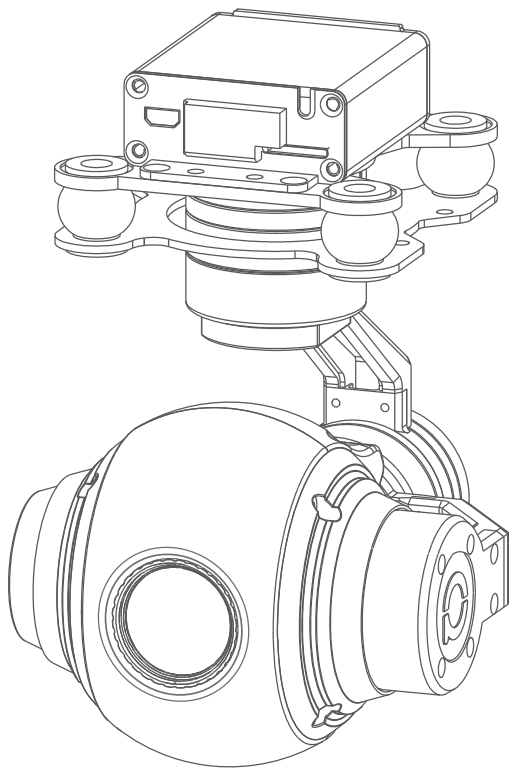
Viewpro

User manual

Q10F

10x Optical Zoom Camera Gimbal



Images are for reference only, please subject to the actual product.

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Q10F Pinpoint-precision Gimbal

Q10F Camera

Gimbal Introduction

Q10F pinpoint precision gimbal is specially tailored for 10x zoom cameras. Factory, all the parameters have been adjusted, the user installed the camera after hand and installed it to the flight Ready to use on the device.

The gimbal can be increased in three directions: level, roll and pitch design, can greatly reduce mechanical vibration, can be applied in various fields like public security, electric power, fire, zoom aerial photography and other i ndustries in the application of drones.

Object Tracking Function

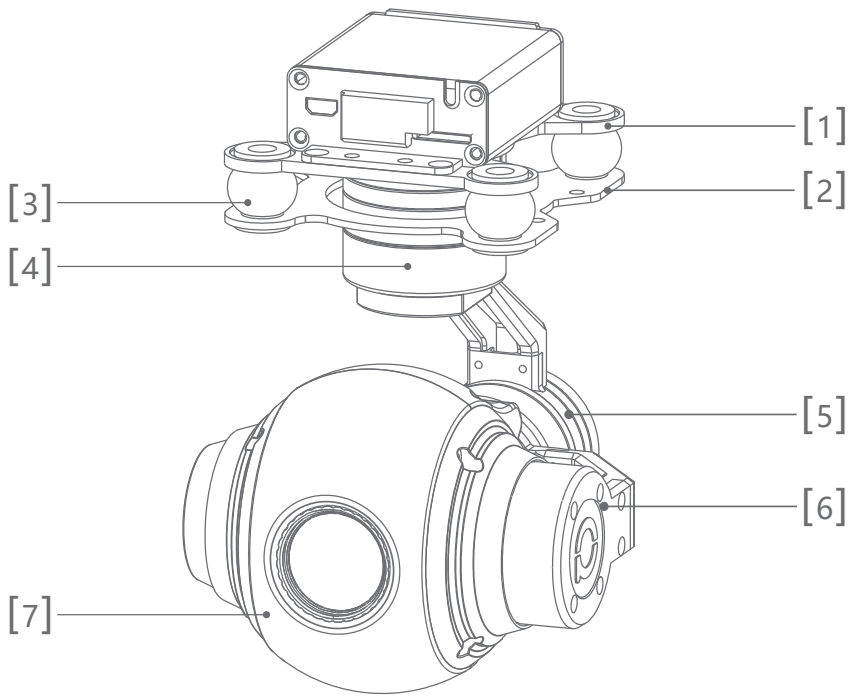
1. Function description

Build-in normalization, cross-correlation and tracking algorithm, combining with object missing recapture algorithm, achieve stable track of the target.
Support custom characters of user OSD, adaptive gate, cross cursor, tracking information display.

2. Tracking Performance

1)Update rate of deviation pixel 50Hz
2)Output delay of deviation pixel <15ms
3)Minimum object contrast 5%
4)The minimal signal-to-noise ratio (SNR) 4
5)Minimum object size 16*16 pixel
6)Maximum object size 160*160 pixel
7)Tracking speed 32 pixel/frame
8)The mean square root values of pulse noise in the object position<0.5 pixel

Gimbal Description



[1] Upper damping board

[2] Lower damping board

[3] Damping ball

[4] YAW axis motor

[5] Roll axis motor

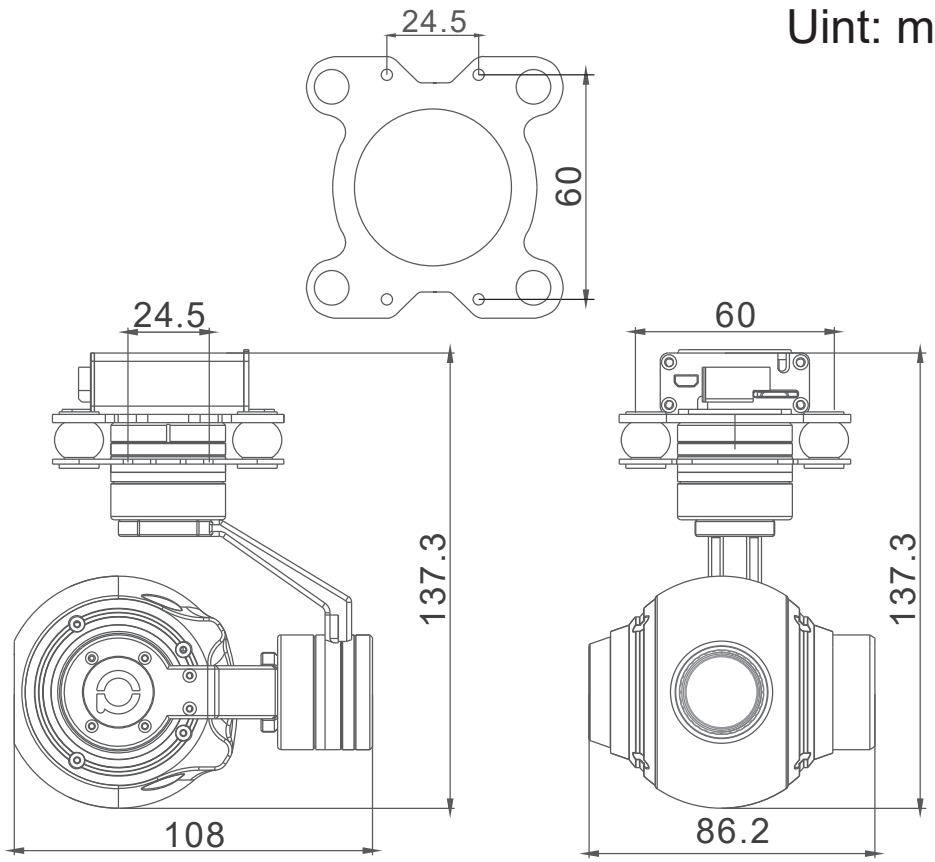
[6] Pitch axis motor

[7] 10x HD zoom camer

Please make sure that the motor is not stopped by any object during the rotation, if the gimbal is blocked during rotation, please remove the obstruction immediately.

Installing

Uint: mm



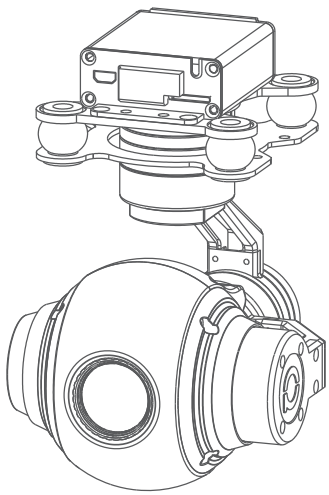
Mechanics@Electronic Characteristics

Input voltage	3S~4S	Idle current	240mA@12V
Dynamic current	320mA@12V	Working environment temp	-10℃ ~ 50℃
Size	L108*W86.2*H138.3mm	Weight	400g

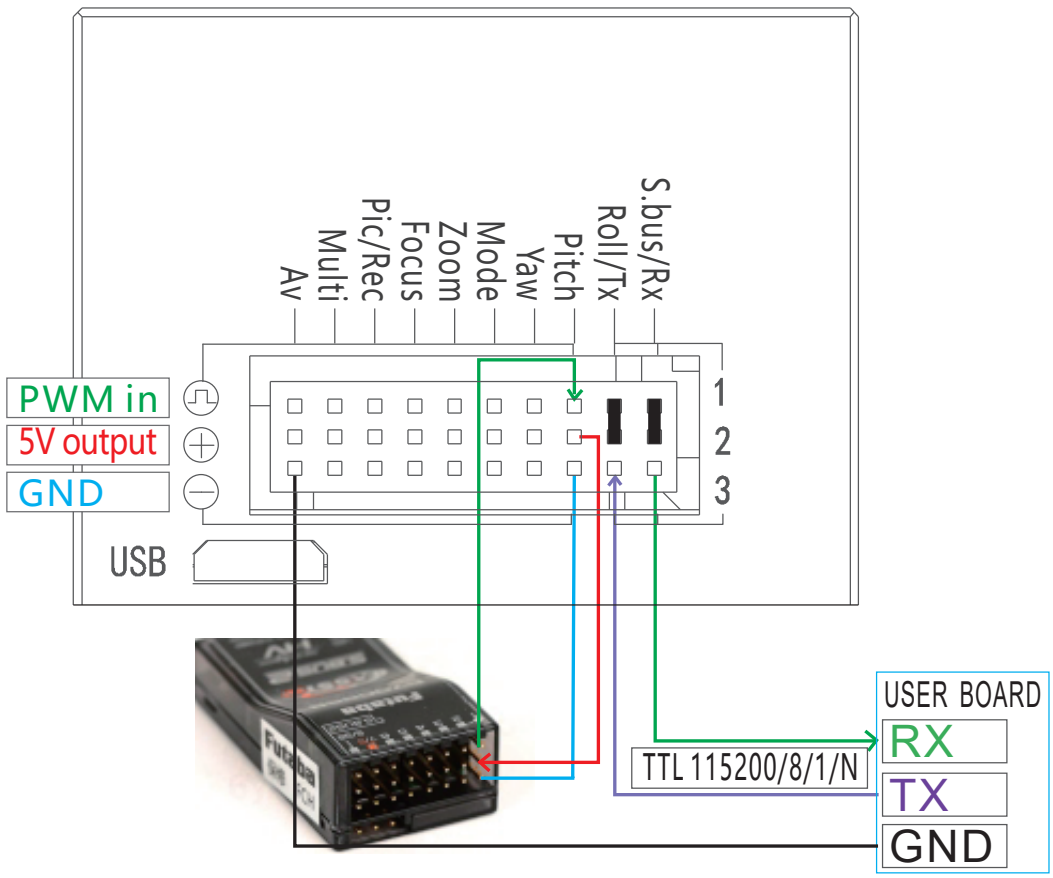
Working Characteristics

Pitch/Tilt: Pitch angle range of action : ±90
Roll: Roll angle range of action : ±45°
Yaw/Pan: Yaw angle range of action : ±150°
Vibration angle: Pitch/Roll: ±0.02°, Yaw: ±0.03°

Connection of Control Box and Wiring Instruction



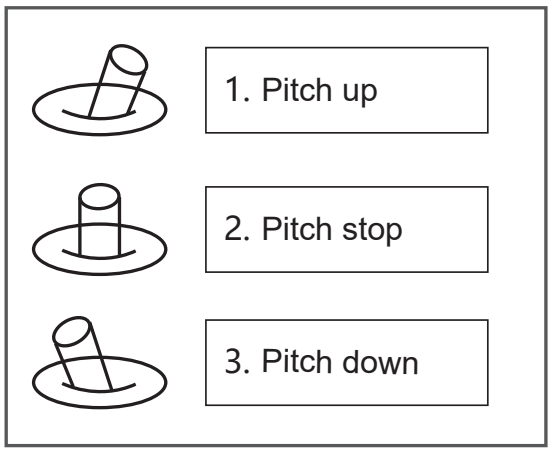
HDMI: micro HDMI OUTPUT
1080P 60fps default
SD card: max 32G, class10
FAT32 or exFAT format

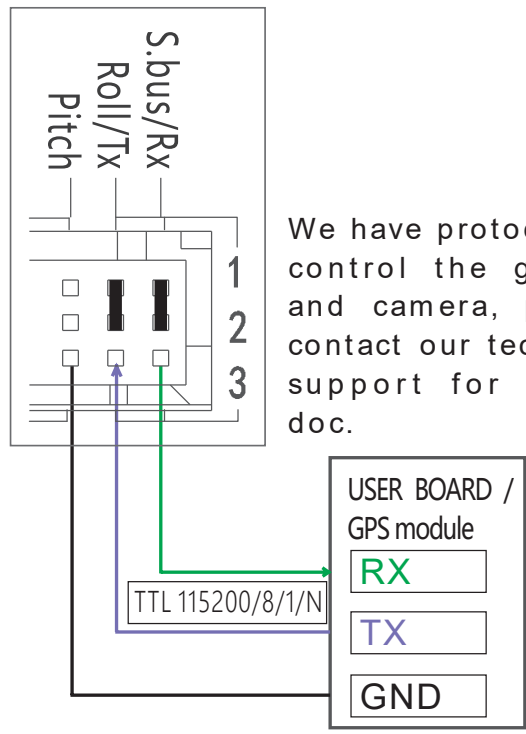


S.bus/Rx: connect to Rx2 for track function.

Roll/ Tx: connect to Tx2 for track function.

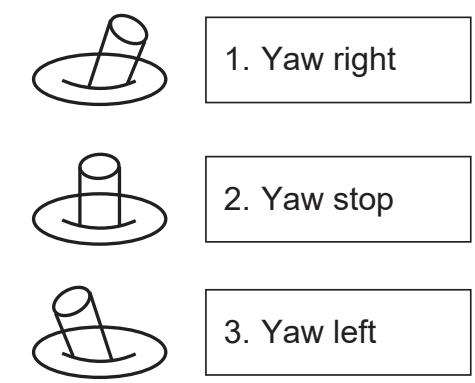
Pitch: PWM in, pitch control



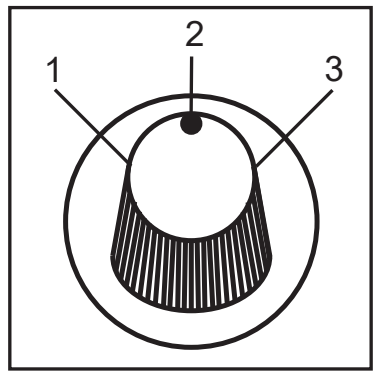


We have protocol for control the gimbal and camera, please contact our technical support for detail doc.

Yaw:PWM in, Yaw control



Mode: Change the speed / home position



Position 1: Lowest speed for pitch and yaw.
Position 2: Middle speed for pitch and yaw.
Position 3: Highest speed for pitch and yaw. The speed is continuously quickly from 1 to 3.

One click: Home position.
Two click: Look down.
Three click: Yaw not followed by frame.
Four click: Yaw followed by frame.
Five click: Restore the factory settings.
(Click = from 2 to 3 and back to 2 quickly)

ZOOM: Zoom the camera


1. Zoom tele


2. Stop zoom


3. Zoom wide

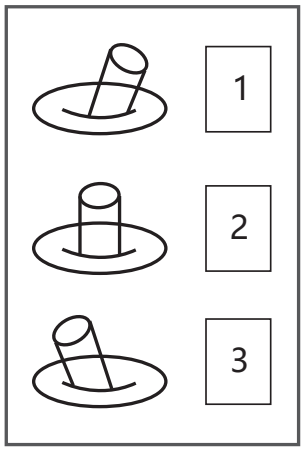
Focus: Focus the camera


1 Focus tele


2 Stop focus


3 Focus near

Pic /Rec picture / Start record, stop record

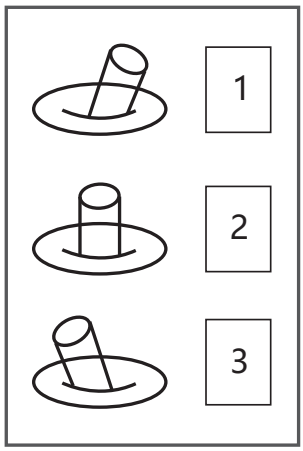


Switch 2 to 1: camera mode change.
Picture mode: the number is quantity of SD card can storage;

Record mode: the time is recording time from start record.

Switch 2 to 3: A) take a picture. B) Start record / stop record

Multi: Backup PWM channel for customize



AV: NO AV output this model.

Camera Introduction

Q10F has 4 mega effective pixels, supports 10x optical autofocus possess HD 1080P video. There are two video streams in the camera, one is 1080P 30FPS, local H.264 compression, stored in the device SD card, another video output 1080p60FPS HDMI HD signal for the wireless transmission, according to the characteristics of UAV photography application, we design fast auto-focus speed , small size, support PWM and serial command control.

Parameter Index

1.Adopt 1/3 inch, 4 mega pixels CMOS SENSOR.

2.The output resolution is 1920*1080P/60 fps.

3.Lens imported from Japan, exhibiting higher definition.

4.10x HD optical zoom lens, 5 mega HD lens.

5.Zoom focal length f=4.9~49mm, aperture diameter φ 12.0.

6.AV simulation output, 1080P30 video stream in local TF card storage.

7.Real time fast focus function, the focus time <1s.

8.Support Flip vertically, horizontal mirror, stationary picture, automatic white balance, automatic gain, automatic color correction, support OSD menu.

9.Wide temperature range, temperature range from -10℃~55℃ .

10.Support serial command control.

11.Viewing angle Horizontal: 53.2°(Wide end) ~ 5.65°(Tele end)
Vertical: 39.8°(wide end) ~ 4.2°(tele end)
Focus: 66.6°(wide end) ~ 7.2°(tele end)

Functional Characteristics

Zoom Range
Zoom focal length f=4.9~49mm, zoom ranges up to 10x, exhibiting image detail Perfectly.
The Speed of Focusing
Design for UAV aerial photography, according to aerial characteristics, using fast focus algorithm, focus time <1s.
Wide Dynamic
Adopt 105 dB wide dynamic range, in the presence of backlight or strong light, the view of the over bright and over dark regions can still be captured at the same time.
Ultra Lowl Ilumination
Ultra low illumination: The device can still clearly display image features in ultra low illumination or poor light environment.
Output Interface
The hardware uses CVBS simulation and a HDMI signal output socket, local H.264 compression, stored in the device SD card.
Multiple Control Modes
Support PWM control and serial command control (ZOOM can be controlled using any flight control channel)