



Air Temperature Sensor Calibration



****Note All FuelTech IAT Applications should use one of the following RIFE Part #'s 52-1201 thru 52-1208 or 52-1243 These are "Lo-AT" sensors****

FuelTech ECU's don't allow for the use of a resistance input on their ECU's. This requires the user to utilize an analog voltage sensor in order to read the sensor. The issue is that RIFE's Hi-AT sensor does not work well with the pull up resistor in the ECU, the solution is to use a RIFE Lo-AT sensor in all FuelTech applications.

By using a Lo-AT sensor and a specific calibration (shown below), the sensor will provide good resolution throughout the range with the only downside being a slight trimming of the total range. In this application, the total range is -5°F to 450°F.

To set up your sensor in the FuelTech software, go to Inputs> #5: Air temperature and select "Air Temperature" from the channel name drop down. Under "Input sensor", click the radio button for "custom", select "Analog" in the Signal type drop-down and check "Enable pullup". Input the values from the chart below into the Interpolation table and that's it. When complete the page should look like this:

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RIFE

SENSORS

by TBM

FTManager v4.28

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Inputs

Inputs (White wires)

- #1: RR Shock
- #2: RL Shock
- #3: 2-step
- #4: Oil pressure
- #5: Air temperature
- #6: Fuel pressure
- #7: Front Brake
- #8: Trans Fluid Pressure
- #9: Driveshaft RPM
- #10: Transmission Temp
- #11: TPS
- #12: 2nd MAP
- #13: Staging button
- #14: Rear Brake Pressure
- #15: Wastegate Pressure
- #16: None
- #17: None
- #18: None
- #19: None
- #20: None

Input enabled

Import sensor

Channel name
Default name: Air temperature

Custom name: Air temperature

Dash name: Air temperature Unit: °F

Decimal places: 1 (Min: -3200,0 Max: 3200,0)

Offset

Offset type: Disabled

Offset value: 0

Digital filter

Digital filter enabled

Filter frequency: 50

Q factor: 0.60

Calibrate sensor

Input sensor: Default GM temperature sensor (USA) Custom

Signal type: Analog

Enable pullup

Averagepoints: 63

Digital sensor setup

Digital options: Higher level

Hi level: 0.000 v

Lo level: 0.000 v

Invert output signal

Interpolation table

Voltage	Value
0.202	450.0
0.262	421.0
0.344	391.0
0.459	362.0
0.620	333.0
0.845	303.0
1.159	274.0
1.582	245.0
2.123	215.0
2.759	186.0
3.418	156.0
4.004	127.0
4.446	98.0

Fill values

The calibration table is below, if you have any questions, don't hesitate to call your dealer or RIFE at 805-987-7867



IAT Calibration Table

	Temp°C	Temp°K	Temp°F	Voltage	Resistance (Ω's)
1	-21	253	-5	4.955	110,877
2	-4	269	25	4.882	41,418
3	13	286	56	4.728	17,373
4	30	303	86	4.446	8,026
5	47	320	116	4.004	4,022
6	64	337	147	3.418	2,160
7	81	354	177	2.759	1,231
8	97	371	207	2.123	738
9	114	387	238	1.582	463
10	131	404	268	1.159	302
11	148	421	298	0.845	203
12	165	438	329	0.620	141
13	182	455	359	0.459	101
14	199	472	389	0.344	74
15	215	489	420	0.262	55
16	232	505	450	0.202	42