

# MARUSON<sup>®</sup> UPS SYSTEMS

## Ultima Rack/Tower Online UPS Series 1KVA/1.5KVA/2KVA/3KVA/6KVA/10KVA

The Ultima Rack/Tower Series offer true double-conversion DSP technology on-line UPS to provide clean, high level quality power. The 0.9 output power factor offers higher efficiency and performance for critical applications.

**Applications:** Best Protection for Server Farms, Data Centers, Telecom & Networking Applications, and Medical Applications

### Features:

- True double-conversion online UPS
- DSP control technology (6K~10KVA models)
- 0.9 Output power factor
- ECO and advanced ECO mode for energy saving
- Easy-shift LCD display for rack/tower mode
- Programmable power management outlets (1K~3KVA models)
- 50/60Hz frequency converter mode
- Emergency Power Off (EPO) function
- Extendable runtime feature ("L" model)
- N+X parallel redundancy available up to 3 units (For 6KVA & 10KVA models)
- External maintenance bypass switch (optional)



ULT-1K(L)RT/ULT-3K(L)RT

ULT-6K(L)RT/ULT-10K(L)RT

- **True double-conversion online UPS**

True double conversion technology effectively insulates against network disturbances and enables higher load uptime with clean, high level quality power to fully protect mission-critical devices.

- **DSP control technology (6KVA~10KVA)**

DSP technology power protection provides an improved and cost-effective solution with high performance.

- **0.9 Output power factor**

The 0.9 output power factor provides higher performance and efficiency to critical applications.

- **ECO and advanced ECO mode for energy saving**

In energy saving, ECO mode, UPS will operate in high efficiency of up to 97%. During operation mode, the load is supplied by the mains. In the event of mains failure, the inverter takes over the load to supply continuity to the connected systems. The 1KVA to 3KVA models are equipped with advanced ECO mode to allow the UPS to operate at a higher efficiency of 98%.

- **Easy-shift LCD display for rack/tower mode**

The user-friendly LCD front panel easily shifts to adjust between rack mount and standing tower setting.



- **Programmable power management outlets (1K~3KVA models)**

Programmable outlets allows for easy control of load segments. In the event of a power failure, battery backup time can be extended for critical equipment.

- **50/60Hz frequency converter mode**

Set output frequency at 50Hz or 60Hz for power sensitive equipment.

- **Emergency Power Off (EPO) function**

This feature can secure equipment in case of fires or other emergencies.

- **Rack / Tower Design**

Rackmount:



Tower:



- **N+X Parallel Redundancy available up to 3 units (For 6KVA & 10KVA Models)**

This UPS can be used in parallel operation with up to 3 units. It increases power capacity, safety and availability.

## Ultima RT Battery Pack

Capacity	ULT-1KRTBB	ULT-1.5KRTBB	ULT-2KRTBB	ULT-3KRTBB	ULT-6KRTBB	ULT-10KRTBB
Battery Type	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah	12V / 7Ah	12 V / 9 Ah
Battery Number	4 pcs	6 pcs	8 pcs	12 pcs	20 pcs	20 pcs
Dimensions (DxWxH)(mm/in)	380 x 438 x 88 mm / 15.0 x 17.2 x 3.5 in		480 x 438 x 88 mm / 18.9 x 17.2 x 3.5 in	600 x 438 x 88 mm / 23.6 x 17.2 x 3.5 in	580 x 438 x 133 mm / 22.8 x 17.2 x 5.2 in	580 x 438 x 133 mm / 22.8 x 17.2 x 5.2 in
Net Weight (kg/lb)	17.1 kg / 37.7 lb	21.5 kg / 47.7 lb	29 kg / 63.9 lb	41.2 kg / 90.8 lb	57 kg / 125.7 lb	63 kg / 138.9 lb

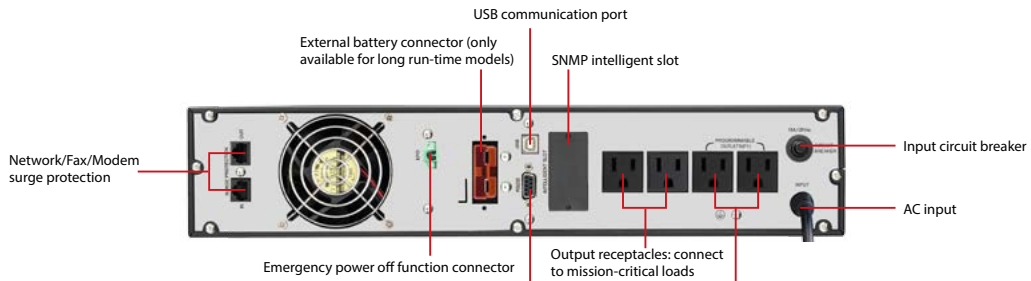


1K/1.5K/2K/3K Battery Bank

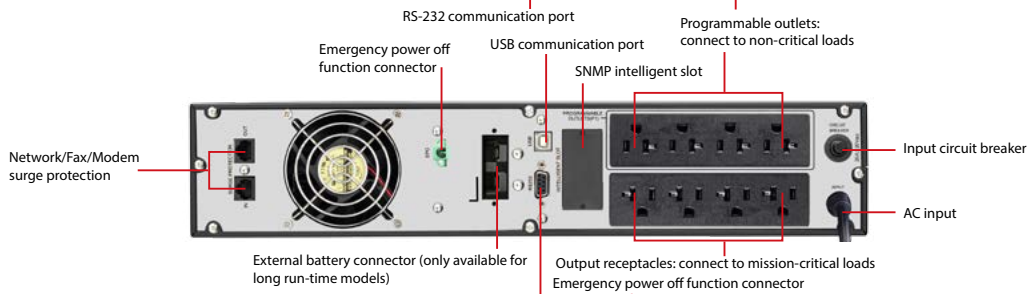


6K/10K Battery Bank

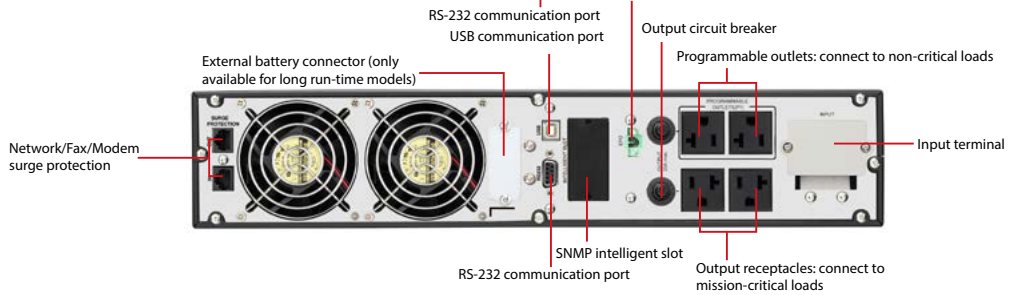
ULT-1K(L)RT  
ULT-1.5K(L)RT



ULT-2K(L)RT



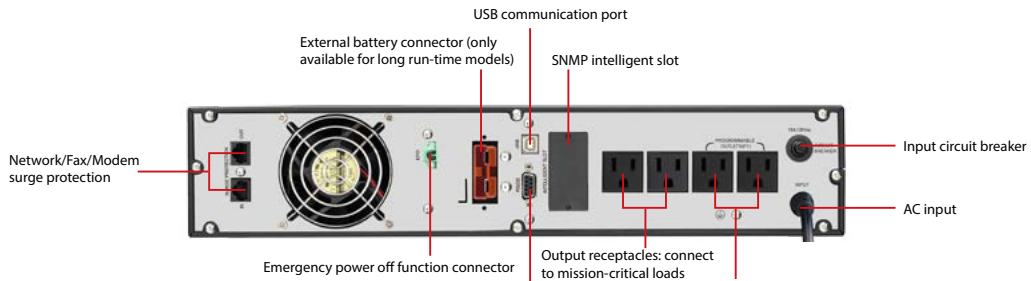
ULT-3K(L)RT



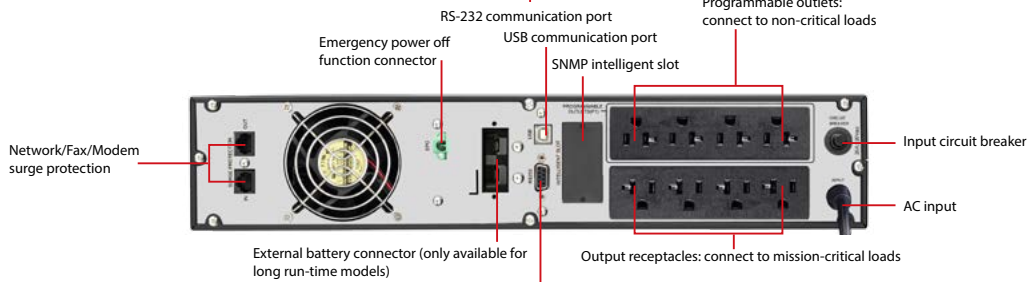
### Ultima RT 1K-3K SPECIFICATION

MODEL	ULT-1KRT	ULT-1KLRT	ULT-1.5KRT	ULT-1.5KLRT	ULT-2KRT	ULT-2KLRT	ULT-3KRT	ULT-3KLRT
<b>CAPACITY</b>	1000 VA / 900 W		1500 VA / 1350 W		2000 VA / 1800 W		3000 VA / 2700 W	
<b>INPUT</b>								
Nominal Voltage	100*/110*/115*/120 /127 VAC or 200/208/220/230/240 VAC							
Voltage Range	55-150 VAC ± 5% or 110-300 VAC ± 5%							
Frequency Range	40Hz ~ 70Hz							
Power Factor	≥ 0.99 @ Nominal Voltage (100% Load)							
Plug Type	NEMA 5-15P				NEMA 5-20P		NEMA L5-30P	
<b>OUTPUT</b>								
Output Voltage	100*/110*/115*/120/127 VAC or 200/208/220/230/240 VAC							
AC Voltage Regulation (Batt. Mode)	± 1%							
Frequency Range (Synchronized Range)	47 ~ 53 Hz or 57 ~ 63 Hz							
Frequency Range (Batt. Mode)	50 Hz ± 0.5% or 60Hz ± 0.5%							
Current Crest Ratio	5:1 (max.)							
Harmonic Distortion	≤ 2 % THD (Linear Load); ≤ 4 % THD (Non-linear load)							
Transfer Time	Line mode to Battery mode	Zero						
	Inverter to Bypass	4 ms (Typical)						
Waveform (Batt. Mode)	Pure sinewave							
Outlet Type	NEMA 5-15R (4)				NEMA 5-20R (8)		NEMA 5-20R (4) NEMA L5-30R (1)	
<b>EFFICIENCY</b>								
AC Mode	87%		88%		88%		89%	
Battery Mode	85%		86%		86%		87%	
ECO Mode	94%		95%		95%		97%	
<b>BATTERY</b>								
Battery Type	12 V / 9 AH		12 V / 9 AH		12 V / 9 AH		12 V / 9 AH	
Battery Numbers	2		3		4		6	
Typical Recharge Time	4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity	
Charging Current (max.)	1.0 A		1.0 A		1.0 A		1.0 A	
Charging Voltage	27.4 VDC ± 1%		41.1 VDC ± 1%		54.7 VDC ± 1%		82.1VDC ± 1%	
<b>INDICATORS</b>								
LCD Panel	Load level, Battery level, AC mode, Battery mode, Bypass mode, and Fault indicator							
<b>ALARM</b>								
Battery Mode	Beeps every 4 seconds							
Low Battery	Beeps every second							
Overload	Beeps twice every second							
Fault	Continuously beeps							
<b>PHYSICAL</b>								
Dimension, (D x W x H) (mm/in)	380 x 438 x 88 mm (2U) / 15.0 x 17.2 x 3.5 in		480 x 438 x 88 mm (2U) / 18.9 x 17.2 x 3.5 in		480 x 438 x 88 mm (2U) / 18.9 x 17.2 x 3.5 in		600 x 438 x 88 mm (2U) / 23.6 x 17.2 x 3.5 in	
Net Weight (kg/lb)	12.9 kg / 28.4 lb		17.6kg / 38.8 lb		20.6 kg / 45.4 lb		28kg / 61.7 lb	
<b>ENVIRONMENT</b>								
Humidity	20-90 % RH @ 0- 40°C (non-condensing)							
Noise Level	Less than 50dBA @ 1 Meter							
<b>MANAGEMENT</b>								
Smart RS-232 / USB	Supports Windows 2000/2003/XP/Vista/2008/7/8, Linux, Unix, and MAC							
Optional SNMP	Power management from SNMP manager and web browser							

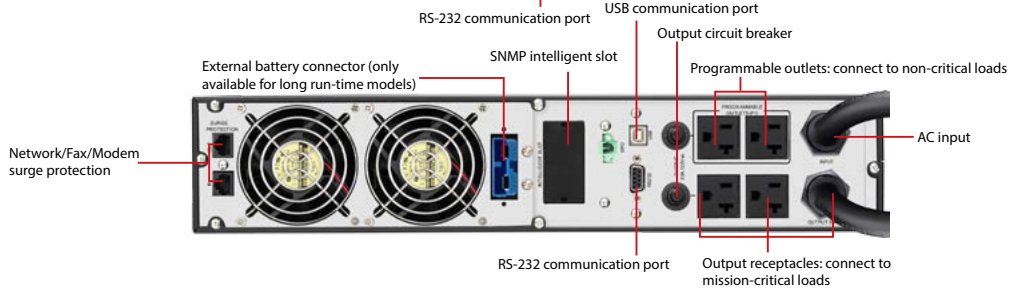
ULT-1K(L)RT  
ULT-1.5K(L)RT



ULT-2K(L)RT



ULT-3K(L)RT

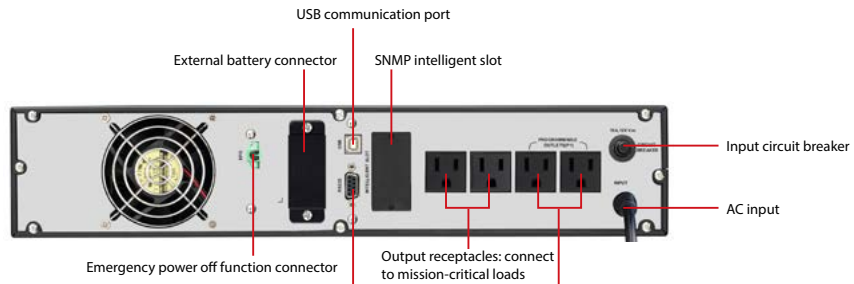


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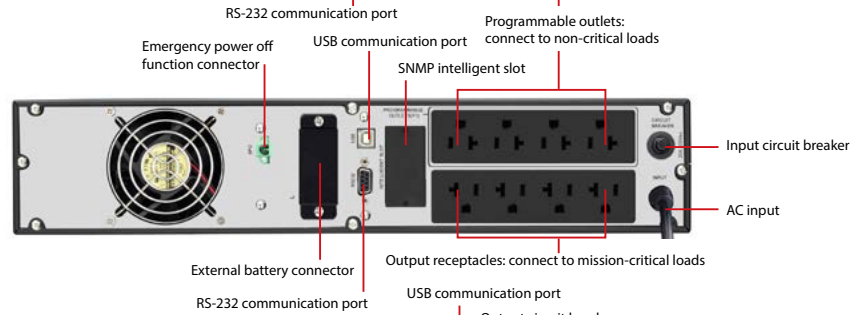
### Ultima RT 1K-3K SPECIFICATION

MODEL	ULT-1KRT	ULT-1KLRT	ULT-1.5KRT	ULT-1.5KLRT	ULT-2KRT	ULT-2KLRT	ULT-3KRT	ULT-3KLRT
<b>CAPACITY</b>	1000 VA / 900 W	900 VA / 810 W	1500 VA / 1350 W	1250 VA / 1125 W	2000 VA / 1800 W	1700 VA / 1530 W	3000 VA / 2700 W	2500 VA / 2250 W
<b>INPUT</b>								
Nominal Voltage	100*/110*/115*/120 VAC							
Rated Voltage Range	110-120 VAC							
Voltage Range	55-150 VAC ± 5%							
Frequency Range	40Hz ~ 70Hz							
Power Factor	≥ 0.99 @ Nominal Voltage (100% Load)							
Plug Type	NEMA 5-15P				NEMA 5-20P		NEMA L5-30P	
<b>OUTPUT</b>								
Output Voltage	100*/110*/115*/120 VAC							
AC Voltage Regulation (Batt. Mode)	± 1%							
Frequency Range (Synchronized Range)	47 ~ 53 Hz or 57 ~ 63 Hz							
Frequency Range (Batt. Mode)	50 Hz ± 0.5% or 60Hz ± 0.5%							
Current Crest Ratio	5:1 (max.)							
Harmonic Distortion	≤ 2 % THD (Linear Load); ≤ 4 % THD (Non-linear load)							
Transfer Time	Line mode to Battery mode	Zero						
	Inverter to Bypass	4 ms (Typical)						
Waveform (Batt. Mode)	Pure sinewave							
Outlet Type	NEMA 5-15R (4)				NEMA 5-20R (8)		NEMA 5-20R (4) NEMA L5-30R (1)	
<b>EFFICIENCY</b>								
AC Mode	87%		88%		88%		89%	
Battery Mode	85%		86%		86%		87%	
ECO Mode	94%		95%		95%		97%	
<b>BATTERY</b>								
Battery Type	12 V / 9 AH		12 V / 9 AH		12 V / 9 AH		12 V / 9 AH	
Battery Numbers	2		3		4		6	
Typical Recharge Time	4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity	
Charging Current (max.)	1.0 A		1.0 A		1.0 A		1.0 A	
Charging Voltage	27.4 VDC ± 1%		41.1 VDC ± 1%		54.7 VDC ± 1%		82.1VDC ± 1%	
<b>INDICATORS</b>								
LCD Panel	UPS status, Load level, Battery level, Input/Output/battery info, Discharge time and Fault indicators							
<b>ALARM</b>								
Battery Mode	Beeps every 4 seconds							
Low Battery	Beeps every second							
Overload	Beeps twice every second							
Fault	Continuously beeps							
<b>PHYSICAL</b>								
Dimension, (D x W x H) (mm/in)	380 x 438 x 88 mm (2U) / 15.0 x 17.2 x 3.5 in		480 x 438 x 88 mm (2U) / 18.9 x 17.2 x 3.5 in		480 x 438 x 88 mm (2U) / 18.9 x 17.2 x 3.5 in		600 x 438 x 88 mm (2U) / 23.6 x 17.2 x 3.5 in	
Net Weight (kg/lb)	13.2 kg / 29.1 lb	9.2 kg / 20.3 lb	18.9 kg / 41.7 lb	11.7 kg / 25.8 lb	21.4 kg / 47.2 lb	12.5 kg / 27.6 lb	29.6 kg / 65.3 lb	15.1 kg / 33.3 lb
<b>ENVIRONMENT</b>								
Humidity	20-90 % RH @ 0- 40°C (non-condensing)							
Noise Level	Less than 50dBA @ 1 Meter							
<b>MANAGEMENT</b>								
Smart RS-232 / USB	Supports Windows 2000/2003/XP/Vista/2008/7/8, Linux, Unix, and MAC							
Optional SNMP	Power management from SNMP manager and web browser							

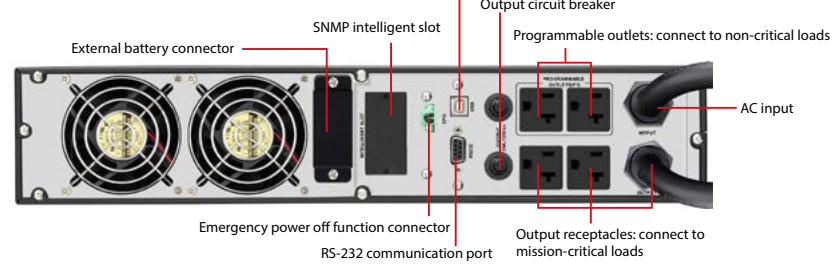
ULT-1K(L)RT  
ULT-1.5K(L)RT



ULT-2K(L)RT



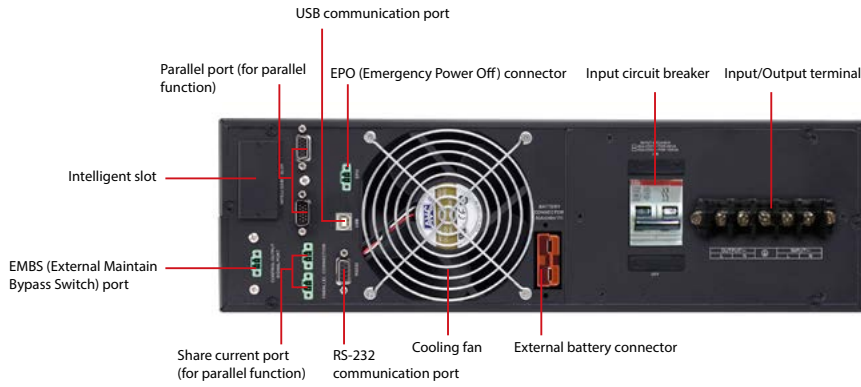
ULT-3K(L)RT



### Ultima RT 1K-3K SPECIFICATION

MODEL	ULT-1KRT	ULT-1KLRT	ULT-1.5KRT	ULT-1.5KLRT	ULT-2KRT	ULT-2KLRT	ULT-3KRT	ULT-3KLRT
<b>CAPACITY</b>	1000 VA / 900 W	900 VA / 810 W	1500 VA / 1350 W	1250 VA / 1125 W	2000 VA / 1800 W	1700 VA / 1530 W	3000 VA / 2700 W	2500 VA / 2250 W
<b>INPUT</b>								
Nominal Voltage	100*/110*/115*/120 VAC							
Rated Voltage Range	100-120 VAC							
Voltage Range	55-150 VAC ± 5%							
Frequency Range	50Hz/60Hz							
Power Factor	≥ 0.99 @ Nominal Voltage (100% Load)							
Plug Type	NEMA 5-15P				NEMA 5-20P		NEMA L5-30P	
<b>OUTPUT</b>								
Output Voltage	100*/110*/115*/120 VAC							
AC Voltage Regulation (Batt. Mode)	± 1%							
Frequency Range (Synchronized Range)	47 ~ 53 Hz or 57 ~ 63 Hz							
Frequency Range (Batt. Mode)	50 Hz ± 0.5% or 60Hz ± 0.5%							
Current Crest Ratio	5:1 (max.)							
Harmonic Distortion	≤ 2 % THD (Linear Load); ≤ 4 % THD (Non-linear load)							
Transfer Time	Zero							
	4 ms (Typical)							
Waveform (Batt. Mode)	Pure sinewave							
Outlet Type	NEMA 5-15R (4)				NEMA 5-20R (8)		NEMA 5-20R (4) NEMA L5-30R (1)	
<b>EFFICIENCY</b>								
AC Mode	87%		88%		88%		89%	
Battery Mode	85%		86%		86%		87%	
ECO Mode	94%		95%		95%		97%	
<b>BATTERY</b>								
Battery Type	12 V / 9 AH		12 V / 9 AH		12 V / 9 AH		12 V / 9 AH	
Battery Numbers	2		3		4		6	
Typical Recharge Time	4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity	
Charging Current (max.)	1.0 A		1.0 A		1.0 A		1.0 A	
Charging Voltage	27.4 VDC ± 1%		41.1 VDC ± 1%		54.7 VDC ± 1%		82.1VDC ± 1%	
<b>INDICATORS</b>								
LCD Panel	UPS status, Load level, Battery level, Input/Output/battery info, Discharge time and Fault indicators							
<b>ALARM</b>								
Battery Mode	Beeps every 4 seconds							
Low Battery	Beeps every second							
Overload	Beeps twice every second							
Fault	Continuously beeps							
<b>PHYSICAL</b>								
Dimension, (D x W x H) (mm/in)	380 x 438 x 88 mm (2U) / 15.0 x 17.2 x 3.5 in		480 x 438 x 88 mm (2U) / 18.9 x 17.2 x 3.5 in		480 x 438 x 88 mm (2U) / 18.9 x 17.2 x 3.5 in		600 x 438 x 88 mm (2U) / 23.6 x 17.2 x 3.5 in	
Net Weight (kg/lb)	13.2 kg / 29.1 lb	9.2 kg / 20.3 lb	18.9 kg / 41.7 lb	11.7 kg / 25.8 lb	21.4 kg / 47.2 lb	12.5 kg / 27.6 lb	29.6 kg / 65.3 lb	15.1 kg / 33.3 lb
<b>ENVIRONMENT</b>								
Humidity	20-90 % RH @ 0- 40°C (non-condensing)							
Noise Level	Less than 50dBA @ 1 Meter							
<b>MANAGEMENT</b>								
Smart RS-232 / USB	Supports Windows 2000/2003/XP/Vista/2008/7/8, Linux, Unix, and MAC							
Optional SNMP	Power management from SNMP manager and web browser							

**ULT-6K(L)RT  
ULT-10K(L)RT**



**Ultima RT 6K-10K SPECIFICATION**

MODEL	ULT-6K(L)RT	ULT-6K(L)RTD	ULT-10K(L)RT	ULT-10K(L)RTD	
PHASE	Single phase with ground				
CAPACITY	6000 VA / 5400 W		10000 VA / 9000 W		
<b>INPUT</b>					
Nominal Voltage	200/208/220/230/240 VAC				
Voltage Range	176-300 VAC at 100% load ; 110-175 VAC de-rating up to 50% load				
Frequency Range	46~54 Hz or 56~64 Hz				
Power Factor	≥ 0.99 @ 100% load				
<b>OUTPUT</b>					
Nominal Voltage	200/208/220/230/240 VAC	104 VAC x 2 / 208 VAC or 110 VAC x 2 / 220 VAC or 115 VAC x 2 / 230 VAC or 120 VAC x 2 / 240 VAC	200/208/220/230/240 VAC	104 VAC x 2 / 208 VAC or 110 VAC x 2 / 220 VAC or 115 VAC x 2 / 230 VAC or 120 VAC x 2 / 240 VAC	
AC Voltage Regulation	± 1%	± 3%	± 1%	± 3%	
Frequency Range(Synchronized Range)	46-54 Hz or 56-64 Hz				
Frequency Range(Batt. Mode)	50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz				
Current Crest Ratio	3:1 (max.)				
Harmonic Distortion	≤ 2 % THD (Linear Load), ≤ 4 % THD (Non-linear Load)	≤ 3.5 % THD (Linear Load), ≤ 7 % THD (Non-linear Load)	≤ 2 % THD (Linear Load), ≤ 4 % THD (Non-linear Load)	≤ 3.5 % THD (Linear Load), ≤ 7 % THD (Non-linear Load)	
Transfer Time	Line mode to Battery mode	Zero			
	Battery mode to Line mode	Zero			
	Inverter to Bypass	Zero			
	Bypass to Inverter	Zero			
Waveform (Batt. Mode)	Pure Sinewave				
<b>EFFICIENCY</b>					
Line Mode	90%	84%	90%	84%	
Battery Mode	88%	83%	88%	83%	
ECO Mode	96%	87%	96%	87%	
<b>BATTERY</b>					
Standard Model	Nominal Voltage	240 VDC			
	Battery Type	12 V / 7 AH			
	Numbers	20 (18-20 pcs adjustable)*		20 (18-20 pcs adjustable)*	
	Typical Recharge Time	7 hours recover to 90% capacity		9 hours recover to 90% capacity	
	Charging Current (max.)	1.0 A		1.0 A	
Long Run Model	Float Charging Voltage	273 VDC (based on battery numbers at 20 pcs)			
	Battery Type and Numbers	Depending on applications			
	Charging Current (max.)	4.0 A		4.0 A	
	Float Charging Voltage	273 VDC (based on battery numbers at 20 pcs)			
<b>INDICATORS</b>					
LCD Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions				
<b>ALARM</b>					
Battery Mode	Beeps every 4 seconds				
Low Battery	Beeps every second				
Overload	Beeps twice every second				
Fault	Continuously beeps				
<b>PHYSICAL</b>					
Standard Model	Dimension, D x W x H (mm/in)	UPS unit: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in Battery bank: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in	UPS unit: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in Battery bank: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in ISO bank: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in	UPS unit: 668 x 438 x 133 mm (3U) / 26.3 x 17.2 x 5.2 in Battery bank: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in	UPS unit: 668 x 438 x 133 mm (3U) / 26.3 x 17.2 x 5.2 in Battery bank: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in ISO bank: 668 x 438 x 133 mm (3U) / 26.3 x 17.2 x 5.2 in
	Net Weight (kg/lb)	UPS unit: 20 kg / 44.1 lb Battery bank: 57 kg / 125.7 lb	UPS unit: 20 kg / 44.1 lb Battery bank: 57 kg / 125.7 lb ISO bank: 67 kg / 147.7 lb	UPS unit: 20 kg / 44.1 lb Battery bank: 63 kg / 138.9 lb	UPS unit: 23.5 kg / 51.8 lb Battery bank: 63 kg / 138.9 lb ISO bank: 90 kg / 198.4 lb
Long Run Model	Dimension, D x W x H (mm/in)	580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in	UPS unit: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in ISO bank: 580 x 438 x 133 mm (3U) / 22.8 x 17.2 x 5.2 in	668 x 438 x 133 mm (3U) / 26.3 x 17.2 x 5.2 in	UPS unit: 668 x 438 x 133 mm (3U) / 26.3 x 17.2 x 5.2 in ISO bank: 668 x 438 x 133 mm (3U) / 26.3 x 17.2 x 5.2 in
	Net Weight (kg/lb)	20 kg / 44.1 lb	UPS unit: 20 kg / 44.1 lb ISO bank: 67 kg / 147.7 lb	20 kg / 44.1 lb	UPS unit: 23.5 kg / 51.8 lb ISO bank: 90 kg / 198.4 lb
<b>ENVIRONMENT</b>					
Operation Humidity	0-95 % RH @ 0-40°C (Non-condensing)				
Noise Level	Less than 58dBA @ 1 Meter		Less than 60dBA @ 1 Meter		
<b>MANAGEMENT</b>					
Smart RS-232 / USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8, Linux, Unix, and MAC				
Optional SNMP	Power management from SNMP manager and web browser				

\*When using internal batteries from 18-19, the unit will de-rate according to below formula: P=PRating x N/20

\*\* If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

\*\*\*\* L means long run-time model. "D" means dual output voltage with isolation transformer.

Product specifications are subject to change without further notice



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