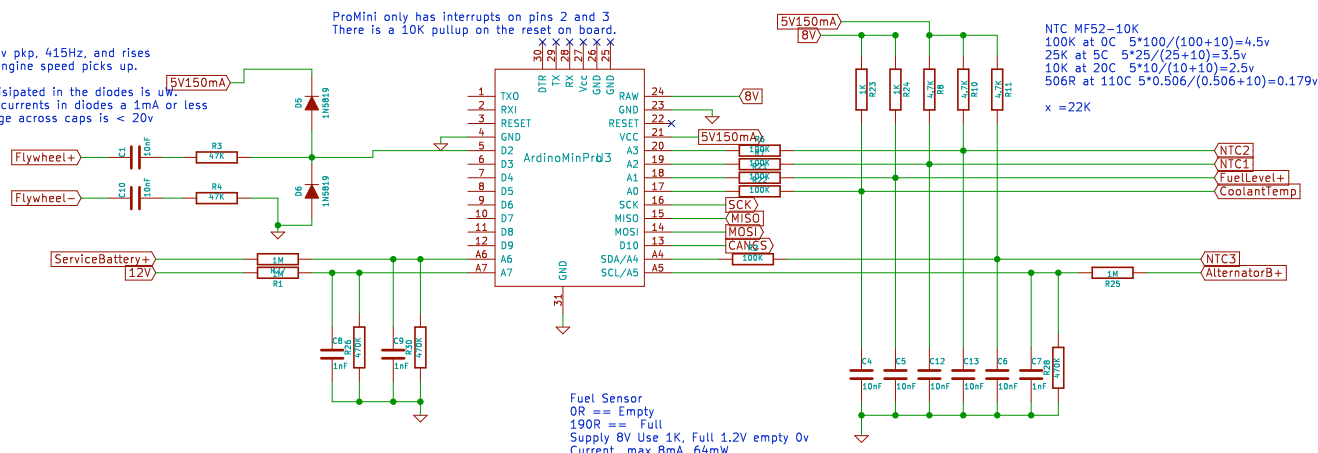


Coolant Sensor
With 8V supply R23 at 1K
120C == 22R
0C = 1743R
120C == $8 \times 22 / (1000 + 22) = 0.17V$
80C = $8 \times 70 / (1000 + 70) = 0.52V$
50C = $8 \times 197 / (1000 + 197) = 1.3V$
8mA

Coolant Sensor
With 12V supply R23 fitted externally.
120C == 22R
0C = 1743R
120C == $12 \times 22 / (1000 + 22) = 0.25V$
80C = $12 \times 70 / (1000 + 70) = 0.78V$
50C = $12 \times 197 / (1000 + 197) = 1.97V$
20C = $12 \times 677 / (1000 + 677) = 4.8V$
11mA

Signal at idle is 32v pkp, 415Hz, and rises from there as the engine speed picks up.

At idle the power dissipated in the diodes is uW.
At 3KHz, 150V pkp currents in diodes a 1mA or less
At 415Hz 32v voltage across caps is < 20v



Fuel Sensor
OR == Empty
190R == Full
Supply 8V Use 1K, Full 1.2V empty 0v
Current max 8mA, 64mW

NTC MF52-10K
100K at 0C $5 \times 100 / (100 + 10) = 4.5v$
25K at 5C $5 \times 25 / (25 + 10) = 3.5v$
10K at 20C $5 \times 10 / (10 + 10) = 2.5v$
506R at 110C $5 \times 0.506 / (0.506 + 10) = 0.179v$
x = 22K

