TDK·Lambda Z+ High Voltage Series

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

Industrial Test

RoHS

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 (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 (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 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 Imax)
(2) Over 30 minute warm up time after power on

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

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