system fails, the faulty one will automatically cut off the output, and the load will be powered by the remained units.

It is easy to configure the parallel system just by connecting the parallel cables and doing corresponding settings.

Non-fixed Master-Slave relationship: Among several UPS in parallel, the unit startup first is Master UPS, the others are Slave. The master and slave may be exchanged.

### • Strong overload capability

110% / 125% / 150% overload for 60min /10min / 1min.

### • Power walk in

Specially designed power walk in function, in which rectifier of each unit in parallel system will be turned on in sequence at intervals to avoid the sudden load on the generator, thereby reducing the capacity of the generator required.

### • Generator mode

Set the maximum output power of the generator when a smaller one than needed is employed to extend the battery duration time. In this case, the load is supplied by both the generator and battery.

### • LBS synchronization

Synchronize the output of the two independent UPS systems (single unit or parallel) even when the two systems are operating on different modes (bypass/inverter) or on battery.

### • Multi-protection

Self-diagnosis function will take place before start-up for safety.

Multi-protection: AC input under/over voltage, overload, short-circuit, over-current, over bus voltage, over-temperature, fan failure, auxiliary power failure, battery under voltage, battery over-charge and so on.

### • EPO function

A concave red EPO button with transparent cover is embodied in the LCD control panel for emergency power off.

### • User-friendly network management

Chinese/English LCD and LED mimic diagram: real time operation parameters and status

RS232 & RS485 communication ports: for local monitor with corresponding software, and MODBUS protocol is optional.

SNMP adapter (optional): for remote monitor through network

Dry contacts for additional monitoring:

- a) UPS on Inverter
- b) Mains input failure
- c) remote EPO
- d) Battery low voltage alarm
- e) UPS fault
- f) UPS alarm
- g)UPS on battery
- h) UPS on bypass

Note: d)--h) optional

## Technical Specifications:

MODEL	TBC10	TBC20	TBC30	TBC40	TBC60	TBC80
Capacity (VA/Watts)	10k/9k	20k/18k	30k/27k	40k/36k	60k/54k	80k/72k
<b>INPUT</b>						
Operating Voltage Range	380/400/415Vac (-25%/+20%), (3Ph+N+PE)					
Operating Frequency Range	50/60Hz (± 5Hz)					
Power Factor	>0.97(with filter)					
<b>OUTPUT</b>						
Output Voltage	380/400/415Vac(1 ± 1%)					
Output Frequency	50/60Hz(1 ± 0.05%)					
Current Crest Ratio	3:1(Max)					
Efficiency	≥88%	≥89%		≥90%		≥90.5%
Harmonic Distortion (THDv)	<3% with linear load					
<b>BYPASS</b>						
Rated Voltage	380/400/415Vac					
Rated Frequency	50/60Hz					
Voltage Protection Range	Upper limit:+20%(+10%,+15%,+20% adjustable) Lower limit:-40%(-10%,-20%,-30%,-40% adjustable)					
Frequency Protection Range	± 10%(± 2.5%, ± 5%, ± 10%, ± 20% adjustable)					
<b>BATTERY</b>						
Battery Voltage	384Vdc (360~384Vdc)					
<b>SYSTEM FEATURES</b>						
Transfer Time	Utility←→Battery : 0ms					
Overload	≥ 110%: last 60min; ≥ 125% :last 10min; ≥ 150% :last 1min;					
LED Display	Input,Inverter,Bypass,Battery,Output,Status					
LCD Display	I/O voltage,Frequency,Power,Power factor,Battery voltage,Current,Battery status,Load level,UPS status,History record					
Communication Interface	Dry contact,RS232,RS485,SNMP card(Optional)					
<b>PHYSICAL</b>						
Dimension,W × D × H(mm)	570 × 800 × 1195				880 × 760 × 1600	
Net Weight(kg)	217	273	316	330	483	525
Shipping Weight(kg)	272	328	371	385	553	595
<b>ENVIRONMENT</b>						
Operating Temperature	0 ~ 40°C					
Storage Temperature	-25 ~ 55°C					
Humidity Range	0 ~ 95% (Non-condensing)					
Altitude	<1500m					
Noise level	<60dB			<65dB		
<b>STANDARDS</b>						
Safety	IEC/EN62040-1;IEC/EN60950-1					
EMC	IEC/EN62040-2,IEC61000-4-2,IEC61000-4-3,IEC61000-4-4,IEC61000-4-5,IEC61000-4-6,IEC61000-4-8					

Specifications are subject to change without prior notice.



## Technical Specifications:

MODEL	TBC100	TBC120	TBC160	TBC200	TBC300	TBC400	TBC500	TBC600	TBC800	
Capacity (VA/Watts)	100k/90k	120k/108k	160k/144k	200k/180k	300k/270k	400k/360k	500k/450k	600k/540k	800k/720k	
<b>INPUT</b>										
Operating Voltage Range	380/400/415Vac(-25/+20%),(3Ph+N+PE)									
Operating Frequency Range	50/60Hz (± 5Hz)									
Power Factor	>0.97(with filter)									
<b>OUTPUT</b>										
Output Voltage	380/400/415Vac (1 ± 1%)									
Output Frequency	50/60Hz(1 ± 0.05%)									
Current Crest Ratio	3:1(Max)									
Efficiency	≥92%		≥92.5%		≥93%		≥93.5%		≥94%	
Harmonic Distortion (THDv)	<2% with linear load									
<b>BYPASS</b>										
Rated Voltage	380/400/415Vac									
Rated Frequency	50/60Hz (auto-sensing)									
Voltage Protection Range	Upper limit:+20%(+10%,+15%,+20% adjustable) Lower limit:-40%(-10%,-20%,-30%,-40% adjustable)									
Frequency Protection Range	± 10%(± 2.5%, ± 5%, ± 10%, ± 20% adjustable)									
<b>BATTERY</b>										
Battery Voltage	384Vdc(360~384Vdc)						480Vdc			
<b>SYSTEM FEATURES</b>										
Transfer Time	Utility←→Battery : 0ms									
Overload	≥ 110% : last 60min; ≥ 125% :last 10min; ≥ 150% :last 1min;									
LED Display	Input,Inverter,Bypass,Battery,Output,Status									
LCD Display	I/O voltage,Frequency,Power,Power factor,Battery voltage,Current,Battery status,Load level,UPS status,History record,Settings									
Communication Interface	Dry contact,RS232,RS485,SNMP card(Optional)									
Optional	Harmonic filter,SNMP adapter,LBS cables,Battery temperature sensor,Bypass current-sharing inductor									
<b>PHYSICAL</b>										
Dimension,W × D × H (mm)	1160 × 805 × 1600(6P) 1520 × 830 × 1600(12P)		1400 × 945 × 1900(6P) 1640 × 1040 × 1900(12P)		1640 × 1040 × 1900(6P) 1760 × 1040 × 1900(12P)		2800 × 1040 × 1900(12P)		3900 × 1100 × 1950(12P)	
Net Weight(kg)	800/1100	903/1250	1219/1774	1425/1893	1780/2580	2050/3050	3700	4500	6400	
Shipping Weight(kg)	890/1190	993/1293	1349/1954	1555/2073	1950/2850	2200/3300	3950	4750	6700	
<b>ENVIRONMENT</b>										
Operating Temperature	0 ~ 40°C									
Storage Temperature	-25 ~ 55°C									
Humidity Range	0 ~ 95% (Non-condensing)									
Altitude	<1500m									
Noise level	<65dB				<70dB					
<b>STANDARDS</b>										
Safety	IEC/EN62040-1;IEC/EN60950-1									
EMC	IEC/EN62040-2,IEC61000-4-2,IEC61000-4-3,IEC61000-4-4,IEC61000-4-5,IEC61000-4-6,IEC61000-4-8									

Specifications are subject to change without prior notice.