

Zero up programmable power supplies

Features

- ◆ Constant Voltage / Constant Current
- ◆ Last Setting Memory
- ◆ Digital Meters
- ◆ Built-in RS232 & RS485 Interface w/ GPIB optional
- ◆ Bench or Rack Mount
- ◆ Embedded Microprocessor Controller
- ◆ Voltage up to 120V, Current up to 132A



Key Market Segments & Applications



| Specifications | | | | | | | | |
|--------------------------------|-----|---|----------|-----------|-----------|-----------|-----------|-----------|
| Model | | ZUP6 | ZUP10 | ZUP20 | ZUP36 | ZUP60 | ZUP80 | ZUP120 |
| Load Regulation | - | 2mV + 0.005% over 0 - 100% load change | | | | | | |
| Line Regulation | - | 1mV + 0.005% over 85 - 132 or 170 - 265VAC line change | | | | | | |
| Recovery Time (1) | ms | 1ms | 0.5ms | 0.2ms | | | | |
| Temperature Coefficient | - | 30ppm/°C following 30 minute warm up | | | | | | |
| Temperature Drift(2) | - | 0.01% + 2mV change in output | | | | | | |
| Up programming response time | ms | 50 - 60ms | | | | | 80ms | 120ms |
| Down prog. resp. time (CV) | ms | 50ms (70ms ZUP60-14) | | | | | | |
| Down prog. resp. time (CV) | ms | 250ms | 350ms | 400ms | 500ms | 750ms | 600ms | 800ms |
| Load Regulation | - | 0.01% + 5mA on 200W and 400W models, 0.07% + 10mA on 800W models | | | | | | |
| Line Regulation | - | 0.01% + 2mA on 200W and 400W models, 0.01% + 5mA on 800W models | | | | | | |
| Temperature Coefficient | - | 100ppm/°C from rated current after 30 minute warm up time | | | | | | |
| Temperature Drift(2) | - | 0.02% + 5mA, 200W and 400W models, 0.05% + 10mA 800W models | | | | | | |
| Prog Voltage resolution | - | Better than 0.028% of rated voltage | | | | | | |
| Prog Voltage accuracy | mV | .02%+5mV | .02%+8mV | .02%+12mV | .02%+20mV | .02%+35mV | .02%+50mV | .02%+70mV |
| Prog Current resolution | - | Better than 0.03% of rated voltage | | | | | | |
| Prog Current accuracy | - | 0.4% + 40mA | | | | | | |
| Overvoltage Shutdown | V | 0 - 7.5 | 0 - 13 | 0 - 24 | 0 - 40 | 0 - 66 | 0 - 88 | 0 - 132 |
| Thermal Protection | - | Over temperature protected | | | | | | |
| Display - Voltage | - | 3 digits (6, 20, 36, 60, 80V models), 3.5 digits (10, 120V models). Accuracy 0.2% ± 2 digits | | | | | | |
| Display - Current | - | 3 digits, (3.5 digits 132A model). Accuracy 0.5% ± 3 digits | | | | | | |
| Display - Status | - | CV / CC, Alarm, Foldback, Local/Remote, On/Off | | | | | | |
| Remote On/Off | - | TTL signal or dry contact relay | | | | | | |
| Output Good | - | Open Collector | | | | | | |
| Voltage & Current Programming | - | By either Voltage (0-4V) or Resistance (0-4k) | | | | | | |
| Remote Sense | - | Up to 0.5V compensation per output cable | | | | | | |
| Communication Interface | - | RS232 & RS485 standard, IEEE488 optional | | | | | | |
| Series & Parallel Operation | - | Series: Up to two units; Parallel: Up to five units in master-slave configuration | | | | | | |
| AC Input Voltage range | VAC | 85-265VAC (47-63Hz) | | | | | | |
| Inrush Current (100/200VAC)(3) | A | 15/30A, 200W models, 15A, 400W models, 30A, 800W models | | | | | | |
| Hold Up Time (Typ) at 100VAC | ms | 20 | | | | | | |
| Power Factor Correction | - | Complies with EN61000-3 Class A (0.99 typ) | | | | | | |
| Temperature Range | - | Operating: 0 - 50°C; Storage: -20 to +70°C | | | | | | |
| Humidity (non condensing) | - | Operating: 30 - 90% RH, Storage 10 - 95%RH | | | | | | |
| Cooling | - | Internal fan | | | | | | |
| Withstand Voltage | - | Input to Ground 2kVAC, Input to Output 3kVAC, Output to Ground 500VAC for 1 min. | | | | | | |
| Isolation Resistance | - | >100M at 25°C & 70%RH | | | | | | |
| Vibration & Shock (non-op.) | - | Vibration:10-55Hz(1 min.) 2G constant X, Y, Z, when correctly mounted; Shock: <20G | | | | | | |
| Safety Agency Approvals | - | UL3111-1, EN61010-1, CE Mark | | | | | | |
| Conducted & Radiated EMI | - | EN55022-B conducted, A radiated, FCC Class B conducted, A radiated, VCCI-2 conducted, -1 radiated | | | | | | |
| Warranty | yrs | Three Years | | | | | | |

Notes: (1) Recovery to within +/-50mV after load change of 50-100% (2) Over 8 hour period following 30 minute warm up time
 (3) 25°C ambient (cold start)

| Model Selector | | | | | | | | |
|----------------|----------------------|----------------------|-----------|--------------------|-------------------|--------------------|---------------------------|-----------|
| Model | Voltage Adjust Range | Current Adjust Range | Max Power | Ripple 5Hz-1MHz mV | Noise 20MHz BW mV | Ripple 5Hz-1MHz mA | Efficiency % (100/200VAC) | Weight kg |
| ZUP6-33/U | 0-6 | 0-33 | 198 | 5 | 50 | 50 | 69 / 72 | 2.9 |
| ZUP6-66/U | 0-6 | 0-66 | 396 | 5 | 50 | 100 | 74 / 77 | 3.2 |
| ZUP6-132/U | 0-6 | 0-132 | 792 | 8 | 100 | 200 | 74 / 77 | 5.8 |
| ZUP10-20/U | 0-10 | 0-20 | 200 | 5 | 50 | 25 | 73 / 77 | 2.9 |
| ZUP10-40/U | 0-10 | 0-40 | 400 | 5 | 50 | 50 | 79 / 82 | 3.2 |
| ZUP10-80/U | 0-10 | 0-80 | 800 | 8 | 90 | 100 | 77 / 81 | 5.8 |
| ZUP20-10/U | 0-20 | 0-10 | 200 | 5 | 50 | 15 | 74 / 78 | 2.9 |
| ZUP20-20/U | 0-20 | 0-20 | 400 | 5 | 50 | 30 | 79 / 83 | 3.2 |
| ZUP20-40/U | 0-20 | 0-40 | 800 | 5 | 80 | 60 | 79 / 82 | 5.8 |
| ZUP36-6/U | 0-36 | 0-6 | 216 | 5 | 50 | 7.5 | 76 / 80 | 2.9 |
| ZUP36-12/U | 0-36 | 0-12 | 432 | 5 | 50 | 15 | 80 / 84 | 3.2 |
| ZUP36-24/U | 0-36 | 0-24 | 864 | 5 | 70 | 30 | 80 / 84 | 5.8 |
| ZUP60-3.5/U | 0-60 | 0-3.5 | 210 | 5 | 50 | 5 | 75 / 79 | 2.9 |
| ZUP60-7/U | 0-60 | 0-7 | 420 | 5 | 50 | 10 | 80 / 84 | 3.2 |
| ZUP60-14/U | 0-60 | 0-14 | 840 | 5 | 60 | 20 | 80 / 84 | 5.8 |
| ZUP80-2.5/U | 0-80 | 0-2.5 | 200 | 30 | 80 | 5 | 77 / 82 | 2.9 |
| ZUP80-5/U | 0-80 | 0-5 | 400 | 30 | 80 | 10 | 83 / 87 | 3.2 |
| ZUP120-1.8/U | 0-120 | 0-1.8 | 216 | 30 | 80 | 5 | 77 / 82 | 2.9 |
| ZUP120-3.6/U | 0-120 | 0-3.6 | 432 | 30 | 80 | 10 | 83 / 87 | 3.2 |

| Options & Accessories | | |
|--|-----------------|---------------------------|
| Option | Model Suffix | Part Number |
| Front panel terminals (20A max) ⁵ | /L ⁴ | ZUP200/400/L ⁴ |
| Front panel terminals (20A max) ⁶ | /L ⁴ | ZUP800/L ⁴ |
| IEC320 cable USA plug | /U | ZUP/U |
| Serial link cable RJ-45 | /W | ZUP/W |
| GPIO Controller | | GP485A* |
| Dual Unit Assembly (accepts 200W or 400W models) | | NL200* |
| 19" 3U rack (accepts up to 6 200/400W models) | | NL100* |
| Blanking panels for NL100 (19 in. rack) | | NL101* |
| RS232 Communications Cable DB-9 | | ZUP/NC401 |
| RS232 Communications Cable DB-25 | | ZUP/NC403 |
| RS485 Communications Cable DB-9 | | ZUP/NC402 |
| RS485 Communications Cable DB-25 | | ZUP/NC404 |
| User Manual | | NL102 |

* (See website for more details)
⁴ Not available with ZUP80 or ZUP120 models.
⁵ 200W and 400W models
⁶ 800W models



For Additional Information, please visit www.tdk-lambda.com/lp/products/zup.htm



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