



UPS 300 SERIES

SINGLE MODULE SYSTEMS

120 kVA/120 kW, 50 Hz
250 kVA/225 kW, 50 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
- Remote monitoring
- Simple installation
- Low maintenance
- Quiet operation
- 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

Caterpillar's 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 generators 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	Remote EPO
RS232 or RS485 serial connection	
UPS View – real-time monitoring software	
LCD monitor/control user interface panel	
Programmable input and output contacts	
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	
4 Wire input and output	

SPECIFICATIONS

INPUT	
Voltage	380/400/415 VAC 3-phase, 4-wire plus ground from grounded wye source
Voltage Range	+ 10%/-15% (programmable) ± 10% @ 380V
Frequency	50 Hz (±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	380/400/415 VAC 3-phase, 4-wire plus ground from grounded wye source
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	0.9 lag to 0.9 lead for specified regulation and rating. 0.4 lag to 0.7 lead with reduced regulation or load
Voltage Unbalance and 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 Second</i>	500%
<i>10 Milliseconds</i>	1000%

⁽¹⁾ In accordance with EN 50091-3

TECHNICAL DATA

	UPS120	UPS250	
Maximum kVA	120	250	
Maximum kW	120	225	
Input Voltage (nominal)	380/400/415		
Output Voltage (nominal)	Same as input		
Input Current (amps)			
Nominal	189/180/173	315/299/288	
Max Continuous	230	400	
Max Including. Recharge	290	440	
Output Current	183/173/167	380/361/341	
System Efficiency	95%	96.4%	
System Withstand Rating	42,000 A		
Heat Rejection			
Nominal	BTU/Hr kW	21,500 6.3	25,000 7.5
Worst Case	BTU/Hr kW	38,000 11.1	48,200 14.1

DIMENSIONS AND WEIGHTS

Depth	865 mm	34.0 in
Width	1641 mm	64.6 in
Height	1980 mm	78.0 in
Weight	2193 kg	4835 lb

ENVIRONMENTAL

Acoustical Noise	< 75 dBA at 1 m (3.28 ft)
Temperature	
<i>Operating</i>	0° C to 40° C (4° F to 104° F)
<i>Storage</i>	-25° C to 70° C (-13° F to 158° F)
Humidity	5% to 95% (non-condensing)
Altitude	Up to 914.4 m (3000 ft); (de-rate operating temperature range for higher elevation)
Emissions and Immunity	FCC Class A, Subpart J of Part 15/ EN 50091-2

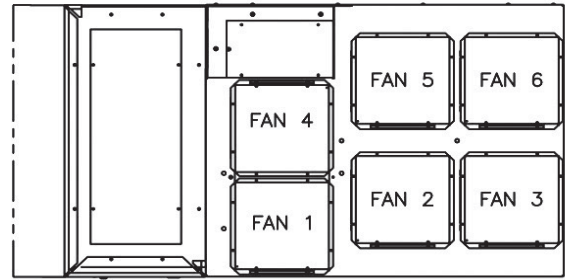
CERTIFICATIONS

EN50091-1-1
CE Mark

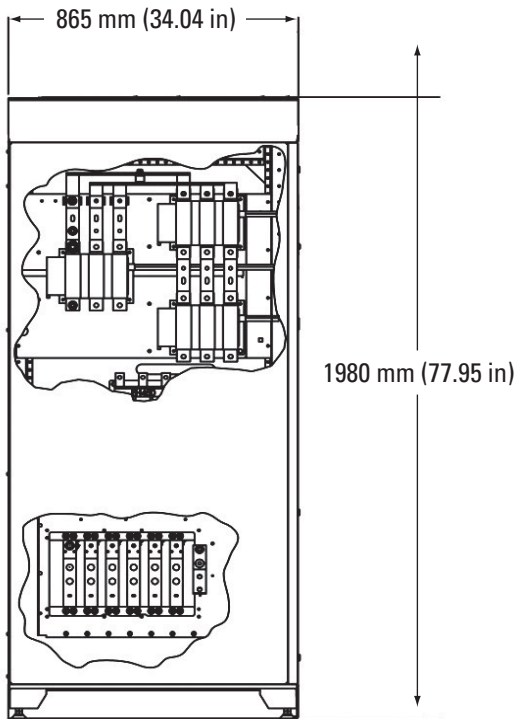
RIDE THROUGH TIMES (SEC)

Model	100% load	75% load	50% load	25% load
UPS120	26	35	52	89
UPS250	15	20	30	60

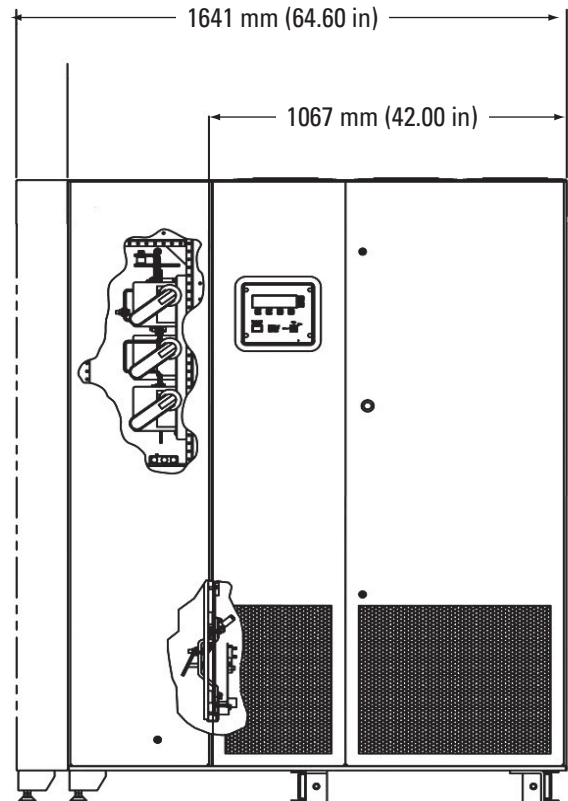
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TOP VIEW



SIDE VIEW



FRONT VIEW
120 & 250 kVA



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