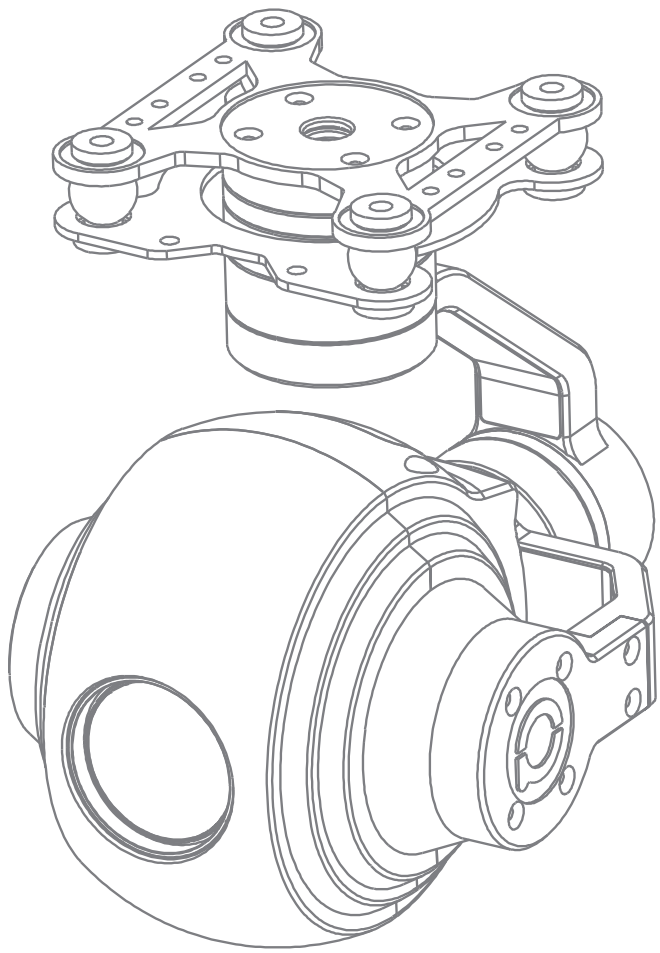
Viewpro

Quick Start Guide

Q10T

10x Optical Zoom Object Tracking Gimbal Camera

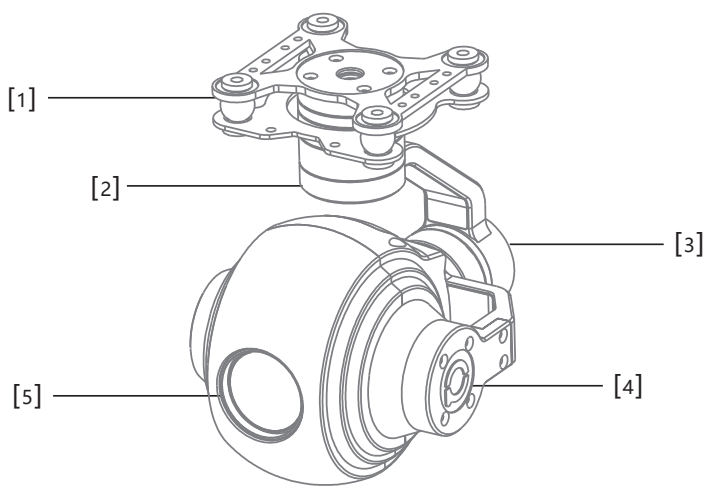


Images are for reference only, please subject to the actual product.

Q10T

Q10T features a 10x optical zoom lens. It's powered by 1/3" CMOS module, FHD 1080p video, fast auto-focus speed. A lightweight design combined with 3-axis gimbal makes the gimbal motors ultra-reactive. FOC solution can greatly compensate the vibration of UAV. Yaw axis could realize 360° continuous rotation with Ethernet or SDI output. At the same time, Q10T can achieve target tracking. The image is stable even at 10 times optical zoom. Q10T have been widely used in various fields like public security, electric power, fire, zoom aerial photography and other industries in the application of drones. All the parameters have been perfectly set, you just need to install the gimbal camera to UAV, then ready to fly.

Q10T Overview

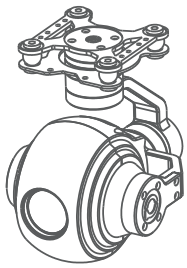


[1] Damping board
[2] YAW axis motor
[3] Roll axis motor
[4] Pitch axis motor
[5] FHD zoom camera

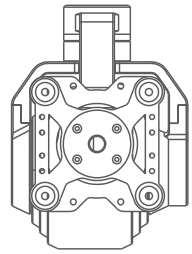
Please make sure that the motor is not stopped by any object during the rotation, if the gimbal is blocked during rotation, please remove the obstruction immediately.

In the Box

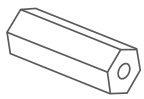
Gimbal camera*1



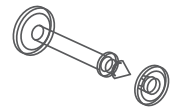
Damping board*2



Copper cylinders*4

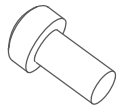


Anti shedding buckle*4



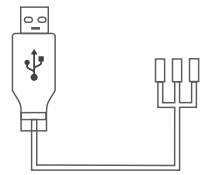
Button head hexagon screw*16

5mm*12



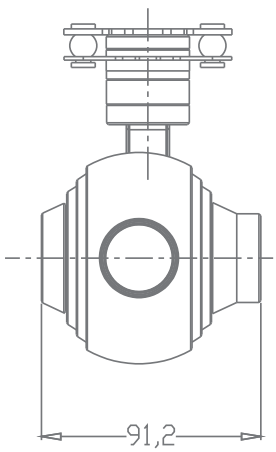
8mm*4

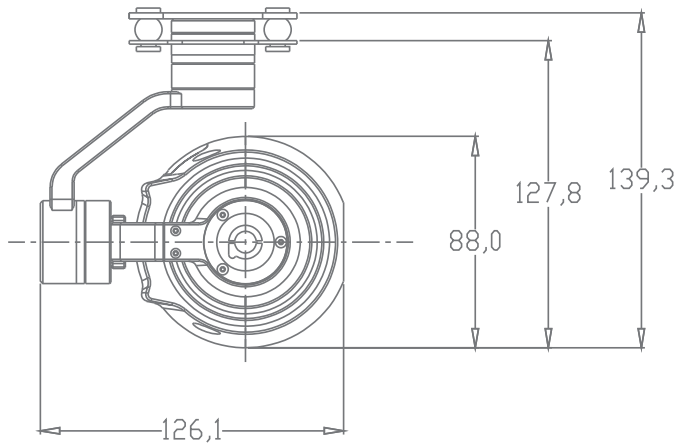
USB to TTL*1



Gimbal Camera Dimension

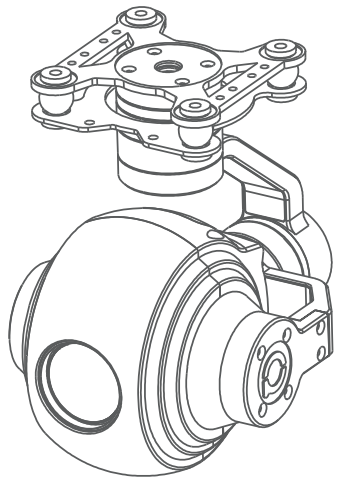
Uint: mm



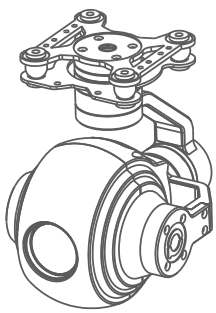


Installing

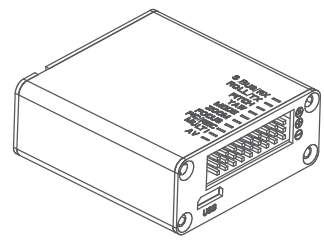
Install the holder camera as shown



Connection of Control Box and Wiring Instruction

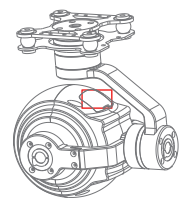


Control Box position



1. Insert SD card

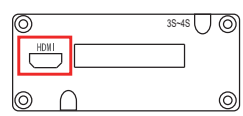
SD card: max 128G ， class10
FAT32 or exFAT format



SD card position

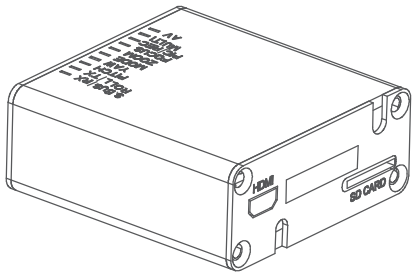
2. Connect HDMI to display

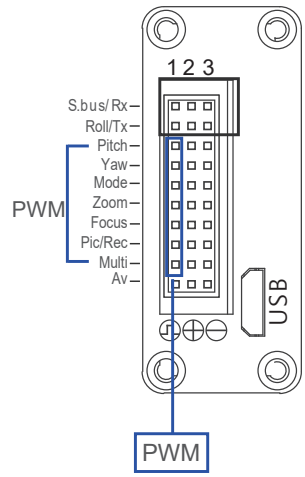
HDMI: micro HDMI OUTPUT
1080P 60fps default

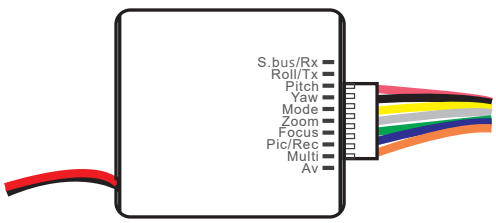


HDMI position

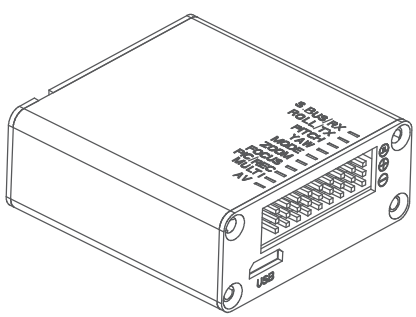
3. Connect the signal line as below

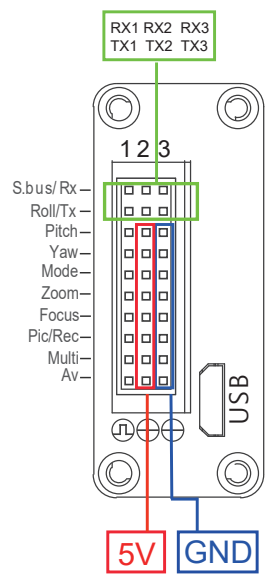






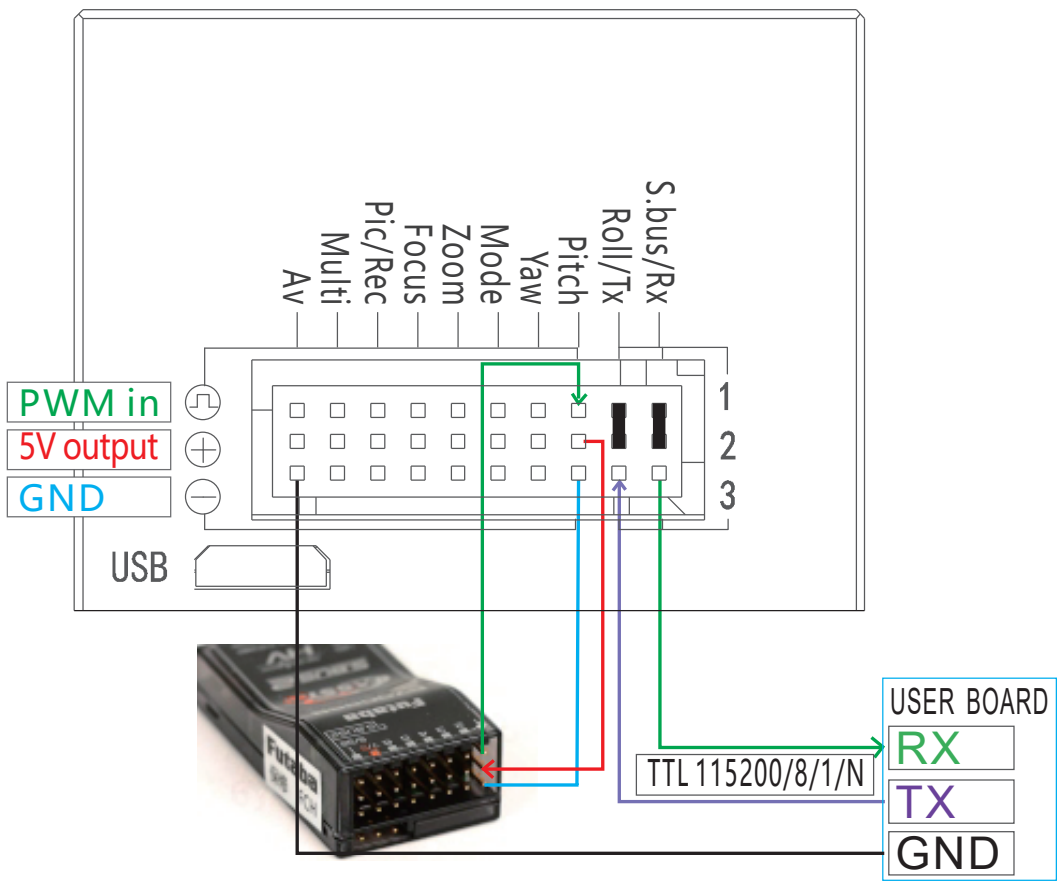
4. Power supply with 12V, red line is positive and black is negative.





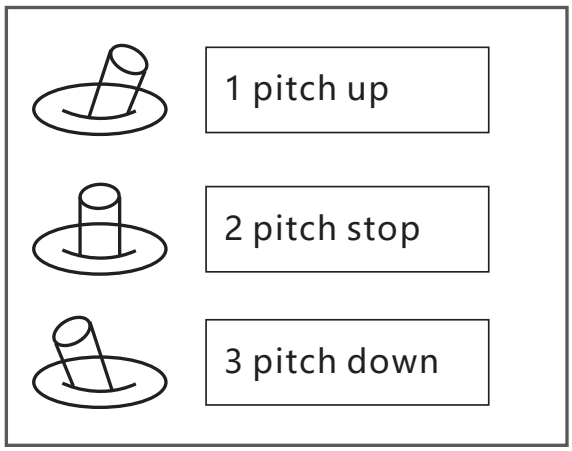
Function Description

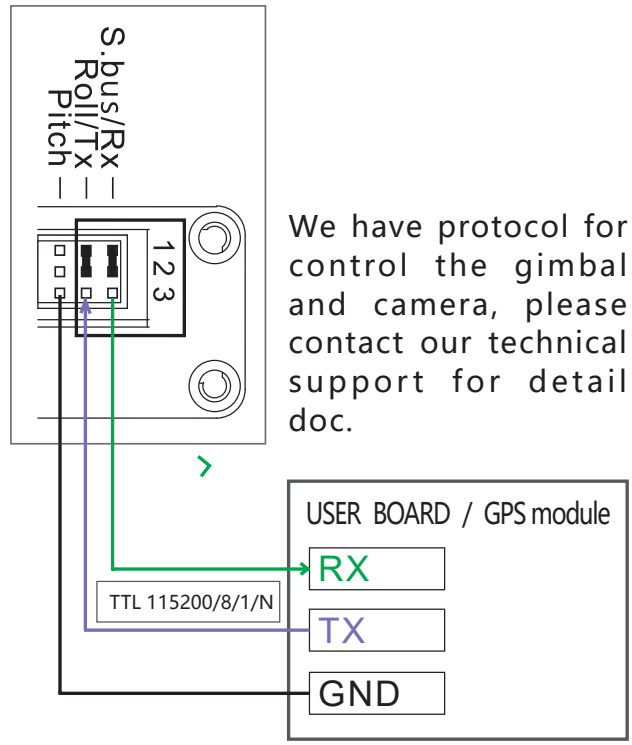
Signal functions



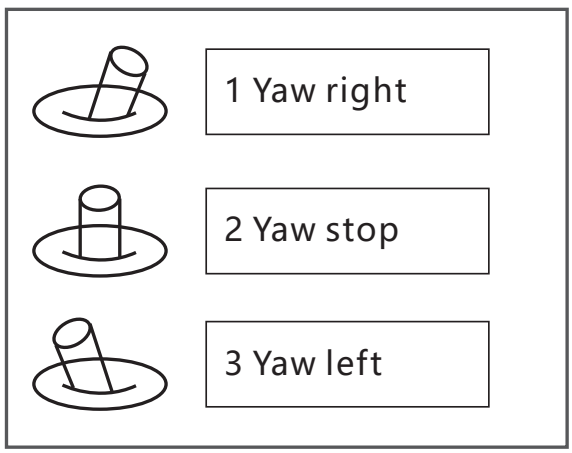
Pitch: PWM in, pitch control

Pitch: PWM in, pitch control

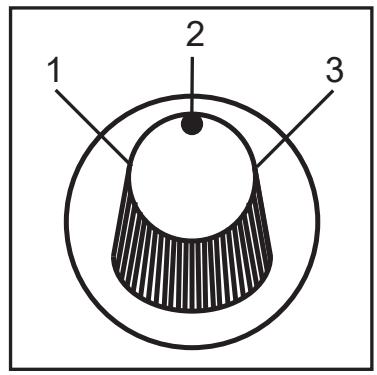




Yaw: PWM in, Yaw control



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.

ZOOM: Zoom the camera

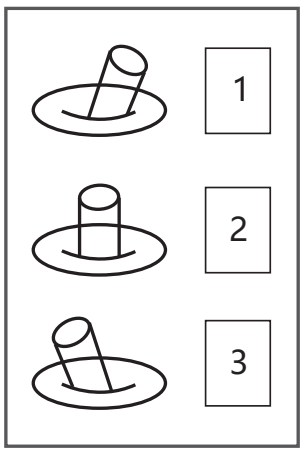

1 zoom tele


2 stop zoom


3 zoom wide

Focus: Backup PWM channel for customize

Pic/ Rec picture / Start record, stop record



Switch 2 to 1: Start record / stop record.

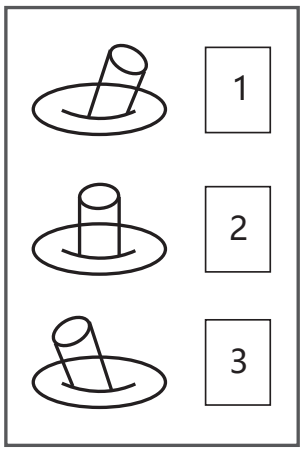
Start record, the OSD display rec hh:mm:ss.

Stop record, the OSD display STBY.

Switch 2 to 3: Take a picture.

OSD display 'REC IMG' a second.

Multi: Tracking control



1: Switch 2 to 1: start tracking. Change the object during tracking.

2: Switch 1 to 3: cancel tracking

AV: NO AV output.

Hardware Parameter	
Working voltage	12V
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℃ ~ +50℃
Output	micro HDMI(HD output 1080P 60fps/30fps) / IP
Local-storage	SD card (Up to 128G, class 10, FAT32 or ex FAT format)
Control method	PWM / TTL /SBUS / TCP
Gimbal Spec	
Pitch/Tilt	±90°
Roll	±45°
Yaw/Pan	±300°
Vibration angle	Pitch/Roll: ±0.02°, Yaw：±0.03°
One-key to center	√
Camera Spec	
Imager Sensor	1/3inch CMOS
Total pixel	2MP
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	Yes

Camera Object Tracking	
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.	545g
Product meas.	140*91.2*126.1mm
Accessories	1pc gimbal camera device, screws, USB to TTL cable / Hight quality plastic box with foam cushion