

200-800W 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) |
| Z160-1.3-U | 0 - 160 | 0 - 1.3 | 208 | 10 | 100 | 1.2 | 79 / 81 |
| Z160-2.6-U | 0 - 160 | 0 - 2.6 | 416 | 10 | 100 | 1.5 | 84 / 86 |
| Z160-4-U | 0 - 160 | 0 - 4 | 640 | 10 | 100 | 2.0 | 86.5 / 88.5 |
| Z160-5-U | 0 - 160 | 0 - 5 | 800 | 10 | 100 | 2.0 | 86.5 / 88.5 |
| Z320-0.65-U | 0 - 320 | 0 - 0.65 | 208 | 25 | 150 | 0.8 | 79 / 81 |
| Z320-1.3-U | 0 - 320 | 0 - 1.3 | 416 | 25 | 150 | 1.0 | 84 / 86 |
| Z320-2-U | 0 - 320 | 0 - 2 | 640 | 30 | 150 | 1.5 | 87 / 88.5 |
| Z320-2.5-U | 0 - 320 | 0 - 2.5 | 800 | 30 | 150 | 1.5 | 86.5 / 89 |
| Z375-2.2-U | 0 - 375 | 0 - 2.2 | 825 | 30 | 150 | 1.5 | 87.5 / 89.5 |
| Z650-0.32-U | 0 - 650 | 0 - 0.32 | 208 | 60 | 250 | 0.5 | 79 / 81 |
| Z650-0.64-U | 0 - 650 | 0 - 0.64 | 416 | 60 | 250 | 0.6 | 84 / 86 |
| Z650-1-U | 0 - 650 | 0 - 1 | 650 | 60 | 250 | 1.0 | 86.5 / 88.5 |
| Z650-1.25-U | 0 - 650 | 0 - 1.25 | 812 | 60 | 250 | 1.0 | 87 / 89 |

| Options | |
|--|-------------|
| | Option Code |
| IEC320 cable USA plug (Included in model number above) | -U |
| Front panel insulated output sockets (650V or 5A max)* | -L2 |
| Only one of the options below can be included: | |
| GPIB Interface* | -IEEE |
| Voltage Programming Isolated Analog Interface* | -IS510 |
| Current Programming Isolated Analog Interface* | -IS420 |
| LAN Interface | -LAN |

| Part Number Example |
|---------------------|
| Z160-1.3-LAN-U |

*Requires wide body (105mm) case style

| Accessories | |
|--|-------------|
| | Part Number |
| 19" Rack Housing | Z-NL100 |
| (Accepts four 105mm width units or six 70mm width units) | |
| Blanking Panel for 19" Rack (70mm) | Z-BP |
| Blanking Panel for 19" Rack (105mm) | Z-WBP |
| Dual/Triple Housing | Z-NL200 |
| (Accepts two 105mm case units or three 70mm case units) | |
| 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 brochure on website for full detailed specifications)

| Model | | Z160 | Z320 | Z375 | Z650 |
|--|-----------|--|---------|---------|---------|
| Load Regulation | CV | 0.01% of rated voltage over 0 - 100% load change | | | |
| Line Regulation | CV | 0.01% of rated voltage over 0 - 100% input change | | | |
| Recovery Time (1) | CV | 2ms | | | |
| 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 of rated output voltage | | | |
| Up programming response time (10-90% or 90-10% of Vmax) | CV | 80ms | 150ms | 55ms | 150ms |
| Down programming resp time (CV) (10-90% or 90-10% of Vmax) | Full load | 100ms | 150ms | 65ms | 150ms |
| Down programming resp time (CV) (90-10% of Vmax) | Zero load | 2ms | 2.5ms | 2.5ms | 3ms |
| Load Regulation | CC | 0.09% 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 | 0.02% 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 + 0.05% of actual, 0.2% 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 | 5 - 176 | 5 - 353 | 5 - 413 | 5 - 717 |
| 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 | 5 | 5 | 5 | 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 | - | 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: 20 - 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 EMI | - | IEC/EN61326-1 Industrial location B, FCC part 15-B, VCCI-B | | | |
| Radiated EMI | - | IEC/EN61326-1 Industrial location A, FCC part 15-A, VCCI-A | | | |
| 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 I_{max})
- (2) Over 30 minute warm up time after power on

For Additional Information, please visit
us.tdk-lambda.com/lp/products/zplus-series.htm

