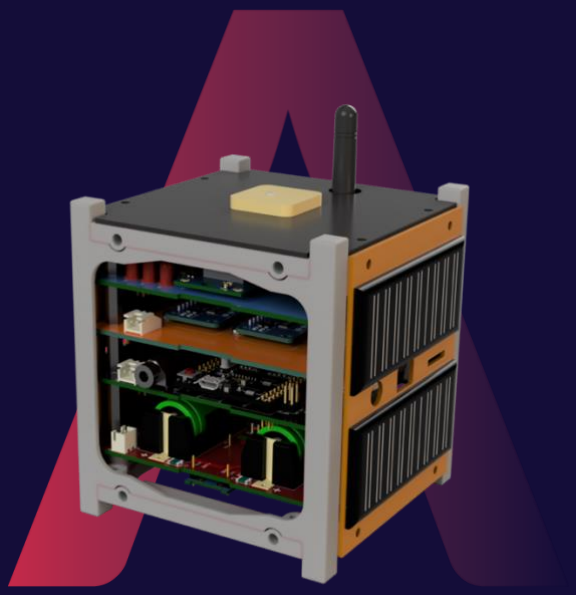
SPACEMANIC

Amos
The SchoolSat

Ignite Curiosity, start to learn Satellite Engineering Today!



FEATURES

Main board

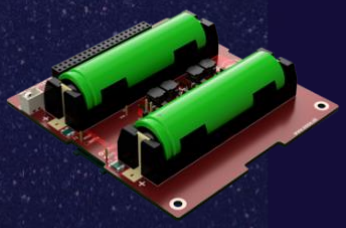
- Brain of your satellite. Skills of programming are gained here. Program working in space must be tested thoroughly. So lower risks for error in your program and test it!

Sensor Board:

- Gyroscope, Accelerometer, Magnetometer, and more
- Gain hands-on experience with sensing technologies.

RF module

- Find out how communication for long distance and low data rate works. Satellites are not on WIFI, and you will see the difference and learn how to set it up correctly.



PSU board

- Learn how power consumption strategy is important for successfully accomplishing mission goals.

Solar board

- Position of the Sun in space is essential for good power harvesting. Find how you can determine it through photo diodes or solar cells.

EDUCATIONAL BENEFITS

Hands-on experience

- Assemble, program, and operate a real satellite.

STEM Skills Development

- Enhance skills in Science, Technology, Engineering, and Mathematics.

Practical Applications

- Explore real-world applications of satellite technology.

Project Based Learning

- Engage in a project that combines theory with practical implementation.

WHAT'S IN THE BOX?

Build your own CubeSat! Bundle includes:

- All boards and Frame
- USB Radio Receiver (pocket Ground Station)
- SD Card
- Data Cable
- RBF Plug

Ready to Fly! Bundle includes:

- CubeSat Assembly
- USB Radio Receiver (pocket Ground Station)
- SD Card
- Data Cable
- RBF Plug

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SPACEMANIC

FUNCTIONAL CHARACTERISTICS

CPU clock 16 MHz

Storage – max 32 GB

Battery – 2 × 18650 Li-ion 3200 mAh

Radio
- 168 dB max link budget
- 20 dBm – 100 mW RF output
- Sensitivity down to -148 dBm

Gyroscope range - 250, 500, 1000, 2000 °/s

Accelerometer range - ±2, ±4, ±8, ±16 g

Temperature sensor
- Sensitivity 0,01 °C
- Range -40 °C to 85 °C
- Error ±1 °C

Pressure sensor
- Sensitivity 0,18 Pa
- Range 30 to 110 kPa
- Error ±1 Pa

Humidity sensor
- Sensitivity 0,008 %
- Range 0 to 100 %
- Error ±3 %

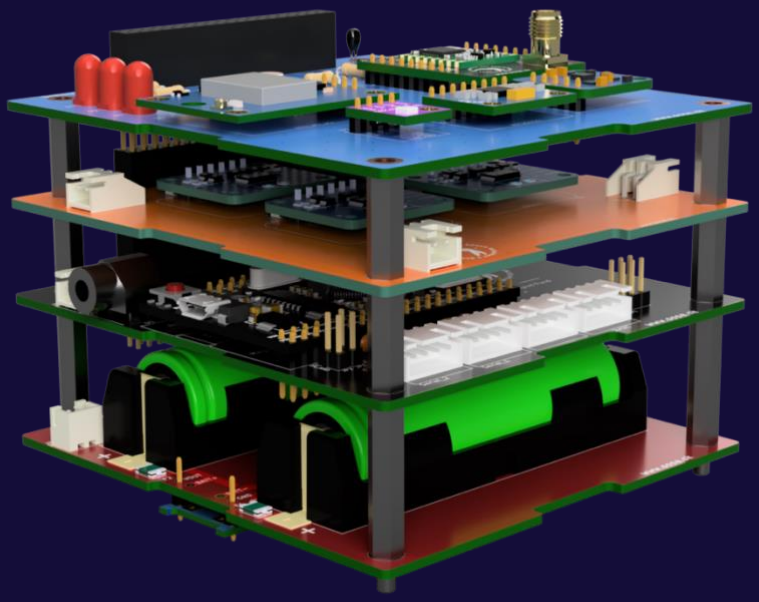
Magnetometer
- Range ±1.3 to 8 gauss
- Sensitivity 2 °

GPS accuracy 2,5 m with 50 % CEP

INTERFACES

Stack connector with
- 1 × I2C
- 7 × ADC or digital pins
- VBATT, 5V, 3V3

2 × UART connectors
2 × I2C connectors
USB and ICSP Programming connectors
Debug LEDs
MicroSD card connector



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