

MP2028^g Miniature UAV Autopilot

The MP2028^g is the newest product in a family of MicroPilot UAV autopilots that has already achieved world wide recognition. Weighing in at only 28 grams with dimensions of 10 cm by 4 cm, this miniature UAV autopilot is the smallest in the world. Without sacrificing performance, the MP2028^g packs everything you need into one tiny autopilot. When size matters, the MP2028^g is the proven tool that takes your UAV from the drafting table into the air.

FEATURE RICH

- world's smallest UAV autopilot; 28 grams, 4 cm by 10 cm
- GPS waypoint navigation with altitude and airspeed hold
- completely independent operation including autonomous takeoff, bungee launch, hand launch and landing
- powerful command set
- fully integrated with 3-axis gyros / accelerometers, GPS, pressure altimeter, pressure airspeed sensors, all on a single circuit board
- extensive data logging and telemetry
- UAV configuration wizard
- includes HORIZON^{mp} ground control software

MINIATURE UAV AUTOPILOTS



MicroPilot
SIZE MATTERS

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Specifications

Servos

- elevon, flaperons, 4 servo flap/aileron, separate flaps, v-tail, x-tail, split rudders
- 8 / 16 / 24 servos
- 50 Hz servo update rate
- separate servo and main battery power supply
- separate voltage monitor for main and servo battery power supplies
- integrated RC override
- 11 bit servo resolution

Control System

- 30 Hz PID loop update rate
- gain scheduling for optimum performance
- rudder aileron feed forward for improved turn performance
- aileron elevator feed forward for improved altitude hold during turns
- autonomous takeoff and landing
- user definable PID feedback loops
- user definable table lookup functions

Sensors

- airspeed max speed: 500 kph
- altimeter max altitude: 12000 m
- 2G, 3-axis accelerometers
- 3-axis rate gyro
- max angular rate: 150° per sec.

Navigation

- 1 Hz GPS update rate
- move servo at waypoint
- change altitude at waypoint
- change airspeed at waypoint
- user definable holding patterns
- user definable error handlers
- RPV and UAV modes
- supports DGPS accuracy
- 1000 waypoint command buffer

Telemetry, Datalog & Video

- telemetry (100 user defined fields transmitted each second)
- 5 Hz telemetry update rate
- onboard datalog: 47 fields, 1.5 MB
- 5 hz datalog update rate
- video overlay (16 user definable fields)

HORIZON^{mp}

- HORIZON^{mp} ground control software included with system
- MP2028^g simulator for operator training
- in-flight adjustable gains
- change waypoints in-flight
- payload servos controlled from ground station
- point and click waypoint editor

Physical Characteristics

- weight (including GPS receiver, gyros and all sensors): 28 grams
- measured current (including GPS receiver, gyros, all sensors and GPS antenna): 140mA @ 6.5V
- 4.2 to 26V supply voltage
- 10 cm in length, 4 cm in width, 1.5 cm in height
- software upgradable in the field