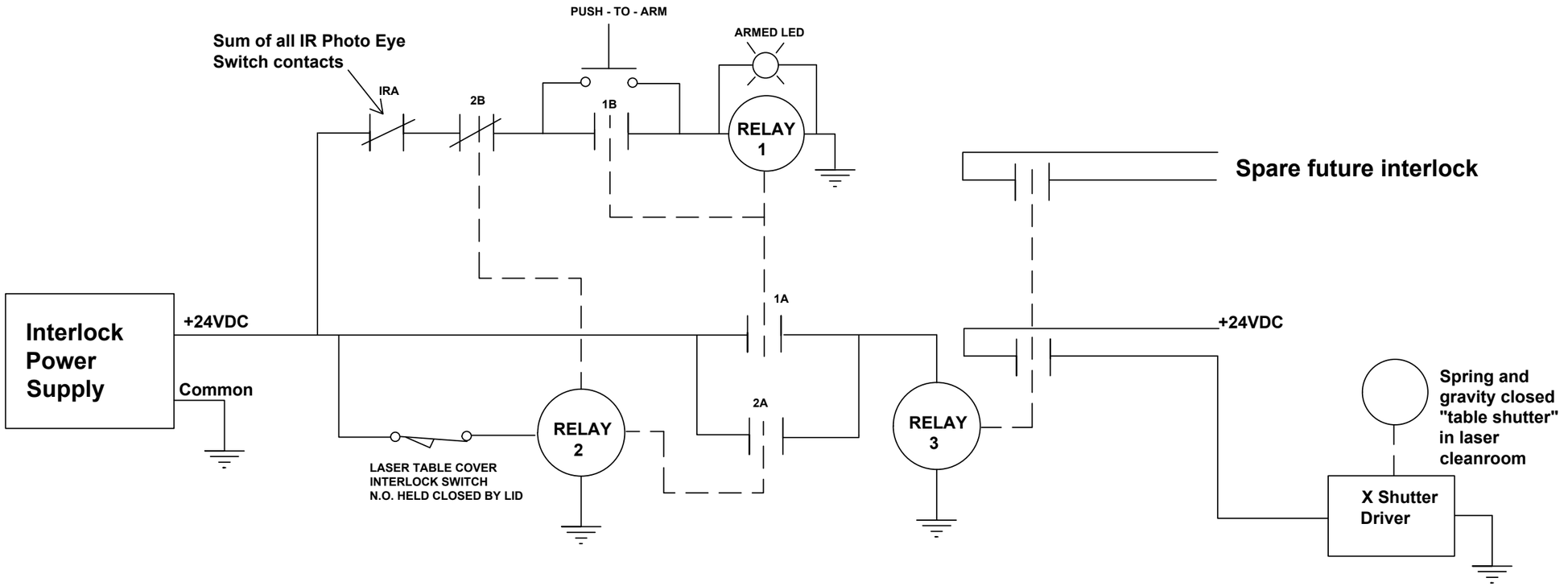
UITF Laser Table interlock in cave



Operating modes

<u>Normal Mode with cover on laser table:</u> Relay 2 energizes and contact 2A energizes relay 3 to power the X shutter driver to open the "table shutter" in the laser cleanroom (room 1126B). This allow light to enter the fiber in room 1126B which brings light to the test cave laser table. The latching circuit of Relay 1 is broken when the lid is on the table because contact 2B opens when relay 2 energizes.

Laser alignment mode:

1. The PSS system (not shown here) is taken to "laser bypass mode", so the "PSS laser shutters" can open and the tune mode generator can receive 18V control power.

2. The cover on the laser table is removed, and relay 2 is denergized. This closes the "table shutter". We close this because at this point we do not know if the cover was removed by an authorized laser worker so we want to protect the worker.

3. An authorized laser worker will sweep the area to ensure they are the only worker in the test cave, or if they have a helper, they will ensure the helper has proper laser protective eyewear. They will hang "Laser Alignment in Progress" signs on the entryways.

4. The authorized laser worker will then depress the "push-to-arm" switch located inside the test cave laser enclosure. This will arm relay 1 and latch it with the 1B contact. It will also energize the X shutter driver. The "table shutter" will open to allow laser light from the laser cleanroom to enter the test cave laser room.

5. If a worker breaks the IR photo eye at either entrance, contact IRA opens as the photo eye beam is broken and the latched relay 1 drops, which closes the "table shutter" in the laser cleanroom. The authorized laser worker can then escort this person out of the cave and resume work after pressing the "push-to-arm" switch again.

4. At completion of work, the laser table cover is replaced and the circuitry reverts to "Normal mode".