# D-80Pro 40x-4K Spherical Gimbal

- **Characteristics**

- Carries an 8.29M pixels 40x hybrid zoom camera, which provides a video resolution of 4K@30fps and an image resolution of 3840x2160.
- Laser lighting module ensures the camera getting a clear image even in complete darkness.
- Features auto target tracking, which can constantly track the target selected on screen.
- Low-profile spherical shape and 3-axis nonorthogonal mechanical stabilized structure, minimize the gyration radius and the wind resistance of the gimbal. The D-80Pro is able to spin continually around its yaw axis.
- With the GCU, the D-80Pro supports network, UART and S.BUS control. The GCU supports both private protocol and MAVLink protocol.
- Thanks to the Dual-IMU complementary algorithms with IMU temperature control and carrier AHRS fusion, the D-80Pro provides a stabilization accuracy at ±0.01°.
- Can be mounted onto multiple carriers, whether downward or upward.
- With the GCU and the Dragonfly software, user can watch the image and control the gimbal without protocol ducking.
- Screen supports overlaying OSD information such as latitude, longitude and altitude. Image supports shooting point coordinate EXIF save.
- Supports ONVIF protocol.
- 14~53 VDC wide voltage input.

# Specifications

| | | |
|---|---|---|
| **General** | | |
| Product Name | D-80Pro | |
| Dimensions | Gimbal: 85.8 x 86 x 129.3mm<br>GCU: 45.4 x 40 x 13.5mm | |
| Weight | Gimbal: 405g<br>GCU: 18.6g | |
| Operating Voltage | 14 ~ 53 VDC | |
| Power | Gimbal: 6.7W (AVG, light off) / 55 W (Stall, light on)<br>GCU: 1.8W | |
| Mounting | Downward / Upward | |
| **Gimbal** | | |
| Gimbal Type | 3-axis Nonorthogonal Mechanical Stabilization | |
| Angular Accuracy | ±0.01° | |
| Controllable Range | Pitch: -157° ~ +70°, Yaw: ±360°constantly | |
| Max Controllable Speed | Pitch:±200°/s, Yaw: ±200°/s | |
| **Zoom Camera** | | |
| Image Sensor | 1/2.8" CMOS; Effective Pixels: 8.29M | |
| Lens | Focal Length: 4.8~48mm<br>Aperture: f1.7~f3.2<br>HFOV: 60.2° ~ 6.6°<br>VFOV: 36.1° ~ 3.7°<br>DFOV: 67.2° ~ 7.6° | |
| Resolution | 3840 x 2160 | |
| Pixel Pitch | 1.45μm | |
| Electronic Shutter Speed | 1~1/30000 s | |
| Optical Zoom Rate | 10x | |
| Equivalent Digital Zoom Rate | 4x | |
| Min Illumination | Night Vision off: 0.01Lux / f1.5<br>Night Vision on: 0.001Lux / f1.5 | |
| Object Detection Distance | EN62676-4:2015 | Person[1]: 1449m; Light vehicle[2]: 1904m; Large vehicle[3]: 4057m |
| | Johnson Criteria | Person: 16552m; Light vehicle: 50759m; Large vehicle: 108138m |
| Object Identification Distance | EN62676-4:2015 | Person: 290m; Light vehicle: 381m; Large vehicle: 811m |
| | Johnson Criteria | Person: 4138m; Light vehicle: 12690m; Large vehicle: 27035m |
| Object Verification Distance | EN62676-4:2015 | Person: 145m; Light vehicle: 190m; Large vehicle: 406m |
| | Johnson Criteria | Person: 2069m; Light vehicle: 6345m; Large vehicle: 13517m |

[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

| | |
|---|---|
| **Laser Lighting Module** | |
| Wavelength | 850±10nm |
| Laser Power | 0.8W |
| Beam Angle | 8° |
| Beam Diameter | 14m @ 100m |
| Effective Illumination Distance | ≤200m |
| Laser Safety | Class 3B ( IEC 60825-1:2014 ) |
| **Image & Video** | |
| Image Format | JPEG |
| Maximum Image Resolution | 3840 x 2160 |
| EXIF | Shooting point coordinate |
| Video Format | MP4 |
| Maximum Video Resolution | 4K@30fps |
| Stream Encode Format | H.264, H.264H, H.264B, H.265, MJPEG |
| Stream Network Protocol | ONVIF, RTSP |
| **Storage** | |
| Supported SD Cards | Supports a Speed Class 10 MicroSD card with a capacity of up to 256GB |
| **Environment** | |
| Operating Temperature | -20℃ ~ 50℃ |
| Storage Temperature | -40℃ ~ 60℃ |
| Operating Humidity | ≤85%RH (Non-condensing) |