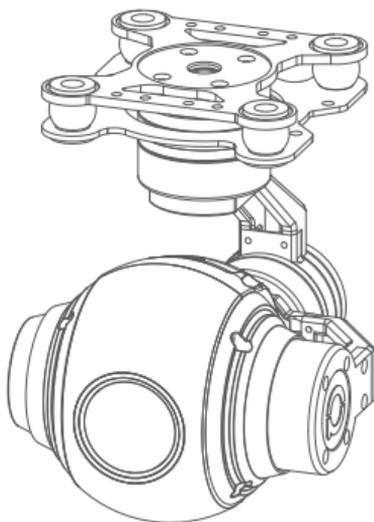




Quick Start Guide

SEEKER-640

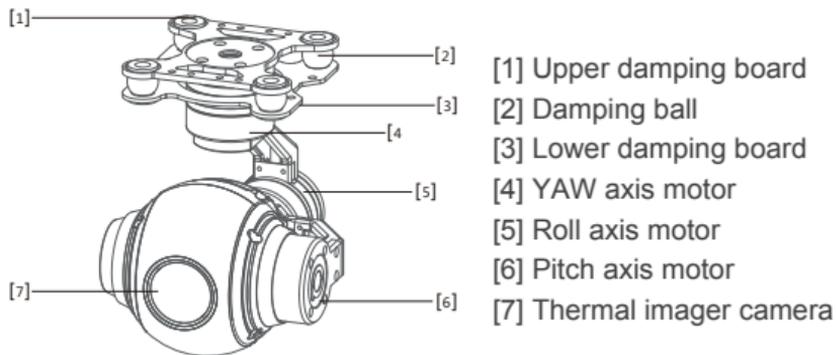
19mm Single-Sensor Thermal Camera with 3-axis Gimbal



Seeker-640

The SEEKER-640 features a thermal imager with 19mm lens, supports 640*480 detector pixels, 1x ~ 8x digital zoom. The gimbal can be controlled in three directions: YAW, ROLL and PITCH, we use FOC solution can greatly compensate the vibration of UAV. All the parameters have been perfectly set, you just need to install the gimbal camera to UAV, then ready to fly.

SEEKER-640 Overview



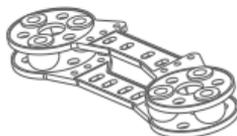
Please make sure that the motor is not stopped by any object during the rotation, if the gimbal is blocked during rotation, please remove the obstruction immediately.

In the Box

Gimbal camera*1



Damping board*2



Copper cylinders*4



Anti shedding buckle*4



Button head hexagon screw*16

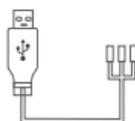


5mm*12

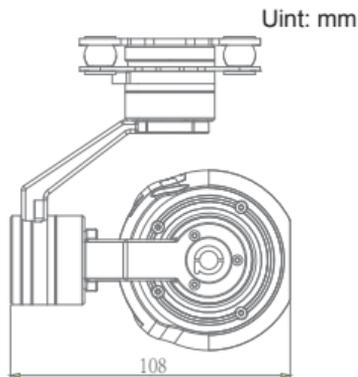
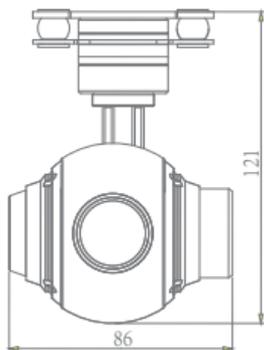


8mm*4

USB to TTL*1

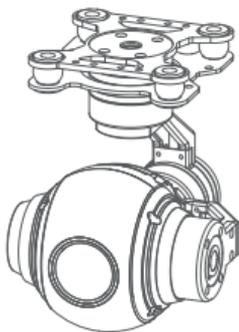


Gimbal Camera Dimension



Instaling

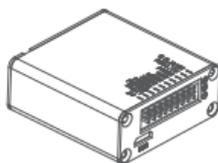
Install the holder camera as shown



Connection of Control Box and Wiring Instruction

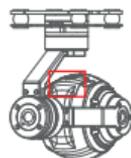


← Control Box position



1. Insert SD card

SD card: max 32G, class10



SD card position

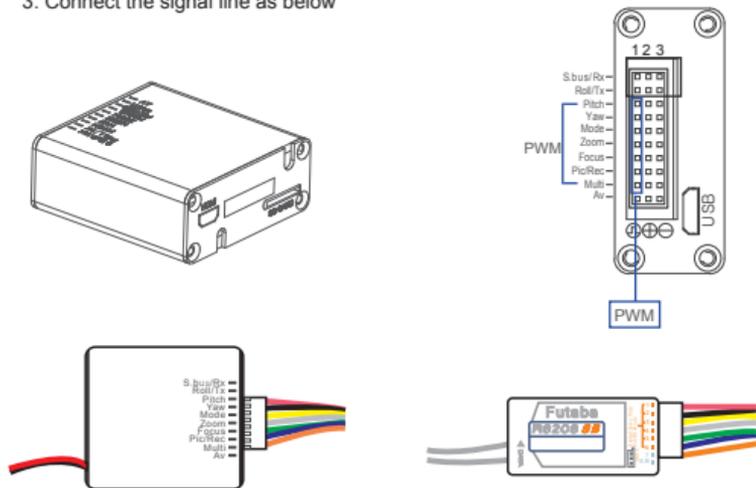
2. Connect HDMI to display

HDMI: micro HDMI OUTPUT
720x576

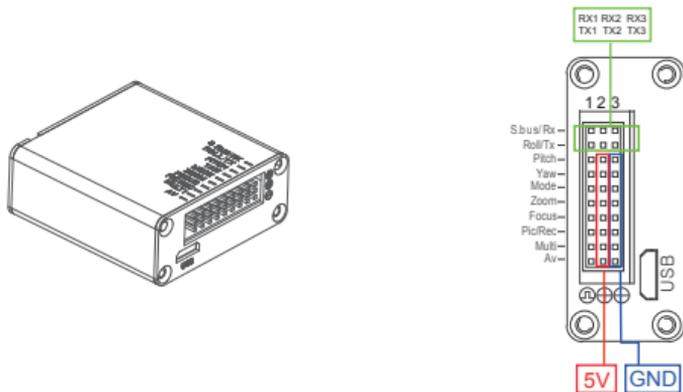


HDMI position

3. Connect the signal line as below

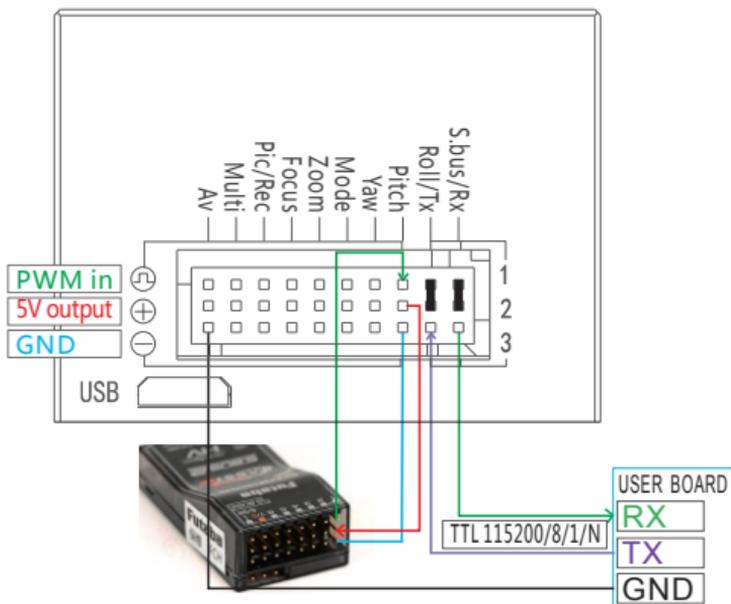


4. Power supply with 12V ~ 16V, red line is positive and black is negative.



Function Description

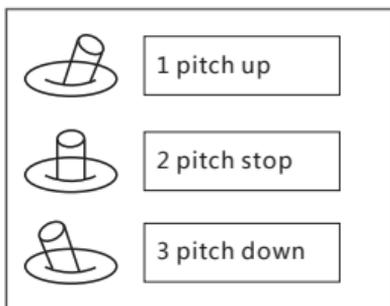
Signal functions



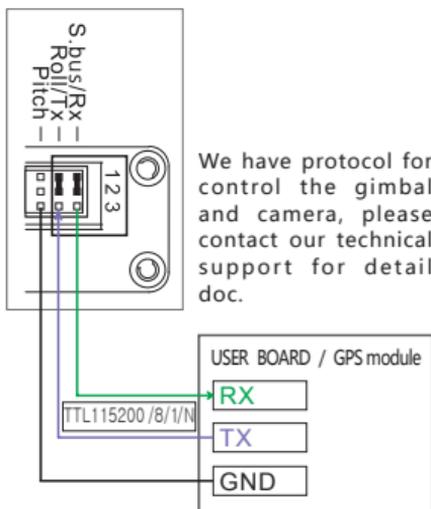
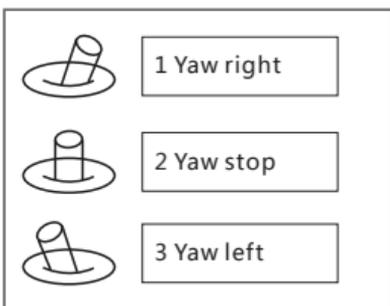
S.bus/Rx: connect to Rx2 for track function.

Roll/ Tx: connect to Tx2 for track function.

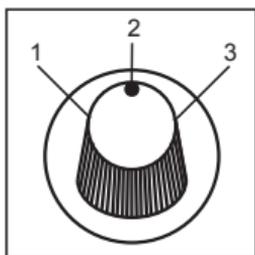
Pitch: PWM in, pitch control



Yaw: PWM in, Yaw control



Mode: Change the speed / home position



Position 3: Lowest speed for pitch and yaw.

Position 2: Middle speed for pitch and yaw.

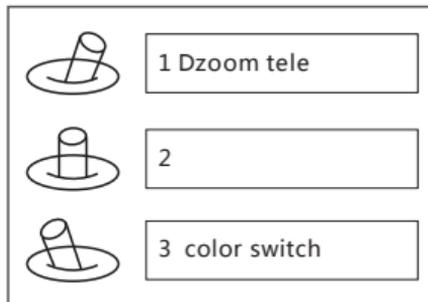
Position 1: Highest speed for pitch and yaw. The speed is continuously quickly from 3 to 1.

Position 2-1-2: Home position.

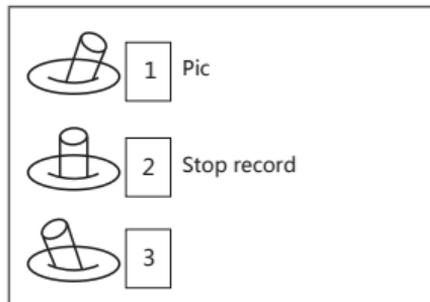
Continuous fast operation: 2-1-2-1-2, follow mode;

Continuous fast operation: 2-1-2-1-2-1-2, head-lock mode.

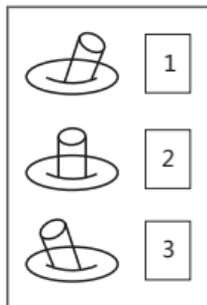
ZOOM: Digital zoom (1x ~ 8x)



Focus: Pic/ Rec backup channel



Pic/ Rec picture / Start record, stop record

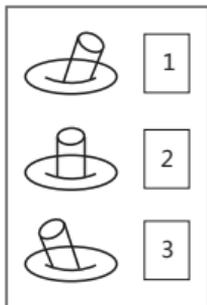


Switch 2 to 1: start record / stop record.

start record,
stop record;

Switch 2 to 3: take a picture.

Multi: Multi colors



AV: AV output

Hardware Parameter

Working voltage	12V ~ 16V
Input voltage	3S ~ 4S
Dynamic current	500mA @ 12V
Idle current	400mA @ 12V
Power consumption	≤ 3.85W
Working environment temp.	-20℃ ~ +80℃
Output	micro HDMI(720x576) / AV
Local-storage	SD card (Up to 32G, class 10.)
Control method	PWM / S.BUS

Gimbal Spec

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

Thermal Imager Spec

Lens size	19mm
Horizontal FOV	32°
Vertical FOV	24°
Diagonal FOV	39.4°
Detective Distance (Man: 1.8x0.5m)	559 meters
Recognize Distance (Man: 1.8x0.5m)	140 meters
Verified Distance (Man: 1.8x0.5m)	70 meters
Detective Distance (Car: 4.2x1.8m)	1714 meters
Recognize Distance (Car: 4.2x1.8m)	428 meters
Verified Distance (Car: 4.2x1.8m)	214 meters
Working mode	Uncooled long wave (8μm~14μm) thermal imager
Detector pixel	640*480
Pixel size	17μm
Focusing method	Athermal prime lens
Emissivity correction	0.01~1
NETD	≤50mK (@25℃)
MRTD	≤650mK (@characteristic frequency)
Image enhancement	Auto adjust image brightness and contrast ratio
Color palette	White, iron red, pseudo color
Auto Non-uniform correction	Yes (no shutter)
Digital zoom	1x ~ 8x
Sync correct time	Yes
Thermometry type	Temperature bar (psudo color display) max temp, min temp, FOV center temp (Optional)
Temperature warning	0℃~100℃

Packing Information

N.W.	440g
Product meas.	86*108*119mm
Accessories	1pc gimbal device, 16pcs screws, 4pcs copper cylinders, 12pcs damping balls, 4pcs damping boards / High quality plastic box with foam cushion