

600 Watts

- Convection cooled
- Medical and ITE approvals
- Compact 5.0" by 8.0" footprint
- Suitable for BF applications
- 5 V standby and remote on/off
- 12 V fan output
- -20 °C to +70 °C operation
- High efficiency, up to 95%



Approved for medical and ITE applications, this range of convection cooled single output AC/DC power supplies are packaged in an ultra compact foot print of just 5.0" by 8.0". The UCH600 provides up to 600 W convection-cooled leading to very high power density of 9.5 W/in³.

Dimensions:

UCH600:
8.00 x 5.00 x 1.57" (203.2 x 127.0 x 40.0 mm)

A 12 V/0.6 A fan supply is included in the design to facilitate system cooling, if required, along with 5 V/1 A standby output. The power supply contains two fuses and low leakage currents as required by medical applications and is safety approved to operate in a 70 °C ambient. The low profile and safety approvals covering ITE and medical standards along with conducted emissions to EN55011/22 level B allow the versatile UCH600 series to be used in a vast range of applications.

Models & Ratings

Output Voltage	Output Current	Standby Output	Fan Output ^{2,4}	Efficiency ⁽¹⁾	Model Number
12.0 V	50.0 A	5 V/1.0 A	12 V/0.6 A	93%	UCH600PS12
24.0 V	25.0 A	5 V/1.0 A	12 V/0.6 A	95%	UCH600PS24
36.0 V	16.6 A	5 V/1.0 A	12 V/0.6 A	95%	UCH600PS36
48.0 V	12.5 A	5 V/1.0 A	12 V/0.6 A	95%	UCH600PS48

Notes

1. Typical efficiencies measured at 100% load and 230 VAC input.

2. Typical voltage, actual regulated voltage will be in range of 11.4V to 12.6V.

3. Regulation of the fan output requires a minimum load of 10W on the main output.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage - Operating	90	115/230	264	VAC	
Input Frequency	47	50/60	63	Hz	
Power Factor		>0.9			230 VAC, 100% load. EN61000-3-2 class A, class C >150W
Input Current - Full Load		6.0/3.0		A	115/230 VAC
Inrush Current			60	A	230 VAC cold start, 25 °C
Earth Leakage Current		80/140	300	µA	115/230 VAC/50 Hz (Typ), 264 VAC/60 Hz (Max)
No load Input Power			1.5	W	When main output is Inhibited
Input Protection	F12A/250 V Internal fuse fitted in line and neutral.				

Output - Main Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage - V1	12		48	VDC	See Models and Ratings table
Initial Set Accuracy			±1	%	50% load, 115/230 VAC
Minimum Load	0			A	No minimum load required
Start Up Delay			2	s	115/230 VAC full load.
Hold Up Time	10			ms	Min at full load, 115 VAC.
Drift			±0.02	%	After 20 min warm up
Line Regulation			±0.5	%	90-264 VAC
Load Regulation			±0.5	%	0-100% load.
Transient Response			4	%	Recovery within 1% in less than 500 µs for a 50-75% and 75-50% load step
Over/Undershoot		5		%	Full load
Ripple & Noise			1.5/1	% pk-pk	20 MHz bandwidth and 47 µF electrolytic capacitor in parallel with 0.1 µF ceramic capacitor. 12V/other models.
Overvoltage Protection	110		130	%	Vnom, recycle input to reset
Overload Protection	110		130	% I nom	
Short Circuit Protection					Trip & Restart
Temperature Coefficient			0.02	%/°C	
Overtemperature Protection					Measured internally, Auto Resetting
Output Leakage Current			50	µA	264 VAC / 60 Hz

Output - 5 V Standby Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage		5.0		VDC	
Initial Set Accuracy			±1	%	50% load, 115/230 VAC
Minimum Load	0			A	
Start Up Delay			0.5	s	115/230 VAC full load.
Hold Up Time	500			ms	Min at full load, 115 VAC.
Drift			±0.02	%	After 20 min warm up
Line Regulation			±0.5	%	90-264 VAC
Load Regulation			1	%	0-100% load.
Transient Response			4	%	Recovery within 1% in less than 500 µs for a 50-75% and 75-50% load step
Over/Undershoot			5	%	Full load
Ripple & Noise			2	% pk-pk	20 MHz bandwidth and 10 µF electrolytic capacitor in parallel with 0.1 µF ceramic capacitor
Overload Protection			2.0	A	
Short Circuit Protection					Trip & Restart
Temperature Coefficient			0.02	%/°C	
Remote On/Off	Connect Pin 3 CN202 to Pin 2 CN202 to inhibit				

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		95		%	230 VAC Full load (see fig. 1 & 2)
Isolation: Input to Output Input to Ground Output to Ground	4000			VAC	2 x MOPP
	1500			VAC	1 x MOPP
	1500			VAC	1 x MOPP
Switching Frequency	37		120	kHz	PFC, Variable
	76		106	kHz	Main converter, Variable
		100		kHz	5V standby output
Power Density			9.5	W/in ³	
Mean Time Between Failure		300		kHrs	MIL-HDBK-217F, Notice 2 +25 °C GB
Weight		2.43 (1.1)		lb (kg)	