

Lab ID#: 417  
Receipt Date: Jun 9, 2018  
Test Date: Jun 22, 2018

Report:

Report Date: Jun 25, 2018

## DUT INFORMATION

|                    |            |
|--------------------|------------|
| Brand              | Corsair    |
| Manufacturer (OEM) | HEC        |
| Series             | Vengeance  |
| Model Number       |            |
| Serial Number      |            |
| DUT Notes          | CP-9020176 |

## DUT SPECIFICATIONS

|                        |                                  |
|------------------------|----------------------------------|
| Rated Voltage (Vrms)   | 100-240                          |
| Rated Current (Arms)   | 12-6                             |
| Rated Frequency (Hz)   | 47-63                            |
| Rated Power (W)        | 750                              |
| Type                   | ATX12V                           |
| Cooling                | 120mm Rifle Bearing Fan (NR120L) |
| Semi-Passive Operation | ✓                                |
| Cable Design           | Semi Modular                     |

## POWER SPECIFICATIONS

| Rail                 |       | 3.3V | 5V | 12V  | 5VSB | -12V |
|----------------------|-------|------|----|------|------|------|
| Max. Power           | Amps  | 25   | 20 | 62.5 | 3    | 0.3  |
|                      | Watts | 120  |    | 750  | 15   | 3.6  |
| Total Max. Power (W) |       | 750  |    |      |      |      |

## CABLES AND CONNECTORS

### Captive Cables

| Description                    | Cable Count | Connector Count (Total) | Gauge    | In Cable Capacitors |
|--------------------------------|-------------|-------------------------|----------|---------------------|
| ATX connector 20+4 pin (630mm) | 1           | 1                       | 18-22AWG | Yes                 |
| 4+4 pin EPS12V (660mm)         | 1           | 1                       | 18-22AWG | Yes                 |
| 6+2 pin PCIe (660mm+100mm)     | 1           | 2                       | 18AWG    | Yes                 |

### Modular Cables

|                                       |   |   |          |    |
|---------------------------------------|---|---|----------|----|
| 4+4 pin EPS12V (650mm)                | 1 | 1 | 18AWG    | No |
| 6+2 pin PCIe (650mm+100mm)            | 2 | 4 | 16-18AWG | No |
| SATA (470mm+120mm+120mm)              | 1 | 3 | 18AWG    | No |
| SATA (540mm+120mm)                    | 1 | 2 | 18AWG    | No |
| 4 pin Molex (450mm+100mm+100mm+100mm) | 2 | 8 | 18AWG    | No |
| FDD Adapter (+105mm)                  | 1 | 1 | 20AWG    | No |
| AC Power Cord (1400mm) - C13 coupler  | 1 | 1 | 16AWG    | -  |

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## 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                        | 87.626%     |
| Efficiency With 10W (≤500W) or 2% (>500W) | 64.008      |
| Average Efficiency 5VSB                   | 79.178%     |
| Standby Power Consumption (W)             | 0.0498680   |
| Average PF                                | 0.983       |
| Avg Noise Output                          | 19.58 dB(A) |
| Efficiency Rating (ETA)                   | GOLD        |
| Noise Rating (LAMBDA)                     | A+          |

### 230V

|                               |             |
|-------------------------------|-------------|
| Average Efficiency            | 89.748%     |
| Average Efficiency 5VSB       | 78.094%     |
| Standby Power Consumption (W) | 0.0912818   |
| Average PF                    | 0.949       |
| Avg Noise Output              | 21.47 dB(A) |
| Efficiency Rating (ETA)       | GOLD        |
| Noise Rating (LAMBDA)         | A           |

## TEST EQUIPMENT

|                  |                                                          |                                                                       |
|------------------|----------------------------------------------------------|-----------------------------------------------------------------------|
| Electronic Loads | Chroma 6314A x2<br>63123A x6<br>63102A<br>63101A         | Chroma 63601-5 x2<br>Chroma 63600-2<br>63640-80-80 x10<br>63610-80-20 |
| AC Sources       | Chroma 6530, Chroma 61604                                |                                                                       |
| Power Analyzers  | N4L PPA1530, N4L PPA5530                                 |                                                                       |
| Oscilloscopes    | Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A |                                                                       |
| Voltmeter        | Keithley 2015 THD 6.5 Digit                              |                                                                       |
| Sound Analyzer   | Bruel & Kjaer 2250-L G4                                  |                                                                       |
| Microphone       | Bruel & Kjaer Type 4955-A, Bruel & Kjaer Type 4189       |                                                                       |
| Data Loggers     | Picoscope TC-08 x2, Labjack U3-HV x2                     |                                                                       |

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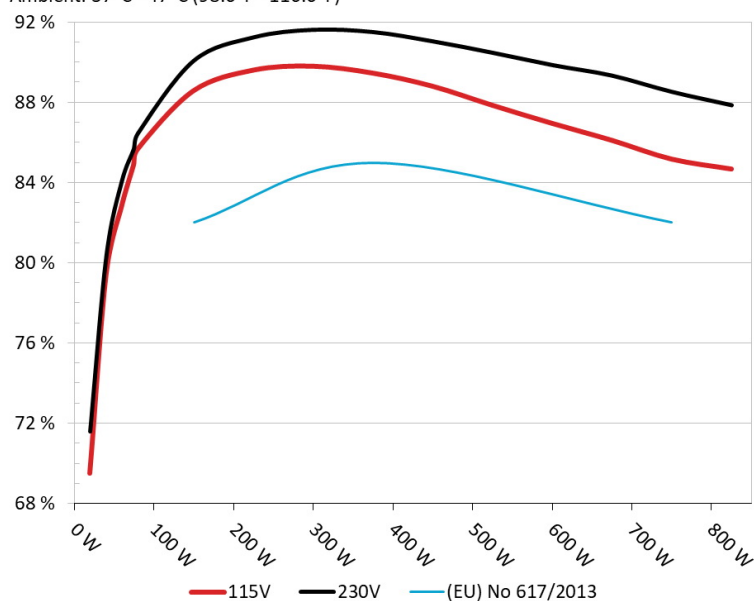
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## EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

### Efficiency: Corsair Vengeance 750M

Ambient: 37°C - 47°C (98.6°F - 116.6°F)



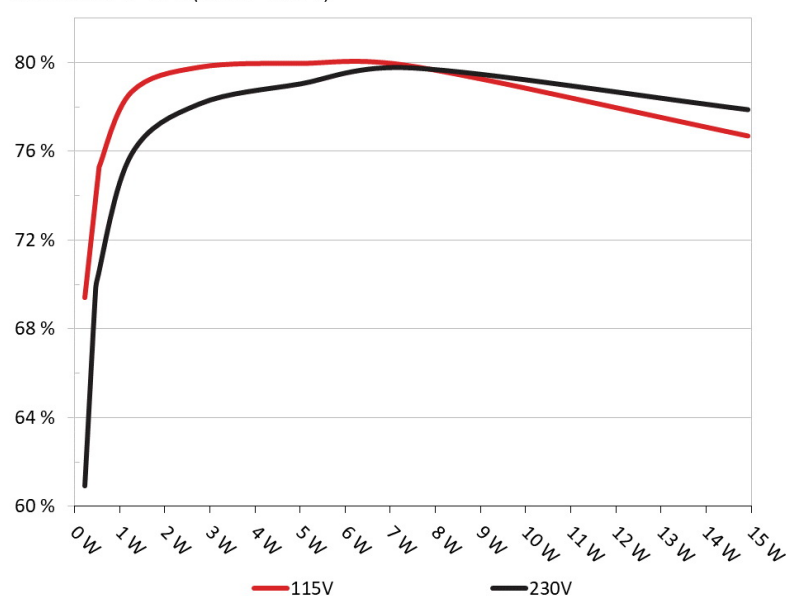
### INFO

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

### 5VSB Efficiency: Corsair Vengeance 750M

Ambient: 34°C - 36°C (93.2°F - 96.8°F)



### INFO

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

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

| Test # | 5VSB   | DC/AC (Watts) | Efficiency | PF/AC Volts |
|--------|--------|---------------|------------|-------------|
| 1      | 0.045A | 0.227         | 69.419%    | 0.040       |
|        | 5.030V | 0.327         |            | 115.15V     |
| 2      | 0.090A | 0.453         | 74.752%    | 0.073       |
|        | 5.029V | 0.606         |            | 157.58V     |
| 3      | 0.550A | 2.762         | 79.780%    | 0.292       |
|        | 5.019V | 3.462         |            | 115.15V     |
| 4      | 1.000A | 5.012         | 79.949%    | 0.379       |
|        | 5.011V | 6.269         |            | 115.14V     |
| 5      | 1.500A | 7.504         | 79.821%    | 0.425       |
|        | 5.002V | 9.401         |            | 115.15V     |
| 6      | 3.000A | 14.924        | 76.687%    | 0.482       |
|        | 4.974V | 19.461        |            | 115.14V     |

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

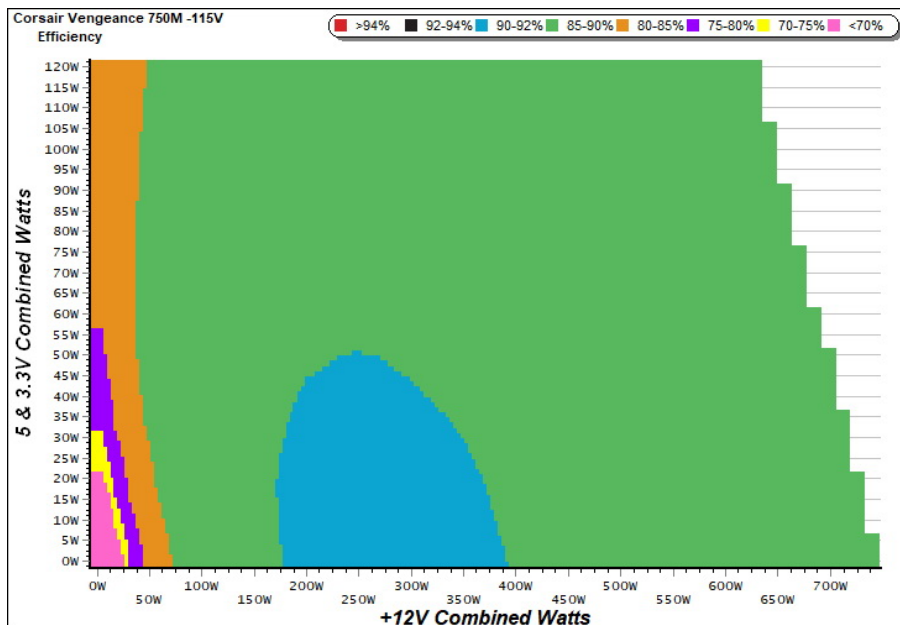
| Test # | 5VSB   | DC/AC (Watts) | Efficiency | PF/AC Volts |
|--------|--------|---------------|------------|-------------|
| 1      | 0.045A | 0.226         | 60.916%    | 0.014       |
|        | 5.030V | 0.371         |            | 230.28V     |
| 2      | 0.090A | 0.453         | 69.372%    | 0.024       |
|        | 5.029V | 0.653         |            | 230.28V     |
| 3      | 0.550A | 2.762         | 78.133%    | 0.121       |
|        | 5.020V | 3.535         |            | 230.28V     |
| 4      | 1.000A | 5.013         | 79.044%    | 0.195       |
|        | 5.012V | 6.342         |            | 230.28V     |
| 5      | 1.500A | 7.506         | 79.758%    | 0.253       |
|        | 5.003V | 9.411         |            | 230.28V     |
| 6      | 3.000A | 14.927        | 77.879%    | 0.352       |
|        | 4.975V | 19.167        |            | 230.28V     |

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# 115V

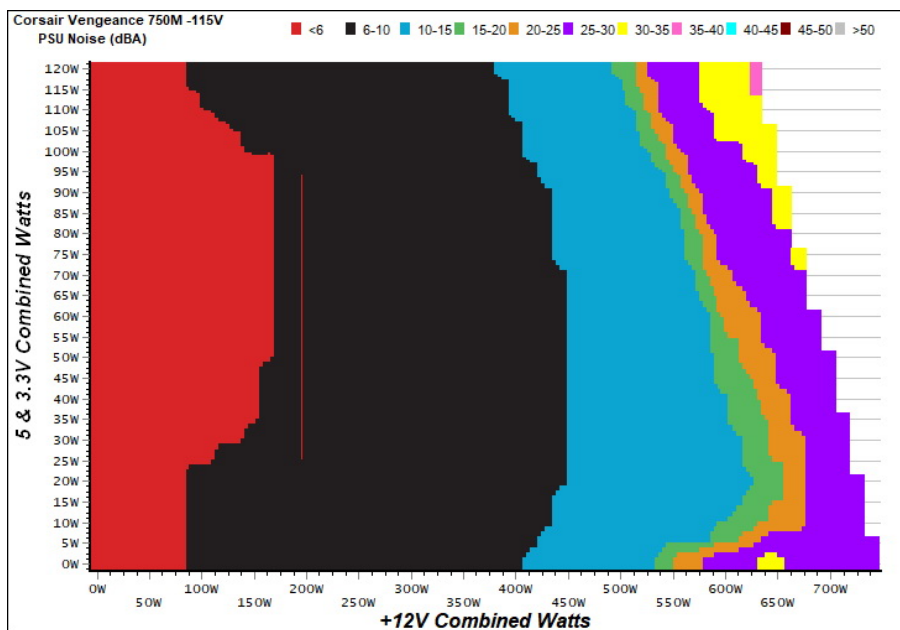
## EFFICIENCY GRAPH 115V



### 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

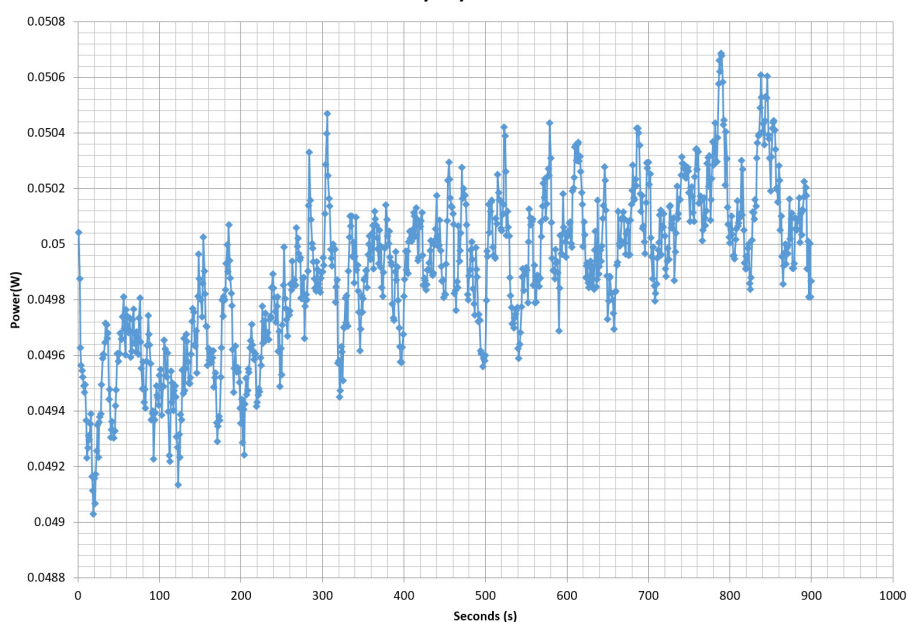
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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## VAMPIRE POWER -115V

Power - 19/06/2018 - 09:19



### 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*

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

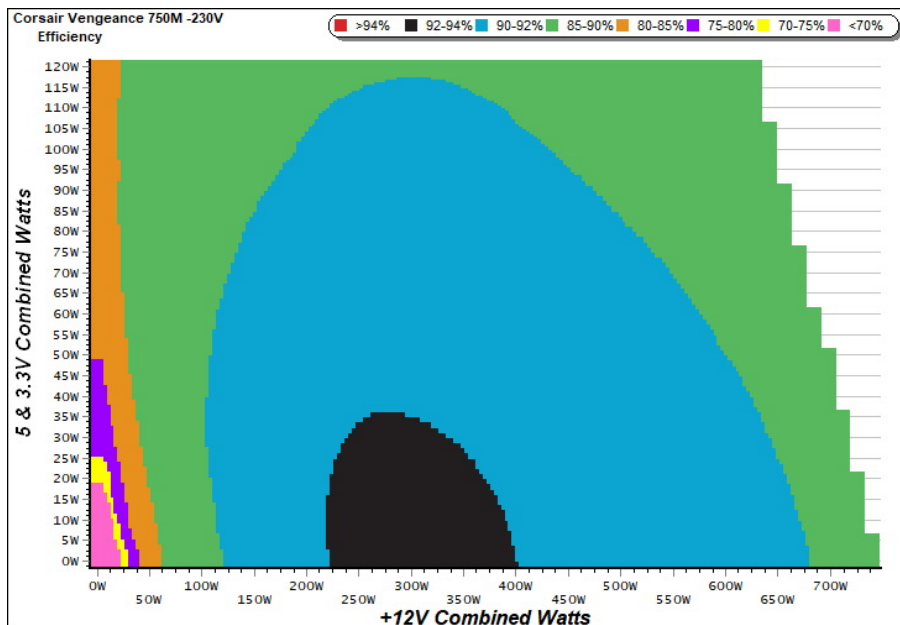
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# 230V

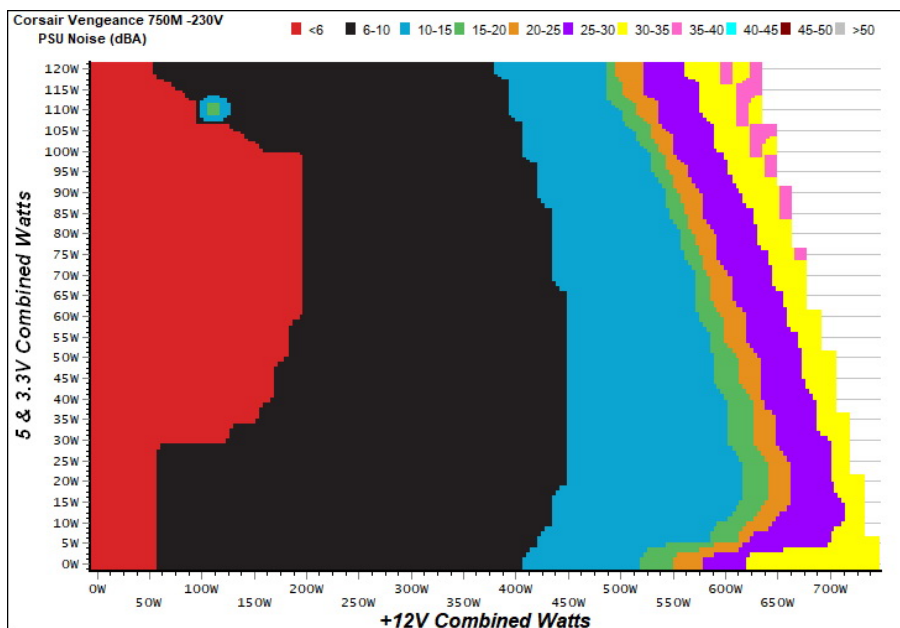
## EFFICIENCY GRAPH 230V



### 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

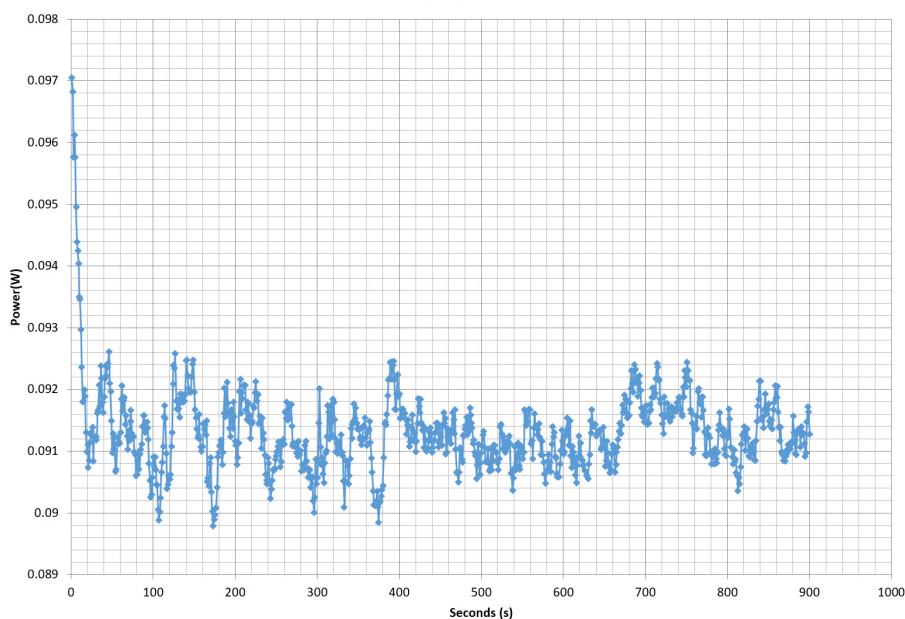
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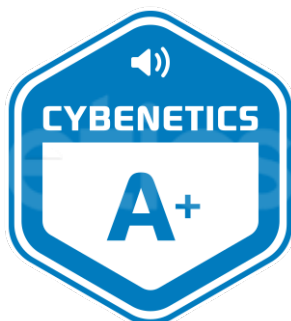
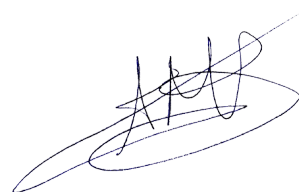


Top side

| CORSAIR                                                                                     |                                      |       |       |      |       |
|---------------------------------------------------------------------------------------------|--------------------------------------|-------|-------|------|-------|
| MODEL / MODELO / 型号 / 型號 / 모델 : RP50106<br>POWER SUPPLY / FUENTE DE ALIMENTACIÓN / 전원 공급 장치 |                                      |       |       |      |       |
| PART NUMBER: CP-9020176/75-003441                                                           |                                      |       |       |      |       |
| 交流電輸入<br>AC 입력<br>Entrada de CA                                                             | 100V - 240V • 12A - 6A • 47Hz - 63Hz |       |       |      |       |
| 直流電輸出<br>DC 출력<br>Salida de CC                                                              | +5V                                  | +3.3V | +12V  | -12V | +5Vsb |
| 最大電流<br>MAX LOAD<br>최대 부하<br>Carga Máximo                                                   | 20A                                  | 25A   | 62.5A | 0.3A | 3A    |
| 最大瓦特數<br>MAX POWER<br>최대 출력<br>Wattage<br>Combinado<br>Máximo                               | 120W                                 | 750W  | 3.6W  | 15W  |       |
| TOTAL POWER: 750W<br>PODER TOTAL / 總功率 / 總功率 / 총출력                                          |                                      |       |       |      |       |
|           |                                      |       |       |      |       |

Power specifications label

## CERTIFICATIONS 115V

Aris Mpitsiopoulos  
Lab Director

## CERTIFICATIONS 230V



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