

HTU 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 within the UPS range, the relay is re-energised and the load is automatically connect to utility power.

Another important feature is the customizable battery priority switch to extract maximum power from the battery/s.

Model	Capacity
HTU-1k	1kW
HTU-1.5k	1.5kW
HTU-2k	2kW
HTU-3k	3kW
HTU-4k	4kW
HTU-5k	5kW
HTU-6k	6kW



Some key features include:

- High ambient operating temperature
- Dry contact relay alarms, RS232 and SNMP optional
- High overload capacity 300% rated
- Low quiescent current, power saving mode
- 4-step intelligent battery charging, power factor correction
- 8 pre-set battery type selector & de-sulphation for flat batteries
- Powerful charge rate – up to 110A selectable 0 – 100%
- 4-10ms transfer time
- 15s delay before transfer when utility power is restored
- Allows start-up and through power when batteries depleted
- Cooling fan
- 13V_{DC} battery recovery point, dedicated for renewable energy systems

Product Specifications

Model	HTU1k	HTU1.5k	HTU2k	HTU3k	HTU4k	HTU5k	HTU6k
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 Voltage	12V _{DC} (x2 for 24V _{DC} , x4 for 48V _{DC})						
Minimum Start Voltage	10V _{DC}						
Low Battery Alarm	10.5V _{DC} / 11.0V _{DC}						
Low Battery Trip	10V _{DC} / 10.5V _{DC}						
High Voltage Alarm & Fault	16.0V _{DC}						
High DC Input Recovery	15.5V _{DC}						
Low Battery Voltage Recover	13.0V _{DC}						
Idle Consumption – Search Mode	< 25W When power saver on						
Waveform	Pure Sine wave / Identical to input in bypass mode						
Frequency	50/60Hz ± 0.3Hz						
Nominal Efficiency	> 88%						
Line Mode Efficiency	> 95%						
Power Factor	0.9 – 1.0						
Nominal Voltage (RMS)	100V _{AC} /110V _{AC} /120V _{AC} OR 220V _{AC} /230V _{AC} /240V _{AC}						
Voltage Regulation	± 10% RMS						
Short Circuit Protection	YES, Current limiting function (fault after 1s)						
Transfer Time	4-10ms max.						
THD	< 10%						

Battery & Charger	Input Voltage Range	Narrow: 100 – 135V _{AC} / 194 – 243V _{AC} Wide: 90 – 135V _{AC} / 164 – 243V _{AC}		
	Input Frequency Range	Narrow 47 – 55Hz ± 0.3Hz @ 50 Hz OR 57 – 65Hz ± 0.3Hz @ 60Hz Wide: 43Hz ± 0.3Hz plus @50/60Hz		
	Output Voltage	Depends on battery type		
	Charger Breaker Rating	10A	20A	30A
	Maximum Charge Rate	15 – 85A ± 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		
De-sulphation	15.5 for 4 hours			
Remote Control	Yes (Optional)			
Bypass & Protection	Input Voltage Waveform	Sine wave (Grid or Generator)		
	Nominal Voltage	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 ± 0.3Gz @ 60Hz Wide: 40Hz ± 0.3Hz @50/60Hz		
	Low Frequency Re-engage	Narrow: 48Hz ± 0.3Hz @ 50Hz OR 58Hz ± 0.3Gz @ 60Hz Wide: 45Hz ± 0.3Hz @50/60Hz		

Bypass & Protection	High Frequency Trip	Narrow: 55Hz ± 0.3Hz @ 50Hz OR 65Hz ± 0.3Gz @ 60Hz Wide: No upper limit for 50/60Hz				
	High Frequency Re-engage	Narrow: 54Hz ± 0.3Hz @ 50Hz OR 64Hz ± 0.3Gz @ 60Hz Wide: No upper limit for 50/60Hz				
	Output Short Circuit Protection	Circuit breaker				
	Bypass Breaker Rating	10A	15A	20A	30A	40A
	Transfer Switch Rating	30A for UL & TUV			40A for UL	
	Max. Bypass Current	30A			40A	
	AVR Function	Input AC Voltage Range	90 – 140C ± 4%			154 – 253 ± 4%
Stabilised Output Voltage		120V _{AC} ± 10% (rms)			230V _{AC} ± 10% (rms)	
Nominal Voltage		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 2nd Boost Threshold (Boost)		**	**	**	**	**
D – Line 2nd Boost Comeback (Boost)		**	**	**	**	**
E – Line 1st Boost Threshold (Boost)		99	108	198	207	216
F – Line 1st 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			
Physical	Dimensions	382 x 218 x 179		442 x 218 x 179		598 x 218 x 179	
	W x D x H	15" x 5.6" x 7"		17.4" x 5.6" x 7"		23.5" x 5.6" x 7"	
	Shipping Dimensions	520 x 315 x 300		580 x 315 x 300		740 x 315 x 300	
	W x D x H	20.5" x 12.4" x 11.8"		22.8" x 12.4" x 11.8"		29.1" x 12.4" x 11.8"	
	Weight Kg (lb)	16 (35)	17 (37)	20 (44)	24 (53)	35 (77)	45 (99)
	Shipping Weight Kg (lb)	18 (40)	19 (42)	22 (49)	26 (57)	37 (82)	47 (104)
	Display	Status LEDs / Status LEDs & LCD					
	Warranty	1 Year					