



UPS 300 SERIES MULTI MODULE SYSTEMS

250 kVA/200 kW, 50 Hz

500 kVA/400 kW, 50 Hz

750 kVA/600 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 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	Remote EPO
RS232 or RS485 serial connection	N+1 flywheel energy storage
UPS View – real-time monitoring software	Field expandable for future capacity increases
LCD monitor/control user interface panel	External synchronizing input
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
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 seconds</i>	500%
<i>10 milliseconds</i>	1000%

¹ In accordance with EN 50091-3

TECHNICAL DATA

	UPS250E	UPS500	UPS750
Maximum kVA	250	500	750
Maximum kW	200	400	600
Input Voltage (nominal)	380 /400/415 V		
Output Voltage (nominal)	Same as input		
Input Current (amps)			
<i>Nominal</i>	315/299/288	631/599/578	946/899/867
<i>Maximum Continuous</i>	400	800	1200
<i>Maximum Including Recharge</i>	440	880	1320
Output Current	380/361/348	761/723/696	1140/1084/1044
System Efficiency	96.4%	96.4%	96.4%
System Withstand Rating	65,000 A		
Heat Rejection			
<i>Nominal</i>	BTU/Hr kW	25,000 7.5	50,900 14.9
<i>Worst Case</i>	BTU/Hr kW	48,200 14.1	96,400 28.3

DIMENSIONS AND WEIGHTS

UPS250E		
Depth	865 mm	34.0 in
Width	3,226 mm	127 in
Height	2,438 mm	96.0 in
Weight	3,494 kg	7,700 lb
UPS500		
Depth	865 mm	34.0 in
Width	4,318 mm	170 in
Height	2,438 mm	96.0 in
Weight	5,536 kg	12,200 lb
UPS750		
Depth	865 mm	34.0 in
Width	5,410 mm	213.0 in
Height	2,438 mm	96.0 in
Weight	7,577 kg	16,700 lb

ENVIRONMENTAL

Acoustical Noise	< 75dBA 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 (3,000 ft); (de-rate operating temperature range for higher elevation)
Emissions and Immunity	FCC Class A, Subpart J of Part 5/EN 50091-2

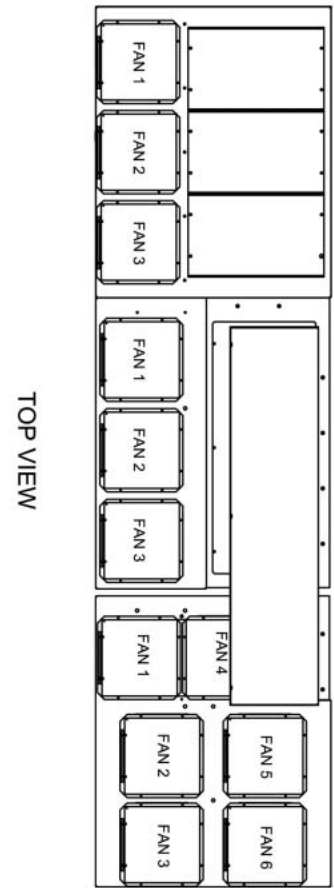
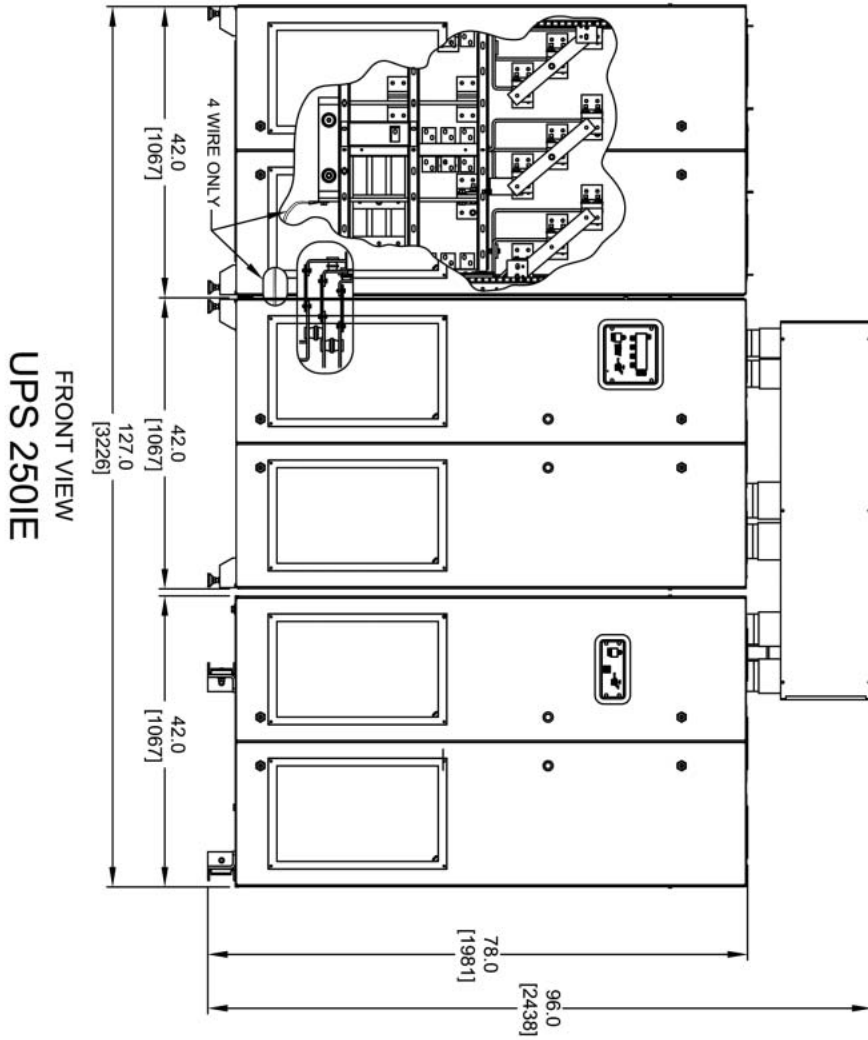
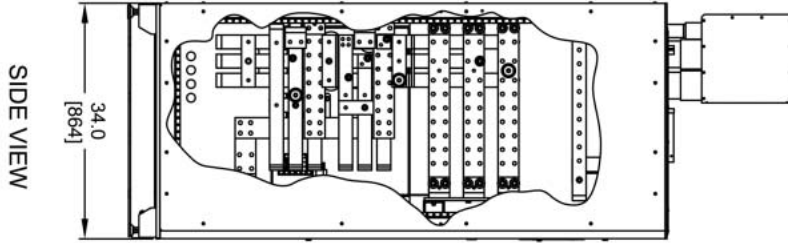
CERTIFICATIONS

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

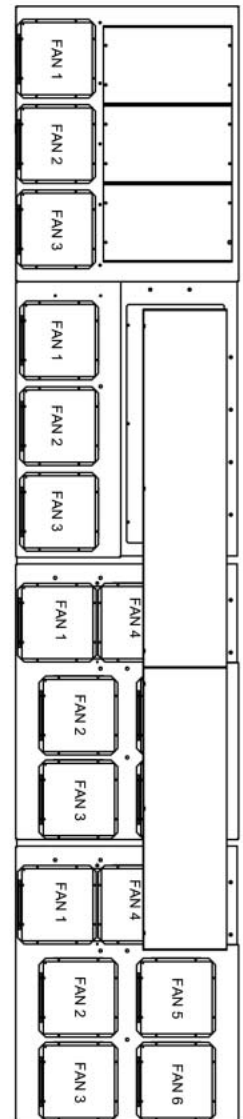
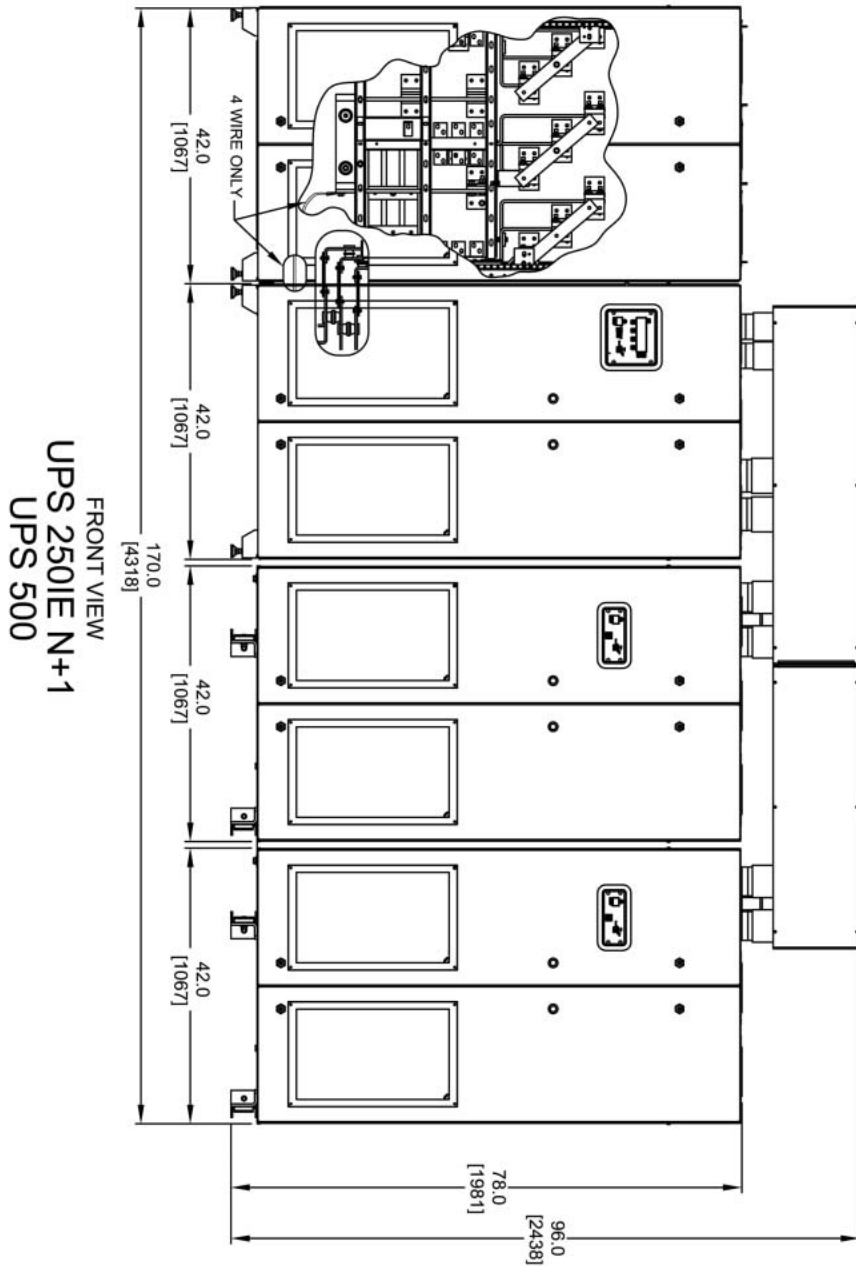
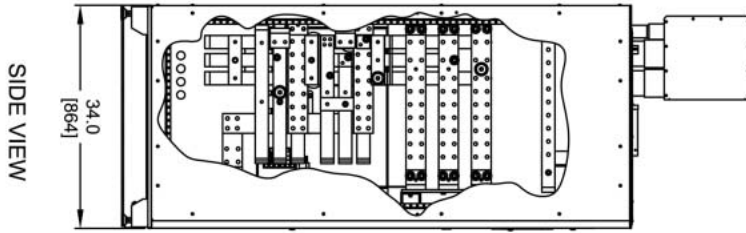
RIDE THROUGH TIMES (SEC)

Model	100% load	75% load	50% load	25% load
UPS250E				
UPS500	15	20	30	60
UPS750				

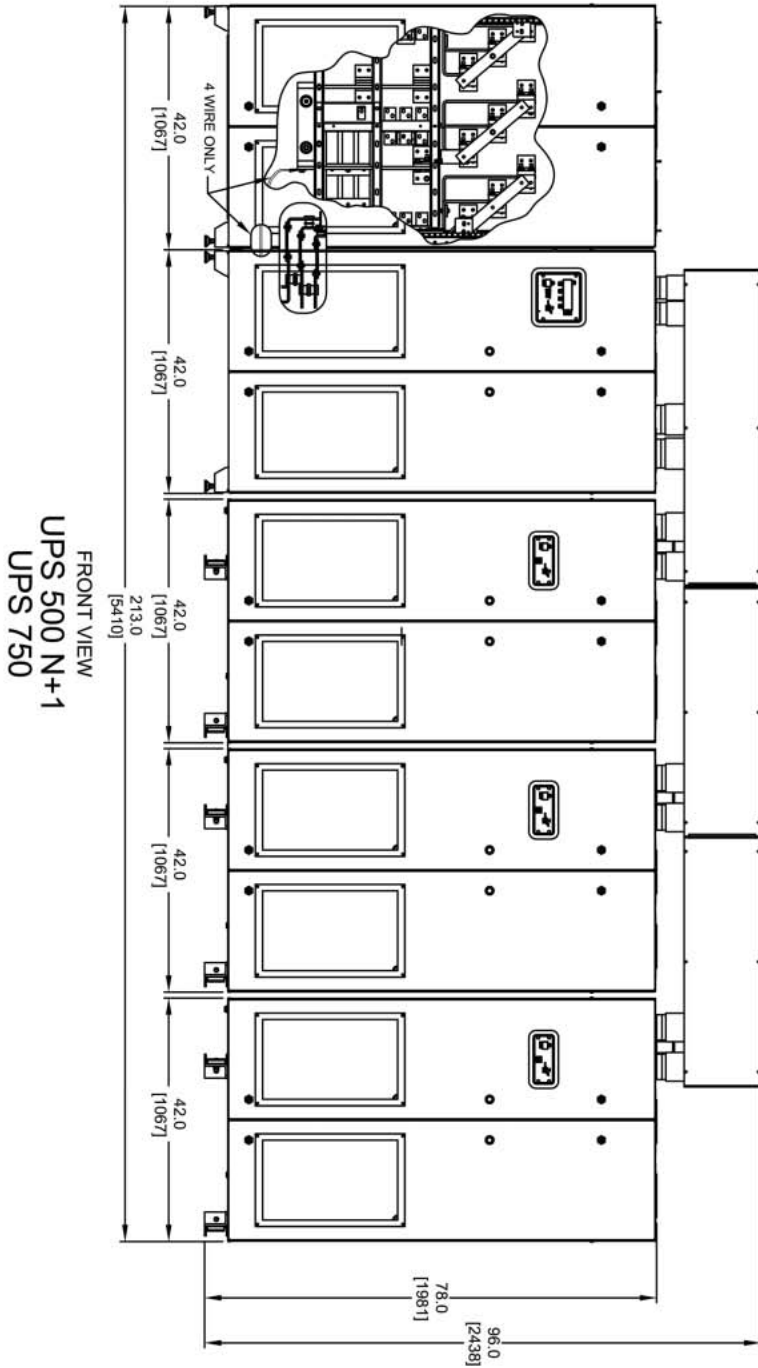
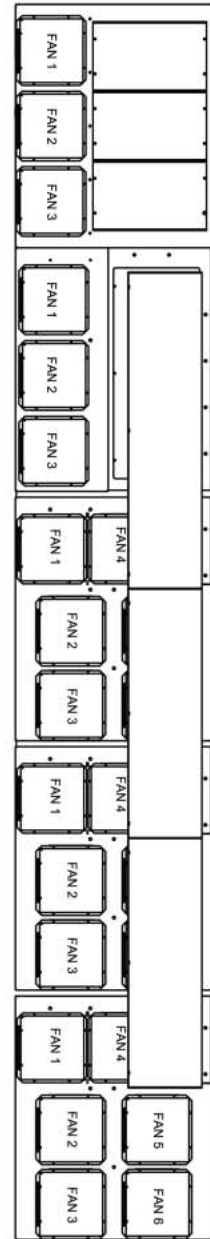
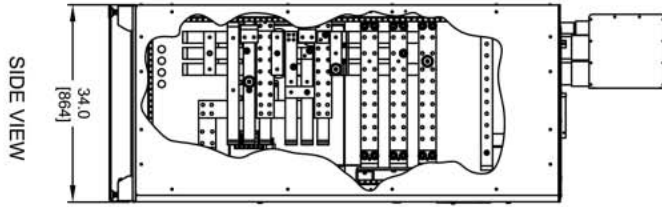
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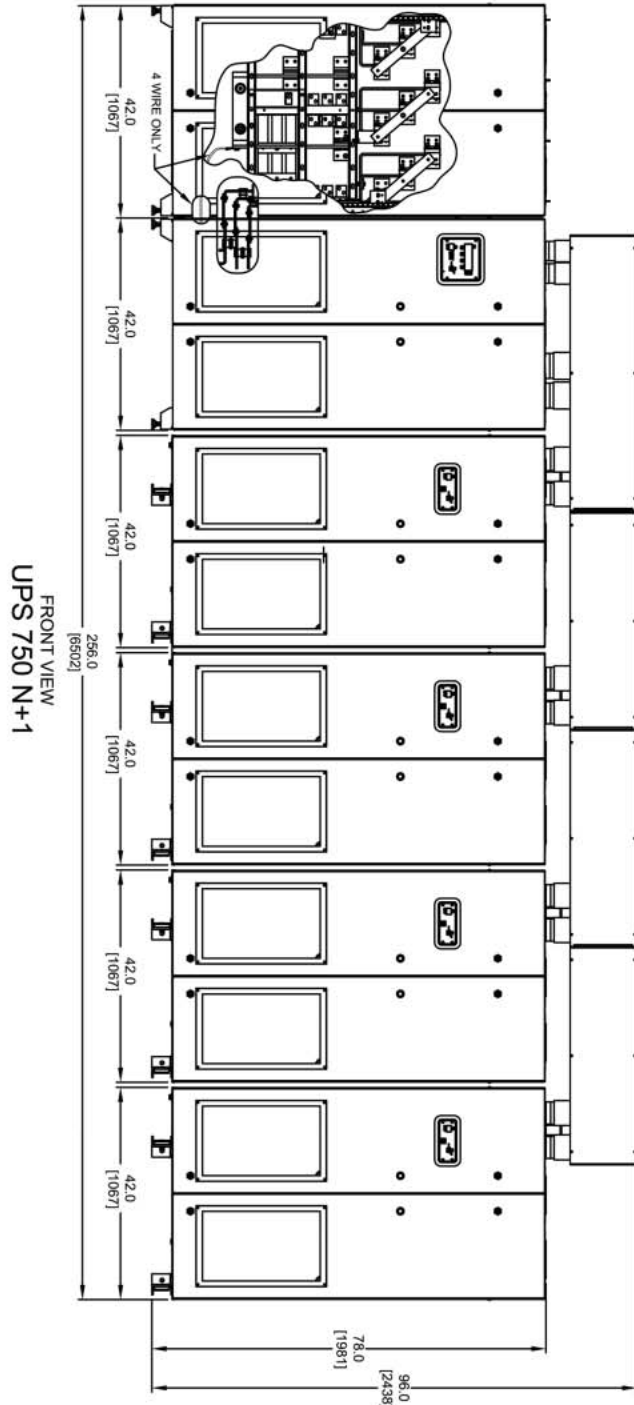
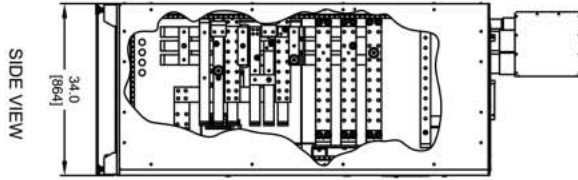
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