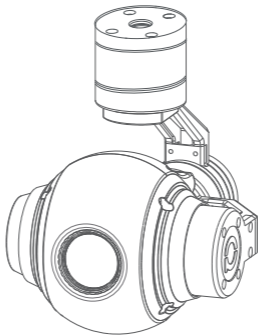




Quick Start Guide

Q10F

10x Optical Zoom Camera Gimbal

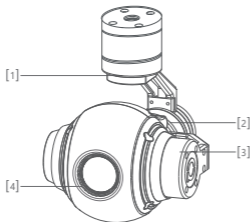


Images are for reference only, please subject to the actual product.

Q10F

The Q10F gimbal and camera features an 10x optical zoom lens. The type 1/3 inch CMOS sensor supports approx, 4 million effective pixels, HD 1080p video, fast auto-focus speed ,small size,designed for UAV aerial photography. Factory, all the parameters have been perfectly set, you just need to install the gimbal camera to UAV ,then Ready to fly.The gimbal can be controlled in three directions: YAW, ROLL and PITCH , we use FOC solution can greatly compensate the vibration of UAV. The image is very stable even at ten optical zoom times. Q10F have been widely used in various fields like public security, electric power, fire, zoom aerial photography and other industries in the application of drones.

Q10F Overview



- [1] YAW axis motor
- [2] Roll axis motor
- [3] Pitch axis motor
- [4] 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.

In the Box

Gimbal camera*1



Button head hexagon screw*8



5mm*4



8mm*4

Copper cylinders*4

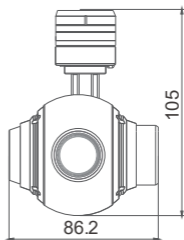
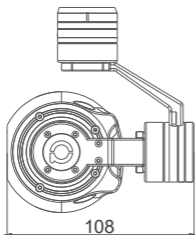


Anti shedding buckle*4



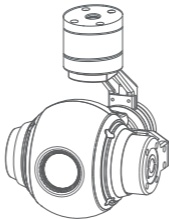
Gimbal Camera Dimension

Unit: mm



Installing

Install the holder camera as shown



Connection of Control Box and Wiring Instruction



← Control Box position



1. Insert SD card

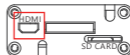
SD card: max 32G , class10
FAT32 or exFAT format



SD card position

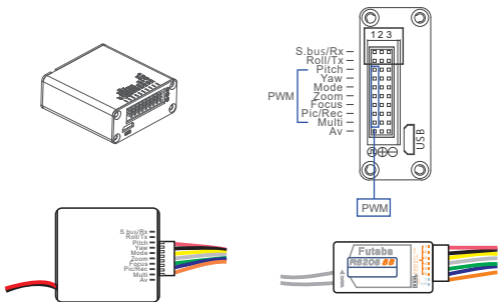
2. Connect HDMI to display

HDMI : micro HDMI OUTPUT
1080P 60fps default

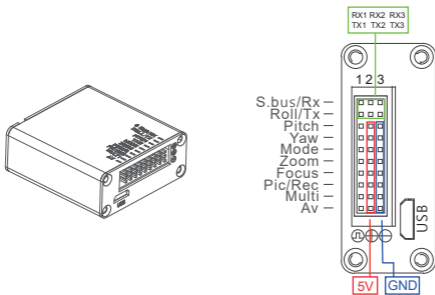


HDMI position

3. Connect the signal line as below

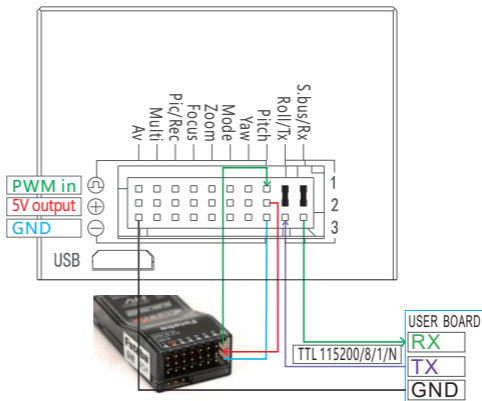


4. Power supply with 12V, red line is positive and black is negative.



Function Description

Signal functions

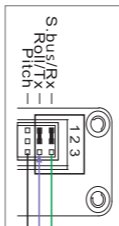
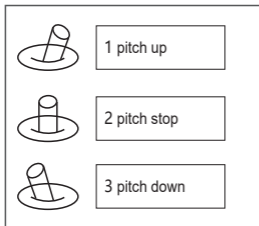


S.bus/Rx: connect to Rx2 for track function.

Roll/ Tx: connect to Tx2 for track function.

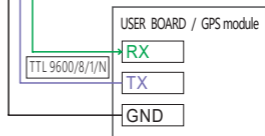
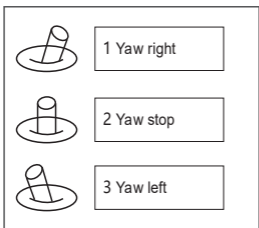
Pitch: PWM in, pitch control

Pitch : PWM in, pitch control

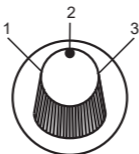


We have protocol for control the gimbal and camera, please contact our technical support for detail doc.

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.

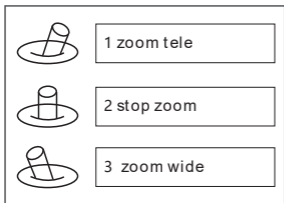
Three click: Yaw not followed by frame.

Four click: Yaw followed by frame.

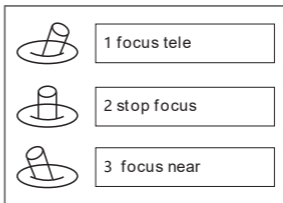
Five click: Restore the factory settings.

(Click = from 2 to 3 and back to 2 quickly)

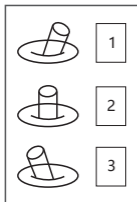
ZOOM: Zoom the camera



Focus: Focus the camera



Pic/ Rec picture / Start record, stop record

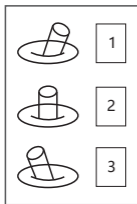


1 Switch 2 to 1: Start record / stop record. Start record, the OSD display rec hh:mm:ss ;

2 Stop record, the OSD display STBY.

3 Switch 2 to 3: Take a picture. OSD display 'REC IMG' a second.

Multi: backup PWM channel for customize



AV: AV output .

Hardware Parameter

Working voltage	12V ~ 16V
Input voltage	3S ~ 4S
Output voltage	5V (connect with PWM)
Dynamic current	320mA @ 12V
Idle current	240mA @ 12V
Power consumption	≤ 3.85W
Working environment temp.	-20°C ~ +50°C
Output	micro HDMI(HD output 1080P 60fps) / Analog
Local-storage	SD card (Up to 32G, class 10, FAT32 or ex FAT format)
Control method	PWM / TTL

Gimbal Spec

Pitch/Tilt	±90°
Roll	±45°
Yaw/Pan	±150°
Vibration angle	Pitch/Roll: ±0.02°, Yaw: ±0.03°
One-key to center	√

Camera Spec

Imager Sensor	1/3inch CMOS
Total pixel	4MP
Effective pixel	2688*1520
Dynamic range	65dB
Lens	5MP
Optical zoom	10x, F=4.9~49mm
Min object distance	1.5M
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)
Sync system	Progressive scanning
Local video	1080P 30fps local TF card
HD output	1080P/720/480P 60fps HDMI1.4
AV output	Standard CVBS 1Vp-p

S/N ratio	38dB
Min illumination	Color 0.05lux@F1.6
Backlight compensation	Backlight compensation/strong light inhibition
Gain	Auto
White balance	Auto/Manual
Shutter speed	Auto
Control system	UART/IR/PWM
Communication protocol	PELCO-D, Hitachi protocol or VISCA
Focus	Auto/Manual/One-time automatic focus
Focus speed	2s
Lens initialization	Built-in
User presetting bit	20 sets
Image rotation	180°, Horizontal/Vertical mirror image
OSD	Not support
Fotoformate	JPEG
Videofomate	MP4
Fotoformate	JPEG
Videofomate	MP4

Camera Object Tracking(Optional)

Update rate of deviation pixel	50Hz
Output delay of deviation pixel	<15ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	160*160 pixel
Tracking speed	±32 pixel/frame
Object memory time	4s
The mean square root values of pulse noise in the object position	< 0.5 pixel

Packing Information

N.W.	413g
Product meas.	105*91*98mm
Accessories	1pc gimbal camera device, 16pcs screws / Hight quality plastic box with foam cushion