

## 1000W Multiple Output Modular Power Supply

### Features

- ◆ Universal AC Input
- ◆ Power factor Corrected
- ◆ Capable of up to 14 fully regulated and independent outputs
- ◆ Output Voltages from 1.8V - 48V
- ◆ Low Leakage Options
- ◆ International Safety Agency Certification
- ◆ Fast-on Tab Connections
- ◆ No Minimum Load
- ◆ Wide Range Output Modules



### Key Market Segments & Applications



| Specifications               |      |                                                                                                                                                       |
|------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                        |      |                                                                                                                                                       |
| AC Input Volt. range & Freq. | -    | 85-264VAC, 47-63Hz                                                                                                                                    |
| DC Input Voltage Range       | -    | 120 - 360VDC (800W maximum output to 45C)                                                                                                             |
| Input Current                | A    | 16A maximum                                                                                                                                           |
| Inrush Current               | A    | Less than 50A                                                                                                                                         |
| Leakage Current              | -    | 1.1mA @ 264VAC, 63Hz (see input filter options in detailed product datasheet)                                                                         |
| Efficiency                   | %    | 75% typical (configuration and input dependent)                                                                                                       |
| Power Factor Correction      | -    | Compliant to EN61000-3-2 (> 0.99 typical, reduced PFC > 255VAC)                                                                                       |
| Conducted EMI                | -    | EN55022 level A                                                                                                                                       |
| Output Power                 | W    | 800W@85VAC (50°C max); 1000W@100VAC (50°C max); 1000W@90VAC (45°C max); 1000W for 30 seconds maximum @ 85VAC followed by 800W for 60 seconds minimum. |
| Output Load Regulation       | -    | 0.2% maximum.                                                                                                                                         |
| Output Line Regulation       | -    | 0.5% maximum.                                                                                                                                         |
| Ripple & Noise               | -    | 2% pk-pk or 100mV (Whichever is greater)                                                                                                              |
| No Load Operation            | -    | No preload is required on any output module.                                                                                                          |
| Hold Up Time                 | ms   | >15ms                                                                                                                                                 |
| Remote Sense                 | -    | Available on single output modules only, refer to the module table.                                                                                   |
| Options (see option codes)   | -    | AC Fail, Global Inhibit, Module Inhibit, 5V@50mA aux., Parallel, Low Leakage.                                                                         |
| Operating Temperature        | °C   | -20°C to +50°C full load, derate each output at 2.5% /°C from 50°C to 65°C.                                                                           |
| Thermal Protection           | -    | Converter protected against over-temperature conditions. Recycle I/P power to restore output.                                                         |
| Storage Temperature          | °C   | -40°C to +85°C                                                                                                                                        |
| Temperature Coefficient      | -    | 0.02% per °C                                                                                                                                          |
| Humidity                     | % RH | 5% - 95% Non-condensing                                                                                                                               |
| Altitude                     | -    | 3,000m operating                                                                                                                                      |
| Cooling                      | -    | Internal fan provides forced-air cooling. Airflow intake on I/P end, exhaust on O/P end of unit.                                                      |
| Isolation                    | -    | Input - Output 4.3kVDC, Input - Ground 2.3kVDC, Output - Ground 500VDC                                                                                |
| Switching Frequency          | -    | 100kHz on PFC, 200kHz on forward converter.                                                                                                           |
| Vibration                    | -    | 1.5G, 10 - 200Hz                                                                                                                                      |
| Shock                        | -    | 3,000 bumps, 10G, 16ms half-sine pulses.                                                                                                              |
| Safety Agency Certification  | -    | UL, EN/IEC60950-1, UL, EN/IEC60601-1*, IEC, EN61010-1, CE Mark                                                                                        |
| Size (WxHxD)                 | in.  | 7" x 2.5" x 11"                                                                                                                                       |
| Warranty                     | -    | Three Years                                                                                                                                           |

Notes: Consult datasheet for additional specifications

\* Low leakage filter options only.

## 1 Case Codes

Choose the converter which best fits your total power needs:

| Code   | Wattage | Max Slots | Size (H x W x L) | Input Voltage |
|--------|---------|-----------|------------------|---------------|
| CA1000 | 1000*   | 7         | 2.5" x 7" x 11"  | 85 - 265VAC   |

\* Note: CA1000 derates to 800W for 85-100VAC input with a peak of 1000W for 30 seconds max.

## 2 Output Module Codes

| Code | V1 Adjust   | V1 Amps | V2 Adjust   | V2 Amps | Slot(s) <sup>(1)</sup> |
|------|-------------|---------|-------------|---------|------------------------|
| L    | 1.8 - 3.2   | 25      | -           | -       | 1                      |
| T    | 1.8 - 3.2   | 60      | -           | -       | 2                      |
| Q    | 2.7 - 3.9   | 25      | -           | -       | 1                      |
| R    | 2.7 - 3.9   | 60      | -           | -       | 2                      |
| B    | 4.5 - 5.5   | 25      | -           | -       | 1                      |
| A    | 4.5 - 5.5   | 60      | -           | -       | 2                      |
| BB   | 4.5 - 6.5   | 25      | -           | -       | 1                      |
| AA   | 4.5 - 6.5   | 60      | -           | -       | 2                      |
| S    | 2.5 - 5.7   | 85      | -           | -       | 2                      |
| M    | 5.0 - 16.0  | 8       | -           | -       | 1                      |
| C    | 5.0 - 16.0  | 16(3)   | -           | -       | 1                      |
| F    | 9.0 - 16.0  | 33      | -           | -       | 2                      |
| U    | 10.0 - 21.0 | 16      | -           | -       | 1                      |
| N    | 18.0 - 29.0 | 5       | -           | -       | 1                      |
| D    | 18.0 - 29.0 | 8       | -           | -       | 1                      |
| K    | 18.0 - 29.0 | 15      | -           | -       | 2                      |
| G    | 17.5 - 29.0 | 25(3)   | -           | -       | 2                      |
| J    | 30.0 - 48.0 | 10(3)   | -           | -       | 2                      |
| E    | 5.0 - 16.0  | 8(3)    | 5.0 - 16.0  | 8(3)    | 1                      |
| P    | 18.0 - 29.0 | 5       | 5.0 - 16.0  | 8(3)    | 1                      |
| H    | 18.0 - 32.0 | 5(3)    | 18.0 - 32.0 | 5(3)    | 1                      |

Notes: 1) The total # of slots must not exceed 7 for CA1000.  
 2) Slot position may change upon order placement.  
 3) Module Deratings: C derates linearly to 12A from 12.1V-15V  
 E & P 8A rating derates to 6A in slots 4 & 5  
 H derates from 5A to 4A in slots 4 & 5  
 G derates to 21A above 24.5V  
 J derates 0.25A/V above 40V

## Sample Configurations

|                           | Output 1 |      | Output 2 |    | Output 3 |    | Output 4 |    | Output 5 |   |
|---------------------------|----------|------|----------|----|----------|----|----------|----|----------|---|
|                           | V        | A    | V        | A  | V        | A  | V        | A  | V        | A |
| CA1000-24G                | 24       | 16.5 | -        | -  | -        | -  | -        | -  | -        | - |
| CA1000-5APP-5APP *        | 5        | 120  | -        | -  | -        | -  | -        | -  | -        | - |
| CA1000-5A-12.7C           | 5        | 60   | 12.7     | 16 | -        | -  | -        | -  | -        | - |
| CA1000-24G-5/12E          | 24       | 25   | 5        | 8  | 12       | 8  | -        | -  | -        | - |
| CA1000-5A-24G-12C-12C     | 5        | 60   | 24       | 25 | 12       | 16 | 12       | 16 | -        | - |
| CA1000-5BMF-24D-6/12E     | 5        | 25   | 24       | 8  | 6        | 8  | 12       | 8  | -        | - |
| CA1000-5B-5CIN-12C-12/12E | 5        | 25   | 5        | 16 | 12       | 16 | 12       | 8  | 12       | 8 |
| CA1000-5S-12F-12C-5/24P   | 5        | 85   | 12       | 33 | 12       | 16 | 5        | 8  | 24       | 5 |

Notes: Total output power must not exceed 1000W converter limits.  
 \* Modules in parallel.

## Other Modular Products

|           |                               |
|-----------|-------------------------------|
| NV        | 350W to 700W up to 8 outputs  |
| Vega      | 450W to 900W up to 10 outputs |
| Alpha1500 | 1500W up to 16 outputs        |

For Additional Information, please visit  
[us.tdk-lambda.com/lp/products/alpha-series.htm](http://us.tdk-lambda.com/lp/products/alpha-series.htm)



## 3 Option Codes

If required the following options may be added to the configuration by placing the code after the module.  
 (i.e. Inhibiting a 5V @ 25A = 5B + Inhibit code = "5BIN")

| Code            | Description                                                                                                                                                                                                  | Available On                             |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| MF <sup>2</sup> | Mains Fail<br>This option provides an AC fail signal, power supply inhibit, and 5V@50mA auxiliary supply. This is only placed in the first module slot. (TTL compatible reference to 0 volts of Aux. Supply) | All modules except Dual output (E, H, P) |
| PP              | Parallel for Power<br>This option allows 2 adjacent modules to be paralleled together for increased output power. Bus bars provided.                                                                         | Modules: A, B, C, D, F, G, M, N, Q, R    |
| PA              | Parallel for Redundancy<br>This option allows modules to be connected for N+1 redundancy. A DC good signal is also offered (electrically similar to AC fail.) No bus bars provided.                          | Modules: A, B, C, D, F, G, M, N, Q, R, S |
| IN3             | Inhibit<br>Module inhibit and DC good signal. (TTL compatible referenced to (-V) of the module)                                                                                                              | Modules A, B, C, D, F, G, J, M, N, Q, R  |

Low Leakage Options (Max values stated)  
 120VAC, 60Hz 240VAC, 60Hz 264VAC, 63Hz<sup>(4)</sup> Conducted EMI

|    |       |        |        |          |
|----|-------|--------|--------|----------|
| LL | 88 µA | 197 µA | 233 µA | Curve A  |
| RL | 50 µA | 112 µA | 132 µA | >Curve A |
| TL | 24 µA | 53 µA  | 63 µA  | >Curve A |

Notes: 1) Only one option per module may be used.  
 2) Mains Fail: AC Fail "AC On" = ≤ 0.8V, 50mA max.  
 "AC Off" = open circuit, 50V abs max.  
 PS Inhibit "PS On" = ≥ 2.0V or open circuit.  
 "PS Off" = ≤ 0.8V @ 5mA.  
 (TTL compatible, Referenced to 0 volts of Aux. Supply.)  
 3) Inhibit: DC Good Electrically similar to AC fail module.  
 Inhibit Electrically similar to PS inhibit.  
 4) Type testing result

## Outline Drawing

