EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

Corsair HX1000i (2022)

Lab ID#: CR10001911
Receipt Date: Sep 16, 2021
Test Date: Sep 24, 2021

Report: 21PS1911A
Report Date: Sep 28, 2021

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	HXi
Model Number	
Serial Number	
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10
Rated Frequency (Hz)	47-63
Rated Power (W)	1000
Type	ATX12V
Cooling	140mm Fluid Dynamic Bearing Fan (NR140P)
Semi-Passive Operation	✓
Cable Design	Fully Modular

TEST EQUIPMENT

Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

115V	
Average Efficiency	89.901%
Efficiency With 10W (≤500W) or 2% (>500W)	73.772
Average Efficiency 5VSB	78.547%
Standby Power Consumption (W)	0.0399757
Average PF	0.993
Avg Noise Output	24.64 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A

230V	
Average Efficiency	91.445%
Average Efficiency 5VSB	78.422%
Standby Power Consumption (W)	0.0562312
Average PF	0.944
Avg Noise Output	24.62 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	83.3	3	0.3
	Watts	150		999.6	15	3.6
Total Max. Power (W)		1000				

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

CABLES AND CONNECTORS

Modular Cables

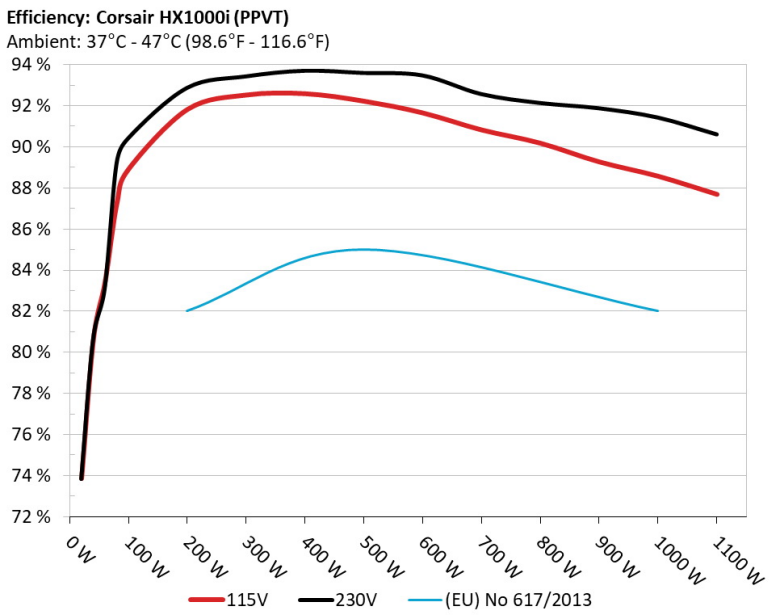
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (610mm)	1	1	16-22AWG	No
4+4 pin EPS12V (650mm)	3	3	18AWG	No
6+2 pin PCIe (680mm+100mm)	3	6	16-18AWG	No
6+2 pin PCIe (650mm)	3	3	16AWG	No
SATA (450mm+115mm+115mm+115mm)	2	8	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG	No
USB Type C to Motherboard Header Cable (+530mm)	1	1	24-28AWG	No

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

General Data	
Manufacturer (OEM)	CWT
PCB Type	Double Sided
Primary Side	
Transient Filter	6x Y caps, 2x X caps, 2x CM chokes, 1x MOV, 1x CM02X (Discharge IC)
Inrush Protection	1x NTC Thermistor SCK20-150 (15 Ohm) & Relay
Bridge Rectifier(s)	2x Vishay LVB2560 (600V, 25A @ 105°C)
APFC MOSFETs	2x On Semiconductor FCPF067N65S3 (650V, 28A @ 100°C, Rds(on): 0.067Ohm)
APFC Boost Diode	2x Infineon IDH08G65C6 (650V, 8A @ 145°C)
Bulk Cap(s)	1x Nippon Chemi-Con (420V, 470uF, 2,000h @ 105°C, KMZ) & 1x Nippon Chemi-Con (420V, 560uF, 2,000h @ 105°C, KMR)
Main Switchers	2x Infineon IPW60R099P6 (600V, 24A @ 100°C, Rds(on): 0.099Ohm)
Digital Controllers	2x Texas Instruments UCD3138A
MCU	Microchip PIC32MM0064GPM036
Topology	Primary side: Semi-Digital, Interleaved PFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	10x Infineon BSC014N04LS (40V, 125A @ 100°C, Rds(on): 1.4mOhm)
5V & 3.3V	DC-DC Converters: 6x UBIQ QM3054M6 (30V, 61A @ 100°C, Rds(on): 4.8mOhm) PWM Controller(s): uPI-Semi uP3861P
Filtering Capacitors	Electrolytic: 2x Nichicon (2-5,000h @ 105°C, HD), 2x Nippon Chemi-Con (1-5,000h @ 105°C, KZE), 9x Nippon Chemi-Con (4-10,000h @ 105°C, KY), 1x Rubycon (4-10,000h @ 105°C, YXJ), 1x Rubycon (4-10,000h @ 105°C, YXF) Polymer: 13x United Chemi-Con, 26x FPCAP
Supervisor IC	Weltrend WT7502R (OVP, UVP, SCP, PG)
Fan Controller	Microchip PIC32MM0064GPM036
Fan Model	Corsair NR140P (140mm, 12V, 0.22A, Fluid Dynamic Bearing Fan)
5VSB Circuit	
Rectifier	1x Silan SVF4N65RDTR FET (650V, 2.5A @ 100°C, Rds(on): 2.7Ohm) & 1x D10PS45L SBR (45V, 10A)
Standby PWM Controller	On Bright OB5282CP

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

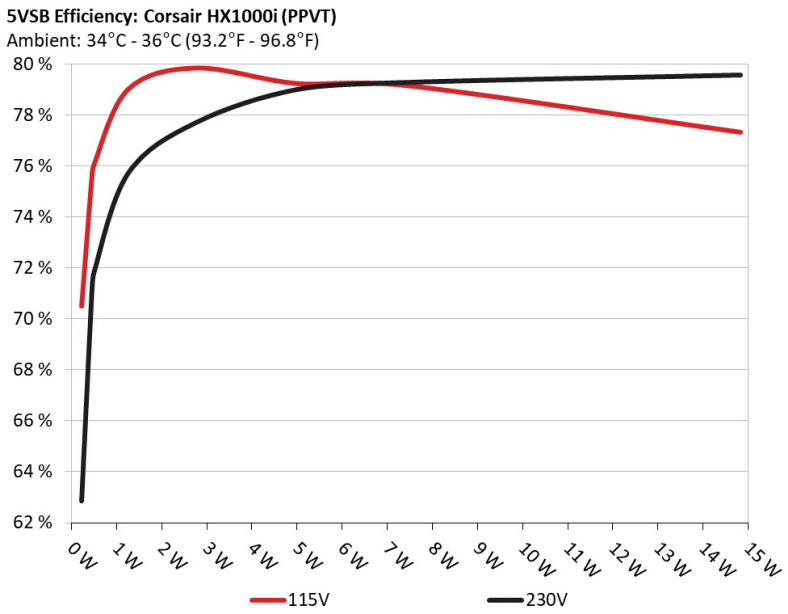
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



INFO

The PSU`s efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5VSB EFFICIENCY



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.226W	70.502%	0.031
	5.029V	0.321W		115.17V
2	0.09A	0.453W	75.527%	0.057
	5.034V	0.6W		115.17V
3	0.55A	2.759W	79.825%	0.269
	5.018V	3.456W		115.17V
4	1A	5.004W	79.214%	0.383
	5.004V	6.317W		115.17V
5	1.5A	7.484W	79.127%	0.45
	4.989V	9.458W		115.17V
6	2.999A	14.831W	77.311%	0.532
	4.945V	19.183W		115.17V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

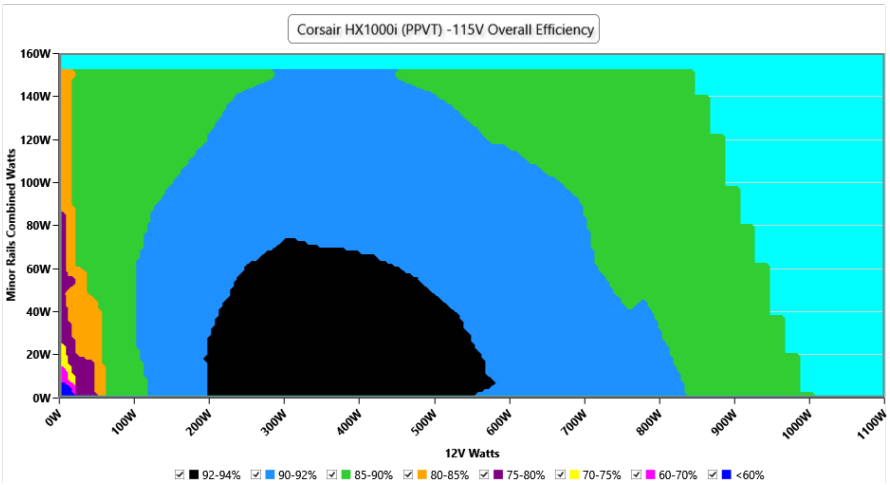
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.226W	62.858%	0.01
	5.034V	0.36W		230.33V
2	0.09A	0.453W	71.041%	0.018
	5.032V	0.638W		230.33V
3	0.55A	2.759W	77.709%	0.098
	5.017V	3.55W		230.32V
4	1A	5.003W	79.008%	0.166
	5.004V	6.332W		230.32V
5	1.5A	7.482W	79.288%	0.229
	4.989V	9.437W		230.32V
6	2.999A	14.829W	79.575%	0.35
	4.945V	18.636W		230.3V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

115V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

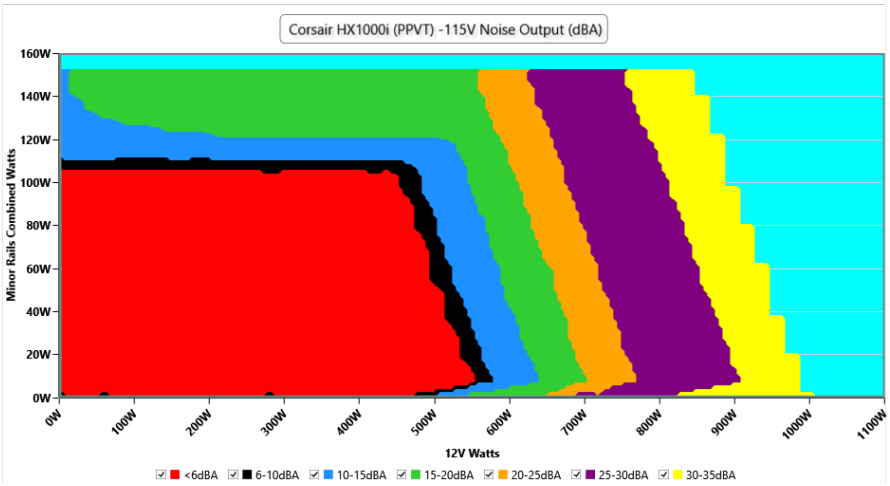
EFFICIENCY GRAPH 115V



INFO

This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

NOISE GRAPH 115V

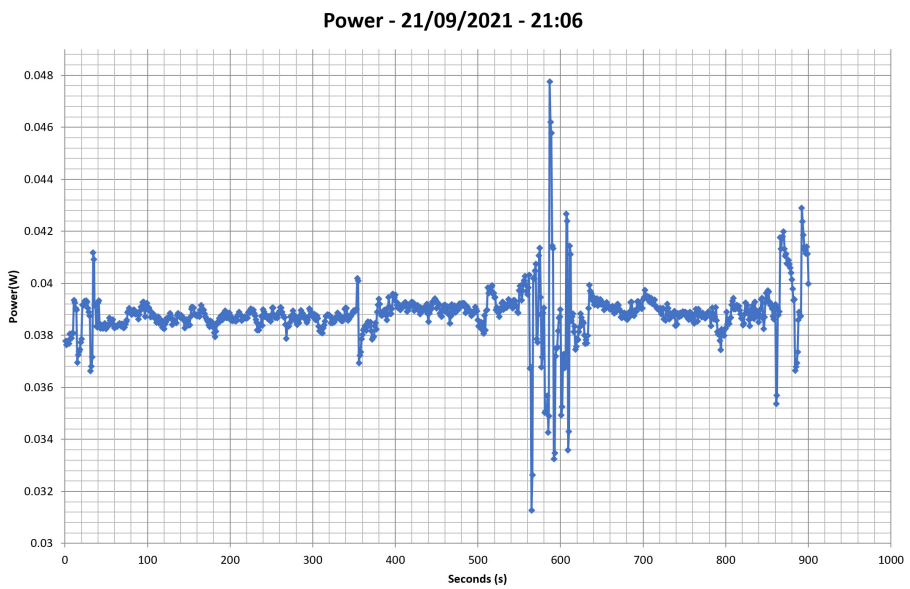


INFO

The PSU's noise in its entire operational range and under 30-32 °C (+-2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

VAMPIRE POWER -115V



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

COMMISSION REGULATION (EU) NO 617/2013 TESTING 115V

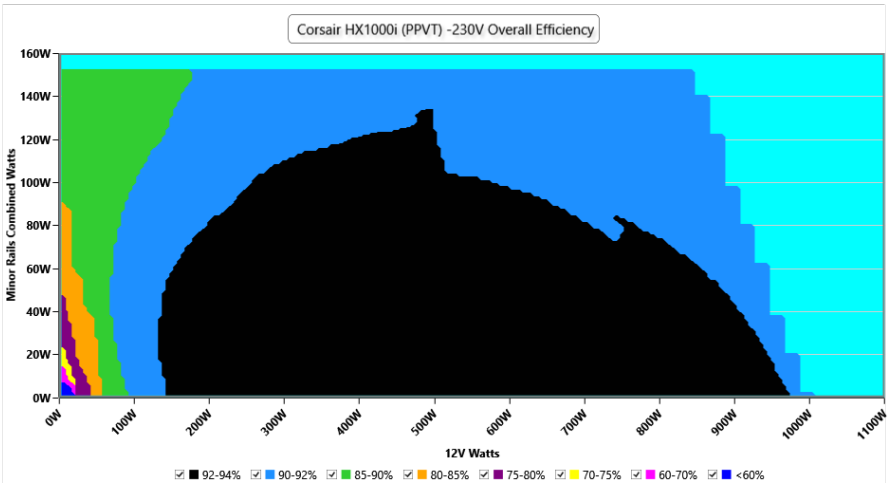
Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	6.516A	1.988A	1.993A	0.996A	100.006	88.908%	0	<6.0	45.52°C	0.989
	12.033V	5.031V	3.312V	5.019V	112.481				40.21°C	115.19V
20%	14.070A	2.983A	2.991A	1.196A	199.953	91.808%	0	<6.0	46.84°C	0.995
	12.015V	5.03V	3.311V	5.017V	217.795				40.91°C	115.19V
50%	37.507A	4.975A	4.991A	1.797A	499.29	92.21%	0	<6.0	49.89°C	0.996
	11.966V	5.026V	3.306V	5.009V	541.473				42.37°C	115.16V
100%	75.427A	8.975A	9.004A	3.008A	999.233	88.565%	1304	36.3	45.53°C	0.998
	12.059V	5.013V	3.297V	4.986V	1128.247				55.82°C	115.08V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

230V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

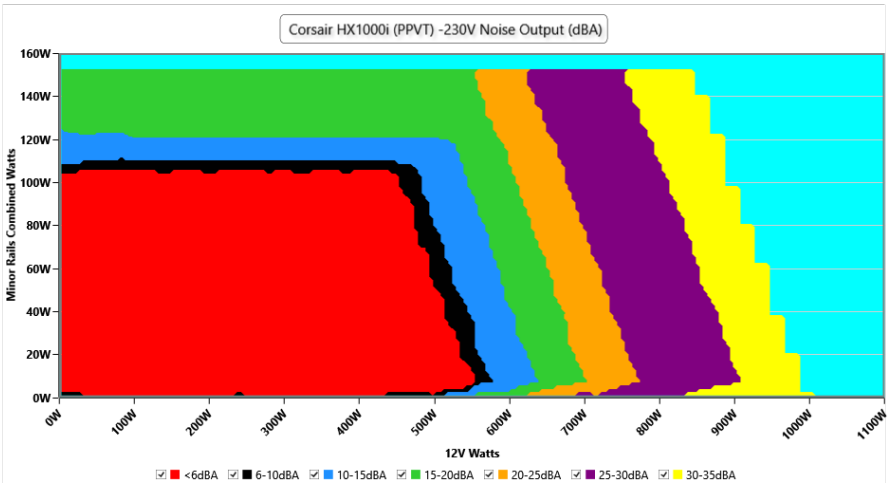
EFFICIENCY GRAPH 230V



INFO

This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

NOISE GRAPH 230V

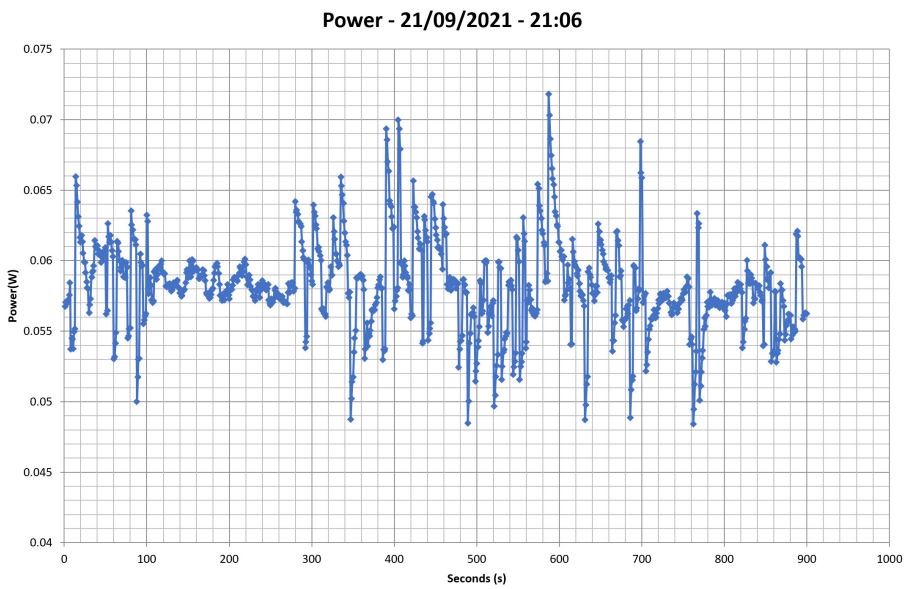


INFO

The PSU's noise in its entire operational range and under 30-32 °C (+-2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

VAMPIRE POWER -230V



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

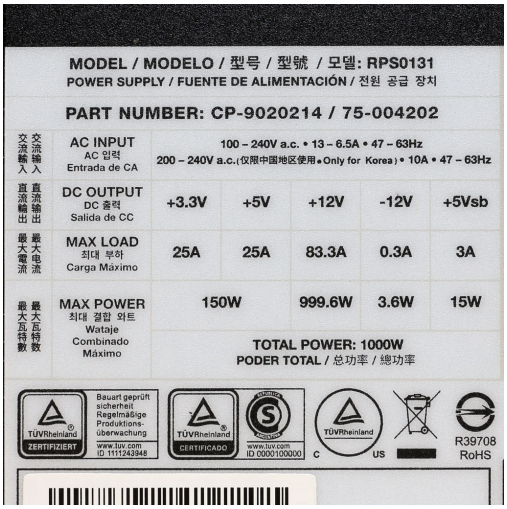
www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

COMMISSION REGULATION (EU) NO 617/2013 TESTING 230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	6.513A	1.987A	1.992A	0.995A	99.973	90.424%	0	<6.0	45.72°C	0.704
	12.034V	5.032V	3.313V	5.021V	110.56				40.43°C	230.26V
20%	14.063A	2.981A	2.989A	1.195A	199.905	92.878%	0	<6.0	46.67°C	0.922
	12.018V	5.031V	3.312V	5.019V	215.236				41.05°C	230.26V
50%	37.492A	4.974A	4.989A	1.796A	499.16	93.602%	0	<6.0	49.47°C	0.97
	11.967V	5.027V	3.307V	5.01V	533.277				42.04°C	230.27V
100%	75.435A	8.976A	9.006A	3.008A	999.302	91.433%	1348	37.2	45.24°C	0.99
	12.059V	5.013V	3.297V	4.986V	1092.937				55.22°C	230.31V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus

Top side



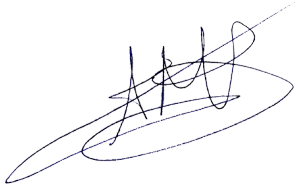
MODEL / MODELO / 型号 / 型號 / 모델: RPS0131
POWER SUPPLY / FUENTE DE ALIMENTACIÓN / 전원 공급 장치

PART NUMBER: CP-9020214 / 75-004202

交流輸入	AC INPUT AC 입력 Entrada de CA	100 – 240V a.c. • 13 – 6.5A • 47 – 63Hz 200 – 240V a.c.(仅限中国地区使用 • Only for Korea) • 10A • 47 – 63Hz				
直流輸出	DC OUTPUT DC 출력 Salida de CC	+3.3V	+5V	+12V	-12V	+5Vsb
最大電流	MAX LOAD 최대 부하 Carga Máximo	25A	25A	83.3A	0.3A	3A
最大瓦特數	MAX POWER 최대 결합 와트 Wataje Combinado Máximo	150W		999.6W	3.6W	15W
		TOTAL POWER: 1000W PODER TOTAL / 总功率 / 總功率				

Power specifications label

CERTIFICATIONS 115V



Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD
Syrou 6, Latsia, 2231, Nicosia Cyprus