Z-6U

Intelligent 4K Full-Color Night Vision Pod

Characteristics

- 240x hybrid zoom camera with 4K resolution, powered by the AI-ISP full-color night vision imaging engine, delivers clear full-color images in low-light environments. Featuring AI-HDR, it ensures both highlights and shadow details remain vividly visible even in complex lighting scenarios with extreme brightness contrasts.

- Features AI multi-object detection and tracking, which can constantly track one of the persons and vehicles intelligently identified in the image.

- 3-axis orthogonal mechanical stabilized structure. The gimbal is able to spin continually around its yaw axis.

- Supports network, UART and S.BUS control and compatible with both private protocol and MAVLink protocol.

- Thanks to the Dual-IMU complementary algorithms with IMU temperature control and carrier AHRS fusion, the gimbal provides a stabilization accuracy at ±0.01°.

- Can be mounted onto multiple carriers, whether downward or upward.

- With the Dragonfly software, user can watch the image and control the pod without protocol ducking, and download photos and videos online as well.

- With the customized QGC software, all the functions of the pod can be achieved in conjunction with an open source autopilot.

- Screen supports overlaying OSD information. Image supports EXIF saving. Live video stream and recording supports SEI saving.

- 20~53 VDC wide voltage input.

Specifications

General	
Product Name	Z-6U
Dimensions	141 x 98 x 160mm
Weight	670g
Operating Voltage	20 ~ 53 VDC
Power	5W (AVG) / 75W (Stall)
Mounting	Downward / Upward

Gimbal	
Gimbal Type	3-axis Orthogonal Mechanical Stabilization
Angular Accuracy	±0.01°
Controllable Range	Pitch: ±135°, Roll: ±85°, Yaw: ±360° constantly
Max Controllable Speed	±200°/s

Zoom Camera		
Image Sensor	1/2.8-inch CMOS; Effective Pixels: 8.29M	
Lens	Focal Length: 5.8~173.2mm (Equivalent focal length: 39.1~1173.0mm) Aperture: f/1.6~f/4.1 HFOV: 51.5°～1.8° VFOV: 30.4°～1.0° DFOV: 57.9°～2.1°	
Resolution	3840(H) x 2160(V)	
Pixel Pitch	1.45µm(H) x 1.45µm(V)	
Optical Zoom Rate	30x	
Equivalent Digital Zoom Rate	8x	
Object Detection Distance	EN62676-4:2015 Johnson Criteria	Person[1]: 5229m; Light vehicle[2]: 6872m; Large vehicle[3]: 14640m Person: 59724m; Light vehicle: 183154m; Large vehicle: 390198m
Object Identification Distance	EN62676-4:2015 Johnson Criteria	Person: 1046m; Light vehicle: 1374m; Large vehicle: 2928m Person: 14931m; Light vehicle: 45789m; Large vehicle: 97549m
Object Verification Distance	EN62676-4:2015 Johnson Criteria	Person: 523m; Light vehicle: 687m; Large vehicle: 1464m Person: 7466m; Light vehicle: 22894m; Large vehicle: 48775m

AI Multi-object Detection & Tracking	
Object Size	16x16 ~ 128x128 px
Object Identification Delay	< 40ms
Tracking Speed	±32 px / field
Tracking Deviation Refresh Rate	30Hz
Tracking Deviation Output Delay	≤5ms

[1] Reference dimension of person: 1.8x0.5m. Critical dimension under Johnson criteria is 0.75m

[2] Reference dimension of light vehicle: 4.2x1.8m. Critical dimension under Johnson criteria is 2.3m

[3] Reference dimension of large vehicle: 6.0x4.0m. Critical dimension under Johnson criteria is 4.9m

Image & Video	
Image Format	JPEG
Maximum Image Resolution	3840 x 2160
Video Format	MP4
Maximum Video Resolution	Stream: 3840 x 2160 @30fps Recording: 3840 x 2160 @30fps
OSD	Time, Camera attitude, Carrier coordinate, Zoom rate, Storage status
EXIF	Time, Camera attitude, Carrier coordinate, Resolution
SEI	Refer to User Manual
Stream Encode Format	H.264 , H.265
Stream Network Protocol	RTSP
Storage	
Supported SD Cards	Supports a U3/V30 or above MicroSD card with a capacity of up to 256GB
Environment	
Operating Temperature	-20℃ ~ 50℃
Storage Temperature	-40℃ ~ 60℃
Operating Humidity	≤85%RH (Non-condensing)