



UPS 300 SERIES

MULTI MODULE SYSTEMS

300 kVA/240 kW, 60 Hz

600 kVA/480 kW, 60 Hz

900 kVA/720 kW, 60 Hz

Caterpillar® is leading the power generation marketplace with Power Quality Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost effectiveness.

FEATURES

PRODUCT FEATURES

- Smallest available footprint
- High system efficiency
- Harmonic cancellation
- Transient protection
- High-speed voltage regulation
- Power factor improvement
- Top and bottom cable entry
- 40° C rating on entire system
- Low input current distortion
- Utilizes kinetic power cell technology
- Simple installation
- Low maintenance
- Quiet operation
- Optional redundant energy storage
- Expandable for future capacity growth
- Optional generator set start module

RELIABLE POWER PROTECTION FOR CRITICAL APPLICATIONS

Cat® UPS systems provide constant power protection against surges, sags, and power interruptions that can disrupt operations or cause loss of valuable data or system capacity. Additionally, the use of the optional generator set start module can dramatically increase generator set starting reliability in a continuous power configuration.

SUPERIOR DESIGN

Superior system design and the use of robust digital components throughout the system yield the most reliable and trouble-free UPS system on the market. Protection is delivered in the industry's smallest package with the highest efficiency and superior performance.

LOWER TOTAL COST

The high operating efficiency means yearly savings versus traditional battery UPS products. In addition, lower Cat UPS heat rejection reduces up front HVAC costs and electrical consumption over the life of the product.

GENERATOR SET INTEGRATION

By cancelling harmonic distortion, the 300 Series operates seamlessly with generator sets to provide a higher total electrical load capacity without oversizing the generator set. The 300 Series effectively insulates the generator set from block loads and transient, and can improve its fault clearing capabilities. Programmable integration with standby generator sets assures greater system reliability and improves the total system operation.

WORLDWIDE PRODUCT SUPPORT

- Parts Distribution Centers are located worldwide with available service support through Caterpillar and the Cat Dealer Network.
- Factory certified service and technicians are trained to support every aspect of your Cat UPS system.

FACTORY INSTALLED STANDARD AND OPTIONAL EQUIPMENT

Standard Features	Optional Features
Battery free, flywheel energy storage	24-volt DC, generator set starting power
IGBT Based Bi-directional converter	SNMP
Integral modem – remote communication	Remote Status Panel (8 status LED's)
Local Emergency Power Off (EPO)	Maintenance bypass
Remote notification and monitoring via Ethernet and e-mail	4-wire input and output
RS232 or RS485 serial connection	Remote EPO
UPS View – real-time monitoring software	N+1 flywheel energy storage
LCD monitor/control user interface panel	Field expandable for future capacity increases
Programmable input and output contacts	External synchronizing input
MODBUS (RTU or TCP/IP)	
Redundant cooling fans	
Top/Bottom cable entry	
Back feed protection	
Mounting hardware – seismic rated	
Monitoring and alarms for all critical components w/self-diagnostics	
Voltage regulation and power factor improvement	
Harmonic cancellation	
Static Bypass Switch	

SPECIFICATIONS

INPUT	
Voltage	480 VAC 3-phase, 3-wire plus ground from grounded wye source (4-wire – optional)
Voltage Range	+ 10%/-15% (programmable)
Frequency	60Hz (± 10% max. – programmable)
Power Factor	0.99 at rated load and nominal voltage
Harmonic Current Distortion	
<i>Linear load</i>	< 3% at 100% resistive load
<i>Non-linear load</i> ⁽¹⁾	< 8% with 100% non-linear load
Surge Withstand	Meets IEEE 587/ANSI C62.41
Walk-in	1 to 15 seconds (programmable)
Bypass Source	Same as input source – Synchronized frequency, phase and voltage
Bypass Voltage Window	+ 10%/-15% (programmable within range)
OUTPUT	
Voltage	480 VAC, 3-phase, 3-wire plus ground (4-wire with optional 4-wire input)
Voltage regulation	
<i>Steady-state</i>	± 2% of nominal for ± 10% input and balanced or unbalanced load
<i>Transient</i>	± 5% of nominal for 100% load step; or loss/return of input
<i>Recovery Time</i>	50 millisecond maximum
Bypass Trigger	Programmable up to ± 10%

Frequency Regulation	
<i>Normal Operation</i>	Synchronized to input
<i>Free Running</i>	± 0.2% free running
<i>Synch Window</i>	Adjustable over a range of at least 0.3 Hz to 3 Hz
<i>Resynchronization Slew Rate</i>	Adjustable over a range 0.3 Hz/second to 1 Hz/second
Load Power Factor	0.8 lag to 0.9 lead for specified regulation and rating. 0.4 lag to 0.7 lead with reduced regulation or load
Voltage Unbalance & Distortion	
<i>Balanced Load</i>	< 1% voltage unbalance and < 1° phase displacement
<i>50% Unbalanced Load</i>	< 3% voltage unbalance and < 3° phase displacement
<i>Linear Load</i>	< 3% THD, < 2% SHD
<i>100% Non Linear Load</i> ⁽¹⁾	< 5% THD
<i>Load Imbalance</i>	The UPS is capable of supporting any combination of unbalanced load that does not exceed the maximum phase currents and the total output limitations of the UPS
Overload Capability (normal operation)	
<i>10 Minutes</i>	Up to 125%
<i>30 Seconds</i>	Up to 200%
<i>1 seconds</i>	500%
<i>10 milliseconds</i>	1000%

¹ In accordance with EN 50091-3

TECHNICAL DATA

	UPS300E	UPS600	UPS900	
Maximum kVA	300	600	900	
Maximum kW	240	480	720	
Input Voltage (nominal)	480			
Output Voltage (nominal)	Same as input			
Input Current (amps)				
<i>Nominal</i>	297	595	892	
<i>Maximum Continuous</i>	400	800	1200	
<i>Maximum Including Recharge</i>	440	880	1320	
Output Current	361	722	1084	
System Efficiency	97%	97%	97%	
System Withstand Rating	65,000 A			
Heat Rejection				
<i>Nominal</i>	BTU/Hr kW	25,300 7.5	50,600 14.8	75,900 22.3
<i>Worst Case</i>	BTU/Hr kW	52,200 15.3	104,500 30.6	156,700 45.9

DIMENSIONS AND WEIGHTS

UPS300E		
Depth	865 mm	34.0 in
Width	3,226 mm	127 in
Height	2,438 mm	96.0 in
Weight (3-wire)	3,199 kg	7,050 lb
Weight (4-wire)	3,494 kg	7,700 lb
UPS600		
Depth	865 mm	34.0 in
Width	4,318 mm	170 in
Height	2,438 mm	96.0 in
Weight (3-wire)	5,241 kg	11,550 lb
Weight (4-wire)	5,536 kg	12,200 lb
UPS900		
Depth	865 mm	34.0 in
Width	5,410 mm	213.0 in
Height	2,438 mm	96.0 in
Weight (3-wire)	7,282 kg	16,050 lb
Weight (4-wire)	7,577 kg	16,700 lb

ENVIRONMENTAL

Acoustical Noise	< 75dBA at 1m (3.28 ft)
Temperature	
Operating	0° C to 40° C (4° F to 104° F)
Storage	-25° C to 70° C (-13° F to 158° F)
Humidity	5% to 95% (non-condensing)
Altitude	Up to 914.4 m (3,000 ft); (de-rate operating temperature range for higher elevation)
Emissions and Immunity	FCC Class A, Subpart J of 1Part 5/EN 50091-2

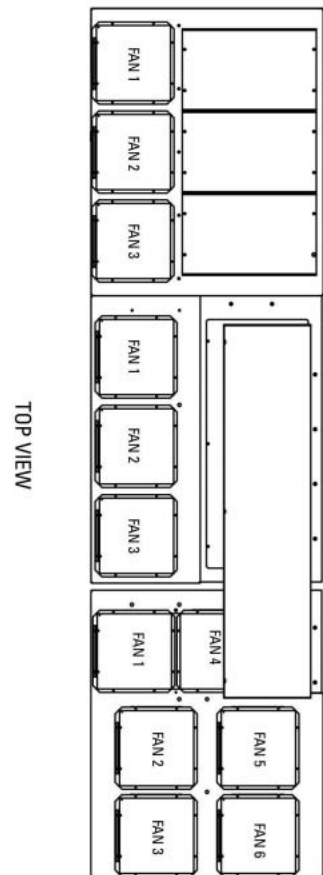
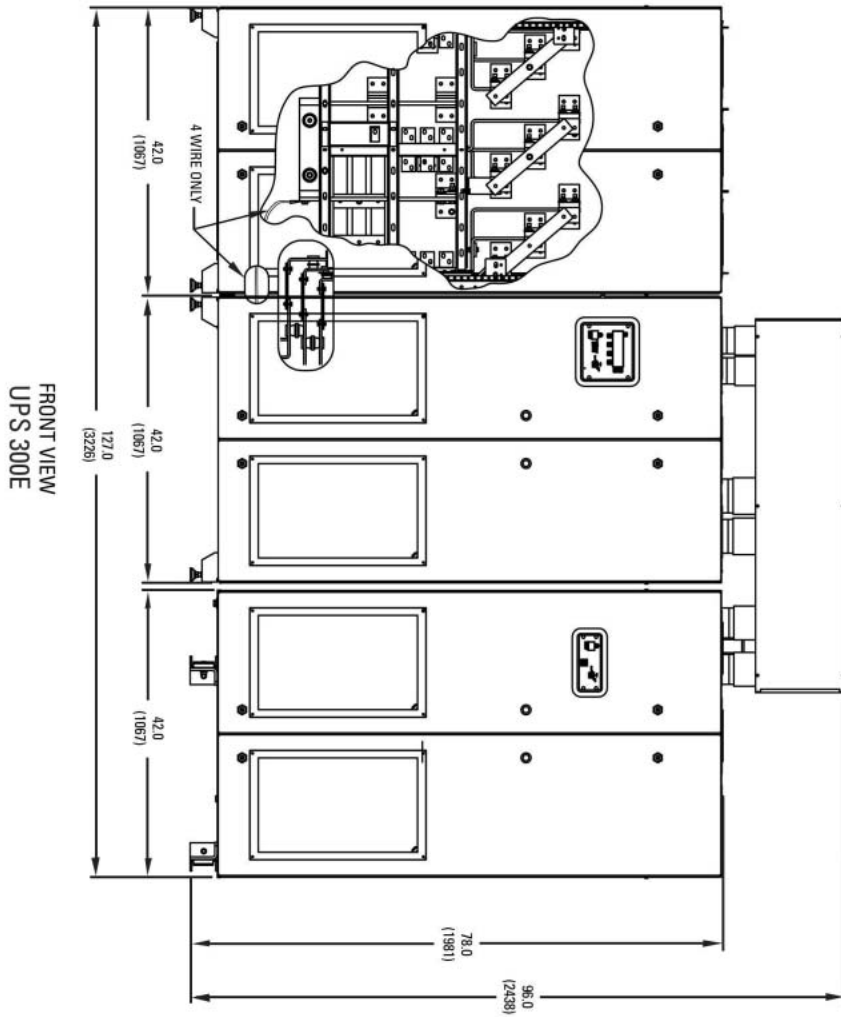
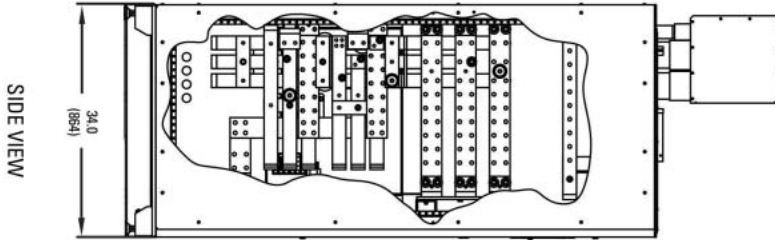
CERTIFICATIONS

UL 1778 listed
CUL CAN/CSA 22.2 No. 107.1 listed
EN50091-1-1
CE Mark

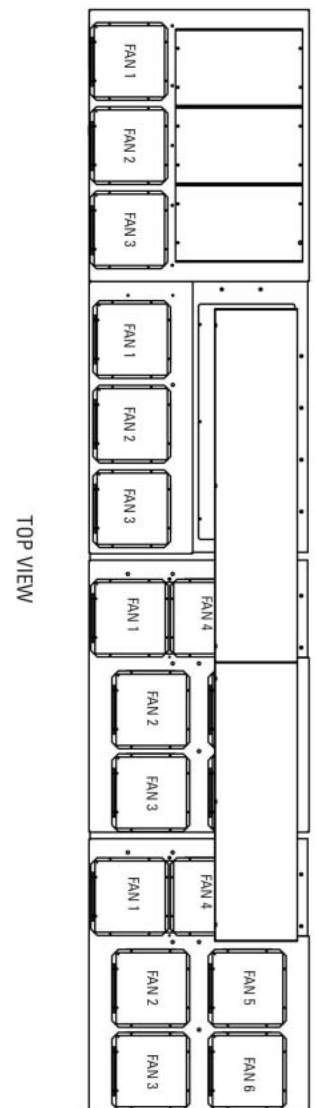
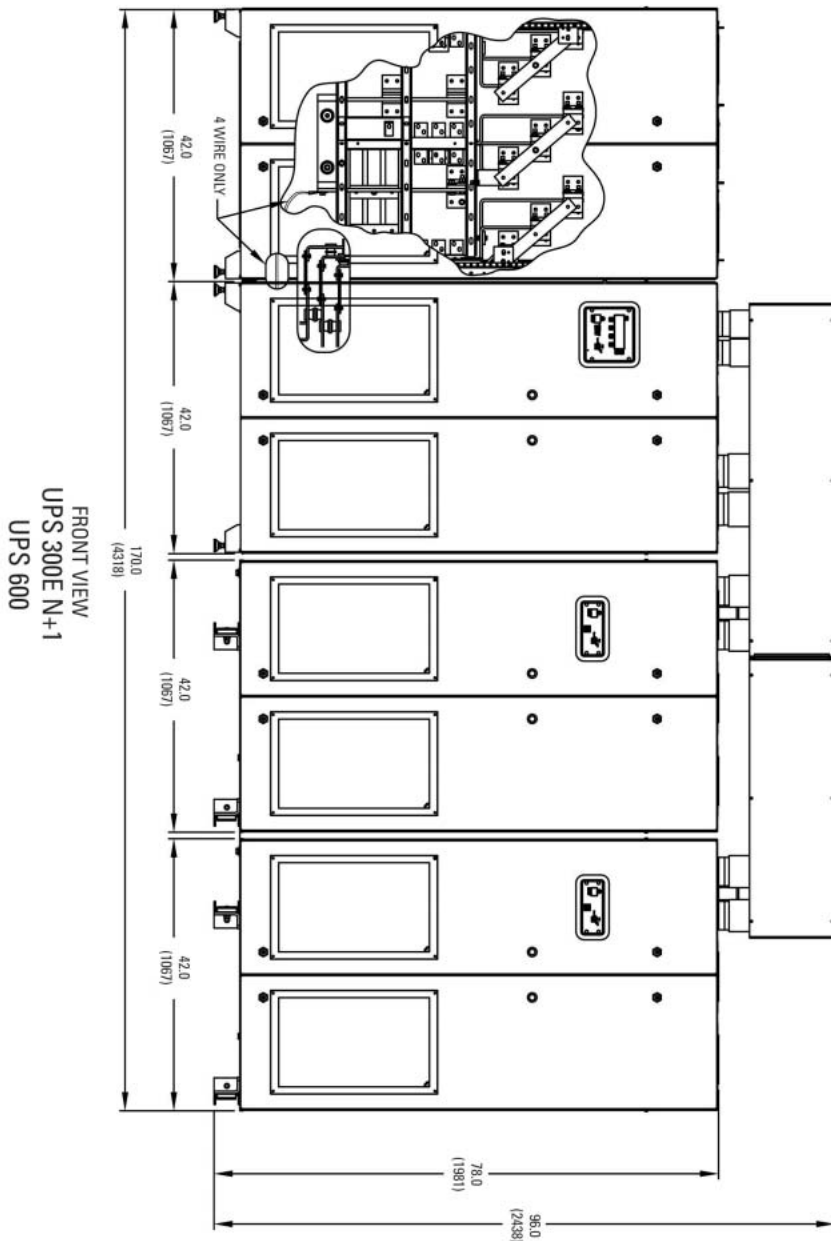
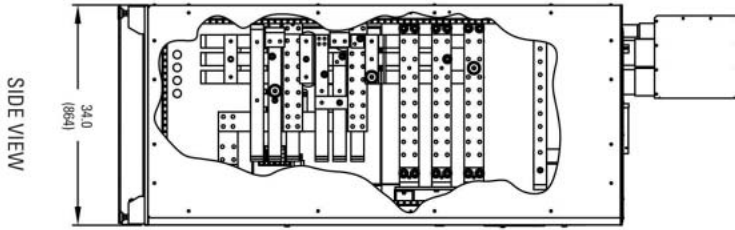
RIDE THROUGH TIMES (SEC)

Model	100% load	75% load	50% load	25% load
UPS300E				
UPS600	13	17	25	50
UPS900				

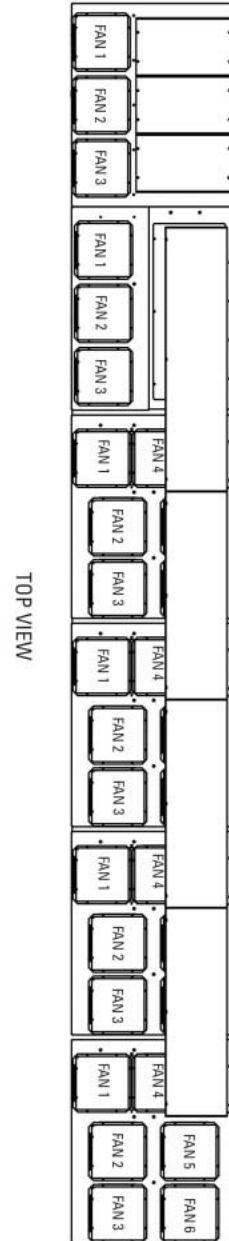
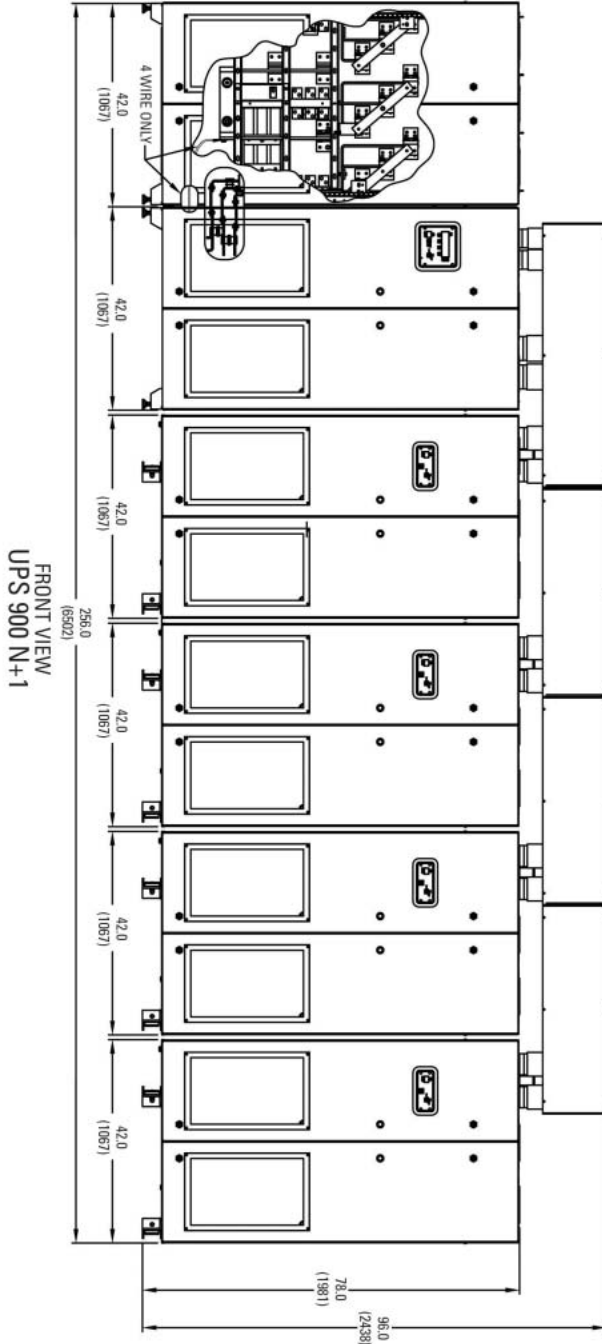
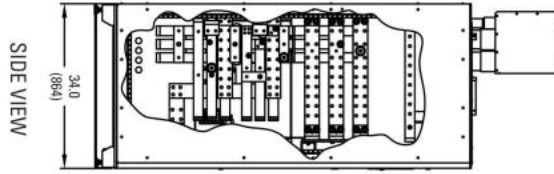
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