Prana Air

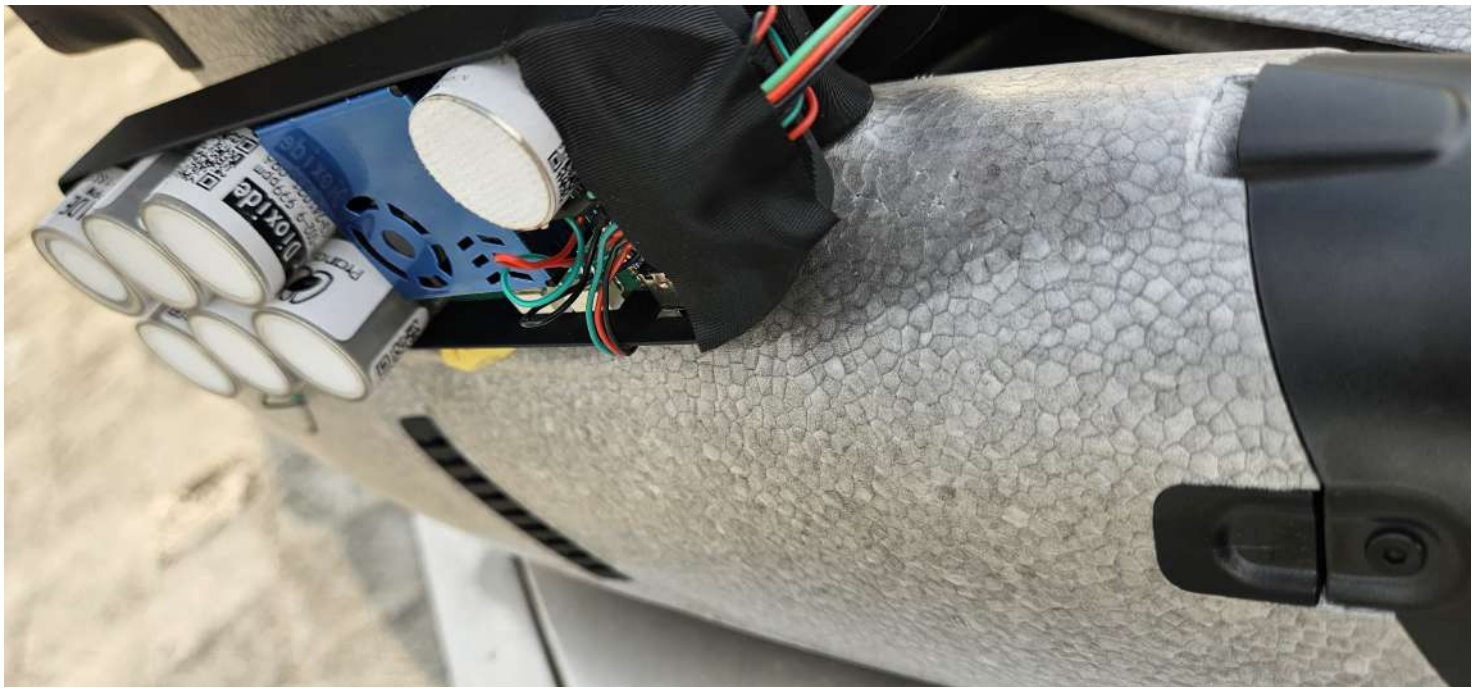
Prana VTOL Air Quality Drone

Prana Air's Air Quality Monitoring Drone is a compact and universal tool that delivers accurate and real-time data. The advanced features and air quality monitoring make the drone versatile for numerous applications.

www.pranaair.com

Prana VTOL
Air Quality Drone

Transform your way to monitor and manage air quality with our state-of-the-art **VTOL (Vertical Takeoff and Landing)** Fixed-Wing FPV Drone. This drone combines air quality monitoring capabilities with a thermal camera flexible vertical takeoff, extended flight range, and seamless adaptability. The advanced features of the drone are designed for environmental professionals, researchers, and industries.


Dioxide

Air Quality Monitoring

PM2.5, PM10, SO_2, NO_2, CO, O_3, NH_3, H_2S, and CH4 along with temperature and humidity

Flight Time

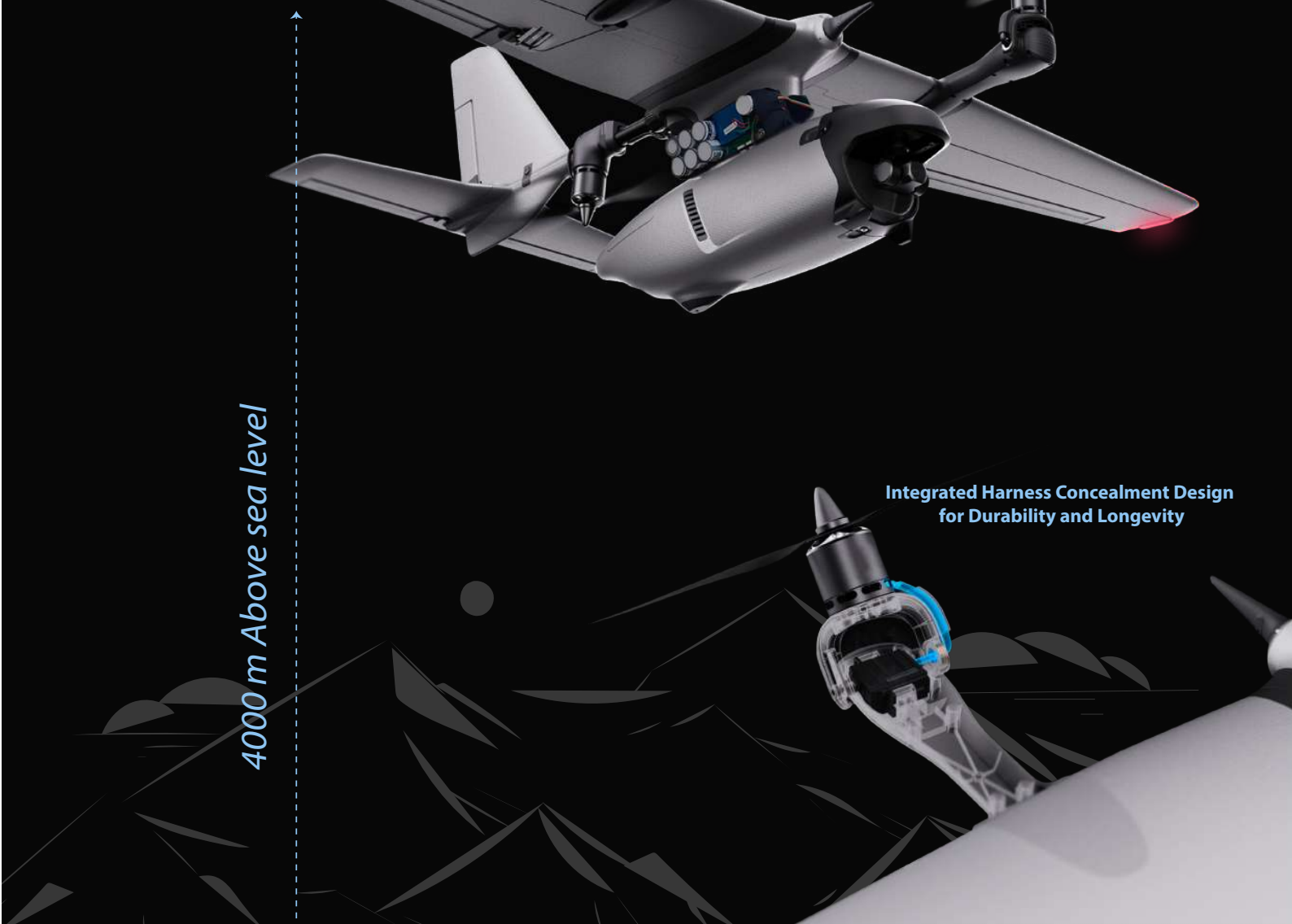
90km
(Full-Tab Battery 4S2P)

Remote Control Range

15km(In open or spacious condition)

Cruising Speed

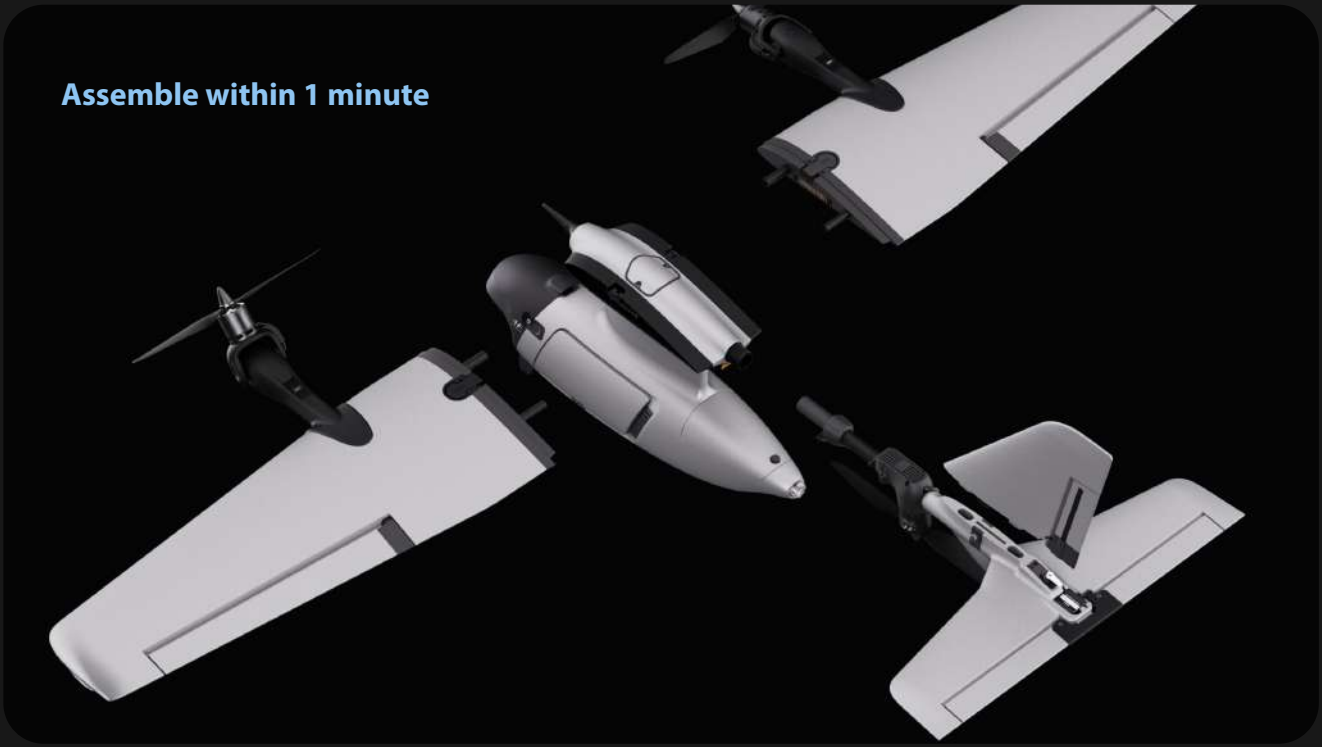
16m/s

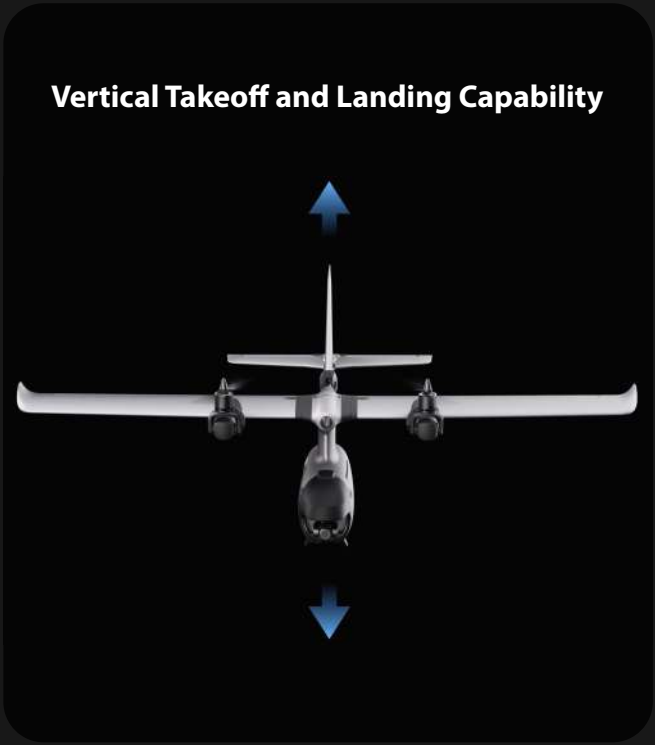


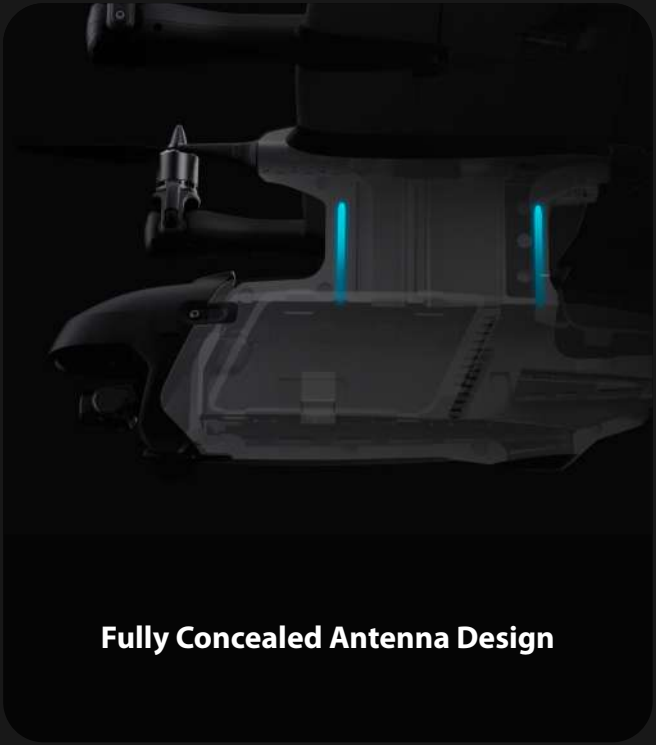
Integrated Harness Concealment Design for Durability and Longevity

Features
Of Parna VTOL

Prana's air quality monitoring drone is packed with advanced abilities and features to take air quality monitoring to the next level. Know about the unparalleled efficiency of the drone here:

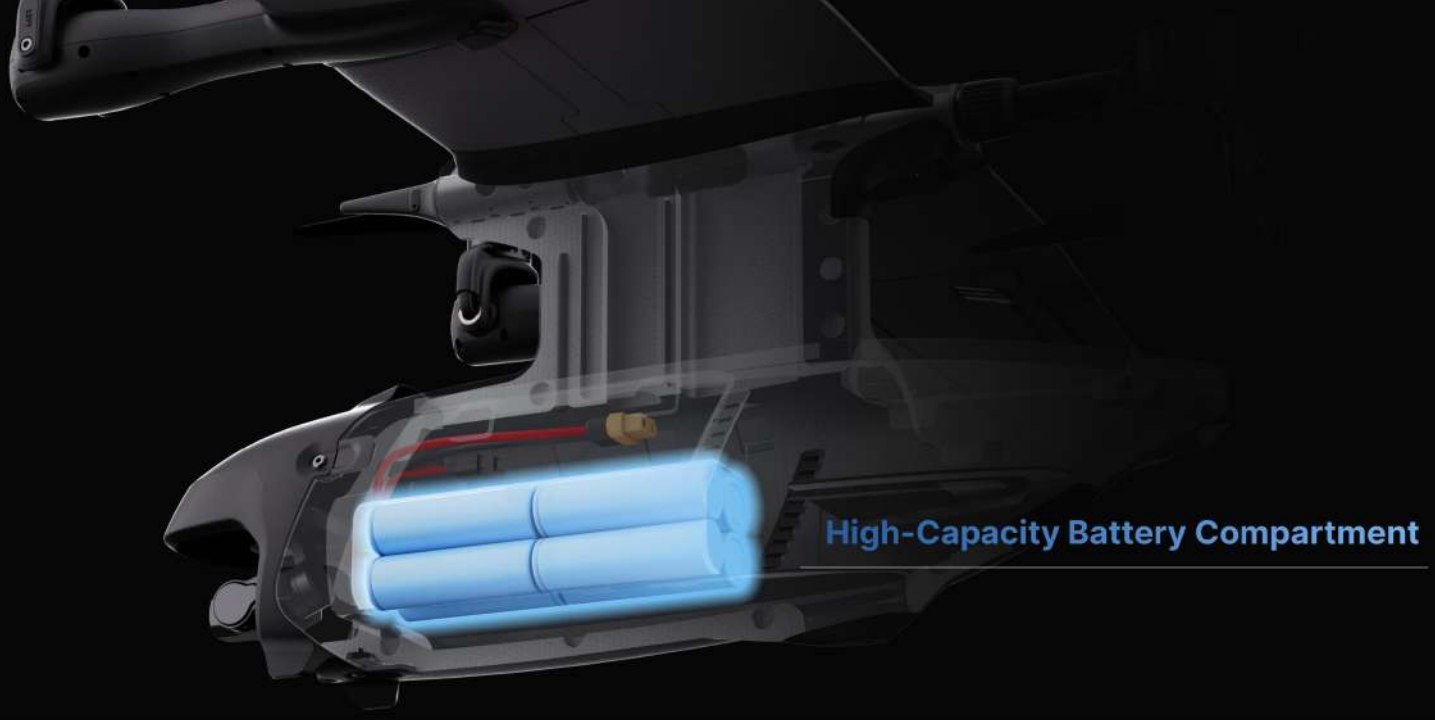






Advanced
Sensor Suite

The drone is equipped with advanced sensors designed to monitor key pollutants like PM2.5, PM10, SO_2, NO_2, CO, O_3, NH_3, H_2S, and CH_4 along with temperature and humidity levels. You can monitor the air quality of vast areas or even in hard-to-reach locations with these drones to collect data efficiently.



The entire Firefly series has been upgraded with full ear batteries, featuring the latest technology in the battery industry. Energy density has increased by 12.5%, the maximum discharge rate has improved by 50%, and the 10C discharge capacity retention rate reaches up to 95%, delivering absolutely leading performance.

Long-range powerhouse, with a 100% increase in lifespan

37.5%

increase in flight range

High-rate discharge performance improved by

50%

100%

increase in lifespan

Tilt Mechanism
Operates Smoothly

Intelligent flight, safe and powerful.

It features both multi-rotor and fixed-wing flight modes, along with various flight options such as manual stabilization and automatic flight. It also includes multiple safety protections, such as loss of control return and low battery return, making it both intelligent and powerful.

Dual 4K ULTRA HD

Night Vision
Thermal Camera

AI Object Tracking

±0.01° stabilization

- Micro 3-axis nonorthogonal mechanical stabilized structure reducing the weight down to 110g.
- Supports network, UART and S.BUS control and compatible with both private protocol and MAVLink protocol. Support image transmission through network and HDMI.
- 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.
- 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 such as latitude, longitude and altitude. Image supports shooting point coordinate EXIF save. 10~26.4 VDC wide voltage input.

Integrated
Digital Transmission

Upgraded with a new high-definition integrated image and data transmission link, with a maximum video transmission range of up to 15 km.

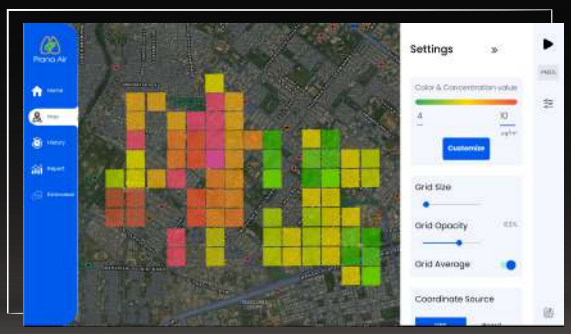
The remote controller features a Qualcomm octa-core processor and a 5.5-inch display with a brightness of 1000 nits, ensuring clear visibility of flight information and transmission images even under direct sunlight.

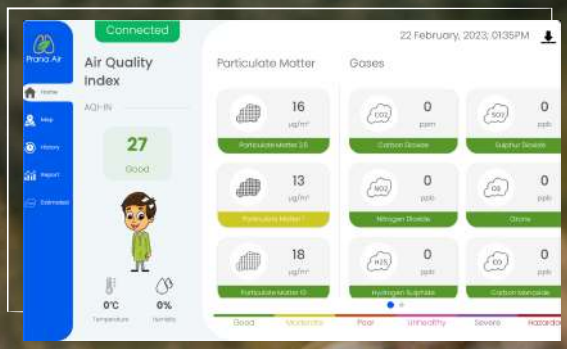
Autonomous Route Flight

5.5-inch HD display

1000 nits brightness

Qualcomm octa-core processor





Prana VTOL
Technical Specification

Parameter	Sensor Type	Range	Resolution	Accuracy
PM10, PM2.5 & PM1	90° Light Scattering	0 to 1000μg/m³	1 μg/m³	0-150 μg/m³ is for ±5% & for 150 μg/m³ onwards is ±10%
Temperature	Digital Sensor	-40 to 70 °C	0.1°C	±0.5°C
Humidity	Digital Sensor	0 to 100% RH	0.1% RH	±0.3% RH
Nitrogen Dioxide (NO_2)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%
Carbon Monoxide (CO)	Electrochemical	0.01 to 99.99ppm	0.01ppm	±3%
Sulfur Dioxide (SO_2)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%
Ozone (O_3)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%
Ammonia (NH_3)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%
Hydrogen Sulfide (H_2S)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%

Features	Description
Overall Dimensions	1080×690×376mm
Installation Time	1min
Standard takeoff Weight	1.5-1.8Kg
Maximum endurance time	50min(Full-Tab Battery 4S1P) 90min(Full-Tab Battery 4S2P)
Maximum range	50km(Full-Tab Battery 4S1P) 4000m 90km(Full-Tab Battery 4S2P)
Remote Control Range	15km(In open or spacious condition)
Maximum operating altitude	4000m
Max takeoff weight	<2Kg
Flight Speed	28m/s
Cruising Speed	16m/s
Wind Resistance Level	Level 5
EPP portable box Dimensions	583×453×256mm

Thermal Camera
Technical Specification

General	
Product Name	Prana VTOL
Dimensions	59 x 48.4 x 85.7mm
Weight	110g
Operating Voltage	10~ 26.4VDC
Power	6.5W (AVG) / 20W (Stall)
Mounting	Downward / Upward
Gimbal	
Gimbal Type	3-axis Nonorthogonal Mechanical Stabilization
Angular Accuracy	±0.01°
Controllable Range	Pitch: -135°～+100°, Roll: ±50°, Yaw: ±150°
Max Controllable Speed	±200°/s
Fixed Camera	
Image Sensor	1/2.8-inch CMOS, Effective Pixels: 8.29M
Lens	Actual Focal Length: 6.0mm (Equivalent focal length: 34.4mm) Aperture: f/1.0 HFOV: 54.7° VFOV: 30.2° DFOV: 63.2°
Resolution	3840(H) x 2160(V)
Pixel Size	1.45μm(H) x 1.45μm(V)
Equivalent Digital Zoom Rate	8x
Object Detection Distance	EN62676-4:2015 Person[1]: 175m; Light vehicle[2]: 230m; Large vehicle[3]: 491m Johnson Criteria Person: 2069m; Light vehicle: 6345m; Large vehicle: 13517m
Object Identification Distance	EN62676-4:2015 Person: 35m; Light vehicle: 46m; Large vehicle: 98m Johnson Criteria Person: 517m; Light vehicle: 1586m; Large vehicle: 3379m
Object Verification Distance	EN62676-4:2015 Person: 18m; Light vehicle: 23m; Large vehicle: 49m Johnson Criteria Person: 259m; Light vehicle: 793m; Large vehicle: 1690m

Thermal Camera	
Thermal Sensor	Uncooled VOx Microbolometer
Lens	Actual Focal Length: 10.0mm (Equivalent focal length: 95.5mm) Aperture: f/1.0 ,HFOV: 17.5° ,VFOV: 13.2°,DFOV: 21.8°t
Resolution	256(H) x 192(V)
Pixel Size	12μm(H) x 12μm(V)
Spectral Band	8~14μm
Sensitivity (NETD)	<50mk@25°
Object Detection Distance	Person: 417m; Light vehicle: 1278m; Large vehicle: 2722m
Object Identification Distance	Person: 188m; Light vehicle: 575m; Large vehicle: 1225m
Object Verification Distance	Person: 94m; Light vehicle: 288m; Large vehicle: 613m
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
Image & Video	
Image Format	JPEG
Maximum Image Resolution	3840 x 2160
EXIF	Shooting point coordinate
Video Format	MP4
Maximum Video Resolution	Stream: 1920 x 1080 @30fps Recording: 3840 x 2160 @30fps
Stream Encode Format	H.264, H.265
Stream Network Protocol	RTSP
Storage	±32 px / field
Supported SD Cards	Supports a Speed Class 10 MicroSD card with a capacity of up to 256GB
Environment	
Operating Temperature	-20°C～50°C
Storage Temperature	-40°C～60°C
Operating Humidity	≤85%RH (Non-condensing)

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Let’s do something amazing together

Begin your journey to a healthier life with our tailored air quality monitoring solutions.

Get in touch

Phone

+91 73918-73918

Email

info@purelogic.in
nikhil@purelogic.in

Address

706, 7th Floor, Crown Heights, Sec-10, Rohini, New Delhi - 110085, India

Prana Air