Power Value America (II) 3phase in 3phase out Online LF UPS 10~200KVA

Introduction: Power Value America (II) is upgraded DSP controlled Online LF UPS with output isolation transformer. The application power grid is 190/208/220/480 VAC Line to line power grid. It can be your perfect large capacity power shield for your critical and industrial load.

QUALITY POWER SUPPLY

BPS PV(II) series is an On-Line double conversion (VFI) UPS with isolation output transformer, unit capacity from 10KVA to 400KVA. It is immune to the interferences on the electric power supply line as it has special input and output filters. World leading DSP technology, with high speed DSP processor 32bits, are adopted to guarantee system's high stability and giving stable output power supply for all kinds of harsh load.

PERFECT APPLICAITON: Middle and large data center, Telecom, Finance, Traffic, Defense, Medical, Education, Energy, Manufacture, Industry, etc.

MAXIMUM RELIABILITY

The advanced DPS technology appliance considerably improves reliability, since a reduction in electronic components lowers the likelihood of breakdowns. Digital control is provided by the microprocessor that, in the PV(II) series controls all the internal parameters, thus increasing reliability and performance. In parallel connections, digital control ensures balance of the currents, which generally change over time due to phenomena such as vibrations and temperature, between the UPS units and the exchange of information with no need for manual tuning. MTBF >200,000h. PV(II) has been designed so that it can be connected in parallel even after the installation of the first unit. The power availability can be increased thanks to various configurations available such as the parallel configuration, the Dual Bus function and the Dynamic Dual Bus system.

HIGH SPEED DSP PROCESSOR: Ensuring the operation faster and more stable

OUTPUT 100% UNBALANCE LOAD

The ups can accept 3 phase 100% unbalance load to satisfy kinds of load configuration.

ECO function: under good power condition, UPS can work in ECO mode, efficiency reach 98%, green and energy saving;

UPS FOR INDUSTRIAL LOADS

PV-Plus with its strong overload capability, output galvanic isolation and low harmonic current distortion, is the ideal solution for industrial applications.
Thanks to the high battery current, PV Plus Series is suitable to work with large battery banks as it can guarantee recharging in 10 hours as recommended by the battery manufacturer.

OPERATING FLEXIBILITY: All power ratings of the PV(II) series can also be used as Frequency Converters 50 to 60 Hz and vice versa.

COLORFUL MULTIFUCTIONAL PANEL

The 7-inch colorful multifunctional panel allows easy and humanized operation of the UPS. It gives access to the most important parameters: status and alarms, control commands, input, output, battery measurements (power, current, voltage, frequency and temperature) and settings. The PV(II) series' diagnostics system includes up to 128 alarms or messages allowing precise and detailed identification of any event.

Advanced Battery Management (ABM)

Optimal battery management includes:

- Periodic battery test, and automatically transfer between boost charging and float charging to extend battery lifespan
- Automatically adjusting the battery charging current according to battery capacity
- Recharge temperature compensation (optional)
- Remaining back up time display

MAXIMUM SAFETY FOR PERSONNEL

The back-feed protection device prevents any voltage back feed in the upstream distribution board, thus ensuring the safety of the maintenance personnel.

FULL FRONT ACCESS AND CONVENIENT CABLE CONNECTION

Full frontal access is for all power and electronic components, which reduces the floor space required and consequently reduces the installation costs.
Configured with top and bottom cable connection

PERFECT HUMAN-MACHINE COMMUNICATION

UPS Monitor software displays the most important information such as the input and output voltage, the load applied, the remaining back-up time, etc., in the form of bar graphs. The software is able to provide information even in the event of a failure, in support of the fault diagnostics. The UPS Monitor software can be used to program the automatic shutdown of all open systems in the event of a prolonged black out. PV Plus can also operate with a network agent for applications on LAN or WAN networks.
The UPS contains the following hardware interfaces:

- RS232 /RS485 interface,
- Dry contacts: battery low, battery discharge, bypass/breakdown
- EPO (Emergency Power Off) contact for UPS shutdown using the remote emergency button.
- SNMP card (optional)

ADVANCED PARALLEL

Maximum parallel up to 8 units and share the common battery pack.10-80kva parallel with parallel card only; 100kva-400kva, parallel card with weaver reactance and different capacity UPS can be also be parallel;

DYNAMIC DUAL BUS SYSTEM

Two independent systems set in Dual Bus Configuration can be merged together at any time for system expansion or maintenance. This provides a lot of flexibility in your installation in case of maintenance or when it is necessary to change the redundancy level of both systems.

EVENT LOG: 1000 historical events can be saved, which is easy for tracing ups operation status and useful for maintenance
Technical specification:

1) 10-120KVA specification:

Model	**PV33 10II**	**PV33 15II**	**PV33 20II**	**PV33 30II**	**PV33 40II**	**PV33 60II**	**PV33 80II**	**PV33 100II**	**PV33 120II**
Capacity	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA
System									
Output PF	0.8(lag)								

System Efficiency (inverter mode)	92% (@100% load) ;90% @50%load;								
System Efficiency (ECO mode)	98%(@100%load)								
Maximum Leakage Current	100(mA)								
MTBF	Above 200,000hours								
Dry Contact	Standard: 3 types signal (BAT. low, battery mode, bypass /failure) Optional:14 dry contact; output: 12Vdc 80mA								
Communication Interface	Standard RS232, optional: RS485 / MODBUS								
Operation Temperature	0 ~ 40 °C								
Humidity	95 % (non-condense)								
Cooling	Forced Air (speed varying according to load percent)								
Max. Altitude	Within 1000m (every 100 increase, capacity decrease -1%), Maximum 4000m								
Noise (dB)	52 ~ 58								
IP protection (EN 60529)	IP20								
Input/Output Way	Bottom / Rear								
Safety Standard	Safety: GB 4943, EN 50091-1 ; EMI:GB7260.2, GB/T 17626.2~5EMC, EN 50091-2								
Physical									
W *D*H (mm)	600*600*1280					800*800*1480		800*800*1800	
Weight (Kg)	195	210	220	305	340	500	600	800	950
AC Input									
Rated Voltage	190/208/220/480VAC Three-phase, Four-wire								
Input Voltage Range	± 15 %- ± 25 % adjustable)								
Rate Frequency	50 / 60 Hz Auto-Sense								
Frequency Range	50/60Hz +/-5Hz								
Input Soft Start Function	0 - 100%,10-300s(settable)								
Input Power factor	Reachable 0.99 (Plus Harmonic Filter)								
Input Current Harmonic	Can <5% (Plus Harmonic Filter)								

Component (THDi)									
Max. Input Amps.	18	27	36	54	72	108	144	180	216
The Output Characteristic of the Rectifier									
Maintain Voltage (20°C)	Battery type 1 and 2: V = 435Vdc (2.266 x el.)								
	Battery type 3: V = 424Vdc (2.21 x el.)								
	Battery type 0: The Voltage Value Between Type 1 and 2, Voltage Regulating Range: V = 400~460Vdc								
Charging Voltage (20°C)	Battery type1 and 2: V (%recharging<95%) = 445Vdc (2.32 x el.)								
	Battery type 3: V (%recharging<95%) = 460Vdc (2.4 x el.)								
	Battery type 0: The Voltage Value Between Type 1 and 2, Voltage Regulating Range: V = 400~460Vdc								
The Highest Charging Voltage	445V								
The Charger Output Voltage Regulation Accuracy	1%								
DC Ripple Voltage Component	≤1%								
Battery									
Unit Number (Rated Voltage)	384VDC (360-384v, selectable)								
Charging Current Settings	0.1C (battery capacity)								
The Battery Discharge End Voltage	Battery Type 1, 2 and 3: no-load discharge current, V min. = 346 [Vdc]								
	Battery Type 1, 2 and 3: output current = Ah capacity, V min. = 316 [Vdc]								
	Battery Type 1, 2 and 3: output current > Ah capacity, V min. = 306 [Vdc]								
	Battery Type 0: the factory set the default values, V min. = 320 [Vdc] Regulating Range: V min = 300~360[Vdc]								
Inverter Output									
Rated Capacity [KVA]	10	15	20	30	40	60	80	100	120
Rated power [KW]	8	12	16	24	32	48	64	80	96
Rated voltage [V]	190/208/220/480VAC Three-phase, Four-wire								
Rated current [A]	12	18	24	36	48	72	96	120	144
Phase Voltage Setting	200 ~ 244 V (Control Board)								

Peak Factor	3:1								
Waveform	Sine Wave								
Voltage Phase Shift (degrees) 100% Balanced Load	± 1'								
Voltage Phase Shift (degrees) 100% Unbalanced Load	± 2'								
Phase Voltage Difference 100% Balance Load	± 1 %								
Phase Voltage Difference 100% Unbalanced Load	± 3 %								
Total Harmonic Content (THDv) 100% Linear Load	<2%								
Total Harmonic Content (THDv) 100% Non-Linear Load	<5%								
Steady-State Voltage Stability	± 1 %								
Transient Voltage Response	± 5 % Within 10ms								
Rated Frequency	Same as Input								
Frequency Stability	When Asynchronous, ± 0.5 % ; Synchronization, ± 2 % (can be set to ± 1~5 %, by the panel operation)								
Overload	600' / 10' / 1' (110/125/150% rated current)								
Short circuit 0.1s	Double Input								
Inverter Efficiency (load 100%)	98%								
Bypass									
Rated Capacity [KVA]	10	15	20	30	40	60	80	100	120
Rated voltage [V]	190/208/220/480VAC Three-phase, Four-wire								
Input voltage range	±15 % (can be adjusted from the control panel ± 10 %, ± 20%)								

Rated frequency [Hz]	50 / 60
Frequency Range	±2 % (can be adjusted from the control panel ± 5 %)
“STAND-BY ON” (Eco mode, the bypass switch to inverter) Transfer Time	2~5ms
Inverter/Bypass Transfer Time	<1ms
Overload	10’/1’/18” (150/175/200% Rated current)
Standard Configuration	Feed Flow Protection, Bypass Independently Isolated

2) 160-400KVA product specification parameter table:

Model	**PV33160II**		**PV33200II**		**PV33250II**		**PV33300II**		**PV33350II**		**PV33400II**	
Capacity	160kVA		200kVA		250kVA		300kVA		350kVA		400kVA	
	6 Pulse	**12 Pulse**	**6 Pulse**	**12 Pulse**	**6 Pulse**	**12 Pulse**	**6 Pulse**	**12 Pulse**	**6 Pulse**	**12 Pulse**	**6 Pulse**	**12 Pulse**
System Parameter												
Output Power Factor	0.8 (lag)											
Overall Efficiency (normal model) Load 100%	94%											
Load 50%	92%											
Overall Efficiency: (ECO mode) Load 100%	98%											
Maximum Leakage Current (mA)	100											
Standby Economic Model	Standard Functions											
Mean Time before Failure (MTBF)	Above 200,000 hours											
Dry Contact Signal	Standard Three Control Signal (battery low, battery discharge, bypass/breakdown); Optional 14 Control Signal; Output 12Vdc 80mA.											
Computer Monitors Port	Standard S232, optional MODBUS.											

Running Temperature	0 ~ 40 °C											
Maximum Relative Humidity	95 % (non-condensing)											
Cooling	Forced Ventilation (fan speed changing with load)											
Maximum Altitude	1000m Rated Power (Rising 100m lower 1%) Maximum 4000m											
Noise dB	54 ~ 62											
Protection Class (EN 60529)	IP20											
Inlet and Outlet of the Wire Way	Bottom / Rear											
Safety Standard	Safety: GB4943, EN 50091-1 ; Electromagnetic Compatibility: GB7260.2, GB/T 17626.2~5EMC, EN 50091-2											
Physical Parameter												
Wide (mm)	**1100**	**1400**	**1100**	**1400**	**1400**	**1400**	**1400**	**1400**	**1600**	**1600**	**1600**	**1600**
Deep*High (mm)	800*1800				1000*2000				1100*2000			
Weight (kg)	**1200**	**1550**	**1350**	**1750**	**1500**	**1950**	**1650**	**2150**	**1850**	**2400**	**2100**	**2700**
The Input Rectifier Features												
Rated Voltage	190/208/220/480VAC Three-phase, Four-wire											
Voltage Range	± 15 % (± 25 % adjustable)											
Rated Frequency	50 / 60 Hz Automatic Identification											
Frequency Range	45 ~ 65											
Input Power Slow Start Function	Yes,0 - 100%, Can be set to 10-300 seconds											
Input Power Factors Cos φ	Reachable 0.99(plus harmonic filter)											
Input Current Harmonic Component (THDi)	Can<5% (plus harmonic filter)											
Max Input Current [A]	250		315		400		500		550		630	
The Output Characteristic of the Rectifier												
Maintain the Voltage (20°C)	Battery Type 1 and 2: V = 435Vdc (2.266 x el.)								Battery Type 1 and 2: V = 544Vdc (2.266 x el.)			
	Battery Type 3: V = 424Vdc (2.21 x el.)								Battery type 3: V = 530Vdc (2.21 x el.)			
	Battery Type 0: The Voltage Value Between Type 1 and 2, Voltage Regulating Range: V								Battery Type 0: The Voltage Value			

	=400~460Vdc	Between Type 1 and 2, Voltage Regulating Range: V =500~575Vdc
Charging voltage (20°C)	Battery Type 1 and 2: V (%recharging<95%) = 445Vdc (2.32 x el.)	Battery Type 1 and 2: V (%recharging<95%) = 557Vdc (2.32 x el.)
	Battery Type 3: V (%recharging<95%) = 460Vdc (2.4 x el.)	Battery Type 3: V (%recharging<95%) = 576Vdc (2.4 x el.)
	Battery Type 0: The Voltage Value Between Type 1 and 2, Voltage Regulating Range: V = 400~460Vdc	Battery Type 0: The Voltage Value Between Type 1 and 2, Voltage Regulating Range: V = 500~575Vdc
The Highest Charging Voltage	445Vdc	556Vdc
The Charger Output Voltage Regulation Accuracy	1%	
DC Ripple Voltage Component	≤1%	
Battery		
Unit Number (rated voltage)	192 Units (384VDC)	240 Units (480VDC)
Charging Current Settings	0.1 C (battery capacity)	
Maintain the Voltage (20°C)	Battery Type 1,2 and 3: No-Load Discharge Current, V min. = 346 [V dc]	Battery Type 1,2 and 3: No-Load Discharge Current, V min. = 433 [V dc]
	Battery Type 1,2 and 3: Output Current = Ah Capacity, V min. = 316 [V dc]	Battery Type 1,2 and 3: Output Current =Ah Capacity, V min. =395 [V dc]
	Battery Type 1,2,3: Output Current > Ah capacity, V min.= 306 [V dc]	Battery Type 1,2 and 3: Output Current >Ah Capacity, V min =383 [V dc]
	Battery Type 0: The Factory Set the Default Values, V min. = 320 [Vdc] Regulating range: V min. = 300~360V [V dc]	Battery Type 0: The Factory Set the Default Values, V min. =320 [Vdc] Regulating Range: V min =300~360V [V dc]
Inverter Output		

Rated Capacity [KVA]	160	200	250	300	350	400
Rated Power [KW]	128	160	200	240	280	320
Rated Voltage [V]	190/208/220/480VAC Three-phase, Four-wire					
Rated Current [A]	195	243	304	365	426	486
Phase Voltage Setting	200 ~ 244 V (control board)					
Peak Factor	3:1					
Waveform	Sine Wave					
Voltage Phase Shift (degrees) 100% Balanced Load	± 1'					
Voltage Phase Shift (degrees) 100% Unbalanced Load	± 2'					
Phase Voltage Difference 100% Balance Load	± 1 %					
Phase Voltage Difference 100% Unbalanced Load	± 3 %					
Total Harmonic Content (THD v) 100% Linear Load	<2%					
Total Harmonic Content (THD v) 100% Non-Linear Load	<5%					
Steady-State Voltage Stability	± 1 %					
Transient Voltage Response	± 5 % within 10ms					
Rated Frequency	Same as Input					
Frequency Stability	When Asynchronous, ± 0.5 % ; Synchronization, ± 2 % Can Be Set to ± 1~5 %, by the panel operation.					
Overload	600’ / 10’ / 1’ (110/125/150% rated current)					
Short Circuit 0.1s	Double Input					

Inverter Efficiency (load 100%)	98%					
Bypass						
Rated Capacity [KVA]	160	200	250	300	350	400
Rated voltage [V]	190/208/220/480VAC Three-phase, Four-wire					
Input Voltage Range	±15 % (can be adjusted from the control panel± 10 %, ± 20%)					
Rated Frequency [Hz]	50 / 60					
Frequency Range	±2 % (can be adjusted from the control panel± 5 %)					
“STAND-BY ON” (Economic Mode, the Bypass Switch to Inverter) Conversion Time	2~5ms					
Inverter / Bypass Transfer Time	<1ms					
Overload	10’/1’/18” (150/175/200% rated current)					
Standard Configuration	Feed Flow Protection, Bypass Independently Isolated					

NOTE: Specifications may be changed without notice.