Sensors:
- 2 accelerometers
- 2 gyroscopes
- 1 IMU
- GPS compass / Magnetometer
- Airspeed
- Barometer (altitude)
- Optical flow

https://docs.px4.io/v1.9.0/en/getting_started/sensor_selection.html
Sensor fusion - so the IMU can get a reliable read/data

Parameters: (AUTOPILOT):
- Maximum pitch (Parameter: FW_MAN_P_MAX)
- Maximum roll (Parameter: FW_MAN_R_MAX)
- Maximum upward velocity (Parameter: MPC_Z_MAX_UP)
- Maximum downward velocity (Parameter: MPC_Z_VEL_MAX_DN)
- Deadzone of stick (Parameter: MPC_HOLD_DZ)
- Min airspeed/throttle (Parameter: FW_AIRSPD_MIN)
- Max airspeed/throttle (Parameter: FW_AIRSPD_MAX)
- Cruise speed. Default (Parameter: FW_AIRSPD_TRIM)
- Position Hold (Parameter: MPC_HOLD_DZ)
- Position Control in horizontal direction (Parameter: MPC_ACC_HOR_MAX)
- Acceleration max (Parameter: MPC_ACC_HOR)
- Acceleration min (Parameter: MPC_DEC_HOR_SLOW)

ACTUATORS (EHSV/DC MOTORS):
- Flight control Actuation System - Flight and attitude control surfaces include opening and closing the throttle valve. They can be combined with an electromagnetic clutch which can be manually engaged/disengaged.
- Servo Actuators - Servo actuators are electric actuators that use additional circuitry and a closed-loop feedback mechanism to provide additional precision and control. The feedback signal is usually generated by a potentiometer or rotary encoder and is produced by comparing the servo’s output signal with a reference input signal. Servos allow for precise control of position and velocity even while the motor is in motion. The direction of motion can be changed without having to reverse the polarity of the power supply.
GPS:
Air Data:
Computer:
Reference to Ground Speed:
- QGroundControl provides full flight control and vehicle setup for PX4 or ArduPilot powered vehicles. It provides easy and straightforward usage for beginners, while still delivering high end feature support for experienced users.

Key Features:
- Full setup/configuration of ArduPilot and PX4 Pro powered vehicles.
- Flight support for vehicles running PX4 and ArduPilot (or any other autopilot that communicates using the MAVLink protocol).
- Mission planning for autonomous flight.
- Flight map display showing vehicle position, flight track, waypoints and vehicle instruments.
- Video streaming with instrument display overlays.
- Support for managing multiple vehicles.
- QGC runs on Windows, OS X, Linux platforms, iOS and Android devices.

Output Velocity:
Need to figure out what output we want.
Reference velocity might need a memory chip.

Websites for compatible drones:
https://www.ugcs.com/supported_drones_autopilots

Transmitter:
https://www.amazon.com/dp/B07FPF2HQR/ref=ssp_a_d_detail_2?psc=1&pd_rd_i=B07FPF2HQR&pd_rd_w=fyLt5&pf_rd_p=0355a48-7e73-489a-9590-564e12837b93&pd_rd_wg=G16HF&pf_rd_r=7f34763d-ef1b-4c39-917d-ef8a1f27cc22&spLa=ZW5jcnlwdGVkUXVhbjhlaWMvPUEzRExhQTVIBJmVuY3J5cHRlZElkPUEwMTExMjMxWkgyRFdUT2Q2QkFVcVNUQVRBMC8zQTE5MjU1Mg==