

Wiener LV Power Supplies

Comments

We originally (October 11, 2006) received quotes for a PL508 supply with 3 MEH 2-7V pods and 3 MEH 15-30V pods. We received a quote a year later for a PL506 with the same pods. The PL506 has the advanced control and programming features of the PL512.

Power modules

- MEH: individual outputs
- MDH: dual outputs
- Modules cannot be easily replaced. They need to be calibrated. Frame stays, power supplies goes. Output power (MEH modules):
- 2-7 V MEH module
 - Max. current: 115 A.
 - Max. power: 550 W.
- 12-30 V MEH module
 - Max. current: 23 A.
 - Max. power: 550 W.
- Power module efficiency (MEH):

5.0V/80A:	79.4%
4.0V/80A:	~77%
3.3V/80A:	73.7%
24 V:	87.7%
- Regulation:
 - Static: < 25 mV @ $\pm 100\%$ load.
 - Dynamic: < 100 mV @ $\pm 25\%$ load.
- Ripple: < 3 mV peak-to-peak
- Current limiting: 100% nominal value.
- Overvoltage protection: 125% of nominal value.
- Remote sense:
 - if disconnected supply will ramp up.
 - Two types:
 - Fast: < 10 m run
 - Slow: < 100 m run
 - Need to specify which one we want
- Swivel nut to connect to terminals.
- Float isolation $\pm 10V$.

PL506 System

- Size:
 - 3U chassis
- Weight: ? kg
- 6 single-output power modules: 6 channels
- Input:
 - Maximum current: 16 A

- Maximum voltage: 264 VAC (240 + 10%)
- Power factor: 0.997 (@230 VAC, 16A)
- Power: 3840 W (240 VAC, 16A)
- Mains input/primary switcher efficiency: 95%
- Power:
 - Max. power @208 VAC: 2340 W (=208 V·16 A·0.74·0.95) (÷6=390 W)
 - Max. power @230 VAC: 2587 W (=230 V·16 A·0.74·0.95) (÷6=431 W)
 - Max. power @240 VAC: 2700 W (=240 V·16 A·0.74·0.95) (÷6=450 W)
- Identical modules to PL508
- Easier to swap supplies.
- Superior control features to PL508. Can program different ramp rates, for example.
- Slightly more expensive
- No manual, identical to PL512

PL512 System

- 3U chassis: same size as PL506
- 6 dual-output modules: 12 channels
- Maximum current: 16 A
- Maximum voltage: 264 VAC (240 + 10%)
- Used by STAR TOF
- Only uses MDH modules.
- Water cooling option.
- Max. power 2760W (= 230V·16A·0.75)

PL508 System

- First generation system
- Size: 434 mm W x 132 mm (3U) H x 355 mm D. 1U additional space needed for cooling, making height=178 mm.
- Weight: ? kg
- 0-50°C operating temperature..
- 3U chassis provides 5 power modules + 1 16A AC input
- 6U chassis provides 10 power modules + 2 16A AC inputs
- Power factor: 0.997 (@230 VAC, 16A)
- Input power:
 - 16 A
 - 3 pin Hirschmann connector
- Up to 8 floating DC output channels
- Ramp rate fixed.
- Trip limits per channel; one shuts down entire supply.
- Used by D0 with slow sensing: John Foglesong x2739, Linda Bagby, x3100

Miscellaneous

- Other users:
 - Alan Bross bought Wiener supplies for MICE. Gary Drake from Argonne bought the supplies for MINOS.
- Delivery time: 12 weeks a.r.o.

- Warrenty:
 - 2 years parts and labor
 - Repairs done at Springfield, OH, with a turn around time of 48 hours
 - For complicated repairs returned to Germany
- Repairs:
 - To exchange power modules one has to open the power supply, replace the module, and do a full voltage and current calibration. This has to be done by an authorized technician, either at Springfield, OH, or on site.