

## 200 to 800W Programmable Power Supplies

### Features

- ◆ 2U high
- ◆ Built-in USB, RS-232 & RS-485 Interface
- ◆ Optional LAN, GPIB & Isolated Analog Programming
- ◆ Bench or Rack Mount
- ◆ Constant Current or Voltage Modes
- ◆ Five Year Warranty

### Key Market Segments & Applications



| Model Selector |                      |                      |               |                      |                     |                      |                           |                                   |
|----------------|----------------------|----------------------|---------------|----------------------|---------------------|----------------------|---------------------------|-----------------------------------|
| Model          | Voltage Adjust Range | Current Adjust Range | Max Power (W) | Ripple 5Hz-1MHz (mV) | Noise 20MHz BW (mV) | Ripple 5Hz-1MHz (mA) | Efficiency % (100-200VAC) | Front Panel Output Jacks (Option) |
| Z10-20-U       | 0 - 10               | 0 - 20               | 200           | 5                    | 50                  | 50                   | 80 / 82                   | Yes                               |
| Z10-40-U       | 0 - 10               | 0 - 40               | 400           | 5                    | 50                  | 50                   | 80 / 82                   | Yes                               |
| Z10-60-U       | 0 - 10               | 0 - 60               | 600           | 6.25                 | 75                  | 75                   | 80 / 82                   | Yes                               |
| Z10-72-U       | 0 - 10               | 0 - 72               | 720           | 6.25                 | 75                  | 75                   | 80 / 82                   | Yes                               |
| Z20-10-U       | 0 - 20               | 0 - 10               | 200           | 5                    | 50                  | 30                   | 82 / 84                   | Yes                               |
| Z20-20-U       | 0 - 20               | 0 - 20               | 400           | 5                    | 50                  | 30                   | 81 / 83                   | Yes                               |
| Z20-30-U       | 0 - 20               | 0 - 30               | 600           | 6.25                 | 75                  | 45                   | 82 / 84                   | Yes                               |
| Z20-40-U       | 0 - 20               | 0 - 40               | 800           | 6.25                 | 75                  | 45                   | 82 / 84                   | Yes                               |
| Z36-6-U        | 0 - 36               | 0 - 6                | 216           | 5                    | 50                  | 15                   | 83 / 85                   | Yes                               |
| Z36-12-U       | 0 - 36               | 0 - 12               | 432           | 5                    | 50                  | 15                   | 83 / 85                   | Yes                               |
| Z36-18-U       | 0 - 36               | 0 - 18               | 648           | 6.25                 | 75                  | 22                   | 84 / 85                   | Yes                               |
| Z36-24-U       | 0 - 36               | 0 - 24               | 864           | 6.25                 | 75                  | 22                   | 84 / 85                   | Yes                               |
| Z60-3.5-U      | 0 - 60               | 0 - 3.5              | 210           | 5                    | 50                  | 8                    | 83 / 85                   | Yes                               |
| Z60-7-U        | 0 - 60               | 0 - 7                | 420           | 5                    | 50                  | 8                    | 83 / 85                   | Yes                               |
| Z60-10-U       | 0 - 60               | 0 - 10               | 600           | 6.25                 | 75                  | 12                   | 83 / 85                   | Yes                               |
| Z60-14-U       | 0 - 60               | 0 - 14               | 840           | 6.25                 | 75                  | 12                   | 83 / 85                   | Yes                               |
| Z100-2-U       | 0 - 100              | 0 - 2                | 200           | 8                    | 80                  | 3                    | 83 / 85                   | No                                |
| Z100-4-U       | 0 - 100              | 0 - 4                | 400           | 8                    | 80                  | 3                    | 84 / 86                   | No                                |
| Z100-6-U       | 0 - 100              | 0 - 6                | 600           | 10                   | 100                 | 4.5                  | 84 / 86                   | No                                |
| Z100-8-U       | 0 - 100              | 0 - 8                | 800           | 10                   | 100                 | 4.5                  | 84 / 86                   | No                                |

| Factory Installed Options                             |             |
|---|-------------|
|   | Option Code |
| Front panel terminals (60V or 24A max)*               | -L          |
| <b>Only one of the options below can be included:</b> |             |
| GPIB Interface*                                       | -IEEE       |
| Voltage Programming Isolated Analog Interface*        | -IS510      |
| Current Programming Isolated Analog Interface*        | -IS420      |
| LAN Interface (Complies with "LXI" Class C)           | -LAN        |

| Part Number Example |
|---------------------|
| Z10-20-LAN-L-U      |

\*Requires wide body (105mm) case style

| Accessories  |             |
|--|-------------|
|  | Part Number |
| 19" Rack Housing<br>(Accepts four 105mm width units or six 70mm width units)   | Z-NL100     |
| Blanking Panel for 19" Rack (70mm)   | Z-BP        |
| Blanking Panel for 19" Rack (105mm)  | Z-WBP       |
| Dual/Triple Housing<br>(Accepts two 105mm case units or three 70mm case units) | Z-NL200     |
| Serial Link Cable (One is included with each power supply)                     | Z-RJ45      |
| Communication Cable RS485  | Z-485-9     |
| Communication Cable RS232  | Z-232-9     |
| North American Line Cord (One included with -U suffix)                         | Z-U         |

## Specifications (See website for detailed specifications)

| Model  |           | Z10  | Z20    | Z36    | Z60    | Z100    |
|--|-----------|--|--------|--------|--------|---------|
| Load Regulation  | CV        | 2mV + 0.01% of rated voltage over 0 - 100% load change                   |        |        |        |         |
| Line Regulation  | CV        | 2mV + 0.01% of rated voltage over a 85 - 132 or 170 - 265VAC line change |        |        |        |         |
| Recovery Time (1)  | CV        | 1ms  |        |        |        |         |
| Temperature Coefficient                                    | CV        | 30ppm/°C following 30 minute warm up                                     |        |        |        |         |
| Temperature Stability                                      | CV        | 0.02% of rated voltage over 8 hours following 30 minute warm up time     |        |        |        |         |
| Warm up Drift (2)  | CV        | <0.05% of rated voltage + 2mV of rated output voltage                    |        |        |        |         |
| Up programming response time (10-90% or 90-10% of Vmax)    | CV        | 15ms   | 30ms   | 30ms   | 50ms   | 50ms    |
| Down programming resp time (CV) (10-90% or 90-10% of Vmax) | Full load | 10ms   | 30ms   | 30ms   | 50ms   | 50ms    |
| Down programming resp time (CV) (90-10% of Vmax)           | Zero load | 190ms  | 200ms  | 250ms  | 310ms  | 900ms   |
| Load Regulation  | CC        | 5mA + 0.01% of rated current over 0 - 100% Vout change                   |        |        |        |         |
| Load Regulation thermal drift                              | CC        | < 0.05% of rated current over 30 minutes after load change               |        |        |        |         |
| Line Regulation  | CC        | 2mA + 0.01% of rated current over a 85 - 132 or 170 - 265VAC line change |        |        |        |         |
| Temperature Coefficient                                    | CC        | 100ppm/°C of rated current after 30 minute warm up time                  |        |        |        |         |
| Temperature Stability                                      | CC        | 0.05% of rated current over 8 hours following 30 minute warm up time     |        |        |        |         |
| Warm up Drift (2)  | CC        | <±0.1% of rated current  |        |        |        |         |
| Vout & Iout programming & readback resolution              | Digitally | < 0.012% of rated voltage/current  |        |        |        |         |
| Vout & Iout programming & readback accuracy                | Digitally | < 0.05% of rated voltage, < 0.1% of rated current                        |        |        |        |         |
| Voltage & Current Programming                              | Analog    | By either Voltage (0-5V or 0-10V) or Resistance (0-5k or 0-10k)          |        |        |        |         |
| Voltage & Current Monitoring                               | Analog    | 0-5V or 0-10V Voltage (user selectable), ±1% accuracy                    |        |        |        |         |
| Overvoltage Shutdown (user programmable)                   | V         | 0.5 - 12   | 1 - 24 | 2 - 40 | 5 - 66 | 5 - 110 |
| Overtemperature Protection                                 | -         | User selectable - latched or non-latching                                |        |        |        |         |
| Display - Voltage  | -         | 4 digits. Accuracy 0.5% of rated voltage or current ±1 count             |        |        |        |         |
| Remote On/Off  | -         | By applied voltage or dry contact relay (user selectable logic)          |        |        |        |         |
| Output Good  | -         | Open Collector, Low on fail  |        |        |        |         |
| Remote Sense Compensation (per wire)                       | V         | 1  | 1      | 2      | 3      | 5       |
| Communication Interface                                    | -         | RS232, RS485 & USB standard, IEEE488 (GPIB) & LAN optional               |        |        |        |         |
| Series Operation   | -         | Up to two identical units (with external diodes)                         |        |        |        |         |
| Parallel Operation   | -         | Up to six units in master-slave configuration                            |        |        |        |         |
| Input Voltage / Frequency (3)                              | -         | 85-265VAC, 47-63Hz   |        |        |        |         |
| Inrush Current   | -         | < 25A  |        |        |        |         |
| Hold Up Time (Typical)                                     | ms        | 16ms   |        |        |        |         |
| Power Factor Correction                                    | -         | Complies with EN61000-3-2 Class A (0.99 typ)                             |        |        |        |         |
| Operating Temperature                                      | °C        | 0 - 50°C   |        |        |        |         |
| Storage Temperature  | °C        | -20 to +85°C   |        |        |        |         |
| Humidity (non condensing)                                  | %RH       | Operating: 10 - 90%RH, Storage 10 - 95%RH                                |        |        |        |         |
| Cooling  | -         | Internal temperature controlled fan                                      |        |        |        |         |
| Withstand Voltage  | -         | I/P to GND 2kVAC, I/P to O/P 3kVAC, O/P to GND 1380VDC 1 min             |        |        |        |         |
| Insulation Resistance                                      | -         | >100M at 25°C & 70%RH  |        |        |        |         |
| Vibration (non operating)                                  | -         | IEC60068-2-64  |        |        |        |         |
| Shock  | -         | <20G, half sine, 11ms. IEC60068-2-27                                     |        |        |        |         |
| Safety Agency Certifications                               | -         | UL61010-1, EN61010-1, IEC61010 (Designed to meet UL/EN60950-1)           |        |        |        |         |
| Immunity   | -         | IEC61326 (Designed to meet EN55022 / EN55024)                            |        |        |        |         |
| Conducted & Radiated EMI                                   | -         | EN55022-B, FCC part 15-B, VCCI-B   |        |        |        |         |
| Size (H x W x D) (Excluding handles and busbars)           | mm        | Standard body 83 x 70 x 350mm; Wide Body 83 x 105 x 350mm                |        |        |        |         |
| Weight   | kg        | Standard body 1.9kg; Wide Body 2.4kg                                     |        |        |        |         |
| Warranty   | yrs       | Five Years   |        |        |        |         |

### Notes:

- (1) Recovery to within 0.5% of rated voltage after a load change of 10-90% (Output current 10-100% of Imax)
- (2) Over 30 minute warm up time after power on
- (3) Derate for 85-100 VAC; Z10-72-U (66A), Z20-40-U (36A), Z36-24-U (20A), Z60-14-U (12.5A), Z100-8-U (7.5A)

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



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