



Luxnova

L40TR-55

Three-axis gyro-stabilized three-optical gimbal

Product Usage Instructions



01

Product Overview

Supports dual-band real-time imaging and independent output

02

Functional features/application scenarios

Visible light and infrared videos are stored synchronously

03

Technical parameters

Support setting of storage format and duration

04

Comparison of competing products/Size structure

Support real-time locking and tracking of moving targets

05

Interface description

Support numbering tags for up to 20 typical targets

06

Shipment list

Support web-based parameter configuration and firmware upgrade



Luxnova

Product overview

The L40TR-55 is a three-axis gyro-stabilized three-optical gimbal, featuring an integrated industrial design. It is equipped with a 2.13 million pixel 40x optical zoom visible light camera, an infrared camera, and a laser rangefinder. It can be widely adapted to various types of micro and small rotorcraft unmanned aerial vehicles. It should be applied in fields such as imaging, detection, tracking and identification of ground targets, meeting the demands of line inspection, accident investigation, emergency rescue, law enforcement evidence collection, anti-terrorism and anti-violence, etc.

Get to know the L40TR-55



- | | | |
|-----------------|---------------------------|-------------|
| ① Laser | ④ Azimuth axis | ⑦ Ear cups |
| ② Visible light | ⑤ Shock absorber | ⑧ Rear hood |
| ③ Infrared | ⑥ Remove the ring quickly | |

- After using the pod, please store the equipment in a dry environment
- Infrared thermal imaging lenses must not be aimed at strong energy sources such as the sun, laser beams, lava, etc., otherwise it will cause irreparable damage to the thermal imaging module
- Be sure to wipe the dirt on the surface of the lens with a soft and dry cleaning cloth
- Do not touch the surface coating of the infrared lens directly with your hands or scratch it with hard objects
- The external pin port of the pod serial port must not be connected to the power supply

Functional features

- It integrates a high-resolution visible light and long-wave infrared dual-channel detection component, supporting real-time dual-band imaging and independent output
- It is equipped with mechanical stability for three-axis gyroscopes and electronic image stabilization functions
- It includes core modes such as manual control, intelligent tracking, geofencing, panoramic scanning, and follow-up locking, and supports quick switching of mode groups and parameter presetting
- Support the display of OSD information such as coordinates, distance, and azimuth
- It features PIP picture-in-picture and dual-spectrum on-screen comparison functions
- It is equipped with a laser ranging module and combines GNSS/IMU to solve the geographical coordinates of the target
- Visible light and infrared videos are stored synchronously, with support for setting storage formats and durations
- Based on trajectory prediction, it supports real-time locking and tracking of moving targets
- Supports target recognition for people, vehicles, ships, aircraft, etc., and can automatically track and identify targets within a certain range
- Supports the numbering marking of up to 20 typical targets and supports numbered target locking
- Real-time monitoring and display of the working status of sensor components
- Support web-based parameter configuration and weekly component upgrades
- Support keyboard control of the pod

Application scenarios



Thermal imaging

Infrared color plates are abundant and can be applied in forest fire fighting, river sewage discharge, photovoltaic inspection, emergency rescue, military and police reconnaissance, wildlife protection, etc.



40x optical zoom

The camera achieves 40 optical zoom, which can not only present a broad picture but also capture distant details in detail.

Technical parameters

Single-target tracking

Target type	General objective
Tracking rate	≥32 pixels per frame
Update frame rate	≥50FPS

Video and Storage

Photo format	JPEG
Video format	MP4, TS
Encoding format	H.264, H.265
Video Protocol	RTSP, UDP, etc
Storage	Maximum 2T

Interface size

Size	≤Φ143mm×163mm×226mm
Weight	≤1.5kg
Power supply	11~28VDC
Power consumption	20w(average) 50w(peak)
Interface	Serial port 100-megabit network, SBUS
Video interface	100-megabit Network

Laser ranging

Band	1535nm
Ranging range	6km
Ranging accuracy	±1m
Ranging frequency	1~10Hz

Servo control

Course range	Nx360°
Pitch range	-120°~40°
Roll range	-75°~75°

Thermal imaging

Working band	8μm~14μm
Resolution	640x512
Pixel	12μm
Focal length	55mm
Field of view	8.0°×6.4°
NETD	≤40mK
Detection distance	People2.9km, car 7km
Recognition distance	People0.7km, car1.7km

Visible light

Frequency band	0.4μm~0.9μm
Resolution	1920x1080
Focal length	4.25mm~170mm
Perspective field	66.35°~1.90°
Optical zoom	40X
Detection distance	People 11.1 km, car 20 km
Recognition distance	People 2.7km, car 11km

Multi-object tracking

Target type	People, vehicles, ships, planes
Recall rate	≥90%
Precision rate	≥80%
Target size	Minimum 32x32 @1080P
The number of tracking targets	≥20
Track the jump rate	≤15%
Update frame rate	≥20FPS

Environmental parameters

Working temperature	-20°C~60°C
Storage temperature	-40°C~70°C

Competitive product comparison

Luxnova

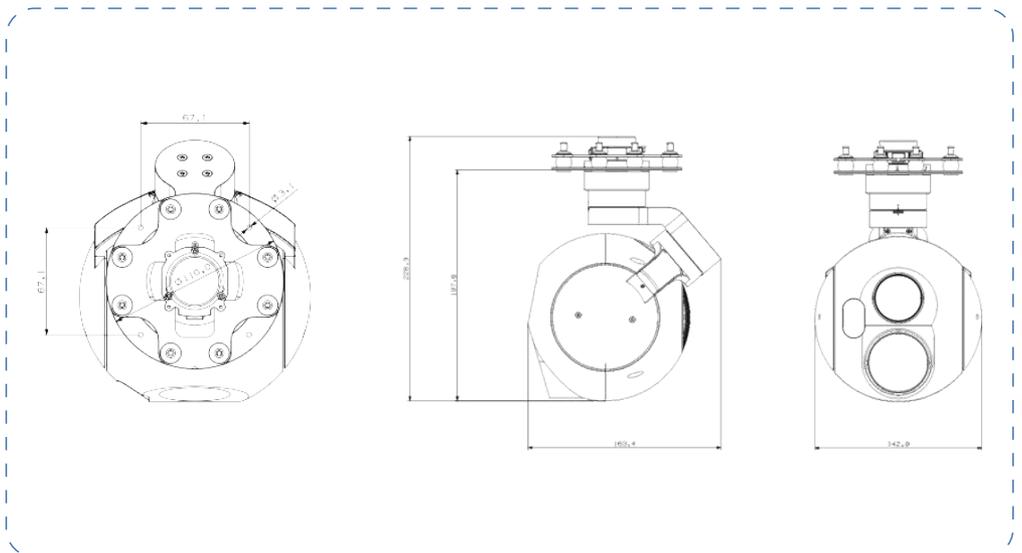
- ✓ **Multi-object tracking**
Incorporate multiple AI algorithms
- ✓ **The built-in storage is up to 2T**
Far exceeding the low storage of peers
- ✓ **No need to remove the card**
It can be browsed
downloaded and deleted on the web
- ✓ **Strong wind resistance**
Fear not the fierce wind

VS

Other brands

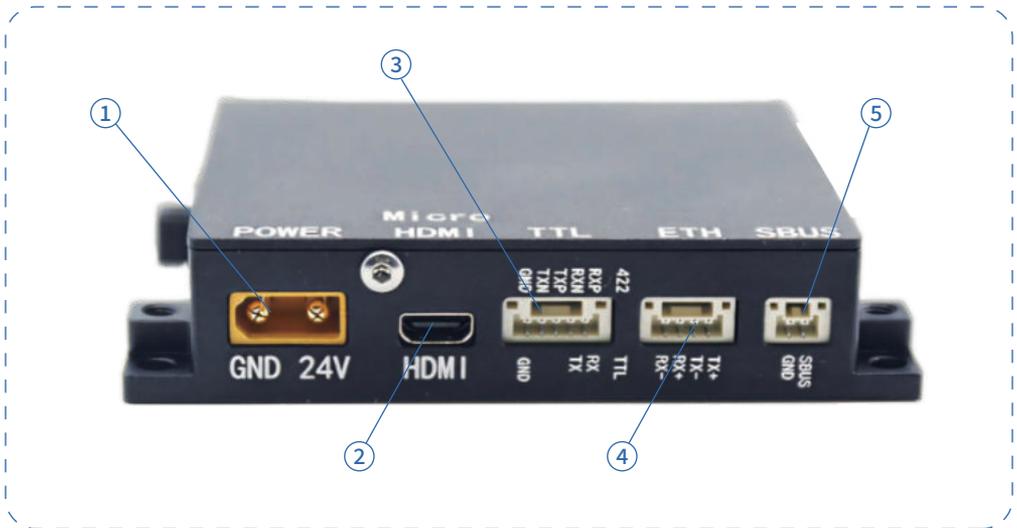
- ✓ **Single-target tracking**
Without the support of AI algorithms
- ✓ **256/512G**
It fails to meet the users' demands
- ✓ **The card needs to be removed.**
Please remove the card to preview,
download and delete
- ✓ **Weak wind resistance**
Poor performance

Dimensional structure



*The protection grade can be selected as IP66, and the standard is IP54
The infrared is optional with 1280*1024

Interface description

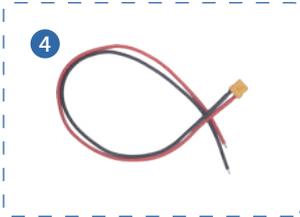
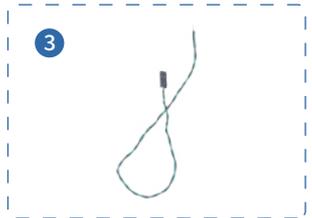


- ① POWER interface
- ② HDMI interface
- ③ TTL interface
- ④ ETH interface
- ⑤ SBUS interface

Shipment list

Serial number	Product Name	Model specification	Unit	Quantity	Example	Remarks
1	Pod products	L40TR-55	units	1	1	
2	TTL line	3P-18CM	Root	1	1	
3	SBUS line	2P-18CM	Root	1	1	
4	Power cord	XT-30	Root	1	1	
5	Network cable	General	Root	1	1	
6	Card reader	General	individual	1	1	
7	Shock absorber	/	individual	1	1	
8	Packaging box	/	individual	1	1	
9	Quick disassembly	LQ-V10	individual	1	1	

Operating Instructions for L40TR-55 Three-Axis GyroScope Stabilized Three-Optical Gimbal



THANKS