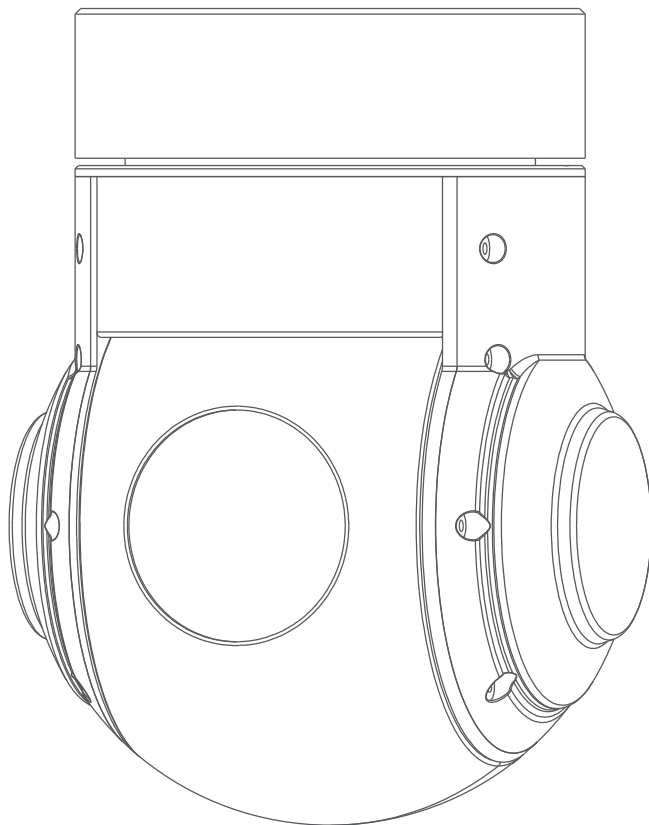# Sky Eye-U30

30x Optica l Zoom Object Tracking Gimbal Camera

Warning and Disclaimer

Make sure not to adjust the gimbal or change its mechanical structure by yourself. Be sure tomount the camera to gimbal before power on,and then install the gimbal on the aircraft.

To avoid gimbal performance degradation or damage caused by imbalanced payload,please do not add otherperipherals for the gimbal camera (filter,hood,etc.).

When in aerial photography,make sure your aircraft flight control system is working at the safe mode.

We strongly recommend that you remove aircraft propellers before doing gimbal configuration.Use extranon-power battery for gimbal.Keep children away from the preset flight region.

Considering that we are not able to control user's specific usage,installation, Assembly,modification (including the use of non-specified parts), and improper use. Direct or indirect damage or injurycaused by the behavior above, our company will not cover any loss and responsibility.

Gimbal description
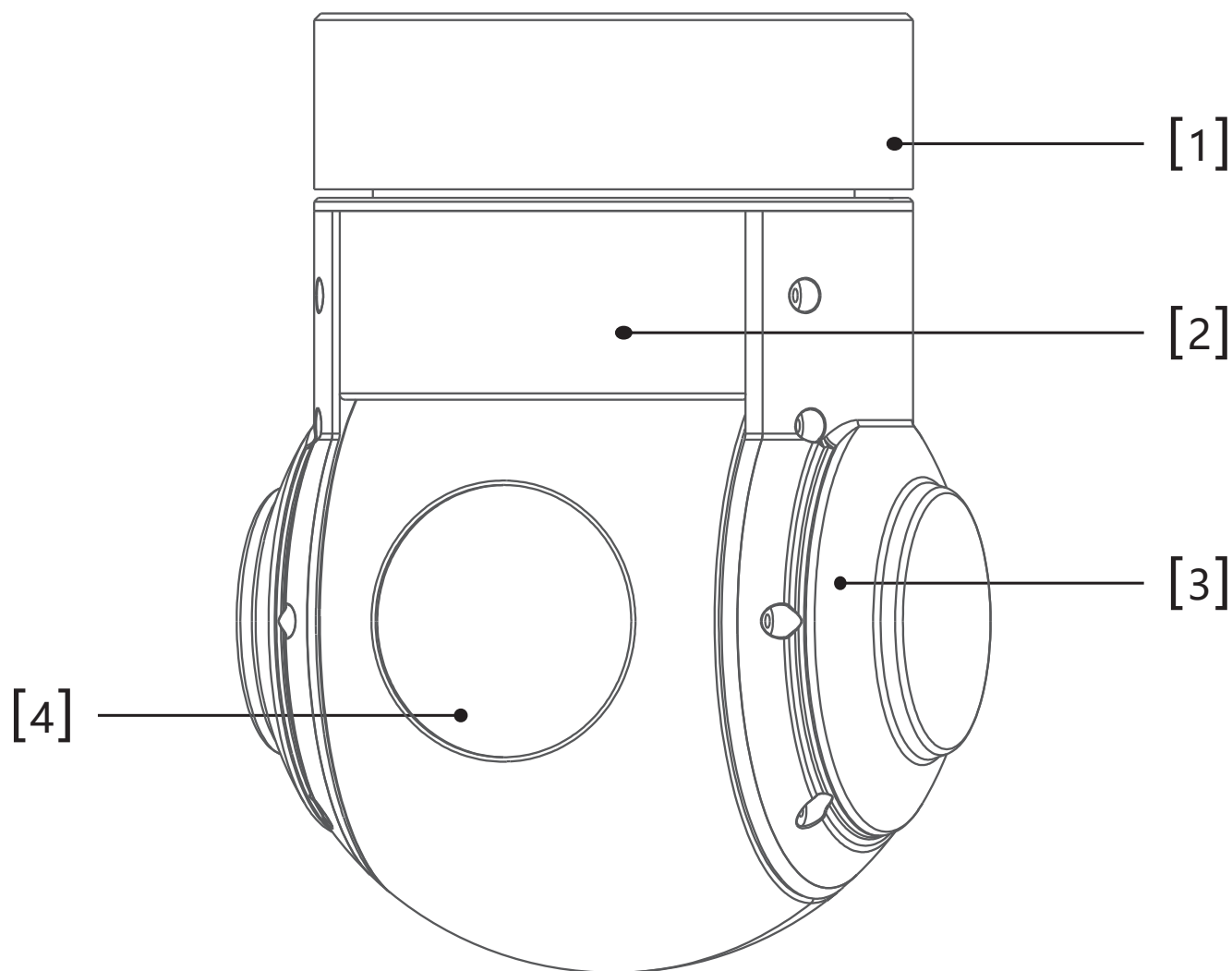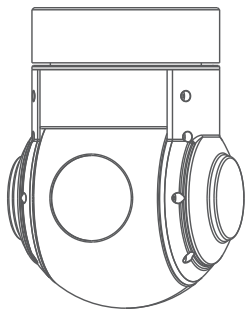

[1]Damping Box   [2]Yaw axis motor

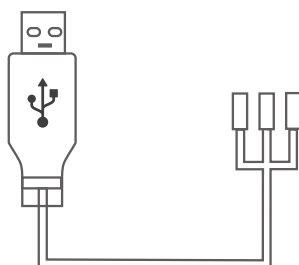[3]Pitch axis motor   [4]HD Camera

⚠ 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.
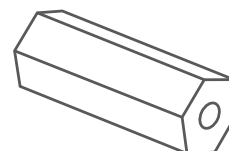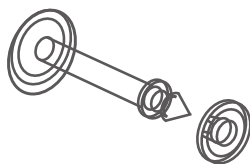
Packing List

Gimbal camera*1

USB to TTL *1
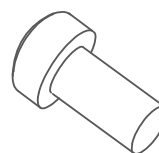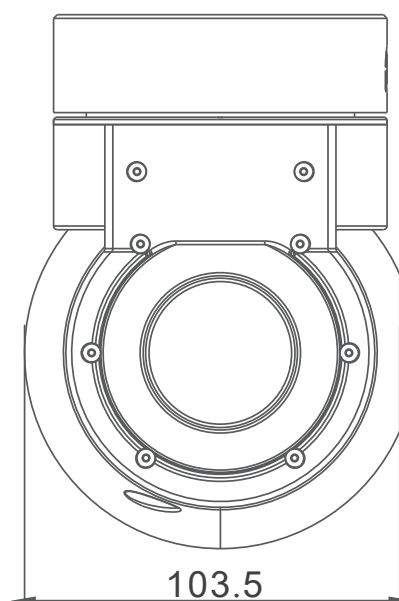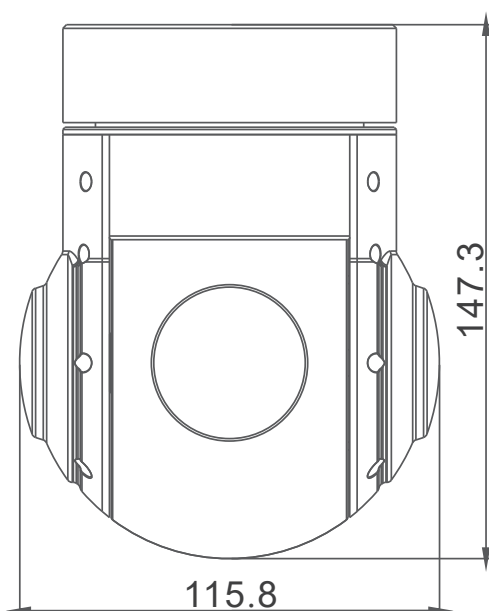
Copper cylindersr*4

Anti shedding buckle*4

5mm*12   8mm*4
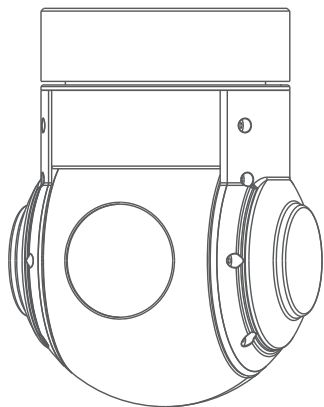
Button head hexagon screw*16

Gimbal Camera Dimension

Unit :mm

147.3

115.8

103.5

Connection of Control Box and Wiring Instruction
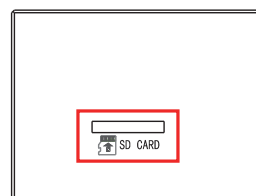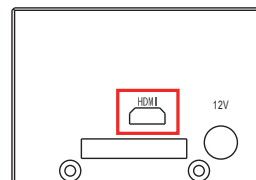
Control Box position
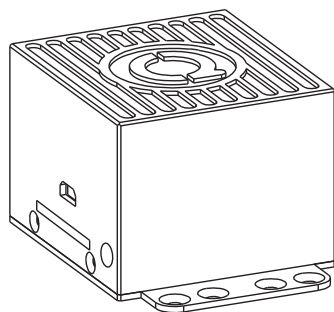
1.Insert SD card

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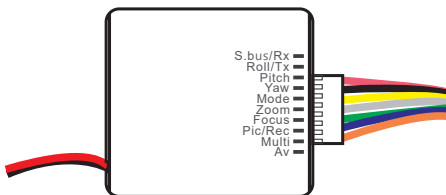FAT32 or exFAT format

SD card position
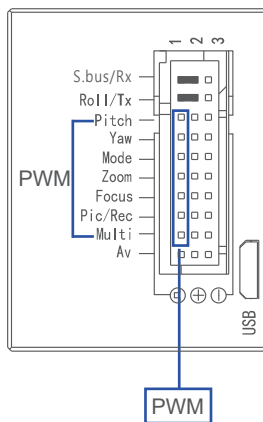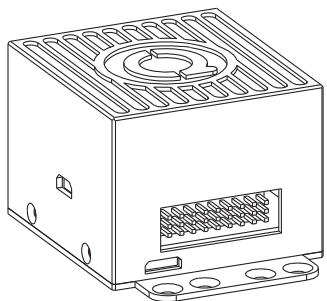
2.connect HDMI to display

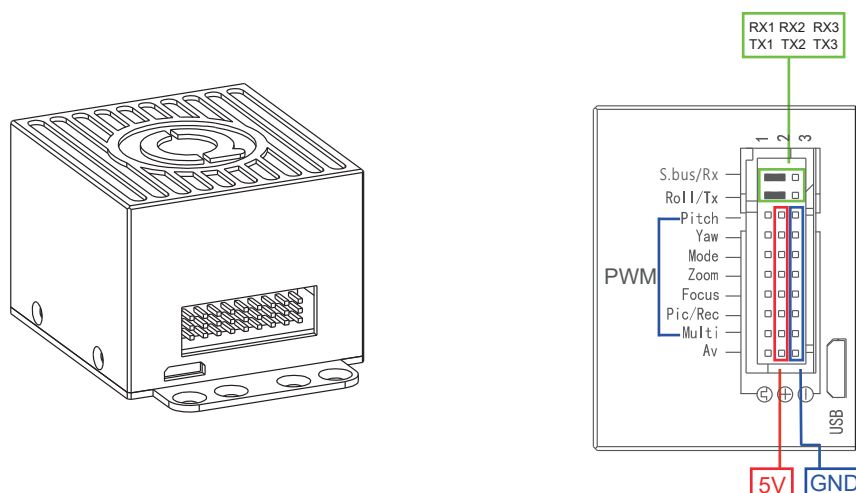HDMI : micro HDMI OUTPUT
1080P 60fps default

HDMI position

3.Connect the signal line as below

PWM

S.bus/Rx
Roll/Tx
Pitch
Yaw
Mode
Zoom
Focus
Pic/Rec
Multi
Av

PWM

USB

S.bus/Rx
Roll/Tx
Pitch
Yaw
Mode
Zoom
Focus
Pic/Rec
Multi
Av

Futaba
R6208 SB

4.Connect the power cord, pay attention to the positive and negative poles.

Function Description

Gimbal control

1. Yaw axis control:speed mode,connect Rocker channel(or 3 gears channel,push gear to middle position to stop)
2. Pitch axis control:speed mode,connect Rocker channel(or 3 gears channel,push gear to middle position to stop)
3. Mode control:angle mode,connect knob channel(speed mode:connect 3 gears channel or rocker channel)

If connecting knob channel,rotate to one end,the gimbal is at lowest speed when controlling YAW and PITCH axis.
Rotate the knob to any position;gimbal is at higher speed when controlling YAW and PITCH axis.Rotate to knob to another end,gimbal back to center position.

4. Multi:tracking control,connect 3 gears channel

- **Middle to low :** quit tracking mode,cursor disappears
- **Low to middle :** go to tracking mode,cursor appears
- **Middle to high :** one square appears,object is locked,and tracking is activated
- **Middle to high again :** re-track mode,cursor appears in the square.Gimbal is still tracking the object,now you can move the cursor to track another object(middle tohigh gear again).

Camera control

1. Zoom control:connect 3 gears or rocker channel
2. Focus:connect 3 gears or rocker channel for manual focus control.If do not connect any channel,then camera will auto focus after zooming
3. PIC/REC:taking picture/recording,connect 3 gears channel

   - Middle to high,recording start
   - Middle to high again,recording stop
   - Middle to low,taking picture
   - Middle to low,taking another picture
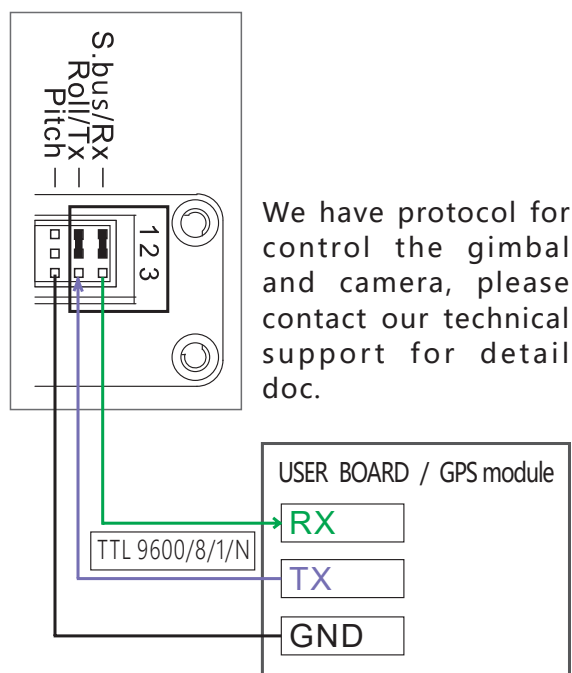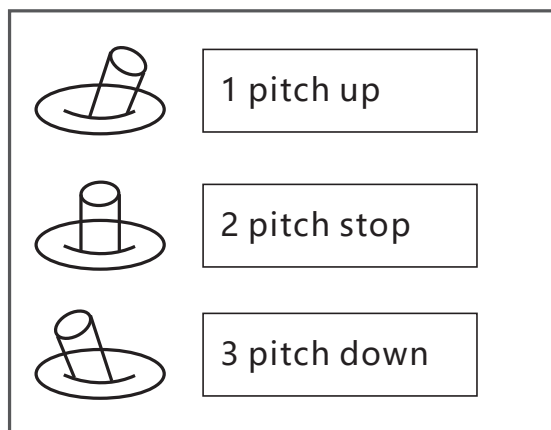
Signal functions
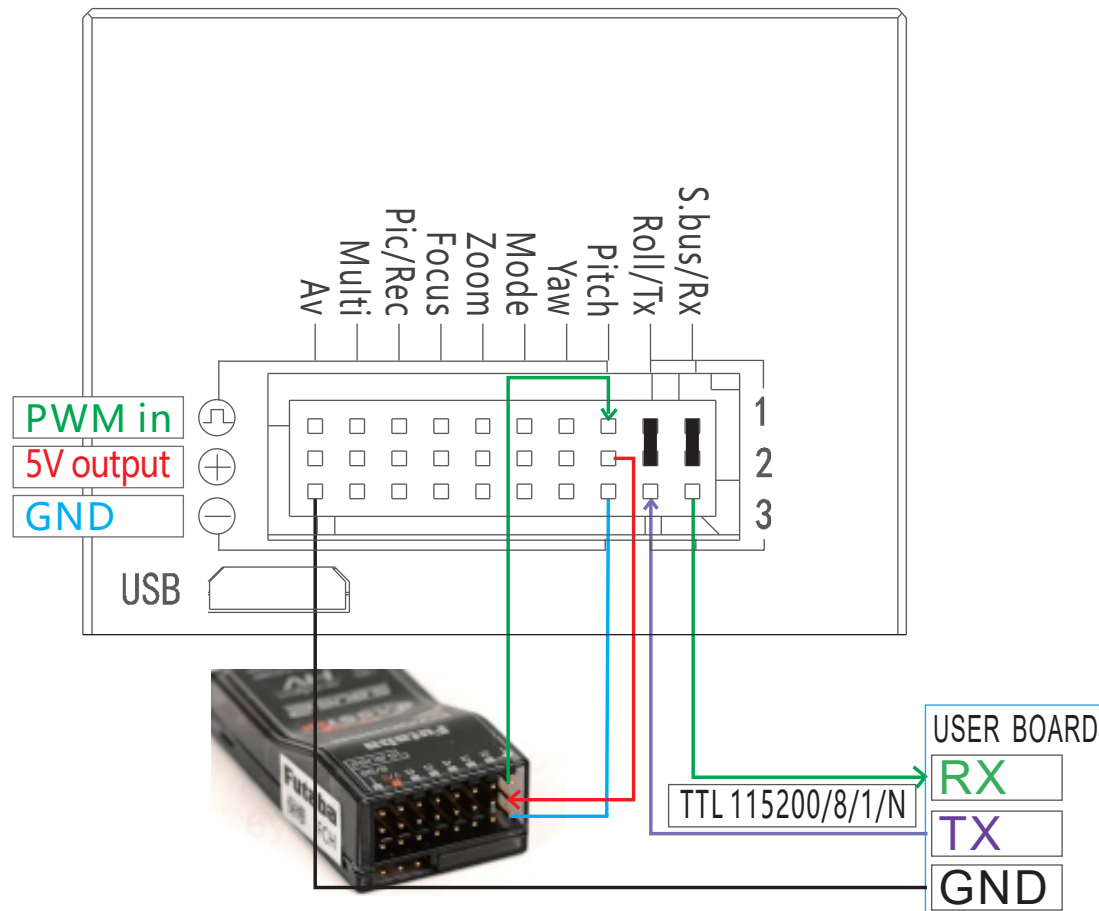
S.bus/Rx: connect to Rx2 for track function.

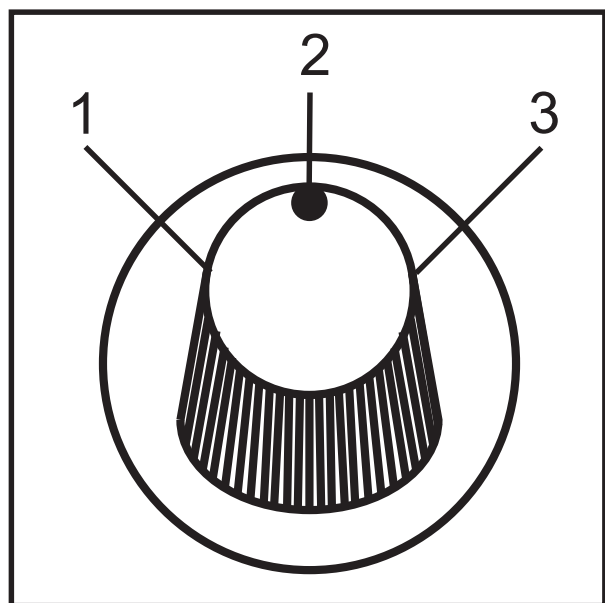Roll/ Tx: connect to Tx2 for track function.

Pitch: PWM in, pitch control

Pitch: PWM in, pitch control

	1 pitch up
	2 pitch stop
	3 pitch down

S.bus/Rx
Roll/Tx
Pitch

1 2 3

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

TTL 9600/8/1/N

USER BOARD / GPS module

RX

TX

GND

Yaw: PWM in, Yaw contro

1 Yaw right		2 Yaw stop		3 Yaw left

Mode: Change the speed / home position

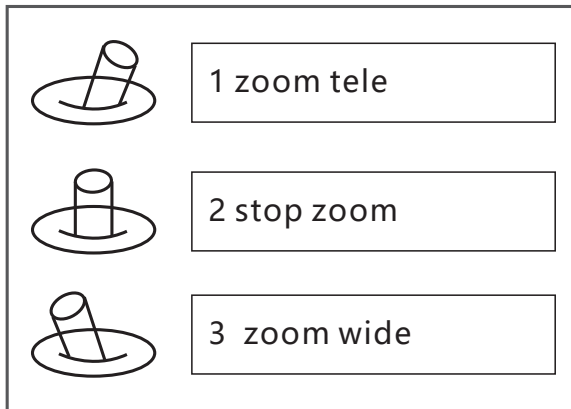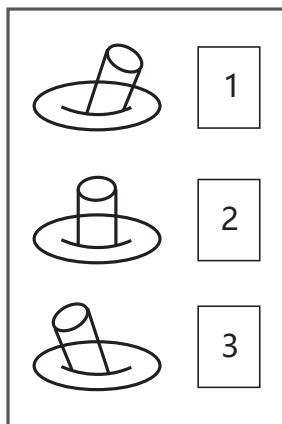- Position 1: Lowest speed for pitch and yaw.
- Position 2: Middle speed for pitch and yaw.
- Position 3: Highest speed for pitch and yaw.

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
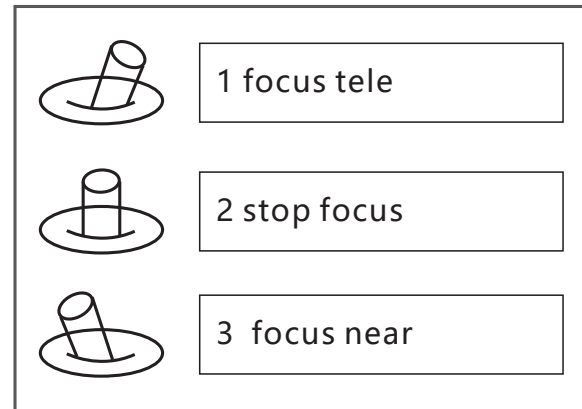
Pic /Rec picture / Start record, stop record

	1
	2
	3

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: Tracking control

	1
	2
	3
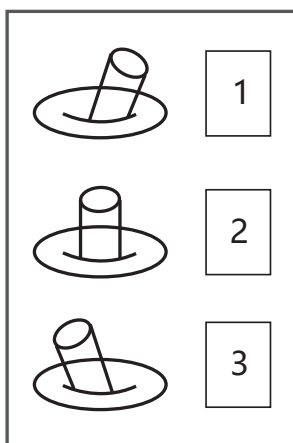
1. Position 1 exit the tracking
   Switch 1 to 2: display the cross cursor. Adjust the object to the cross cursor.
2. Switch 2 to 3: start tracking. Change the object during tracking.
   Switch 3 to 2: Display the cross cursor, use Pitch/ Yaw to adjust the cross cursor.
   Switch 2 to 3: Start tracking.

AV: NO AV output this model.

30X zoom camera(SONY FCB-EV7520)	
Sensor	1/2.8-type Exmor CMOS
Video Output	1080P/60 HD-SDI and Ethernet
Video recorded	1080P/30 MP4
Focal length	30X optical focal zoom, 4.3-129mm
Digital zoom	12X(360X with optical zoom)
Horizontal viewing angle	1080p mode: 63.7°(wide end) ~ 2.3°(tele end)
	720p mode: 63.7°(wide end) ~ 2.3°(tele end)
	SD: 47.8°(wide end) ~ 1.7°(tele end)
Wide Dynamic	Up to 105dB
Auto focus	Less than 1S
Low illumination	Color: 0.01 lx (F1.6,AGC on,1/30s)
Aperture	Φ 16.0
Gimbal system	
Input voltage	3S-4S
Rotate range	Pitch: ±90° Yaw: Unlimited
Angle amount of jitter	Pitch: ±0.02° Yaw: ±0.03°
Control interface	PWM, S.Bus, serial command, and software control via Ethernet
Working Current	Static current: 330mA(@12V) Dynamic current: 450mA(@12V)
Mechanical feature	
Total weight (gimbal and camera)	690g
Working temperature	-25° ~ +60°