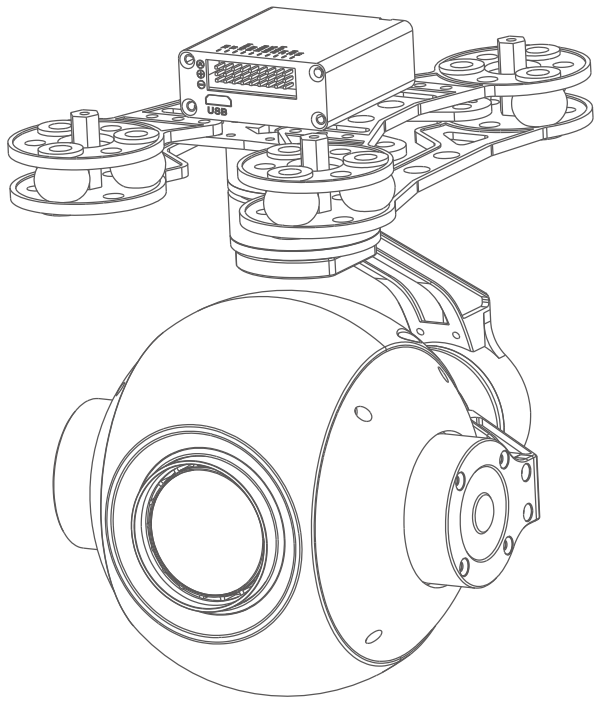
Viewpro

User manual

Q18F

18x Optical Zoom Camera Gimbal



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

Contents

Q18F Pinpoint-precision Gimbal

18F Camera

Gimbal Introduction

Q18F is a pinpoint-precision professional 3-axis gimbal which features high stability, small size, light weight and low power consumption. The 3-axis gimbal based on FOC motor control technology, adopts pinpoint-precision encoder in each motor.

The speed of Q18F gimbal is adjustable, LOW speed mode is used for large zoom range, the control will be more accurate; Fast speed mode is used for small zooming range, which makes the gimbal control sensitive and quick. Also the one-key to center function will allow the gimbal return to initial position automatically and rapidly.

Q18F supports PWM and serial command control, suitable for close range remote control or remote data command control.

Object Tracking Function (optional)

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

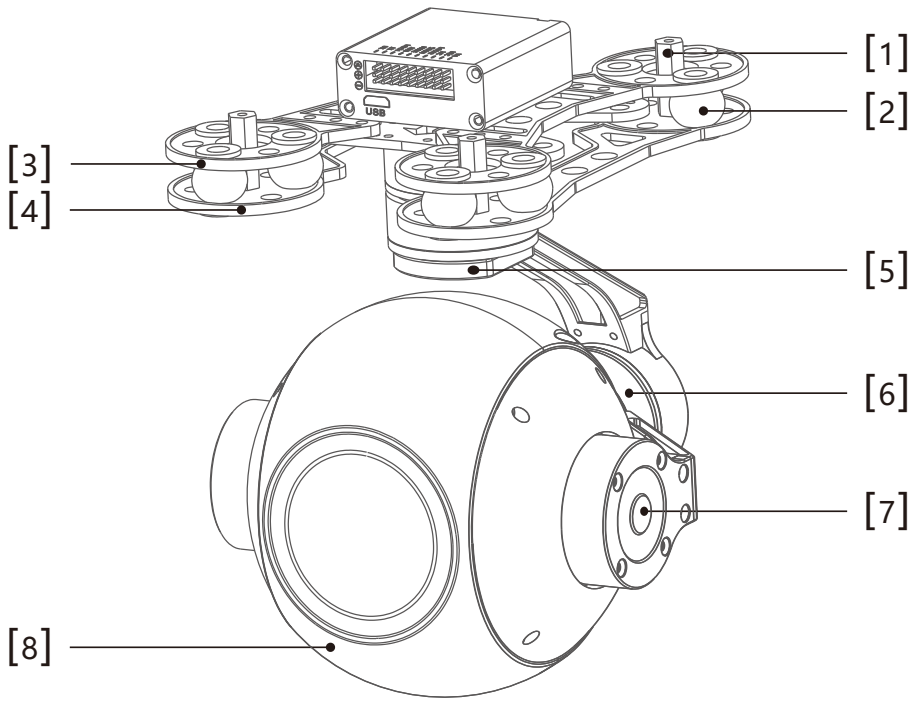
5)Minimum object size 16*16 pixel

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]Gimbal fixed copper cylinder

[2] Damping ball

[3] Upper damping board

[4] Lower damping board

[5] YAW axis motorr

[6] Roll axis motor

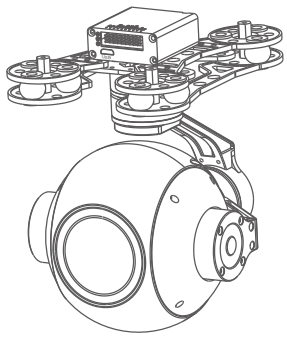
[7] Pitch axis motor

[8] HD zoom camera

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.

Packing list

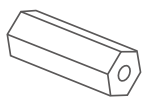
Gimbal*1



Screw pack*1

Screw pack*1
(M3*5mm button head hexagon screw*12)

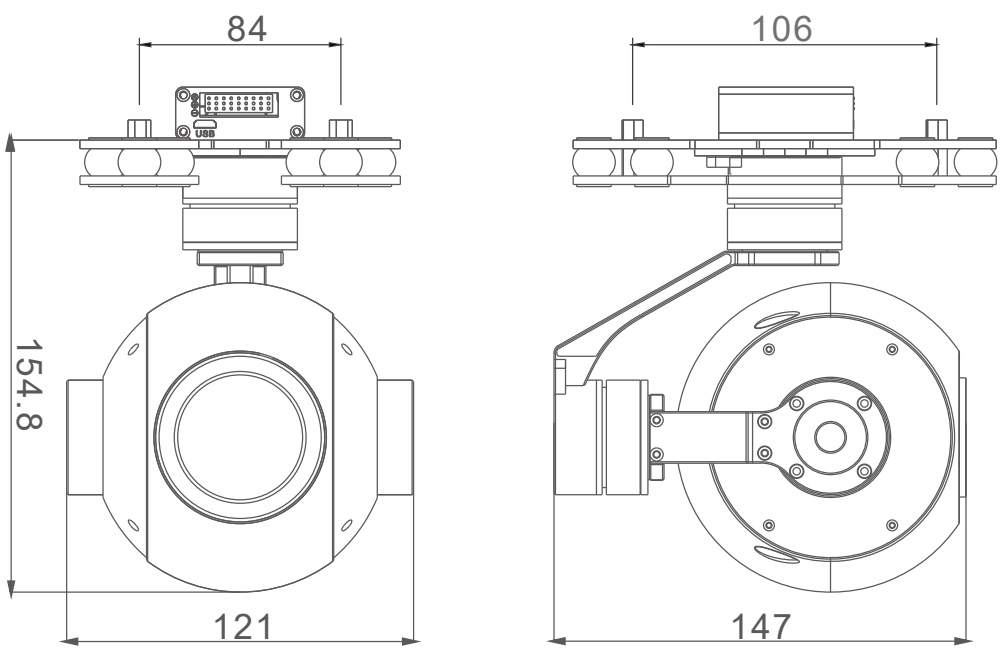
Copper cylindersr*4



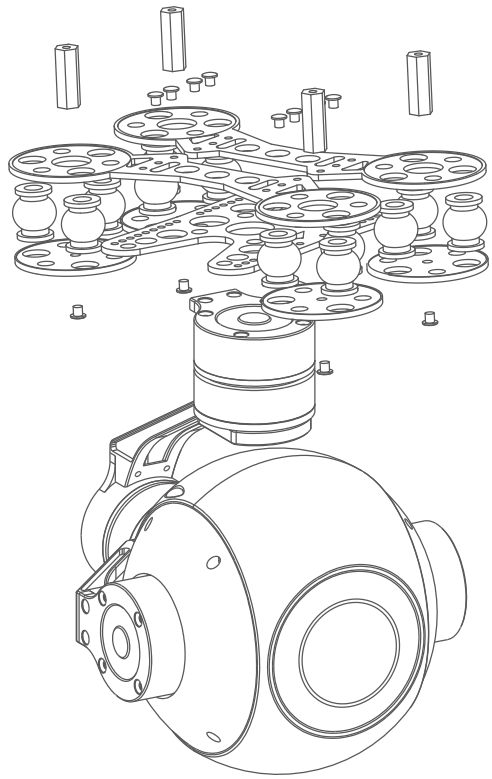
Damping balls*12

Gimbal Dimension

Unit： mm



Installing



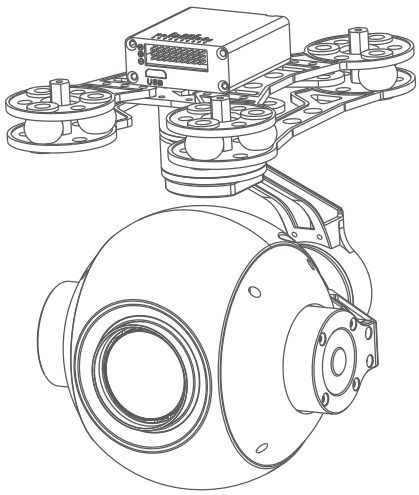
Mechanics@Electronic Characteristics

Input voltage	3S~4S	Idle current	330mA@12V
Dynamic current	450mA@12V	Working environment temp	-20℃ ~ +80℃
Size	L121*W147*H154.8mm	Weight	655g

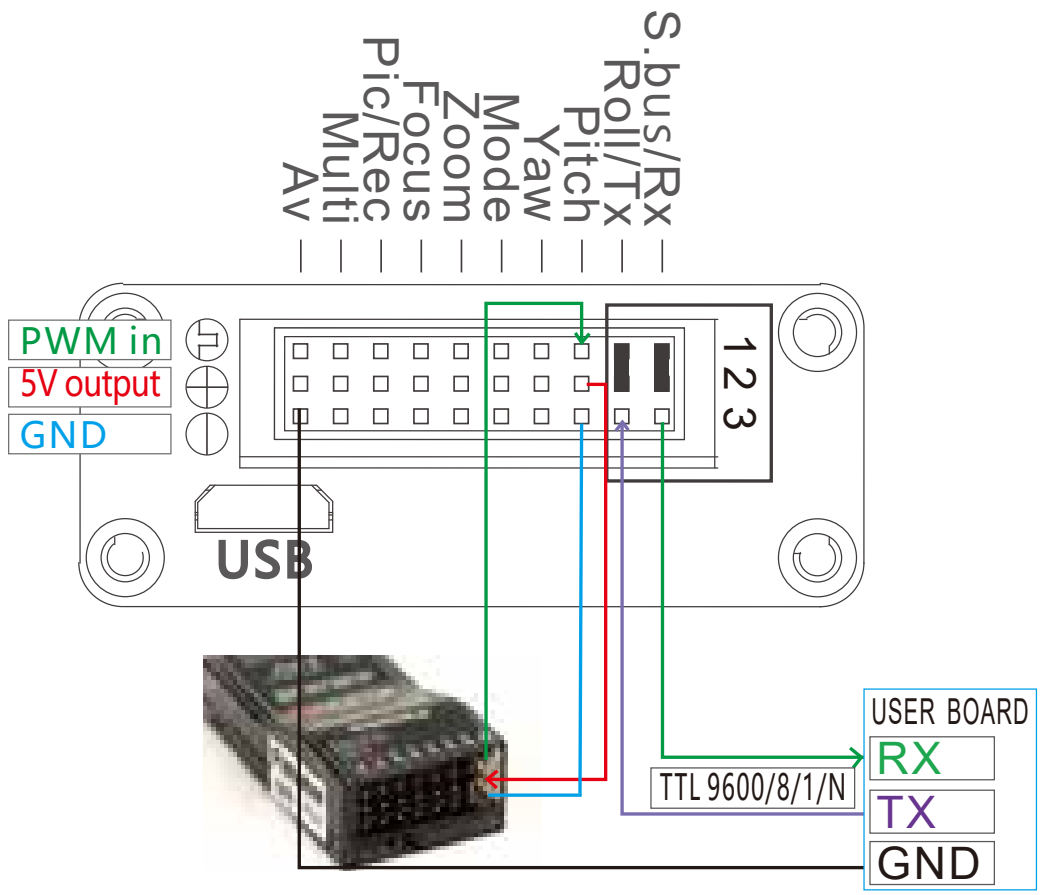
Working Characteristics

Pitch/Tilt: Pitch angle range of action : ±90
Roll: Roll angle range of action : ±85°
Yaw/Pan: Yaw angle range of action : ±150°
Vibration angle: Pitch/Roll: ±0.02°, Yaw： ±0.03°

Connection of Control Box and Wiring Instruction



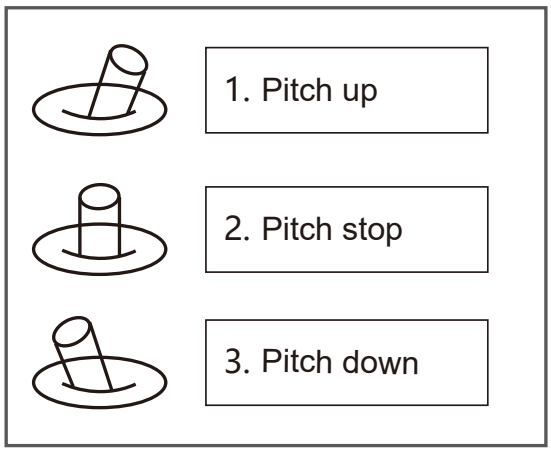
HDMI: micro HDMI OUTPUT
1080P 60fps default
SD card: max 32G, class10
FAT32 or exFAT format

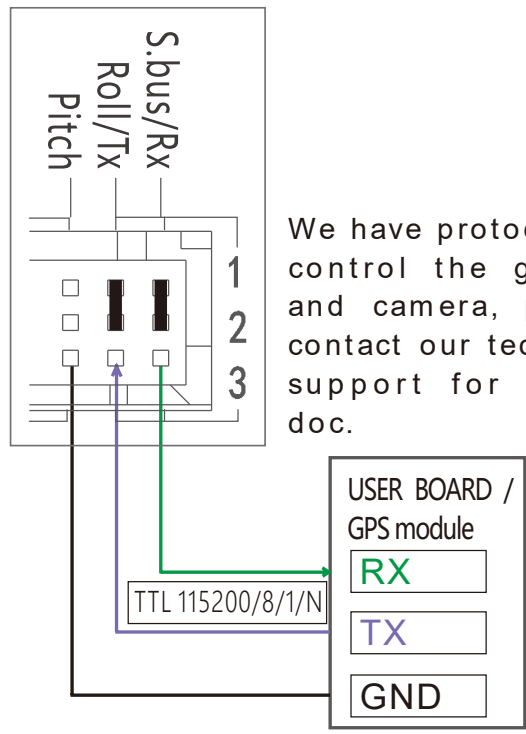


S.bus/Rx: connect to Rx2 for track function.

Roll/ Tx: connect to Tx2 for track function.

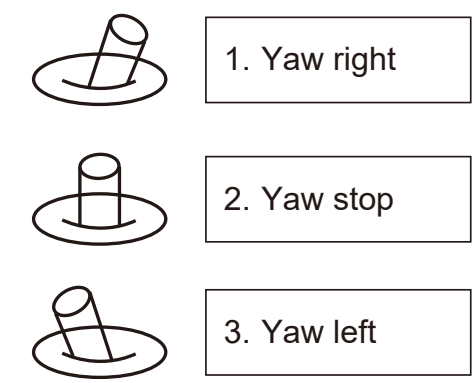
Pitch: PWM in, pitch control



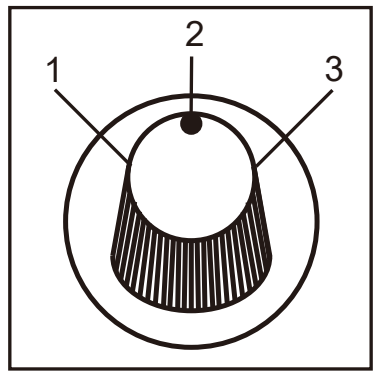


We have protocol for control the gimbal and camera, please contact our technical support for detail doc.

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

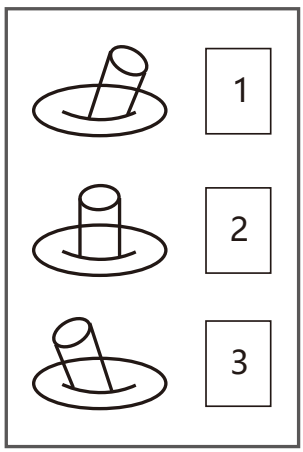
Focus: Focus the camera


1 Focus tele


2 Stop focus


3 Focus near

Pic /Rec picture / Start record, stop record

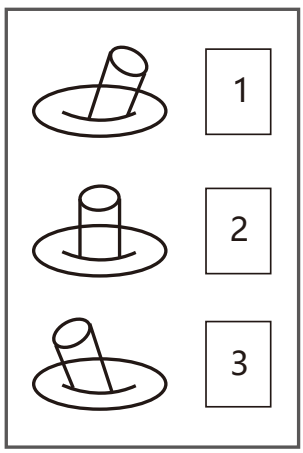


Switch 2 to 1: camera mode change.
Picture mode: the number is quantity of SD card can storage;

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: AV output.

Camera Introduction

Q18F has 4 mega effective pixels, supports 18x 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 1080p 60FPS HDMI HD signal for the wireless transmission, according to the characteristics of UAV photography application, we design fast auto-focus speed, small size, and 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.

3.18x HD optical zoom lens.

4.Zoom focal length f=4.85~82mm, aperture diameter φ 16.

5.Supports wide dynamic state with dynamic range up to 105dB.

6.HDMI HD 1080p output, stream in local 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 -20℃~80℃ .

10.Support PWM and serial command control.

Functional Characteristics

Zoom Range
Zoom focal length f=4.85~82mm, zoom ranges up to 18x,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 105dB 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: color 0.05lux@F1.6, the device can still clearly display image features in ultra low illumination or poor light environment.
Output Interface
Using HDMI high-definition output, support HDMI 1.3 standard. The hardware interface uses a standard HDMI signal output socket, 1080P local storage, 1080P HDMI output.
Multiple Control Modes
Support PWM control and serial command control.