

# ONL 33 series

## The best 3 phase double conversion UPS

- UPS controlled by Digital Signal Processor (DSP)
- Sine wave Pulse Width Modulation (SPWM)
- High Resolution 320 x 240 dots graphs LCD Display
- Automatic Battery Management and charging system
- Wide input Voltage range 176V~264V
- Pure sine wave output less than 3% THD
- UPS status display on LED flowchart
- Smart RS-232 or RS-485 communication port
- Accept two AC source input (option)
- SNMP management capability (option)
- Intranet/Internet management function capability (option)
- 20KHz high frequency inverter
- Versatile modular design
- Expandable battery run time
- Generator compatible
- IGBT inverter design
- Multi-function LCD display
- Cold start function (DC power on)
- Battery test on AC mode
- Accepted 100% Unbalanced load
- Remote control panel (option)
- IBM AS-400 interface communication port (option)



**NEW  
PRODUCT**

### DSP Technology

- \* Faster CPU control & mass data processing ability.
- \* Fewer Hardware design to enhance system reliability & UPS life.
- \* Superior SPWM processing ability to drive INV circuit directly.



ONL-10K33/15K33/22.5K33/30K33

ONL-45K33/60K33/80K33/100K33/120K33



Complete Power Solution™

ISO 9001 Certified Company

As we are situated in an era where technology and information are combined into one element, a reliable and high quality power source is essential. By this rule of thumb, Powercom developed ONL-33 series UPS that is proven to be the industry's most reliable and stable power protection equipment, yet controlled by DSP (Digital Signal Processor) to protect your valuable equipment last ever.

## Technology :

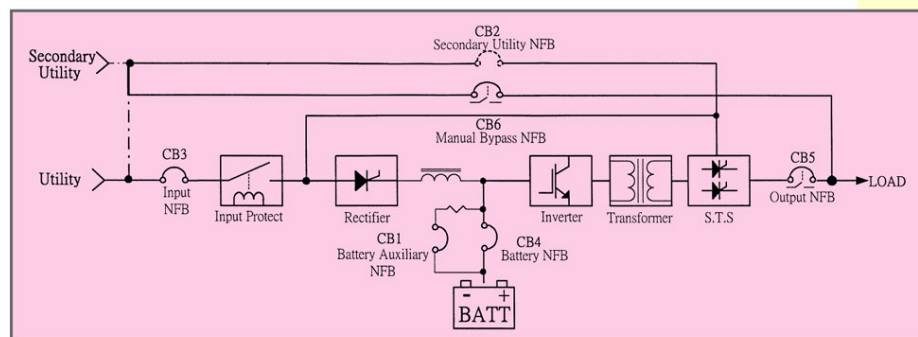
Powercom is one of the largest professional UPS manufacturer with its products sold over than 70 countries worldwide. The reputation on its quality and reliability were gradually built up in the past 15 years. The unique design ability is based on modularized, and yet increase it's flexibility of upgrading the hardware. The DSP controls most of the functions of the UPS, it makes the UPS processing in extremely high speed, and high resolution as well as directly powers the IGBT components that result clean power output. The modularized battery packs are able to add additional battery cabinets to it in order to extend the back up time.

## INPUT :

- Protected by filters that stops input surge and noise.
- Recovery delay to prevent inrush current at sudden recovery.
- Should high voltage (over 20%), the input power is isolated to protection rectifier system.
- Phase order failure protection.
- Utility failure / High voltage protection.

## CHARGING :

- Apply 3 phase 6 phase or 3 phase 12 pulse (optional) full control rectifier, the merit of allowing wider controllable voltage.
- Auto termination of SCR when over D/C Voltage occurs.
- D/C delay start up.
- User's configurable charging current from control panel from 3A to 30A.
- World's leading battery test without shutting down the A/C power.
- User configurable regulated battery test function.
- User configurable automatic floating charge function as well as manual setup.

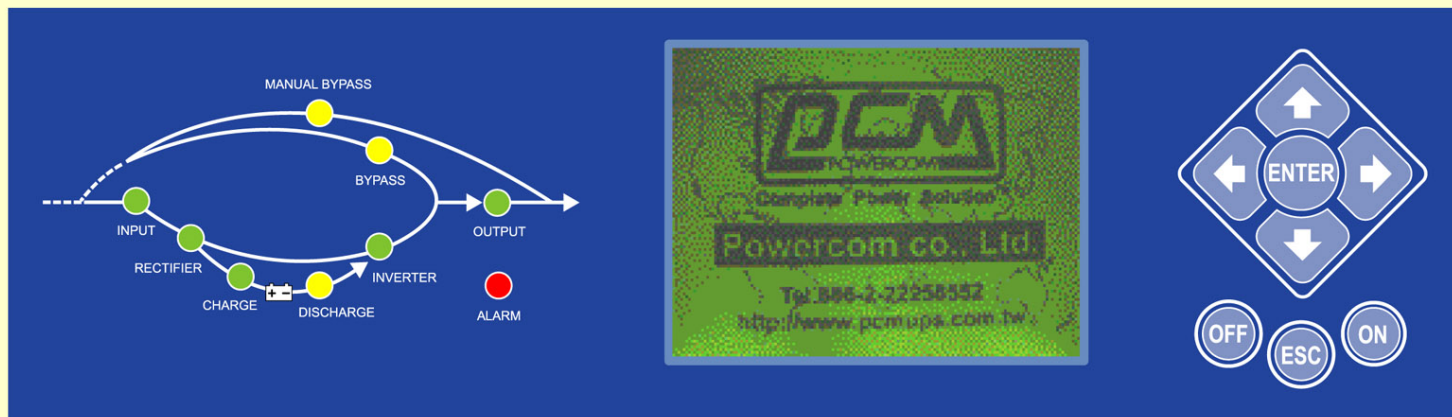


System Diagram



## User Interface (KEYS) :

- 1.ON : Used to start-up the inverter
- 2.OFF : Used to stop the inverter
- 3.Left : Used to shift LEFT of cursor
- 4.Right : Used to shift RIGHT of cursor
- 5.Up : Used to increase the value of parameter and change page
- 6.Down : Used to increase the value of parameter and change page
- 7.Esc : Return to last menu page
- 8.ENTER : Used to confirmation



## UPS status display on LED flowchart :

1. Input ON : Utility Power Led
2. Manual Bypass ON : Manual Bypass switch at ON position
3. Rectifier ON : Rectifier unit is energized
4. Inverter ON : inverter is operating
5. Bypass ON : System output on bypass
6. Output ON : Output switch at ON position
7. Charge ON : Batteries are being charged when the mains is ok.
8. Discharge ON : The load is being supplied from the batteries.
9. Fault ON : Any system failure case.

## Multi Functional Display panel information :

- Normal display : Can display output voltage, current, and load level.
- Menu :

### A : Data Display :

- Page1 : Input Voltage, Input F
- Page2 : Input Current, Input cap...
- Page3 : Output Voltage, Output F
- Page4 : Output Current, Output cap...
- Page5 : Output Power, Total Power Cap.
- Page6 : Battery Voltage, Battery Charge Current, Mech. Temp.

### B : Event Stories :

Maximum of 225 events and 64 status including Date and Time, Function code to easily diagnose by maintenance personnel.

## Front panel display



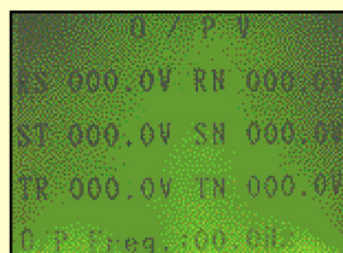
Logo Display



Normal Display



Function Selection



Reading Valve



Security Protection



### **C : System Set :**

User or Administrators can be confirmed by access codes in order to start setting up.

- (1) Basic Setting includes frequency setting, output voltage setting, charging current setting, maintenance setting.
- (2) User Setting includes battery test interval setting, voice announcement setting (option), Administrator (option) notification setting, remote monitoring start up authorization setting (option), safety precaution setting, and 2nd password enable setting.

D : Specification : Display of UPS specification such as capacity, voltage and current, etc..

E : Client First : Could show service counter, providing serving contact information.

F : Time & Date Display : Shows system date and time.

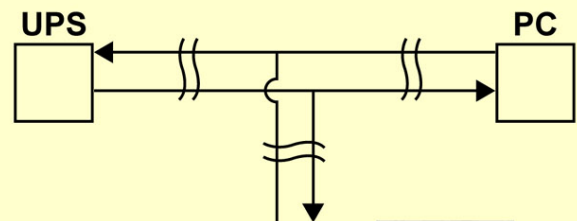
G : Time & Date Set : Enable users to adjust date and time.

### **Warning sounds :**

- 1.Key sound---one short beep.
- 2.Malfunctioning warning---long beep and can be muted by pressing "OFF" until beep sound stops.
- 3.Event warning---beep every 4 second, and can be muted from display panel, for example backup mode.
- 4.Emergency event warning---beep every other second, can't muted from display panel, the emergency event must be corrected in order to stop beep.

**Voice warning(optional); Using recordable voice chip, maximum recording time is 64 sec. And can be recorded into 8 segments, users can record the voice by their own language, voice events can be recorded such as:**

1. UPS in back up mode
2. Power supplied through By-Pass.
3. Battery is discharging
4. Low battery voltage, going to shut down.
5. UPS output abnormal
6. UPS input abnormal
7. UPS system fault
8. Environmental temperature or working temperature overheat.



Remote controlling Panel

### **Communication Interface :**

Can select between RS-232C or RS-485 port with computer, Powercom provide multiple platform for different users.

### **Remote Controlling (Optional) :**

Communicate with Computer through communication port, and send identical information to administrator's computer screen as displayed on the front panel. UPS setting can be selected whether to active this function or not.



## SNMP communication protocol (optional) :

This additional card installed with the UPS is equipped RJ-45 network port to link with the network, as this is constantly connected, the administrator will be able to realize the most updated status of the UPS anywhere in the world as long as there is an accesses to internet.

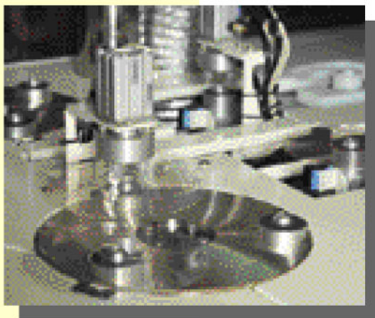
## Relay Card (optional) :

This card provides complete IBM AS-400 external functions, with maximum connector current reached 10A, signals including : AC LINE, UPS ON, BYPASS / INVERTER, NORMAL / FAULT, AC FAIL / BACKUP, BATT LOW, ALARM, SHOUT DOWN or BATT LOW SHOUT DOWN, EP0 (Emergency Power Off)

## Dual A/C input (Optional) :

Can be correspondent with A/C from different power source, such as mains power and generator power source, etc...

## Application Fields :



Semiconductor Equipment



Financial Transaction



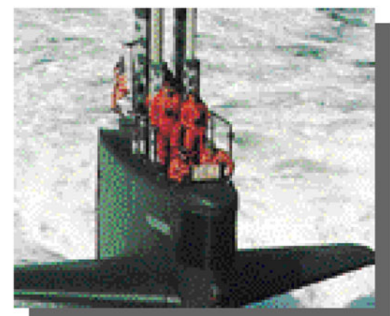
Telecommunication Equipment



Mass Transportation



Medical Instrument



Military Appliance



UPS MON ONL-33 monitor software

## SPECIFICATION

Model Name			ONL-10K33	ONL-15K33	ONL-22.5K33	ONL-30K33	ONL-45K33	ONL-60K33	ONL-80K33	ONL-100K33	ONL-120K33
Capacity			10KVA	15KVA	22.5KVA	30KVA	45KVA	60KVA	80KVA	100KVA	120KVA
Power			8KW	12KW	18KW	24KW	36KW	48KW	64KW	80KW	96KW
P.F.			0.8								
Input	Phase		3 Phase 3 wire / 3 Phase 4 wire and ground								
	Voltage range		280V / 120V or 380V / 220V +/- 20%								
	Frequency range		Auto-sensing, 50Hz / 60Hz +/- 5Hz								
	Way of rectifier		3 phase 6 pulses or 12 pulses (option)								
	Efficiency of rectifier		> 97%								
Efficiency of Inverter			> 88%								
Total Efficiency			> 85%								
Output	Phase		3 phase 4 wire and ground								
	Voltage range		280V / 120V or 380V / 220V								
	Voltage regulation		+/- 1%								
	Transient state		Return to 90% with 4 cycles								
	Overload capacity		Bypass after 30min while overload >100% <125%								
			Bypass after 30sec while overload =125% <150%								
			Bypass after 30 cycles while overload exceed ≥150%								
	Way of inverter		Sine wave modulated from 20K Hz pulse by DSP control								
	Frequency		50Hz / 60Hz								
	Frequency regulation		+/- 1%								
	Range of phase lock		+/- 5Hz								
	Range of lock released		> +/- 5Hz								
	Range of lock back		+/- 3Hz								
	Wave		Sine wave								
	Load crest factor		3 : 1								
Total harmonic distortion		Less 3% for linear load									
Static Switch	Transfer way		When inverter and utility are synchronized at same phase and voltages, bypass to inverter								
	Transfer time		Bypass to inverter 0ms								
			Normal state, inverter to bypass 0ms								
	Efficiency		> 99%								
Charger	Voltage		DC410V								
	Current		Current can be adjusted at 1A, 2A, 3A, 5A, 10A, 15A, 20A, 30A automatically								
	Charging period		Return to 90% from 100% exhausted battery within 8 hours (depending on type of batteries)								
Unit	Battery type		Bank with 12V x 30pcs								
	Backup time		Depending on type of batteries								
	Noise		Less than 60dBA from the surface of 1m away								
Environment	Operating Temperature		0°C ~ 40°C								
	Storage Temperature		-25°C ~ 55°C								
	Ambient operation		3,500 meters max. elevation, 0-95% humidity non-condensing								
Physical size	W x D x H	208/120	530 x 875 x 1010 mm		530 x 960 x 1180 mm		750 x 800 x 1700 mm		1500 x 800 x 1700 mm	1500 x 800 x 1700 mm	
		380/220	530 x 875 x 1010 mm		530 x 960 x 1180 mm		750 x 800 x 1700 mm			1500 x 800 x 1700 mm	
Weight	Net weight (kgs)	208/120	427kg	463kg	457kg	530kg	800kg	950kg	TBD	TBD	TBD
		380/220	333kg	343kg	345kg	395kg	530kg	590kg	TBD	TBD	TBD

**Available Through:**