

Logic Errata
ECE 492 Spring 2021

Logic V1.0

1. Using the STEMMA QT BNO055 IMU rather than the original version. The layout of pins is different than what's on the board currently (make headers 6 and 4 pins as well).
2. The 24V-5V converter (PYB20) should run parallel to the pi, as the 3 pi has large connectors at the end of it (should include those headers on the footprint)
3. Mark how the pi goes into the board.
4. Mark how the board goes into the TSI board.
5. The RTC SCADA is using is not the basic version, it's the basic version "for raspberry pi":
<https://www.adafruit.com/product/3386#description>. It has a 2x3 female header-check pinout

Logic V2.0

1. Added pull up resistors to the non-isolated I2C line onto the testing connectors.

4/9/21 - NB

1. PIC32 Pin Discrepancy -> please see 2021 TSI Spring Errata 4/9/21 issue 1
2. I2C Isolator, u9, needs connections redone. Its unidirectional SCL input is hooked up like the glv current sensor is the master device. The pi I2C connections need to be hooked up to the input side of U9(pins 1-4) and the glv current sensor to pins 5-8. (Switched orientation on logic board) RESOLVED
3. Safety_Loop now being passed over GPIO from TSI so Safet_Loop signal not passed over TSI-Logic header. Removed Safety_Loop -> Safety_Loop_ISO TLP-Isolator abd removed connections between both PIC and Pi. Talked with Zack and agreed theoretically that Safety_Loop should be able to be communicated over I2C between PIC and Pi.
4. Hook up/handle analog signals APPS, CoolTemp, Flowrate. Convert them from analog to digital and pass them into the PIC33. TSI Re. 4,0 says pins 17 & 18 on PIC32 were used for ADC
5. The only signals not accounted for that were driven by the PIC last year were the:
 - a. Heartbeat
 - b. Spare_Red
 - c. Spare_Blue
 - d. SPARE_LED_CTRL
 - i. Maybe have them all on Logic board now?