![Prana Air logo] **Prana Air**

Air Quality Drone
Monitoring

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. Its lightweight design makes it ideal for providing accurate insights for pollution mapping, environmental research and compliance checks

Prana VTOL
Air Quality Monitor

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.

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)
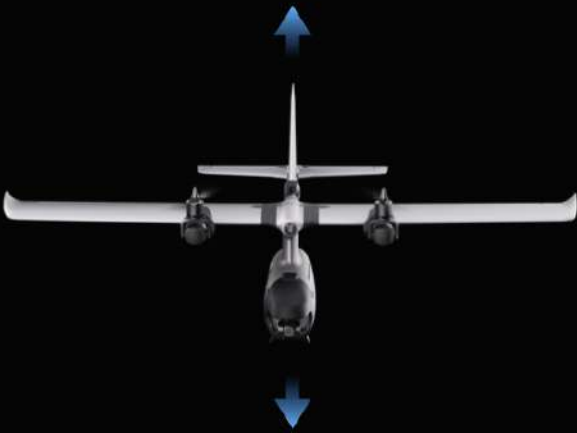
Cruising Speed

16m/s

4000 m Above sea level

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:

Vertical Takeoff and Landing Capability

Efficient aerodynamic Design

Thermal Camera

Modular Quick-Release Design


Assemble within 1 minute

High-Capacity Battery

Fully Concealed Antenna Design

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.

Air Inlet

Air Quality Sensor
PM, SO_2, NO_2, O_3, CO, NH_3, H_2S, CH_4, Temp and Humidity
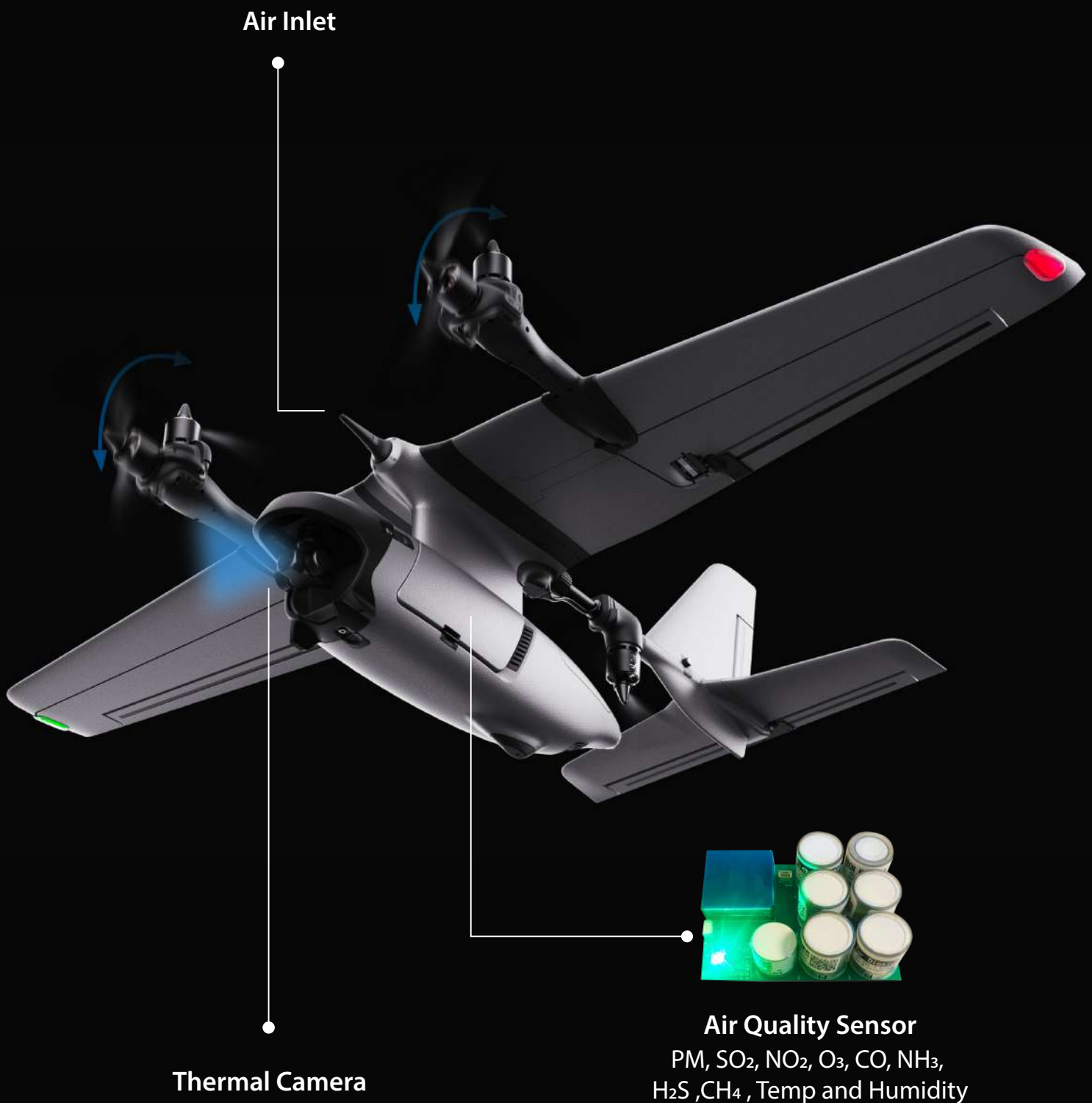
Thermal Camera

Carries an AI-ISP 4K full-color night vision camera and a thermal camera.

Night Vision
Thermal Camera

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

◆ 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.

◆ 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.

◆ 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.
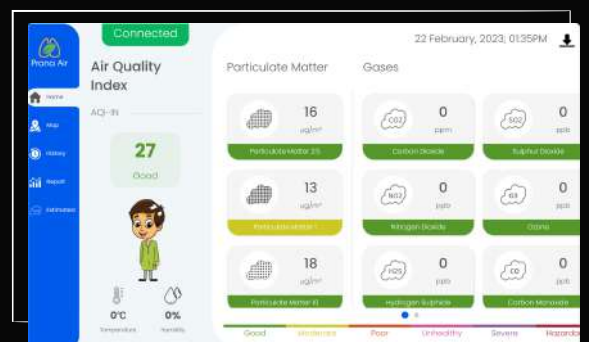
Autonomous Route Flight	5.5-inch HD display	1000 nits brightness	Qualcomm octa-core processor

Prana VTOL
Techincal 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 (NO2)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%
Carbon Monoxide (CO)	Electrochemical	0.01 to 99.99ppm	0.01ppm	±3%
Sulfur Dioxide (SO2)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%
Ozone (O3)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%
Ammonia (NH3)	Electrochemical	0.001 to 9.999ppm	0.001ppm	±3%
Hydrogen Sulfide (H2S)	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
Techincal 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 ～50
Storage Temperature	-40 ～60
Operating Humidity	≤85%RH (Non-condensing)

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