

# Magnet PS Shim Relay

- ▶ Control of shim relay from target computer
  - ▷ Tested with Waqar & successful yesterday
  - ▷ Several problems for normal operation
- ▶ Valid procedure
  1. Boot Windows
  2. Connect the USB interface (via SX Virtual Link), with **all other FTDI-chip interfaces disconnected**
  3. Open “USB8RelayManagerv1.4.exe” and click “Open Relay Board”
  4. Close the manager
  5. Open “e1039\_Magnet\_PS\_Control.vi” and run it
- ▶ Speculations
  - ▷ The manager communicates with the **first-found** FTDI-chip interface, no matter if it is the shim relay. Thus all other FTDI-chip interfaces must be disconnected
  - ▷ The manager changes a communication mode. Thus it must be opened once
  - ▷ Users’ reviews in the maker webpage are most helpful:  
<https://www.sainsmart.com/products/4-channel-5v-usb-relay-module>

## ► Problems

- ▷ Need open & close the manager, with all other interfaces disconnected
  - ▷▷ Can then connect all other interfaces and run Cryo Control Panel etc.  
But impossible to automate the startup
- ▷ The Serial word format used in the VIs works but is different from the document (`usb_command.jpg`)
- ▷ The relay position is not read back??
  - ▷▷ Possible, according to users' reviews
- ▷ COM-port IDs were changed
  - ▷▷ Of the shim relay, when the port was reconnected after a failure
  - ▷▷ Of many other devices, when the driver for the shim relay was installed

## ► Plans

- ▷ Modify our control software??
  - ▷▷ <https://www.ftdichip.com/old2020/Support/SoftwareExamples/CodeExamples/LabVIEW.htm>
- ▷ Change the relay product??