



Westinghouse

UPS & GENERATOR



CE



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
1-10 kVA

3
PHASE

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

3

PHASE

1-10 kVA

1

PHASE



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

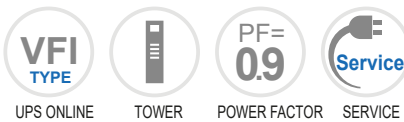
10-120kVA

10-30 kVA

ONLINE UPS

3:3
PHASE

3:1
PHASE



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.

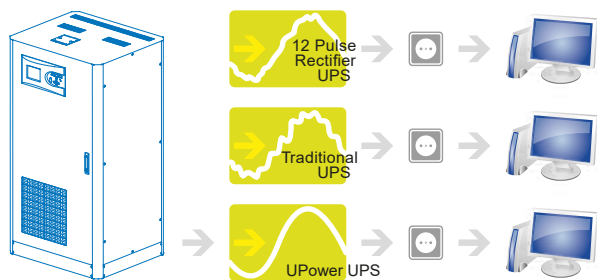


Upower USP Series is attested by Bureau Veritas with regard to performance (EN 62040-3)



High Performance & Low Total Cost of Ownership

- IGBT based power factor correction technology provides input power factor close to 1 (≥ 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

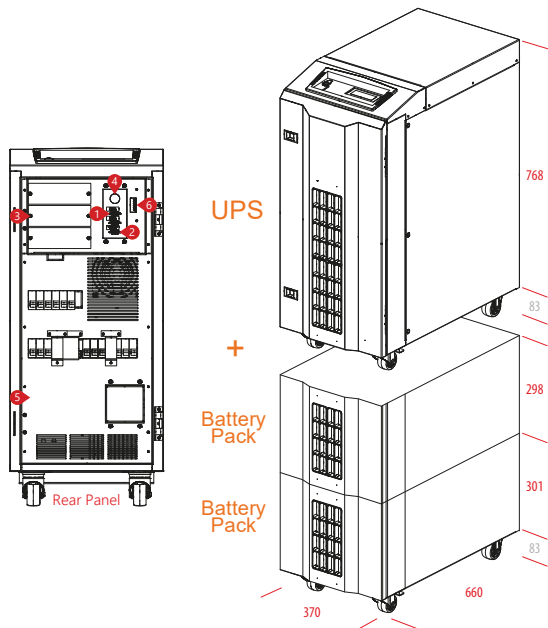
- 1500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- 2 Communication Slots
- ModBUS RTU / ModBUS TCP (Optional)
- Remote Emergency Power Off (Optional)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

Flexibility

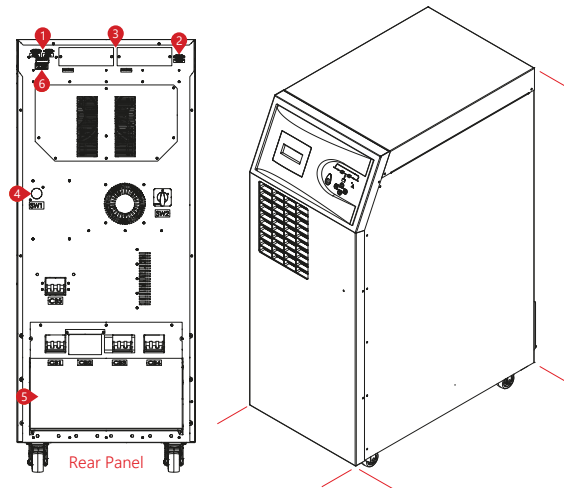
- Temperature sensor for external battery cabinets for extended runtimes.
- External battery cabinets for different sizes of batteries to provide extended runtimes.
- Different sizes of 10-40kVA cabinets for larger capacity of internal batteries when long autonomy times are required.
- 3/1 Phase version 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

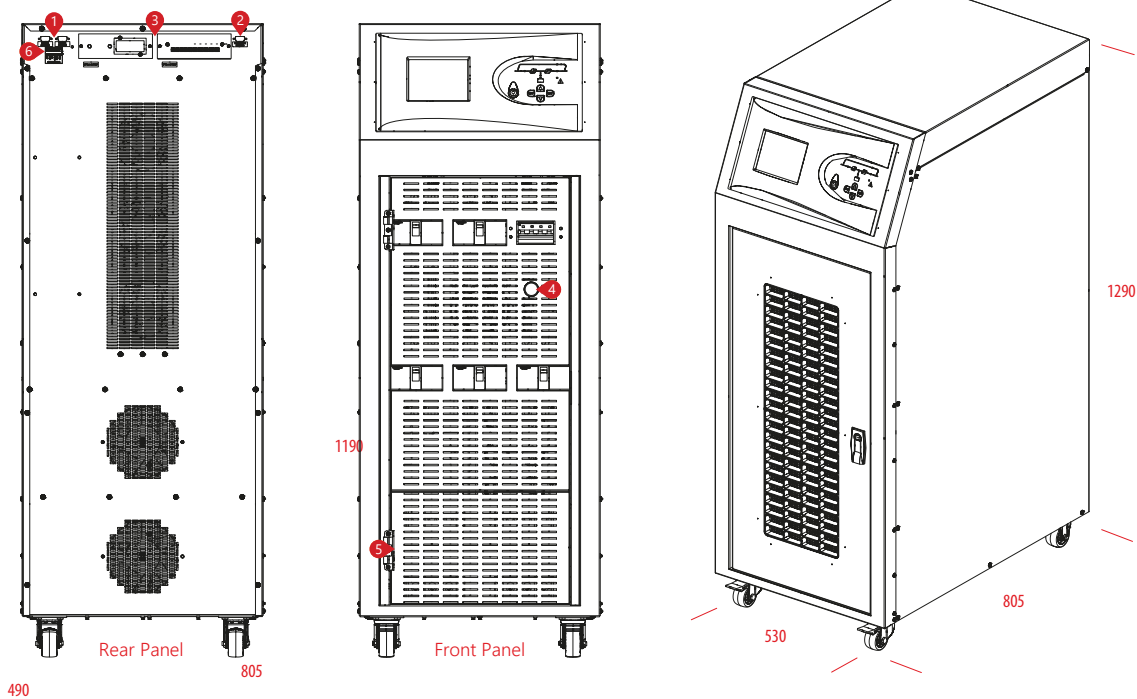


UPower UPS SERIES 10-15-20-30-40-60 kVA



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

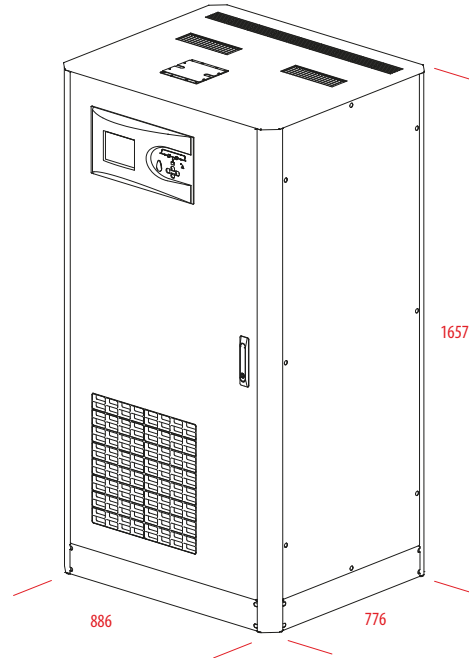
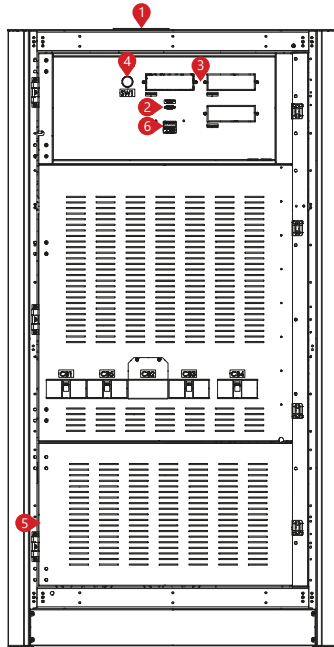


DETAILS

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
INPUT										
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								
OUTPUT										
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%								
BYPASS										
Nominal Voltage		380/400/415 VAC 3P+N								
Voltage Tolerance		15% (Configurable from 10% to 30%)								
Frequency Tolerance		±5 (Selectable)								
BATTERY										
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		
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		<53dBA			<53dBA	<55dBA	<60dBA	<65dBA		
COMMUNICATION										
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option								
STANDARDS										
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								
DIMENSIONS & WEIGHT		10kVA	15kVA	20kVA	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA
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
INPUT							
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%					
OUTPUT							
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%					
BYPASS							
Nominal Voltage		380/400/415 VAC 3P+N					
Voltage Tolerance		15% (Configurable from 10% to 30%)					
Frequency Tolerance		±5 (Selectable)					
BATTERY							
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					
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		<65dBA					
COMMUNICATION							
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option					
STANDARDS							
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					
DIMENSIONS & WEIGHT		80kVA	100kVA	120kVA	80kVA	100kVA	120kVA
Cabinet Dimensions (mm)	Width	530			886		
	Depth	805			776		
	Height	1290			1657		
Net Weight (kg)		221	231	240	322	351	360
Packaging Dimensions (mm)	Width	650			970		
	Depth	900			900		
	Height	1400			2040		
Gross Weight (kg)		256	266	275	357	376	395

* under certain conditions.

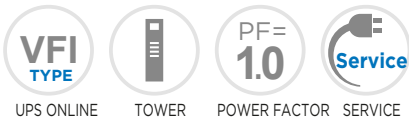
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UPower UPS

SERIES

10-1000 kVA 3:3
ONLINE UPS PHASE



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)



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

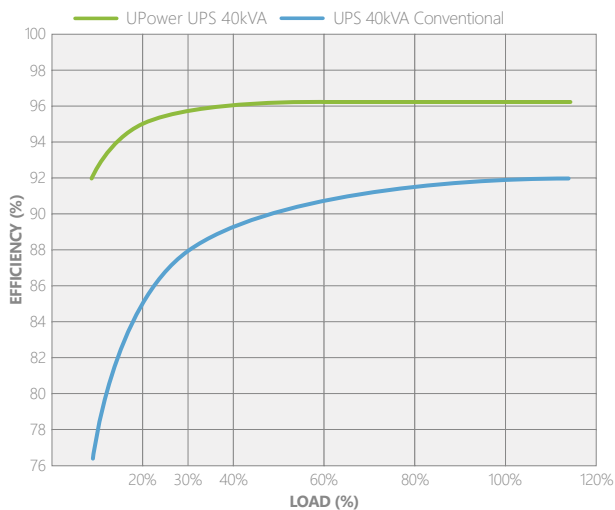


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UPS

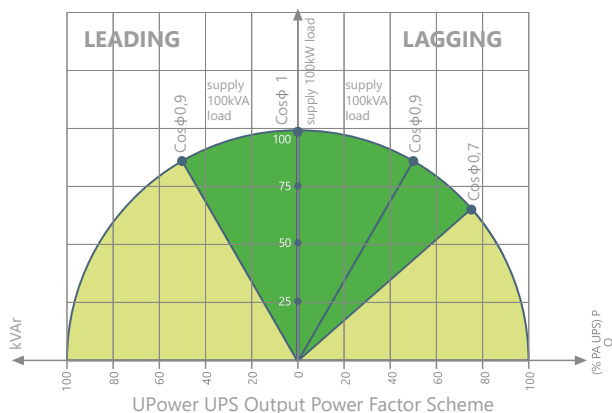
High Efficiency & Low Total Cost of Ownership

- 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 factor 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

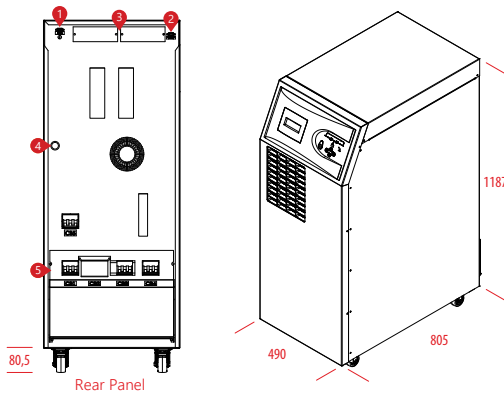
- 500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- Modbus RTU (Optional)
- 2 Communication Slots
- Remote Emergency Power Off (Optional)
- Remote Display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

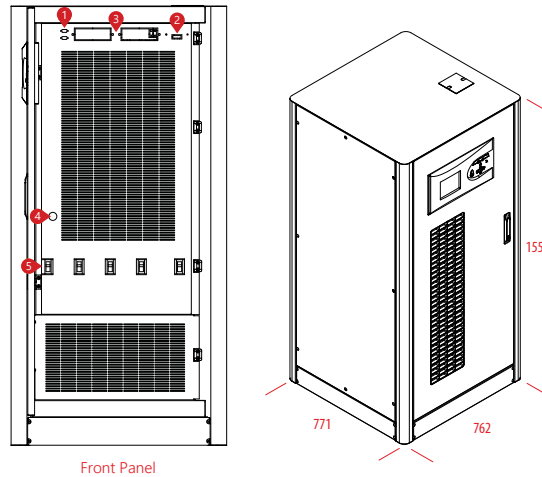
DETAILS

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

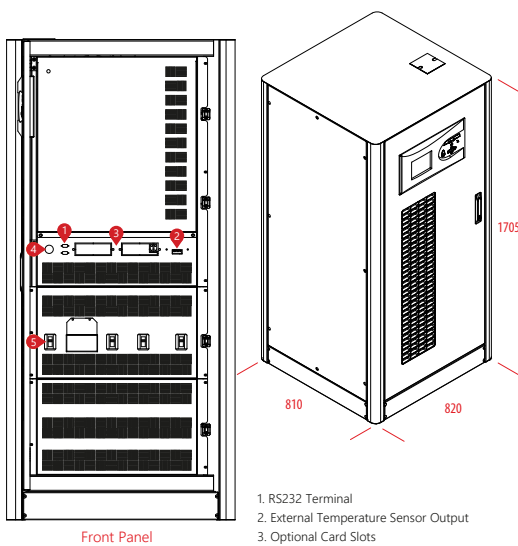


1. RS232 Terminal
2. External Temperature Sensor Output
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch

1

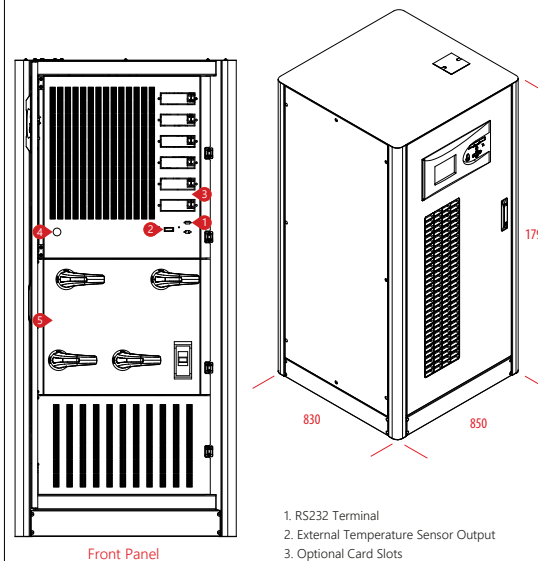
UPS

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

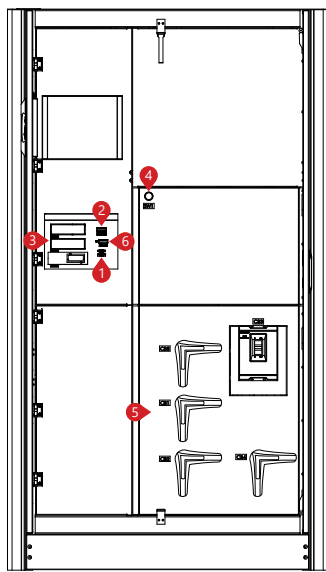
UPower UPS SERIES 160-200-250 kVA



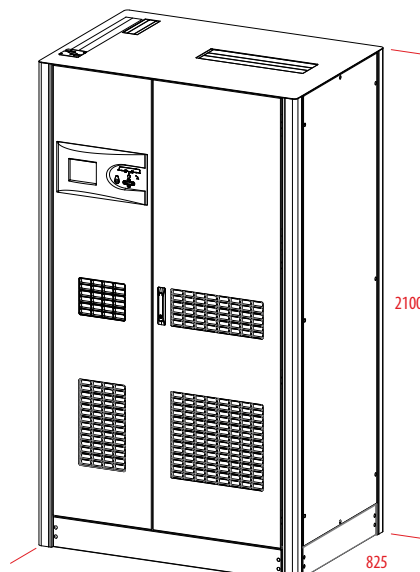
1. RS232 Terminal
2. External Temperature Sensor Output
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch

DETAILS

UPower UPS SERIES 300-400-500 kVA

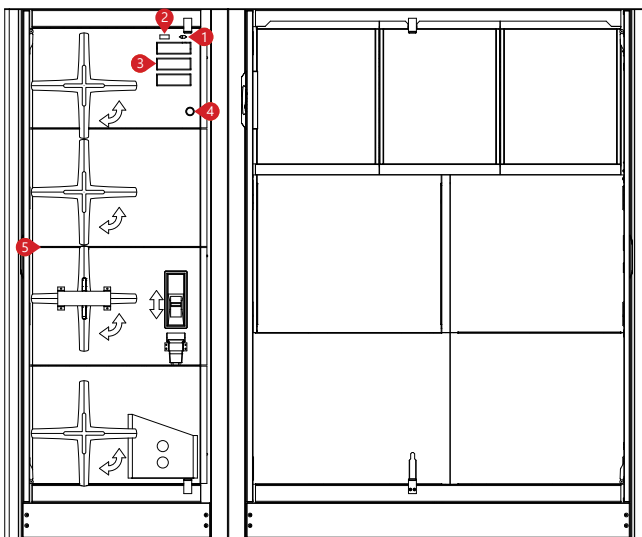


Front Panel

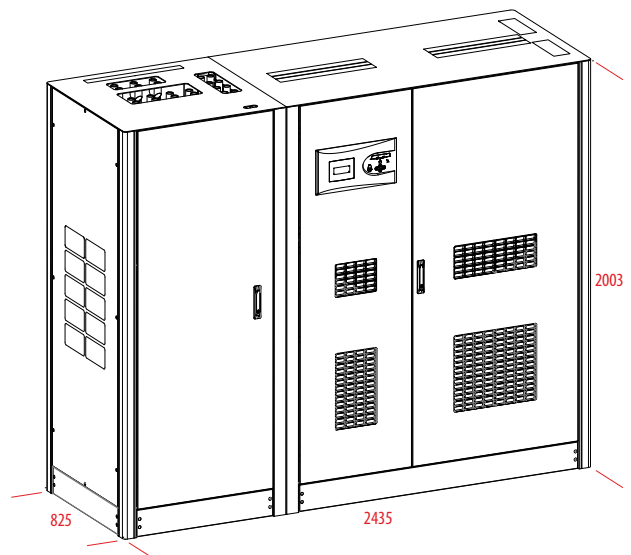


1. RS232 Terminal
2. External Temperature Sensor Output
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch
6. Optional Modbus

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																			
Capacity		10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA	1000kVA
Power Watt		10kW	15kW	20kW	30kW	40kW	60kW	80kW	100kW	120kW	160kW	200kW	225kW	270kW	360kW	450kW	540kW	720kW	900kW
INPUT																			
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%																	
OUTPUT																			
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%																	
BYPASS																			
Nominal Voltage		380/400/415 VAC 3 Phase + N																	
Voltage Tolerance		15% (Configurable from 10% to 30%)																	
Frequency Tolerance		±5 (Selectable)																	
BATTERY																			
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											
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				<74 dBA				<75 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	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)

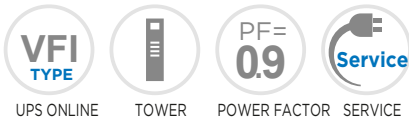
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Westinghouse does not guarantee the items of the accuracy and completeness.

UPower UPS SERIES

80-600 kVA 3:3
ONLINE UPS PHASE

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 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 Series presents maximum flexibility advantage to users and optimizes total cost of ownership.

CERTIFICATES



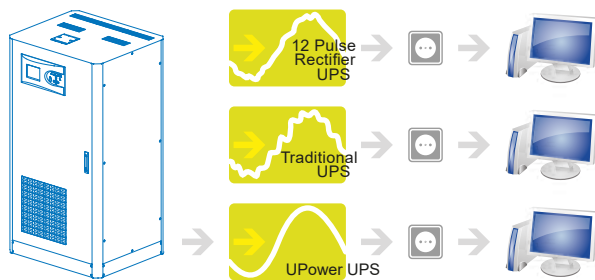
The UPower Series is attested by Bureau Veritas with regard to performance (EN 62040-3)



WESTINGHOUSE

High Performance & Low Total Cost of Ownership

- IGBT based power factor correction technology provides input power factor close to 1 (≥ 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.
- 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.

MODEL											
Capacity		80kVA	100kVA	120kVA	160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA
Power Watt		72kW	90kW	108kW	144kW	180kW	225kW	270kW	360kW	450kW	540kW
INPUT											
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									
OUTPUT											
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 92%									
Efficiency (Eco Mode)		Up to 99%									
BYPASS											
Nominal Voltage		380/400/415 VAC 3P+N									
Voltage Tolerance		15% (Configurable from 10% to 30%)									
Frequency Tolerance		±5 (Selectable)									
BATTERY											
Type		VRLA / GEL									
Quantity (12V DC VRLA)		62									
Charge Capacity		12.5% of Active Power (Nominal 0,1 C10, Adjustable)									
Recharge Time		6-8 hours									
Internal Battery		External Battery Pack									
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		<65dBA									
COMMUNICATION											
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option									
STANDARDS											
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									
DIMENSIONS & WEIGHT											
Cabinet Dimensions (mm)	Width	530			830			1200			2000
	Depth	805			870			825			870
	Hight	1290			1800			1854			2050
Net Weight (kg)		221	231	240	475	490	553	605	615	625	1510
Packaging Dimensions (mm)	Width	650			900			1370			2100
	Depth	900			970			845			950
	Hight	1400			2040			2040			2250
Gross Weight (kg)		256	266	275	505	520	583	645	655	665	1590

* under certain conditions.

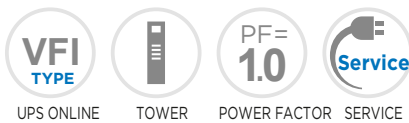
3 Phase in / 1 Phase Out Version is Available. (10 to 30kVA)

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UPower UPS SERIES

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

ONLINE UPS



HIGHLIGHTS

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



1

UPS

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

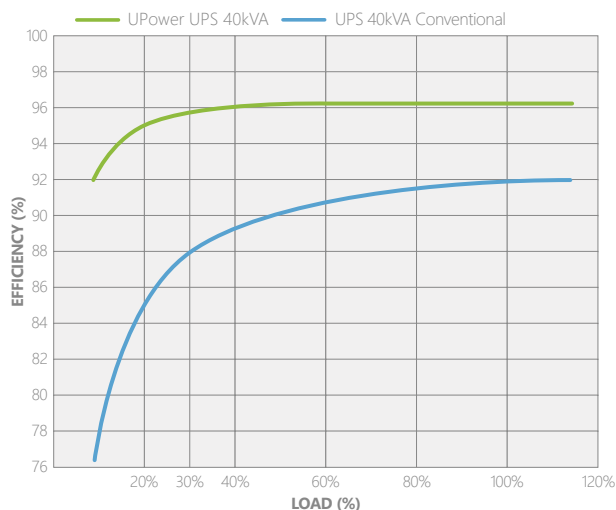


The UPower UPS Series is attested by Bureau Veritas with regard to performance (EN 62040-3)



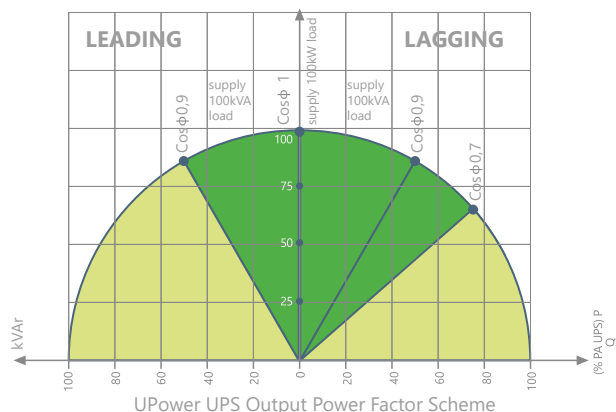
High Efficiency & Low Total Cost of Ownership

- 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)

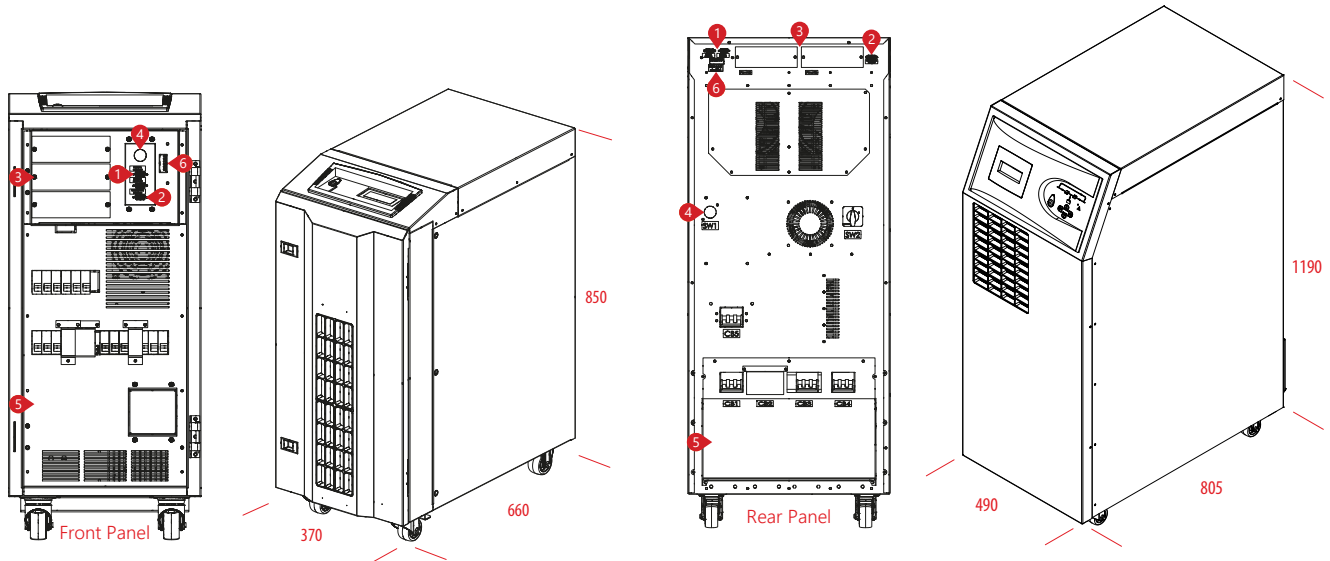
Flexibility

- 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

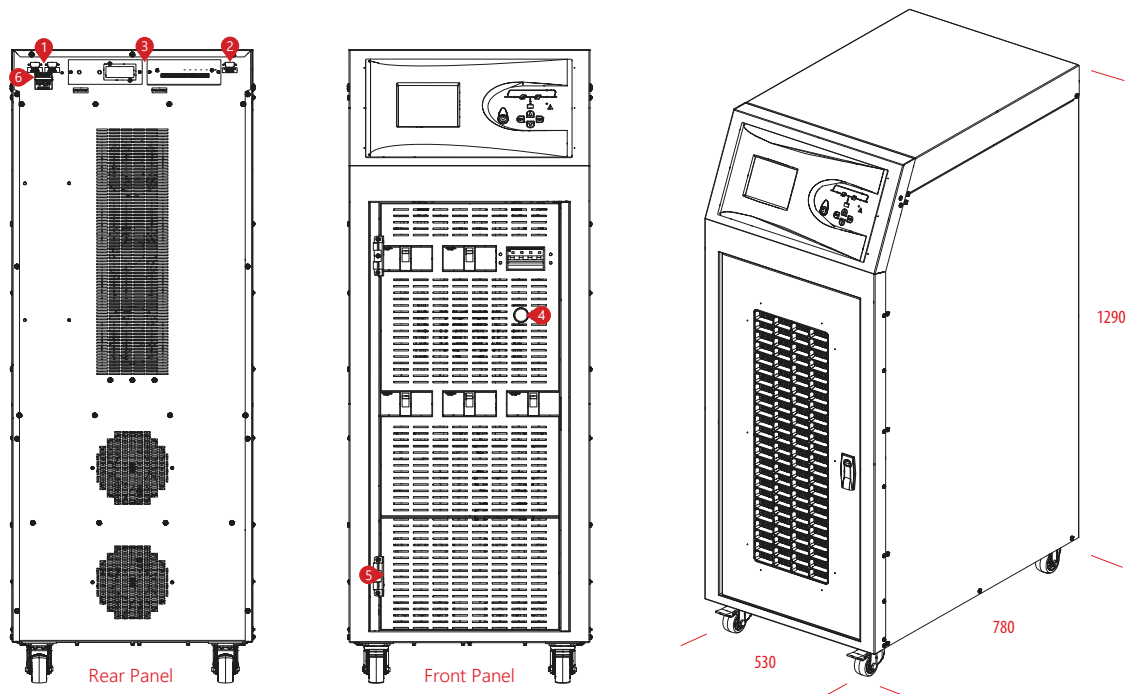
MiniUPower UPS SERIES 10-15-20 kVA

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



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

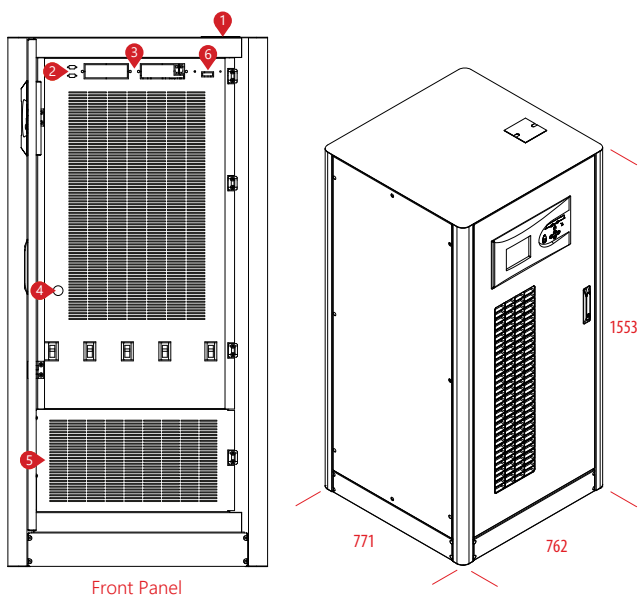
UPower UPS SERIES 80-100-120 kVA



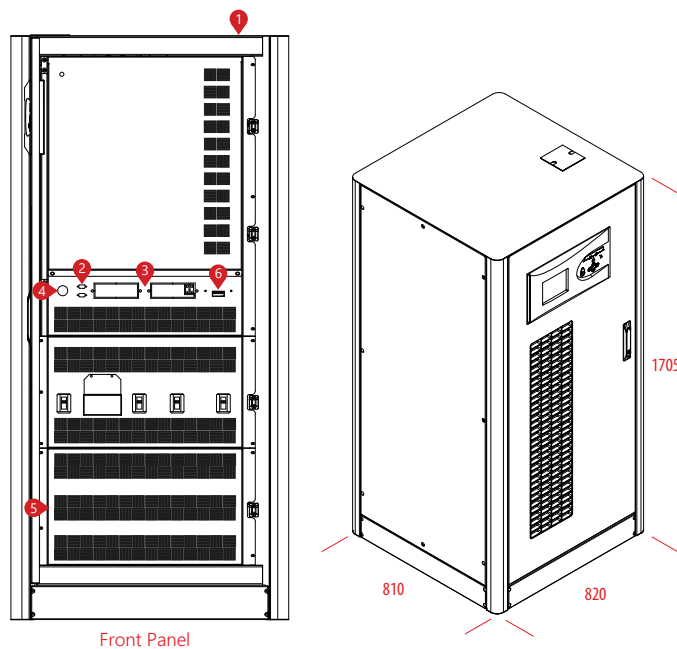
DETAILS

UPower UPS SERIES 80kVA

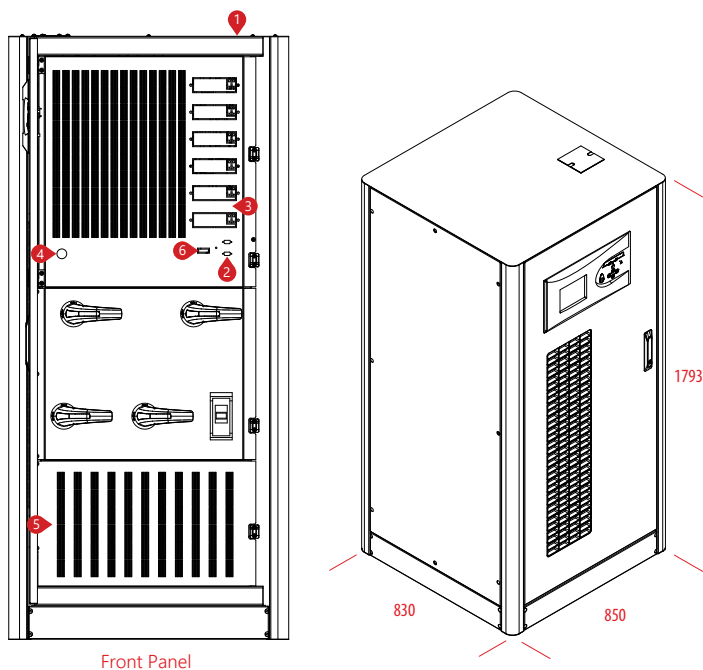
UPS



UPower UPS SERIES 100-120kVA



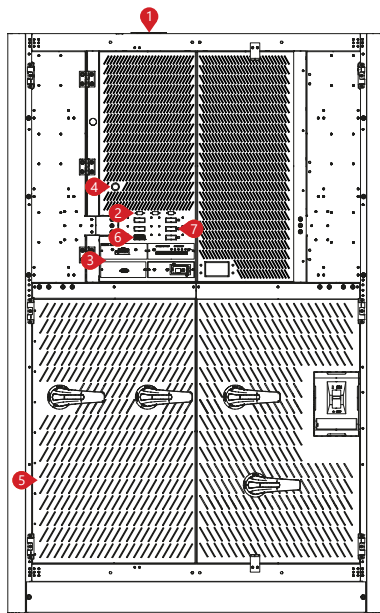
UPower UPS SERIES 160-200-250kVA



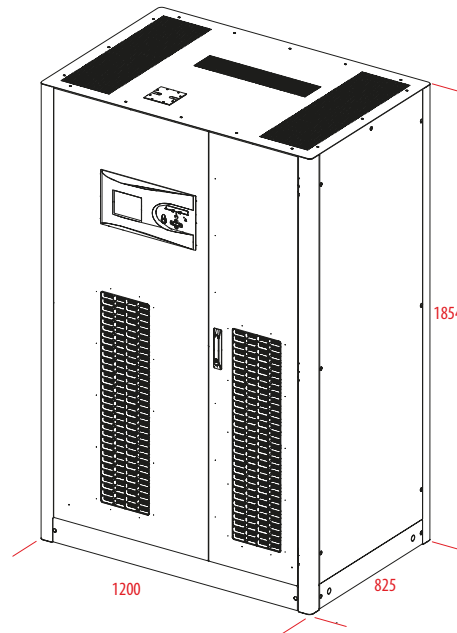
1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Connection Terminal
6. External Battery Temperature Sensor Terminal

DETAILS

UPower UPS SERIES 300-400-500 kVA



Front Panel

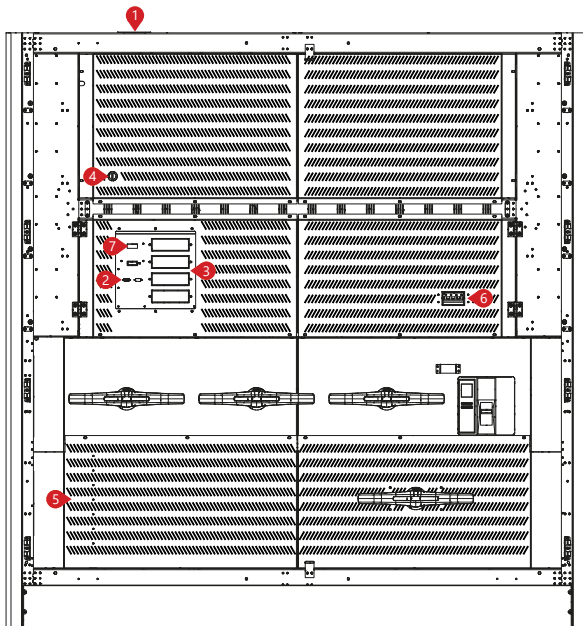


1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Connection Terminal
6. External Battery Temperature Sensor Terminal
7. Optional Slot

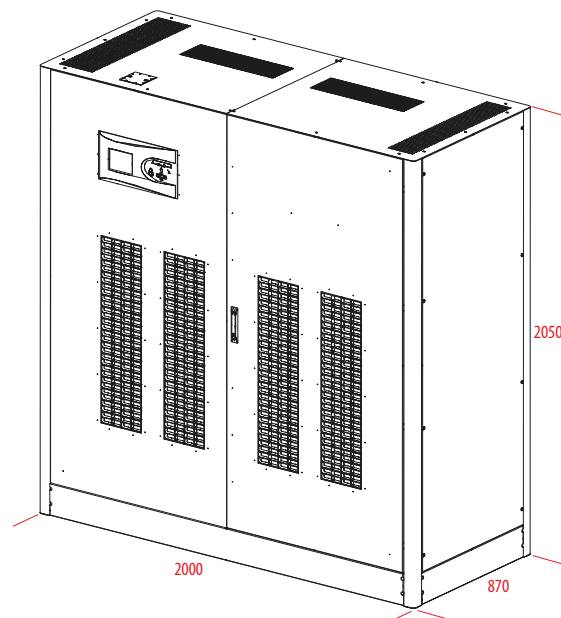
1

UPS

UPower UPS SERIES 600-800-1000 kVA



Front Panel



MODEL		MiniUPower UPS																	
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			
INPUT																			
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%																	
OUTPUT																			
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%																	
BYPASS																			
Nominal Voltage		380/400/415 VAC 3 P+N																	
Voltage Tolerance		%15 (Configurable from 10% to 30%)																	
Frequency Tolerance		±5 (Selectable)																	
BATTERY																			
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					
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		<53dBA			<53dBA			<55dBA			<60dBA			<65dBA			<65dBA		
COMMUNICATION																			
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option																	
STANDARDS																			
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																	
DIMENSIONS & WEIGHT																			
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)

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MODEL										
Capacity		160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA	1000kVA
Power Watt		144kW	180kW	225kW	270kW	360kW	450kW	540kW	720kW	900kW
INPUT										
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%								
OUTPUT										
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%								
BYPASS										
Nominal Voltage		380/400/415 VAC 3 P+N								
Voltage Tolerance		15% (Configurable from 10% to 30%)								
Frequency Tolerance		±5 (Selectable)								
BATTERY										
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								
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		<72dBA				<74dBA			<75dBA	
COMMUNICATION										
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option								
STANDARDS										
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								
DIMENSIONS & WEIGHT										
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

10-200 kVA 3:3
PHASE
ONLINE UPS

UPS



UPS ONLINE



TOWER



POWER FACTOR



SERVICE



DATA CENTER



MEDICAL



TRANSPORT



INDUSTRY



EMERGENCY



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.

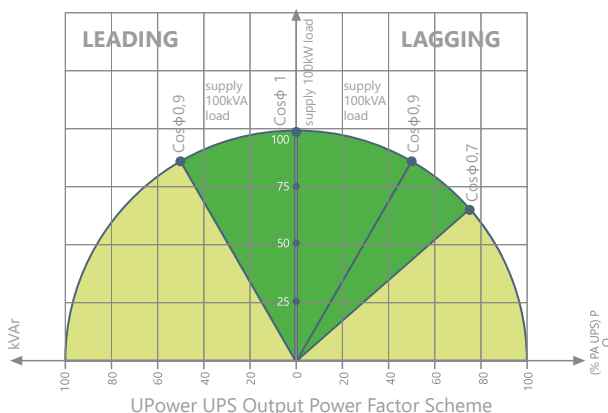


Low Total Cost of Ownership

- 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 (≥ 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

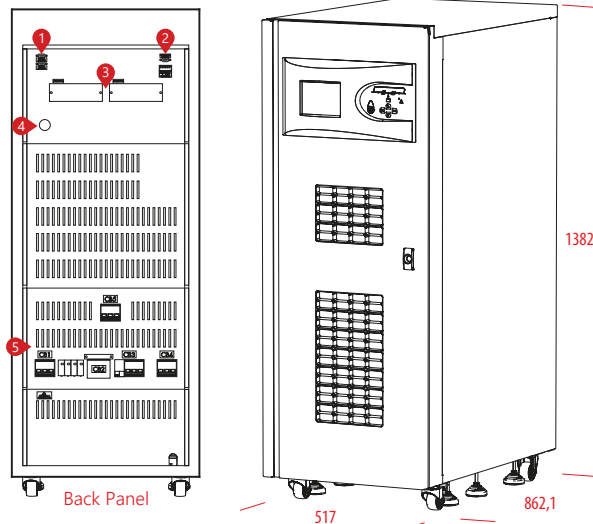
- 500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- Modbus RTU (Optional)
- 2 Communication Slots
- Remote Emergency Power Off (Optional)
- Remote Display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

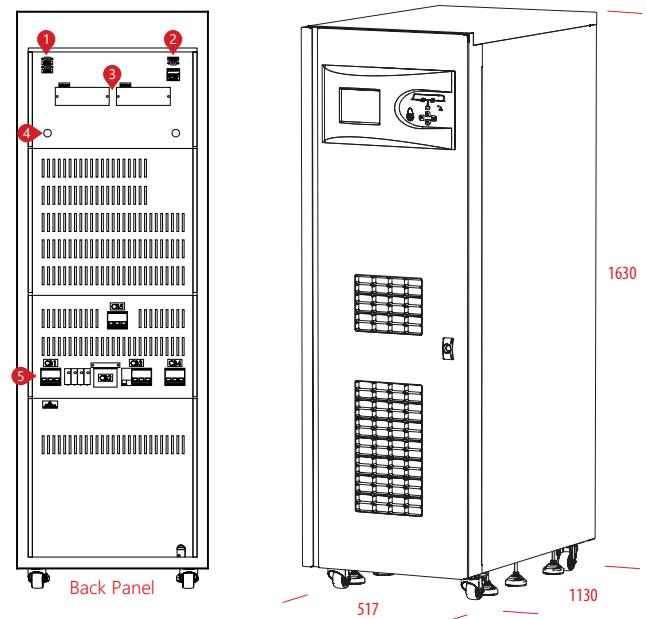
DETAILS

UPower UPS T3 SERIES 10-15-20 kVA



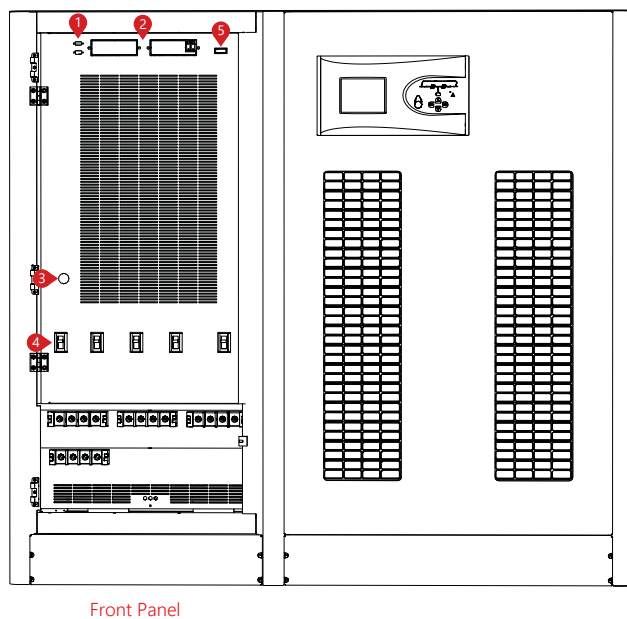
1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch

UPower UPS T3 SERIES 30-40 kVA

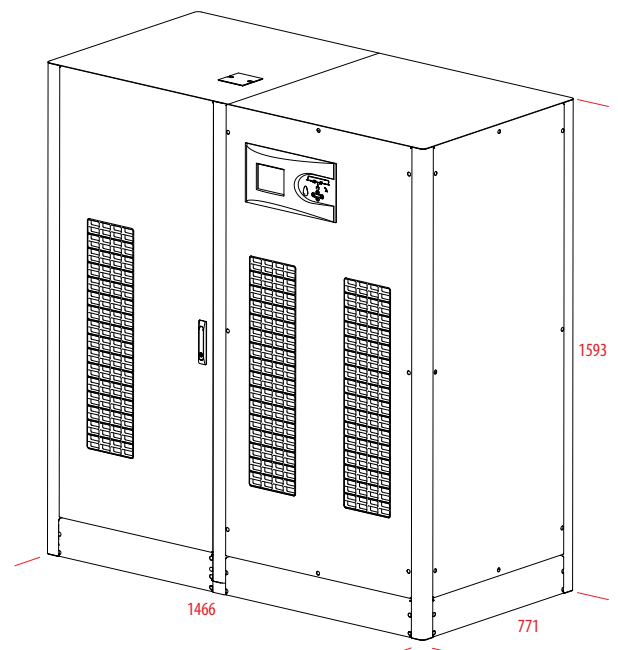


1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch

UPower UPS T3 SERIES 60-80kVA

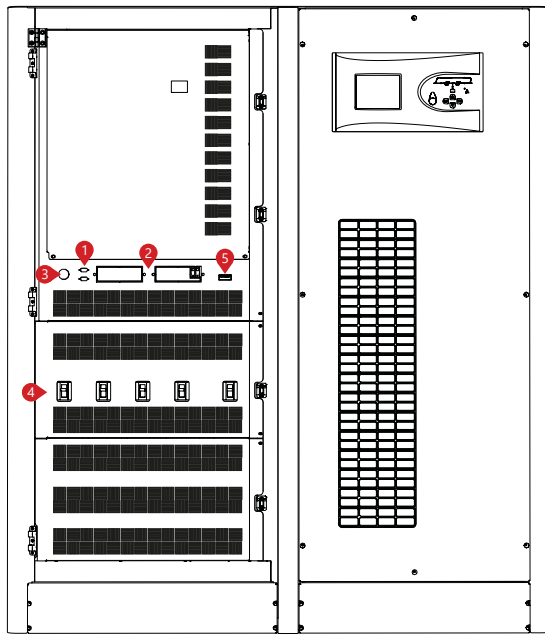


1. RS232 Terminal
2. Optional Card Slots
3. DC Bus Ramping Up Button
4. Switch
5. External Temperature Sensor Output

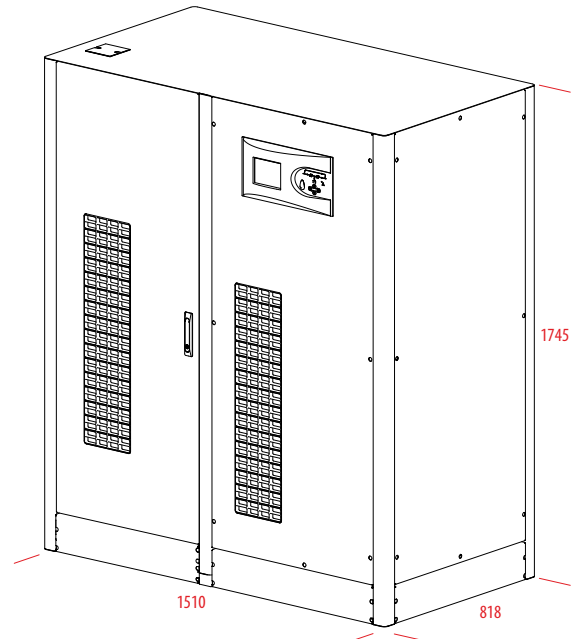


DETAILS

UPower UPS T3 SERIES 100-120 kVA



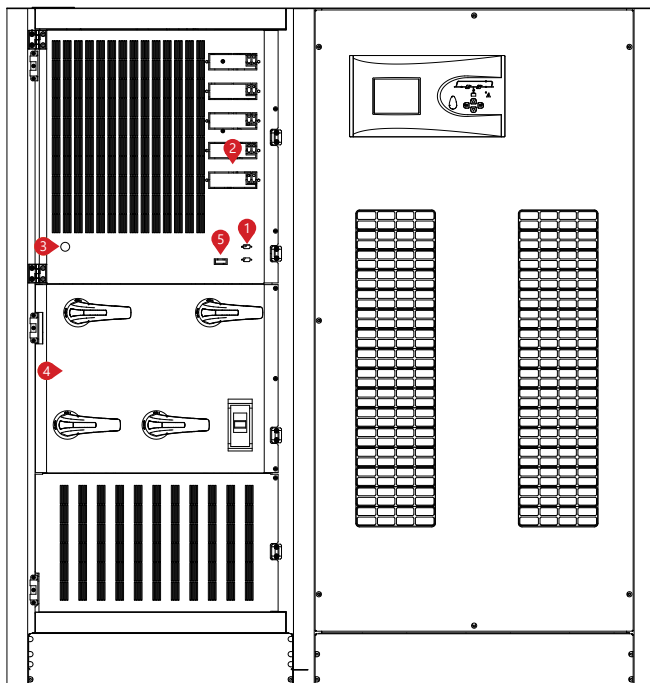
Front Panel



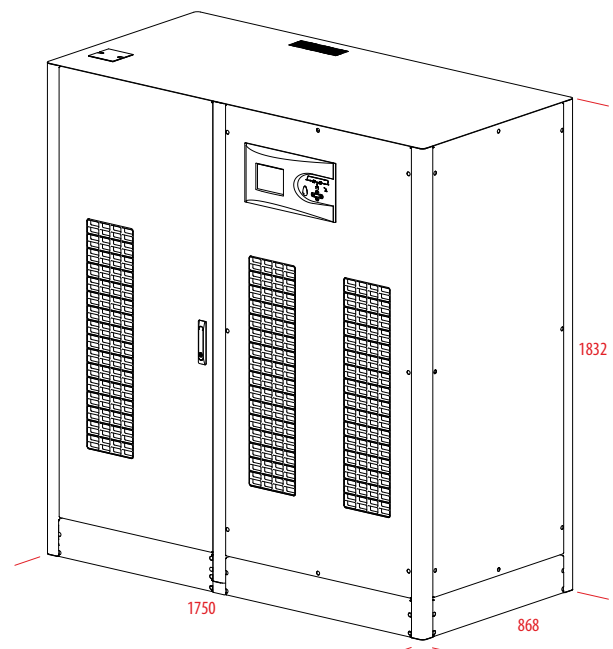
1

UPS

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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Upower UPS

SERIES

10/15/20kVA

3:3

PHASE

ONLINE UPS



DATA CENTER



EMERGENCY



MEDICAL



INDUSTRY



TRANSPORT



UPS ONLINE



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
- 50Hz/60Hz Frequency Converter Mode Available
- Selectable Battery Low Voltage via LCD
- Power-On Self Test
- Advanced Battery Management (ABM)
- Short Circuit and Overload Protection
- Automatically Charging Battery at UPS Off Mode
- Fan Speed Auto Control when Load Varies
- Generator Compatible
- Emergency Power Off (EPO)
- Standard RS232 Communication Port
- USB/SNMP Communication Port (*Optional*)
- Extension Battery Bank (*Optional*)
- Manual Bypass (*Optional*)



1

UPS



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



MODEL	UPower10kVA/9kW		UPower15kVA/13.5kW	UPower20kVA/18kW
Capacity	10kVA /9kW		15kVA / 13.5kW	20kVA / 18kW
Ref.No.	W608780		W608781	W608782
INPUT				
Related Voltage	380 / 400 / 415 VAC, (3Ph+N+PE) -20% +15%			
Voltage Range	208 - 478 VAC			
Frequency	50 Hz: 45-55 Hz; 60 Hz: 54-66 Hz (Auto Sensing)			
Power Factor	≥0,99			
Bypass Frequency Range	50-60 Hz ±10%			
Harmonic Distortion	≤3% (100% Non-Linear Load)			
ECO Range	Max. Voltage: 220V: +25% (Optional +10%, +15%, +20%), 230V: +20% (Optional +10%, +15%), 240V: +15% (Optional +10%)			
Generator	Min. Voltage: -45% (Optional -20%, -30%)			
	Compatible			
OUTPUT				
Voltage Range	380V / 400V / 415 VAC (3Ph+N+PE)			
Power Factor	0.9			
Voltage Regulation	±1%			
Frequency	AC Mode	±1%, ±2% , ±4%, ±5%, ±10% (Optional)		
	Battery Mode	50-60 ± 0.1 Hz		
Waveform	Pure Sinewave			
Crest Factor	3:1			
Harmonic Distortion	≤2% (Linear Load) ≤5% (Non-Linear Load)			
Transfer Time	Battery Mode to Inverter Mode 0ms, Inverter to Bypass Mode 0ms			
Output Dynamic Tolerance	At 100% Load ±5%			
Overload	AC Mode	≤110%: 60min.; ≤125%: 10min.; ≤150%: 1min. ≥150% turn to Bypass Mode Immediately		
Capability	Battery Mode	>150% Bypass Mode		
Parallel Operation	Optional			
EFFICIENCY				
AC Mode	93,5%	94,5%		
Battery Mode	92,5%	93,5%		
ECO Mode	98%			
BATTERY				
DC Voltage	±120 VDC	±180 VDC	±240 VDC	
Inbuilt Battery	40x12V 7/9Ah	30x12V 7/9Ah	40x12V 7/9Ah	
Charge Current	5A			
Typical Recharge Time	8 hour			
PROTECTION				
Full Protection	Overload, Short Circuit ve Battery Charge-Discharge Protection, RFI/EMI Filtre, IP20			
SYSTEM FEATURES				
Charge Current	Smart Charging System			
Over-temperature	Line Mode: Turn to Bypass; Backup Mode: Shut Down UPS Immediately			
Intelligent Alarm System	Line Failure, Low Battery, Overload, System Failure			
LED&LCD Monitor	Line Mode, Battery Mode, Bypass Mode, Battery Low, Overload & UPS Fault			
ALARM				
Utility Failure	Line Mode, Low Battery, Overload, System Fault			
Battery Low	Alarm and Shut Down			
Overload	Overload			
UPS Fault	System Fault			
ENVIRONMENTAL				
Operation Temperature	0°C~40°C			
Storage Temperature	-25°C~55°C			
Humidity	0%~90%			
Altitude	<1500 m			
Noise Level	<50 dB			
COMMUNICATION				
Communication Interface	USB, RS232, RS485, Parallel Port, Dry Contact, Smart Port, SNMP Card (Optional), Relay Card (Optional)			
Software	Muser4000, Sofeware			
Emergency Power Off	Dry Contact (Optional)			
STANDARDS				
Safety	IEC/EN62040-1, IEC/EN60950-1			
EMC	IEC/EN62040-2, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8			
DIMENSIONS & WEIGHT	10kVA	15kVA	20kVA	
Dimensions WxDxH (mm)	252 x 860 x 777			
Net Weight (ka)	60	70	80	

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WPM SERIES

10-2080 KVA

MODULAR ONLINE UPS

3:3

PHASE

VFI
TYPE

UPS ONLINE MODULAR SYSTEM POWER FACTOR

PF=1.0

Service
SERVICE

96%
Efficiency



DATA CENTER



MEDICAL



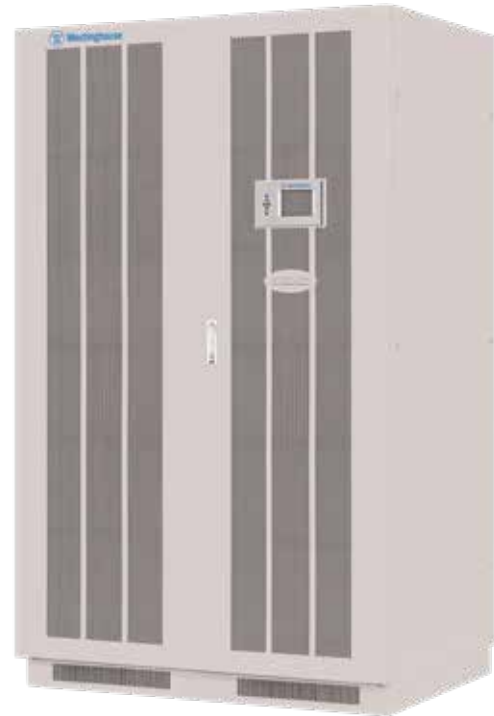
TRANSPORT



INDUSTRY



EMERGENCY



1

UPS

HIGHLIGHTS

- High Performance, Modular 3-Phase Power Protection
- Scalable up to 2080kVA, with 96% High Efficiency

Modular UPS Design for High Density Data Centers

- WPM Series is a scalable, redundant Modular UPS system designed to cost effectively provide high level availability for high density data centers and critical applications.
- True Online Double Conversion and advanced DSP control technology.
- Modular Architecture can scale power and runtime as demand grows or as higher levels of availability required.
- Combines the modular design with the N+X parallel redundancy technology.
- The maximum capacity of a single cabinet is 520kVA. Cabinets can operate in parallel configuration to build a system of up to 2080kVA.

CERTIFICATES



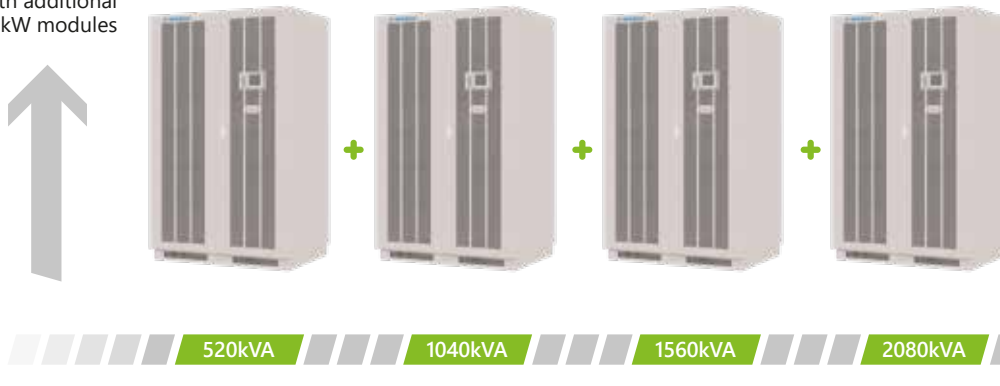
Scalable Modular Architecture

Scalable up to the highest active power rating available through two dimensional modularity: Vertical and Horizontal.

- Capacity of single power module is 10-15-20-25-30-40kVA
- The height of single hot swappable power module is 3U
- Standard 1.4m cabinet can hold up to 5 of power modules
- Standard 2m cabinet can hold up to 13 of power modules
- The single UPS cabinet capacity can reach 520KVA and Ups cabinets can operate in parallel configuration to build a system of up to 2080kVA

Modules	Output Power	Dimensions (WxHxD)	Weight
WPM 3310-RM	10kVA 3/3 Module	443x131x580mm 3U	26kg
WPM 3315-RM	15kVA 3/3 Module	443x131x580mm 3U	30kg
WPM 3320-RM	20kVA 3/3 Module	443x131x580mm 3U	31kg
WPM 3325-RM	25kVA 3/3 Module	443x131x580mm 3U	31kg
WPM 3330-RM	30kVA 3/3 Module	443x131x580mm 3U	32kg
WPM 3340-RM	40kVA 3/3 Module	443x131x580mm 3U	33kg

Up to 520kW
with additional
40kW modules



Up to 2080kW
with additional
520kW cabinets

"Size What You Need Now and Pay as You Grow"

Standart Electrical Features

- Output Power Factor: 0.9 (Optional 1.0)
- Hot Swappable Maintenance (UPS & Battery)
- Separated Bypass
- Maintenance Bypass
- Parallelable up to 4 Cabinets
- Common Battery
- Control of On/Off State of each Module
- Freely Set the Charge Current
- Intelligent Charging
- Mid or Small Power Distributing System
- Selectable Battery Voltage 3 Input 3 Output $\pm 216\text{VDC}$ / $\pm 228\text{VDC}$ / $\pm 240\text{VDC}$ (32/34/36/38/40pcs)

Advanced Communication Features

- RS232 (USB)
- RS485 Communication Interface
- SNMP Card (Optional)
- Relay Card (Optional)
- Centralized Monitor Module that is Hot Swappable
- Single Module LCD Display
- Control Monitoring with 5" Color LCD Graphic Display



UPS Cabinet Control Panel



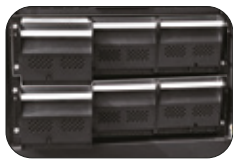
Module Control Panel

Hot Swappable Battery Modules

Plug and play battery modules ensures uninterrupted power to protected equipment while batteries are being replaced.

Allows quick and easy battery replacement.

- Each Battery Module Consists of 18 pcs 7Ah/9Ah
- Only 3U Height
- Simply Plug into UPS System



3 U Battery Box Optional



19" Matching Battery Cabinets (Optional)

N+X Parallel Redundancy

WPM series UPS adopts N+X parallel redundancy design, users can set different redundancy according to the importance of the load. While the number of redundancy modules are more than two, the availability of UPS system will achieve 99.999% and the MTBF will be more than 15,000,000 hours which can satisfying the reliability requirement of critical load. The UPS redundancy degree can be set through the LCD, when the load exceeds the set value, the UPS will alarm in time.

Independent Control System

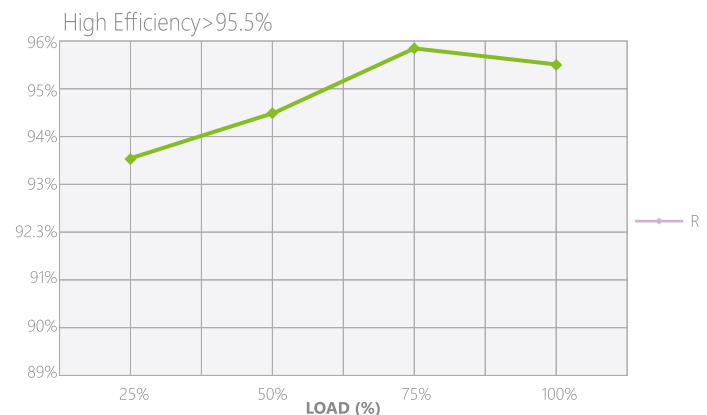
Every power module is equipped independent control system, and control itself independently according to the sharing message, and the fault module separates from the system automatically.



High Efficiency and Low Total Cost of Ownership

WPM Designed for highly economical energy consumption and is a perfect fit in your data center and server room. Offering efficiency of up to 96%, THDi of 2% and unity Input Power Factor without harmonic filters WPM delivers:

- Significant energy savings
- Lower cooling costs
- Smaller generator sizing



- High input power factor (>0.99) and low input Total Harmonic Distortion (THDi<2%) minimizes installation costs by enabling the use of smaller generators and cabling.
- Fully-rated power kVA equals kW feature option reduces cost by eliminating the need for an oversized UPS for Power Factor Corrected (PFC) loads.



10kVA/15kVA/20kVA/25kVA/
30kVA 3:3 phase



40kVA 3:3 phase

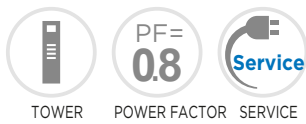
MODEL												
CAPACITY												
UPS Cabinet		10~100 kVA	20~100 kVA	20~200 kVA	25~250 kVA	30~150 kVA	30~300 kVA	40~200 kVA	40~320 kVA	40~520 kVA	40~800 kVA	40~1040 kVA
Paralleling		Up to 6 Frame	Up to 6 Frame	Up to 6 Frame	Up to 6 Frame	Up to 6 Frame	Up to 6 Frame	Up to 6 Frame	Up to 6 Frame	Up to 4 Frame	Up to 2 Frame	Up to 2 Frame
WPM Module		10kVA/10kW, 15kVA/15kW, 20kVA/20kW, 25kVA/25kW, 30kVA/30kW, 40kVA/40kW, 50kVA/50kW										
INPUT												
Phase		3 Phase 4 Wires and Ground										
Rated Voltage		380/400/415 VAC										
Voltage Range		208~478 VAC or 120 VAC~276 VAC										
Frequency Range (Hz)		40~70 Hz										
Power Factor		>0.99										
Bypass Voltage Range		Max. Voltage: +15% (Optional +5%, +10%, +25%) Min. Voltage: -45% (Optional -20%, -30%)										
Current Harmonic		Frequency Protection Range: ±10%										
Generator Input		<2% (100% Non-Linear Load)										
		Support										
OUTPUT												
Phase		3 Phase 4 Wires and Ground										
Rated Voltage		220/240 VAC 380/400/415 VAC										
Power Factor		1										
Voltage Precision		±1%										
Output Frequency		±1%, ±2%, ±4%, ±5%, ±10% of the Rated Frequency (Optional) (50/60±0.2) Hz										
Crest Factor		3:1										
THD		≤1% With Linear Load ≤4% With Non-Linear Load										
Efficiency		96%										
COMMUNICATION												
UPS Cabinet		RS232, RS485, Intelligent Slot x 2 (SNMP Card, Relay Card, Dry Contact Optional)										
INTERFACE												
WPM Series UPS Module		RS232										
BATTERY												
Voltage		±192V / ±204V / ±216V / ±228V / ±240V DC; Battery Quantity (Optional)										
Charge Current (A)	UPS Cabinet	60A Max	30A Max	60A Max	60A Max	50A Max	100A Max	50A Max	80A Max	130A Max	200A Max	260A Max
	Module	390A Max										
Crest Factor		6A/10A/(20A Optional) Max (Charge Current can be Set According to Battery Capacity Installed)										
Backup Time		Depends on the Capacity of External Batteries										
Transfer Time		Utility to Battery : 0ms; Utility to Bypass: 0ms										
PROTECTION												
Overload	Normal Mode	Load ≤110%: Last 60min, ≤125%: Last 10min, ≤150%: Last 1min, ≥150% Shut Down UPS Immediately										
	Battery Mode	Load ≤110%: Last 10min, ≤125%: Last 1min, ≤150%: Last 1s ≥150% Shut Down UPS Immediately										
ENVIRONMENTAL												
Operating Temperature		0°C ~ 40°C										
Storage Temperature		-25°C ~ 55°C										
Humidity		0 ~ 95% Non-Condensing										
Noise	Number of Modules ≤5	<55 dBA (1m)										
	Number of Modules >5	<65 dBA (1m)										
Altitude		<1500m										
DIMENSIONS & WEIGHT												
Unit Dimensions WxDxH (mm)	UPS Cabinet	600x840 x1400	600x840 x1400	600x1100 x2000	600x1100 x2000	600x840 x1400	600x1100 x2000	860x600 x2000	860x600 x2000	860x1200 x2000	860x1800 x2000	860x3000 x2000
	Module	1100x4800 x2000										
Weight (kg)	UPS Cabinet	170	170	270	275	152	280	205	310	514	1600	1810
	Module	2800										
		10kVA: 26kg; 15kVA: 30kg; 20kVA: 31kg; 25kVA: 31kg; 30kVA: 32kg; 40kVA: 33kg										
INDUSTRY STANDARD		CE, IEC 62040-2, IEC 62040-1, IEC 62040-3, IEC61000-4, IEC60950-1										

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WSVS SERIES

10-2000 kVA 3:3
PHASE
1-30 kVA 1:1
PHASE

STATIC VOLTAGE STABILIZER



1

UPS

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

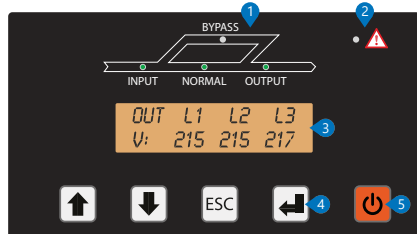
- Microprocessor controlled Static design stabilizers automatically regulate and protect the loads against dangerous voltage changes.
- Compatible with all load types and offering independent phase control, they deliver ultra-fast response times in correcting under / over voltages, sags and surges -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

CERTIFICATES



Standard 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 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
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

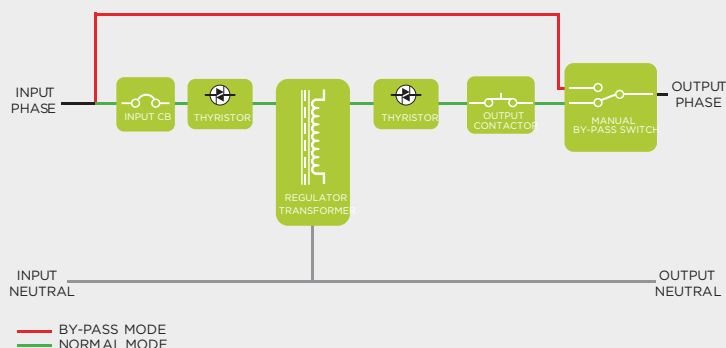
Flexibility

- 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.

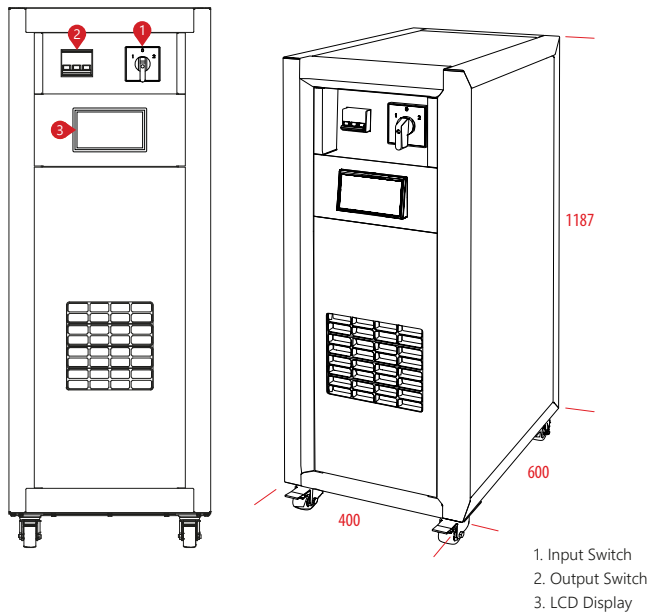
Inbuilt spike protection ensures the load is continuously protected against harmful mains born high energy spikes and surges.



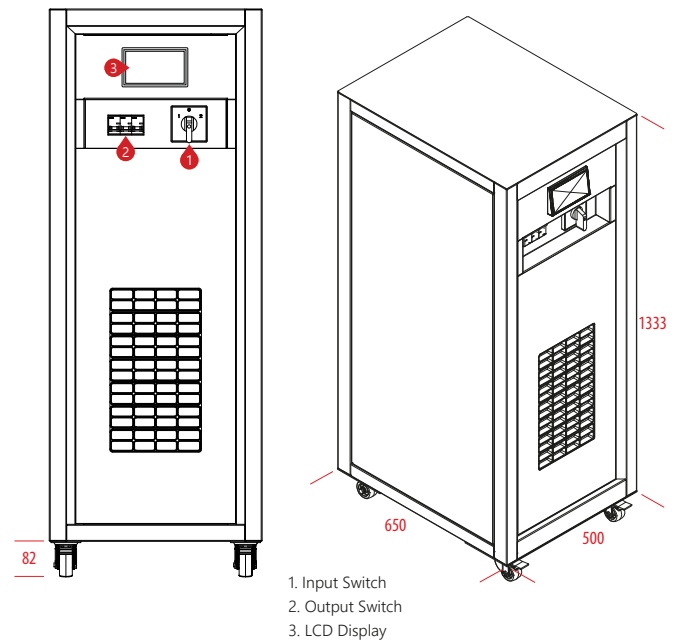
Static Voltage Stabilizer Single Line Diagram

DETAILS

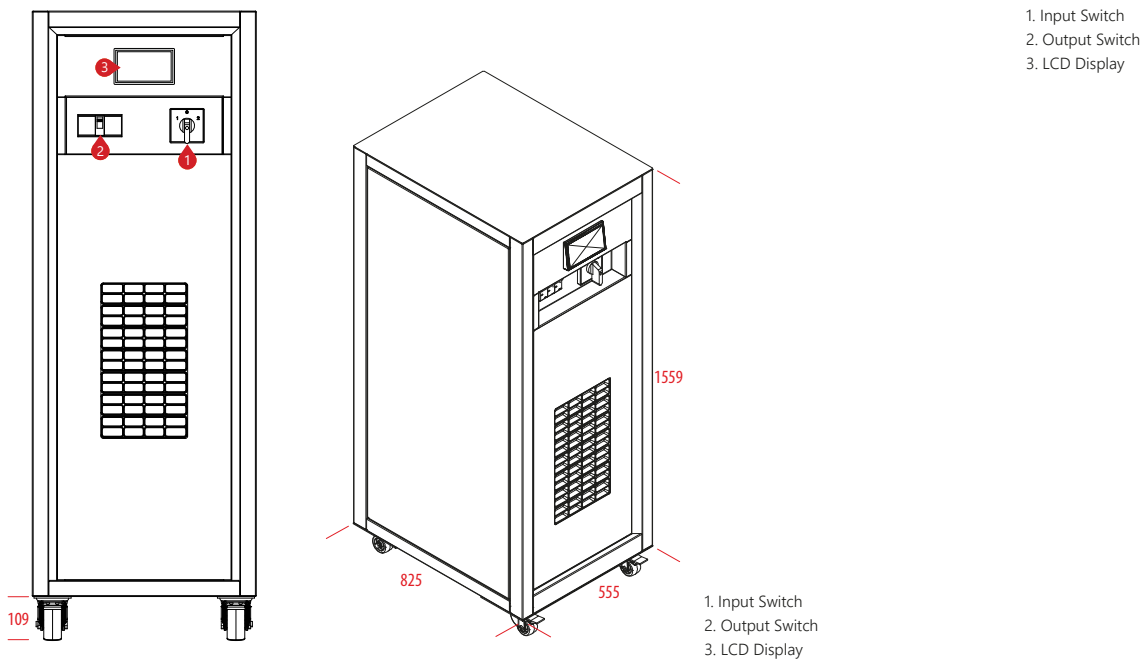
WSVS SERIES 10-30 kVA



WSVS SERIES 40-60-75 kVA

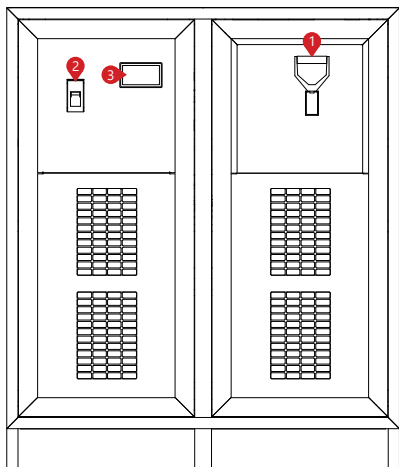


WSVS SERIES 100-120-150 kVA

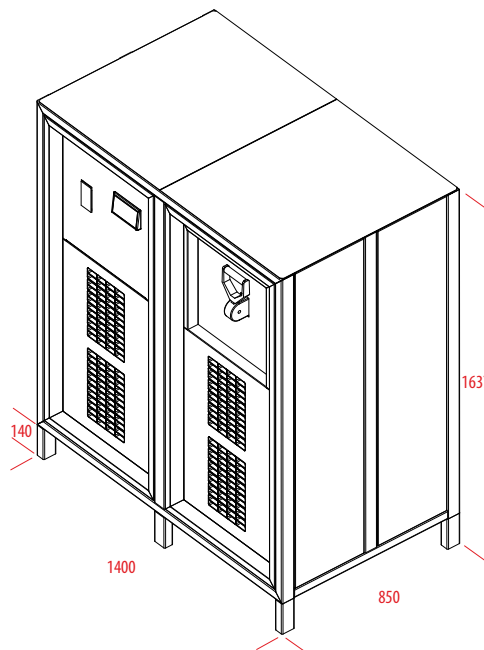


DETAILS

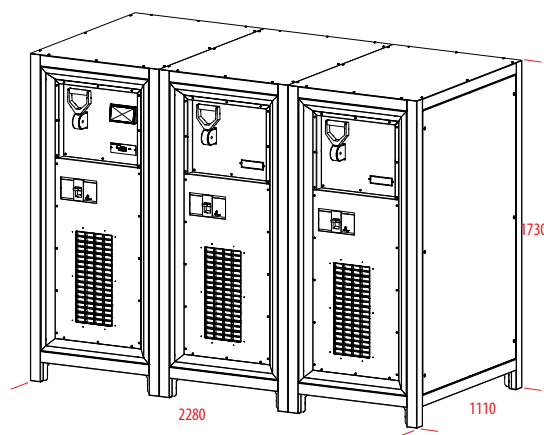
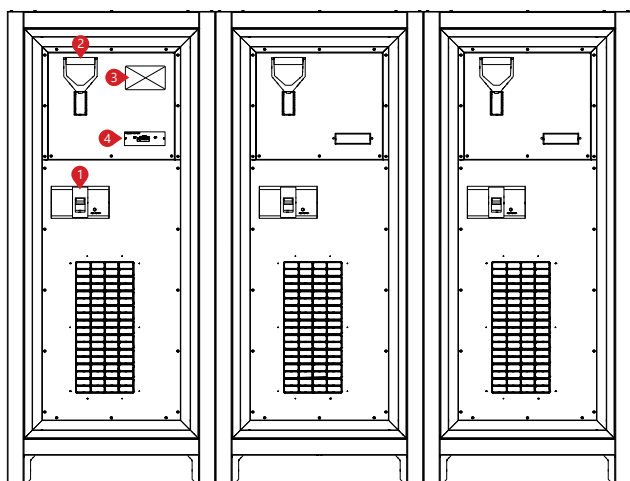
WSVS SERIES 200-300-400-500 kVA



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

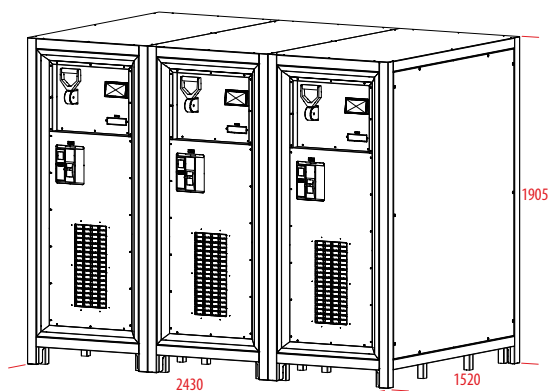
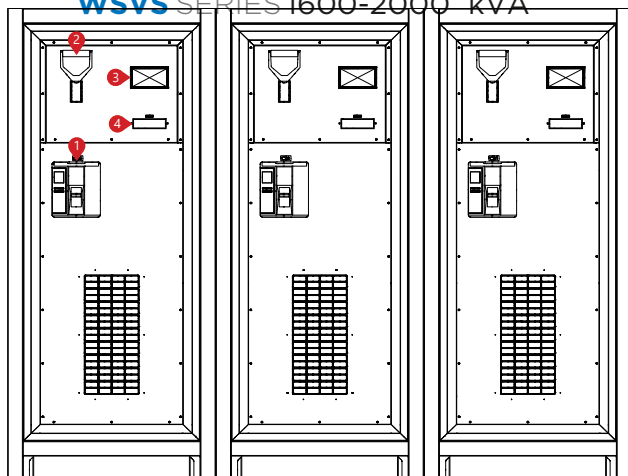


WSVS SERIES 600-800-1000-1250 kVA



- 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)

MODEL																									
Capacity (kVA)		10	15	22,5	30	45	60	75	100	120	150	200	300	400	500	600	800	1000	1250	1600	2000				
INPUT																									
In. Vol. Correct. Interval		275~450 VAC (Optional: 190V~485V)																							
Operation Frequency		50~60 Hz (±10%)																							
Line Input Protection		Overcurrent Thermic Fuse																							
OUTPUT																									
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																							
WORKING PRINCIPLE		Microprocessor Controlled, Full Automatic, Static, Semi Conductor Electronic Structure Maintenance Free																							
CONTROL PANEL																									
Display and Buttons		Load Level, Input-Output Voltage																							
Alert Message		Input Low/High, Output Low/High, Overtemperature																							
GENERAL																									
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)																							
ENVIRONMENTAL																									
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							
DIMENSIONS & WEIGHT																									
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
INPUT									
In. Vol. Correct. Interval		120~230 / 145~245 / 160~250 VAC							
Operation Frequency		50~60 Hz (±10%)							
Line Input Protection		Overcurrent Thermic Fuse							
OUTPUT									
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							
WORKING PRINCIPLE		Microprocessor Controlled, Full Automatic, Static, Semi Conductor Electronic Structure Maintenance Free							
CONTROL PANEL									
Display and Buttons		Load Level, Input-Output Voltage							
Alert Message		Input Low/High, Output Low/High, Overtemperature							
GENERAL									
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)							
ENVIRONMENT									
Operating Temperature		-10°C ~ 50°C							
Storage Temperature		-25°C ~ 60°C							
Relative Humidity		<90%, DIN (40040)							
Altitude		<2000m							
Noise Level		<50 dB							
DIMENSIONS & WEIGHT									
Dimensions (mm)	Width	192		260			430		
	Depth	361		453			596		
	Height	352		416			777		

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CUSTOMIZED POWER SOLUTIONS

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.



1

UPS

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

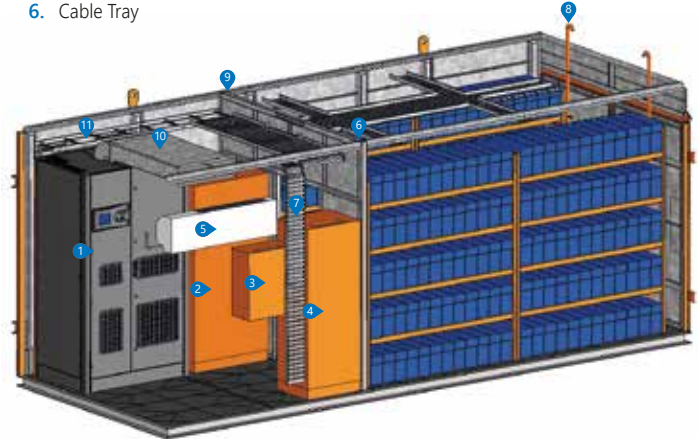
- Westinghouse's containerised solutions integrates Westinghouse UPS and Generator together where the UPS supports critical loads without interruption until the generator kicks in. With the "True no break power solution", business continuity without costly downtime is ensured.
- Cost effective and energy 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. Hyrdojen Gas Release
9. Active Power Unit/ Battery Compartments Separation
10. Air Baffle
11. Cables Conduit



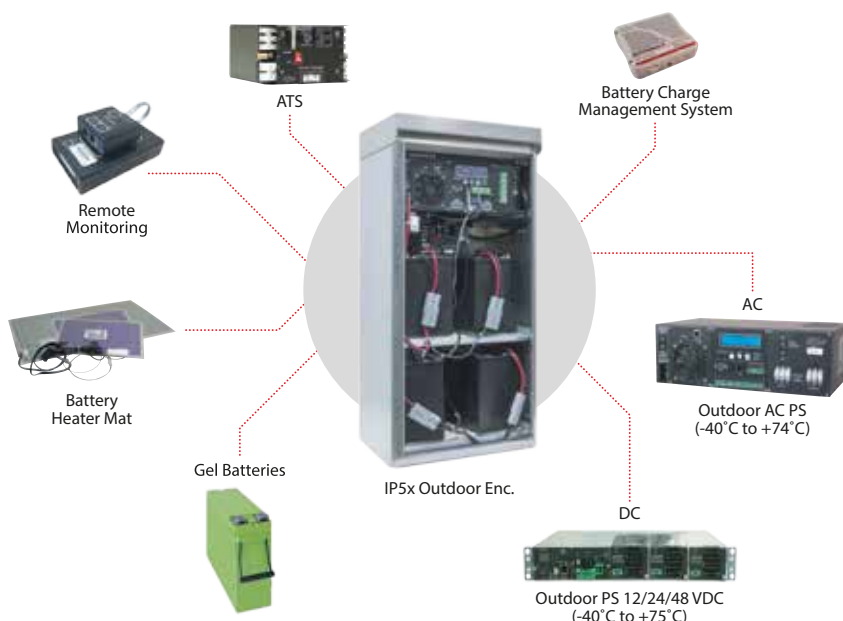
OUTDOOR AC & DC POWER SYSTEMS

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

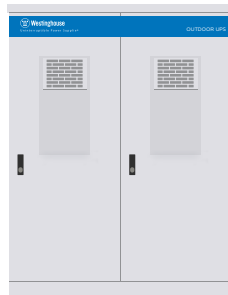
- Intelligent Transportation Systems
- Security Applications (Sea/Land/Airport)
- Telecom Applications
- Defence/Military Backup Systems
- Railway Applications
- Marine/Offshore Applications
- Industrial Applications



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

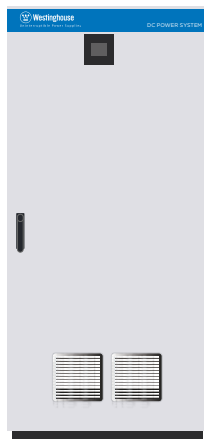
CUSTOM DC SYSTEM/CHARGERS

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

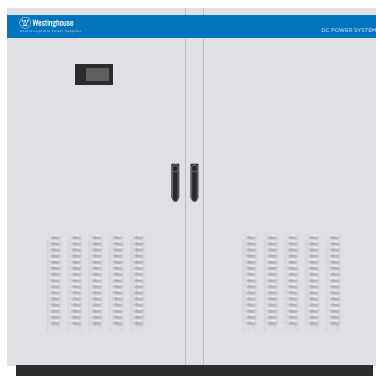
- Chargers - Single or Three Phase. 12/24/48/110/220VDC
- Power Supplies 12/24/48/110/220VDC
- DC UPS - 12-220VDC / 10A-10000A
- DC Rectifiers
- DC-AC Industrial Single/Three Phase Modular Inverters
- DC Load Distribution Panels



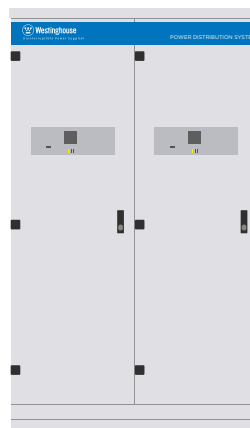
110VDC/200A, Hotswappable/Upgradable DC System in IP41 Cabinet with 2 Groups of 12V FT Batteries and Remote Access



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

2

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 according 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

GENERATOR

SOLUTIONS

WEPS Series 94-150 kVA

2

Generator

GENERATOR GROUP

MODEL		WEPS0094	WEPS0110	WEPS0110N	WEPS0125	WEPS0150
Ref.No.		W606725	W606726	W606727	W606728	W606729
Stand By Power	kVA	94	110	110	125	150
	kW	75.2	88	88	100	120
Prime Power	kVA	85.4	100	100	113.6	136.4
	kW	68.3	80	80	90.9	109

DIESEL ENGINE

BRAND		RICARDO				
Model		R4105IZLD	R4110IZLD	R6105ZD	R6105ZLD	R6105AZLD
Engine Power - Stand By	kW	83	92	92	110	121
Engine Power - Prime	kW	75	84	84	100	110
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		4 - In Line	4 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		4.33	4.33	6.49	6.49	6.75
Bore x Stroke (mm)		105x130	105x130	105x130	105x130	105x130
Compression Rate		16:1	16:1	16:1	16:1	16:1
Governor Type		Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic
Induction		TurboCharged	TurboCharged	TurboCharged	TurboCharged	TurboCharged
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		13	13	16	16	16
Coolant Capacity (lt)		18	18	23	23	25
Fuel Tank Capacity (lt)		175	175	225	225	225
Fuel Consumption	100% of Prime Power	20.2	22.6	23.9	26.6	30.5
lt / h	75% of Prime Power	15.6	16.7	17.9	20.2	22.9
	50% of Prime Power	10	11.5	11.9	13.8	15.3

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions mm (WxDxH)	1050x2700x1875	1050x2700x1875	1050x3000x2035	1050x3000x2035	1050x3000x2035
Canopy Weight kg	1410	1450	1650	1535	1800
Open Dimensions mm (WxDxH)	1050x2100x1650	1050x2100x1650	1050x2400x1750	1050x2400x1750	1050x2400x1750
Open Weight kg	1160	1200	1290	1350	1400

WESTINGHOUSE reserves the right to make changes in model, specification, color, equipment and accessories without prior notice.
N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

WEPS Series 165-220 kVA

2

Generator

GENERATOR GROUP

MODEL		WEPS0165	WEPS0175	WEPS0200	WEPS0220
		W606730	W606731	W606732	W606733
Stand By Power	kVA	165	175	200	220
	kW	132	140	160	176
Prime Power	kVA	150	159	181.9	200
	kW	120	126.4	145.5	160

DIESEL ENGINE

BRAND		RICARDO			
Model		R6105IZLD	R6105IZLD	R6108IZLD	R6108IZLD
Engine Power - Stand By	kW	145	145	185	185
Engine Power - Prime	kW	132	132	165	165
Engine Speed (rpm)		1500	1500	1500	1500
Number of Cylinder		6 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		7.01	7.01	7.01	7.01
Bore x Stroke (mm)		105x135	105x135	110x135	110x135
Compression Rate		16:1	16:1	16:1	16:1
Governor Type		Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic
Induction		TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		16	16	23	23
Coolant Capacity (lt)		25	25	45	45
Fuel Tank Capacity (lt)		225	225	225	225
Fuel Consumption	100% of Prime Power	33.5	35.5	49.4	50
lt / h	75% of Prime Power	25.1	26.1	37	39.2
	50% of Prime Power	16.7	17.8	24	25.1

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1050x3000x2035	1050x3000x2035	1050x3000x2035	1050x3000x2035
Canopy Weight	kg	1760	1760	1850	1860
Open Dimensions	mm (WxDxH)	1050x2400x1750	1050x2400x1750	1050x2400x1750	1050x2400x1750
Open Weight	kg	1460	1460	1550	1570

WESTINGHOUSE reserves the right to make changes in model, specification, color, equipment and accessories without prior notice.

N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

WEPS Series 300-500 kVA

2

Generator

GENERATOR GROUP

MODEL		WEPS0300	WEPS0330	WEPS0400	WEPS0450	WEPS0500
Ref.No.		W606734	W606735	W606736	W606737	W606738
Stand By Power	kVA	300	330	400	450	500
	kW	240	264	320	360	400
Prime Power	kVA	272.7	300	363.6	409	455
	kW	218.2	240	290.9	327	364

DIESEL ENGINE

BRAND		PERKINS				
Model		1506A-E88TAG4	1506A-E88TAG5	2206A-E13TAG2	2206A-E13TAG3	2506A-E15TAG1
Engine Power - Stand By	kW	281	307	368	412	451
Engine Power - Prime	kW	255.5	279	334	374	410
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		6 - In Line	6 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		8.8	8.8	12.5	12.5	15.2
Bore x Stroke (mm)		112x149	112x149	130x157	130x157	137x171
Compression Rate		16.1:1	16.1:1	16.3:1	16.3:1	16.0:1
Governor Type		Electronic	Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		41	41	40	40	62
Coolant Capacity (lt)		33.2	33.2	51.4	51.4	58
Fuel Tank Capacity (lt)		450	550	550	550	970
Fuel Consumption lt / h	100% of Prime Power	60	60	71	81	95
	75% of Prime Power	46	46	54	62	72
	50% of Prime Power	32.2	32.2	37	42	50

ALTERNATOR

Output Voltage (V)		400/230
Power Factor		0.8
Number of Poles		4
Frequency (Hz)		50
Voltage Regulation		±%0,5
Connection Type		Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1300x3800x1900	1400x4200x2200	1400x4200x2200	1400x4200x2200	1400x4200x2200
Canopy Weight	kg	1780	2690	3900	4100	4200
Open Dimensions	mm (WxDxH)	1300x3800x1750	1400x4200x2050	1400x4200x2050	1400x4200x2050	1400x4200x2050
Open Weight	kg	1530	2655	3200	3400	3500

WESTINGHOUSE reserves the right to make changes in model, specification, color, equipment and accessories without prior notice.
N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

WEPS Series 550-825 kVA

2

Generator

GENERATOR GROUP

MODEL		WEPS0550	WEPS0660	WEPS0700	WEPS0785	WEPS0825
Ref.No		W606739	W606740	W606741	W606742	W606743
Stand By Power	kVA	550	660	700	785	825
	kW	440	528	560	625	660
Prime Power	kVA	500	600	636	713.6	750
	kW	400	480	508.8	570.9	600

DIESEL ENGINE

BRAND		PERKINS				
Model		2506A-E15TAG2	2806A-E18TAG1A	2806A-E18TAG2	2806A-E18TAG4	2806A-E18TAG5
Engine Power - Stand By	kW	495	593	628	685	695
Engine Power - Prime	kW	450	539	571	623	632
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		6 - In Line	6 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		15.2	18.1	18.1	18.1	18.1
Bore x Stroke (mm)		137x171	145x183	145x183	145x183	145x183
Compression Rate		16.0:1	14.5:1	14.5:1	14.5:1	14:1
Governor Type		Electronic	Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		62	62	62	68	68
Coolant Capacity (lt)		58	61	61	109.5	109.5
Fuel Tank Capacity (lt)		970	970	970	970	1100
Fuel Consumption lt / h	100% of Prime Power	100	111	143	143	162
	75% of Prime Power	76	81	105	105	118
	50% of Prime Power	53	55	72	72	81

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1400x4200x2200	1400x4200x2200	1400x4200x2200	1800x4800x311	1400x4200x2200
Canopy Weight	kg	4200	4900	5100	8817	7600
Open Dimensions	mm (WxDxH)	1400x4200x2050	1400x4200x2050	1400x4200x2050	1800x4290x2475	1400x4200x2050
Open Weight	kg	3500	4200	4400	7310	6900

WESTINGHOUSE reserves the right to make changes in model, specification, color, equipment and accessories without prior notice.

N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJB SERIES 20-50 kVA



2

Generator

GENERATOR GROUP

MODEL		RGHJB0020	RGHJB0025	RGHJB0035	RGHJB0044	RGHJB0050
Stand By Power	kVA	20	22	35	44	50
	kW	16	18	28	35.2	40
Prime Power	kVA	18.2	20	31.8	40	45.4
	kW	14.5	16	25.5	32	36
Ref.No		W608372	W608373	W608374	W608375	W608376

DIESEL ENGINE

BRAND		BAUDOUIN				
Model		4M06G20/5	4M06G25/5	4M06G33/5	4M06G44/5	4M06G50/5
Engine Power - Stand By	kW	20	25	33	41	48
Engine Power - Prime	kW	18	23	30	37	44
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		4 - In Line	4 - In Line	4 - In Line	4 - In Line	4 - In Line
Displacement (lt)		2.3	2.3	2.3	2.3	2.3
Bore x Stroke (mm)		89x92	89x92	89x92	89x92	89x92
Compression Rate		17.5:1	17.5:1	17.5:1	17.5:1	17.5:1
Governor Type		Electronic	Electronic	Electronic	Electronic	ECU
Induction		Natural	Natural	TurboCharged	TurboCharged	TurboCharged-Aftercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		9.5	9.5	9.5	9.5	9.5
Coolant Capacity (lt)		16	16	16	16	12.9
Fuel Tank Capacity (lt)		92	92	132	132	132
Fuel	100% of Prime Power	4.8	6.1	7.6	9.3	10.4
Consumption	75% of Prime Power	3.7	4.5	5.4	6.8	7.5
lt / h	50% of Prime Power	2.6	3.2	4.1	4.6	5.2

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	900x2000x1310	900x2000x1310	1000x2300x1715	1050x2300x1715	1050x2300x1715
Canopy Weight	kg	750	850	905	925	945
Open Dimensions	mm (WxDxH)	900x1500x1100	900x1500x1100	1000x1750x1450	1050x1750x1450	1050x1750x1450
Open Weight	kg	600	700	710	730	750

WESTINGHOUSE reserves the right to make changes in model, specification, color, equipment and accessories without prior notice.

N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJB SERIES 55-90 kVA



GENERATOR GROUP

MODEL		RGHJB0055	RGHJB0070	RGHJB0072	RGHJB0088	RGHJB0090
Stand By Power	kVA	55	70	72	88	90
	kW	44	56	57.6	70.4	72
Prime Power	kVA	50	63.6	65.5	80	81.8
	kW	40	50.9	52.3	64	65.5
Ref.No		W608377	W608378	W608379	W608380	W608381

DIESEL ENGINE

BRAND		BAUDOUIN				
Model		4M06G55/5	4M10G70/5	4M11G70/5	4M10G88/5	4M11G90/5
Engine Power - Stand By	kW	53	63	66	77	81
Engine Power - Prime	kW	48	57	60	69	74
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		4 - In Line	4 - In Line	4 - In Line	4 - In Line	4 - In Line
Displacement (lt)		2.3	4.087	4.5	4.087	4.5
Bore x Stroke (mm)		89x92	105x118	105x130	105x118	105x130
Compression Rate		17.5:1	17.5:1	18:1	17.5:1	18:1
Governor Type		ECU	Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Aftercooler	TurboCharged	TurboCharged	TurboCharged	TurboCharged
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		7.3	11	11	11	11
Coolant Capacity (lt)		12.9	17	17	17	17
Fuel Tank Capacity (lt)		132	180	180	180	180
Fuel Consumption	100% of Prime Power	11.9	14.5	14.5	18.6	18.6
lt / h	75% of Prime Power	8.9	11	11	13.7	13.7
	50% of Prime Power	6	7.7	7.7	9.4	9.4

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1050x2300x1715	1050x2700x1875	1050x2700x1875	1050x2700x1875	1050x2700x1875
Canopy Weight	kg	960	1350	1350	1400	1400
Open Dimensions	mm (WxDxH)	1050x1750x1450	1050x2090x1650	1050x2090x1650	1050x2090x1650	1000x2090x1650
Open Weight	kg	765	1050	1050	1100	1100

WESTINGHOUSE reserves the right to make changes in model, specification, color, equipment and accessories without prior notice.
N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJB SERIES 120-250 kVA



2

Generator

GENERATOR GROUP

MODEL		RGHJB0120	RGHJB0150	RGHJB0165	RGHJB0220	RGHJB0250
Stand By Power	kVA	120	150	165	220	250
	kW	96	120	132	176	200
Prime Power	kVA	109	135	150	200	227.2
	kW	87.3	109	120	160	181.8
Ref.No		W608382	W608383	W608384	W608385	W608386

DIESEL ENGINE

BRAND		BAUDOUIN				
Model		4M11G120/5	6M11G150/5	6M11G165/5	6M16G220/5	6M16G250/5
Engine Power - Stand By	kW	108	140	152	200	238
Engine Power - Prime	kW	98	128	138	182	216
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		4 - In Line	6 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		4.5	6.75	6.75	9.726	9.726
Bore x Stroke (mm)		105x130	105x130	105x130	126x130	126x130
Compression Rate		18:1	18:1	18:1	17:1	17:1
Governor Type		Electronic	Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		11	17	17	24	26
Coolant Capacity (lt)		13.3	17	17	44	44
Fuel Tank Capacity (lt)		280	280	280	585	585
Fuel Consumption lt / h	100% of Prime Power	23.3	30.4	32.7	42.1	50.9
	75% of Prime Power	17.4	23.1	24.5	31.6	38.1
	50% of Prime Power	11.9	15.9	16.7	21.9	25.9

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1050x2700x1875	1050x2700x1875	1050x3000x2035	1150x3430x2460	1150x3430x2460
Canopy Weight	kg	1450	1800	1900	2400	2550
Open Dimensions	mm (WxDxH)	1050x2090x1650	1050x2090x1650	1050x2400x1750	1150x2700x1860	1150x2700x1860
Open Weight	kg	1100	1500	1500	2000	2150

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJB SERIES 275-440 kVA

GENERATOR GROUP

MODEL		RGHJB0275	RGHJB0300	RGHJB0350	RGHJB0400	RGHJB0440
Stand By Power	kVA	275	300	350	400	440
	kW	220	240	280	320	352
Prime Power	kVA	250	273	318.2	363.6	400
	kW	200	218.4	254.5	290.9	320
Ref.No		W608387	W608388	W608389	W608390	W608391

DIESEL ENGINE

BRAND		BAUDOUIN				
Model		6M16G275/5	6M16G300/5	6M16G350/5	6M21G400/5	6M21G440/5
Engine Power - Stand By	kW	264	280	320	385	405
Engine Power - Prime	kW	240	255	291	350	368
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		6 - In Line	6 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		9.726	9.726	9.726	12.54	12.54
Bore x Stroke (mm)		126x130	126x130	126x130	127x165	127x165
Compression Rate		17:1	17:1	17:1	16:1	16:1
Governor Type		Electronic	Electronic	ECU	Electronic	Electronic
Induction		TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		26	26	26	30	30
Coolant Capacity (lt)		44	44	50	55	55
Fuel Tank Capacity (lt)		585	585	585	890	890
Fuel Consumption lt / h	100% of Prime Power	56.9	58.8	70.5	85	85
	75% of Prime Power	42.2	45.2	52.3	63.5	63.5
	50% of Prime Power	28.4	32.6	35.3	43.1	43.1

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1400x3300x2460	1400x3700x2626,5	1400x3700x2626,5	1400x3700x2626,5	1400x3700x2626,5
Canopy Weight	kg	2700	3150	3250	3350	3540
Open Dimensions	mm (WxDxH)	1400x2800x1860	1400x3250x1750	1400x3250x1750	1400x3250x1750	1400x3250x1750
Open Weight	kg	2350	2600	2700	2800	2900

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJB SERIES 500-750 kVA

2

Generator

GENERATOR GROUP

MODEL		RGHJB0500	RGHJB0550	RGHJB0660	RGHJB0715	RGHJB0750
Stand By Power	kVA	500	550	660	715	750
	kW	400	440	528	572	600
Prime Power	kVA	454.5	500	600	650	681.8
	kW	363.6	400	480	520	545.5
Ref.No		W608392	W608393	W608394	W608395	W608396

DIESEL ENGINE

BRAND		BAUDOUIN				
Model		6M21G500/5	6M26G550/5	6M33G660/5	6M33G715/5	6M33G750/5
Engine Power - Stand By	kW	450	490	587	633	670
Engine Power - Prime	kW	409	448	536	575	610
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		6 - In Line	6 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		12.54	15.90	19.60	19.60	19.60
Bore x Stroke (mm)		127x165	150x150	150x185	150x185	150x185
Compression Rate		16:1	15.9:1	15:1	15:1	15:1
Governor Type		ECU	Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		30	52	52	61	61
Coolant Capacity (lt)		55	108.7	108.7	129	159
Fuel Tank Capacity (lt)		1145	1145	1530	1530	1530
Fuel Consumption	100% of Prime Power	112.9	104.9	122.8	135.1	135.1
It / h	75% of Prime Power	77.8	78.4	92.8	99.3	99.3
	50% of Prime Power	52	53.6	64.4	66.4	66.4

ALTERNATOR

Output Voltage (V)		400/230
Power Factor		0.8
Number of Poles		4
Frequency (Hz)		50
Voltage Regulation		±%0,5
Connection Type		Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1600x4400x2650	1600x4400x2650	1800x4500x3075	1800x4500x3000	1800x4500x3000
Canopy Weight	kg	4105	4350	4950	5250	5590
Open Dimensions	mm (WxDxH)	1600x4000x2220	1600x4000x2220	1800x4350x2340	1800x4500x2340	1800x4500x2340
Open Weight	kg	3590	3750	4900	4900	4900

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJB SERIES 825-1250 kVA

GENERATOR GROUP

MODEL		RGHJB0825	RGHJB0900	RGHJB1000	RGHJB1100	RGHJB1250
Stand By Power	kVA	825	900	1000	1100	1250
	kW	660	720	800	880	1000
Prime Power	kVA	750	818.2	909	1000	1136.3
	kW	600	654.5	727.2	800	909
Ref.No		W608397	W608398	W608399	W608400	W608401

DIESEL ENGINE

BRAND		BAUDOUIN				
Model		6M33G825/5	12M26G900/5	12M26G1000/5	12M26G1100/5	12M33G1250/5
Engine Power - Stand By	kW	725	793	902	973	1108
Engine Power - Prime	kW	659	725	820	889	1007
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		6 - V Type	12 - V Type	12 - V Type	6 - In Line	12 - V Type
Displacement (lt)		19.60	31.80	31.80	31.80	39.2
Bore x Stroke (mm)		150x185	150x150	150x150	150x150	150x185
Compression Rate		15.0:1	15.7:1	15.7:1	15.7:1	15:1
Governor Type		Electronic	Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		61	109	109	109	155
Coolant Capacity (lt)		159	148	148	148	188
Fuel Tank Capacity (lt)		2000	2000	2000	2000	2000
Fuel	100% of Prime Power	150.1	172.5	196.8	205.0	198.4
Consumption	75% of Prime Power	112.2	130.4	147.2	154.1	147
It / h	50% of Prime Power	72.5	91	101.8	105.7	100.3

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1800x5300x3000	2000x4950x3425	2000x4950x3425	2000x4950x3425	2400x5450x3470
Canopy Weight	kg	7480	7790	7890	8250	9035
Open Dimensions	mm (WxDxH)	2200x5300x2580	2000x4900x2580	2000x4900x2580	2000x4900x2580	2400x5200x2675
Open Weight	kg	6000	6310	6410	6770	7370

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJB SERIES 1400-1900 kVA

2

Generator

GENERATOR GROUP

MODEL		RGHJB1400	RGHJB1500	RGHJB1650	RGHJB1700	RGHJB1900
Stand By Power	kVA	1400	1500	1650	1700	1900
	kW	1120	120	1320	1360	1520
Prime Power	kVA	1250	1363.6	1500	1545.5	1727.2
	kW	1000	1090.9	1200	1236.4	1381.2
Ref.No		W608402	W608403	W608404	W608405	W608406

DIESEL ENGINE

BRAND		BAUDOUIN				
Model		12M33G1400/5	12M33G1500/5	12M33G1650/5	16M33G1700/5	16M33G1900/5
Engine Power - Stand By	kW	1210	1320	1450	1530	1650
Engine Power - Prime	kW	1100	1200	1318	1390	1530
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		12 - V Type	12 - V Type	12 - V Type	16 - V Type	16 - V Type
Displacement (lt)		39.2	39.2	39.2	52.3	52.3
Bore x Stroke (mm)		150x185	150x185	150x185	150x185	150x185
Compression Rate		15:1	15:1	15:1	15:1	15:1
Governor Type		Electronic	Electronic	ECU	ECU	ECU
Induction		TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		155	155	155	171	171
Coolant Capacity (lt)		188	188	303	400	400
Fuel Tank Capacity (lt)		2000	-	-	-	-
Fuel Consumption lt / h	100% of Prime Power	217.6	N/A	324	327.5	358.2
	75% of Prime Power	160.3	N/A	234.2	243.5	260.3
	50% of Prime Power	108.9	N/A	156.1	166.7	176.2

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions mm (WxDxH)	2400x5450x3470	N/A	N/A	N/A	N/A
Canopy Weight kg	9120	N/A	N/A	N/A	N/A
Open Dimensions mm (WxDxH)	2400x5200x2675	N/A	N/A	N/A	N/A
Open Weight kg	7450	N/A	N/A	N/A	N/A

WESTINGHOUSE reserves the right to make changes in model, specification, color, equipment and accessories without prior notice.
N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJB SERIES 2000-2750 kVA

GENERATOR GROUP

MODEL		RGHJB2000	RGHJB2250	RGHJB2550	RGHJB2750
Stand By Power	kVA	2000	2250	2550	2750
	kW	1600	1800	2040	2200
Prime Power	kVA	1818.2	2045.4	2318.2	2500
	kW	1454.5	1636.3	1854.5	2000
Ref.No		W608407	W608408	W608409	W608410

DIESEL ENGINE

BRAND		BAUDOUIN			
Model		16M33G2000/5	16M33G2250/5	12M55G2550/5	12M55G2750/5
Engine Power - Stand By	kW	1800	1980	2210	2450
Engine Power - Prime	kW	1620	1800	1985	2200
Engine Speed (rpm)		1500	1500	1500	1500
Number of Cylinder		16 - V Type	16 - V Type	12 - V Type	12 - V Type
Displacement (lt)		52.3	52.3	65.65	65.65
Bore x Stroke (mm)		150x185	150x185	180x215	180x215
Compression Rate		15:1	14:1	16.5:1	16.5:1
Governor Type		ECU	ECU	ECU	ECU
Induction		TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler	TurboCharged-Aftercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		171	171	560	560
Coolant Capacity (lt)		400	412	306	306
Fuel Tank Capacity (lt)		-	N/A	-	-
Fuel	100% of Prime Power	331	485	437.2	N/A
Consumption	75% of Prime Power	250	388	330.5	N/A
lt / h	50% of Prime Power	167	324	231.9	N/A

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	N/A	N/A	N/A	N/A
Canopy Weight	kg	N/A	N/A	N/A	N/A
Open Dimensions	mm (WxDxH)	N/A	N/A	N/A	N/A
Open Weight	kg	N/A	N/A	N/A	N/A

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJD SERIES 22-70 kVA

2

Generator

GENERATOR GROUP

MODEL		RGHJD0022	RGHJD0033	RGHJD0044	RGHJD0055	RGHJD0070
Stand By Power	kVA	22	33	44	55	70
	kW	18	26	35	44	56
Prime Power	kVA	20	30	40	50	63.6
	kW	16	24	32	40	50.9
Ref.No.		W608412	W608413	W608414	W608415	W608415

DIESEL ENGINE

BRAND		DEUTZ				
Model		BFM3G1	BFM3G2	BFM3T	BFM3C	BF4M2012
Engine Power - Stand By	kW	22	32	44	50	60
Engine Power - Prime	kW	20	29	40	45	54
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		4 - In Line	4 - In Line	4 - In Line	4 - In Line	4 - In Line
Displacement (lt)		3.168	3.168	3.168	3.168	4.04
Bore x Stroke (mm)		98x105	98x105	98x105	98x105	101x126
Compression Rate		18.5:1	18.5:1	18.5:1	18.5:1	19:1
Governor Type		Electronic	Electronic	Electronic	Electronic	Electronic
Induction		Natural	Natural	TurboCharged	TurboCharged-Intercooler	TurboCharged
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		7.5	7.5	7.5	7.5	8.5
Coolant Capacity (lt)		4.8	4.8	4.8	4.8	15.9
Fuel Tank Capacity (lt)		90	90	125	125	175
Fuel Consumption	100% of Prime Power	5.4	7.7	10.3	11.2	13.7
Consumption	75% of Prime Power	4	5.38	8	8.7	10.2
lt / h	50% of Prime Power	2.8	3.9	5.5	6	7

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	900x2000x1310	1000x2300x1715	1000x2300x1715	1000x2300x1715	1050x2700x1875
Canopy Weight	kg	760	895	940	1050	1230
Open Dimensions	mm (WxDxH)	900x1500x1100	1000x1750x1450	1000x1750x1450	1000x1750x1450	1050x2090x1650
Open Weight	kg	620	735	790	835	960

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJD SERIES 80-125 kVA

GENERATOR GROUP

MODEL		RGHJD0080	RGHJD0100	RGHJD0110	RGHJD0125
Stand By Power	kVA	80	100	110	125
	kW	64	80	88	100
Prime Power	kVA	72.7	91	100	113.6
	kW	58.2	72.7	80	90.9
Ref.No.		W608416	W608417	W608418	W608419

DIESEL ENGINE

BRAND		DEUTZ			
Model		BF4M2012CG1	BF4M2012CG2	BF4M1013ECG1	BF4M1013ECG2
Engine Power - Stand By	kW	75	93	102	116
Engine Power - Prime	kW	68	85	92.7	105
Engine Speed (rpm)		1500	1500	1500	1500
Number of Cylinder		4 - In Line	4 - In Line	4 - In Line	4 - In Line
Displacement (lt)		4.04	4.04	4.76	4.76
Bore x Stroke (mm)		101x126	101x126	108x130	108x130
Compression Rate		19:1	19:1	19:1	19:1
Governor Type		Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		8.5	8.5	11	19
Coolant Capacity (lt)		15.9	15.9	19.7	19.7
Fuel Tank Capacity (lt)		175	175	175	175
Fuel	100% of Prime Power	18	21.3	24.2	26.1
Consumption	75% of Prime Power	13	15.9	18	19.3
lt / h	50% of Prime Power	8.9	10.8	12.2	12.9

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1050x2700x1875	1050x2700x1875	1050x2700x1875	1050x2700x1875
Canopy Weight	kg	1300	1350	1440	1520
Open Dimensions	mm (WxDxH)	1050x2090x1650	1050x2090x1650	1050x2090x1650	1050x2090x1650
Open Weight	kg	1050	1120	1170	1265

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJD SERIES 150-220 kVA

2

Generator

GENERATOR GROUP

MODEL		RGHJD0150	RGHJD0175	RGHJD0200	RGHJD0220
Stand By Power	kVA	150	175	200	220
	kW	120	140	160	176
Prime Power	kVA	136.3	159	181.8	200
	kW	109	127.2	145.5	160
Ref.No.		W608420	W608421	W608422	W608423

DIESEL ENGINE

BRAND		DEUTZ			
Model		BF4M1013FC	BF6M1013ECG1	BF61013ECG2	BF6M1013FCG3
Engine Power - Stand By	kW	129	153	175	201
Engine Power - Prime	kW	117	146	160	183
Engine Speed (rpm)		1500	1500	1500	1500
Number of Cylinder		4 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		4.76	7.15	7.15	7.15
Bore x Stroke (mm)		108x130	108x130	108x130	108x130
Compression Rate		18.1:1	19:1	19:1	19:1
Governor Type		Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		11	20	20	31
Coolant Capacity (lt)		19.7	23.1	23.1	27.3
Fuel Tank Capacity (lt)		175	248	353	353
Fuel Consumption	100% of Prime Power	28.9	35.9	39.2	45.6
	75% of Prime Power	20.9	26.9	29.5	33.6
	50% of Prime Power	14	18.3	19.9	22.6

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1050x3000x2035	1050x3000x2035	1200x3420x2260	1200x3420x2260
Canopy Weight	kg	1700	1900	2150	2400
Open Dimensions	mm (WxDxH)	1050x2400x1750	1050x2400x1750	1200x2800x1780	1200x2800x1780
Open Weight	kg	1390	1650	1750	2000

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJD SERIES 275-440 kVA

GENERATOR GROUP

MODEL		RGHJD0275	RGHJD0360	RGHJD0400	RGHJD0440
Stand By Power	kVA	275	360	400	440
	kW	220	288	320	352
Prime Power	kVA	250	327.2	363.6	400
	kW	200	261.8	290.9	320
Ref.No.		W608423	W608424	W608425	W608426

DIESEL ENGINE

BRAND		DEUTZ			
Model		BF6M1015C LA GA	BF6M1015C LA G3A	BF6M1015C LA G4	BF6M1015CP LAG
Engine Power - Stand By	kW	231	314	345	365
Engine Power - Prime	kW	208	285	313	332
Engine Speed (rpm)		1500	1500	1500	1500
Number of Cylinder		6 - V Type	6 - V Type	6 - V Type	6 - V Type
Displacement (lt)		11.9	11.9	11.9	11.9
Bore x Stroke (mm)		132x145	132x145	132x145	132x145
Compression Rate		16.5:1	16.5:1	16.5:1	16.5:1
Governor Type		Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		36	36	36	36
Coolant Capacity (lt)		62	62	62	62
Fuel Tank Capacity (lt)		453	554	554	554
Fuel Consumption lt / h	100% of Prime Power	48	70	72.8	77.1
	75% of Prime Power	36	52.4	54.8	57.8
	50% of Prime Power	24	34.7	36.9	39.2

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1400x3300x2700	1600x3300x2700	1600x3300x2700	1600x3300x2700
Canopy Weight	kg	2950	3400	3500	3650
Open Dimensions	mm (WxDxH)	1400x3300x2100	1600x3300x2350	1600x3300x2350	1600x3300x2350
Open Weight	kg	2350	2900	3000	3150

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJD SERIES 550-700 kVA

2

Generator

GENERATOR GROUP

MODEL		RGHJD0550	RGHJD0570	RGHJD0640	RGHJD0700
Stand By Power	kVA	550	570	640	700
	kW	440	456	512	560
Prime Power	kVA	500	518.2	581.8	636.4
	kW	400	414.5	465.4	509.1
Ref.No.		W608427	W608428	W608429	W608430

DIESEL ENGINE

BRAND		DEUTZ			
Model		BF8M1015C LA G2	BF8M1015CP LA G4	BF8M1015CP LA G4	BF8M1015CP LA G5
Engine Power - Stand By	kW	440	540	540	560
Engine Power - Prime	kW	400	491	491	509
Engine Speed (rpm)		1500	1500	1500	1500
Number of Cylinder		8 - V Type	8 - V Type	8 - V Type	8 - V Type
Displacement (lt)		15.9	15.9	15.9	15.9
Bore x Stroke (mm)		132x145	132x145	132x145	132x145
Compression Rate		16.5:1	16.5:1	16.5:1	16.5:1
Governor Type		Electronic	Electronic	Electronic	Electronic
Induction		TurboŞarj-Intercooler	TurboŞarj-Intercooler	TurboŞarj-Intercooler	TurboŞarj-Intercooler
Combustion System		Direkt	Direkt	Direkt	Direkt
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		48	48	48	48
Coolant Capacity (lt)		87	93	93	93
Fuel Tank Capacity (lt)		878	878	878	878
Fuel	100% of Prime Power	94.0	104.7	104.7	118.8
Consumption	75% of Prime Power	70.5	78.5	78.5	89.1
lt / h	50% of Prime Power	47.0	52.3	52.3	59.4

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1800x4000x2750	1800x4000x2750	1800x4000x2750	1800x4000x2750
Canopy Weight	kg	4400	4520	4520	4700
Open Dimensions	mm (WxDxH)	1800x4000x2300	1800x4000x2300	1800x4000x2300	1800x4000x2300
Open Weight	kg	3850	3900	4000	4050

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJR SERIES 55-90 kVA

GENERATOR GROUP

MODEL		RGHJR0035	RGHJR0050	RGHJR0055	RGHJR0070	RGHJR0082
Stand By Power	kVA	35	50	55	70	82
	kW	28	40	44	56	65.6
Prime Power	kVA	32	45.5	50	63.6	75
	kW	25.6	36.3	40	50.9	60
Ref.No		W608431	W608432	W608433	W608434	W608435

DIESEL ENGINE

BRAND		RICARDO				
Model		K4100D	K4100ZD	K4102ZD	D4105ZD	R4105IZD/D4105IZLD
Engine Power - Stand By	kW	33	44	48	62	73
Engine Power - Prime	kW	30.1	40	44	56	66
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		4 - In Line	4 - In Line	4 - In Line	4 - In Line	4 - In Line
Displacement (lt)		3.61	3.61	3.61	3.61	4.33
Bore x Stroke (mm)		100x115	100x115	102x115	105x115	105x125/105x115
Compression Rate		17:1	17:1	17:1	17:1	16:1/17:1
Governor Type		Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic
Induction		Natural	TurboCharged	TurboCharged	TurboCharged	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		13	13	13	13	13
Coolant Capacity (lt)		13	13	13	13	16/13
Fuel Tank Capacity (lt)		138	138	138	175	175
Fuel Consumption lt / h	100% of Prime Power	9	12.1	13	16.6	18
	75% of Prime Power	4.9	8.9	9.8	12.3	13.5
	50% of Prime Power	3.8	6	6.2	8.2	9

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1000x2300x1715	1000x2300x1715	1000x2300x1715	1050x2700x1875	1050x2700x1875
Canopy Weight	kg	875	1010	1050	1100	1170
Open Dimensions	mm (WxDxH)	1000x1750x1450	1000x1750x1450	1000x1750x1450	1050x2100x1650	1050x2100x1650
Open Weight	kg	700	780	820	860	890

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJR SERIES 22-70 kVA

2

Generator

GENERATOR GROUP

MODEL		RGHJR0094	RGHJR0110	RGHJR0110	RGHJR0125	RGHJR0150
Stand By Power	kVA	94	110	110	125	150
	kW	75.2	88	88	100	120
Prime Power	kVA	85.4	100	100	113.6	136.4
	kW	68.3	80	80	90.9	109
Ref.No		W608436	W608437	W608438	W608439	W608440

DIESEL ENGINE

BRAND		RICARDO				
Model		R4105IZLD	R4110IZLD	R6105ZD	R6105ZLD	R6105AZLD
Engine Power - Stand By	kW	83	92	92	110	121
Engine Power - Prime	kW	75	84	84	100	110
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		4 - In Line	4 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		4.33	4.33	6.49	6.49	6.75
Bore x Stroke (mm)		105x130	105x130	105x130	105x130	105x130
Compression Rate		16:1	16:1	16:1	16:1	16:1
Governor Type		Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic
Induction		TurboCharged	TurboCharged	TurboCharged	TurboCharged	TurboCharged
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		13	13	16	16	16
Coolant Capacity (lt)		18	18	23	23	25
Fuel Tank Capacity (lt)		175	175	225	225	225
Fuel Consumption lt / h	100% of Prime Power	20.2	22.6	23.9	26.6	30.5
	75% of Prime Power	15.6	16.7	17.9	20.2	22.9
	50% of Prime Power	10	11.5	11.9	13.8	15.3

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1050x2700x1875	1050x2700x1875	1050x3000x2035	1050x3000x2035	1050x3000x2035
Canopy Weight	kg	1300	1325	1540	1600	1640
Open Dimensions	mm (WxDxH)	1050x2100x1650	1050x2100x1650	1050x2400x1750	1050x2400x1750	1050x2400x1750
Open Weight	kg	980	1050	1160	1300	1400

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJR SERIES 275-440 kVA

GENERATOR GROUP

MODEL		RGHJR0165	RGHJR0175	RGHJR0200	RGHJR0220
Stand By Power	kVA	165	175	200	220
	kW	132	140	160	176
Prime Power	kVA	150	159	181.9	200
	kW	120	126.4	145.5	160
Ref.No		W608441	W608442	W608443	W608444

DIESEL ENGINE

BRAND		RICARDO			
Model		R6105IZLD	R6105IZLD	R6108IZLD	R6108IZLD
Engine Power - Stand By	kW	145	145	185	185
Engine Power - Prime	kW	132	132	165	165
Engine Speed (rpm)		1500	1500	1500	1500
Number of Cylinder		6 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		7.01	7.01	7.01	7.01
Bore x Stroke (mm)		105x135	105x135	110x135	110x135
Compression Rate		16:1	16:1	16:1	16:1
Governor Type		Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic	Mechanic/Electronic
Induction		TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		16	16	23	23
Coolant Capacity (lt)		25	25	45	45
Fuel Tank Capacity (lt)		225	225	225	225
Fuel Consumption	100% of Prime Power	33.5	35.5	49.4	50
	75% of Prime Power	25.1	26.1	37	39.2
	50% of Prime Power	16.7	17.8	24	25.1

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1050x3000x2035	1050x3000x2035	1050x3000x2035	1050x3000x2035
Canopy Weight	kg	1645	1695	1750	1810
Open Dimensions	mm (WxDxH)	1050x2400x1750	1050x2400x1750	1050x2400x1750	1050x2400x1750
Open Weight	kg	1360	1380	1415	1480

WESTINGHOUSE reserves the right to make changes in model, specification, color, equipment and accessories without prior notice.

N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJS SERIES 220-400 kVA

2

Generator

GENERATOR GROUP

MODEL		RGHJS0220	RGHJS0285	RGHJS0330	RGHJS0400
Stand By Power	kVA	220	285	330	400
	kW	176	228	264	320
Prime Power	kVA	200	259.1	300	363.6
	kW	160	207.3	240	290.9
Ref.No		W608793	W608794	W608795	W608796

DIESEL ENGINE

BRAND		SHANGHAI DONGFENG			
Model		SM129TD21	SM129TAD24	SMG128TAD28	SMG128TAD31
Engine Power - Stand By	kW	206	245	280	324
Engine Power - Prime	kW	187	223	255	295
Engine Speed (rpm)		1500	1500	1500	1500
Number of Cylinder		6 - In Line	6 - In Line	6 - In Line	6 - In Line
Displacement (lt)		8.27	8.27	8.82	12.9
Bore x Stroke (mm)		114x135	114x135	114x135	135x150
Compression Rate		18:1	18:1	18:1	17:1
Governor Type		Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		30	30	30	40
Coolant Capacity (lt)		48	48	48	64
Fuel Tank Capacity (lt)		353	353	353	491
Fuel	100% of Prime Power	52	52	52	71
Consumption	75% of Prime Power	39	39	39	53
lt / h	50% of Prime Power	27	27	27	36

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1200x3420x2260	1200x3420x2260	1200x3420x2260	1400x3700x2626,5
Canopy Weight	kg	2250	2400	2500	3450
Open Dimensions	mm (WxDxH)	1200x2800x1780	1200x2800x1780	1200x2800x1780	1400x3200x2000
Open Weight	kg	1900	1950	2100	3035

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJS SERIES 460-550 kVA



GENERATOR GROUP

MODEL	
Stand By Power	kVA
	kW
Prime Power	kVA
	kW
Ref.No	

RGHJS0460		RGHJS0515		RGHJS0550	
460		515		550	
368		412		440	
418.2		468.2		500	
334.5		374.5		400	
W608793	W608797	W608794	W608798 W608795	W608799	W608796

DIESEL ENGINE

BRAND	
Model	
Engine Power - Stand By	kW
Engine Power - Prime	kW
Engine Speed (rpm)	
Number of Cylinder	
Displacement (lt)	
Bore x Stroke (mm)	
Compression Rate	
Governor Type	
Induction	
Combustion System	
Cooling System	
Lubrication Oil Capacity (lt)	
Coolant Capacity (lt)	
Fuel Tank Capacity (lt)	
Fuel	100% of Prime Power
Consumption	75% of Prime Power
lt / h	50% of Prime Power

SHANGHAI DONGFENG		
SMG142TAD38	SMG258TAD45	SMG258TAD46
378	450	560
344	409	418
1500	1500	1500
6 - In Line	6 - In Line	6 - In Line
12.9	14.2	14.8
135x150	135x165	138x168
15.5:1	15.5:1	16:1
Electronic	Electronic	Electronic
TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Direct Injection	Direct Injection	Direct Injection
Water Cooled	Water Cooled	Water Cooled
40	48	48
64	88	88
491	885	885
71	71	71
53	53	53
36	36	36

ALTERNATOR

Output Voltage (V)	
Power Factor	
Number of Poles	
Frequency (Hz)	
Voltage Regulation	
Connection Type	

400/230
0.8
4
50
±%0,5
Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)
Canopy Weight	kg
Open Dimensions	mm (WxDxH)
Open Weight	kg

1400x3700x2626,5	1400x3700x2626,5	1600x3700x2626,5
3600	3700	3750
1400x3200x2000	1400x3200x2000	1600x3200x2000
3120	3200	3250

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

GENERATOR

SOLUTIONS

RGHJS SERIES 570-1000 kVA



2

Generator

GENERATOR GROUP

MODEL		RGHJ0570	RGHJ0630	RGHJ0715	RGHJ0825	RGHJ1000
Stand By Power	kVA	570	630	715	825	1000
	kW	456	504	572	660	800
Prime Power	kVA	518.2	572.7	650	750	909
	kW	414.5	458.2	520	600	727.3
Ref.No		W608800	W608801	W608802	W608803	W608804

DIESEL ENGINE

BRAND		SHANGHAI DONGFENG				
Model		SMG258TAD51	SMG266TAD56	SMG266TAD63	SM283TAD72	SM302TAD88
Engine Power - Stand By	kW	510	565	630	720	886
Engine Power - Prime	kW	464	514	573	655	805
Engine Speed (rpm)		1500	1500	1500	1500	1500
Number of Cylinder		12 - V Type	12 - V Type	12 - V Type	12 - V Type	12 - V Type
Displacement (lt)		25.8	25.8	25.8	26.6	28.3
Bore x Stroke (mm)		135x150	135x160	135x150	135x155	138x158
Compression Rate		16:1	16:1	16:1	16:1	15.4:1
Governor Type		Electronic	Electronic	Electronic	Electronic	Electronic
Induction		TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler	TurboCharged-Intercooler
Combustion System		Direct Injection	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Cooling System		Water Cooled	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Lubrication Oil Capacity (lt)		60	60	65	67	75
Coolant Capacity (lt)		108	108	108	108	123
Fuel Tank Capacity (lt)		885	885	885	885	1100
Fuel	100% of Prime Power	105	105	118	131	183
Consumption	75% of Prime Power	78	78	88	97	136
lt / h	50% of Prime Power	53	53	60	66	93

ALTERNATOR

Output Voltage (V)	400/230
Power Factor	0.8
Number of Poles	4
Frequency (Hz)	50
Voltage Regulation	±%0,5
Connection Type	Star

DIMENSIONS & WEIGHT

Canopy Dimensions	mm (WxDxH)	1950x4800x2780	1950x4800x2780	1950x4800x2780	1950x4800x2780	2000x5000x2700
Canopy Weight	kg	5300	5450	5350	5650	7000
Open Dimensions	mm (WxDxH)	1950x4000x2200	1950x4000x2200	1950x4000x2500	1950x4000x2500	2000x5000x2300
Open Weight	kg	4480	4550	4775	5000	6000

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N/A: These dimensions and weights may change depending upon the characteristics of the project.

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



3

Power Supply

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

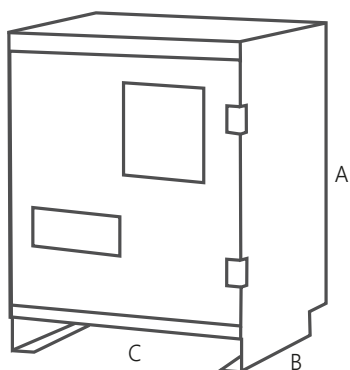
New Generation Switch Mode Charging Rectifiers

- 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	
INPUT	
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
OUTPUT	
Output Current	10A - 300A
Output Voltage	12V - 24V
Ripple	≤1 Ripple
GENERAL	
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
PROTECTION	
Heat Protection	Input / Output Overtemperature Protection
Measure	Output Overcurrent Protection - DC High Low - DC Leakage - Mains Failure
TECHNOLOGY	
IGBT	Switch Mode Technology
Standard	ISO 9001 - LVD - EN 62040 -1 - EMC
INDICATORS	
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

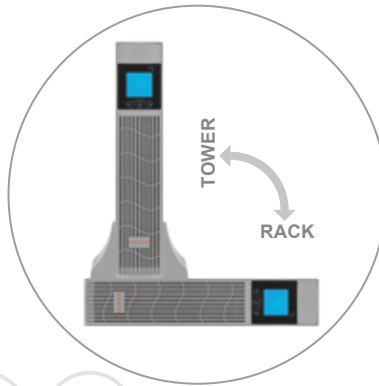
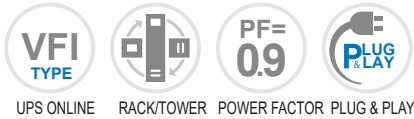
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POWERPACK

PPWRT SERIES

1/2/3 kVA 1:1 PHASE

ONLINE UPS



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) (Optional)
- Extension Battery Bank (Optional)
- Built-In Isolation Transformer (Optional)

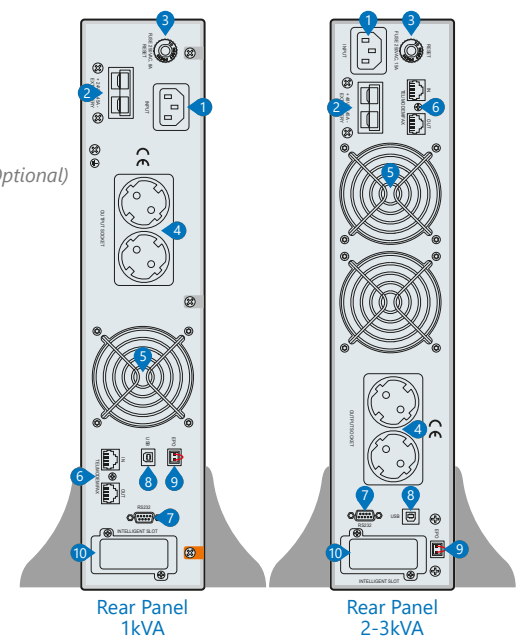
DETAILS

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



3

Power Supply

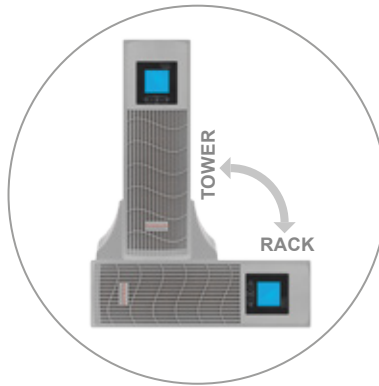
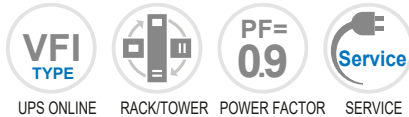


MODEL	PPWPR1-1/900			PPWPR1-2/1800			PPWPR1-3/2700		
Ref.No.	W606427			W606428			W606429		
Capacity	1kVA / 900W			2kVA / 1800W			3kVA / 2700W		
INPUT									
Rated Voltage	208V / 220V / 230V / 240 VAC								
Voltage Range	110~176 VAC (Linear Derating Between 50% and 100% Load); 176~280 VAC (No Derating); 280~300 VAC (Derating 50%)								
Frequency Range	45 ~ 70 Hz (Auto Sensing)								
Power Factor	≥0.99								
Bypass Voltage Range	-25% ~ +15% (Settable)								
OUTPUT									
Voltage Range	208V / 220V / 230V / 240 VAC (Settable via LCD)								
Voltage Regulation	±1%								
Frequency Range	45 ~ 55 Hz or 55 ~ 65 Hz (Synchronized Range); 50 / 60 Hz ± 0.1 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: 4ms (Typical)								
Overload Capability	105% ~ 125%: Transfer to Bypass in 1min; 125% ~ 150%: Transfer to Bypass in 30s; >150%: Transfer to Bypass in 300ms								
EFFICIENCY									
Mains Mode	≥90%			≥91%			≥92%		
Battery Mode	≥85%			≥86%			≥87%		
ECO Mode	≥95%			≥96%			≥97%		
BATTERY									
DC Voltage	24V	36V	36V	48V	72V	72V	96V	96V	
Inbuilt Battery	2 x 7Ah	3 x 7Ah	External	4 x 7Ah	External	6 x 7Ah	8 x 7Ah	External	
Charging Current (Max.)	1A		6A	1A	6A	1A		6A	
Recharge Time	8h								
ALARMS									
Utility Failure	4s Per Beep								
Low Battery	1s Per Beep								
Overload	1s Twice Beep								
UPS Fault	Long Beep								
ENVIRONMENTAL									
Operating Temperature	0 ~ 40°C								
Relative Humidity	0 ~ 90% (Non-Condensing)								
Noise Level	≤50 dB (1m)								
COMMUNICATIONS									
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								
DIMENSIONS & WEIGHT	1kVA			2kVA			3kVA		
Dimensions WxDxH (mm)	440x468x88			440x658x88		440x468x88	440x658x88	440x468x88 (UPS) 440x440x88 (BAT)	440x468x88
Packaging Dimensions WxDxH (mm)	545x592x198			545x782x198		545x592x198	545x782x198	545x592x198 (UPS) 590x580x200 (BAT)	545x592x198
Net Weight (kg)	12.26	13.78	7.58	22.73	25.86	9.66	29.26	9.45 (UPS) 27.2 (BAT)	10.04
Gross Weight (kg)	15.78	17.3	11.1	26.63	29.76	13.18	33.16	12.97 (UPS) 30.2 (BAT)	13.56

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POWERPACK PPWRT SERIES

6/10 kVA **1:1**
ONLINE UPS PHASE

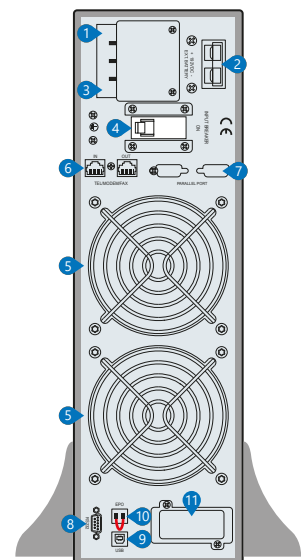


FEATURES

- 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

3

Power Supply

MODEL		PPWPR2-6/5400	PPWPR2-10/9000
Ref.No.		W606430	W606431
Capacity		6kVA / 5400W	10kVA / 9000W
INPUT			
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	
OUTPUT			
Voltage Range		208V / 220V / 230V / 240 VAC Setting Available via LCD	
Voltage Regulation		$\pm 1\%$	
Frequency		Synchronized with Utility in Mains Mode: 50 / 60 Hz ± 0.2 Hz (Battery Mode)	
Waveform		Sinusoidal	
Crest Factor		3:1	
Harmonic Distortion		$\leq 2\%$ (Linear Load); $\leq 5\%$ (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	
EFFICIENCY			
AC Mode		$\geq 92\%$	
Battery Mode		$\geq 91\%$	
ECO Mode		$\geq 98\%$	
BATTERIES			
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	
ALARMS			
Utility Failure		Beep / 4s	
Low Battery		Beep / 1s	
Overload		Beep Twice / 1s	
UPS Fault		Long Beep	
ENVIRONMENTAL			
Humidity		20-90% RH @ 0-40°C (Non-Condensing)	
Noise Level		≤ 55 dB (1m)	
COMMUNICATION			
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	
DIMENSIONS & WEIGHT		6kVA	10kVA
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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POWERPACK PPWRT SERIES

1/2/3 kVA **1:1**
ONLINE UPS PHASE



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) (Optional)
- Extension Battery Bank (Optional)
- Built-In Isolation Transformer (Optional)

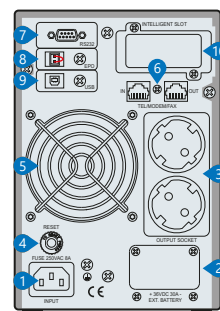


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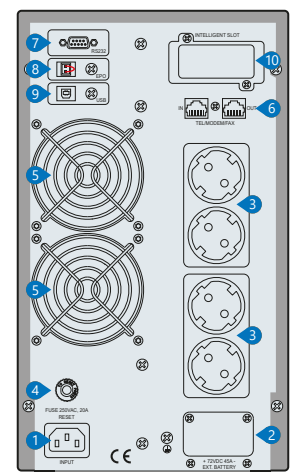
Power Supply

DETAILS

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



Rear Panel
1kVA



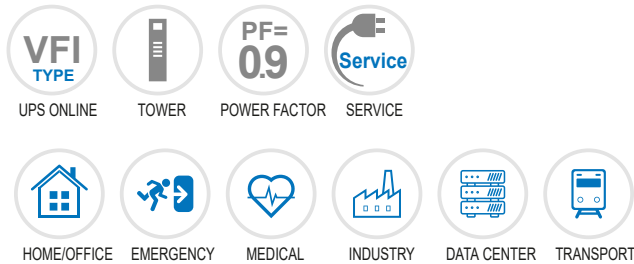
Rear Panel
2/3kVA

MODEL	PPWPR3-1/900			PPWPR3-2/1800			PPWPR3-3/2700		
Ref.No.	W606432			W606433			W606434		
Capacity	1kVA / 900W			2kVA / 1800W			3kVA / 2700W		
INPUT									
Related Voltage	208V / 220V / 230V / 240 VAC								
Voltage Range	110 ~ 176 VAC (Linear Derating Between 50% and 100% load); 176 ~ 280 VAC (No Derating); 280 ~ 300 VAC (Derating 50%)								
Frequency	40 ~ 70 Hz (Auto Sensing)								
Power Factor	≥ 0.99								
Bypass Voltage Range	-25% ~ +15% (Settable)								
OUTPUT									
Voltage Range	208V / 220V / 230V / 240 VAC (Settable via LCD)								
Voltage Regulation	±1%								
Frequency	45 ~ 55 Hz or 55 ~ 65 Hz (Synchronized Range); 50 / 60 Hz ±0.1 Hz (Battery Mode)								
Waveform	Sinusoidal								
Crest Factor	3:1								
Harmonic Distortion	≤2% (Linear Load); ≤5% (Non-Linear Load)								
Nominal Voltage	Mains Mode to Battery Mode: 0ms Inverter Mode to Bypass Mode: 4ms (Typical)								
Overload Capability	105% ~ 125%: Transfer to Bypass in 1min 125% ~ 150%: Transfer to Bypass in 30s >150%: Transfer to Bypass in 300ms								
EFFICIENCY									
Mains Mode	≥90%			≥91%			≥92%		
Battery Mode	≥85%			≥86%			≥87%		
ECO Mode	≥95%			≥96%			≥97%		
BATTERIES									
DC Voltage	24 V	36 V	36 V	48 V	72 V	72 V	72 V	96 V	96 V
Inbuilt Battery	2 x 7Ah	3 x 7Ah	External	4 x 7Ah	6 x 7Ah	External	6 x 7Ah	8 x 7Ah	External
Charging Current (Max.)	1A		6A	1A		6A	1A		6A
Recharge Time	8 hour								
ALARMS									
Utility Failure	Beep / 4sec								
Low Battery	Beep / 1sec								
Overload	Beep Twice / 1sec								
UPS Fault	Long Beep								
ENVIRONMENTAL									
Operating Temperature	0 ~ 40°C								
Relative Humidity	0 ~ 90% (Non-Condensing)								
Noise Level	≤45 dB (1m)								
COMMUNICATION									
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								
DIMENSIONS & WEIGHT	1kVA / 900W			2kVA / 1800W			3kVA / 2700W		
Dimension WxDxH (mm)	144 x 336 x 214	144 x 414 x 214	144 x 336 x 214	191 x 418 x 335				191 x 464 x 335	191 x 418 x 335
Packaging Dimensions WxDxH (mm)	232 x 417 x 318	231 x 492 x 316	232 x 417 x 318	318 x 533 x 471				320 x 573 x 471	318 x 533 x 471
Net Weight (kg)	9.5	13	6	18	25.7	10.5	27.2	32	11
Gross Weight (kg)	10.5	14.2	7	19.5	27.4	12	29	34	12.5

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POWERPACK PPWRT SERIES

6/10 kVA **1:1**
ONLINE UPS PHASE



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
- 50Hz/60Hz Frequency Converter Mode Available
- Selectable Battery Low Voltage via LCD
- Power-On Self Test
- Advanced Battery Management (ABM)
- Short Circuit and Overload Protection
- Automatically Charging Battery at UPS Off Mode
- Fan Speed Auto Control when Load Varies
- Generator Compatible
- Standard RS232 Communication Port
- USB/SNMP Communication Port (Optional)
- Emergency Power Off (EPO) (Optional)
- Extension Battery Bank (Optional)
- Manual Bypass
- N+X Redundancy Parallel (Optional)

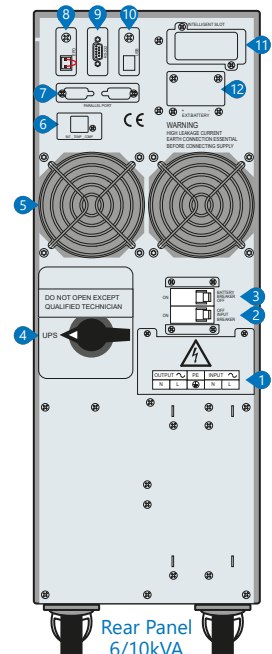


3

Power Supply

DETAILS

1. Input-Output Terminal
2. Input Breaker
3. Battery Breaker
4. Maintenance Switch
5. Fan
6. Battery Temperature Sensor
7. Parallel Card (Optional)
8. EPO
9. RS232
10. USB (Optional)
11. SNMP/AS400 (Optional)
12. BAT_NTC (Optional)



MODEL		PPWPR4-6/5400		PPWPR4-10/9000	
Ref.No.		W606435		W606436	
Power Watt		6kVA / 5400W		10kVA / 9000W	
INPUT					
Related Voltage		208V / 220V / 230V / 240 VAC			
Voltage Range		Half Load (110-300) ±5 VAC, Full Load (160-300) ±5 VAC			
Frequency		40 ~ 70 Hz (Auto Sensing)			
Power Factor		≥0.99			
Bypass Voltage Range		160V - Rated Output Voltage +32V			
OUTPUT					
Voltage Range		208V / 220V / 230V / 240 VAC (Setting Available via LCD)			
Voltage Regulation		±1%			
Frequency		45 ~ 55 Hz or 55 ~ 65 Hz (Synchronized Range); 50 / 60 Hz ±0.1 Hz (Battery Mode)			
Waveform		Pure Sine Wave			
Crest Factor		3:1			
Harmonic Distortion		≤2% (Linear Load); ≤5% (Non-Linear Load)			
Transfer Time		AC Mode to Battery Mode: 0ms Inverter Mode to Bypass Mode: 0ms			
Overload Capability		105% ~ 125%: Transfer to Bypass after 3min 125% ~ 150%: Transfer to Bypass after 30sec >150%: Transfer to Bypass after 100ms			
EFFICIENCY					
AC Mode		≥92%			
Battery Mode		≥91%			
ECO Mode		≥98%			
BATTERIES					
DC Voltage		192V-240V			
Inbuilt Battery		16-20 x 7-9Ah			
Charge Current	Standard Model	3.5A			
	Long Time Model	1A / 3.5A / 7A			
Typical Recharge Time		8 hours Recover to 90% Capacity			
ALARMS					
Utility Failure		Beep / 4sec			
Low Battery		Beep / 1sec			
Overload		Beep Twice / 1sec			
UPS Fault		Long Beep			
ENVIRONMENTAL					
Humidity		20-90% RH @ 0-40°C (Non-Condensing)			
Noise Level		≤50 dB (1m)			
COMMUNICATION					
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			
DIMENSIONS & WEIGHT		6kVA		10kVA	
Dimensions WxDxH (mm)		262 x 650 x 735			
Packaging Dimensions WxDxH (mm)		440 x 720 x 940			
Net Weight (kg)		64.1		70.8	
Gross Weight (kg)		72.2		78.9	

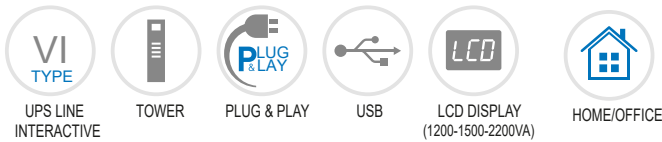
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WLIN

SERIES

650-2200 VA

LINE INTERACTIVE UPS



3

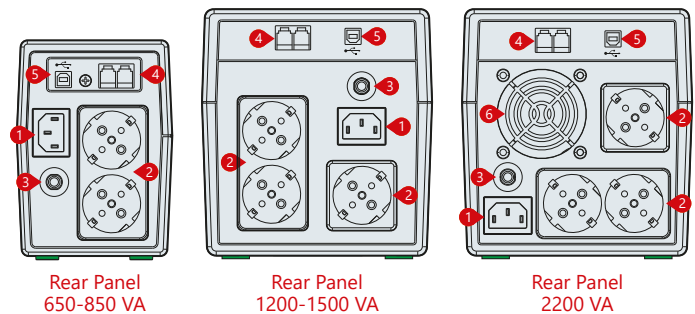
Power Supply

FEATURES

- LED Display (650-850)
- LCD Display (1200-1500-2200)
- Voltage Range, Operation Mode, Battery Charge and Load Quantity Monitoring via LCD Display (1200-1500-2200)
- Microprocessor-Based Digital Control
- Automatic Voltage Stabilization
- Automatic Breaker
- Frequency Adaptive
- User Friendly Alarm System
- Cold Start
- Auto Restart while AC is Recovering
- Simulated Sine Wave Output
- Intelligent Battery Management
- Short Circuit and Over Discharged Protection
- Automatically Charging Battery at UPS Off Mode
- USB Communication Port
- RJ11/RJ45 Protection

DETAILS

1. AC Input
2. Outlet
3. Breaker
4. RJ11/RJ45
5. USB
6. Fan



MODEL	WLIN650VA/390W	WLIN850VA/510W	WLIN1200VA/720W	WLIN1500VA/900W	WLIN2200VA/1320W
Ref.No.	W608599	W608600	W608601	W608602	W608603
Capacity	650VA / 390W	850VA / 510W	1200VA / 720W	1500VA / 900W	2200VA / 1320W
INPUT					
Related Voltage	230 VAC				
Voltage Range	170-280 VAC (±%5)				
Frequency	50 Hz (±%10)				
OUTPUT					
Voltage Range	220 VAC				
Voltage Precision	±10% (Battery Mode)				
Frequency	50 Hz ±%1 (Akü Modu)				
Transfer Time	2-6ms Typical, 10ms max.				
Waveform	Modified Sine Wave (Battery Mode)				
EFFICIENCY					
Line Mode	Normal Mode: >95%, AVR Mode: >88%				
Battery Mode	>60%				
BATTERY					
Battery Configuration	1 x 12V/7Ah	1 x 12V/9Ah	2 x 12V/7Ah	2 x 12V/9Ah	2 x 12V/9Ah
Charge Current	1A				
Recharge/Charging Time	6-8 hours for Recharging up to 90% Capacity				
Backup Time	~16 min.	~20 min.	~30 min.	~50 min.	~50 min.
PROTECTION					
Full Protection	Overload, Short Circuit, Battery Charge-Discharge Protection				
INDICATION					
Display	LED		LCD		
ALARM					
Battery Mode	Sounding every 10 seconds				
Low Battery	Sounding every 1 seconds				
Overload	Sounding every 0.5 seconds				
Fault	Continuously Sounding				
ENVIRONMENTAL					
Operating Temperature	0 ~ 40°C				
Storage Temperature	-20°C ~ 55°C				
Relative Humidity	0 - 95°C (Non Condensing)				
Audible Noise (at 1m)	≤40 dB				
COMMUNICATION					
Communication Port	USB				
Software	Windows Family / Linux / Mac				
DIMENSIONS & WEIGHT	650VA	850VA	1200VA	1500VA	2200VA
Dimensions WxDxH (mm)	101 x 298 x 142		150 x 353 x 162		
Packaging Dimensions WxDxH (mm)	142 x 332 x 213		192 x 405 x 235		

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6-WH SERIES-General Purpose

6-WH-7 12V 7.0Ah

Specification

Nominal Voltage	12V	
Rated Capacity	7.0Ah	(C ₂₀ , 1.75V/cell)
Dimensions	Lenght	151mm (5.95 inches)
	Width	65mm (2.54 inches)
	Container Height	93.5mm (3.68 inches)
	Total Height (with Terminal)	99.5mm (3.92 inches)
Approx Weight	Approx 2.0 kg (4.41lbs)	
Terminal	T1/T2	
Container Material	ABS	
Capacity (25°C/77°F)	7.0Ah	(20hr, 0.350A, 1.75V/cell)
	6.53Ah	(10hr, 0.653A, 1.75V/cell)
	6.05Ah	(5hr, 1.21A, 1.70V/cell)
	5.37Ah	(3hr, 1.79A, 1.70V/cell)
	4.17Ah	(1hr, 4.17A, 1.67V/cell)
Max. Discharge Current	105A (5s)	
Internal Resistance	Approx 33.0mΩ	
Operating Temp.Range	Discharge	-20~55°C (-4~131°F)
	Charge	0~40°C (32~104°F)
	Storage	-15~50°C (5~122°F)
Nominal Operating Temp.Range	25±3°C (77±5°F)	
Boost Charge	Initial Charging Current less than 2.1A Voltage 14.4V~15.0V at 25°C (77°F) Temp. Coefficient -30mV/°C	
Standby Use	Initial Charging Current less than 2.1A Voltage 13.5V~13.8V at 25°C (77°F) Temp. Coefficient -20mV/°C	
Capacity Affected by Temperature	40°C (104°F)	106%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge (3%/month)	6-WH series batteries may be stored for up to 6 months at 25°C (77°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 Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	17.0	12.5	9.9	8.10	6.12	4.64	3.91	2.90	2.38	1.72	1.36	1.16	0.99	0.780	0.637	0.343
1.80V/cell	18.5	13.2	10.3	8.35	6.28	4.73	3.99	2.95	2.41	1.74	1.38	1.18	1.01	0.790	0.644	0.347
1.75V/cell	19.9	13.8	10.7	8.60	6.43	4.83	4.06	3.00	2.45	1.77	1.40	1.19	1.02	0.800	0.653	0.350
1.70V/cell	21.4	14.4	11.1	8.86	6.57	4.92	4.13	3.05	2.49	1.79	1.42	1.21	1.03	0.809	0.660	0.354
1.67V/cell	22.3	14.8	11.3	9.01	6.67	4.98	4.17	3.08	2.51	1.81	1.43	1.22	1.04	0.816	0.665	0.356
1.60V/cell	24.3	15.7	11.8	9.4	6.87	5.11	4.27	3.14	2.56	1.84	1.46	1.24	1.06	0.829	0.675	0.361

Constant Power Discharge (Watts/cell) at 25°C (77°F)

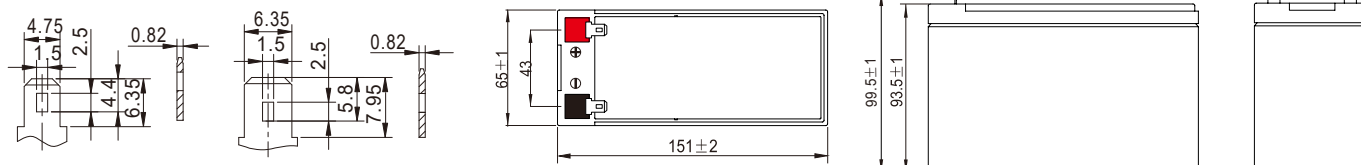
F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	32.3	23.9	19.1	15.6	11.8	9.01	7.61	5.67	4.65	3.37	2.69	2.29	1.96	1.55	1.27	0.686
1.80V/cell	34.8	25.0	19.7	16.0	12.1	9.15	7.73	5.74	4.71	3.42	2.72	2.32	1.99	1.57	1.28	0.693
1.75V/cell	37.4	26.1	20.3	16.4	12.3	9.30	7.84	5.82	4.77	3.46	2.76	2.35	2.01	1.58	1.29	0.700
1.70V/cell	39.9	27.2	20.9	16.8	12.5	9.4	7.95	5.90	4.84	3.50	2.79	2.37	2.03	1.60	1.31	0.707
1.67V/cell	41.4	27.8	21.3	17.1	12.7	9.5	8.02	5.95	4.87	3.53	2.81	2.39	2.05	1.61	1.32	0.712
1.60V/cell	44.7	29.2	22.1	17.6	13.0	9.7	8.17	6.05	4.95	3.59	2.85	2.43	2.08	1.64	1.34	0.722

Specifications subject to change without notice.

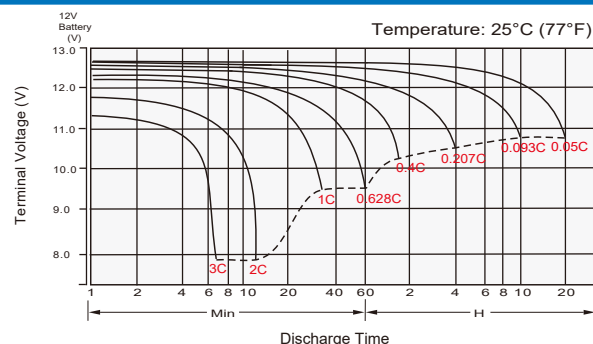
6-WH SERIES-General Purpose

Dimensions

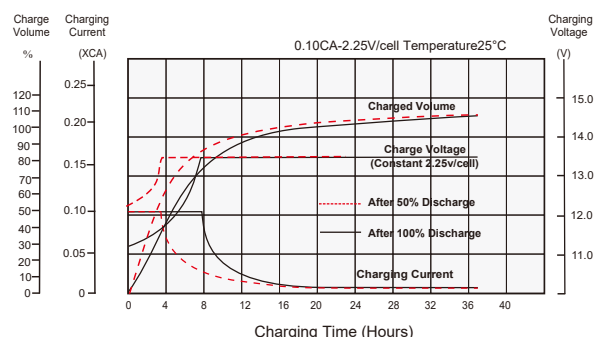
- T1 Terminal**
Unit: mm [inches]
- T2 Terminal**
Unit: mm [inches]



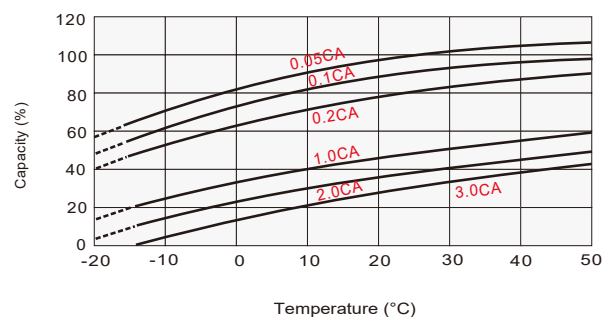
Discharge Characteristics



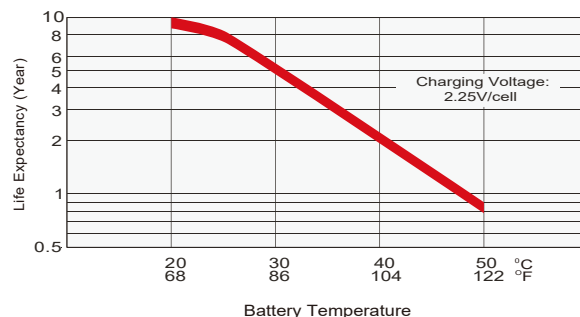
Float Charging Characteristics



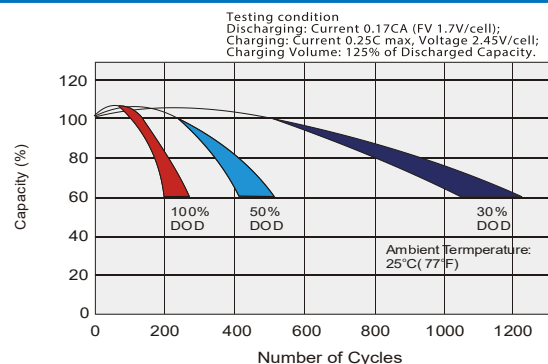
Temperature Effects in Relation to Battery Capacity



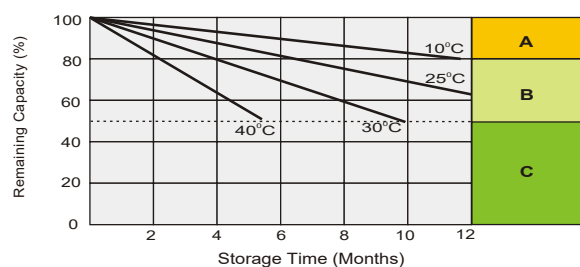
Effect of Temperature on Long Term Float Life



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 20hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8~10hours at limited current 0.05CA.
- 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

6-WH-7 12V 100Ah

Specification

Nominal Voltage	12V		
Nominal Capacity (10HR)	100.0Ah		
Dimensions	Lenght	330 ± 3mm (12.99 inches)	
	Width	173 ± 2mm (6.81 inches)	
	Container Height	212 ± 3mm (8.35 inches)	
	Total Height (with Terminal)	220 ± 3mm (8.66 inches)	
Approx Weight	Approx 30.6 kg (67.5lbs)		
Terminal	T11		
Container Material	ABS		
Rated Capacity	104.0Ah/5.20A	(20hr, 1.80V/cell, 25°C/77°F)	
	100.0Ah/10.0A	(10hr, 1.80V/cell, 25°C/77°F)	
	88.0Ah/17.6A	(5hr, 1.75V/cell, 25°C/77°F)	
	76.2Ah/25.4A	(3hr, 1.75V/cell, 25°C/77°F)	
	63.8Ah/63.8A	(1hr, 1.60V/cell, 25°C/77°F)	
Max. Discharge Current	1200A (5s)		
Internal Resistance	Approx 4.9mΩ		
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 Operating Temp.Range	25± 3°C (77±5°F)		
Cycle Use	Initial Charging Current less than 30.0A Voltage 14.4V~15.0V at 25°C (77°F) Temp. Coefficient -30mV/°C		
Standby Use	No Limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C (77°F) Temp. Coefficient -20mV/°C		
Capacity Affected by Temperature	40°C	(104°F)	103%
	25°C	(77°F)	100%
	0°C	(32°F)	86%
Self Discharge	6-WH series batteries may be stored for up to 6 months at 25°C (77°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 Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	173.6	146.4	130.2	115.3	87.5	65.2	52.4	31.3	23.5	19.2	16.4	14.4	11.6	9.65	5.13
1.80V/cell	210.0	167.6	143.7	123.5	92.1	68.7	55.1	33.1	24.6	20.2	17.2	15.0	12.0	10.0	5.20
1.75V/cell	237.0	186.3	154.0	130.8	96.5	71.3	57.1	34.4	25.4	20.7	17.6	15.3	12.2	10.1	5.29
1.70V/cell	261.6	199.5	165.1	138.9	101.8	74.6	59.5	35.3	26.0	21.2	17.9	15.6	12.4	10.2	5.34
1.65V/cell	291.7	215.1	178.5	146.6	106.7	77.4	61.9	36.3	26.7	21.7	18.3	15.9	12.6	10.3	5.40
1.60V/cell	330.8	232.5	188.5	154.3	112.3	80.5	63.8	37.5	27.6	22.2	18.6	16.2	12.7	10.5	5.45

Constant Power Discharge (Watts/cell) at 25°C (77°F)

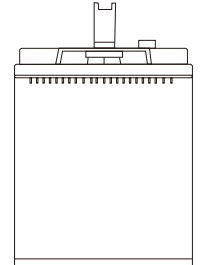
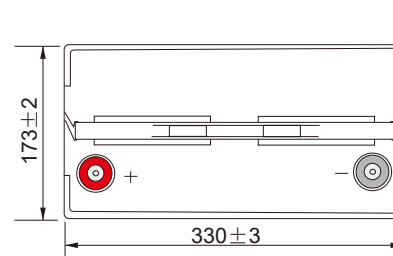
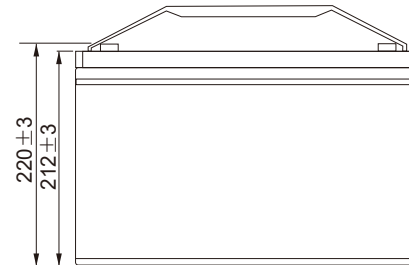
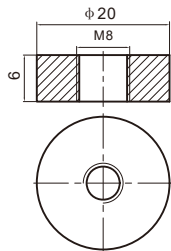
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	322.5	274.9	247.1	220.5	168.5	126.4	102.2	60.8	45.7	37.5	32.2	28.2	22.9	19.1	10.2
1.80V/cell	386.4	312.2	271.0	235.1	176.8	132.7	107.2	63.8	47.7	39.2	33.6	29.4	23.7	19.8	10.3
1.75V/cell	431.3	344.9	288.7	247.8	184.3	137.3	110.8	66.0	49.1	40.1	34.3	29.9	24.0	19.9	10.4
1.70V/cell	470.9	366.5	307.7	261.8	193.6	143.0	115.0	67.6	50.1	41.0	34.8	30.4	24.3	20.1	10.5
1.65V/cell	519.3	391.4	330.2	274.5	201.9	147.7	119.1	69.2	51.3	41.8	35.3	30.8	24.6	20.3	10.6
1.60V/cell	578.9	418.2	345.1	286.6	211.1	152.9	122.4	71.1	52.7	42.6	35.9	31.3	24.8	20.5	10.7

Specifications subject to change without notice.

Dimensions

T11 Terminal

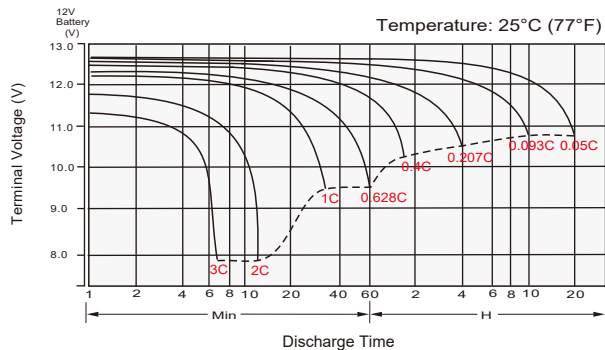
Unit: mm [inches]



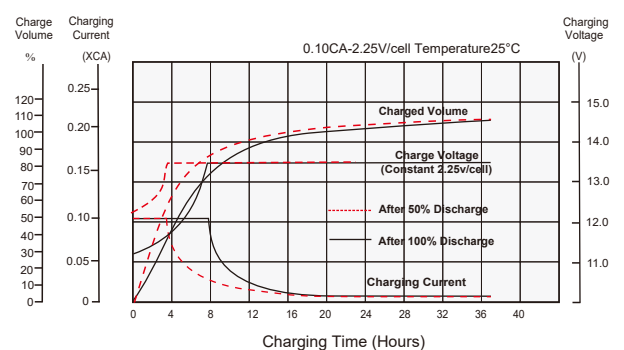
4

Battery

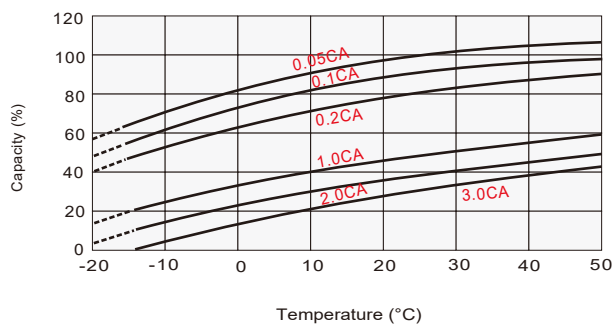
Discharge Characteristics



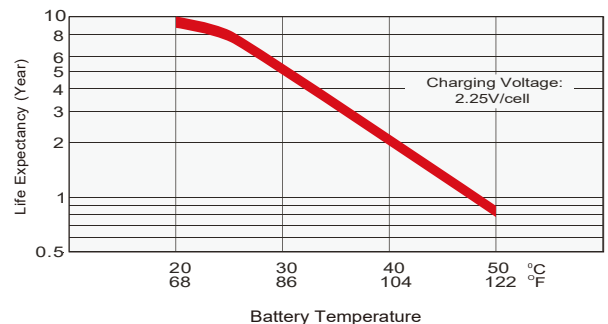
Float Charging Characteristics



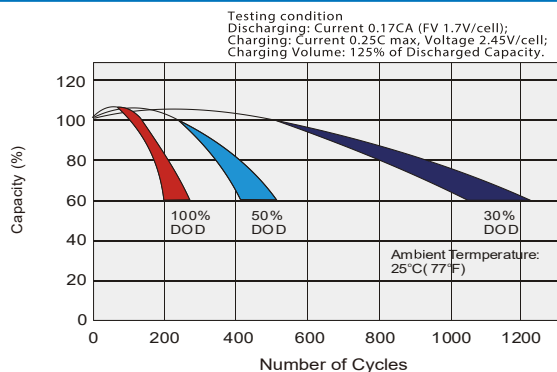
Temperature Effects in Relation to Battery Capacity



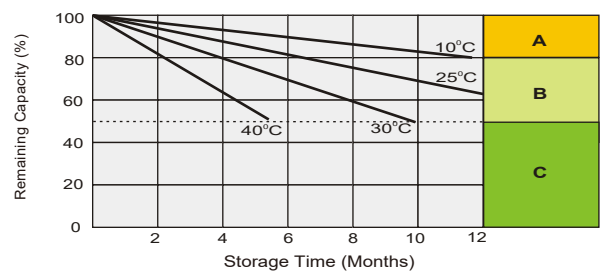
Effect of Temperature on Long Term Float Life



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 20hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8~10hours at limited current 0.05CA.

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

6-WH-65 12V65Ah

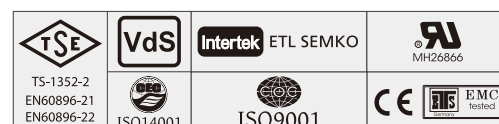
Specification

Nominal Voltage	12V	
Nominal Capacity (20HR)	65.0Ah	
Dimensions	Length	348 ± 3mm (13.7 inches)
	Width	167 ± 2mm (6.57 inches)
	Container Height	178 ± 2mm (7.01 inches)
	Total Height (with Terminal)	178 ± 2mm (7.01 inches)
Approx Weight	Approx 18.5 kg (40.8lbs)	
Terminal	T6	
Container Material	ABS	
Rated Capacity	65.0Ah/3.25A	(20hr, 1.80V/cell, 25°C/77°F)
	62.0Ah/6.20A	(10hr, 1.80V/cell, 25°C/77°F)
	53.5Ah/10.7A	(5hr, 1.75V/cell, 25°C/77°F)
	45.6Ah/15.2A	(3hr, 1.75V/cell, 25°C/77°F)
	37.4Ah/37.4A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	780A (5s)	
Internal Resistance	Approx 7.3mΩ	
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 Operating Temp.Range	25± 3°C (77±5°F)	
Cycle Use	Initial Charging Current less than 19.5A Voltage 14.4V~15.0V at 25°C (77°F) Temp. Coefficient -30mV/°C	
Standby Use	No Limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C (77°F) Temp. Coefficient -20mV/°C	
Capacity Affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	6-WH SERIES batteries may be stored for up to 6 months at 25°C (77°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 Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	112.4	86.5	74.6	64.9	50.3	37.5	30.5	18.4	14.1	11.7	10.0	8.76	7.10	5.97	3.20
1.80V/cell	140.7	101.2	84.9	73.0	55.1	40.4	32.6	19.6	14.8	12.3	10.4	9.13	7.39	6.20	3.25
1.75V/cell	158.6	110.3	92.7	78.1	58.1	42.4	34.1	20.3	15.2	12.6	10.7	9.32	7.49	6.26	3.29
1.70V/cell	174.6	119.1	98.9	82.0	60.8	43.9	35.5	21.0	15.7	12.9	10.9	9.50	7.60	6.32	3.32
1.65V/cell	191.1	128.3	103.8	85.2	62.7	45.4	36.5	21.4	16.1	13.2	11.1	9.67	7.71	6.39	3.37
1.60V/cell	207.2	136.4	108.0	88.4	64.4	47.0	37.4	21.9	16.5	13.4	11.3	9.81	7.81	6.47	3.38

Constant Power Discharge (Watts/cell) at 25°C (77°F)

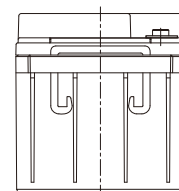
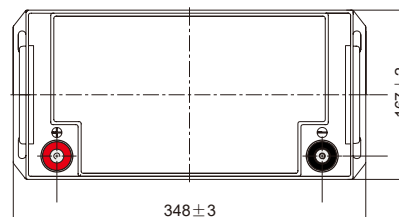
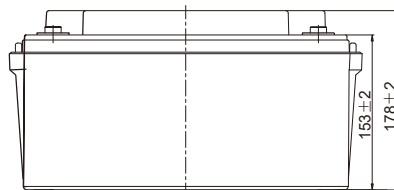
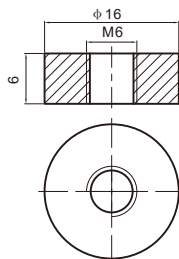
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	205.6	159.6	139.2	122.2	95.8	70.2	58.6	35.6	27.5	22.9	19.9	17.2	14.0	11.8	6.33
1.80V/cell	254.5	184.6	156.2	135.5	103.6	77.2	62.3	37.6	28.8	23.9	20.3	17.9	14.5	12.3	6.42
1.75V/cell	280.8	198.2	168.5	143.7	108.2	80.2	64.8	39.0	29.4	24.4	20.8	18.2	14.7	12.4	6.49
1.70V/cell	300.6	209.1	177.3	149.7	112.5	82.6	67.2	40.1	30.2	25.0	21.2	18.5	14.9	12.5	6.55
1.65V/cell	324.2	223.3	184.7	154.3	115.1	84.6	68.5	40.9	30.9	25.4	21.5	18.8	15.1	12.6	6.63
1.60V/cell	343.5	231.9	188.9	158.5	117.2	87.1	69.9	41.6	31.4	25.8	21.8	19.0	15.3	12.7	6.65

Specifications subject to change without notice.

Dimensions

T6 Terminal

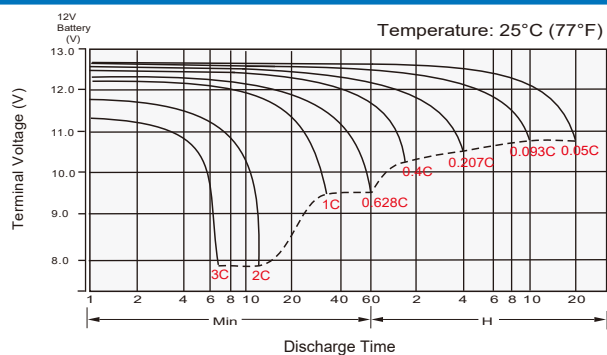
Unit: mm [inches]



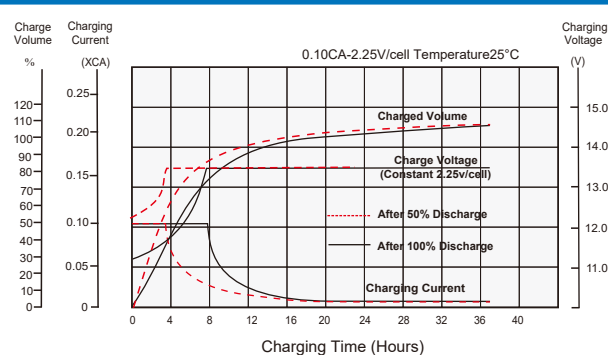
4

Battery

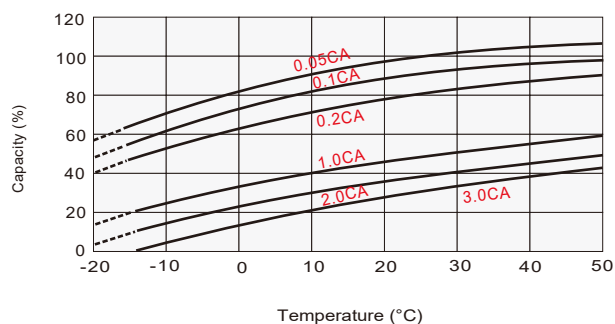
Discharge Characteristics



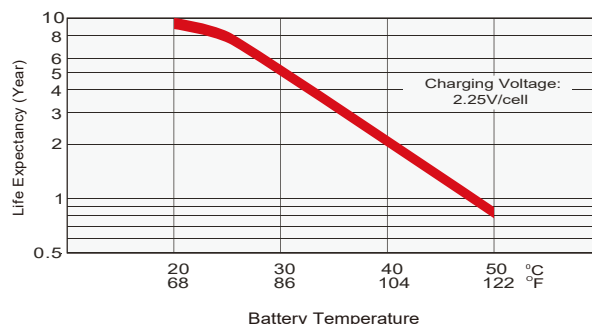
Float Charging Characteristics



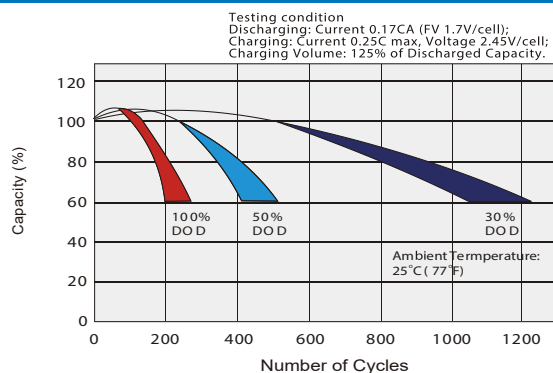
Temperature Effects in Relation to Battery Capacity



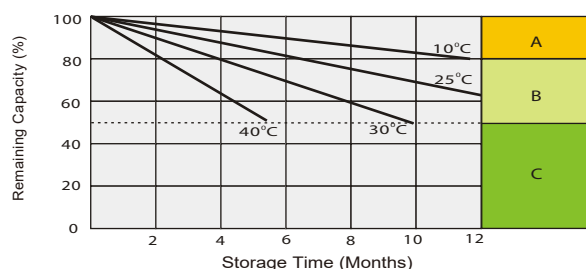
Effect of Temperature on Long Term Float Life



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 20hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8~10hours at limited current 0.05CA.
- 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

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)

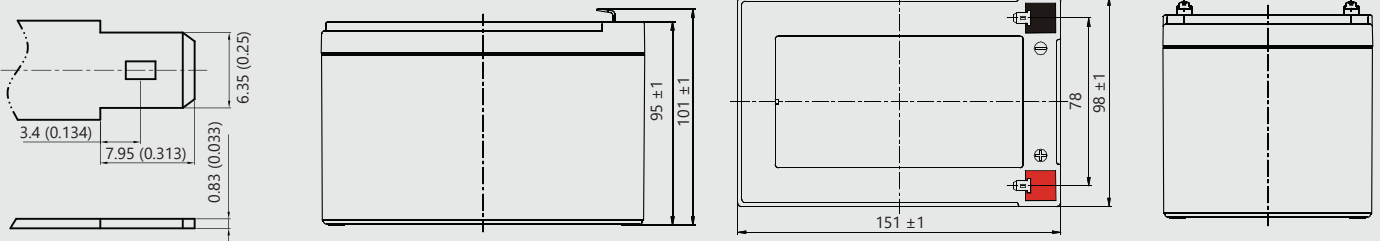
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	61.60	46.60	41.40	37.30	20.90	17.50	18.50	10.96	9.58	8.73	7.49	5.40	4.63	4.08	1.93
1.80V/cell	68.50	51.60	45.00	40.10	22.80	19.85	19.30	11.41	9.90	8.99	7.66	5.56	4.72	4.15	1.94
1.75V/cell	77.80	56.10	47.80	42.30	24.10	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

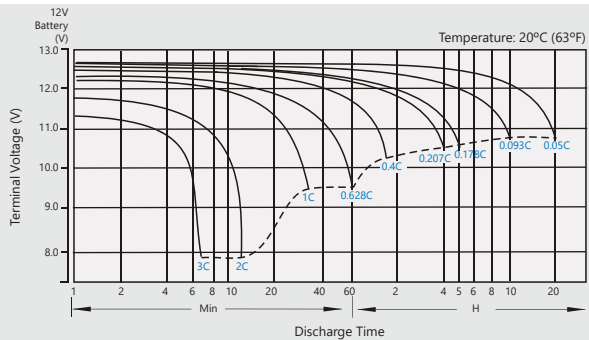
12V12AH

Dimensions

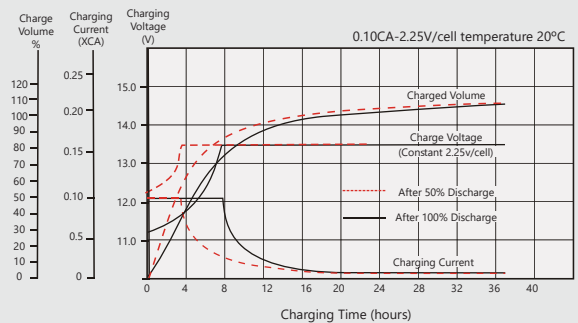
○ T2 Terminal
Unit : mm (inches)



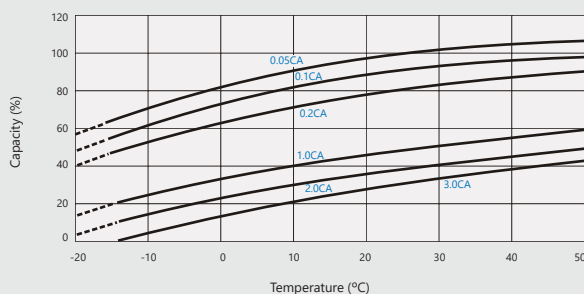
Discharge Characteristics



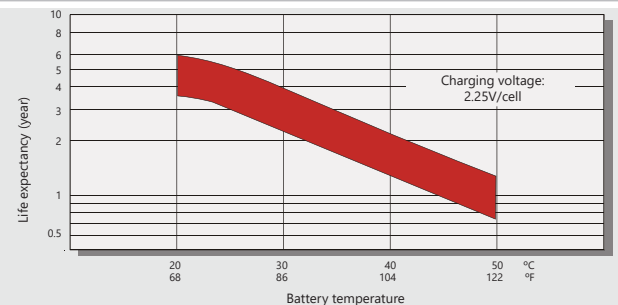
Float Charging Characteristics



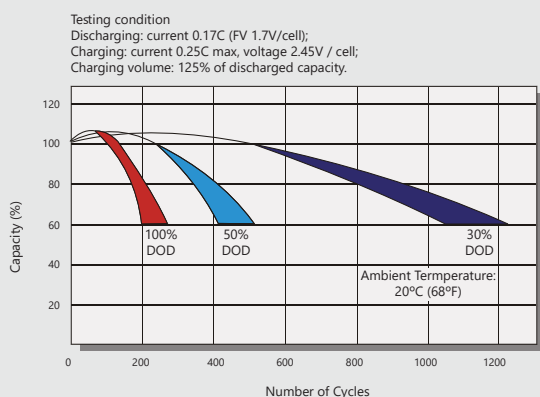
Temperature Effects In Relation to Battery Capacity



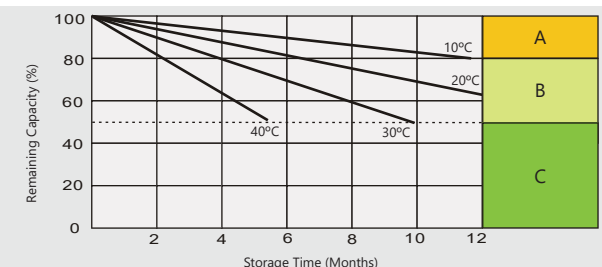
Effect of Temperature on Long Term Float Life



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)

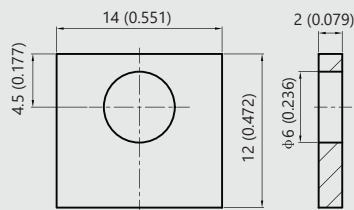
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	80.10	57.30	48.10	39.80	35.80	30.30	23.90	15.40	13.86	10.50	9.78	7.81	6.84	5.41	2.11
1.80V/cell	90.40	64.80	53.70	44.10	39.90	32.10	25.20	16.10	14.35	11.80	10.04	8.00	6.97	5.51	2.12
1.75V/cell	104.40	71.50	57.80	47.40	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

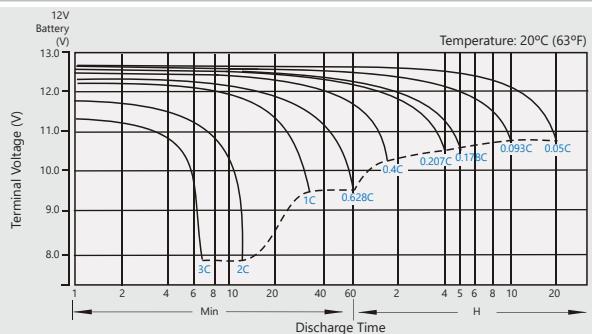
12V17AH

Dimensions

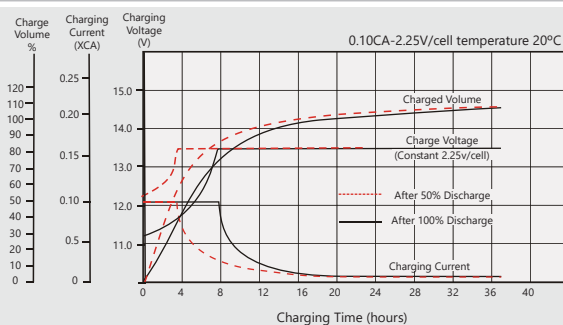
○ T3 Terminal
Unit : mm (inches)



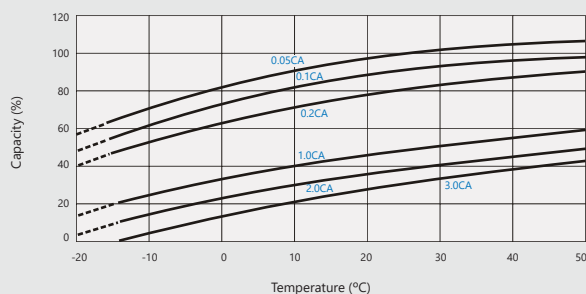
Discharge Characteristics



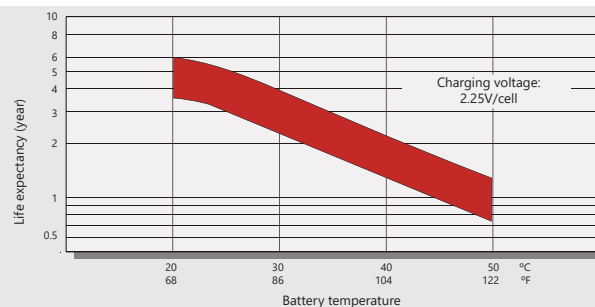
Float Charging Characteristics



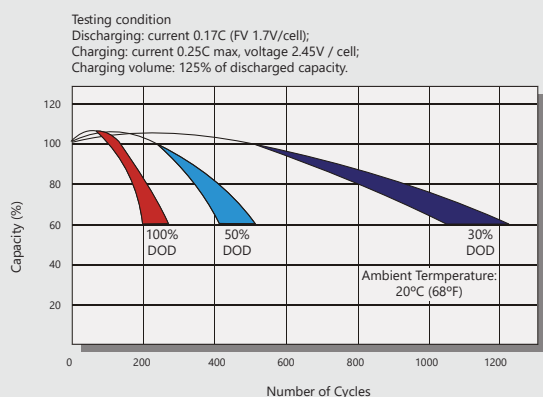
Temperature Effects In Relation to Battery Capacity



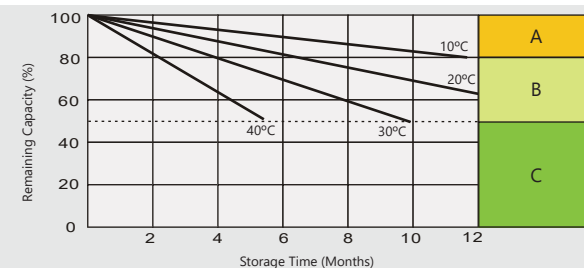
Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



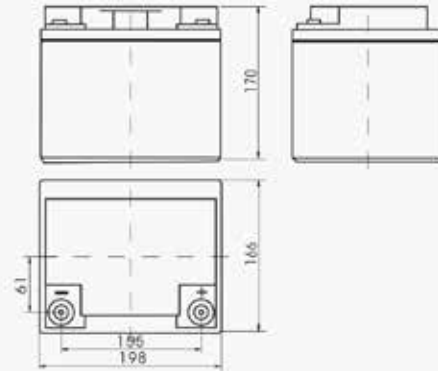
Self Discharge Characteristics



- 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.

4 Battery

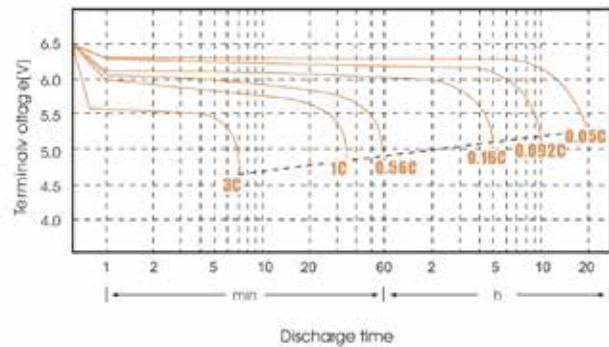
6-FM SERIES-General Purpose



Specifications

Nominal Voltage		12V
Rated Capacity(20 hour rate)		38Ah
Dimensions	Total Height (with terminals)	6.70Inches (170mm)
	Height	6.70Inches (170mm)
	Length	7.80Inches (198mm)
	Width	6.54Inches (166mm)
Weight		Approx. 26.62 pound(12.1kg)

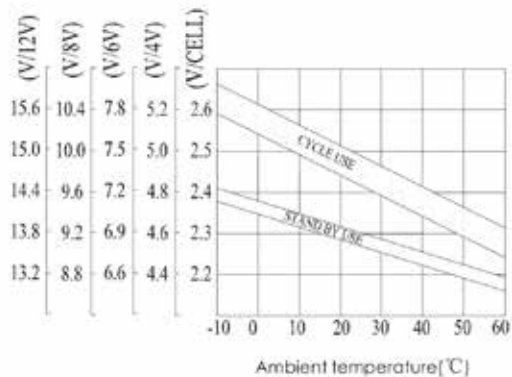
Discharge Curves 77°F(25°C)



Characteristics

Capacity 77°F(25°C)	20 hour rate (1.90A)	38.0Ah
	10 hour rate (3.42A)	34.2Ah
	5 hour rate (6.08A)	30.4Ah
	1 hour rate (22.8A)	22.8Ah
	15 minute Rate (62.7A)	15.7Ah
Internal Resistance	Full charged Battery 77°F(25°C)	8mΩ
Capacity affected by Temperature (20 hour rate)	104°F(40°C)	102%
	77°F(25°C)	100%
	32°F(0°C)	85%
	5°F(-15°C)	65%
Self-Discharge 77°F(20°C)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	81%
	Capacity after 12 months storage	60%
Max. Discharge Current 77°F(25°C)	380A(5S)	
Terminal	M1	
Charge (Constant Voltage)	Cycle	Initial Charging Current less than 11.4A Voltage 14.4~14.7V/77°F(25°C)
	Float	Voltage 13.5~13.8V/77°F(25°C)

Relationship between charge voltage and temperature



Constant Power Discharge (WATTS @25°C)

Cut off voltage v/cell	1M	5M	10M	15M	30M	45M	1h	2h	3h	5h	8h	10h	12h	24h
1.60V	226	198	143	113	70.2	52.7	44.6	25.3	18.0	12.1	8.00	6.76	5.79	2.92
1.65V	220	189	139	110	69.7	52.3	43.2	24.5	17.8	11.9	7.94	6.70	5.70	2.90
1.67V	218	186	137	108	68.8	51.3	42.6	24.4	17.7	11.8	7.86	6.62	5.64	2.87
1.70V	216	184	135	106	67.6	50.4	41.9	24.2	17.5	11.6	7.75	6.56	5.57	2.81
1.75V	196	171	127	102	67.4	49.6	41.6	24.0	17.4	11.5	7.68	6.50	5.42	2.76
1.80V	179	151	117	94.1	64.1	47.8	40.9	23.6	17.0	11.3	7.42	6.28	5.32	2.68
1.85V	143	121	96.9	82.7	58.3	45.4	38.0	22.7	16.5	10.7	7.21	6.00	5.12	2.60

Smart Vehicle Charger

SOLUTIONS

WSV Series 40-80 kW



WSV Series				
MODEL	WSV40		WSV60	WSV80
Ref.No.	W606856		W606857	W606858
Input voltage	260 ~ 475 Vac (three-phase five-wire)			
Input Current	<60A		<120A	<180A
Frequency	40~70 Hz			
Efficiency	95%			
Power factor	≥ 0.98			
Over half load Current THD	≤ 5%			
Output				
output voltage	200 ~ 1000 V			
output Current (max.)	150A	200A	200A	
Soft-start time	3 ~ 8 s			
Regulated accuracy	± 0.5%			
Stabilized current precision	± 1 A (0 ~ 50 A), ± 1% (> 50 A)			
Noise	< 65 dB			
Charging Configuration And Standard				
Number of charging plugs	1 (standard), 2 (optional)			
Charging cable length	5 m			
Charging protocols	CCS or CHAdeMO			
Standards	IEC 62196, IEC 61851, EVS G105			
others				
Operating temperature	-20 ~ +50			
Storage temperature	-40 ~ +80			
Relative humidity	≤ 95%			
Atmospheric pressure	70 ~ 106 kPa			
IP rating	IP 54			
Dimensions (W × D × H) (mm)	550 × 450 × 1800			
Packaged dimensions (W × D × H) (mm)	895 × 555 × 1930			
Weight (kg)	≤ 150			



OUR PROMISE

Westinghouse is built upon a tradition of dependability and innovation.

Today, we strive to make everyday life a little better by offering a wide range of quality products and services you can trust.



WHY WESTINGHOUSE ?

Since 1886, Westinghouse has brought the best to life. Today, Westinghouse Electric Corporation remains a trusted name globally in consumer and industrial products. Built on a heritage of innovation and entrepreneurial spirit. Today, Westinghouse continues to grow its diverse portfolio, which includes a wide range of product categories, including home appliances, consumer electronics. Lighting and power generation.





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