CONSNANT®

OUTDOOR UPS WITH AIR CONDITIONER

CNW330 Series

10-40KVA (208VAC power grid application)

Outdoor UPS with Air Conditioner

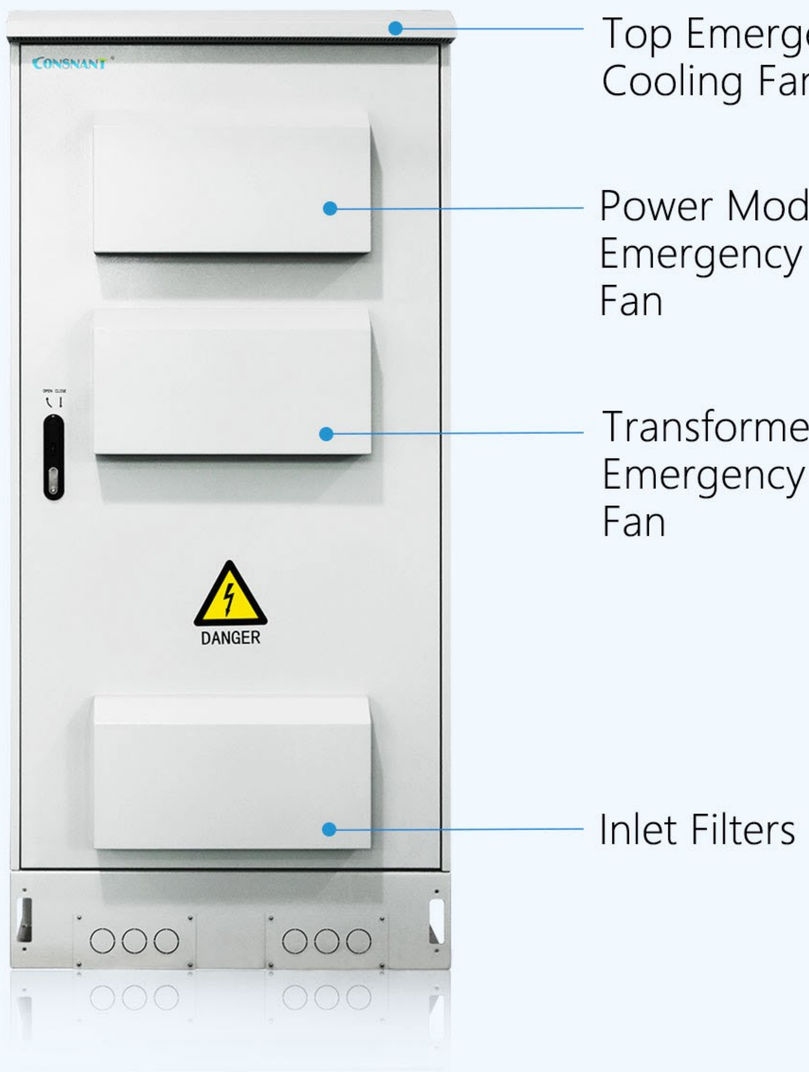
CNW330 10-40KVA

Application

Our outdoor UPS CNW330 series is specially designed for telecommunication base stations. Whether it is used in remote sites or urban networks, our professional team can design solutions for various application scenarios, whether outdoor or indoor, to ensure the smooth operation of power equipment.

System Layout Diagram:

Front View of Cabinet



Back View of Cabinet

The UPS consists of the following blocks:

RECTIFIER

Converts the input AC power to DC power, the functions are the following:

- Powering the inverter with direct current.
- Charging the battery automatically. Float charge to 80% first, then equalized charge at a constant voltage.

The charging current is limited to 15% of the battery Ah value (stored in memory!) This charging current will only be executed when the total output does not exceed 110% of the rated value.

EXTERNAL BATTERY

Provides the reserved energy for powering the load when there is no power input to the UPS.

HARMONIC REDUCTION FILTER (optional)

The filter, in the front stage of rectifier, reduces harmonic distortion of input current. It consists of two inductors and several capacitors, and is protected by a fuse.

INVERTER

Converts the DC power of a rectifier or battery into AC power. It remains in working condition at all times to provide power to the load.

STATIC SWITCH

- Allows to automatically or manually switch between INVERTER output and BY-PASS bypass output in real-time.
- At the same time, this static switch has a "Backfeed Protection" device to prevent current feedback caused by abnormal SCR faults.

SWMB

Turn on the SWMB switch and turn off other switches SWIN, SWBY, or SWOUT, the UPS will be isolated for maintenance purposes. At this point, the load can still obtain power without being affected, because there is no voltage inside the UPS (The voltage only exists in the input/output terminal block and switch section.But on UPS with three-phase output, the neutral line is not separated!).

TECHNICAL SPECIFICATIONS

Model	CNW330 - 10K	CNW330 - 15K	CNW330 - 20K	CNW330 - 30K	CNW330 - 40K
Capacity	10KVA	15KVA	20KVA	30KVA	40KVA
System Parameters					
Relationship between output power factor cosΦ and the load					
05~0.8 Inductive Load	100%				
0.8~1.0 Inductive Load	100~80%				
1.0 Linear Load	80%				
0.8~1.0 Capacitive Load	80%				
0.5~0.8 Capacitive Load	70%				
Computer Load	80%				
Overall Efficiency Load 100% (normal mode)	92%				
Overall Efficiency (economic model)	98%				
Max Leakage Current [mA]	100				
Standby Economy Mode	Standard function				
Mean Time Between Failures (MTBF)	200,000 hours				
Computer Monitoring Port	Standard configuration RS232, RS485/Modbus				
Operating Temperature	-10℃~50℃				
Max Relative Humidity	95% (non-condensing)				
Cooling	Forced ventilation (fan speed varies with load and temperature)				
Maximum Altitude	Rated power at 10000m (increase by 100m and decrease by -1%), maximum 4000m				
Noise [dB]	52~58				
Protection Class (EN 60529)	IP55				
Incoming and Outgoing Line Method	Bottom / Back				
Safety Standard	Safety regulations: GB4943, EN50091-1; EMC: GB7260.2, GB/T 17626.2~5EMC, EN 50091-2				
Physical Parameters					
Width (mm) W	900		1060		
Depth* Height (mm)	1200*1950		1295*1950		
Weight (kg) (battery not included)	273	299	311	454	602
Rectifier Input					
Rated Voltage	208VAC Three phase three wire				
Voltage Range	±10% (±20% adjustable)				
Rated Frequency	50/60Hz				
Frequency Range	45~65				
Input Power Soft Start Function	Yes，0-100%, 10-300 seconds settable				
Input Power Factor cosΦ	Up to 0.99 (with harmonic filter)				
Input Current Harmonic Component	Minimum<5% (with harmonic filter)				
Max. Input Current (A)	33	49	66	99	133

Rectifier Output					
Maintenance Voltage (20℃)	Battery type1 and 2: V=(2.266*el.) Vdc				
	Battery type3: V=(2.21*el.) Vdc				
	Battery type 0: The voltage value is between type 1 and 2, and the voltage value adjustment range V=(2.09~2.4)*el.[Vdc]				
Charging Voltage(20℃)	Battery type1 and 2: V=(% Recharging<95%)=(2.32*el.) Vdc				
	Battery type3: V (% Recharging<95%)=(2.4*el.) Vdc				
	Battery type0: The voltage value is between type 1 and 2, and the voltage value adjustment range V=(2.09~2.4)*el.[Vdc]				
Max Charging Voltage	(2.32*el.) Vdc				
Charger Output Stabilization Accuracy	1%				
DC Ripple Voltage Component	≤1%				
Battery					
Number of Units (rated voltage)	16 unit (192VDC)				
Charging Current Setting	0.1A x C10				
Battery Discharge Termination Voltage	Battery 1, 2 and 3: No-load discharge current, Vmin=(1.81*el .) [Vdc]				
	Battery 1, 2 and 3: Output current=Ah capacity, Vmin=(1.65*el.) [Vdc]				
	Battery 1, 2 and 3: Output current>Ah capacity, Vmin=(1.60*el.) [Vdc]				
	Battery 0 type: Factory default values, Vmin=(1.67*el.) [Vdc] Adjustment range Vmin=(1.57~1.88)*el. [Vdc]				
Three-phase Inverter Output					
Rated Capacity [KVA]	10	15	20	30	40
Rated Power [KW]	8	12	16	24	32
Rated Voltage [V]	208VAC Three-phase four-wire				
Rated Current [A]	22	33	44	66	88
Phase Voltage Setting	112~ 135V (control panel)				
Peak Factor (Ipeak/Irms)	3:1				
Wave Form	Sine Wave				
Voltage Phase Shift (degrees) 100% Balanced Load	±1′				
Voltage Phase Shift (degrees) 100% Unbalanced Load	±2′				
Phase Voltage Difference 100% Balanced Load	±1%				
Phase Voltage Difference 100% Unbalnced Load	±3%				
Total Harmonic Content (THDv) 100% Linear Load	<2%				
Total Harmonic Content (THDv) 100% Non-Linear Load	<5%				
Steady Voltage Stability	± 1%				
Transient Voltage Response	± 5% within 10ms				
Rated Frequency	Same ae input				
Frequency Stability	± 0.5% when asynchronous; During synchronization, ± 2% (can be set to ± 1-5%, operated by the panel)				
Overload	600′/10′/1′ (110/125/150% Rated current)				
Short Circuit for 0.1 Sedcods	2 times input				
Inverter Efficiency (100% load)	90%				

Three Phase Bypass Input					
Rated Capacity [KVA]	10	15	20	30	40
Rated Voltage [V]	208 VAC Three-phase four-wire				
Input Voltage Range	±15% (can be adjusted from the control panel to ±10%, ±20%)				
Rated Frequency [Hz]	50 / 60				
Voltage Range	±2% (can be adjusted from the control panel to ±5%)				
"STAND-BY ON" (switching time from bypass to inverter in economic mode)	2~5 ms				
Inverter/Bypass Switchover Time	<1 ms				
Overload Capacity	10'/1'/18' (150/175/200% Rated current)				
Standard Configuration	Feed current protection				