Z-6N

Intelligent Black Light Full-Color Night Vision Pod

Characteristics

- 120x hybrid zoom camera, combined with the 1/1.8-inch ultra-starlight image sensor and AI-ISP full-color night vision imaging engine, can present clear full-color images in extremely low-light environments, delivering night vision-level low-light imaging experience. The Z-6N also features AI-HDR, ensuring both highlights and shadow details remain clearly visible even in complex lighting environments with strong contrast between bright and dark areas.

- 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-6N
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	1/1.8-inch CMOS; Effective Pixels: 4.09M	
Lens	Focal Length: 7.3~146.6mm (Equivalent focal length: 35.4~708.5mm) Aperture: f/1.6~f/4.1 HFOV: 56.0°～3.0° VFOV: 33.5°～1.7° DFOV: 62.8°～3.5°	
Resolution	2688(H) x 1520(V)	
Pixel Pitch	2.9μm(H) x 2.9μm(V)	
Optical Zoom Rate	20x	
Equivalent Digital Zoom Rate	6x	
Object Detection Distance	EN62676-4:2015	Person[1]: 2213m; Light vehicle[2]: 2908m; Large vehicle[3]: 6196m
	Johnson Criteria	Person: 25276m; Light vehicle: 77513m; Large vehicle: 165136m
Object Identification Distance	EN62676-4:2015	Person: 443m; Light vehicle: 582m; Large vehicle: 1239m
	Johnson Criteria	Person: 6319m; Light vehicle: 19378m; Large vehicle: 41284m
Object Verification Distance	EN62676-4:2015	Person: 221m; Light vehicle: 291m; Large vehicle: 620m
	Johnson Criteria	Person: 3160m; Light vehicle: 9689m; Large vehicle: 20642m

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	
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Image Format	JPEG
Maximum Image Resolution	2688 x 1520
Video Format	MP4
Maximum Video Resolution	Stream: 2688 x 1520 @30fps Recording: 2688 x 1520 @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)