



# UPS & Generator





# Leading The Future of Electrification

- A Global Heritage Brand with 130 Years of Product Innovation
- Perfect Products, Creative Services, and Competitive Price

## Since 1886, Westinghouse Has Brought The Best To Life.

Westinghouse remains a trusted name globally in consumer and industrial products. Built on a heritage of innovation and entrepreneurial spirit, Westinghouse products were the first to supply the United States with AC electric power, transmit a commercial radio broadcast and capture man's first step on the moon. Today, Westinghouse continues to grow its diverse portfolio with a wide range of product categories that include home appliances, consumer electronics, lighting and power generation.

# ISOLATION TRANSFORMERS

## SERIES

**10-1200 kVA**     3  
PHASE

**1-10 kVA**     1  
PHASE



1  
**UPS**

### HIGHLIGHTS

- Reliable, Electrical Isolation
- Suppresses Electrical Noise
- Ensures Complete Safety of Equipment

### Excellent Protection & High Level of Isolation

- An isolation transformer is the best way to establish a new neutral-ground bond, in order to correct common mode and other grounding problems.
- Isolation transformer provides excellent protection from all types of N-G disturbances (impulses, RMS voltage, and high frequency noise).
- Isolation transformers can be used reliably in following areas:  
*Medical devices, CNC machines, UPS systems, Ships and boats, Shipyards, Metal processing plants, Rectifier and battery chargers, Industrial machines power supply units*

### CERTIFICATES



# ISOLATION TRANSFORMERS

## SERIES

### 10-1200 kVA

**3**

PHASE

### 1-10 kVA

**1**

PHASE



#### FEATURES

- Standards: TS EN 61558-2-4
  - Input Voltage: 230 VAC Ph+N / 400 VAC Ph-Ph (Three Phase)  
220 VAC Ph+N (Single Phase)
  - Output Voltage: 230 VAC Ph+N / 400 VAC Ph-Ph (Three Phase)  
110 VAC Ph+N (Single Phase)
  - Frequency: 50 - 60 Hz
  - Windings: Aluminum or Copper Foil\*
  - Magnetic Circuit: 0,50 mm Transformer Steel w/ 1,8 W/kg Loss
  - Connections: Star, Delta, Zig-Zag
  - Protection Class: Standard\*\*
  - Isolation Class: Isolation Class B (120°C) (Standard)\*\*\*  
Varnish Under Vacuum According to Isolation Class
  - Cooling : Natural\*\*
  - Ambient Temperature : -10°C...+40°C
  - Storage Conditions : -20°C...+70°C
  - Connections : As Per to Customer Requirements:  
All Types of Terminals and Lugs
- \* 'Copper Foil' or 'Enameled Copper Wire' can be used upon request.  
 \*\* Can be changed upon request.  
 \*\*\* Can be produced in F (155°C) or H (180°C) classes upon request.

#### 3 PHASE ISOLATION TRANSFORMERS

Power	Model Code	Ref.No.	Chassis Dims (WxHxD)	Chassis Weight	Connection	Wire
10kVA	WHG010HV1	W606179	667 x 768 x 330	110	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
10kVA	WHG010HV4	W606180	883 x 1048 x 431	172	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
10kVA	WHG010HV5	W606181	805 x 700 x 665	231	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
12kVA	WHG012HV1	W606182	650 x 370 x 564	115	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
15kVA	WHG015HV1	W606183	800 x 800 x 647	170	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
18kVA	WHG018HV1	W606184	800 x 800 x 647	180	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
20kVA	WHG020HV1	W606185	805 x 700 x 665	190	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
24kVA	WHG024HV1	W606186	600 x 700 x 638	200	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
30kVA	WHG030HV1	W606187	800 x 800 x 647	230	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
30kVA	WHG030HV2	W606188	883 x 1048 x 431	247	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
30kVA	WHG030HV4	W606189	625 x 800 x 495	210	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
30kVA	WHG030HV5	W606190	805 x 700 x 665	234	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
36kVA	WHG036HV1	W606191	600 x 700 x 638	157	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
40kVA	WHG040HV1	W606192	800 x 800 x 647	285	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
45kVA	WHG045HV1	W606193	800 x 800 x 647	289	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
60kVA	WHG060HV1	W606194	800 x 800 x 647	355	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
60kVA	WHG060HV4	W606195	883 x 1048 x 431	357	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
60kVA	WHG060HV5	W606196	800 x 800 x 647	339	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
72kVA	WHG072HV1	W606197	905 x 874 x 792	320	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
80kVA	WHG080HV1	W606198	905 x 1000 x 792	400	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
150kVA	WHG150HV4	W606199	906 x 1000 x 792	530	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
180kVA	WHG180HV1	W606200	1120 x 1000 x 842	589	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
250kVA	WHG250HV3	W606201	1120 x 1000 x 842	765	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
300kVA	WHG300HV2	W606202	976 x 1005 x 655	806	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
375kVA	WHG375HV1	W606203	1200 x 1100 x 800	1083	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM

#### 1 PHASE ISOLATION TRANSFORMERS

Power	Model Code	Ref.No.	Chassis Dims (WxHxD)	Chassis Weight	Connection	Wire
2kVA	WHG002HV2	W606204	312 x 341 x 295	24	1 Phase	COPPER/ALUMINIUM
6kVA	WHG006HV1	W606205	625 x 800 x 495	75	1 Phase	COPPER/ALUMINIUM
10kVA	WHG007HV2	W606206	625 x 800 x 495	105	1 Phase	COPPER/ALUMINIUM

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# ISOLATION TRANSFORMERS

SERIES

**5-1200 kVA** 3 PHASE  
**1-25 kVA** 1 PHASE



1  
UPS

## HIGHLIGHTS

- Reliable, Electrical Isolation
- Suppresses Electrical Noise
- Ensures Complete Safety of Equipment

## Excellent Protection & High Level of Isolation

- An isolation transformer is the best way to establish a new neutral-ground bond, in order to correct common mode and other grounding problems.
- Isolation transformer provides excellent protection from all types of N-G disturbances (impulses, RMS voltage, and high frequency noise).
- Westinghouse isolation transformers can be used reliably in following areas:  
*Medical Devices, CNC Machines, UPS Systems, Ships and Boats, Shipyards, Metal Processing Plants, Rectifier and Battery Chargers, Industrial Machines Power Supply Units*

## CERTIFICATES



# ISOLATION TRANSFORMERS

## SERIES

**10-1200 kVA**  
**1-10 kVA**

**3**  
PHASE  
**1**  
PHASE



1  
UPS

### FEATURES

- Input Voltage: 230 VAC Ph+N / 400 VAC Ph-Ph (Three Phase)\*  
220 VAC Ph+N (Single Phase)\*
- Output Voltage: 230 VAC Ph+N / 400 VAC Ph-Ph (Three Phase)\*  
110 VAC Ph+N (Single Phase)\*
- Frequency: 50 - 60 Hz
- Windings: Aluminum or Copper
- Connections: Star, Delta, Zig-Zag
- Protection Class: Standard\*\*
- Isolation Class: Standard\*\*\*  
Varnish Under Vacuum According to Isolation Class
- Cooling : Natural\*\*
- Ambient Temperature : -10°C+40°C
- Storage Conditions : -20°C+70°C
- Connections : As Per to Customer Requirements:  
All Types of Terminals and Lugs

\* It can be produced in different voltages and powers as requested.  
\*\* Can be changed upon request.  
\*\*\* Can be produced in H (180°C) class upon request.

#### 3 PHASE ISOLATION TRANSFORMERS

Power	Model Code	Ref.No.	Chassis Dims. (WxHxD)	Chassis Weight	Connection	Wire
5kVA	WHG005NV1	W606207	630 x 715 x 332	70	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
10kVA	WHG010NV1	W606208	805 x 700 x 665	110	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
15kVA	WHG015NV1	W606209	650 x 459 x 564	120	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
20kVA	WHG020NV1	W606210	800 x 800 x 647	200	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
30kVA	WHG030NV1	W606211	800 x 800 x 647	240	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
40kVA	WHG040NV1	W606212	800 x 800 x 647	285	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
60kVA	WHG060NV1	W606213	905 x 1000 x 780	355	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
72kVA	WHG072NV1	W606214	905 x 1000 x 780	385	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
80kVA	WHG080NV1	W606215	905 x 1000 x 780	410	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
100kVA	WHG100NV1	W606216	905 x 1000 x 780	430	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
120kVA	WHG120NV1	W606217	905 x 1000 x 780	470	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
150kVA	WHG150NV1	W606218	905 x 1000 x 780	550	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
200kVA	WHG200NV1	W606219	1120 x 1000 x 842	690	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
250kVA	WHG250NV1	W606220	1120 x 1000 x 842	790	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
300kVA	WHG300NV1	W606221	1200 x 1100 x 800	900	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
450kVA	WHG450NV1	W606222	1200 x 1100 x 800	1100	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
500kVA	WHG500NV1	W606223	1200 x 1100 x 800	1280	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
720kVA	WHG720NV1	W606224	1285 x 1505 x 1070	1850	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
800kVA	WHG800NV1	W606225	1510 x 1690 x 1380	2100	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
1000kVA	WHG1000NV1	W606226	1510 x 1690 x 1380	2500	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM
1200kVA	WHG1200NV1	W606227	1510 x 1690 x 1380	2750	Y-Y/Δ-Y/Y-Δ/Δ-Δ	COPPER/ALUMINIUM

#### 1 PHASE ISOLATION TRANSFORMERS

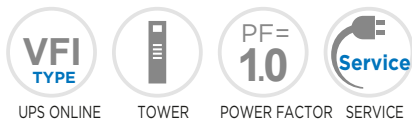
Power	Model Code	Ref.No.	Chassis Dims. (WxHxD)	Chassis Weight	Connection	Wire
1kVA	WHG001NV2	W606228	306 x 290 x 340	20	1 Phase	COPPER/ALUMINIUM
2kVA	WHG012NV2	W606229	306 x 290 x 340	24	1 Phase	COPPER/ALUMINIUM
5kVA	WHG005NV2	W606230	625 x 800 x 495	75	1 Phase	COPPER/ALUMINIUM
10kVA	WHG010NV2	W606231	625 x 800 x 495	105	1 Phase	COPPER/ALUMINIUM
15kVA	WHG015NV2	W606232	625 x 800 x 495	120	1 Phase	COPPER/ALUMINIUM
25kVA	WHG025NV2	W606233	600 x 700 x 638	180	1 Phase	COPPER/ALUMINIUM

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# UPower UPS

## SERIES

**10-1000 kVA** 3:3  
PHASE  
ONLINE UPS



1  
UPS

### HIGHLIGHTS

- True Three Level Rectifier and Inverter Technology
- Ultra High Energy Efficiency
- Full Rated Power Factor kW=kVA

### Innovative 3 Level Technology

- UPower UPS Series with Innovative 3 Level Technology is a true on-line double conversion, three-phase UPS system that provides one of the highest level energy efficiencies in the industry.
- Three level inverter & rectifier design UPower UPS Series brings the newest power conversion technology and delivers efficiency up to 96% at 50-75% load operation which is the most common operating range.

### CERTIFICATES



The UPower UPS Series is certified by TÜV SÜD with regard to product safety (EN 62040-1)

BUREAU VERITAS  
Certification

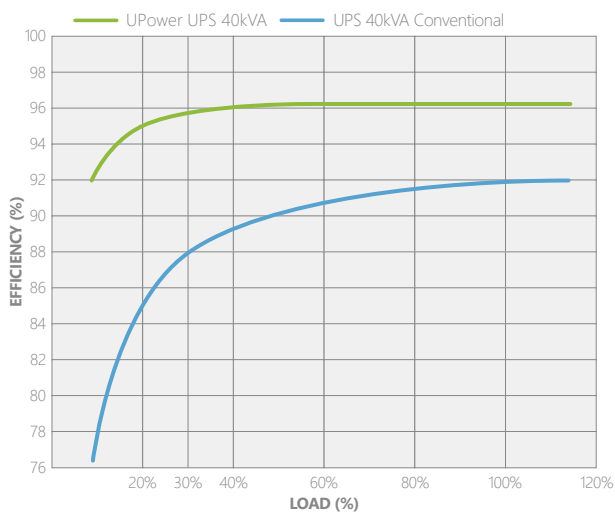


The UPower UPS Series is attested by Bureau Veritas with regard to performance (EN 62040-3)



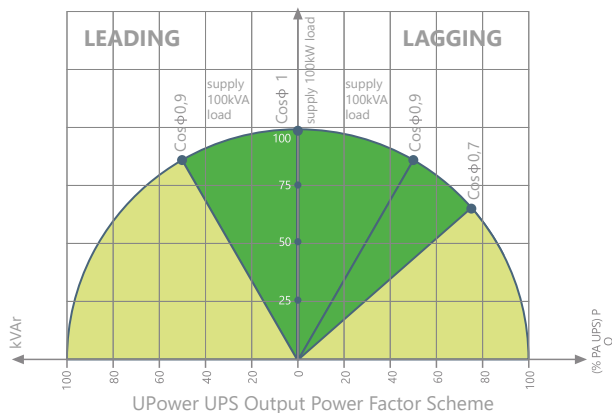
## High Efficiency & Low Total Cost of Ownership

- Less energy consumption to supply the loads thanks to high efficiency up to 96%.
- Reduced energy loss.
- Reduced electricity usage and air conditioning requirements.
- Reduction in operating cost of UPS.
- IGBT based power factor correction technology provides input power factor close to 1 ( $\geq 0,99$ ). The high input power leads to reduced electricity pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost.
- Low input current total harmonic distortion (THDi) less than 3% helps to avoid the disturbance and expensive harmonic filters.
- Small footprint and easy maintenance.



## High Output Power Factor 1

- Output power factor of 1 (kVA=kW) rate provides up to 25% more active power than a traditional UPS.
- Suitable for modern power supply application with unit or capacitive power factor (e.g. new servers generation).
- No reduction in active power from 0,9 leading to 0,9 lagging.



## Maximum Availability

- Parallel configuration up to 8 units per redundancy (N+1) and power increase.
- Loop connection helps the UPS system to continue the operation when the connection cable is interrupted.

## Standard Electrical Features

- Dual Input
- Common Battery
- Backfeed Protection
- Cold Start (Optional)
- Advanced Battery Management
- Short Circuit and Overload Protection
- Parallel Ready
- Redundant Power Supply
- Power Walk-in for Progressive Rectifier Start-up when the Mains is Restored.
- Battery Temperature Sensor
- Static and Manual Bypass Operation

## Advanced Communication Features

- 500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- Modbus RTU (Optional)
- 2 Communication Slots
- Remote Emergency Power Off (Optional)
- Remote Display Panel (Optional)
- Dry Contact (Optional)
- SNMP (Optional)
- ProfIBUS (Optional)

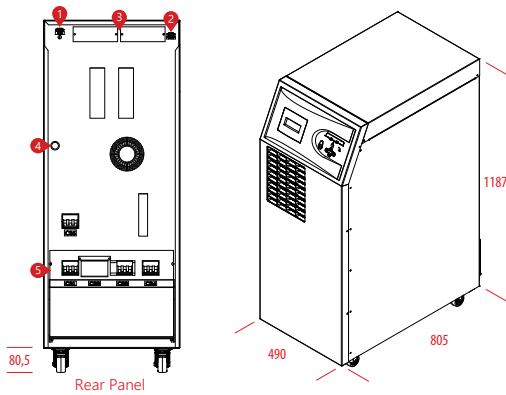
## Flexibility

- Temperature sensor for external battery cabinets for extended runtimes.
- External battery cabinets for different sizes of batteries to provide extended runtimes.
- Different sizes of 10-40kVA cabinets for larger capacity of internal batteries when long autonomy times are required.
- 3/1 Phase version is available for 10-30kVA power ratings
- Frequency converter mode.
- Isolation transformers to vary neutral connectivity in the event of separate power sources or for galvanic isolation between input and output.
- Compatible version with EN 50171 for supplying power to emergency lighting systems.



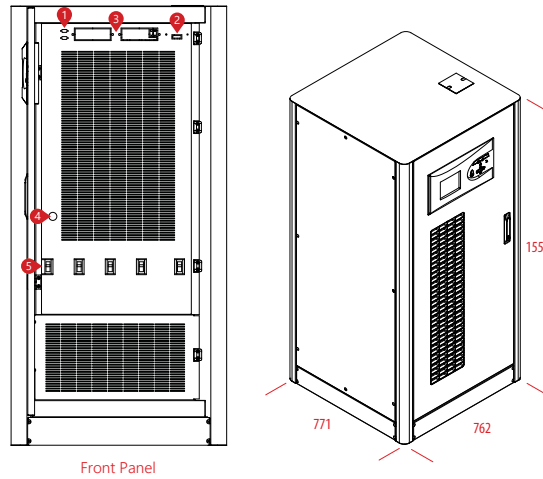
DETAILS

**UPower UPS** SERIES 10-40kVA  
**UPower UPS** SERIES 60kVA (Power Factor 0.9)



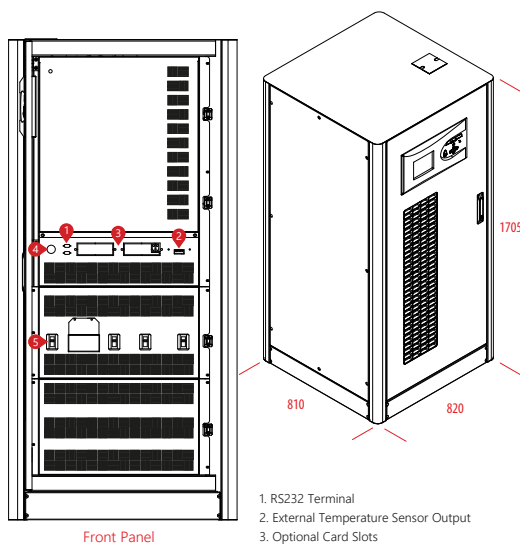
- 1. Parallel Port Terminal
- 2. RS232 Terminal
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Switch

**UPower UPS** SERIES 60-80kVA



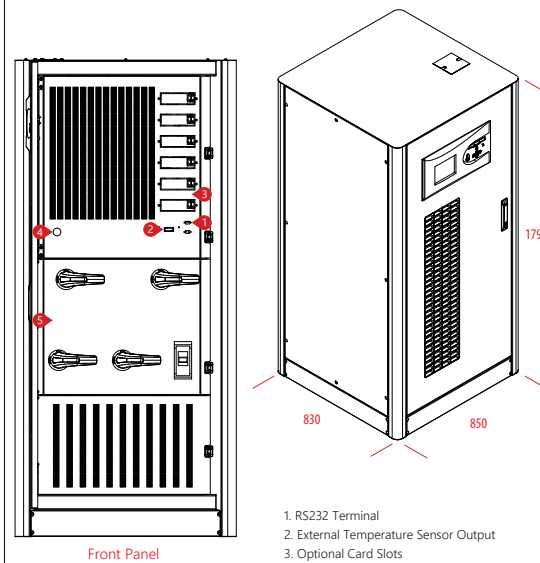
- 1. RS232 Terminal
- 2. External Temperature Sensor Output
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Switch

**UPower UPS** SERIES 100-120kVA



- 1. RS232 Terminal
- 2. External Temperature Sensor Output
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Switch

**UPower UPS** SERIES 160-200-250 kVA

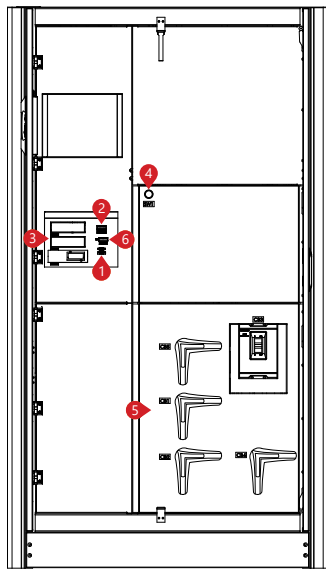


- 1. RS232 Terminal
- 2. External Temperature Sensor Output
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Switch

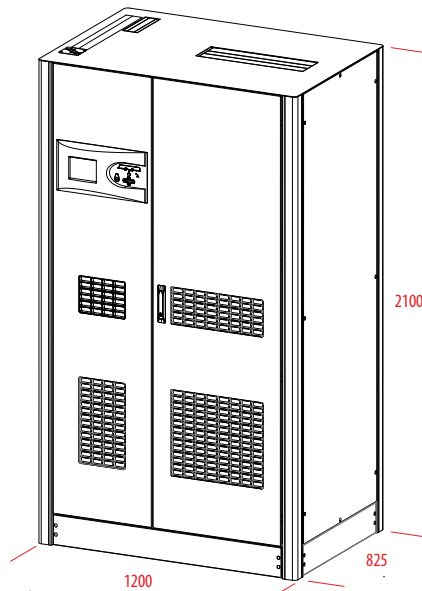
DETAILS

**UPower UPS** SERIES 300-400-500 kVA

1  
UPS

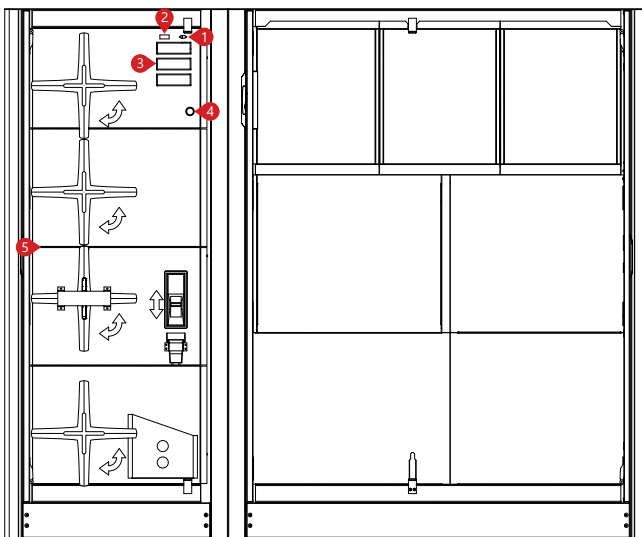


Front Panel

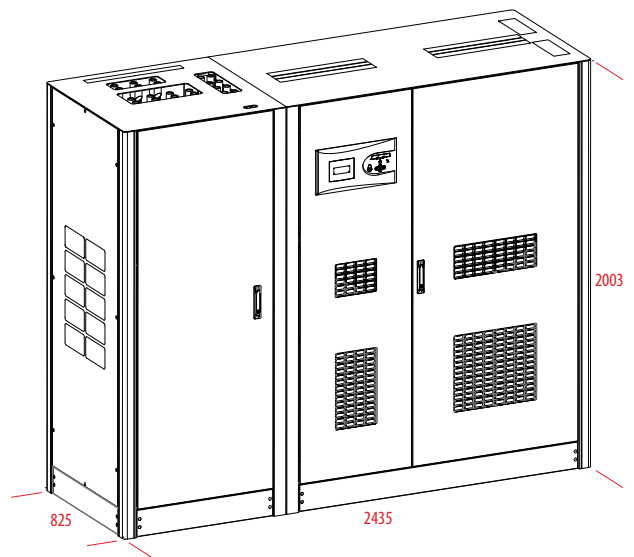


- 1. RS232 Terminal
- 2. External Temperature Sensor Output
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Switch
- 6. Optional Modbus

**UPower UPS** SERIES 600-800-1000 kVA



Front Panel



- 1. RS232 Terminal
- 2. External Temperature Sensor Output
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Switch

MODEL		10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA	1000kVA						
Capacity		10kW	15kW	20kW	30kW	40kW	60kW	80kW	100kW	120kW	160kW	200kW	225kW	270kW	360kW	450kW	540kW	720kW	900kW						
<b>INPUT</b>																									
Nominal Voltage		380/400/415 VAC 3 Phase +N (Optional 220/380 VAC -37% +22% 3P+N+PE)																							
Voltage Tolerance		-20% +15%																							
Frequency Tolerance		50 / 60 Hz ±10% (Selectable)																							
Power Factor		>0.99																							
Total Harmonic Distortion		THDi <3%																							
<b>OUTPUT</b>																									
Power Factor		1.0									0.9 (1 Optional)														
Nominal Voltage		380/400/415 VAC 3 Phase + N																							
Voltage Tolerance		Static ±1, Dynamic ±3																							
Frequency Tolerance		50Hz / 60Hz ±0,01% (Battery Mode)																							
Output THD		Linear Load <1% / Non-Linear Load <3%																							
Crest Factor		3:1																							
Overload Capacity*		At 125% Load 10min, at 150% Load 1min																							
Efficiency (Online Mode)		96%																							
Efficiency (Eco Mode)		Up to 99%																							
<b>BYPASS</b>																									
Nominal Voltage		380/400/415 VAC 3 Phase + N																							
Voltage Tolerance		15% (Configurable from 10% to 30%)																							
Frequency Tolerance		±5 (Selectable)																							
<b>BATTERY</b>																									
Type		VRLA / GEL																							
Quantity (12V DC VRLA)		60																							
Charge Capacity		12,5% of Active Power (Nominal 0,1 C10, Adjustable)																							
Recharge Time		6-8 hours																							
Internal Battery		60 x 7Ah or 9Ah									External Battery Pack														
<b>ENVIRONMENTAL</b>																									
Operating Temperature		For UPS 0°C/+40°C For Battery +15°C/+25°C																							
Storage Temperature		For UPS -15°C/+45°C For Battery 0°C/+30°C																							
Protection Class		IP20																							
Humidity		0-95% Without Condensation																							
Altitude		<1000m, Correction Factor 1. <2000m, Correction Factor >0.92, <3000m; Correction Factor >0.84																							
Noise Level		<53 dBA	<55 dBA	<60 dBA	<65 dBA	<72 dBA	<74 dBA	<75 dBA																	
<b>COMMUNICATION</b>																									
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option																							
<b>STANDARDS</b>																									
Quality		ISO 9001, ISO 14001, ISO 18001, TSE-HYB																							
Performance		EN62040-3 (VFI-SS-111, Bureau Veritas Certified)																							
EMC/LVD		EN62040-2, EN62040-1, EN60950, (TÜV SÜD Certified)																							
<b>DIMENSIONS &amp; WEIGHT</b>																									
Cabinet Dimensions (mm)	Width	490				763				810				830				1250				2345			
	Depth	805				771				820				870				845				485			
	Height	1190				1555				1705				1800				2102				2003			
Net Weight (kg)		125	126	131	146	173	323	331	353	368	475	490	553	850	850	850	1740	1740	1990						
Packaging Dimensions (mm)	Width	600				900				900				900				1370				2445			
	Depth	900				970				970				970				870				585			
	Height	1400				2040				2040				2040				2120				2250			
Gross Weight (kg)		145	146	151	166	193	353	361	383	398	505	520	583	890	890	890	1820	1820	2070						

\* under certain conditions.

3 Phase in / 1 Phase Out Version is Available. (10 to 30kVA)

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# UPower UPS

## SERIES

1  
UPS

**10-1000 kVA** 3:3 PHASE  
**10-30 kVA** 3:1 PHASE

ONLINE UPS

UPS ONLINE    TOWER    POWER FACTOR    SERVICE

DATA CENTER    MEDICAL    TRANSPORT    INDUSTRY    EMERGENCY



### HIGHLIGHTS

- True Three Level Rectifier and Inverter Technology
- Ultra High Energy Efficiency
- Full Rated Power Factor kW=kVA

### Innovative 3 Level Technology

- UPower UPS Series with Innovative 3 Level Technology is a true on-line double conversion, three-phase UPS system that provides one of the highest level energy efficiencies in the industry.
- Three level inverter & rectifier design UPower UPS Series brings the newest power conversion technology and delivers efficiency up to 96% at 50-75% load operation which is the most common operating range.

### CERTIFICATES

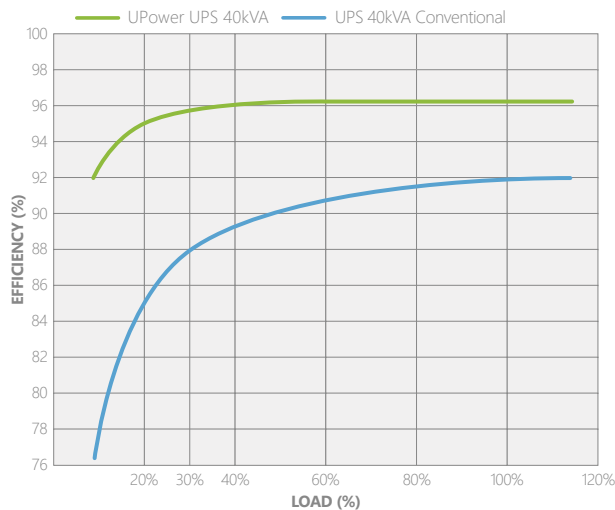


The UPower UPS Series is attested by Bureau Veritas with regard to performance (EN 62040-3)



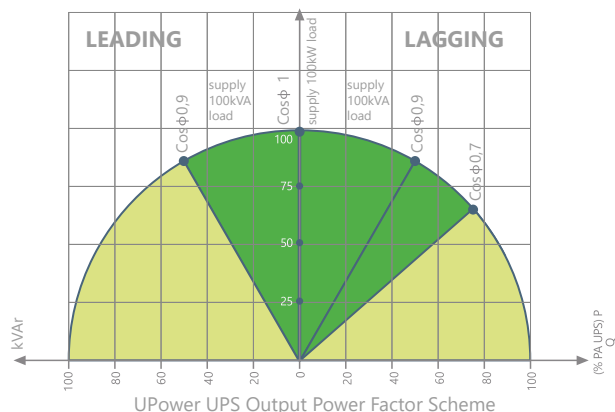
## High Efficiency & Low Total Cost of Ownership

- Less energy consumption to supply the loads thanks to high efficiency up to 96%.
- Reduced energy loss.
- Reduced electricity usage and air conditioning requirements.
- Reduction in operating cost of UPS.
- IGBT based power factor correction technology provides input power factor close to 1 ( $\geq 0,99$ ). The high input power leads to reduced electricity pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost.
- Low input current total harmonic distortion (THDi) less than 3% helps to avoid the disturbance and expensive harmonic filters.
- Small footprint and easy maintenance.



## High Output Power Factor 1

- Output power factor of 1 (kVA=kW) rate provides up to 25% more active power than a traditional UPS.
- Suitable for modern power supply application with unit or capacitive power factor (e.g. new servers generation).
- No reduction in active power from 0,9 leading to 0,9 lagging.



## Maximum Availability

- Parallel configuration up to 8 units per redundancy (N+1) and power increase.
- Loop connection helps the UPS system to continue the operation when the connection cable is interrupted.

## Standard Electrical Features

- Parallel-Redundant (N+X) Systems
- Co-Aging
- Dual Input
- Common Battery
- Backfeed Protection
- Cold Start (Optional)
- Advanced Battery Management
- Short Circuit and Overload Protection
- Parallel Ready
- Redundant Power Supply
- Power Walk-in for Progressive Rectifier Start-up when the Mains is Restored
- Battery Temperature Sensor
- Static and Manual Bypass Operation

## Advanced Communication Features

- 1500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- 2 Communication Slots
- ModBUS RTU / ModBUS TCP (Optional)
- Remote Emergency Power Off (Optional)
- Remote Display Panel (Optional)
- Dry Contact (Optional)
- SNMP (Optional)
- ProfIBUS (Optional)

## Flexibility

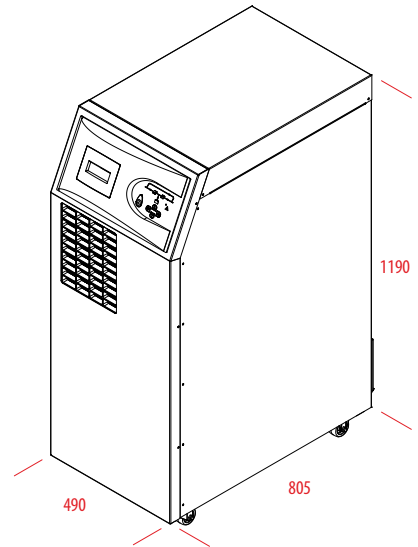
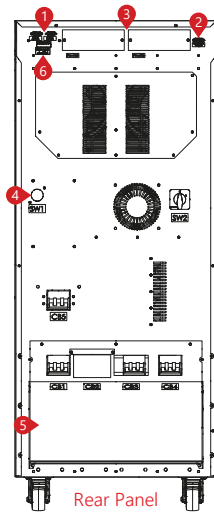
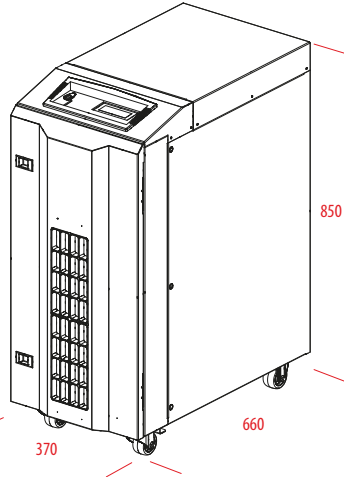
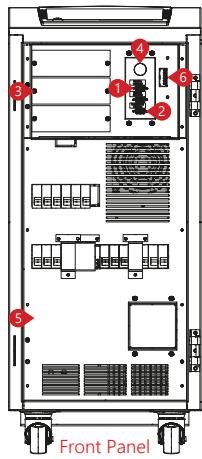
- Temperature sensor for external battery cabinets for extended runtimes.
- External battery cabinets for different sizes of batteries to provide extended runtimes.
- Different sizes of 10-40kVA cabinets for larger capacity of internal batteries when long autonomy times are required.
- 3/1 Phase version is available for 10-30kVA power ratings
- Frequency converter mode.
- Isolation transformers to vary neutral connectivity in the event of separate power sources or for galvanic isolation between input and output.
- Compatible version with EN 50171 for supplying power to emergency lighting systems.

DETAILS

**MiniUPower UPS** SERIES 10-15-20 kVA

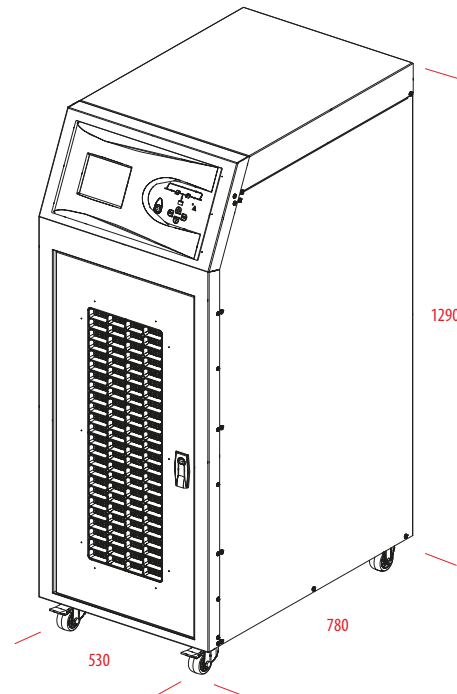
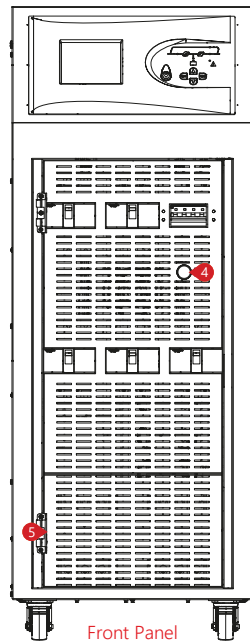
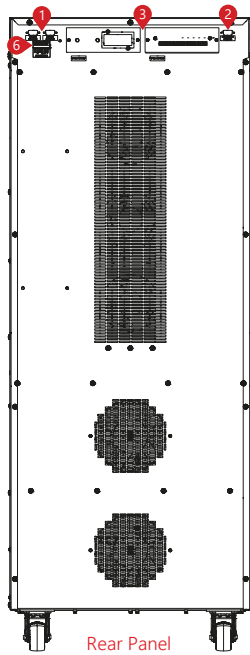
**UPower UPS** SERIES 10-15-20-30-40-60 kVA

UPS



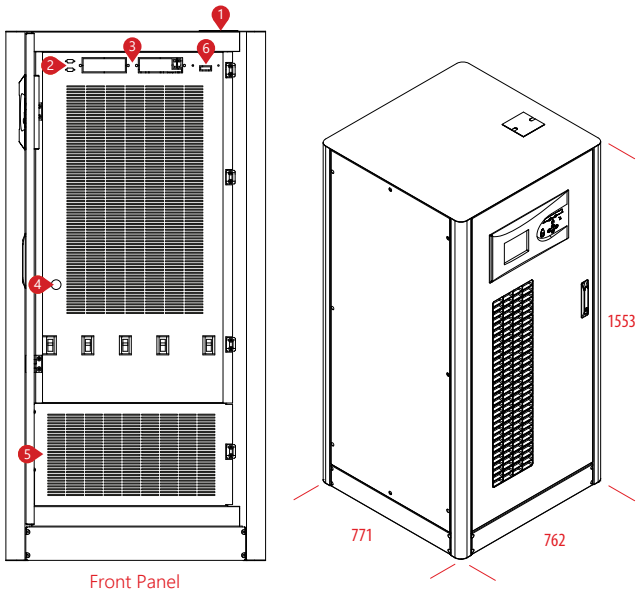
- 1. Parallel Port Terminal
- 2. RS232 Terminal
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Connection Terminal
- 6. External Battery Temperature Sensor Terminal

**UPower UPS** SERIES 80-100-120 kVA

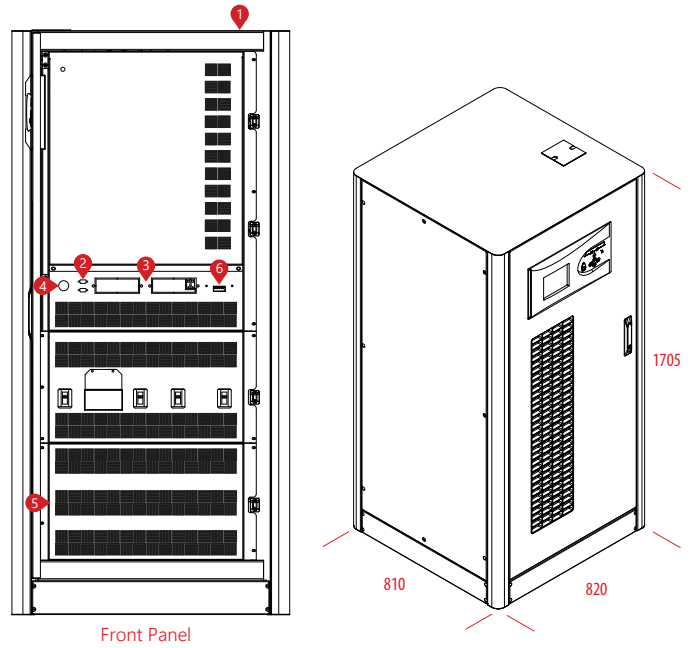


DETAILS

**UPower UPS** SERIES 80kVA

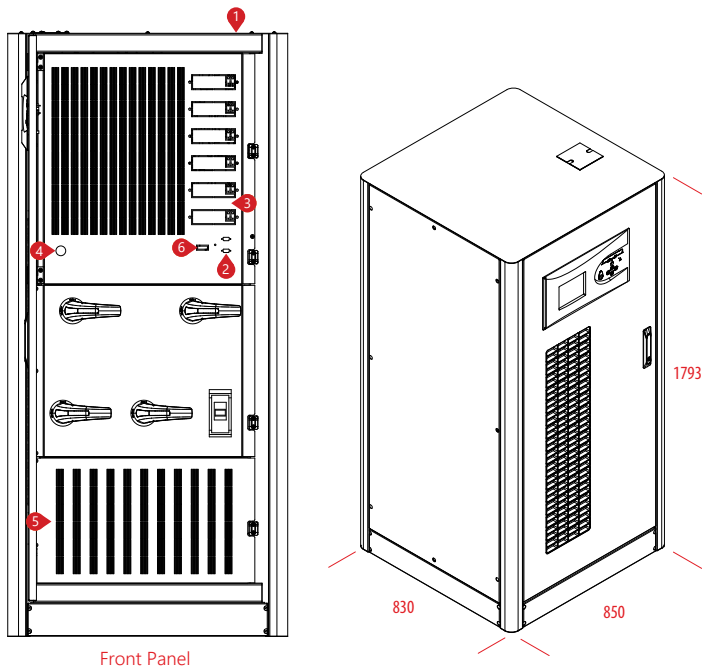


**UPower UPS** SERIES 100-120kVA



1  
UPS

**UPower UPS** SERIES 160-200-250kVA

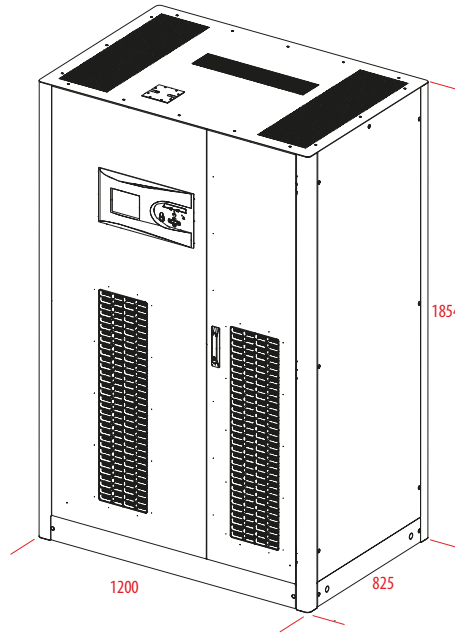
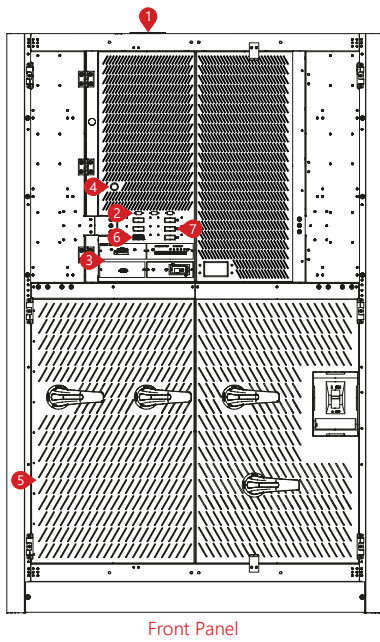


- 1. Parallel Port Terminal
- 2. RS232 Terminal
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Connection Terminal
- 6. External Battery Temperature Sensor Terminal

DETAILS

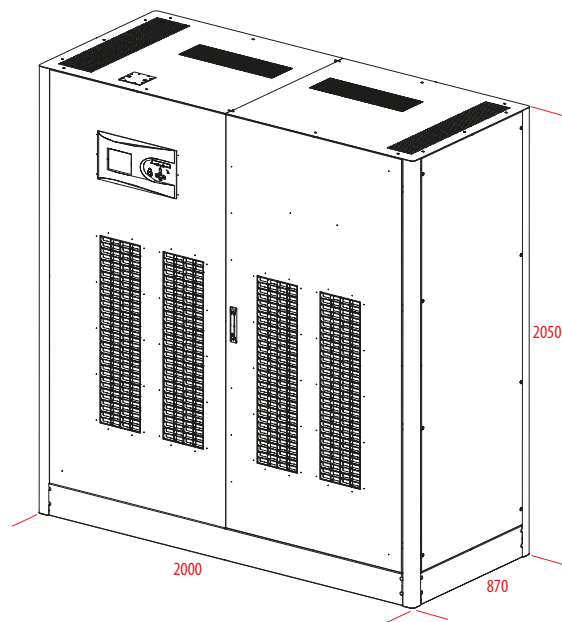
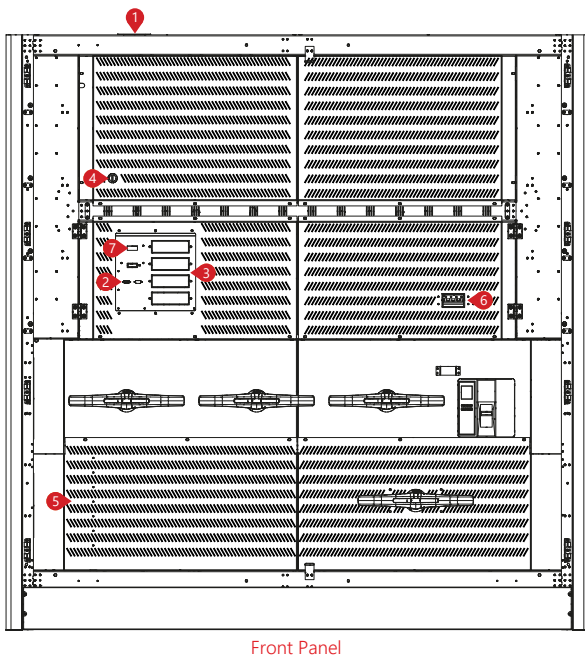
**UPower UPS** SERIES 300-400-500 kVA

UPS 1



- 1. Parallel Port Terminal
- 2. RS232 Terminal
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Connection Terminal
- 6. External Battery Temperature Sensor Terminal
- 7. Optional Slot

**UPower UPS** SERIES 600-800-1000 kVA





MODEL	MiniUPower UPS														
	10kVA	15kVA	20kVA	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	80kVA	100kVA	120kVA
Capacity	10kVA	15kVA	20kVA	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	80kVA	100kVA	120kVA
Power Watt	9kW	13.5kW	18kW	9kW	13.5kW	18kW	27kW	36kW	54kW	72kW	90kW	108kW	72kW	90kW	108kW
<b>INPUT</b>															
Nominal Voltage	380/400/415 VAC 3 P+N (Optional 220/380 VAC -37% +22% 3 P+N+PE)														
Voltage Tolerance	-20% +15%														
Frequency Tolerance	50 / 60 Hz ±10% (Selectable)														
Power Factor	>0.99														
Total Harmonic Distortion (THDi)	<3%														
<b>OUTPUT</b>															
Power Factor	0.9 (1 Optional)														
Nominal Voltage	380/400/415 VAC 3 P+N														
Voltage Tolerance	Statik ±1, Dynamic ±3														
Frequency Tolerance	50 / 60 Hz ±0,01% (Battery Mode)														
Output THD	Linear Load <1% / Non-Linear Load <3%														
Crest Factor	3:1														
Overload Capacity*	At 125% Load 10min, At 150% Load 1min														
Efficiency (Online Mode)	96%														
Efficiency (Eco Mode)	99%														
<b>BYPASS</b>															
Nominal Voltage	380/400/415 VAC 3 P+N														
Voltage Tolerance	%15 (Configurable from 10% to 30%)														
Frequency Tolerance	±5 (Selectable)														
<b>BATTERY</b>															
Type	VRLA / GEL														
Quantity (12V DC VRLA)	60														
Charge Capacity	12,5% of Active Power (Nominal 0,1 C10, Adjustable)														
Recharge Time	6-8 hours														
Internal Battery	62 x 7Ah or 9Ah			60 x 7Ah or 9Ah			External Battery			External Battery			External Battery		
<b>ENVIRONMENTAL</b>															
Operating Temperature	For UPS 0°C/+40°C For Battery +15°C/+25°C														
Storage Temperature	For UPS -15°C/+45°C For Battery 0°C/+30°C														
Protection Class	IP20														
Humidity	0-95% (Without Condensation)														
Altitude	<1000m: Correction Factor 1, <2000m: Correction Factor >0.92, <3000m: Correction Factor >0.84														
Noise Level	<53dBA		<53dBA		<55dBA		<60dBA		<65dBA		<65dBA		<65dBA		
<b>COMMUNICATION</b>															
Communication Port	RS232 Standart, RS485 and SNMP Adapter Option														
<b>STANDARDS</b>															
Quality	ISO 9001, ISO 14001, ISO 45001, ISO 10002, CE, TSE, TSE-HYB														
Performance	EN62040-3 (VFI-SS-111, Bureau Veritas Certified)														
EMC/LVD	EN62040-2, EN62040-1, TS EN ISO/IEC 17025 Accredited Test Report														
<b>DIMENSIONS &amp; WEIGHT</b>															
Cabinet Dimensions (mm)	Width	370			490						530			763	810
	Depth	660			805						780			771	820
	Height	850			1190						1290			1555	1705
Net Weight (kg)	85	85	85	125	126	131	145	173	323				331	353	368
Packaging Dimensions (mm)	Width	500			600						650			900	900
	Depth	760			900						900			970	970
	Height	1000			1400						1400			2040	2040
Gross Weight (kg)	105	105	105	145	146	151	166	193	353				361	383	398

\* under certain conditions.  
 3 Phase in / 1 Phase Out Version is Available. (10 to 30kVA)

Westinghouse reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Westinghouse products previously or subsequently sold. Westinghouse does not guarantee the items of the accuracy and completeness.

MODEL										
Capacity		160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA	1000kVA
Power Watt		144kW	180kW	225kW	270kW	360kW	450kW	540kW	720kW	900kW
<b>INPUT</b>										
Nominal Voltage		380/400/415 VAC 3 P+N (Optional 220/380 VAC -37% +22% 3 P+N+PE)								
Voltage Tolerance		-20% +15%								
Frequency Tolerance		50 / 60 Hz ±10% (Selectable)								
Power Factor		>0.99								
Total Harmonic Distortion (THDi)		<3%								
<b>OUTPUT</b>										
Power Factor		0.9 (1 Optional)								
Nominal Voltage		380/400/415 VAC 3 P+N								
Voltage Tolerance		Statik ±1, Dynamic ±3								
Frequency Tolerance		50 / 60 Hz ±0,01% (Battery Mode)								
Output THD		Linear Load <1% / Non-Linear Load <3%								
Crest Factor		3:1								
Overload Capacity*		At 125% Load 10min, At 150% Load 1min								
Efficiency (Online Mode)		96%								
Efficiency (Eco Mode)		99%								
<b>BYPASS</b>										
Nominal Voltage		380/400/415 VAC 3 P+N								
Voltage Tolerance		15% (Configurable from 10% to 30%)								
Frequency Tolerance		±5 (Selectable)								
<b>BATTERY</b>										
Type		VRLA / GEL								
Quantity (12V DC VRLA)		60								
Charge Capacity		12,5% of Active Power (Nominal 0,1 C10, Adjustable)								
Recharge Time		6-8 hours								
Internal Battery		External Battery								
<b>ENVIRONMENTAL</b>										
Operating Temperature		For UPS 0°C/+40°C For Battery +15°C/+25°C								
Storage Temperature		For UPS -15°C/+45°C For Battery 0°C/+30°C								
Protection Class		IP20								
Humidity		0-95% (Without Condensation)								
Altitude		<1000m: Correction Factor 1, <2000m: Correction Factor >0.92, <3000m: Correction Factor >0.84								
Noise Level		<72dBA			<74dBA			<75dBA		
<b>COMMUNICATION</b>										
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option								
<b>STANDARDS</b>										
Quality		ISO 9001, ISO 14001, ISO 45001, ISO 10002, CE, TSE, TSE-HYB								
Performance		EN62040-3 (VFI-SS-111, Bureau Veritas Certified)								
EMC/LVD		EN62040-2, EN62040-1, TS EN ISO/IEC 17025 Accredited Test Report								
<b>DIMENSIONS &amp; WEIGHT</b>										
Cabinet Dimensions (mm)	Width	830			1200			2000		
	Depth	870			825			870		
	Height	1800			1854			2050		
Net Weight (kg)	475	490	553	830	840	850	1510	1510	1510	
Packaging Dimensions (mm)	Width	900			1370			2100		
	Depth	970			845			950		
	Height	2040			2040			2250		
Gross Weight (kg)	505	520	583	870	880	890	1590	1590	1590	

\* under certain conditions.

3 Phase in / 1 Phase Out Version is Available. (10 to 30kVA)

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# UPower UPS

## SERIES

**10-120kVA**  
**10-30 kVA**

ONLINE UPS

3:3  
PHASE

3:1  
PHASE

VFI TYPE UPS ONLINE	TOWER	PF= 0.9 POWER FACTOR	SERVICE
DATA CENTER	MEDICAL	TRANSPORT	INDUSTRY
EMERGENCY			



**1**  
**UPS**

### HIGHLIGHTS

- IGBT PWM Rectifier & Inverter Technology
- Low Input Current THD (<3%)
- High Input Power Factor (>0.99)

### DSP Power Factor Corrected IGBT Rectifier

- Equipped with its new IGBT rectifier UPower UPS Series keeps your critical loads protected while its space-saving compact design and front access for maintenance successfully reduce mean time to repair (MTTR).
- Thanks to the wide variety of accessories and options UPower UPS Series presents maximum flexibility advantage to users and optimizes total cost of ownership.

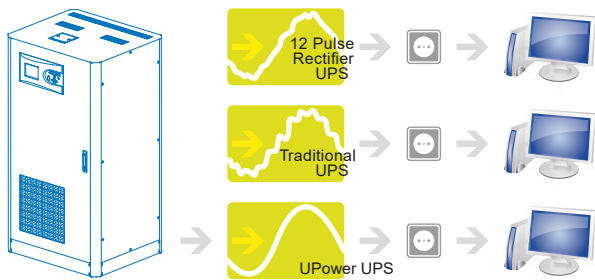


Upower USP Series is attested by Bureau Veritas with regard to performance (EN 62040-3)



## High Performance & Low Total Cost of Ownership

- IGBT based power factor correction technology provides input power factor close to 1 ( $\geq 0,99$ ). The high input power leads to reduced electricity pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost.
- Low input current total harmonic distortion (THDi) less than 3% helps to avoid the disturbance and expensive harmonic filters.
- Small footprint and easy maintenance.



	THD	Power Factor
UPower UPS with IGBT Rectifier	<3%	<0.99
Traditional UPS with Input Filter	<10%	<0.95
UPS without Input Filter	<25%	<0.85

## High Input Power Factor

- 0,99 Input power factor ensures clean and sinusoidal input current.
- The high input power leads to reduced electricity pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost.

## Maximum Availability

- Parallel configuration up to 8 units per redundancy (N+1) and power increase.
- Loop connection helps the UPS system to continue the operation when the connection cable is interrupted.

## Standard Electrical Features

- Backfeed Protection
- Cold Start (Optional)
- Advanced Battery Management
- Short Circuit and Overload Protection
- Parallel Ready
- Redundant Power Supply
- Power Walk-in for Progressive Rectifier Start-up when the Mains is Restored.
- Battery Temperature Sensor
- Static & Manual Bypass Operation

## Advanced Communication Features

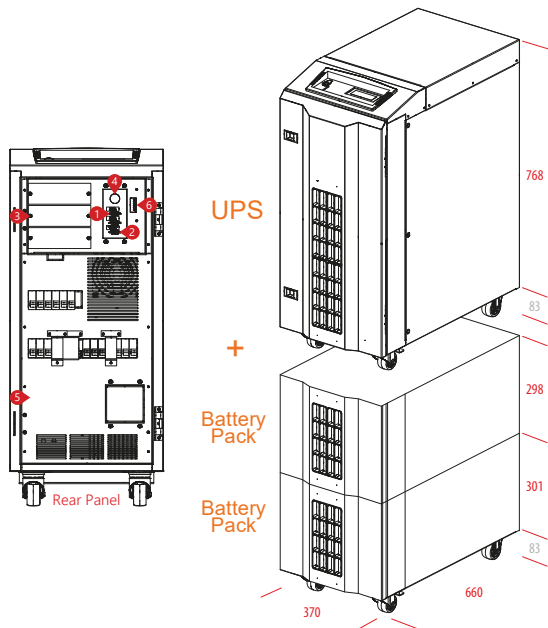
- 1500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- 2 Communication Slots
- ModBUS RTU / ModBUS TCP (Optional)
- Remote Emergency Power Off (Optional)
- Remote Display Panel (Optional)
- Dry Contact (Optional)
- SNMP (Optional)
- ProfiBUS (Optional)

## Flexibility

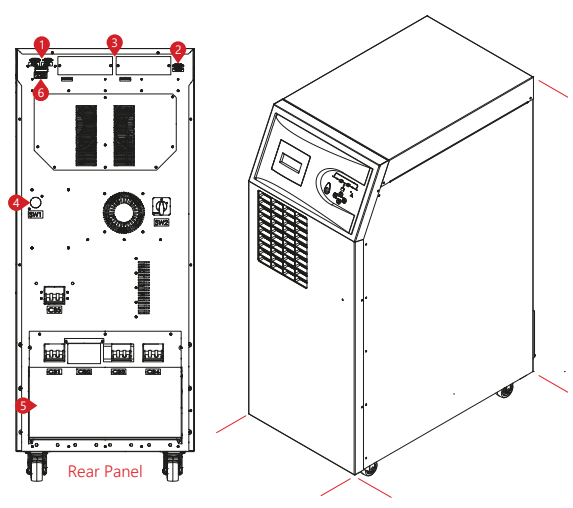
- Temperature sensor for external battery cabinets for extended runtimes.
- External battery cabinets for different sizes of batteries to provide extended runtimes.
- Different sizes of 10-40kVA cabinets for larger capacity of internal batteries when long autonomy times are required.
- 3/1 Phase version is available for 10-30kVA power ratings
- Frequency converter mode.
- Isolation transformers to vary neutral connectivity in the event of separate power sources or for galvanic isolation between input and output.
- Compatible version with EN 50171 for supplying power to emergency lighting systems.

DETAILS

**UPower UPS SERIES 10-15-20 kVA**

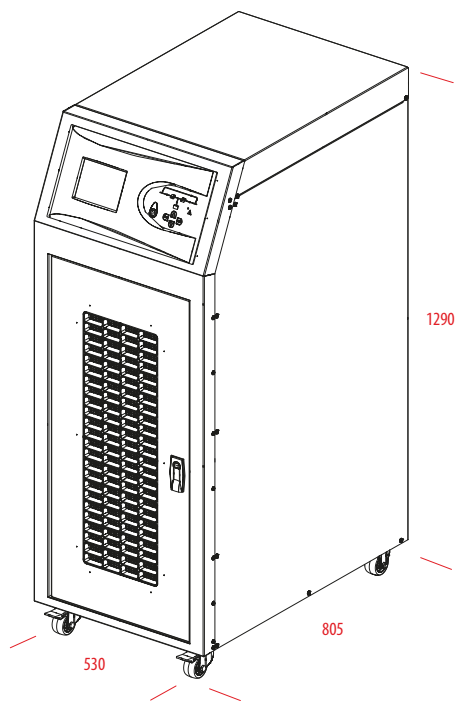
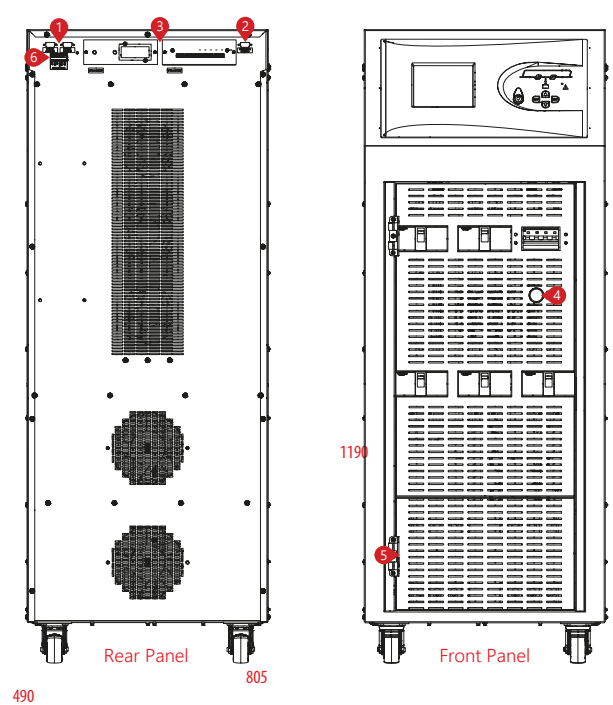


**UPower UPS SERIES 10-15-20-30-40-60 kVA**



- 1. Parallel Port Terminal
- 2. RS232 Terminal
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Connection Terminal
- 6. External Battery Temperature Sensor Terminal

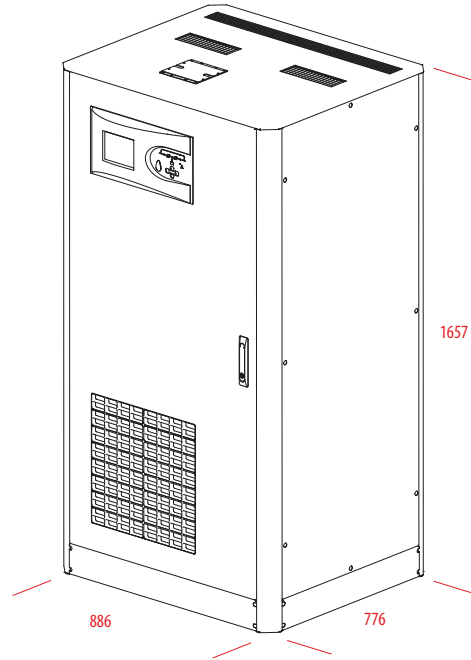
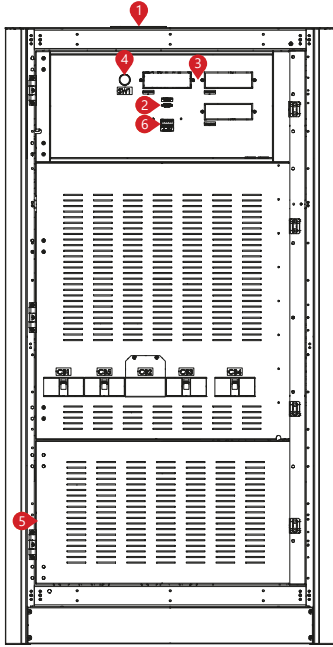
**UPower UPS SERIES 80-100-120 kVA**



DETAILS

**UPower UPS** SERIES 80-100-120 kVA

1  
UPS



- 1. Parallel Port Terminal
- 2. RS232 Terminal
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Connection Terminal
- 6. External Battery Temperature Sensor Terminal

MODEL										
Capacity	10kVA	15kVA	20kVA	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	
Power Watt	9kW	13.5kW	18kW	9kW	13.5kW	18kW	27kW	36kW	54kW	
<b>INPUT</b>										
Nominal Voltage	380/400/415 VAC 3P+N (Optional 220/380 VAC -37% +22% 3P+N+PE)									
Voltage Tolerance	-20% +15%									
Frequency Tolerance	50-60 Hz ± 10% (Selectable)									
Power Factor	>0.99									
Total Harmonic Distortion	THDi <%3									
<b>OUTPUT</b>										
Power Factor	0.9									
Nominal Voltage	380/400/415 VAC 3P+N									
Voltage Tolerance	Static ±1, Dynamic ±3									
Frequency Tolerance	50-60 Hz ±0,01% (Battery Mode)									
Output THD	Linear Load <1% / Non Linear Load <3%									
Crest Factor	3:1									
Overload Capacity*	At 125% Load 10min, At 150% Load 1min									
Efficiency (Online Mode)	Up to 93%									
Efficiency (Eco Mode)	Up to 99%									
<b>BYPASS</b>										
Nominal Voltage	380/400/415 VAC 3P+N									
Voltage Tolerance	15% (Configurable from 10% to 30%)									
Frequency Tolerance	±5 (Selectable)									
<b>BATTERY</b>										
Type	VRLA / GEL									
Quantity (12V DC VRLA)	62									
Charge Capacity	25% of Active Power (Nominal 0,1 C10, Adjustable)									
Recharge Time	6-8 hours									
Internal Battery	62 x 7Ah or 9Ah			62 x 7Ah or 9Ah			External Battery Pack			
<b>ENVIRONMENTAL</b>										
Operating Temperature	For UPS 0°C/+40°C For Battery +15°C/+25°C									
Storage Temperature	For UPS -15°C/+45°C For Battery 0°C/+30°C									
Protection Class	IP20									
Humidity	0-95% Without Condensation									
Altitude	<1000m Correction Factor 1, <2000m Correction Factor >0.92, <3000m Correction Factor >0.84									
Noise Level	<53dBA		<53dBA		<55dBA		<60dBA		<65dBA	
<b>COMMUNICATION</b>										
Communication Port	RS232 Standart, RS485 and SNMP Adapter Option									
<b>STANDARDS</b>										
Quality	ISO 9001, ISO 14001, ISO 45001, ISO 10002, CE, TSE, TSE-HYB									
Performance	EN62040-3 (VFI-SS-111, Bureau Veritas Certified)									
EMC/LVD	EN62040-2, EN62040-1, TS EN ISO/IEC 17025 Accredited Test Report									
<b>DIMENSIONS &amp; WEIGHT</b>										
Cabinet Dimensions (mm)	Width	370			490					
	Depth	660			805					
	Hight	851			1190					
Net Weight (kg)	85	85	85	122	123	127	146	167	177	
Packaging Dimensions (mm)	Width	500			600					
	Depth	760			900					
	Hight	1000			1400					
Gross Weight (kg)	105	105	105	140	141	145	164	185	195	

\* under certain conditions.  
 3 Phase in / 1 Phase Out Version is Available. (10 to 30kVA)

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MODEL							
Capacity		80kVA	100kVA	120kVA	80kVA	100kVA	120kVA
Power Watt		72kW	90kW	108kW	72kW	90kW	108kW
<b>INPUT</b>							
Nominal Voltage		380/400/415 VAC 3P+N (Optional 220/380 VAC -37% +22% 3P+N+PE)					
Voltage Tolerance		-20% +15%					
Frequency Tolerance		50-60 Hz ± 10% (Selectable)					
Power Factor		>0.99					
Total Harmonic Distortion		THDi <%3					
<b>OUTPUT</b>							
Power Factor		0.9					
Nominal Voltage		380/400/415 VAC 3P+N					
Voltage Tolerance		Static ±1, Dynamic ±3					
Frequency Tolerance		50-60 Hz ±0,01% (Battery Mode)					
Output THD		Linear Load <1% / Non Linear Load <3%					
Crest Factor		3:1					
Overload Capacity*		At 125% Load 10min, At 150% Load 1min					
Efficiency (Online Mode)		Up to 93%					
Efficiency (Eco Mode)		Up to 99%					
<b>BYPASS</b>							
Nominal Voltage		380/400/415 VAC 3P+N					
Voltage Tolerance		15% (Configurable from 10% to 30%)					
Frequency Tolerance		±5 (Selectable)					
<b>BATTERY</b>							
Type		VRLA / GEL					
Quantity (12V DC VRLA)		62					
Charge Capacity		25% of Active Power (Nominal 0,1 C10, Adjustable)					
Recharge Time		6-8 hours					
Internal Battery		External Battery Pack					
<b>ENVIRONMENTAL</b>							
Operating Temperature		For UPS 0°C/+40°C For Battery +15°C/+25°C					
Storage Temperature		For UPS -15°C/+45°C For Battery 0°C/+30°C					
Protection Class		IP20					
Humidity		0-95% Without Condensation					
Altitude		<1000m Correction Factor 1, <2000m Correction Factor >0.92, <3000m Correction Factor >0.84					
Noise Level		<65dBA					
<b>COMMUNICATION</b>							
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option					
<b>STANDARDS</b>							
Quality		ISO 9001, ISO 14001, ISO 45001, ISO 10002, CE, TSE, TSE-HYB					
Performance		EN62040-3 (VFI-SS-111, Bureau Veritas Certified)					
EMC/LVD		EN62040-2, EN62040-1, TS EN ISO/IEC 17025 Accredited Test Report					
<b>DIMENSIONS &amp; WEIGHT</b>		80kVA	100kVA	120kVA	80kVA	100kVA	120kVA
Cabinet Dimensions (mm)	Width	530			886		
	Depth	805			776		
	Hight	1290			1657		
Net Weight (kg)	221	231	240	322	351	360	
Packaging Dimensions (mm)	Width	650			970		
	Depth	900			900		
	Hight	1400			2040		
Gross Weight (kg)	256	266	275	357	376	395	

\* under certain conditions.

3 Phase in / 1 Phase Out Version is Available. (10 to 30kVA)

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# UPower UPS

## SERIES

**10-200 kVA** 3:3  
PHASE

ONLINE UPS



UPS ONLINE



TOWER



POWER FACTOR



SERVICE



DATA CENTER



MEDICAL



TRANSPORT



INDUSTRY



EMERGENCY



1  
UPS

### HIGHLIGHTS

- True Three Level Rectifier and Inverter Technology
- Ultra High Output Galvanic Isolation Transformer Embedded
- Robust and Reliable Design

### Highest Reliability with Embedded Isolation Transformer

- UPower UPS T3 Series is a true VFI on-line double conversion, three-phase UPS system with Innovative 3 Level Technology and engineered to provide high level of energy efficiency and reliable and robust protection for most demanding industrial and medical environments.
- Three level inverter and rectifier technology and with embedded isolation transformer makes UPower UPS T3 Series one of the most reliable systems for data security and other critical applications.

### CERTIFICATES



The UPower UPS Series is certified by TÜV SÜD with regard to product safety (EN 62040-1)



The UPower UPS Series is attested by Bureau Veritas with regard to performance (EN 62040-3)



## Compact Design

- Designed with an Integrated transformer ensuring galvanic isolation on the output for ultimate safe installation.
- Easy to install and service and can be integrated into harsh commercial and industrial environments.
- Compact footprint and matching battery cabinets.

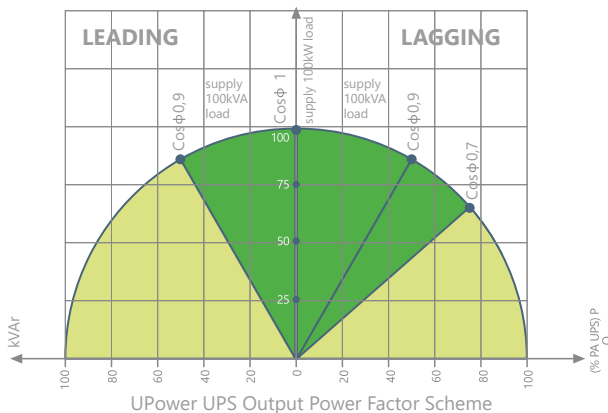


## Low Total Cost of Ownership

- Less energy consumption to supply the loads thanks to high efficiency.
- Reduced energy loss.
- Reduced electricity usage and air conditioning requirements.
- Reduction in operating cost of UPS.
- IGBT based power factor correction technology provides input power factor close to 1 ( $\geq 0,99$ ). The high input power leads to reduced electricity pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost.
- Low input current total harmonic distortion (THDi) less than 3% helps to avoid the disturbance and expensive harmonic filters.
- Small footprint and easy maintenance

## High Output Power Factor 1

- Output power factor of 1 (kVA=kW) rate provides up to 25% more active power than a traditional UPS.
- Suitable for modern power supply application with unit or capacitive power factor (e.g. new servers generation).
- No reduction in active power from 0,9 leading to 0,9 lagging.



## Maximum Availability

- Parallel configuration up to 8 units per redundancy (N+1) and power increase.
- Loop connection helps the UPS system to continue the operation when the connection cable is interrupted.

## Standard Electrical Features

- Output Galvanic Isolation Transformer Embedded
- Dual Input
- Common Battery
- Frontal Access for Input/Output Cabling
- Backfeed Protection
- Cold Start (Optional)
- Advanced Battery Management
- Short Circuit and Overload Protection
- Parallel Ready
- Redundant Power Supply
- Power Walk-in for Progressive Rectifier Start-up when the Mains is Restored
- Battery Temperature Sensor
- Static & Manual Bypass Operation

## Advanced Communication Features

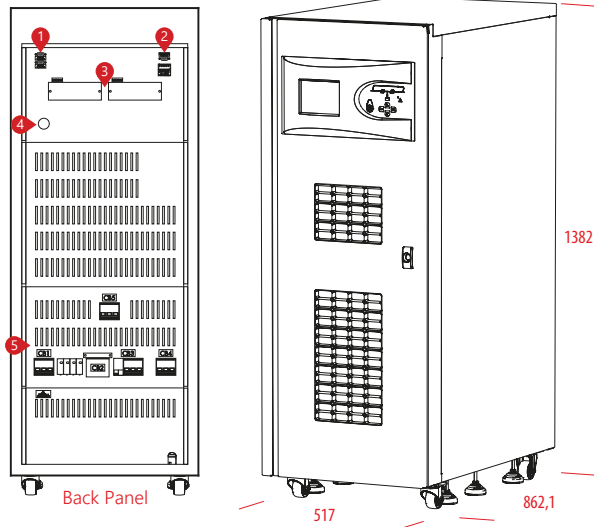
- 500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- Modbus RTU (Optional)
- 2 Communication Slots
- Remote Emergency Power Off (Optional)
- Remote Display Panel (Optional)
- Dry Contact (Optional)
- SNMP (Optional)
- Profibus (Optional)

## Flexibility

- Optional IP31, IP41, Protection degree for harsh environments.
- Optional tropicalization and anti-corrosion protection for electronic boards.
- Optional temperature sensor for external battery cabinets for extended runtimes.
- External battery cabinets for different sizes of batteries to provide extended runtimes.
- Adaptability to the mains without neutral.

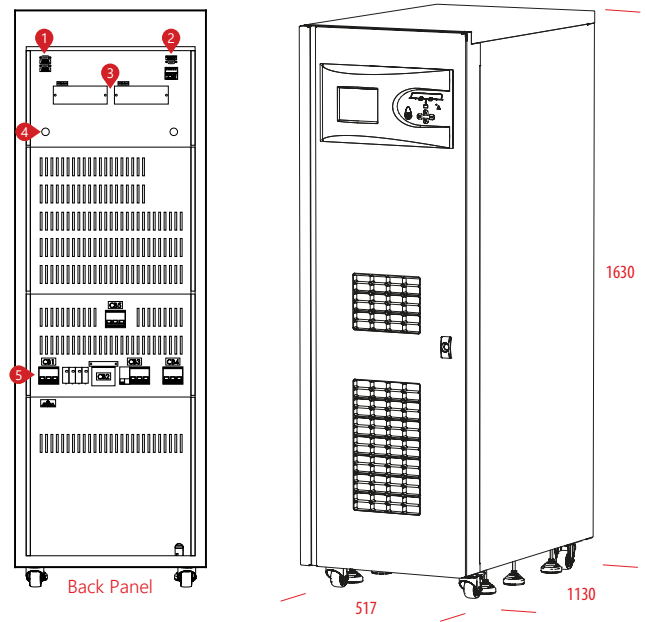
DETAILS

**UPower UPS T3** SERIES 10-15-20kVA



1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch

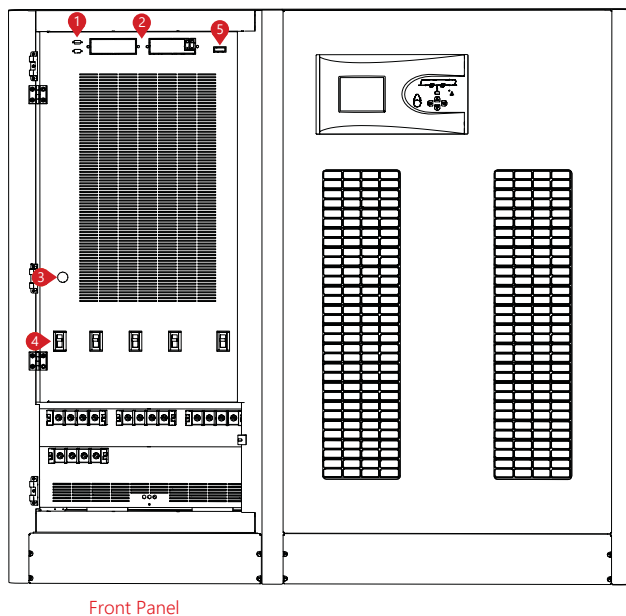
**UPower UPS T3** SERIES 30-40 kVA



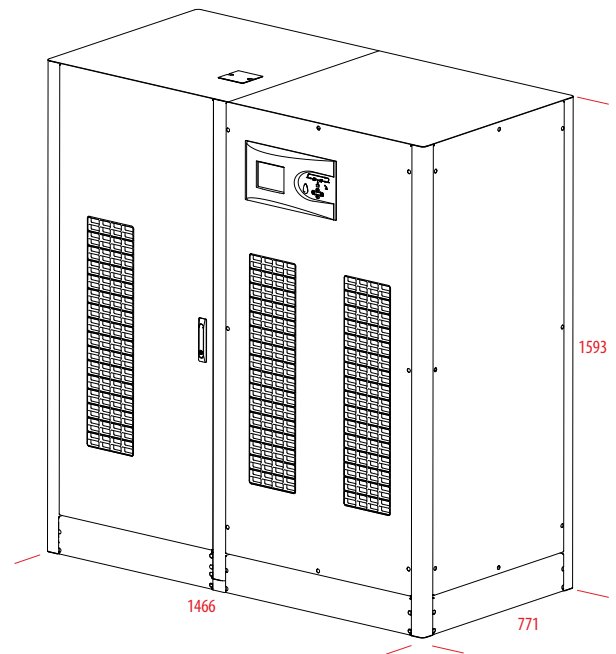
1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch

1  
UPS

**UPower UPS T3** SERIES 60-80kVA



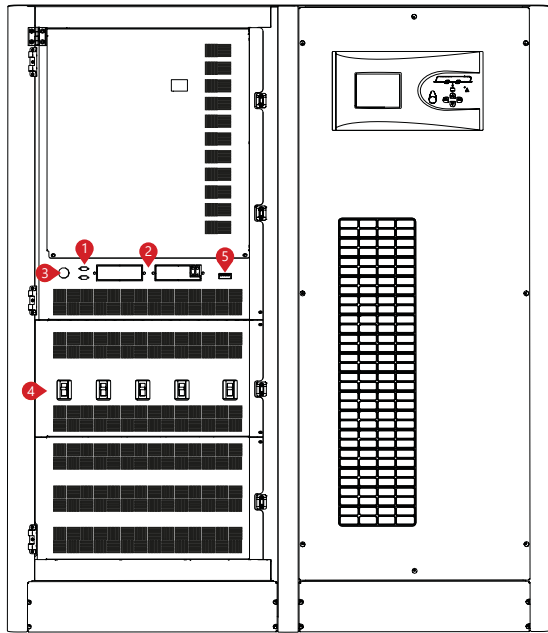
1. RS232 Terminal
2. Optional Card Slots
3. DC Bus Ramping Up Button
4. Switch
5. External Temperature Sensor Output



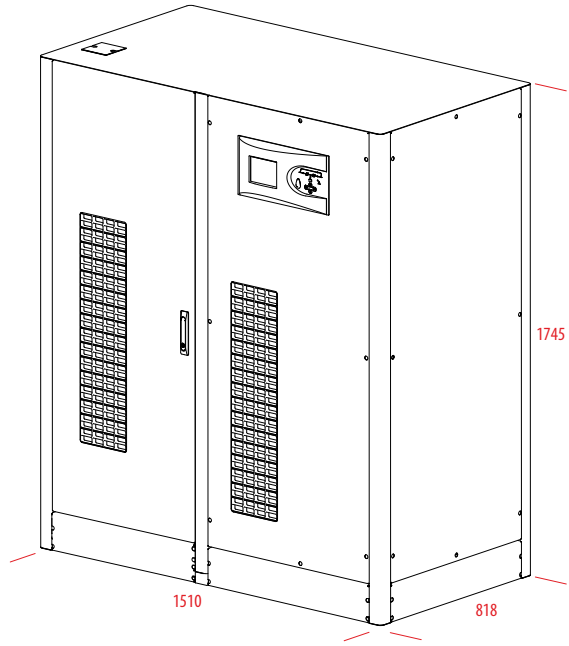
DETAILS

**UPower UPS T3** SERIES 100-120 kVA

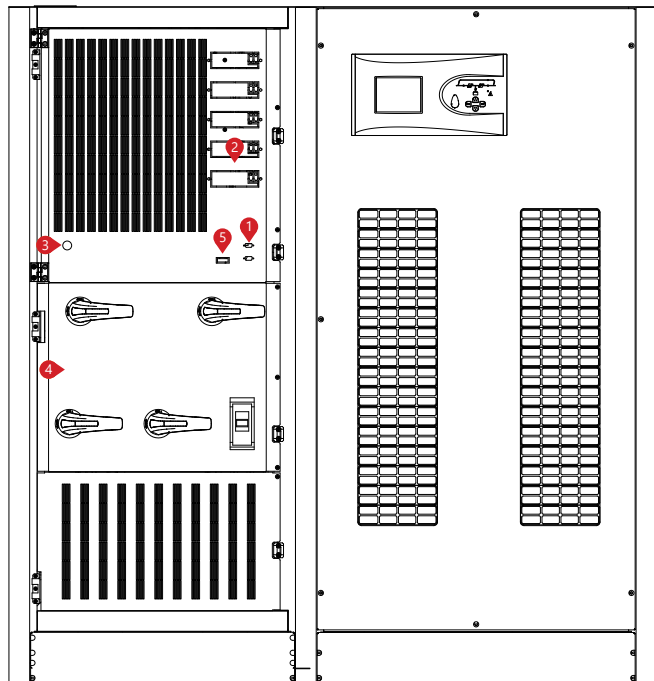
UPS 1



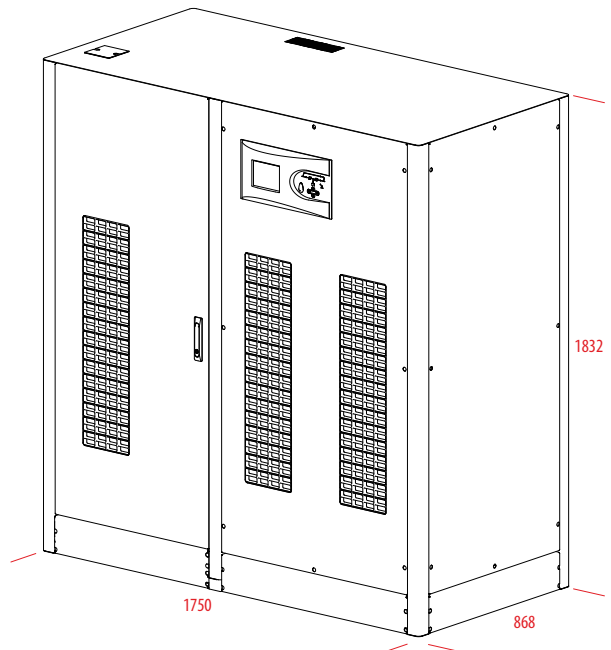
Front Panel



**UPower UPS T3** SERIES 160-200 kVA



Front Panel



- 1. RS232 Terminal
- 2. Optional Card Slots
- 3. DC Bus Ramping Up Button
- 4. Switch
- 5. External Temperature Sensor Output

MODEL												
Capacity	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	160kVA	200kVA	
Power Watt	10kW	15kW	20kW	30kW	40kW	60kW	80kW	100kW	120kW	160kW	200kW	
INPUT												
Voltage Range	380/400/415 VAC 3 Phase +N (Optional 220/380 VAC -37% +22% 3P+N+PE)											
Power Factor	At Full Load >0.99											
Frequency Range	45 - 65 Hz (Selectable)											
Total Harmonic Distortion (THDi)	<3%											
OUTPUT												
Voltage Range	380/400/415 VAC 3 Phase + N											
Voltage Tolerance	Static ±1, Dynamic ±3											
Efficiency	94.5%											
Frequency Tolerance	50Hz / 60Hz ±0,01% (Battery Mode)											
THD (THDv)	Linear Load <2%											
	Non-Linear Load <5%											
Crest Factor (CF)	3:1											
Overload Capacity*	At 125% Load 10min, at 150% Load 1min											
BATTERY												
Quantity (12V DC VRLA)	60											
Charge Capacity	12,5% of Active Power (Nominal 0,1 C10, Adjustable)											
ENVIRONMENTAL												
Operating Temperature	For UPS 0°C/+40°C For Battery +15°C/+25°C											
Storage Temperature	For UPS -15°C/+45°C For Battery 0°C/+30°C											
Protection Class	IP20											
Humidity	0-95% Without Condensation											
Altitude	<1000m, Correction Factor 1. <2000m, Correction Factor >0.92, <3000m; Correction Factor >0.84											
Noise Level	<53 dBA	<55 dBA	<60 dBA	<65 dBA	<72 dBA							
COMMUNICATION												
Communication Port	RS232 Standart, RS485 and SNMP Adapter Option											
STANDARDS												
Quality	ISO 9001, ISO 14001, ISO 18001, TSE-HYB											
Performance	EN62040-3 (VFI-SS-111, Bureau Veritas Certified)											
EMC/LVD	EN62040-2, EN62040-1, EN60950, (TÜV SÜD Certified)											
DIMENSIONS & WEIGHT												
Cabinet Dimensions (mm)	Width	517			517			1466		1510		1750
	Depth	862,1			1130			771		818		868
	Height	1382			1630			1593		1745		1832
Net Weight (kg)	342	345	350	343	452	785	860	935	996	1189	1258	
Packaging Dimensions (mm)	Width	670			620			1580		1580		1930
	Depth	900			1180			870		870		970
	Height	1630			1830			1980		1980		2120
Gross Weight (kg)	367	370	375	403	512	855	930	1005	1066	1269	1338	

\* under certain conditions.

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# U Power WSE WRT SERIES

## 6/10 kVA

1:1

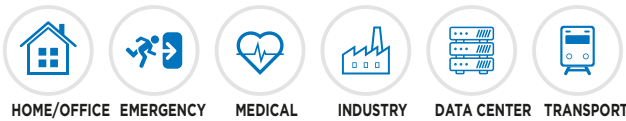
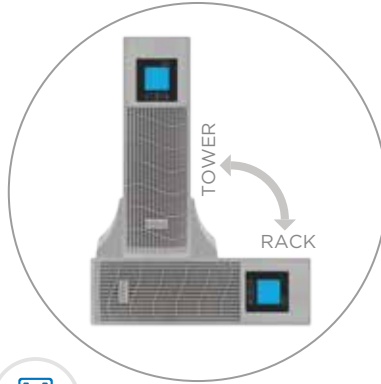
PHASE

ONLINE UPS

1  
UPS



UPS ONLINE RACK/TOWER POWER FACTOR SERVICE

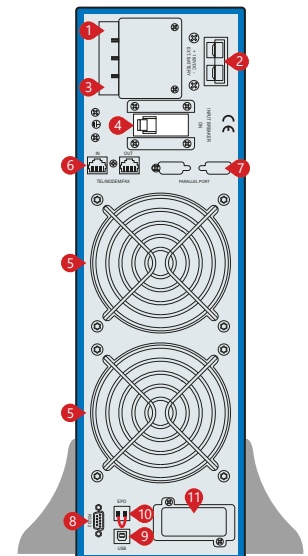


### FEATURES

- High Frequency and True Double-Conversion
- DSP (Digital Signal Processors) Technology
- Input Power Factor Correction (PFC)
- Wide Input Voltage Range (110~300V)
- Output Power Factor 0.9
- Cold Start
- Auto Sensing Frequency
- ECO Mode Operation for Energy Saving
- Selectable Output Voltage via LCD
- Output Bypass Settable via LCD
- Power-On Self Test
- Advanced Battery Management (ABM)
- Short Circuit and Overload Protection
- Automatic Charging in Off Mode
- Auto Control Fan Speed when Loads Varies
- Generator Compatible
- Standard RS232 Communication Port and RJ45 Protection
- USB/SNMP Communication Port (Optional)
- Emergency Power Off (EPO)
- Extension Battery Bank (Optional)
- Built-In Isolation Transformer (Optional)

### DETAILS

1. AC Input
2. DC Input
3. Outlet
4. Breaker
5. Fan
6. Modem/Tel/Fax
7. Parallel Card (Optional)
8. RS232
9. USB (Optional)
10. EPO
11. SNMP/AS400 (Optional)



Rear Panel  
6-10kVA



MODEL			
Capacity		<b>6kVA / 5400W</b>	<b>10kVA / 9000W</b>
Ref.No.		W606416	W606417
<b>INPUT</b>			
Related Voltage	208V / 220V / 230V / 240 VAC		
Voltage Range	Half Load (115-295) ±5 VAC, Full Load (165-295) ±5 VAC		
Frequency	40 ~ 70 Hz (Auto Sensing)		
Power Factor	≥0.99		
Bypass Voltage Range	160V - Rated Output Voltage +32V		
<b>OUTPUT</b>			
Voltage Range	208V / 220V / 230V / 240 VAC Setting Available via LCD		
Voltage Regulation	±1%		
Frequency	Synchronized with Utility in Mains Mode: 50 / 60 Hz ±0.2 Hz (Battery Mode)		
Waveform	Sinusoidal		
Crest Factor	3:1		
Harmonic Distortion	≤2% (Linear Load); ≤5% (Non-Linear Load)		
Transfer Time	Mains Mode to Battery Mode: 0ms Inverter Mode to Bypass Mode: 0ms		
Overload Capability	105% ~ 125% for 3min 125% ~ 150% for 30s >150% for 1s		
<b>EFFICIENCY</b>			
AC Mode	≥92%		
Battery Mode	≥91%		
ECO Mode	≥98%		
<b>BATTERIES</b>			
DC Voltage	192V		
Inbuilt Battery	16 x 7Ah		16 x 9Ah
Charge Current	Standard Model	1A	
	Long Time Model	1A / 3A / 5A / 8A	
Recharge Time	8h		
<b>ALARMS</b>			
Utility Failure	Beep / 4s		
Low Battery	Beep / 1s		
Overload	Beep Twice / 1s		
UPS Fault	Long Beep		
<b>ENVIRONMENTAL</b>			
Humidity	20-90% RH @ 0-40°C (Non-Condensing)		
Noise Level	≤55 dB (1m)		
<b>COMMUNICATION</b>			
RS232 (Standard) / USB (Optional)	Supports Windows®98/2000/2003/XP/Vista/2008/Windows®7/8/10		
SNMP (Optional)	Power Management from SNMP Manager and Web Browser		
<b>DIMENSIONS &amp; WEIGHT</b>			
	<b>6kVA</b>		<b>10kVA</b>
Long Time Model			
Dimensions WxDxH (mm)	440 x 555 x 132		
Packaging Dimensions WxDxH (mm)	535 x 660 x 215		
Net Weight / Gross Weight (kg)	16.4 / 20.7		17.1 / 21.4
Standard Model			
Dimensions WxDxH (mm)	440 x 555 x 132 (UPS), 440 x 555 x 132 (BAT)		
Packaging Dimensions WxDxH (mm)	535 x 660 x 215 (UPS), 540 x 685 x 235 (BAT)		
Net Weight / Gross Weight (kg)	16.4 / 20.7 (UPS), 43.6 / 47.1 (BAT)		17.1 / 21.4 (UPS), 49.6 / 53.1 (BAT)

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# WSVS

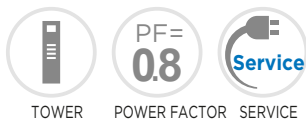
## SERIES

1  
UPS

**10-2000 kVA** 3:3  
PHASE

**1-30 kVA** 1:1  
PHASE

STATIC VOLTAGE STABILIZER



### HIGHLIGHTS

- Microprocessor Controlled Voltage Stabilisation
- Precise Output Voltage Accuracy
- True Static-Modular Design with Thyristor Technology
- High Voltage Regulation Speed
- Maintenance Free

### Highly Reliable and Endurable Static Design

- Microprocessor controlled Static design stabilizers automatically regulate and protect the loads against dangerous voltage changes.
- Compatible with all load types and offering independent phase control, they deliver ultra-fast response times in correcting under / over voltages, sags and surges - making them ideal for highly sensitive / mission critical loads and applications.

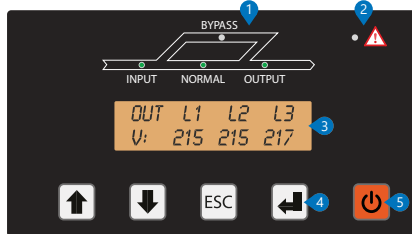
### CERTIFICATES





## Standart Electrical Features

- Wide Input Voltage Range
- Precise Output Voltage Accuracy  $\pm 1\%$  to  $\pm 5\%$
- Ultra Fast Voltage Regulation (500V/s)
- True 32-bit Microcontroller Controlled
- High Efficiency >97%
- Independent Phase Regulation to Correct Voltage and Load Imbalance
- Electronic Protection Against to Over Load, Low Voltage, High Voltage, Over Temperature, Over Current and Short Circuit
- Overload Protection up to 150%
- Fast Responsive to Voltage Surges
- User Friendly, Easy and Comprehensive LCD Display and Mimic Diagram



1. Input Led  
Bypass Led  
Normal Led  
Output Led
2. Alarm/Warning Led
3. LCD Display
4. Menu Keys
5. On/Off Button

- Advanced Alarm Menu
- Manual Bypass
- Auto Restart when Mains Available
- 512 Events Log Memory (Opt.)
- Full Electronic Static Structure with No Moving Parts, Delivering a 'Maintenance Free' Voltage Regulation Solution
- Compact Design with High Quality Material and Minimum Malfunction Hazard
- Designed, Manufactured and Supplied to Comply with
- Fully CE Compliant and Labelled

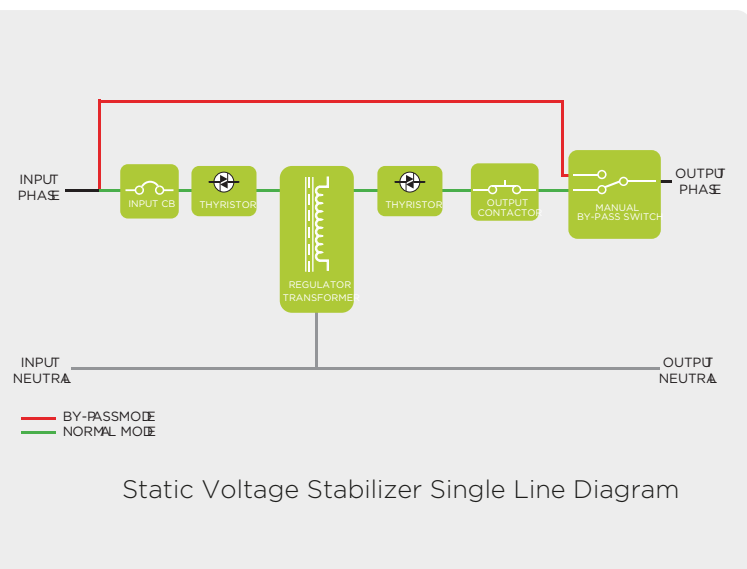
## Flexibility

- Available at any required input voltage value and range.
- Available at any required output voltage value and tolerance from  $\pm 1\%$  to  $\pm 5\%$ .
- Output voltage can be adjusted by the LCD panel.
- Functionable with 50Hz and 60Hz.
- Optional MCCB can be added to the output to provide additional protection.
- Optional automatic by-pass unit can be added to the output.
- Isolation transformer or voltage changing auto-transformer can be added for both input and output.
- Indoor and outdoor special cabinets with various IP protection classes can be provided.
- Optional EMC-filters at both input and output.
- Optional high-voltage protection and surge arrester.
- Input and output terminals can be designed and located specially on the cabinet.
- Optional Modbus.

### MICROPROCESSOR CONTROLLED THYRISTOR TECHNOLOGY

Based on high speed semiconductor (Thyristor) technology and all digital microprocessor control, WSVS Series Static Voltage Stabilizers continuously monitor the incoming supply. Should the incoming voltage rise or drop, the stabilizers will automatically control the output to ensure the voltage reaching the load equipment always remains constant at the requisite voltage.

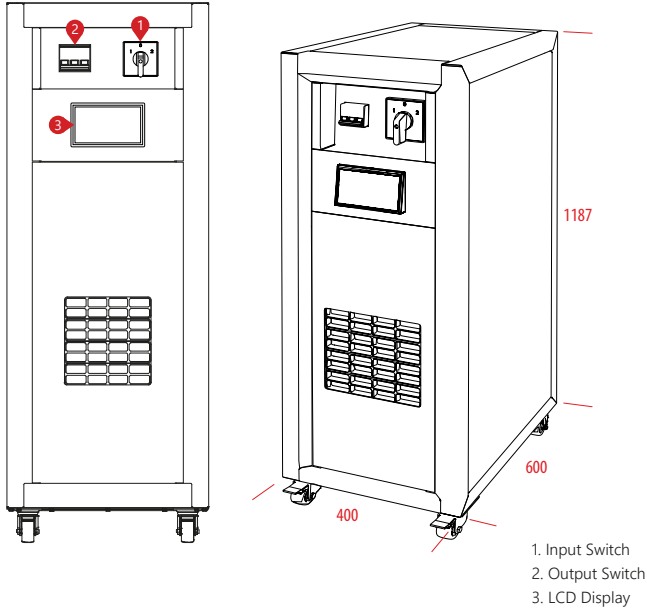
Inbuilt spike protection ensures the load is continuously protected against harmful mains born high energy spikes and surges.



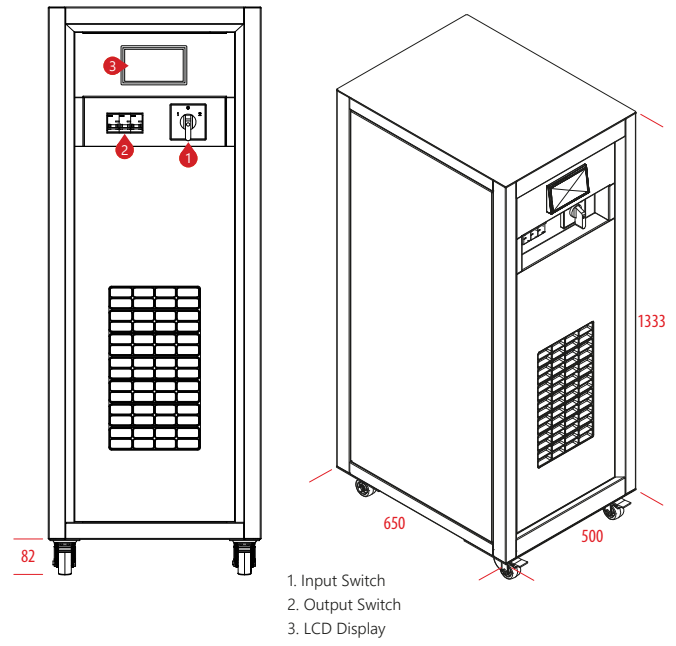
DETAILS

**WSVS** SERIES 10-30 kVA

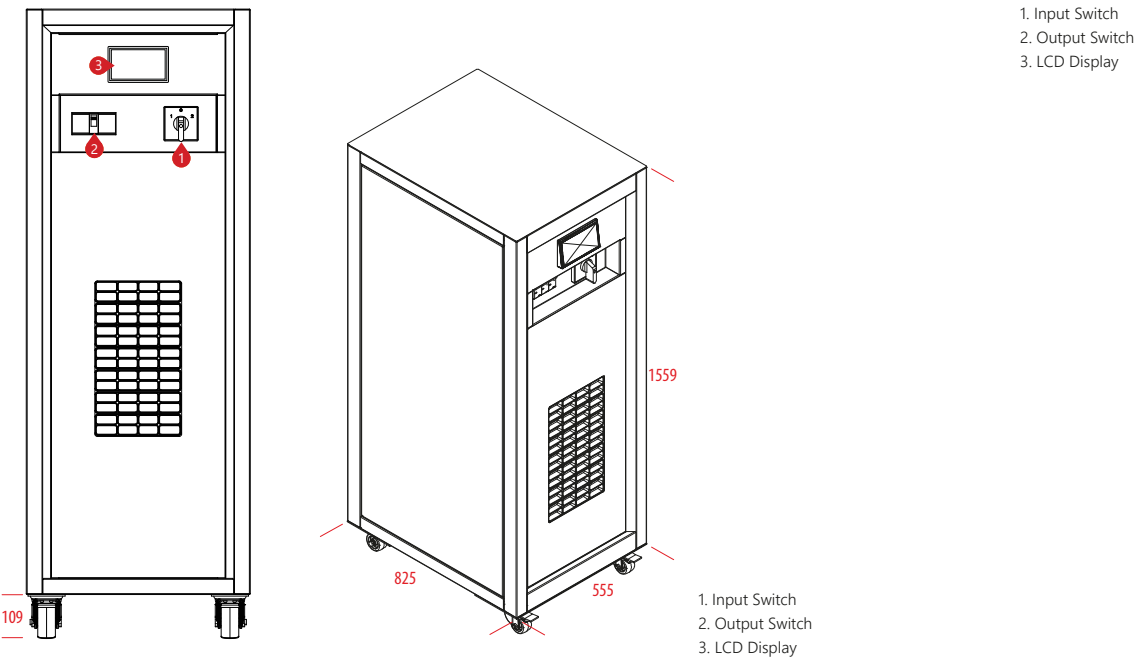
UPS



**WSVS** SERIES 40-60-75 kVA

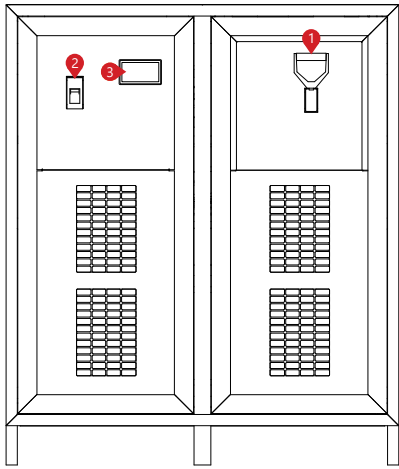


**WSVS** SERIES 100-120-150 kVA

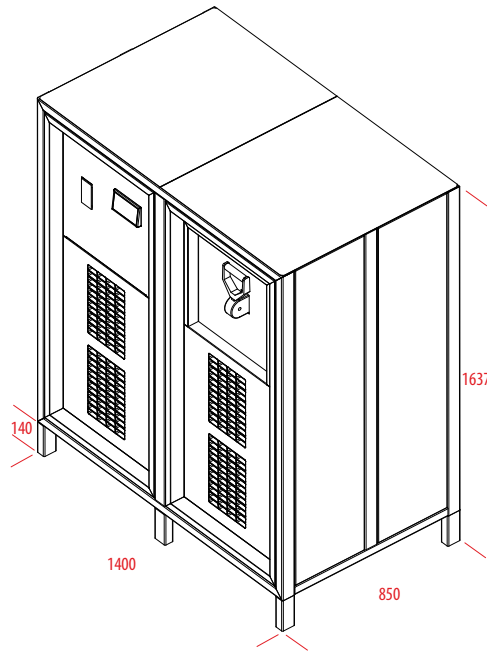


DETAILS

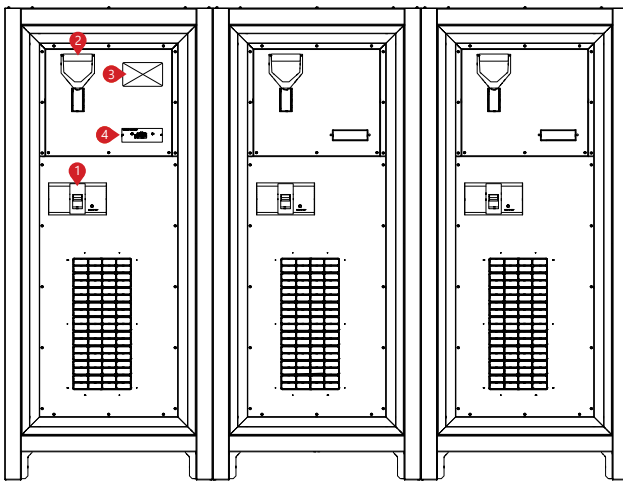
**WSVS** SERIES 200-300-400-500 kVA



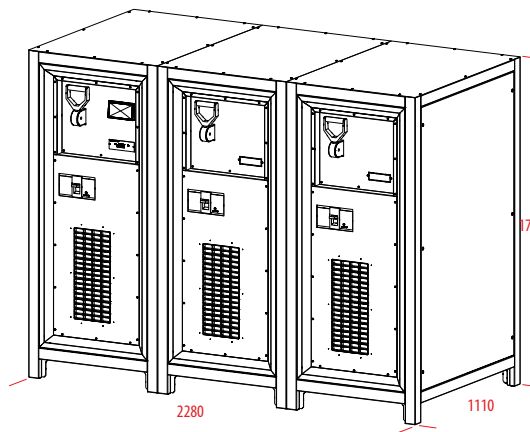
- 1. Input Switch
- 2. Output Switch
- 3. LCD Display



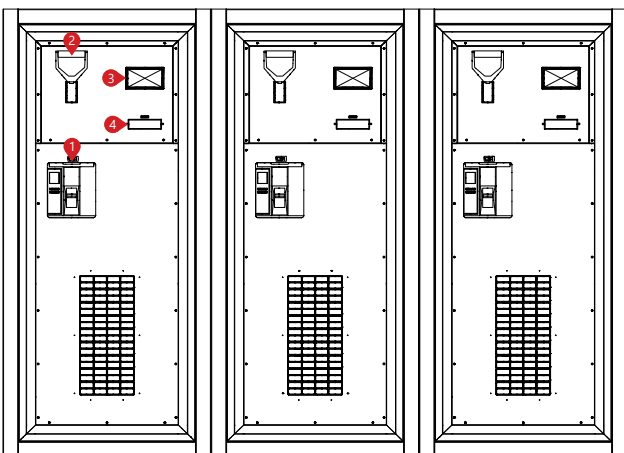
**WSVS** SERIES 600-800-1000-1250 kVA



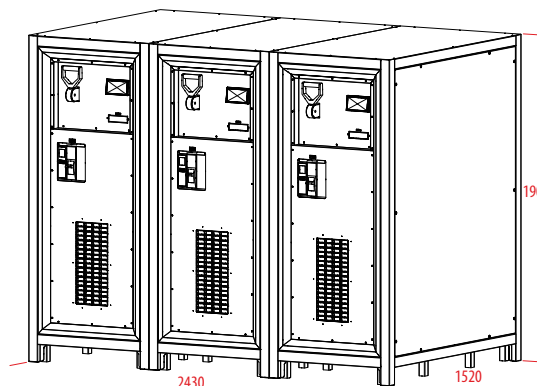
- 1. Input Switch
- 2. Output Switch
- 3. LCD Display
- 4. Optional Card Slot
- 5. Connection Terminal (Rear Panel)



**WSVS** SERIES 1600-2000 kVA



- 1. Input Switch
- 2. Output Switch
- 3. LCD Display
- 4. Optional Card Slot
- 5. Connection Terminal (Rear Panel)



<b>MODEL</b>		10	15	22,5	30	45	60	75	100	120	150	200	300	400	500	600	800	1000	1250	1600	2000	
Capacity (kVA)																						
<b>INPUT</b>																						
In. Vol. Correct. Interval		275~450 VAC (Optional: 190V~485V)																				
Operation Frequency		50~60 Hz (±10%)																				
Line Input Protection		Overcurrent Thermic Fuse																				
<b>OUTPUT</b>																						
Output Voltage		380 VAC RMS ±3% (Std.)					380 VAC RMS ±5% (Optional 1% to 5%)															
Overloading		10min 125% Load, 1min 150% Load, 10sec 200% Load, 20ms 500% Load																				
Correction Speed		500 Volt/sec																				
Upturn Period		20ms																				
Output Protection		Short Circuit, Overload, Overtemperature, Over and Low Voltage Protections																				
<b>WORKING PRINCIPLE</b>		Microprocessor Controlled, Full Automatic, Static, Semi Conductor Electronic Structure Maintenance Free																				
<b>CONTROL PANEL</b>																						
Display and Buttons		Load Level, Input-Output Voltage																				
Alert Message		Input Low/High, Output Low/High, Overtemperature																				
<b>GENERAL</b>																						
Efficiency		>97% (Full Load)																				
Mechanical Bypass		"Manually Controlled Line - PAKO SWITCH Selects Voltage Regulator" Switch Turn On/Off																				
Protection Level		IP20																				
Standard		TS EN 61000-6-2:2006, TS EN 61000-6-3:2007 (EMC), IEC60204-1+A1:2008 (LVD)																				
<b>ENVIRONMENTAL</b>																						
Operating Temperature		-10°C~50°C																				
Storage Temperature		-25°C~60°C																				
Relative Humidity		<90%, DIN (40040)																				
Altitude		<2000m																				
Noise Level		<50 dB			<55 dB			<58 dB			<58 dB			<63 dB								
<b>DIMENSIONS &amp; WEIGHT</b>																						
Cabinet Dimensions (mm)	Width	400				500				555				1400				2280				2430
	Depth	600				650				825				850				1110				1520
	Height	1187				1333				1559				1637				1730				1905
Weight (Kg)		80	95	112	120	175	203	233	277	320	369	639	775	857	930	1670	1800	1890	2110	2820	3150	

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MODEL									
Capacity (kVA)		1	2	3	7,5	10	15	20	30
<b>INPUT</b>									
In. Vol. Correct. Interval		120~230 / 145~245 / 160~250 VAC							
Operation Frequency		50~60 Hz (±10%)							
Line Input Protection		Overcurrent Thermic Fuse							
<b>OUTPUT</b>									
Output Voltage		380 VAC RMS ±3% (Std.)		380 VAC RMS ±5% (Optional 1% to 5%)					
Overloading		10min 125% Load, 1min 150% Load, 10sec 200% Load, 20ms 500% Load							
Correction Speed		500 Volt/sec							
Upturn Period		20ms							
Output Protection		Short Circuit, Overload, Overtemperature, Over and Low Voltage Protections							
<b>WORKING PRINCIPLE</b>		Microprocessor Controlled, Full Automatic, Static, Semi Conductor Electronic Structure Maintenance Free							
<b>CONTROL PANEL</b>									
Display and Buttons		Load Level, Input-Output Voltage							
Alert Message		Input Low/High, Output Low/High, Overtemperature							
<b>GENERAL</b>									
Efficiency		>97% (Full Load)							
Mechanical Bypass		"Manually Controlled Line - PAKO SWITCH Selects Voltage Regulator" Switch Turn On/Off							
Protection Level		IP20							
Standard		TS EN 61000-6-2:2006, TS EN 61000-6-3:2007 (EMC), IEC60204-1+A1:2008 (LVD)							
<b>ENVIRONMENT</b>									
Operating Temperature		-10°C~50°C							
Storage Temperature		-25°C~60°C							
Relative Humidity		<90%, DIN (40040)							
Altitude		<2000m							
Noise Level		<50 dB							
<b>DIMENSIONS &amp; WEIGHT</b>									
Dimensions (mm)	Width	192		260			430		
	Depth	361		453			596		
	Height	352		416			777		

Westinghouse reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Westinghouse products previously or subsequently sold. Westinghouse does not guarantee the items of the accuracy and completeness.

# CUSTOMIZED POWER SOLUTIONS

1  
UPS

A full range of custom and rugged AC&DC Power Solutions to meet with your specific requirements and where a standard UPS will not be suitable.



## SOLUTIONS

- Containerised Power Systems
- Outdoor AC&DC Power Systems
- Marine/Offshore AC&DC Power Systems
- Defence Power Systems
- Custom DC Systems/Chargers
- Standalone or Modular Design Tailored to the Requirements

## CONTAINERISED POWER SYSTEMS

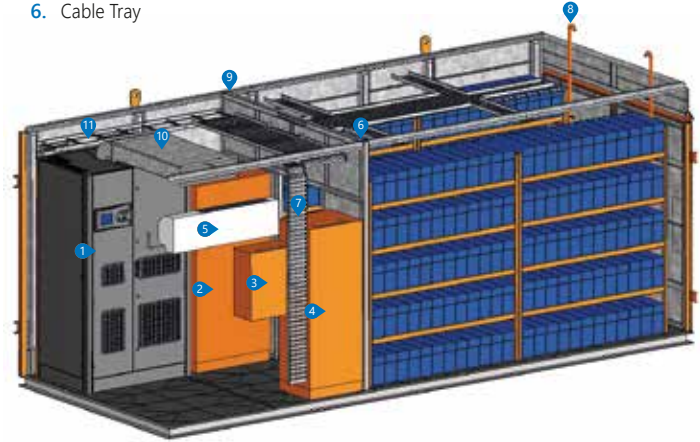
- Westinghouse's containerised solutions integrates Westinghouse UPS and Generator together where the UPS supports critical loads without interruption until the generator kicks in. With the "True no break power solution", business continuity without costly downtime is ensured.
- Cost effective and energy saving - all in one solution. It features high reliability and security, Fast deployment, best mobility, energy saving and is suitable for a wide variety of applications and also applicable to special mobile scenarios.



## Features

- Complete containerised UPS system up to 1000kVA 3Phase
- Up to 96% efficiency
- Integrated transfer and bypass switches
- Fully bunded ISO container
- Personnel and maintenance access doors
- Digital controls for UPS and switchgear
- Fire detection and protection
- Air conditioned UPS and battery compartments
- Environment control system.

1. Active Power Unit: UPS/ Power Converter/Freq. Converter etc.
2. Main AC In/Out Electrical Panel
3. Internal AC Distribution Electrical Panel
4. Battery Breaker Panel
5. AC Aircon
6. Cable Tray
7. Cable Tray
8. Hydrogen Gas Release
9. Active Power Unit/ Battery Compartments Separation
10. Air Baffle
11. Cables Conduit



1  
UPS

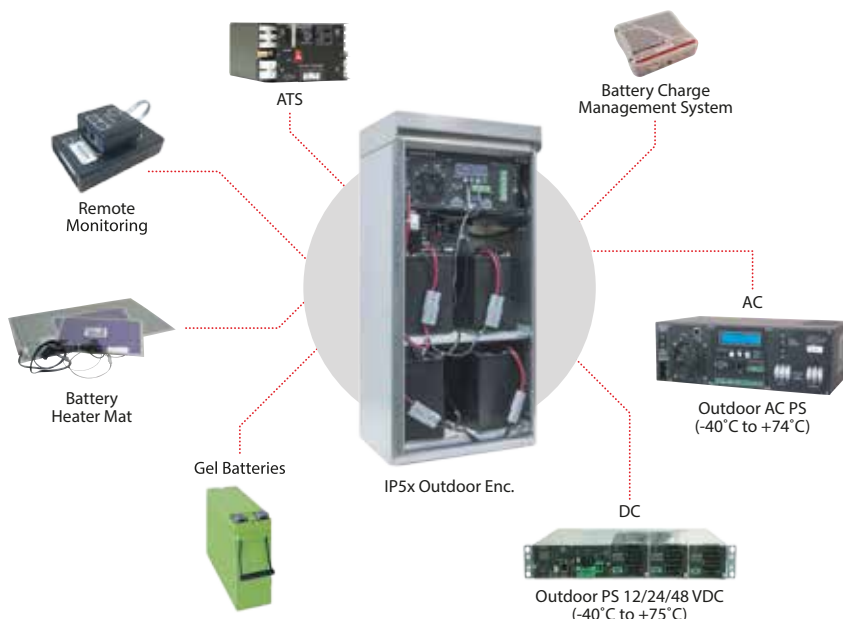
## OUTDOOR AC & DC POWER SYSTEMS

### Features

- Designed to operate under extreme temperature conditions (-40C to +74C)
- Made of rugged electric and electronic components
- Due to fact that the UPS is designed for extreme conditions, the elements that maket he UPS are also designed for extreme conditions
- Conformal coated PCB's protect against exposure to moisture and high humidity environment
- Thermostatically controlled battery heater mats available  
Temperature compensation utilized to effectively manage the battery charge voltage based on temperature
- Remote monitoring via SNMP web based communication
- Built in AVR (Automatic Voltage Regulation) allows for a wider input voltage range for World-wide use
- Enhanced surge protection capability (TVSS- Transient Voltage Surge Suppressor, LAP (Lighting Arrestor Protection)
- Enclosures meet specific ingress protection (IPXX) standard for extreme environments (Zone 4 earthquake, rain test, dust, impact test, etc)

### Applications

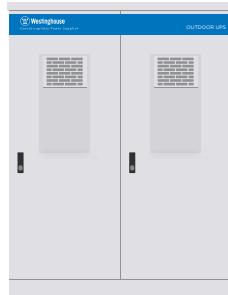
- Intelligent Transportation Systems
- Security Applications (Sea/Land/Airport)
- Telecom Applications
- Defence/Military Backup Systems
- Railway Applications
- Marine/Offshore Applications
- Industrial Applications



Outdoor AC&DC UPS Systems for Intelligent Transportation/Traffic/Security Sytems



*Customized Railway UPS System can take Inputs from both a 25kV Overhead Line as well as a 400VAC Mains Supply. Available in Single Phase and Three Phase*



*IP 65 AC Standalone UPS Systems 1-20kVA with Built-in Batteries*



*IP 31-41 High Reliable and Robust 3 Phase AC Standalone Westinghouse UPS Designed for Most Harsh Industrial Processes*

1  
UPS

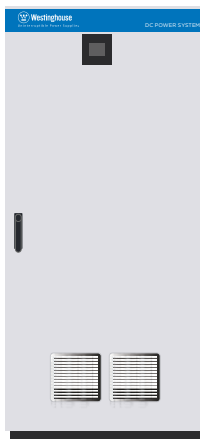
## CUSTOM DC SYSTEM/CHARGERS

Westinghouse offers a comprehensive range of DC power protection products available in standalone or 19" rack, modular configurations.

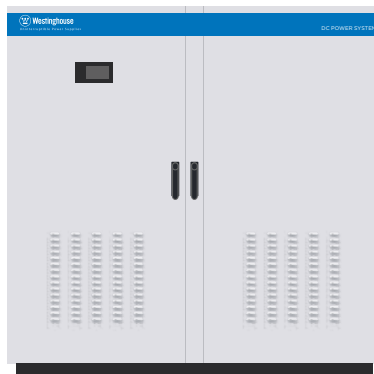
- Chargers - Single or Three Phase. 12/24/48/110/220VDC
- Power Supplies 12/24/48/110/220VDC
- DC UPS - 12-220VDC / 10A-10000A
- DC Rectifiers
- DC-AC Industrial Single/Three Phase Modular Inverters
- DC Load Distribution Panels



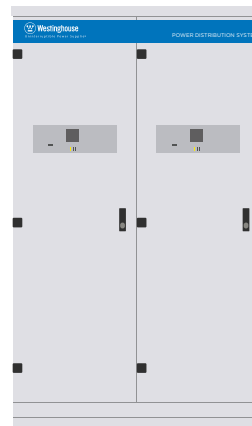
*110VDC/200A, Hotswappable/Upgradable DC System in IP41 Cabinet with 2 Groups of 12V FT Batteries and Remote Access*



*110VDC/40-10000A DC Power System*



*8X2V3000Ah Battery Change Over System Easy Change Over of 2V 1000-3000Ah Telco Batteries for Test/Maintenance Purposes*



*48VDC Power Distribution Panel with Remote Monitoring of DC Voltage and Currents*



# GENERATOR

## SOLUTIONS

### 10-2500 kVA

#### GENERATOR



#### HIGHLIGHTS

- Easily Dismountable Chassis
- Low Amortization
- Easy Maintenance Canopy Design
- Economic and Long Life

#### High Tech and Reliable Solutions for Power Generating

- Westinghouse provides tailor-made power generators accordingly to customer needs as well as serving with a wide range of generators starting from 10kVA to 2500kVA. High quality Westinghouse generator sets approved with international quality certifications which are made of world's top engine brands coupled to well know alternators to meet projects' requirements of different output ranges.

#### Diesel Engine Brand Options





## Engine

- Heavy Duty Diesel Engine
- 4 Cycle, Water Cooled, Naturally Aspirated
- Indirect Injection
- Mechanic / Rotary Type Pump
- 12/24 Volt Self-Starter and Charger Alternator
- Changeable Air, Fuel and Oil Filter
- Tropical Type Radiator
- Flexible Fuel Pipe
- Oil Discharge Valve And Extension Pipe
- Industrial Type Silencer, Exhaust Spiral or Compensator
- Maintenance Free Battery
- Engine Block Water Heater (In Automatic Models)
- Diesel Gen-Set Maintenance and Operating Instructions and Electrical Circuit Diagram

## Quality Standard

Our gen-sets; VDE 0530, BS 4999, BS 5000, IEC 34, TS ISO 8528, TS EN 12601 are manufactured in accordance with the standards mentioned above. Our company fulfills ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 management system requirements, and have the accredited certificates of Kiwa & MEYER. Also we've GOST-R certificate. Our gen-sets have TS ISO 8528-5, TS EN 12601 product standard certificates.

Our gen-sets are CE certified in accordance with the requirements of 2000/14/EC, noise emission directive.

## Alternator

- Brushless, Single Bearing, Flexible Disc 4 Poles Alternator for Harmonic Failure
- H Type Isolation Class
- IP 21-23 Protection Class
- Self Exciter
- Electronic Automatic Voltage Regulator
- Stator 2/3 Step for Harmonic Failure

## Extra Equipments

- Charge Ammeter
- Moulded Case Circuit Braker (In Automatic Models)
- Hospital/Critical Type Silencer
- Sound-Proof Canopy
- Mobile-Trailer
- Synchronization Control Panel for 2-6 Gen-Sets
- 3 Pole/4 Pole Automatic Transfer Panel (A.T.S.)
- Fuel and Oil Heater
- Alternator Heater
- Automatic Fuel Filling System
- Fuel-Water Seperator Filter

## Canopy

- Modular Type Sound-Proof Canopy
- Canopy Installation Executed with Screw and Nut, without Welding Process
- Epoxy and Polyester Powder Painted Canopy
- Canopy Designed for Easy Maintenance
- Lockable Doors on Both Sides of Canopy
- Emergency Stop Button
- Transparent Panel Inspection Window

## Automatic Control Panel

- LCD Display Screen
- Battery Charger
- Hardware and Materials Needed
- USB Port & RS-485 Output

## Gen-Set Safety Protection & Alarms

- High Water Temperature
- Low Oil Pressure
- High & Low Engine Speed
- Low Radiator Water Level
- Over Current Load
- High & Low Gen-Set Voltage
- Start/Stop Failure



Easy maintenance canopy design



Refilling from the outside of the canopy



Canopy made of galvanized steel



Warning system for decreasing fuel with electronic fuel level sender

# U – Switch mode

Series

## 12/24VDC : 10A-300A

1  
PHASE

SWITCH MODE BATTERY CHARGER

### Usage Areas:

- Vessels and Yachts
- Shipyards
- Rail Systems
- Hydroelectric Power Plants
- Solar Power Plants
- Automobile Services
- Electrical Devices



2

Power Separator

### HIGHLIGHTS

- Switch Mode Technology
- Voltage Controlled Automatic Charging
- Can Be Used as DC Power Supply
- 1 Phase & 3 Phase Wide Power Range
- High Efficiency and Reliability
- Electronic Protections
- Up to 30% Energy Saving

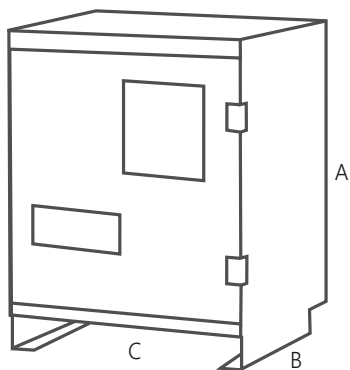
### New Generation Switch Mode Charging Rectifiers

- Westinghouse Switch Mode Charging Rectifiers are designed with the state of the art technology for charging batteries and DC energy needs of devices supplied by direct current.
- Batteries would be charged much safer with the improved software and special charging program. Non-complex structure, easy maintenance properties, user friendly program and other superior features will meet all requirements.
- The most important feature of the device is it can be used as supply source as well as a battery charger. Besides low ripple factor increases the battery life. It's an ideal solution for where device weight and dimensions are problem.

### CERTIFICATES



MODEL	
<b>INPUT</b>	
Input Phase	1 Phase - 2 Phase - 3 Phase (Special Design)
Input Voltage Tolerance	±10%
Input Frequency	50 - 60 Hz
Power Factor	0.98
THDi	<%10
<b>OUTPUT</b>	
Output Current	10A - 300A
Output Voltage	12V - 24V
Ripple	≤1 Ripple
<b>GENERAL</b>	
Cooling	Air Cooling
Isolation Voltage	1500 VAC Input / Chassis Bridge, 500 VAC Output / Chassis Bridge, 500 VAC Between Input and Output
Insulation Class	IP 20 - RAL 7032 (Special Design)
Efficiency	90%
Operating Temperature	-20/50°C
Operating	Ability to set Charge Mode for all Battery Types
Input / Output Connections	Serial Connector - W Otomation
<b>PROTECTION</b>	
Heat Protection	Input / Output Overtemperature Protection
Measure	Output Overcurrent Protection - DC High Low - DC Leakage - Mains Failure
<b>TECHNOLOGY</b>	
IGBT	Switch Mode Technology
Standard	ISO 9001 - LVD - EN 62040 -1 - EMC
<b>INDICATORS</b>	
LCD Panel	2 x 16 - 4 x 16 Line
PLC	S71200 - S7300
Otomation	Modbus / Profibus / ProfiNET / RS 232 / RS 485



### DIMENSIONS

Cat.No.	Ref.No.	A (mm)	B (mm)	C (mm)
WUKL1	W606376	340	240	150
WUKL2	W606377	340	240	200
WUKL3	W606378	290	260	370
WUKL4	W606379	340	280	400
WUKL5	W606380	400	320	450
WUKL6	W606381	580	390	500

### OPTIONS

- DC +/- Ground Leakage Protection
- Modbus RTU Communication
- Individual Outputs for Battery and Load
- Deep Discharge Protection (LVD)
- Output Dropper Diode
- Additional Battery Fuse
- Temperature Comp. Battery Charge Voltage
- Power Fault Detection Dry Contact
- Battery Management, Test
- Rackmounted Chassis/Integrated Battery Racks / (IP31/IP42/IP54/IP65)
- Input Isolation Transformer / 6 Pulse Structure

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# 6-WH SERIES-General Purpose

## 12V12AH

### Specification

Nominal Voltage	12V	
Nominal Capacity (20HR)	12.0Ah	
Dimensions	Length	151 ±2mm (5.95 inches)
	Width	98 ±1mm (3.86 inches)
	Container Height	95 ±1mm (3.74 inches)
	Total Height (with Terminal)	101 ±2mm (3.98 inches)
Approx Weight	Approx 3.50 kg (7.72lbs)	
Terminal	T2	
Container Material	ABS	
Rated Capacity	12.0AH/0.60A	(20hr, 1.80V/cell, 20°C/68°F)
	11.2AH/1.12A	(10hr, 1.80V/cell, 20°C/68°F)
	10.2AH/2.03A	(5hr, 1.75V/cell, 20°C/68°F)
	8.94AH/2.98A	(3hr, 1.75V/cell, 20°C/68°F)
	7.49AH/7.49A	(1hr, 1.60V/cell, 20°C/68°F)
Max. Discharge Current	180A (5s)	
Internal Resistance	Approx 14m Ω	
Operating Temp. Range	Discharge	: -15~50°C (5~122°F)
	Charge	: 0~40°C (32~104°F)
	Storage	: -15~40°C (5~104°F)
Nominal Oper. Temp. Range	20 ±3°C (68±5°F)	
Cycle Use	Initial Charging Current less than 3.6 A. Voltage	
	14.4V~ 15.0V at 20°C (68°F) Temp. Coefficient - 30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage	
	13.5V~ 13.8V at 20°C (68°F) Temp. Coefficient - 20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	20°C (68°F)	100%
	0°C (32°F)	86%
Self Discharge	WESTINGHOUSE 6-WH series batteries may be stored for up to 12 months at 20°C (68°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



### Applications

- 10 years life expected
- All purpose
- Uninterruptible power supply (UPS)
- Electric Power System (EPS)
- Emergency Backup power supply
- Emergency light
- Railway signal
- Aircraft signal
- Alarm and security system
- Electronic apparatus and equipment
- Communication power supply
- DC power supply
- Auto control system



### Constant Power Discharge (Watts/cell) at 20°C (68°F)

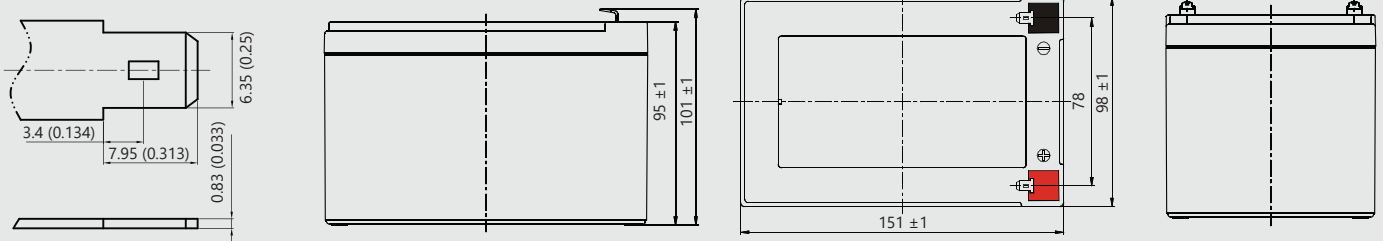
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	61.60	46.60	41.40	37.30	20.90	17.50	18.50	10.96	9.58	8.73	7.49	5.40	4.63	4.08	1.93
1.80V/cell	68.50	51.60	45.00	40.10	22.80	19.85	19.30	11.41	9.90	8.99	7.66	5.56	4.72	4.15	1.94
1.75V/cell	77.80	56.10	47.80	42.30	24.10	20.10	19.90	11.90	10.00	9.08	7.75	5.62	4.78	4.20	1.95
1.70V/cell	86.30	59.90	50.50	44.30	25.20	20.70	20.40	11.94	10.20	9.18	7.84	5.68	4.82	4.23	1.97
1.65V/cell	92.10	62.80	52.50	46.00	26.20	20.90	20.80	12.17	10.34	9.25	7.91	5.74	4.86	4.26	1.98
1.60V/cell	98.20	65.70	54.40	47.10	27.10	21.80	21.10	12.33	10.45	9.39	7.93	5.81	4.91	4.29	1.99

# 6-WH SERIES-General Purpose

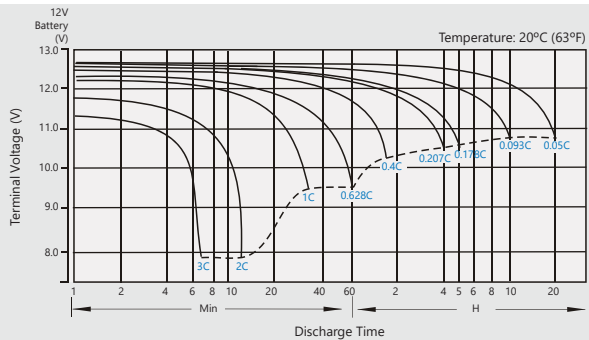
## 12V12AH

### Dimensions

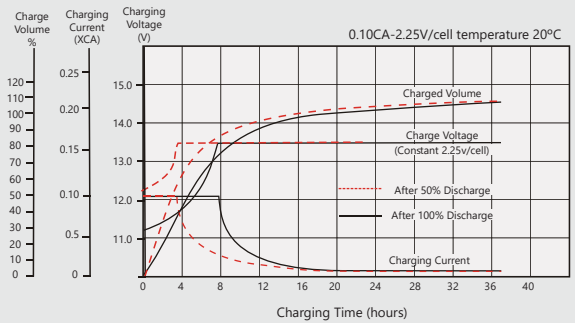
○ T2 Terminal  
Unit : mm (inches)



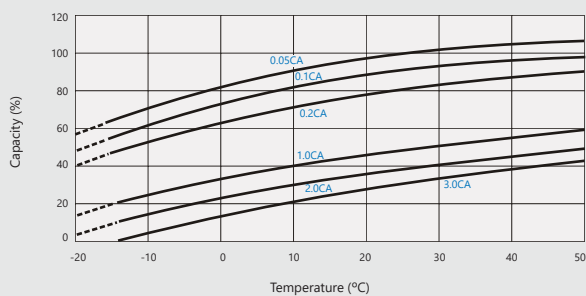
### Discharge Characteristics



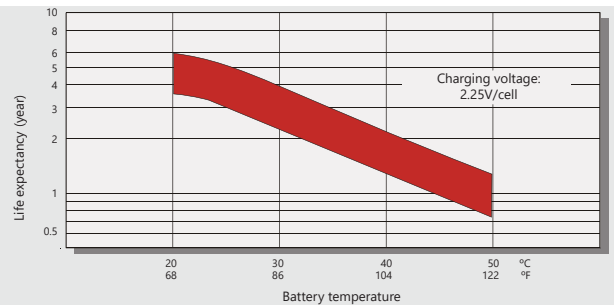
### Float Charging Characteristics



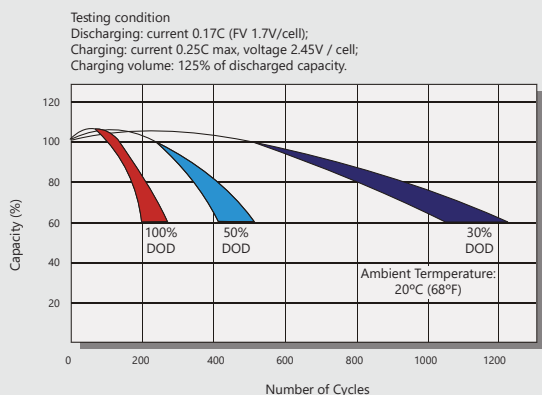
### Temperature Effects In Relation to Battery Capacity



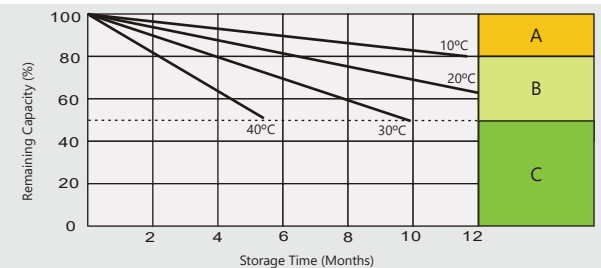
### Effect of Temperature on Long Term Float Life



### Cycle Life in Relation to Depth of Discharge



### Self Discharge Characteristics



- A** No supplementary charge required  
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
  1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
  2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
  3. Charged for 8-10 hours at limited current 0.25CA.
- C** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.

# 6-WH SERIES-General Purpose

## 12V17AH

### Specification

Nominal Voltage	12V	
Nominal Capacity (20HR)	17.0Ah	
Dimensions	Length	181.5 ±2mm (7.14 inches)
	Width	77 ±1mm (3.03 inches)
	Container Height	167.5 ±2mm (6.59 inches)
	Total Height (with Terminal)	167.5 ±2mm (6.59 inches)
Approx Weight	Approx 5.4 kg (11.9lbs)	
Terminal	T3	
Container Material	ABS	
Rated Capacity	17.0AH/0.85A	(20hr, 1.80V/cell, 20°C/68°F)
	15.7AH/1.62A	(10hr, 1.80V/cell, 20°C/68°F)
	14.3AH/3.00A	(5hr, 1.75V/cell, 20°C/68°F)
	12.4AH/4.41A	(3hr, 1.75V/cell, 20°C/68°F)
	10.2AH/10.2A	(1hr, 1.60V/cell, 20°C/68°F)
Max. Discharge Current	270A (5s)	
Internal Resistance	Approx 16m Ω	
Operating Temp. Range	Discharge	-15~50°C (5~122°F)
	Charge	0~40°C (32~104°F)
	Storage	-15~40°C (5~104°F)
Nominal Oper. Temp. Range	20 ±3°C (68±5°F)	
Cycle Use	Initial Charging Current less than 5.4 A. Voltage	
	14.4V~ 15.0V at 20°C (68°F) Temp. Coefficient - 30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage	
	13.5V~ 13.8V at 20°C (68°F) Temp. Coefficient - 20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	20°C (68°F)	100%
	0°C (32°F)	86%
Self Discharge	WESTINGHOUSE 6-WH series batteries may be stored for up to 12 months at 20°C (68°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



### Applications

- 10 years life expected
- All purpose
- Uninterruptible power supply (UPS)
- Electric Power System (EPS)
- Emergency Backup power supply
- Emergency light
- Railway signal
- Aircraft signal
- Alarm and security system
- Electronic apparatus and equipment
- Communication power supply
- DC power supply
- Auto control system



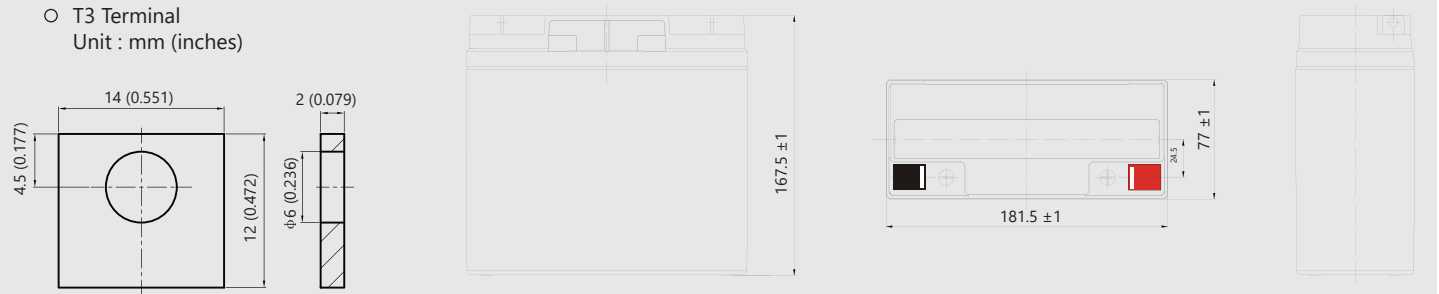
### Constant Power Discharge (Watts/cell) at 20°C (68°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	80.10	57.30	48.10	39.80	35.80	30.30	23.90	15.40	13.86	10.50	9.78	7.81	6.84	5.41	2.11
1.80V/cell	90.40	64.80	53.70	44.10	39.90	32.10	25.20	16.10	14.35	11.80	10.04	8.00	6.97	5.51	2.12
1.75V/cell	104.40	71.50	57.80	47.40	40.40	33.50	26.10	16.50	14.60	12.02	10.18	8.12	7.04	5.59	2.14
1.70V/cell	116.70	77.30	61.90	50.40	42.40	34.50	26.90	16.90	14.80	12.17	10.30	8.23	7.12	5.64	2.17
1.65V/cell	125.90	81.50	64.80	52.60	43.70	35.40	27.40	17.20	15.01	12.33	10.41	8.31	7.18	5.67	2.19
1.60V/cell	135.00	86.00	67.70	54.60	45.00	36.20	28.10	17.50	15.18	12.49	10.53	8.42	7.26	5.73	2.20

# 6-WH SERIES-General Purpose

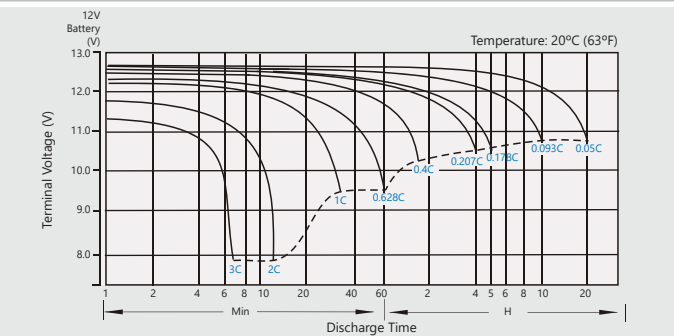
## 12V17AH

### Dimensions

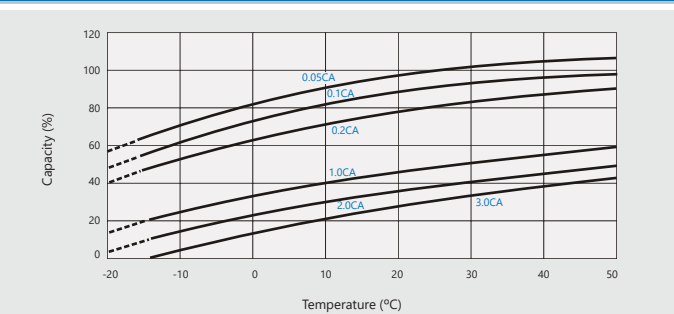


batteries

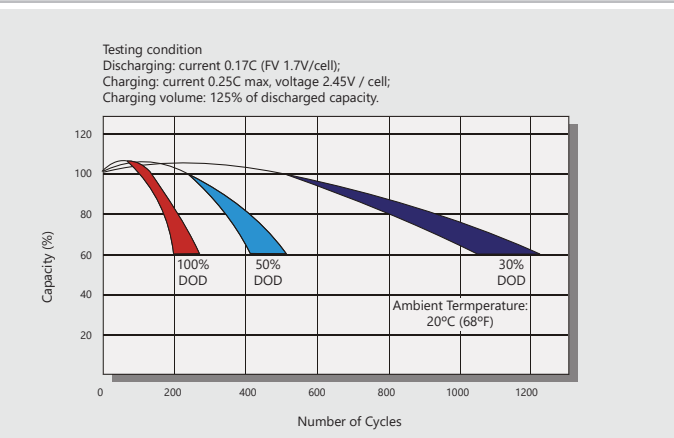
### Discharge Characteristics



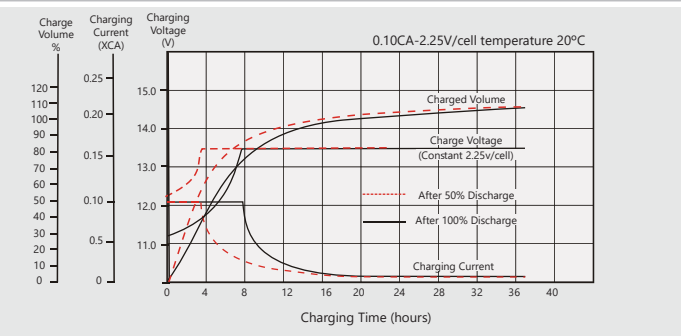
### Temperature Effects In Relation to Battery Capacity



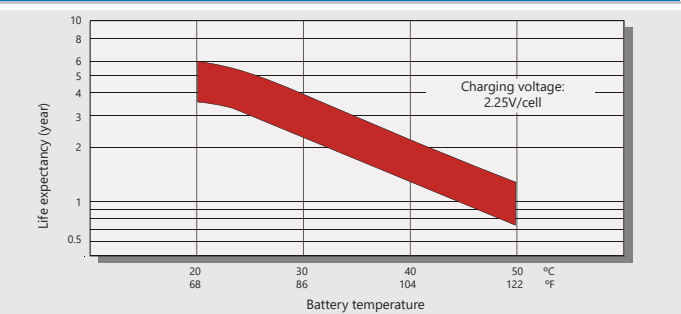
### Cycle Life in Relation to Depth of Discharge



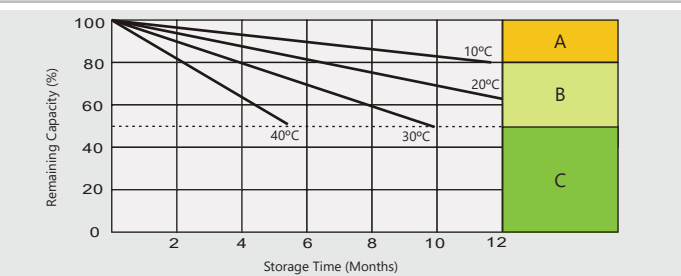
### Float Charging Characteristics



### Effect of Temperature on Long Term Float Life



### Self Discharge Characteristics



- A** No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:  
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.  
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.  
3. Charged for 8-10 hours at limited current 0.25CA.
- C** Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this is reached.





# Worldwide



## Westinghouse Commitment

*Since 1886, Westinghouse has brought the best to life. Today, our legacy lives on with technology that is transforming the human experience, from smart appliances for the home to energy solutions that are clean and safety powering us into the next generation.*

*We build dependable, affordable products that help people lead richer, fuller lives, whether it's a TV that connects them to their world or simply a pouch light that welcomes them home on a cold winter's night.*

*For more than 130 years, people have counted on Westinghouse to always be there for them. you can sure that's where we'll stay.*



## Leading The Future of Electrification



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20 Stanwix Street | Pittsburgh | PA | 15222

**Poland :** Westinghouse LV MV Product sp. z o.o.  
Warsaw, Rondo ONZ 1, 12 floor, 00-124 Warsaw, Poland

**Malaysia :** Westinghouse Lv Mv Product Sdn. Bhd.  
Seberang Perai Selatan 14110 Simpang Ampat  
Pulau Penang, Malaysia

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**Email: [info@westinghouselvmv.com](mailto:info@westinghouselvmv.com)**