

HTU UPS



High Temperature UPS

The HTU UPS is a durable, high operating temperature UPS, ideal for outdoor applications. It is a combination of an inverter, battery charger and AC transfer switch in one complete system with a peak conversion efficiency of 88%. It has an overload capacity of 300% for 20sec to support tools and equipment longer.

The HTU features power factor corrected, sophisticated multi-stage charging and pure sine wave output with a high surge capacity, meeting power needs of inductive loads without exceeding equipment limitations.

When AC utility power is lost the transfer relay is de-energised and the load is automatically transferred to the UPS output, conversely, once the utility power is restored and voltage is

Key features include:

- High ambient operating temperature (up to 65°C)
- Failsafe alarm - dry contact relay, RS232 and SNMP optional
- Dual port operation to allow local and remote monitoring
- 4-step intelligent battery charging, power factor correction
- 13V_{DC} battery recovery point
- 8 pre-set battery types & desulphation for flat batteries
- Powerful charge rate – up to 110A selectable 0 – 100%
- 15s delay before transfer when utility power is restored
- Auto restart when batteries depleted
- Low quiescent current, power saving mode
- High overload capacity 300% rated
- 4-10ms transfer time
- Cooling fan

Alpha Power Systems

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Alpha
Power Systems

Product Specifications

Model	HTU 1K	HTU 1.5K	HTU 2K	HTU 3K	HTU 4K	HTU 5K	HTU 6K
Continuous Output Power	1000W	1500W	2000W	3000W	4000W	5000W	6000W
Starts Motor	1HP	1.5HP	2HP	3HP	4HP	5HP	6HP
Surge Rating (20s)	3000W	4500W	6000W	9000W	12000W	15000W	18000W
Nominal Input Voltage	12V _{DC} / 24V _{DC} / 48V _{DC}					24V _{DC} / 48V _{DC}	
Minimum Start Voltage	10V _{DC} (x2 for 24V _{DC} , x4 for 48V _{DC})						
Low Battery Alarm	11.5V _{DC} (x2 for 24V _{DC} , x4 for 48V _{DC})						
Low Battery Trip	10.5V _{DC} / 11.0V _{DC} (x2 for 24V _{DC} , x4 for 48V _{DC})						
High Voltage Alarm & Fault	16.0V _{DC} (x2 for 24V _{DC} , x4 for 48V _{DC})						
High DC Input Recovery	15.5V _{DC} (x2 for 24V _{DC} , x4 for 48V _{DC})						
Low Battery Voltage Recover	13.0V _{DC} (x2 for 24V _{DC} , x4 for 48V _{DC})						
Idle Consumption – Search Mode	< 25W When power saver on						
Output Waveform	Pure Sine wave / Identical to input in bypass mode						
Output Frequency	50/60Hz ± 0.3Hz						
Nominal Efficiency	> 88%						
Line Mode Efficiency	> 95%						
Output Power Factor	0.9 – 1.0						
Nominal Output Voltage	100V _{AC} /110V _{AC} /120V _{AC} (RMS) OR 220V _{AC} /230V _{AC} /240V _{AC} (RMS)						
Voltage Regulation	± 10% RMS						
Output Short Circuit Protection	YES, Current limiting function (fault after 1s)						
Transfer Time	4-10ms max.						
THD	< 10%						
Charge Input Voltage Range	Narrow: 100 – 135V _{AC} / 194 – 243V _{AC} Wide: 90 – 135V _{AC} / 164 – 243V _{AC}						
Charge Input Frequency Range	Narrow 47 – 55Hz ± 0.3Hz @ 50 Hz OR 57 – 65Hz ± 0.3Hz @ 60Hz Wide: 43Hz ± 0.3Hz plus @50/60Hz						
Charger Output Voltage	Depends on battery type						
Charger Breaker Rating	10A			20A		30A	
Maximum Charge Rate	15 – 105A ± 5A (depending on model)						
Overcharge Protection Shutdown	15.7V _{DC} for 12V (x2 for 24V _{DC} , x4 for 48V _{DC})						
Battery Type	Fast (V _{DC})				Float (V _{DC})		
Gel U.S.A	14.0				13.7		
A.G.M 1	14.1				13.4		

A.G.M 2	14.6				13.7	
Sealed Lead Acid	14.4				13.6	
Gel Euro	14.4				13.8	
Open Lead Acid	14.8				13.3	
Calcium	15.1				13.6	
Desulphation	15.5 for 4 hours					
Lithium Iron	13.5				13.5	
Remote Control	Yes (Optional)					
Input Voltage Waveform	Sine wave (Grid or Generator)					
Nominal Voltage	110V/120V _{AC}				230V _{AC}	
Low Voltage Trip	80V / 90V ± 4%				184V / 154V ± 4%	
Low Voltage Re-engage	90V / 100V ± 4%				194V / 164V ± 4%	
High Voltage Trip	140V ± 4%				253V ± 4%	
High Voltage Re-engage	135V ± 4%				243V ± 4%	
Max. Input AC Voltage	150V _{AC}				270V _{AC}	
Nominal Input Frequency	50/60Hz (Auto sensing)					
Low Frequency Trip	Narrow: 47Hz ± 0.3Hz @ 50Hz OR 57Hz ± 0.3Hz @ 60Hz Wide: 40Hz ± 0.3Hz @50/60Hz					
Low Frequency Re-engage	Narrow: 48Hz ± 0.3Hz @ 50Hz OR 58Hz ± 0.3Hz @ 60Hz Wide: 45Hz ± 0.3Hz @50/60Hz					
High Frequency Trip	Narrow: 55Hz ± 0.3Hz @ 50Hz OR 65Hz ± 0.3Hz @ 60Hz Wide: No upper limit for 50/60Hz					
High Frequency Re-engage	Narrow: 54Hz ± 0.3Hz @ 50Hz OR 64Hz ± 0.3Hz @ 60Hz Wide: No upper limit for 50/60Hz					
Output Short Circuit Protection	Circuit breaker					
Input Breaker Rating	10A	15A	20A	30A	40A	
Transfer Switch Rating	30A for UL & TUV				40A for UL	
Max. Bypass Current	30A				40A	
Input AC Voltage Range (AVR)	90 – 140C ± 4%				154 – 253 ± 4%	
Stabilised Output Voltage (AVR)	120V _{AC} ± 10% (rms)				230V _{AC} ± 10% (rms)	
Nominal Voltage (AVR)	110V _{AC}		120V _{AC}		220V _{AC}	230V _{AC} 240V _{AC}
A – Line Low Loss N/W (Battery)	84/72		92/78		168/143	176/150 183/156
B – Line Low Comeback (Boost)	89/77		97/83		178/153	186/160 193/166

C – Line 2 nd Boost Threshold (Boost)	**		**		**	**	**
D – Line 2 nd Boost Comeback (Boost)	**		**		**	**	**
E – Line 1 st Boost Threshold (Boost)	99		108		198	207	216
F – Line 1 st Boost Comeback (Normal)	103		112		205	215	225
G – Line Buck Comeback (Normal)	1189		128		235	246	256
H – Line Buck Threshold (Buck)	121		132		242	253	264
I – Line High Comeback (Buck)	127		139		253	266	278
J – Line High Loss (Battery)	132		144		263	276	288
Mount Type	Wall Mount						
Operating Temperature	-10 – 65°C (-14 – 149°F)						
Storage Temperature	-40 – 70°C (-40 – 158°F)						
Humidity	0 – 95% non-condensing						
Cooling	Forced air						
Dimensions W x D x H	382 x 218 x 179 15" x 5.6" x 7"		442 x 218 x 179 17.4" x 5.6" x 7"		598 x 218 x 179 23.5" x 5.6" x 7"		
Shipping Dimensions W x D x H	520 x 315 x 300 20.5" x 12.4" x 11.8"		580 x 315 x 300 22.8" x 12.4" x 11.8"		740 x 315 x 300 29.1" x 12.4" x 11.8"		
Weight	16kg	17kg	20kg	24kg	35kg	45kg	
Shipping Weight	18kg	19kg	22kg	26kg	37kg	47kg	
Display	Status LEDs / Status LEDs & LCD						
Test Standards	EN60950-1L2006+A11:2009						
	EN55022:2006+A1:2007						
	EN61000-3-2:2006+A1:2009+A2:2009						
	EN61000-3-3:2008						
Standard Warranty	EN55024:1998+A1:2001+A2:2003						
	2 Years						

Charging Current

Model	Current (A)	Model	Current (A)
1kW 12V _{DC} 230V _{AC}	35 ± 5A	1kW 12V _{DC} 110/120V _{AC}	35 ± 5A
1kW 24V _{DC} 230V _{AC}	20 ± 5A	1kW 24V _{DC} 110/120V _{AC}	15 ± 5A
1.5kW 12V _{DC} 230V _{AC}	45 ± 5A	1.5kW 12V _{DC} 110/120V _{AC}	50 ± 5A
1.5kW 24V _{DC} 230V _{AC}	25 ± 5A	1.5kW 24V _{DC} 110/120V _{AC}	25 ± 5A
1.5kW 48V _{DC} 230V _{AC}	15 ± 5A	---	---
2kW 12V _{DC} 230V _{AC}	65 ± 5A	2kW 12V _{DC} 110/120V _{AC}	70 ± 5A
2kW 24V _{DC} 230V _{AC}	30 ± 5A	2kW 24V _{DC} 110/120V _{AC}	30 ± 5A
2kW 48V _{DC} 230V _{AC}	20 ± 5A	2kW 48V _{DC} 110/120V _{AC}	20 ± 5A
3kW 12V _{DC} 230V _{AC}	85 ± 5A	3kW 12V _{DC} 110/120V _{AC}	95 ± 5A
3kW 24V _{DC} 230V _{AC}	45 ± 5A	3kW 24V _{DC} 110/120V _{AC}	40 ± 5A
3kW 48V _{DC} 230V _{AC}	30 ± 5A	3kW 48V _{DC} 110/120V _{AC}	30 ± 5A
4kW 24V _{DC} 230V _{AC}	65 ± 5A	4kW 24V _{DC} 110/120V _{AC}	50 ± 5A
4kW 48V _{DC} 230V _{AC}	40 ± 5A	4kW 48V _{DC} 110/120V _{AC}	40 ± 5A
5kW 24V _{DC} 230V _{AC}	70 ± 5A	5kW 24V _{DC} 110/120V _{AC}	50 ± 5A
5kW 48V _{DC} 230V _{AC}	50 ± 5A	5kW 48V _{DC} 110/120V _{AC}	40 ± 5A
6kW 24V _{DC} 230V _{AC}	80 ± 5A	6kW 24V _{DC} 110/120V _{AC}	65 ± 5A
6kW 48V _{DC} 230V _{AC}	60 ± 5A	6kW 48V _{DC} 110/120V _{AC}	60 ± 5A