

# Magnet Shim Power Supply

## Shim Switch Heaters

- Ethernet Relay SR-201
- Controlled via Magnet\_PS\_Main.vi.

## How to Manually Control the Shim Switch Heaters

We usually use the Magnet PS VI to control the shim switch heaters. In case of emergency, you can manually control them as follows:

1. Unplug the power cable of the Ethernet relay (SR-201), which is located at the back side of the Shim PS.
2. Turn on/off the switch heaters by turning on/off the key switch in front of the Shim PS.

The cables for the switch heaters are connected to the NC (normally-closed) pins of the Ethernet relay. Thus the cables get connected when the Ethernet relay is not powered.

## Documents

- [ShimPS\\_Manual \(1\).pdf](#) : ISS10 Manual
- [Shim\\_PowerSupply.pdf](#) : Summary of ISS10 Manual (by Zulkaida)
- ISS10 is *not* the model used in SpinQuest. We expect the spec is almost similar but sometimes different.

## Cabling

- [magnet\\_shim\\_PS\\_cable.pdf](#) ([magnet\\_shim\\_PS\\_cable.odg](#)) : The pin assignment of the magnet shim PS connectors
- <http://twist.phys.virginia.edu:8081/General/19> : How the pin assignment was confirmed

## Output Validation

- <http://twist.phys.virginia.edu:8081/General/20> : Output of magnet shim PS
- V to the switch heaters (Y1 and YZ vs Common)
  - Measured = -5.7 V.
  - Manual = -12 V.
- V to the coil (+VE vs -VE)
  - Measured < +/-0.1 V normally. But it was -13.1 V when the big knob was set to any position (like Z0 and Z1) except "MAIN COIL HEATER".
  - Manual = +4 V.
- The output voltages were found active, although they were different from the manual spec. It is possible that they are fine for the operation, because our usage is special in the past test and the SpinQuest run, namely the shim coil need not be energized but only inductive when the main coil is ramped up.

MercuryiPS (similar manual)

[https://mymercurysupport.com/sites/default/files/59\\_UMC0072\\_01.pdf](https://mymercurysupport.com/sites/default/files/59_UMC0072_01.pdf)



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