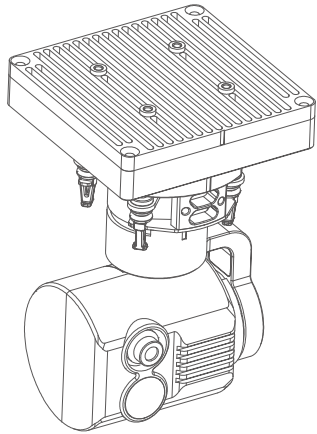
U2 Pro Micro Prime Lens Dual EO Sensors Object Tracking Gimbal Camera

User Manual



For more details please scan the QR code or visit our website:
www.viewprotech.com

Disclaimer and Warning

Congratulations on purchasing your new Viewpro product. Please read this entire document carefully. Failure to read or follow instructions and warnings in this document may result in damage to your Viewpro product. Disassemble the gimbal camera by user is not permitted, which may cause the camera not to work normally.

Viewpro accepts no liability for damage, injury or any legal responsibility incurred directly or indirectly from the use of this project. The user shall observe safe and lawful practices including, but not limited to, those set forth in the manual.

Legends

Warning

Important Note

Precautions

1. After using the camera, please store the device in a dry environment to avoid fogging the lens due to excessive ambient humidity. If the lens fogs up, turn on the camera for a while and wait for the fog to dissipate.

2. When cleaning the camera lens, be sure to wipe the lens with a soft and dry cleaning cloth.

1.Product Introduction

1.1 Introduction

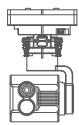
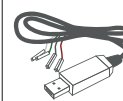
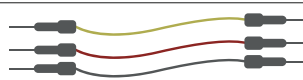
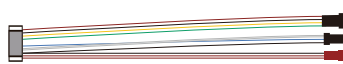
U2 Pro is a 2-axis stabilization gimbal camera with dual 8.29MP EO sensors, one 3.2mm(FOV 83°x53°) and the other 16mm(FOV 20°x11°) FHD focus length.

U2 Pro supports dual EO image switch, digital zoom, photographing and video, target tracking, auto-detect cars and humans, and so on.

OSD displays the yaw and pitch angle, zoom times, and tracking frame. When external GPS and time-related protocols are input, the OSD can also display GPS and time; OSD also can be hidden.

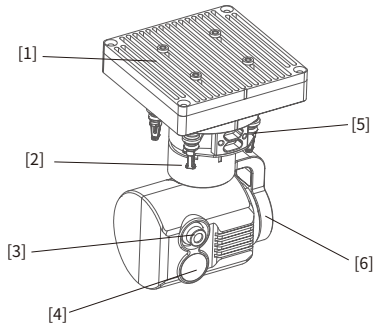
Thanks to the weight of less than 109g, U2 Pro is perfectly suited for all kinds of small-size drones, It is widely used in drone applications such as public security, electric power, fire protection, and zoom aerial photography.

1.2 In the Box

Gimbal camera*1pc		USB to TTL cable *1pc	
Power cable*1pc			
TTL connect cable *1pc			
Ethernet cable *1pc			
Multi-function cable*1pc			

2. Installation Instruction

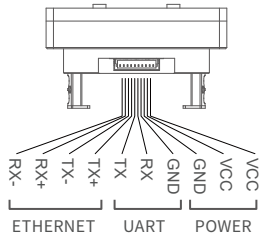
2.1 Overview



[1] Gimbal interfaces
[2] Yaw axis motor
[3] FHD EO Sensor(16mm)
[4] FHD EO Sensor(3.2mm)
[5] Damping ball
[6] Pitch axis motor

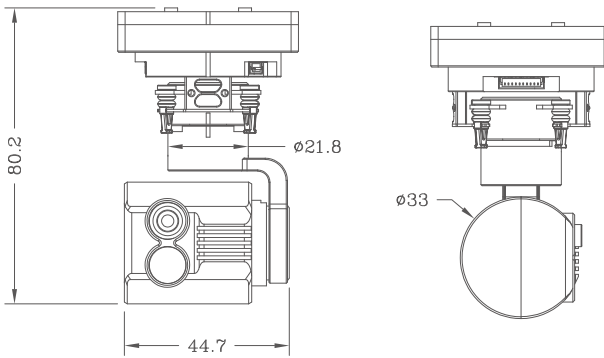
Please ensure that there isn't any obstacle while the motor rotating.
Please remove the obstacle immediately if gimbal camera is blocked during rotation.

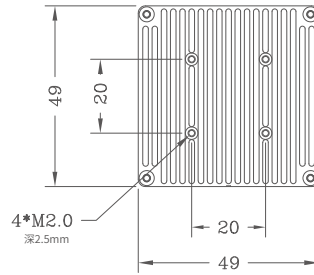
2.2 Control box silk screen



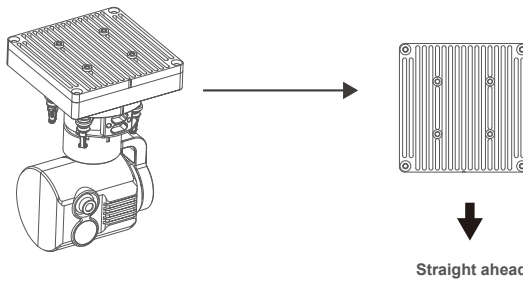
2.3 Device Dimensions

Units: **mm**





2.4 Camera direction



2.5 Image output interface

Ethernet: Ethernet/IP output interface, support RTSP video streaming. Default: RTSP output.
IP address: rtsp://192.168.2.119/554,
Output resolution: 1080P, frame rate: 30fps, bit rate: 2M.

When using Viewlink for network connection, the network of external device (computer) should be the IP address: 192.168.2.2 (choose the last byte among 2~254, can not be 119 same as the gimbal), subnet mask: 255.255.255.0, Default gateway: 192.168.2.1, and all firewalls of the computer must be closed. Then enter the IP address of the gimbal camera, Open Video, the video stream can be outputted.

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3. Signal Control

3.1 Serial Port / TTL Control

TTL communication requirements: TTL signal is 3.3V, baud rate: 115200, data bit 8, stop bit 1, no parity, HEX send and receive.

Connection Diagram (PC - USB to TTL Cable- Gimbal Camera as example):

Gimbal Camera		Cable
TX	⟷	RX（White）
RX	⟷	TX（Green）
GND	⟷	GND（Black）

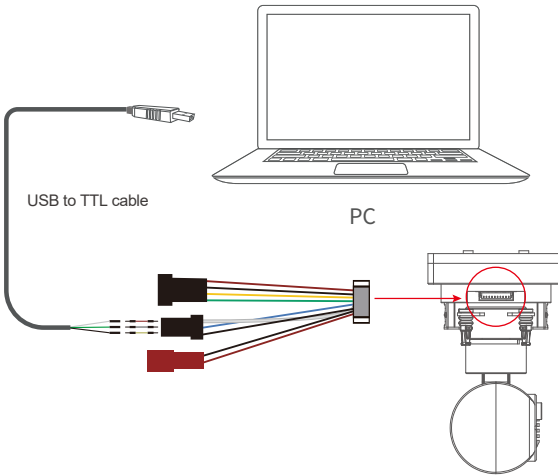


Diagram of USB to TTL Cable:

Connect the camera to the upper computer by USB to TTL cable (Adopt connection method of TX to RX, RX to TX, GNG to GND at Dupont ends of the provided USB to TTL cable, connect to the specified TTL of the gimbal, and the USB end of the cable connect to computer).

Install Viewlink control software to test the functions directly. Users may choose to develop their own software, please contact technical support for TTL control protocol file.

ViewLink is a user interface developed by Viewpro for Viewpro gimbal cameras, you can download it from Viewpro website (www.viewprotech.com) or ask distributors for installation package.

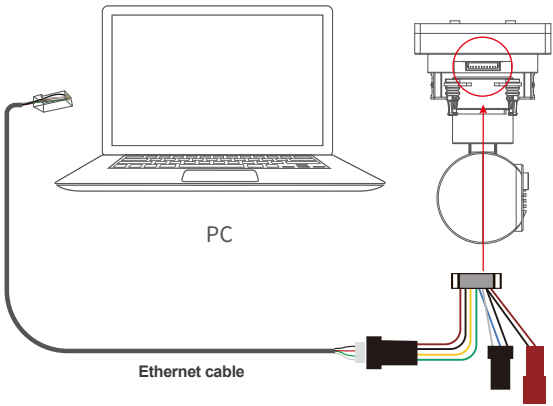
Connect serial port of gimbal to pins, DO NOT connect with power supply.

The default baud rate of serial port is 115200, which can be changed according to the docking equipment.

3.2 TCP Control

For Viewpro gimbal cameras with Ethernet output, the default IP address is: 192.168.2.119, control port: 2000. You can send the corresponding protocol to realize TCP control after connecting.

The TCP control protocol is [Frame header: EB + command ID: 90 + data body (serial port protocol) + Checksum (CS = body checksum, checksum is calculated as a sum of all bytes of data body modulo 256)]. Or directly use UI Viewlink to control after TCP connection.



4. Specifications

Hardware Parameter	
Working voltage	12~16V
Dynamic current	490~900mA @ 12V
Power consumption	Average 5.88W, Max 10.80W
Working environment temp.	-20℃~+50℃
Output	IP (RTSP 720p/1080p 25fps/30fps H264/H265)

Control method	TTL / TCP
Gimbal Spec	
Mechanical Range	Pitch/Tilt: -35°(Up)～115°(Down), Yaw/Pan: ±125°
Controllable Range	Pitch/Tilt: -30°～110°, Yaw/Pan: ±120°
Vibration angle	Pitch/Yaw: ±0.02°
One-key to center	√
EO Camera Spec 1	
Resolution	3840*2160@30fps
Focus Length	3.2mm
Angle of View	83°*53°
Digital zoom	1~5x
EO Camera Spec 2	
Resolution	3840*2160@30fps
Focus Length	16mm
Angle of View	20°*11°
Digital zoom	1~8x (Hybrid Zoom: 5*8=40x)
EO Camera Object Tracking	
Minimum object contrast	5%
Minimum object size	16*16 pixel
Maximum object size	128*128 pixel
Tracking speed（Man）	±32 pixel/frame

Tracking speed (Car)	±48 pixel/frame
Object memory time	100 frames
Packing Information	
N.W.	100±10g
Product meas.	33*44.7*80.2mm

5. FAQ

1. Does U2 Pro support storage?
A: NO, without SD Card

2.How many types of video output does U2 Pro support?
A: Ethernet output only

3.Does U2 Pro support 360 degrees limitless rotation?
A: It doesn't support

4. How does U2 Pro modify the parameters?
A: Enter the default address on the web: http://192.168.2.119/cgi-bin/config URL, the code stream and IP address can be adjusted ; after changing the IP, replace the corresponding IP number in the URL and log in again.

This user manual is subject to update without notice. For details, please visit http://www.viewprotech.com/index.php to get the latest product information.

Technical support : support@viewprotech.com