LF-B30R series

Zoom Cabin User Manual V1.1

catalogue

Revise resume

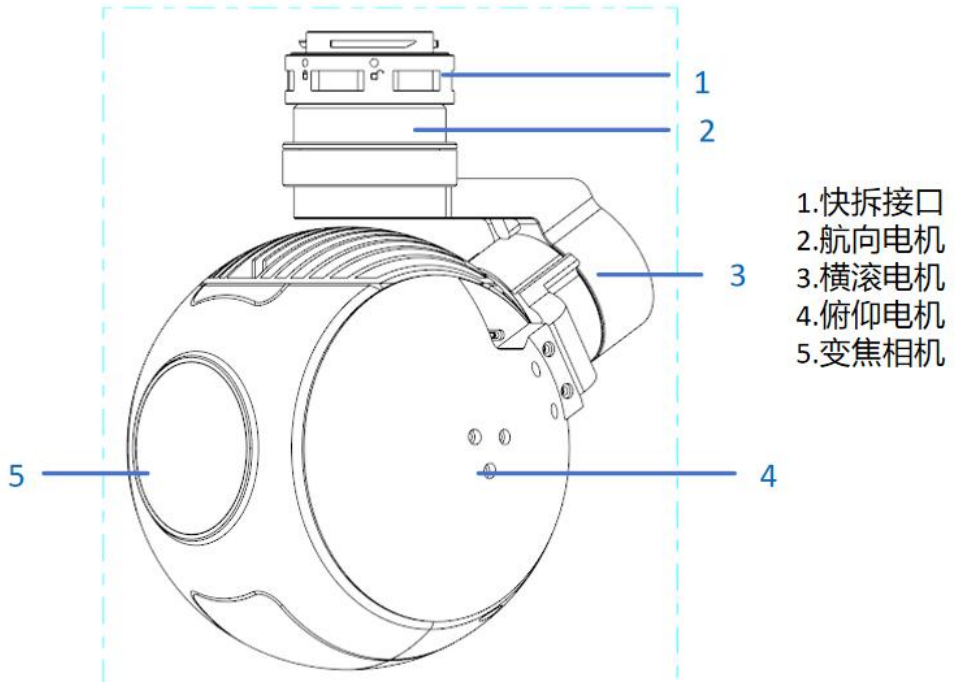
version number	Revision date	Revision
V1.0	2025/10/16	-First release
V1.1	2025/2/6	-Add 1.2 component description -Add 2.4 structural shape diagram -Add 3 features -Add 4 instructions

1. Product Overview

1.1. Product Introduction

The SGU-HS5-B30R series is a zoom gimbal featuring 30x ultra-high-definition optical zoom. Powered by an SOC processor with a neural network engine and built-in AI algorithms, it excels in target detection and tracking. Equipped with a lightweight three-axis gimbal and adaptive damping module, along with autofocus and gimbal stabilization algorithms, it ensures stable and clear footage during aerial operations.

1.2. Component Description



1.3. container loading list

order number	name	model	unit	quantity	remarks
1	zoom pod	LF-B30R	tower	1	
2	packing chest	packing chest	cover	1	

2. technical parameter

2.1. Overall parameters

video output interface	Ethernet port
control signal interface	1 S.BUS, 1 serial port, and 1 Ethernet port
Power supply area	12V～24V
System power consumption	Average power consumption: ≤15W
levels of protection	IP4X
working temperature	-20℃~55℃
Size (excluding shock absorbers)	140.9x158.4xφ110mm
mechanical interface type	Quick-release & fastening hole

2.2. Zoom camera

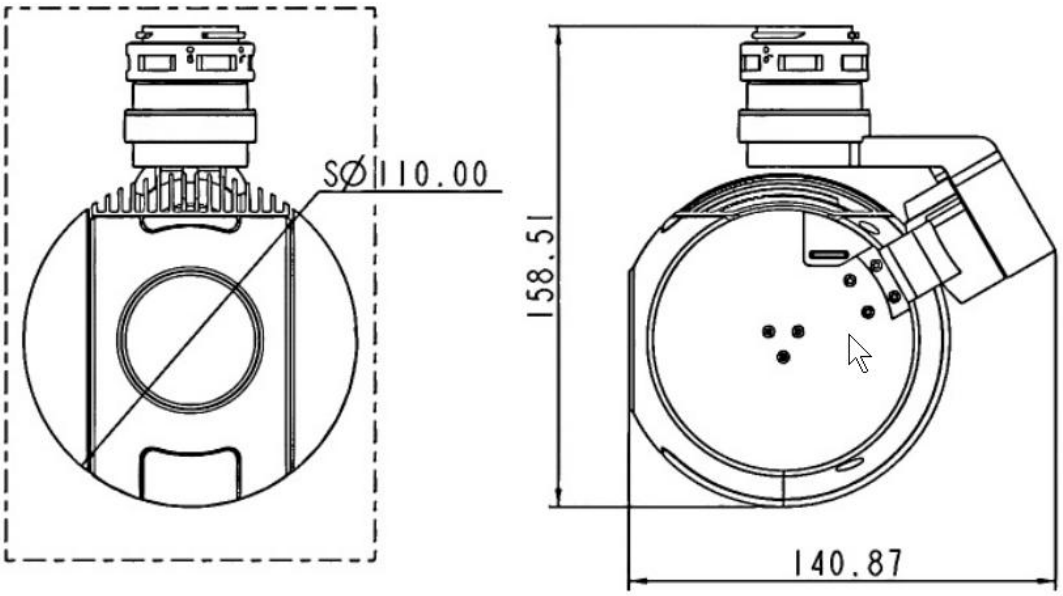
imaging sensor	8 million pixels			
Maximum photo size	3840*2160 (16:9)			
Video resolution	3840×2160@30fps、1920×1080@30fps			
coded format	H.264、H.265			
Focus mode	MF、AFS			
effective focal length	5.2mm-148.4mm			
equivalent focal length	35.22mm-1005.1mm			
iris diaphragm	F1.3-F4.8			
optical zoom	30 times			
angle of field	focal distance	DFOV	HFOV	VFOV
	Wide	63.1°	56.3°	33.5°
	Tele	2.5°	2.1°	1.2°

2.3. Cloud Terrace

stabilization system	3 axes (pitch, roll, heading)		
range of rotation	cabrage	roll	azimuth

	-90° ~ +30	±45°	360°
stability accuracy	≤0.01°		
work pattern	Follow and Lock		

2.4 Structural Shape Diagram



3. function Introduction

3.1. Photo and video recording

- Single shot: Take one photo after clicking the take button.
- Continuous shooting: Take photos at fixed intervals after clicking.
- Photo resolution: Supports 3840*2160 and 1920*1080 resolutions.
- Video recording resolution: Supports 3840*2160@30fps and 1920*1080@30fps.

3.2. Camera features

3.2.1. Zoom control

- Zoom: Supports up to 30x optical zoom.
- Focus modes: AF, AFS.

3.2.2. Dehaze Mode

- Electronic defogging: The mode supports three customizable levels—low, medium, and high.

3.3. Other features

3.3.1. OSD show

The screen supports overlaying of OSD information such as latitude, longitude, and altitude.

3.3.2. memory card

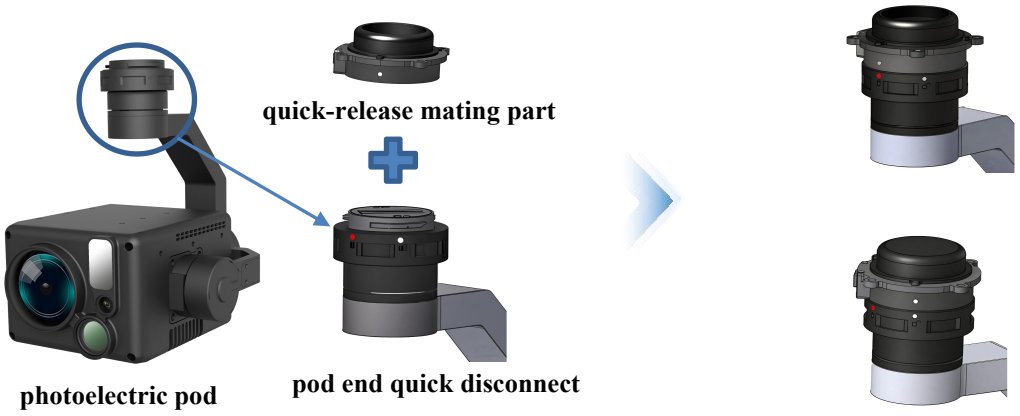
- Supports microSD cards up to 128GB, compatible with FAT32 and ExFAT file systems.

4. Cabin Operation Instructions

4.1. Structural Installation Instructions

- Remove the protective cover of the gimbal interface, then align the white dot on the pod's quick-release connector with the red dot on the aircraft's gimbal interface for connection.
- Rotate the pod connector clockwise to the locked position (aligning the pod with the aircraft's red dot) to secure the pod.

✧ To remove or replace the pod, press and hold the aircraft's unlock button, then rotate the gimbal



camera counterclockwise.

4.2. Signal line description

order number	definition	explain	Wiring harness color	remarks
1	GND	GND	black	
2	USB-DP	USB-DP	green	
3	USB-DN	USB-DN	yellow	
4	GND	GND	black	
5	PPS	PPS	green	Accurate Time Synchronization time lock
6	CAN-P	CAN-P	green	
7	CAN-N	CAN-N	yellow	

8	GND	GND	black	
9	GND	GND	black	
10	SBUS	SBUS	green	
11	GND	GND	black	
12	RS422-RX-N	RS422-RX-N	yellow	
13	RS422-RX-P	RS422-RX-P	green	
14	RS422-TX-N	RS422-TX-N	yellow	
15	RS422-TX-P	RS422-TX-P	green	
16	VBAT	VBAT	red	10V ~ 28V
17	VBAT	VBAT	red	10V ~ 28V
18	VBAT	VBAT	red	10V ~ 28V
19	VBAT	VBAT	red	10V ~ 28V
20	GND	GND	black	
21	GND	GND	black	
22	GND	GND	black	
23	232-UART-RX	232-UART-RX	yellow	Input/3.3V
24	232-UART-TX	232-UART-TX	green	output /3.3V
25	LAN-RX-N	LAN-RX-N	yellow	
26	LAN-RX-P	LAN-RX-P	green	
27	LAN-TX-N	LAN-TX-N	yellow	
28	LAN-TX-P	LAN-TX-P	green	
29	GND	GND	black	
30	HIGHT-PWR-REQ	HIGHT-PWR-REQ	green	high power request

Note: The signal line number is the one labeled on the harness.

5. matters need attention

5.1. maintenance overhaul

5.1.1. Daily Use and Cleaning

- Dust and dirt protection

Avoid contaminating the lens with chemicals or oil during use. Clean the lens surface immediately after use with a lens cloth.

Direct wiping of optical lenses with hands or rough fabrics is prohibited. It is recommended to use professional lens cleaning kits, dust-free cloths, or alcohol for cleaning.

- Moisture-proof and waterproof

Avoid prolonged use in rainy, snowy, or high-humidity environments. If exposed to damp conditions, wipe the surface with a dry soft cloth after operation and store in a dry environment.

Do not soak or rinse the device directly.

- collision and vibration protection

During transportation or storage, place the pod in the factory-provided explosion-proof box to keep it securely fixed and protect it from violent shaking or dropping.

Do not impact the lens with sharp or hard objects, as this may cause damage and affect its performance.

5.1.2. matters need attention

- Do not disassemble by yourself

Non-professionals must not disassemble the pod's core components (e.g., optical modules or circuit boards), as doing so may cause damage or void the warranty.

- exception handling

If the device exhibits abnormal overheating, unusual noises, or image distortion, stop using it immediately and contact after-sales technical support.

Do not force the device to start in a faulty state.

5.2. Usage Notes

5.2.1. Preparation before use

- Environmental inspection

Maintain the operating environment temperature within-20℃ to 55℃, and avoid areas with strong electromagnetic interference.

The use is prohibited during severe weather conditions such as rain, snow, and sandstorms.

- equipment inspection

Check the pod for damage, the lens for stains, and the gimbal for smooth rotation without noise.

Inspect the mechanical structure of the flywheel gimbal for looseness. If any abnormal response is detected, immediately deactivate and perform maintenance.

Check the electrical connections of the system.

Check the normality of the gimbal imaging and function.

5.2.2. Usage Notes

If there are any abnormal situations such as abnormal picture or abnormal control of the pan-tilt unit during the operation, the operation task should be stopped and returned to the ground for inspection.

5.2.3. Post-processing

After use, the system must be powered down before the pod can be removed from the aircraft.

After cleaning the lens, it was put back into the packaging box.