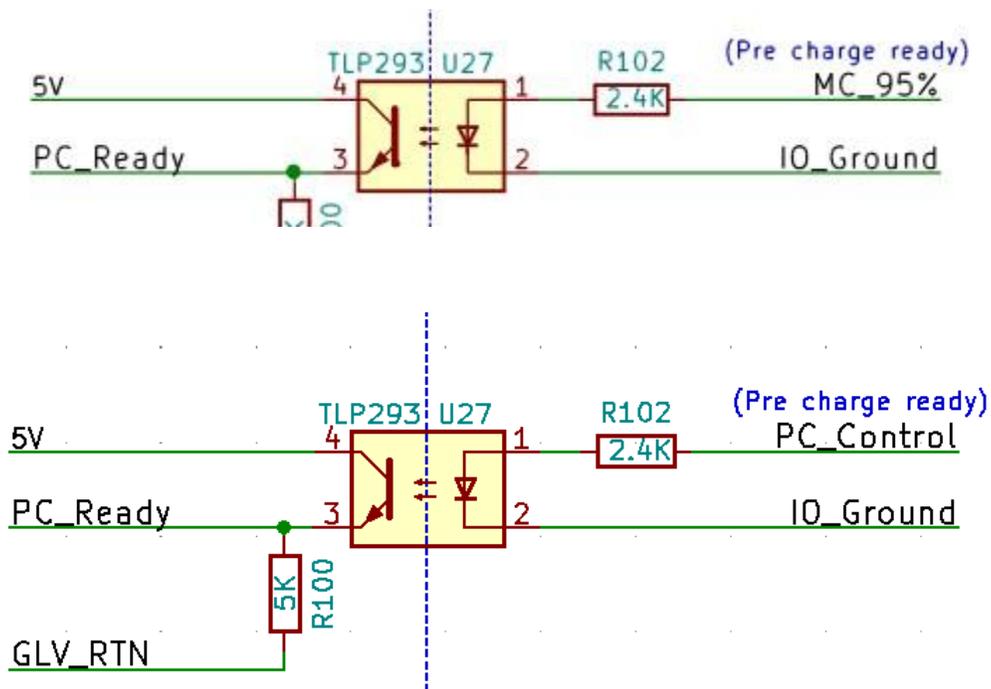


Edits Made to TSI Rev.6 Board for Next TSI Revision

Note: things in red are unresolved.

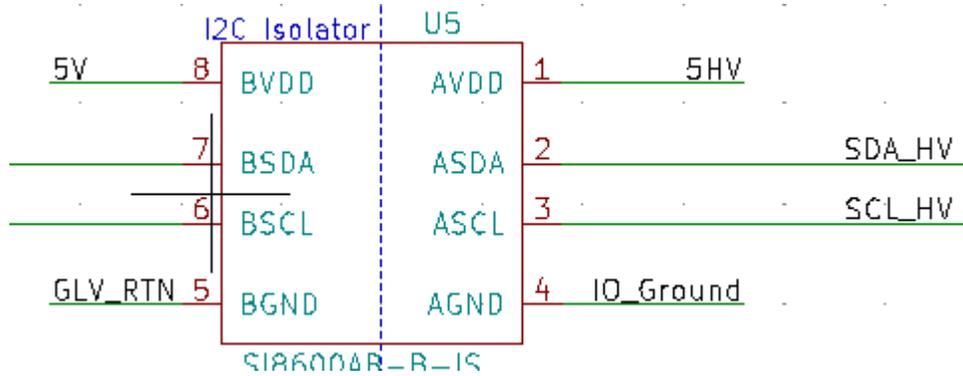
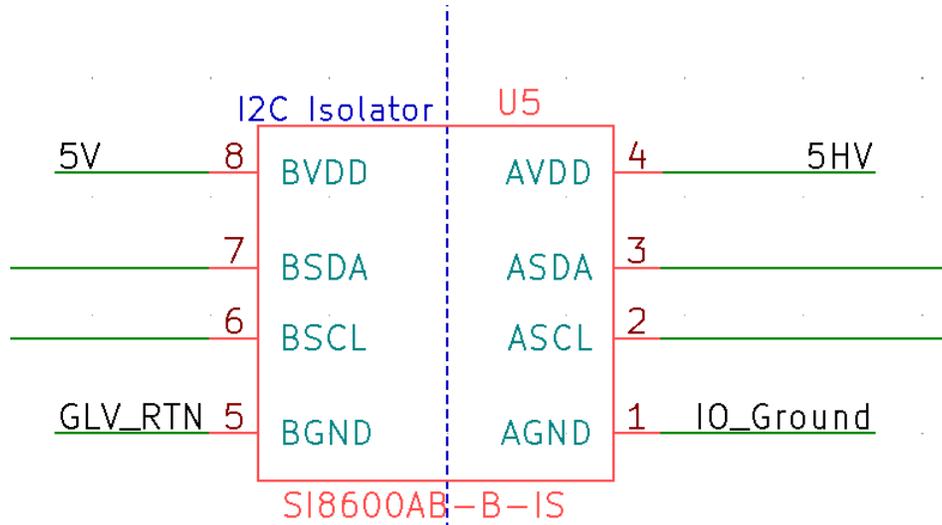
5/11/21 - TC, JB

1. MC_95% Signal should actually be PC_Control as seen below, flywire needs to be added to board. This is an artifact from TSI Rev. 4's board. They had two separate pre charge ready signals, they were "Precharge Ready" and "Pre charge Ready." We thought this was a mistake and removed the "pre charge Ready" signal from the schematic. Thus leading to the current confusion. (edits made on TSI schematic and pcb schematic)
2. 10/14/21 – EC – Flywire added to board. This issue has now been resolved.



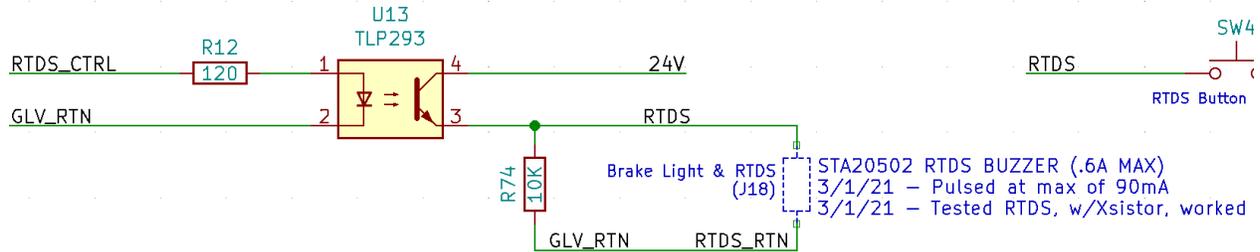
5/11/21 - NB, TC, EM

1. Symbol for U5, SI8600AB-B-IS was wrong. (Fixed on schematic and rerouted on pcb schematic, flywires applied).

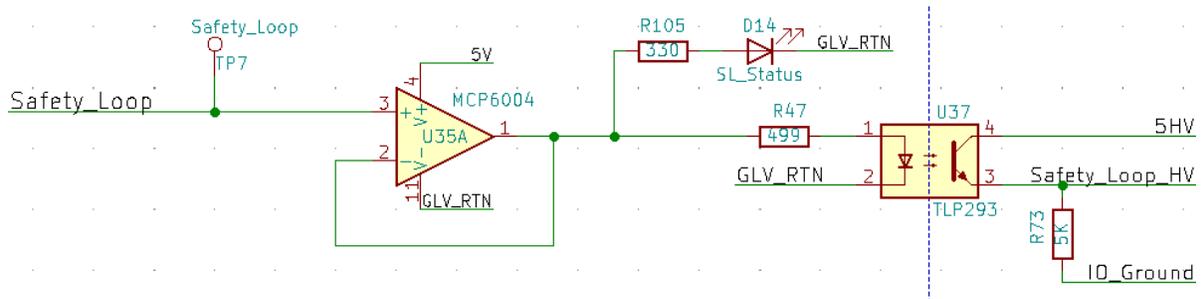


5/14/21 - NB, ZM

1. RTDS TLP (U13) gets very hot if RTDS is left on too long. Not an issue we were concerned with because technically RTDS should be only on for about two seconds. Could be remedied in later design.



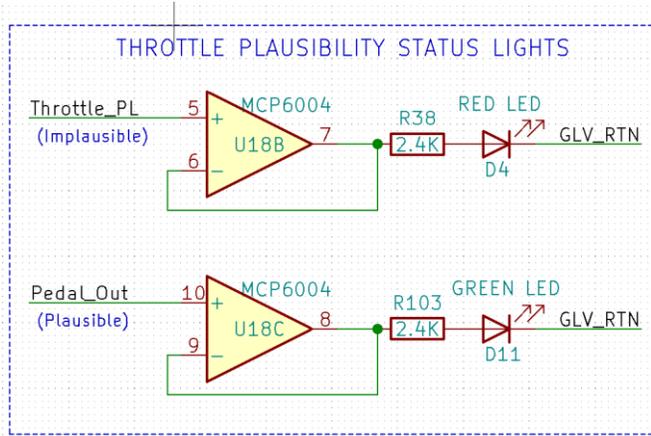
2. Changed U35A's rails from 3.3V to 5V on schematic
3. 10/22/21 – EC – Cut connection to 3.3V and added flywire to 5V on the board. Change needs to be made on PCB Layout

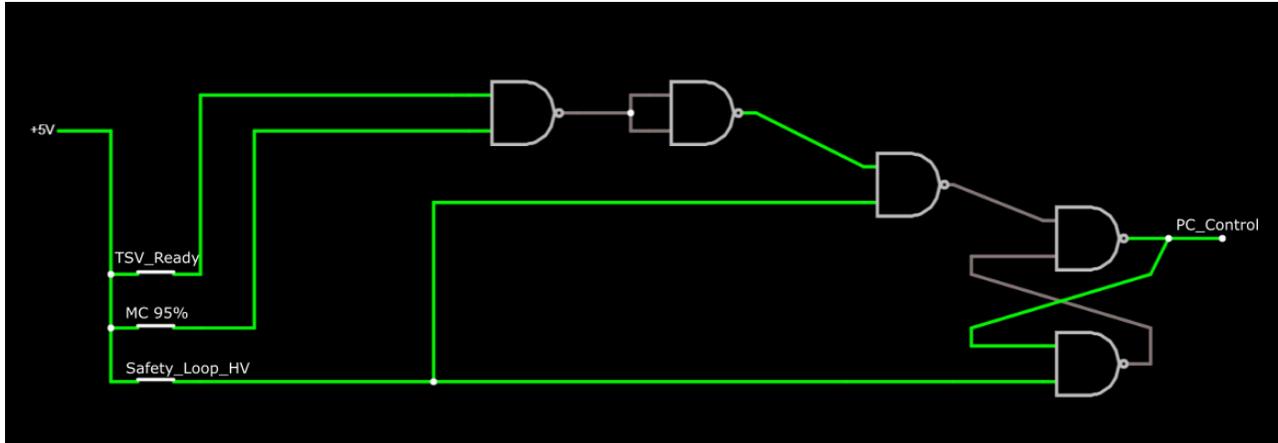


5/25/21 -ZM

D4 on backwards or burned out. To drive D4 and D11, should not use the actual throttle_pl and Pedal_out signals. Example: as when pedal_out is around a volt (you're driving the throttle voltage of the motor) the LED doesn't come on.

10/26/21 – EC – D4 replaced on the board. Driving it with Throttle_PL is in fact fine since it is the output of an AND gate and thus will be 5V when the D4 is supposed to turn on. D11 doesn't actually seem to serve much purpose and could be removed in a later revision since we don't care whether Pedal_out is on or off, we care about its actual voltage. If anything, U18C's inverting terminal could be connected to a .24v reference so that D11 turns on whenever Pedal_out is in it's .24V to 4.76V range, and turns off when Pedal_out gets shorted to ground (which happens when the throttle is determined to be implausible)





11/11/21 – EC

Currently, Safety_Loop is not being properly generated by U24. I measured 22 volts on U24 pin 2, even though it's supposed to be at ground (AIRS-). This issue may have to do with the fact that I attached a flywire to another one of U24's pins to try and fix a separate issue, and I may have overheated the IC.

12/9/21 – EC

This no longer seems to be an issue. Don't know when it got fixed, or how.

The MRESET_Coil light (D10) lights up when MRSET_Contact is high. MRSET_Contact provides power to the master reset relay on the right side panel. This means that MRSET_Contact is high when the master reset latching relay has the *potential* to be closed, and not when it is actually closed. Since there is only the BOT and SCADA relay between the the IMD/AMS relays and the master relay, this light should be renamed "BOT & SCADA OK"

12/9/21 – EC

R57 needs to be replaced with a 2.2kΩ resistor. (Change made on board, not yet made on PCB Layout or Schematic). Although the schematic says 40k, the resistor was actually 5k which was still too high. When cooling_CTRL was logic low, we measured a leakage current of 0.32mA through pins 4 to 3, causing Cooling_power to be 1.6V ($0.32\text{mA} \times 5\text{k} = 1.6\text{V}$), which was enough to turn on the cooling system (since cooling_CTRL was low, should have been off). When cooling_CTRL is high (3.3V), we measured 2.14mA through pin 4 to 3. We thus 2.2kΩ since it is enough to turn on the cooling system ($2.2\text{k}\Omega \times 2.14\text{mA} = 4.7\text{v}$) when we want, but low enough to keep it off even with the leakage current ($2.2\text{k}\Omega \times 0.32\text{mA} = 0.7\text{v}$)

