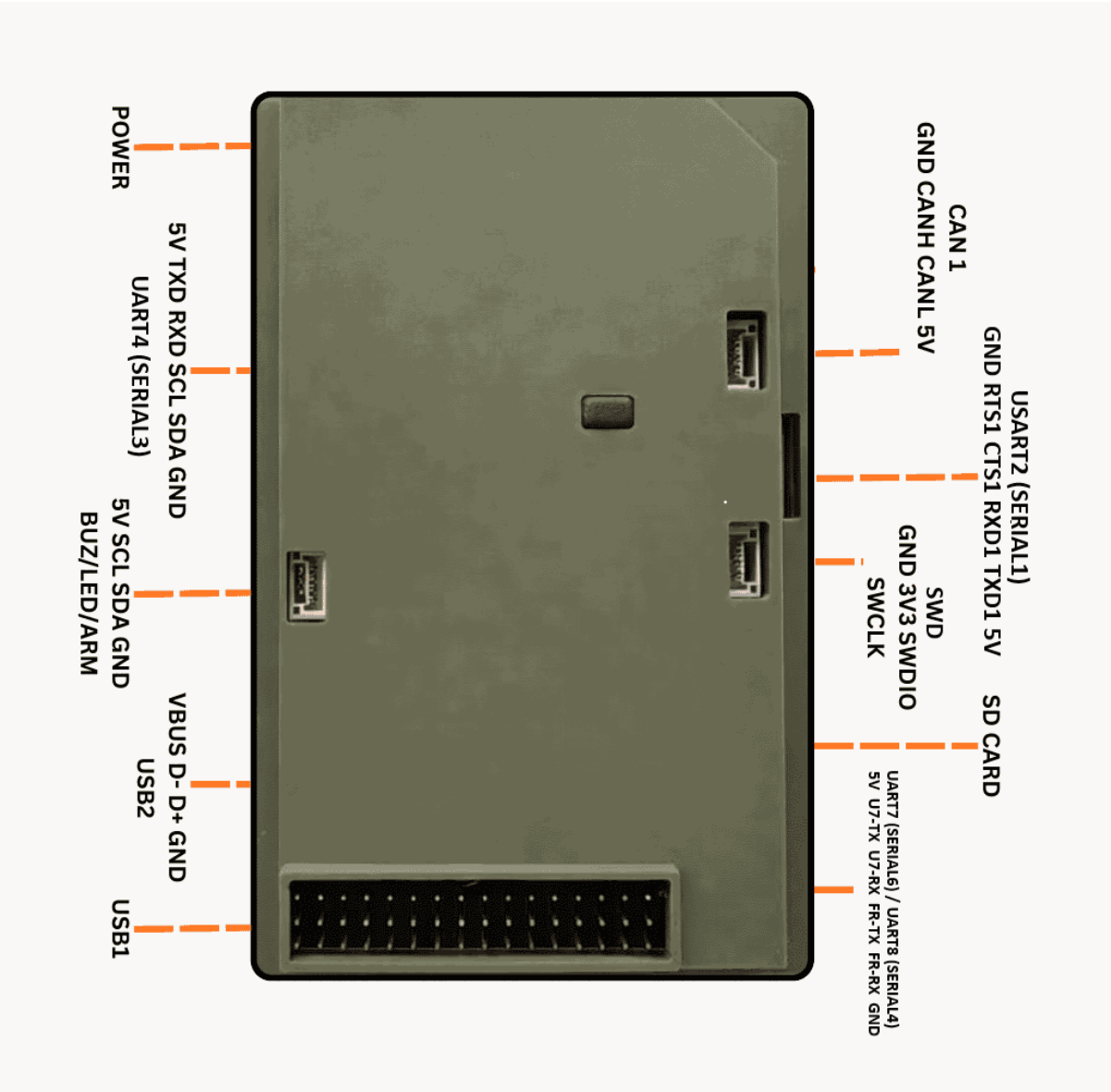
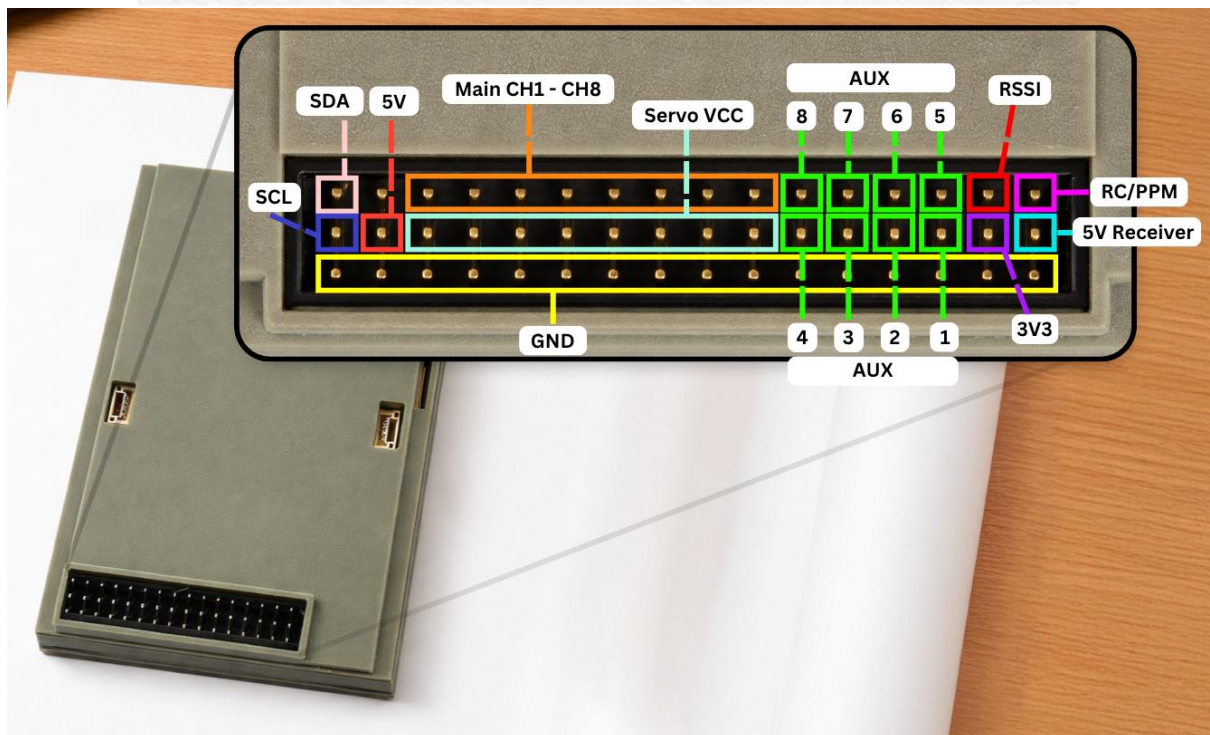
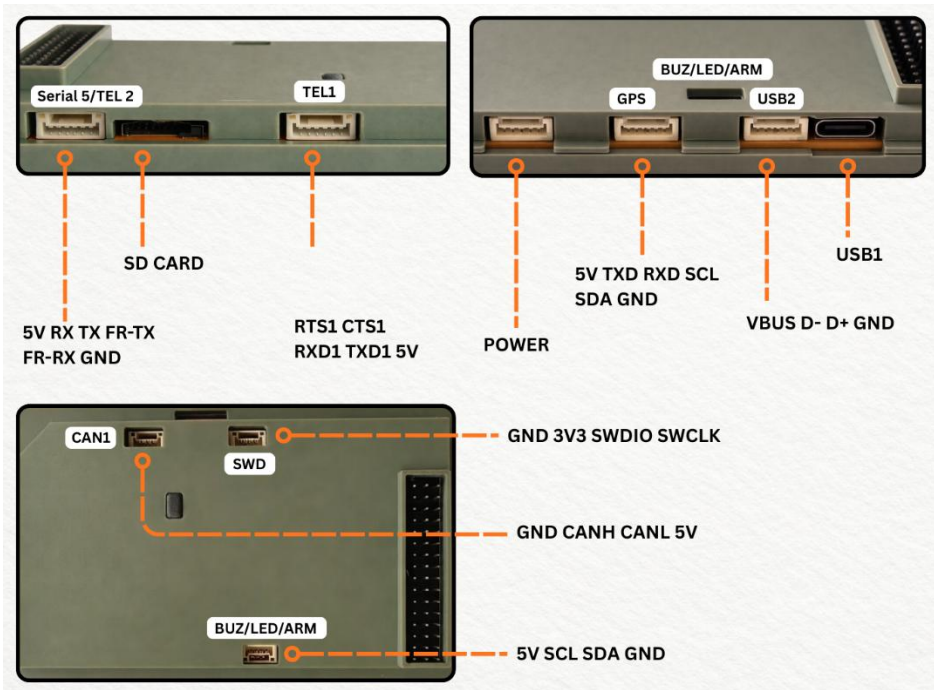


SaamPix-1.0-Manual

1. Install Ground Control Software (GCS)
2. Download and install Mission Planner (for ArduPilot) or QGroundControl on your computer.
3. Connect SaamPix to PC
4. Use a micro-USB cable to connect SaamPix 1.0 to your computer. The board will appear as a serial COM port.
5. Install Firmware
6. Using your selected GCS, flash the desired firmware such as ArduCopter, ArduPlane, or PX4 (In progress)Multicopter.
7. Calibrate Sensors
8. Follow the guided setup to calibrate the accelerometers, gyroscope, magnetometer, barometer, and RC radio.
9. Connect Peripherals GPS & Compass: Connect via the dedicated GPS port
10. ESCs / Servos: Use the 8 main and 8 auxiliary PWM outputs
11. Telemetry & Data Links: Connect through TELEM1, TELEM2, or UART ports
12. Power Module: Use for stable voltage and current sensing
13. Additional Devices: Integrate LiDAR, cameras, or companion computers via I2C, CAN, or UART
- 14.
15. Configure Flight Modes & Safety
16. Select flight modes such as Stabilize, AltHold, Loiter, or Auto. Configure fail-safes and test the safety switch and buzzer.
17. Perform First Flight
18. Complete all pre-arm checks, ensure GPS lock and proper sensor status, then conduct the first flight in a safe, open area.
19. Final Check
20. Verify all connections and software settings before operational deployment.







Specifications

Main System-on-Chip: STM32F427

CPU: 32-bit ARM Cortex® M4 with FPU, running at 168 MHz

Memory: 256 KB SRAM and 2 MB Flash

IMU & Sensors: ICM-20602: 6-axis Motion Tracking (3-axis gyroscope + 3-axis accelerometer)

MPU9250: 9-axis sensor with gyro, accelerometer, and magnetometer (InvenSense®)

LIS3MDL: High-performance 3-axis magnetometer

MEAS MS5611: High-resolution barometric pressure sensor

PWM Outputs: 16 total (8 main + 8 auxiliary) for ESCs, servos, or custom actuators

Telemetry: Up to 3 serial telemetry/data links (MAVLink supported)

Expansion Ports: I2C, UART, and CAN for additional sensors and devices

Logging: microSD card slot for flight and sensor log storage

Safety & Indicators: Safety switch, buzzer, and LED indicators

Receiver Compatibility: PPM, SBUS, DSM, DSM2, DSMX

FrSky® Telemetry Support: Bi-directional telemetry over D and S.Port