



U-Camera Gimbal Specification

version 1.0 2015/11/02

Pointing Control

Pointing Control.....Fully 3D pointing control
 Attitude Estimation & control.....1000Hz update rate
 Pan-Tilt Pointing.....Yes
 Rates Pointing.....Yes
 Stow Mode(Protected Lens).....Yes
 Pilot Mode(Look Forward).....Yes
 Supported Platforms.....Fixed Wing / Rotary Wing

Mechanical (Gimbal)

Dimensions (DxH).....90x148 mm¹
 Weight.....498 g
 Main connector.....High Density DB-26
 Motors.....Brushless

Mechanical (Electric Board)

Dimensions (WxHxL).....50x21x106 mm²
 Weight.....80 g
 Main connector.....High Density DB-26
 GPS Connector.....UFL female

Electrical

Supply Voltage..... 9V – 28V³
 Power Consumption.....8 W
 Maximum Temperature Range.....-30°C to +85°C
 Recommended Temperature Rating.....+10°C to +60°C

Sensor Suite

3 axis accelerometer±10 g
 3-axis gyroscope± 300°/s
 Temperature Sensor.....On-Board -55 to +125°C
 Encoders.....Yes
 GPS Sensor..... Avoids interference⁴
 ADC.....4 Channels for Voltage Monitoring

1 Excluding connectors in front panel.
 2 Excluding connectors in front panel.
 3 Input voltage can reach up to 36V under certain circumstances.
 4 Magnetometer occupies one RS-232 Port.

Video Module

Sensor.....1/4-type EXview HAD CCD
 Zoom Ratio.....10X
 Angle of View.....46.0° (Wide) to 4.6° (Tele)
 Video Output.....PAL
 Available Output for Video Tx Supply.....12V
 Horizontal Resolution.....530 TV Lines

Command Interface

Interface Type.....RS-232
 RS-232 Speed.....115200 bps

GPS Positioning

Channels.....12
 Satellite Based Augmentation SystemGlobal coverage
 Positioning from Command Interface.....Configurable

Hardware Architecture

Technology.....Based in Altera® FPGA technology
 Access to peripherals.....Dedicated hardware.
 CPUs.....Two NIOS II soft-cores at 50MHz
 Bus access.....Non blocking sensors access
 CPU1.....Flight computer, State Estimator & Control loops
 CPU2.....Mission control, Payload & Comm