

# AirSpeed

Synerduino STM

**VERSIONS: F405, F411, H743**

For more Information:  
[www.synerflight.com](http://www.synerflight.com)



# AIRSPEED SENSOR INSTALLATION





### **I2C Airspeed Sensor MS4525 / ASPD-4525**

Supply voltage: 4~5.5V DC

**Sensor: TE 4525DO-DS5AI001DP**

Working current: 5mA

Output: I2C (SCL & SDA)

Pressure Ranges: 1 PSI (6.89kPa)

Maximum Pressure: 20 PSI (137.9kPa)

JST-GH sequence: 5V, SCL, SDA, GND

Weight: 3.5g



### **Analog Airspeed Sensor ASPD-7002**

Input voltage: 4.8~5.2V DC

working current: 20mA

Sig: 0.5V ~ 4.5V output

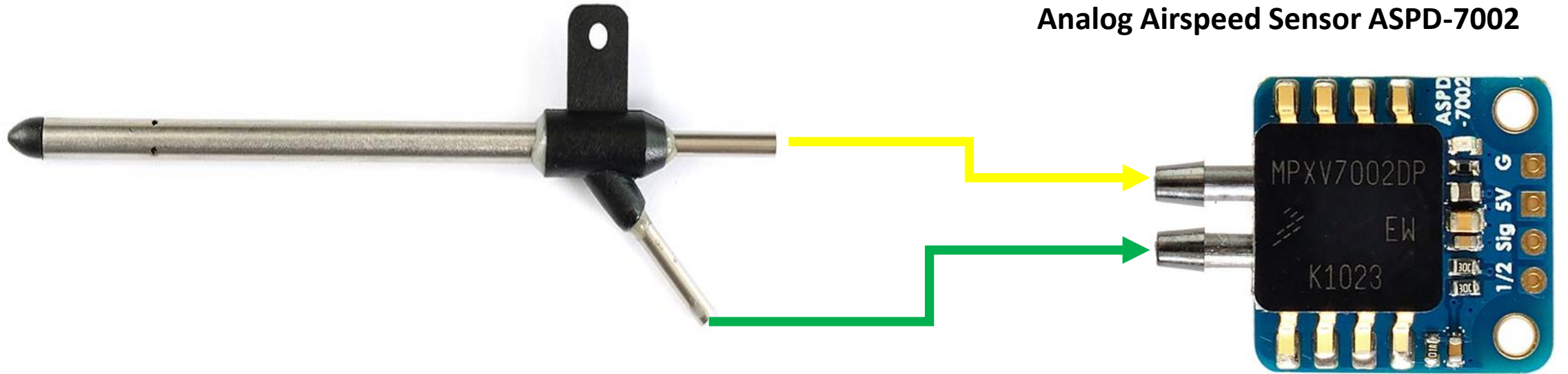
1/2: =0.5Sig, built in voltage divider

Pressure Range: -2 ~ 2kPa (-0.3~0.3psi)

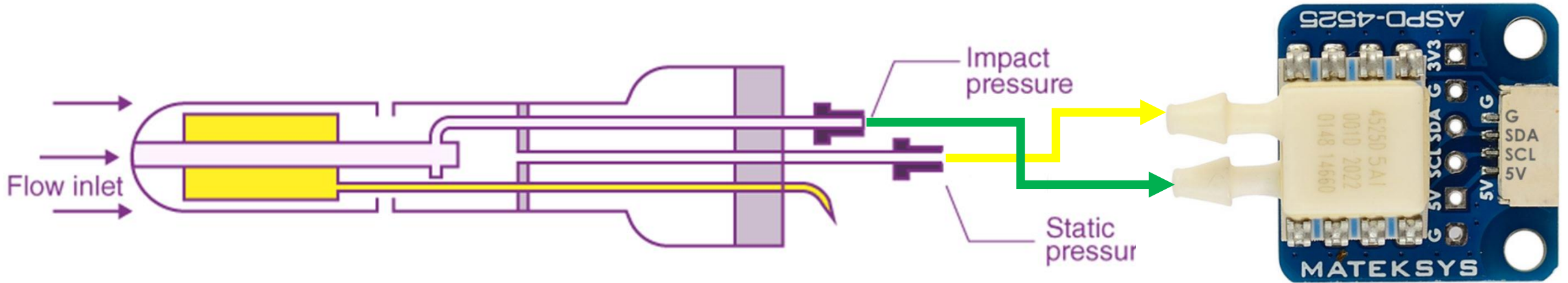
Weight: 4g



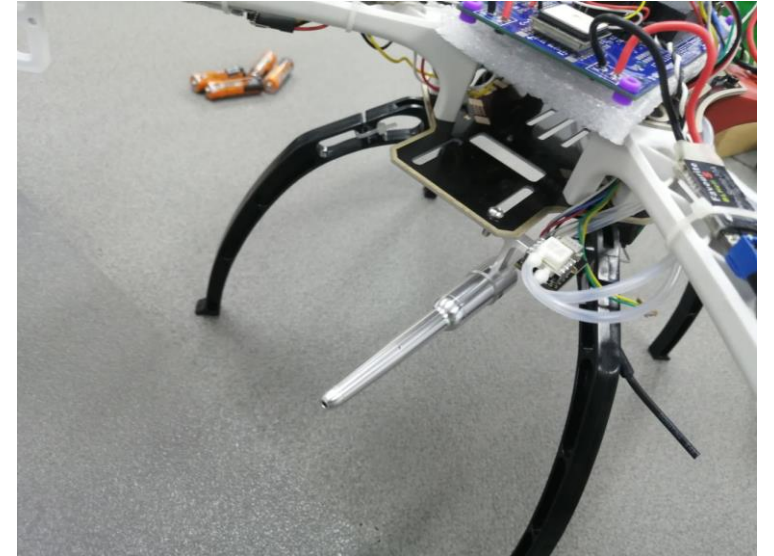
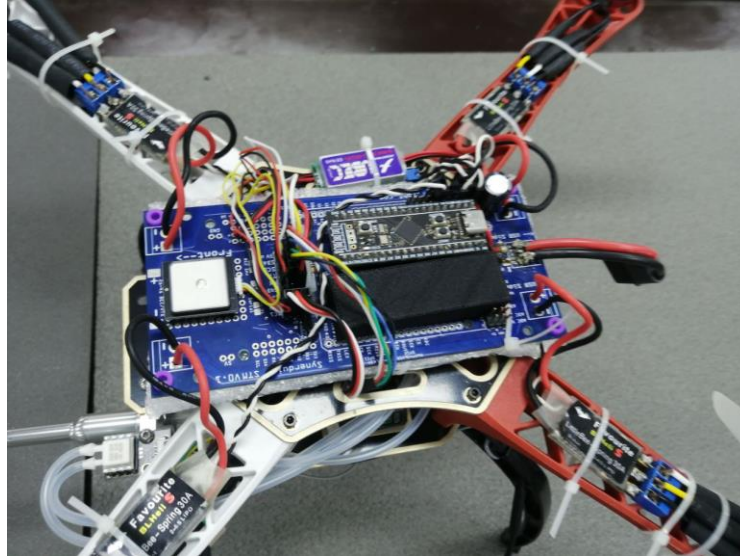
**Analog Airspeed Sensor ASPD-7002**



**I2C Airspeed Sensor MS4525 / ASPD-4525**

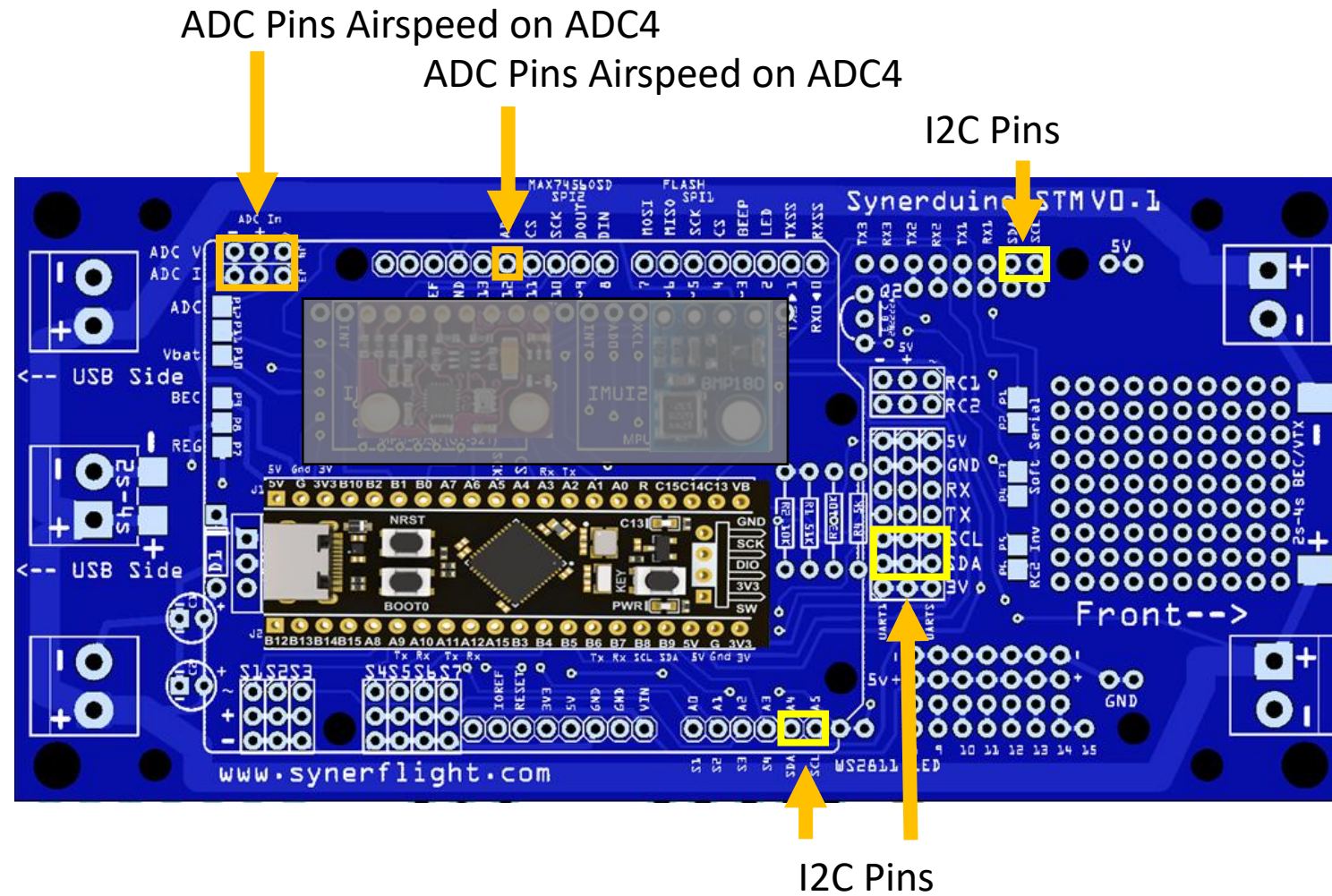
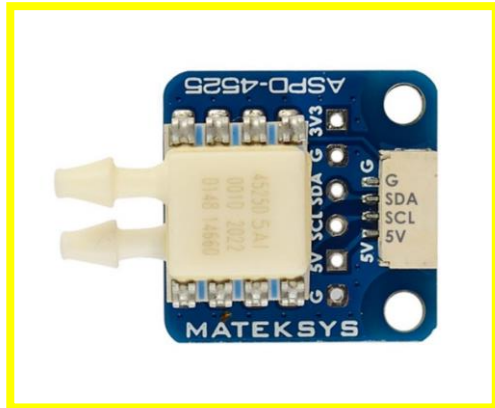
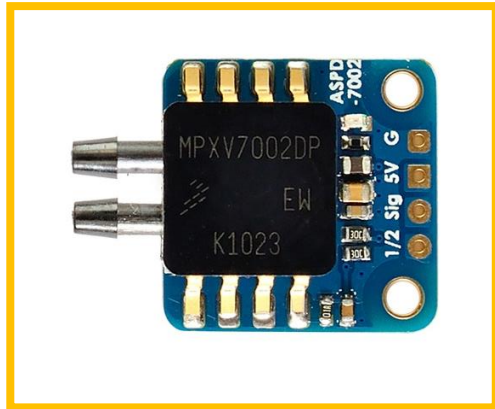


# SYNERDUINO INSTALLATION

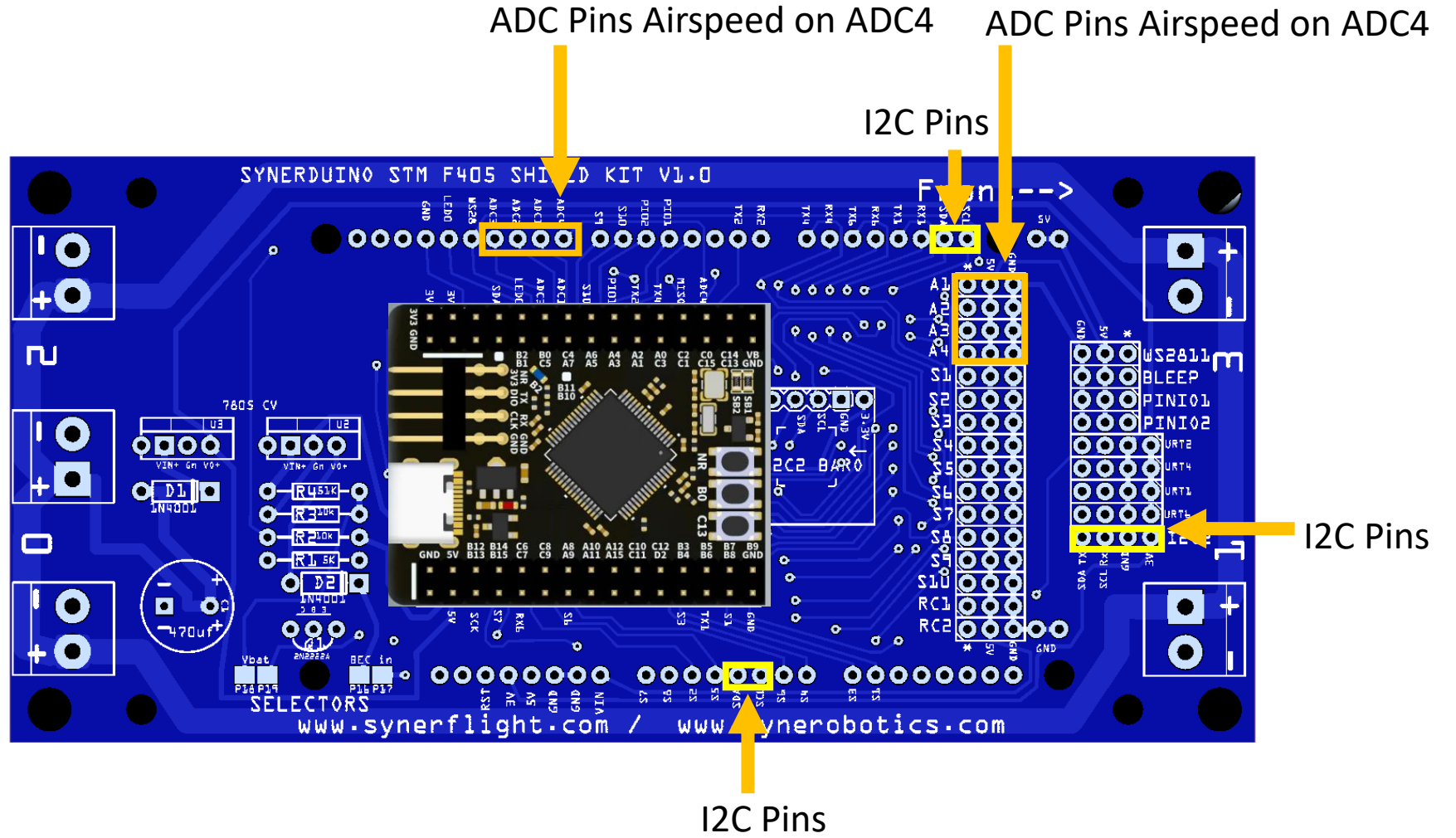
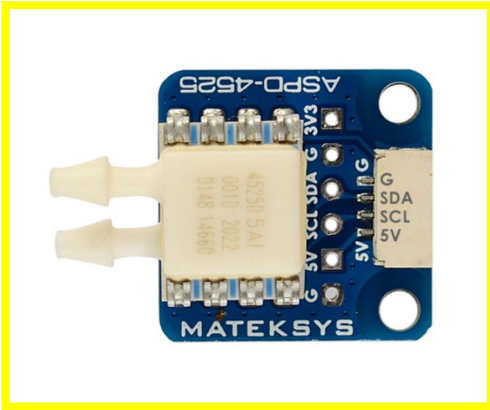
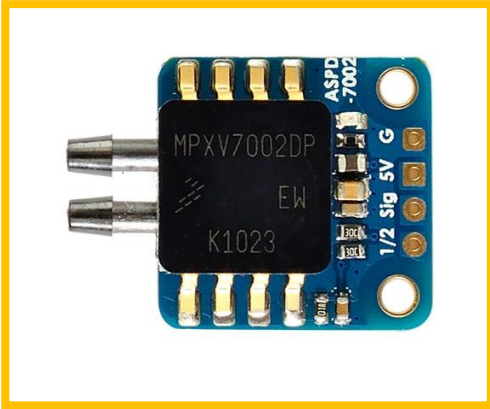




# SYNERDUINO STM F411 SHIELD



# SYNERDUINO STM F405 SHIELD

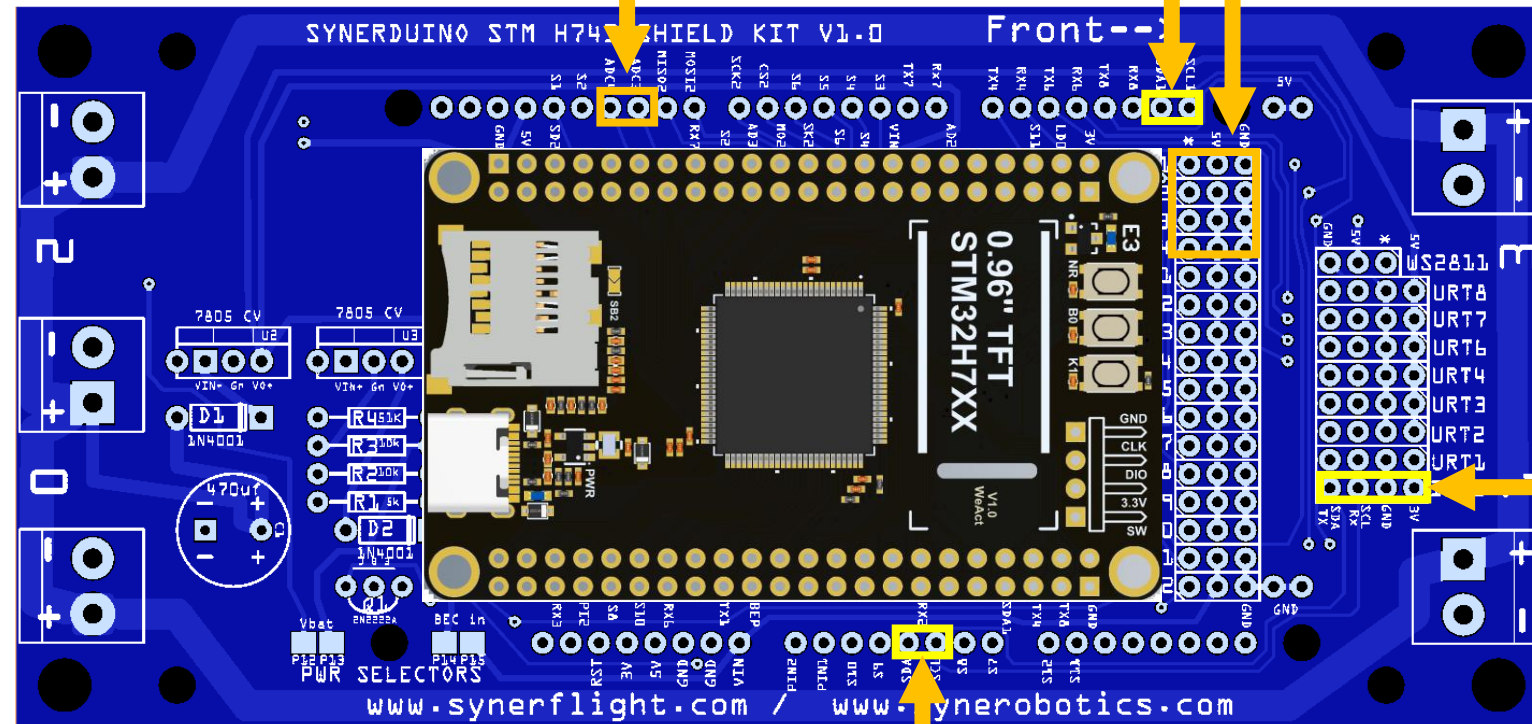
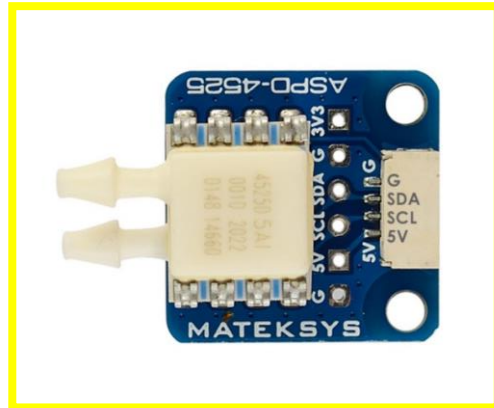


# SYNERDUINO STM H743 SHIELD

ADC Pins Airspeed on ADC4

ADC Pins Airspeed on ADC4

I2C Pins



I2C Pins

I2C Pins



# INAV CONFIGURATION

## DIGITAL AIRSPEED SENSOR

- MS4525
- DLVR L10D

## ANALOG AIRSPEED SENSOR

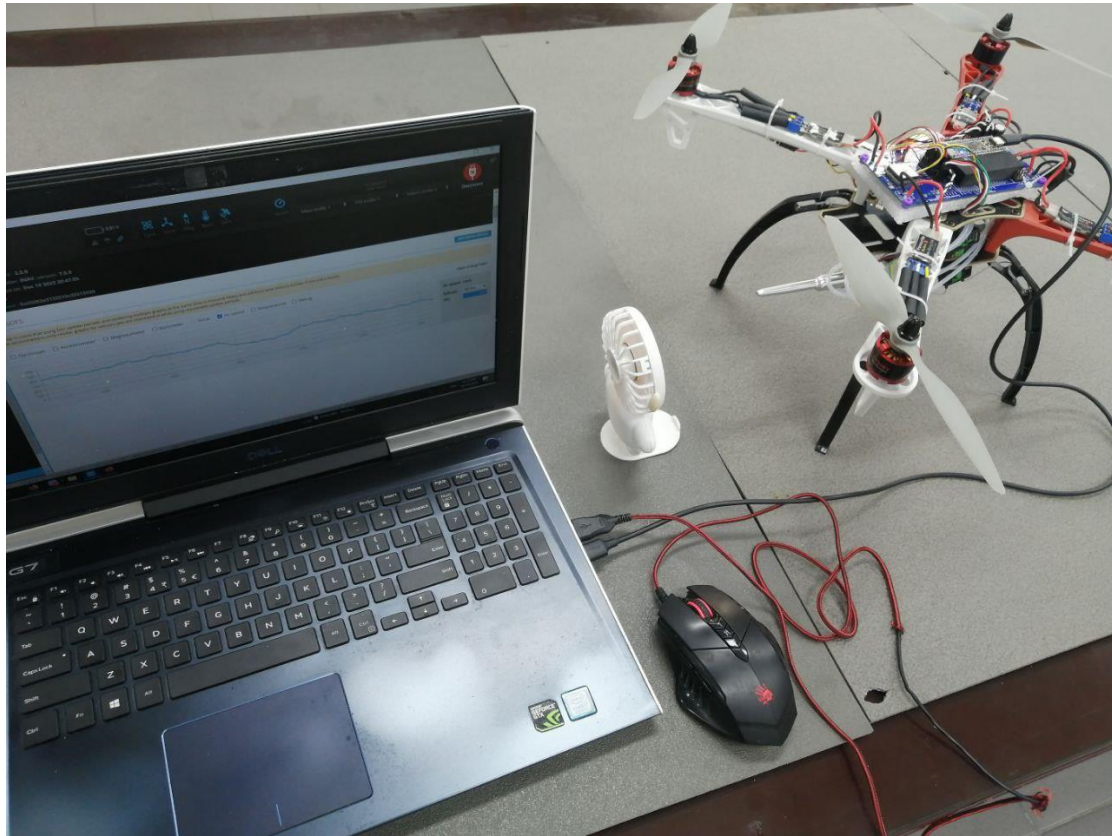
- ADC

The screenshot displays the INAV Configurator software interface. The top bar shows the INAV logo, version 7.0.1, and FC firmware version 7.0.0. A status bar indicates a battery voltage of 0.81 V and various sensor icons (Gyro, Accel, Mag, Baro, GPS, Flow, Sonar, Speed). The main configuration area is divided into several sections:

- Sensors & buses:** A list of sensors with dropdown menus. The 'Pitot tube' dropdown is open, showing options: None, AUTO, MS4525 (highlighted), ADC, VIRTUAL, FAKE, MSP, and DLVR-L10D. A note below the dropdown reads '300kHz if connected hardware allows for it'.
- Other Features:** A list of features with toggle switches: 'Enable CPU based serial ports', 'GPS for navigation and telemetry', 'Telemetry output', and 'Reversible motors mode (for use with reversible ESCs)'.
- Voltage and Current Sensors:** A section with various settings: 'Battery voltage monitoring' (checked), 'Voltage Meter Type' (ADC), 'Voltage source to use for alarms and telemetry' (Raw), 'Voltage Scale' (100), 'Battery Voltage' (0.81), 'Battery current monitoring' (checked), 'Current Meter Type' (ADC), 'Current Meter Scale' (10000), 'Offset in millivolt steps' (-80), and 'Battery Current' (0.89).
- Battery Settings:** A section with 'Number of cells (0 = auto)' (1) and 'Maximum cell voltage for cell count detection' (4.25).

A 'Save and Reboot' button is located at the bottom right. The bottom status bar shows system metrics: Packet error: 0, I2C error: 0, Cycle Time: 504, CPU Load: 22%, MSP version: 2, MSP load: 0.1, MSP round trip: 41, HW round trip: 17, Drop ratio: 0%, Arming Flags: ARMING\_DISABLED\_RC\_LINK, and version 7.0.1.

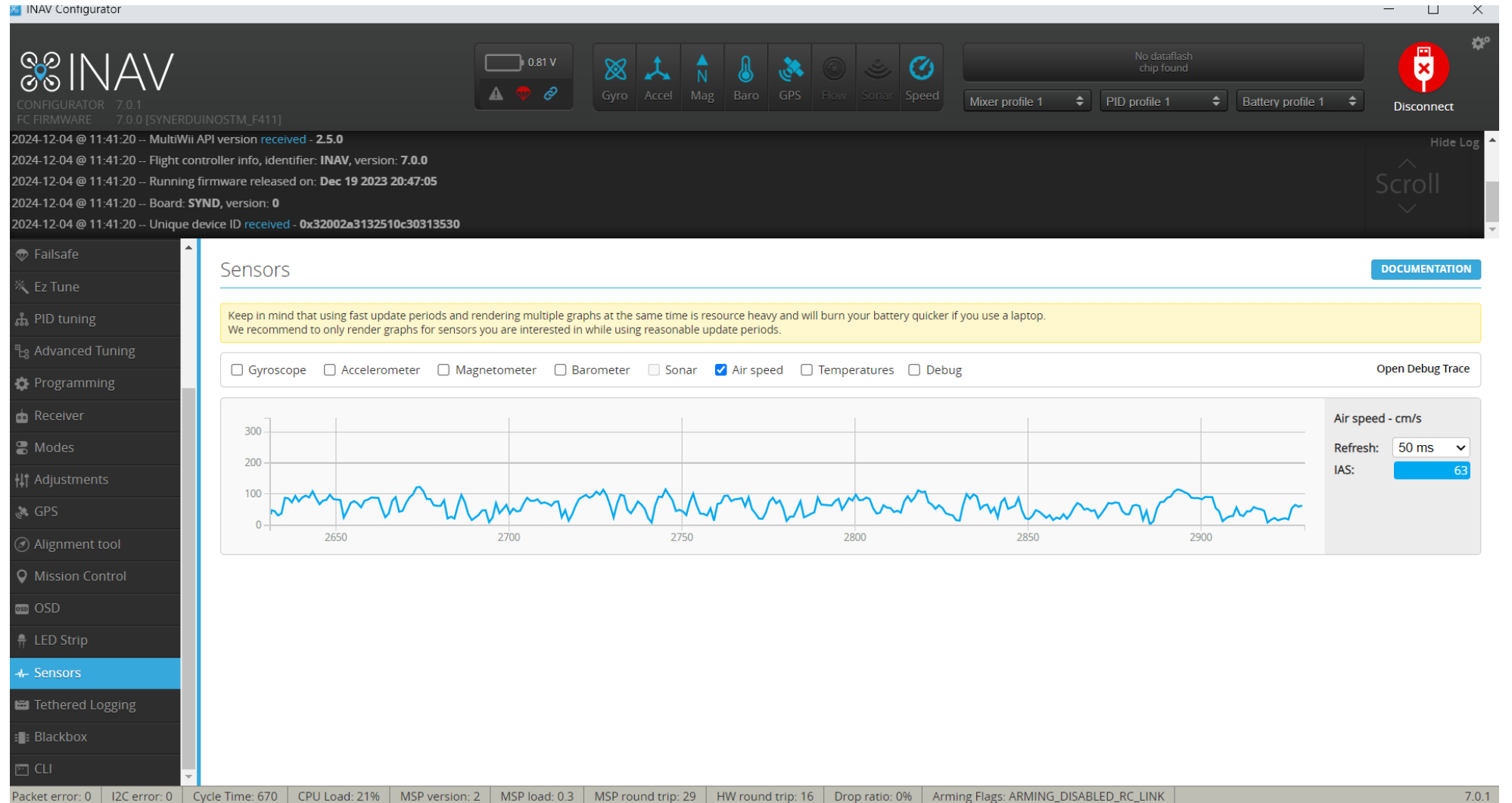
# SYNERDUINO TESTING



# SYNERDUINO TESTING

Check AirSpeed to identify if the sensor is receiving data and working correctly

Airspeed as default

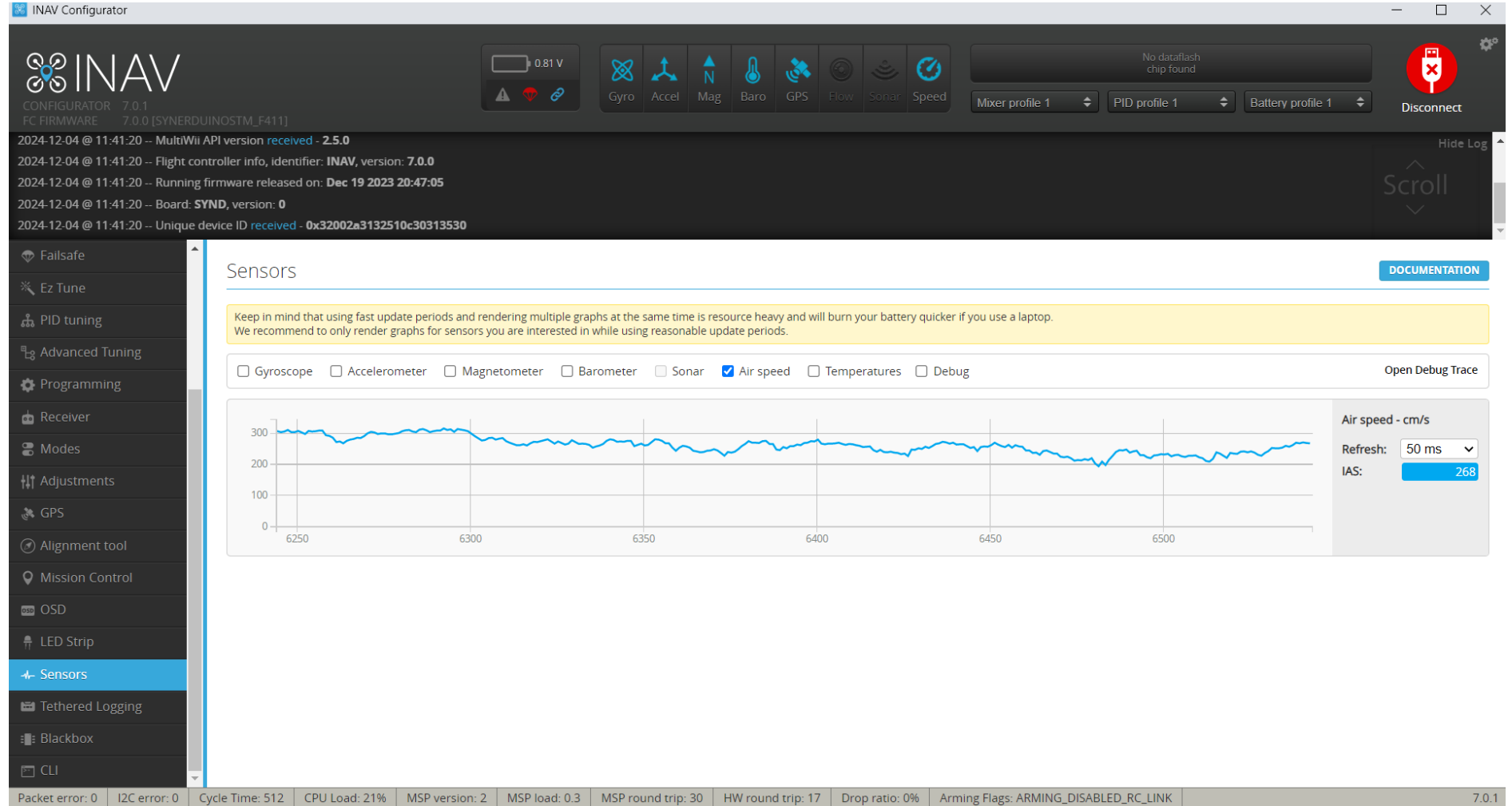




# SYNERDUINO TESTING

Check AirSpeed to identify if the sensor is receiving data and working correctly

Airspeed as influence by a electric fan



# PROGRAMMING

The screenshot shows the INAV Configurator software interface. The top bar includes the INAV logo, version information (CONFIGURATOR 7.0.1, FC FIRMWARE 7.0.0), and various sensor status icons (Gyro, Accel, Mag, Baro, GPS, Flow, Sonar, Speed). A battery level indicator shows 0.81 V. The main content area is divided into two tabs: "Logic Conditions" and "PID Controllers". The "Logic Conditions" tab is active, displaying a table of logic conditions. The table has columns for #, Enabled, Operation, Operand A, Operand B, Active, Flags, and Status. The "GVAR" values are shown in blue boxes above the table: GVAR 0 is 83, GVAR 1 is 1083, and GVAR 2 through GVAR 7 are 0. The status of GVAR 7 is indicated by a blue dot.

#	Enabled	Operation	Operand A	Operand B	Active	Flags	Status
0	<input checked="" type="checkbox"/>	Set GVAR	Value 0	Flight Air speed [cm/s]	Always		
1	<input checked="" type="checkbox"/>	Basic: Add	Flight Air speed [cm/s]	Value 1000	Always		1083
2	<input checked="" type="checkbox"/>	Set GVAR	Value 1	Logic Condition 1	Always		
3	<input checked="" type="checkbox"/>	Override RC Channel	Value 7	Logic Condition 1	Always		●
4	<input type="checkbox"/>	Set GVAR	Value 2	Value 0			
5	<input type="checkbox"/>	True					
6	<input type="checkbox"/>	True					
7	<input type="checkbox"/>	True					

Packet error: 0 I2C error: 0 Cycle Time: 504 CPU Load: 21% MSP version: 2 MSP load: 0.9 MSP round trip: 37 HW round trip: 22 Drop ratio: 0% Arming Flags: ARMING\_DISABLED\_RC\_LINK 7.0.1

Programing is Operand  
Flight > Airspeed cm/s

This would indicate the  
Airspeed