

The Factory Acceptance Tests of power supplies with serial no. 1211378 (500973-201, 5kA) and 1211374 (500973-202, 4kA) are accepted with the following conditions:

Common:

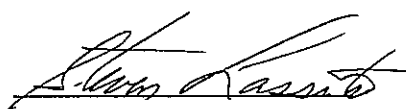
- 1) Quench detectors are currently incomplete. Interface (interlock and reset signals) have been demonstrated.
- 2) Fan covers for dump resistor fans (top mounted) are missing – must be installed before shipping.
- 3) Fans are only running while the power supply is ON. They must be running continuously. This must be corrected before shipping.
- 4) 8V power supply for V-loop driver module is still the JPM80PS07 7,5V/10,7A (similar unit as used in the 3000A and 3500A power supplies previously delivered). This will be replaced and the power supply will be retested for stability (1-2hours). This must be done before shipping (testing of 5kA power supply is sufficient). Agreed replacement unit: Mean Well S-150-9 (which will be under-driven, both voltage-wise and current-wise).
- 5) Test point 7.10 (final adjustment of flow switch interlock thresholds) will be performed at JLAB. JLAB will provide an external flow meter to verify.
- 6) Q2 (breaker aux power, 2.5-4A) has tripped a number of times (at power-up) due to inrush currents in switch-mode power supplies. Q2 will be replaced with a 6.3-9A unit, and the inrush capability must be verified before shipping. (Verification by cycling: 10 cycles, 1 minute off between cycles.)
- 7) After resetting a quench interlock, no interlocks are present (visible in control panel), but power supply won't accept an "ON" command ("cannot execute command" in display). (Observed on 4kA unit, possibly a general issue). Must be investigated and solved.
- 8) Protective cover on/around aux transformer is not implemented. A solution must be implemented, but the covers can be delivered along with the remaining three power supplies.
- 9) 230V on the emergency stop should be well protected against accidental touch.
- 10) The 480V isolation switch is not lockable. A solution must be found, but the power supplies can be shipped as they are (solution can be retrofitted).

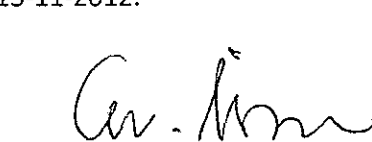
Details specific to serial no. 1211378 (500973-201, 5kA):

- 11) Plumbing for cooling circuits 4 and 5 is crossed. This must be corrected before shipping.
- 12) Due to intermittent interlocks from cooling branch no. 5 (transformer no. 2), the interlock threshold was reduced to approx. 0,6 l/min during long term stability test (over-night). The cause of the intermittent interlocks must be investigated and corrected before shipping.
- 13) Ext. interlocks Mag. Flow and Mag. Temp. seem to be swapped. This must be corrected before shipping.
- 14) About 13 hours into the long term (over-night) stability test, the measurement dropped ~25ppm. The cause of this drop needs to be identified, and the long term stability test needs to be redone before shipping.

Details specific to serial no. 1211374 (500973-202, 4kA):

- 15) Safety OCP threshold stuck at 10,74V (should be adjusted to 11,00V). This must be investigated and corrected before shipping.
- 16) Slow discharge (external interlock) was not latched when tested. Must be corrected before shipping. This was corrected, tested and verified 15-11-2012.

 15-Nov-2012

 15-11-12

The following extra features will be implemented on the power supplies

at no additional
cost.

- 1) Voltage-meter (analog) sensing output voltage . Suggested implementation: $\pm 10V$ instrument monitoring the output of the transistor bank (before polarity switch and dump switch). To be confirmed by JLAB.
- 2) Current-meter (analog) sensing an output on the LEM transducer interface (used for "Safety OCP").
Note: This read-out requires the presence of control power.
- 3) Status lights for the indication of:
 - a. "Main Power is ON" and
 - b. "Main Power is OFF"
- 4) Extra water I/O for the cooling of the output current leads. Required water flow and equivalent diameter + length (pressure drop) is to be supplied by JLAB. A potential solution is to cool the output leads in series with the rectifiers. This is to be confirmed.
- 5) Extra emergency stop switch on the control crate (implementation identical to the existing).

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Gu. Nijm 15-11-12