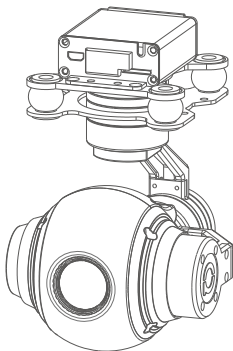


Manual

SEEKER-10 V2 HD 10X Optical Zoom Camera with 3-axis Gimbal



The logo for FOXTECH, featuring the word "FOX" in orange with a flame-like graphic on the left, and "TECH" in black.

Contents

3-Axis Gimbal

1、 Gimbal	2
2、 Tracking Function (optional)	2
3、 Gimbal Description	3
4、 Gimbal Dimension.....	3
5、 Mechanics@Electronic characteristics.....	4
6、 Working Characteristics	4
7、 Gimbal Signal Wire Box	5

Zoom Camera

1、 Camera Introduction.....	9
2、 Specification.....	9
3、 Function and Features.....	10

Gimbal

SEEKER-10 V2 gimbal is a high precision 3-axis gimbal, specially designed for 10X zoom camera. It supports both PWM control and serial command control, suitable for close range remote control or remote data command control. SEEKER-10 V2 can be applied in many fields like military reconnaissance, police surveillance and evidence collection, disaster prevention and mitigation, emergency monitoring and rescue etc.

Auto Tracking Function (Optional)

Equipped with object tracking module, The gimbal is able to track static or moving target easily. Just put the object you want to track in the screen, move the cursor to the object and lock it via controller, and then the camera will track it automatically.

Tracking:

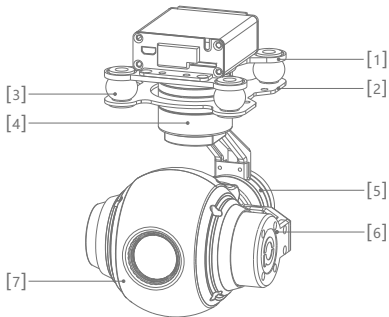
Data Refresh Rate: 25Hz

Output lag: < 3ms

Tracking Velocity: ± 32 pix/frame

Target Size: 16x16 pixels - 128x128 pixels

Gimbal Description



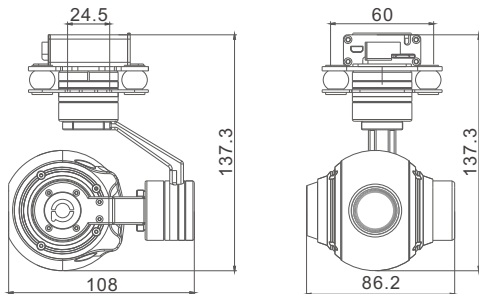
- [1]Gimbal upper mounting plate [5]Roll axis motor
[2]Gimbal under mounting plate [6]Pitch axis motor
[3]Damper [7]10X Zoom Camera
[4]YAW axis motor



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.

Gimbal Dimension

Unit : mm



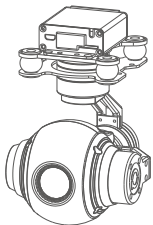
Mechanics@Electronic characteristics

Static current: 240mA(@12V) Dynamic current: 320mA(@12V)	
Voltage input: 3S~4S	Working Temperature: -10° C ~ 50° C
Size: L 105xW91xH98mm	weight: 400g (with zoom camera)

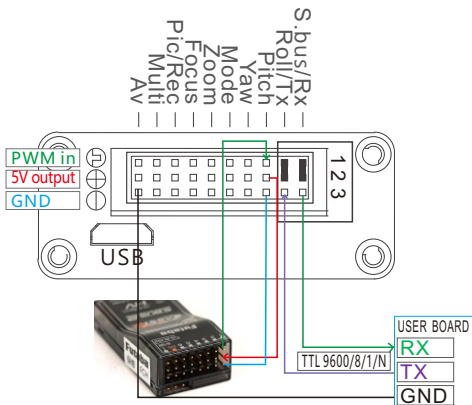
Working features

Pitch: $\pm 90^\circ$	Roll: $\pm 45^\circ$	Yaw: $\pm 150^\circ$ infinite rotating
Control Precision: Pitch & Roll: $\pm 0.02^\circ$ Yaw: $\pm 0.03^\circ$: $\pm 0.03^\circ$		

Gimbal Signal Wire Box



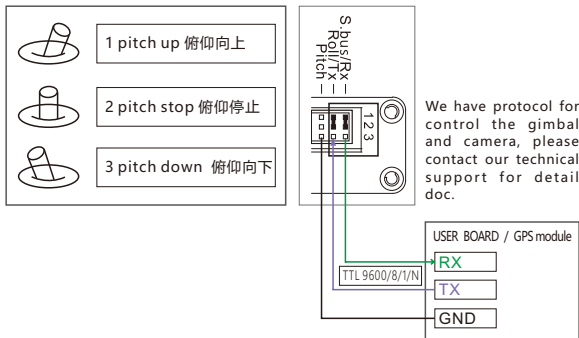
HDMI : micro HDMI OUTPUT
1080P 60fps default
SD card: max 32G ,class10
FAT32 format



S.bus/Rx:connect to Rx2 for track function. (S.bus/Rx 用户不可用, 默认出厂与RX2连接, 用做串口功能)

Roll/ Tx:connect to Tx2 for track function. (Roll/ Tx 用户不可用, 默认出厂与TX2连接, 用做串口功能)

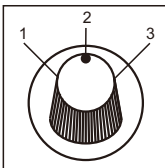
Pitch:PWM in, pitch control (俯仰控制, PWM 输入)



Yaw:PWM in, Yaw control(指向控制, PWM 输入)



Mode:change the speed / home position (调整云台控制速度/一键回中)



Position 1 : lowest speed for pitch and yaw. (云台低速)

Position 2: middle speed for pitch and yaw. (云台中速)

Position 3: highest speed for pitch and yaw. the speed is continuously quickly from 1 to 3. (云台高速)

Click = from 2 to 3 and back to 2 quickly. (切一次的动作是指 从中到高, 再快速回到中)

One click : home position (切1次回中)

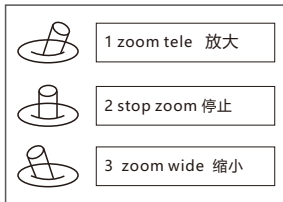
Two click: look down (切2次俯仰垂直向下)

Three click: Yaw not followed by frame (切3次锁头模式, 飞机转, 云台不跟随)

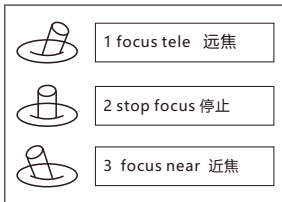
Four click : Yaw followed by frame (切4次, 跟随模式, 云台指向跟随飞机转动而转动)

Five click : restore the factory settings (切5次, 恢复出厂设置)

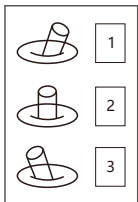
ZOOM: zoom the camera (放大, 缩小)



focus: focus the camera (手动调焦, 默认自动对焦模式)



Pic/Rec : picture / start record , stop record (拍照 , 开始录像 , 停止录像)



Switch 2 to 1:camera mode change.(从2 切到 1 , 拍照模式/录像模式切换)

Picture mode:the number is quantity of SD card can storage;
(拍照模式下, 数字显示卡里剩余空间还能保存的照片数)

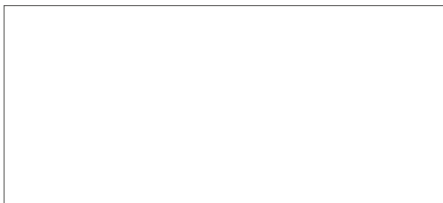
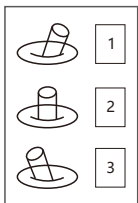
Record mode:the time is recording time from start record.
(录像模式下, 时间显示录像进行的时间)

Switch 2 to 3:

A) take a picture.(在拍照模式下, 从2切到3, 拍一张照片)

B) Start record / stop record (录像模式下, 从2切到3, 开始录像, 再次从 2 切到 3 停止录像)

Multi: backup PWM channel for customize 备用PWM控制



AV: AV output 。 (AV 视频输出)

Zoom Camera

SEEKER-10 V2 10X Optical Zoom Camera has 4 mega effective pixels, supports 10X optical autofocus. It features small size, light weight and compact structure. The 10x camera offers 1080p FULL HD 30fps video recording onboard(H.264) and 1080p 60fps HDMI output for HD video transmission back to the ground. FOXTECH 10X gimbal supports both PWM control and serial command control.

Specification

- 1、Imager Sensor: 1/3" Exmor CMOS
- 2、Video Output: 1080P/60fps HDMI
- 3、Focal Length: 10X optical focal zoom, 4.9-49mm
- 4、Aperture: $\Phi 12.0$
- 5、Video Record: 1080P/30 H.264
- 6、Auto focus: Less than 1s
- 7、Working Temperature: $-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- 8、Control interface: PWM and serial command
- 9、Horizontal observation range: 53.2° (near)- 5.65° (telephoto)
Vertical observation range: 39.8° (near) - 4.2° (telephoto)
Focus observation range: 66.6° (near) - 7.2° (telephoto)

Function and Features

Zoom Range

10X optical focal zoom, Zoom focal length $f=4.9-49\text{mm}$

Focus Speed

Specially designed for UAV aerial photography , according to aerial characteristics, using fast focus algorithm, focus time $<1\text{s}$.

Wide Dynamic

Adopt 105dB wide dynamic range, in the presence of backlit or strong light, The view of the over bright and over dark regions can still be captured at the same time.

Low illuminance

Ultra low illumination, The device can still clearly display image features in Ultra low illumination or poor light environment.

Output Interface

Adopts CVBS AV and 1080P HDMI output, 1080p FULL HD 30fps video recording onboard(H.264)

Multiple control modes

Support PWM and serial command control.