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 @ ±100% load.
  - Dynamic: < 100 mV @ ±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 ±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.