

# Uninterruptible Power Supply (UPS)



Image shown may not reflect actual product.

## Cat<sup>®</sup> UPSB505

On-Line Double Conversion UPS

160 kVA – 500 kVA

(144 kW – 450 kW)

50 Hz, 60 Hz 380-440 Volt 3-phase

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

## FEATURES

### PRODUCT FEATURES

- Double conversion topology
- Integrated battery management system
- Internal Maintenance Bypass
- Small footprint
- Up to 94.5% total system efficiency
- Power factor corrected input
- Transient protection
- High-speed voltage regulation
- Bottom cable entry
- Low input current distortion
- Simple installation
- Low maintenance
- Quiet operation
- Parallel up to 8 units

### RELIABLE POWER PROTECTION FOR CRITICAL APPLICATIONS

Cat<sup>®</sup> double conversion battery UPS systems utilize IGBT based technology to provide clean, stable power to sensitive loads, ensuring critical power protection, optimum performance, and extended life of the protected equipment.

### SUPERIOR DESIGN

Superior system design and the use of robust digital components throughout the system yield a reliable and trouble-free UPS system.

### HIGH AVAILABILITY

The UPS has been designed for continuous operation. Redundant components and cooling are available for increased reliability, and the UPS is fault tolerant with built in 100% rated static bypass switch.

### FLEXIBLE AND UPGRADEABLE

Further capacity can be added by paralleling (maximum system output of 2000 kVA). The UPS has an intuitive man/machine interface with a large high definition display and animated mimic display. With the addition of optional communication cards, it can be easily integrated into networking and monitoring systems using common protocols such as Modbus or SNMP.

### WORLDWIDE PRODUCT SUPPORT

Cat<sup>®</sup> dealers provide extensive post sale support including maintenance and repair agreements. Factory qualified technicians are trained to support every aspect of your Cat UPS system.

## FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

### STANDARD EQUIPMENT

- Front Panel Display
  - Large LCD display
  - LED mimic diagram
  - Event logging with date-time stamping of 5000 events
  - Audible alarms
- Emergency Power Off (EPO) Contacts
- Advanced Monitoring provides intelligent battery management that automatically tests the battery system and provides life cycle monitoring of remaining battery life expectancy.
- Relay Card  
Four programmable 9VDC input contacts (20mA consumption) and six programmable 30VDC output contacts (rated for 1A at 30VDC) for remote monitoring of UPS operation.
- Internal Maintenance Bypass
  - Promotes safe UPS maintenance
  - Eliminates the need for costly additional external bypass breakers
  - Reduces installation costs

### OPTIONAL EQUIPMENT

- Network Management Card  
SNMP protocol over 10/100MB Ethernet connection, plus web interface and direct email/SMS notification.
- Network Management Card w/Modbus  
Provides features of the above listed network management card with the addition of communication through Modbus via RS-485 connection.
- Battery Circuit Breaker  
Provides circuit breaker disconnect for battery power source for use with customer supplied batteries
- Top cable entry  
Provides auxiliary cabinet for top cable entry.
- Backfeed protection  
Provides disconnect of the UPS from the input source on UPS discharge
- External sync  
Provides controls to synchronize the outputs of two UPS modules.

# Uninterruptible Power Supply (UPS)



## TECHNICAL DATA

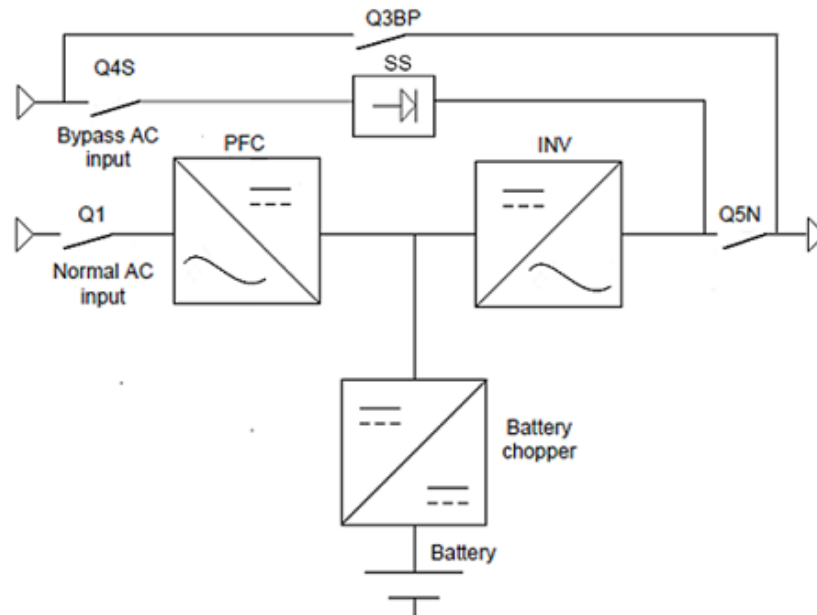
Rated Power kVA (kW)	160 (144)	200 (180)	250 (225)	300(270)	400(360)	500(450)
Normal AC input						
Input Voltage	340-460 VAC 3-Phase L-L + Neutral + Ground					
Frequency	(45-65 Hz)					
Power Factor	> 0.99					
Maximum Continuous Current Input (at 380VAC)	294	294	442	442	587	735
Current Distortion (THDI)	<5%					
Bypass AC input						
Input Voltage	(380V, 400V, 415V, 440V* ) +/- 10%					
Frequency	50 Hz/ 60 Hz +/- 10%					
Nominal Current Input (at 400VAC)	231	289	361	433	577	722
Output						
Output Voltage	380/400/415/440* VAC 3-phase					
Nominal System Output Current (at 400 VAC)	231	289	361	433	577	722
Frequency	50 Hz or 60 Hz ± 0.1 Hz					
Power Factor	0.9					
Voltage Variation	± 1.0%					
Voltage Transient Response ( 0 to 100% load step impact)	± 1.0%					
Voltage Distortion (THD)	<2% L- L and L-N for linear loads, <3% L- L and L-N for non-linear loads					
Overload	150% for 30 sec, 125% for 10 min					
Overall Efficiency						
Double conversion mode (at full load)	93%	93%	94%	93.6%	94.1%	94.3%
Environmental						
Storage temperature	-25°C to +40°C (-13°F to 104°F)					
Storage Relative Humidity	20-80% non-condensing					
Storage Elevation	<1000m					
Operating Temperature	0-35°C (32°F - 95°F)					
Operating Altitude	<1000m					
Operating Humidity	95% non-condensing					
Heat Rejection( kW)	10.5	13.5	14.9	18.6	22.6	27.2
(BTU/Hr)	35859	46104	50886	63522	77183	92893
Audible Noise (dBA) at 1 meter from unit	75		75			75
Degree of Protection	IP 20 standard, IP 32 optional					
Standards and Approvals						
Construction and Safety	IEC/EN 62040-1, IEC/EN 60950					
Performance	IEC 62040-3					
Design and Manufacture	IEC 60146, ISO 14001, ISO 9001					
EMC Emissions	IEC 62040-2 C3					
EMC Immunity	IEC61000-4					
Approvals	LCIE-CE Mark					
Dimensions and Weights						
Physical Depth (mm)	849					
Physical Height (mm)	1900					
Physical Width (mm) (without battery)	1412					1812
Physical Weight (kg)	840	960		1110	1470	
Shipping Depth (mm)	970					
Shipping Height (mm)	2030					
Shipping Width (mm) (without battery)	1525					1920
Shipping Weight (kg)	860	990		1140	1500	

\* Tolerance range is limited to +5/ -10%

# Uninterruptible Power Supply (UPS)

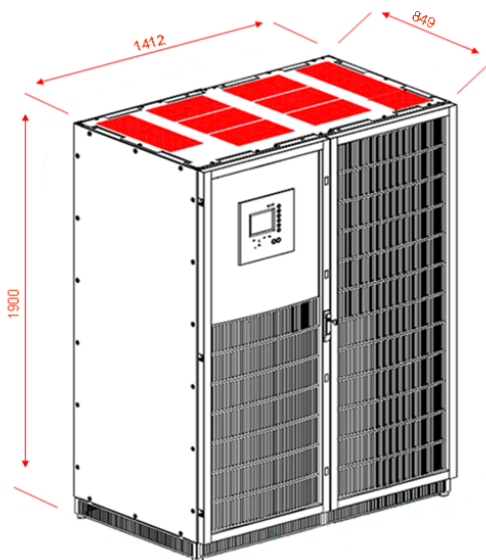


## ONE LINE DRAWING

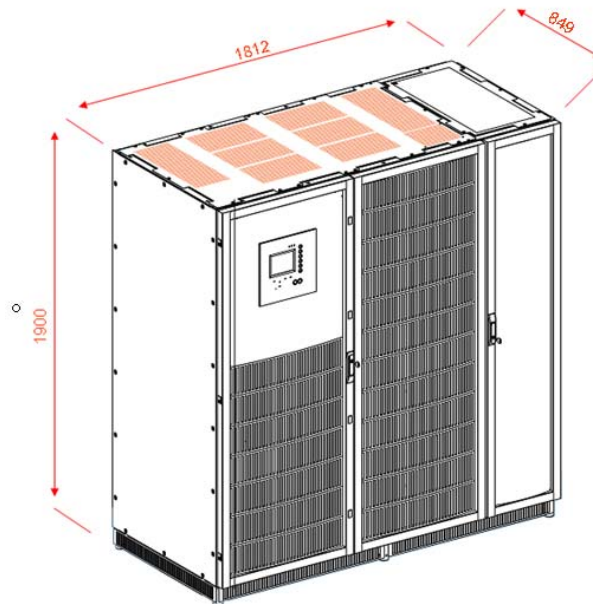


## ELEVATION DRAWINGS

(160-400KVA)



(500KVA)



Information contained in this publication may be considered confidential. Discretion is recommended when distributing.

Materials and specifications are subject to change without notice.

CAT, CATERPILLAR, their respective logos, "Caterpillar Yellow," the "Power Edge" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.