

Sniffer4D® Mini2

Ultrasonic Wind Speed & Direction Sensing Module

Real-time Aerial Meteorology Monitoring

- Temperature
- Humidity
- Atmospheric Pressure
- Wind Speed
- Wind Direction



Typical Applications

With the most lightweight and all-in-one meteorological sensor, our Sniffer4D Mini2 Ultrasonic Wind Speed & Direction Sensing Module can be easily installed on DJI M350 / M300 RTK and monitor the meteorological parameters (temperature, humidity, atmospheric pressure, wind speed and wind direction) in real-time. Integrated with Sniffer4D Mini2, the system can precisely acquire the meteorological information by calculating the back-and-forth time difference of the ultrasonic waves in 3D dimension. Our Ultrasonic Wind Speed & Direction Sensing Module allows the Sniffer4D system to simultaneously monitor the target gases and the meteorological parameters in applications like Ambient Air Monitoring, Meteorological Monitoring, HAZMAT Response, providing intuitive & insightful information for decision-makers.



Real-time Data Transmission

Sniffer4D Mini2 supports transmitting real-time data from our Ultrasonic Wind Speed & Direction Sensing Module. After being processed by our proprietary algorithms, the meteorological parameters will be shown in DJI Pilot App & Sniffer4D Mapper. In this case, the system is rather user-friendly since our data provides real-time reference and does not require post-processing work. Meanwhile, all the data will be automatically stored in Sniffer4D Mini2's onboard SD card for after-mission analysis.



Displaying the meteorological parameters on Sniffer4D Mapper.

Time	Lat	Lon	Alt	Temp	Humid	Press	Wind_N	Wind_E
2021-08-27 12:32:34	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:35	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:36	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:37	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:38	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:39	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:40	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:41	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:42	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:43	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:44	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:45	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:46	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:47	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:48	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:49	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:50	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:51	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:52	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:53	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:54	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:55	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:56	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:57	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:58	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:32:59	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00
2021-08-27 12:33:00	30.86214	114.322223	23.850905	26.21469	44.901962	1000.00	0.00	0.00

Exporting mission files as a CSV datasheet.



Displaying the meteorological parameters on DJI Pilot.

Built-in Motion Compensation Algorithms

Sniffer4D Mini2 Ultrasonic Wind Speed & Direction Sensing Module supports 3-axis wind speed measurement. Its built-in algorithms for translational motion compensation, attitude compensation, and rotational motion compensation allow real-time wind speed & direction outputting for the northeast, achieving accurate meteorological measurements while the drone is in motion.



Translational Motion Compensation



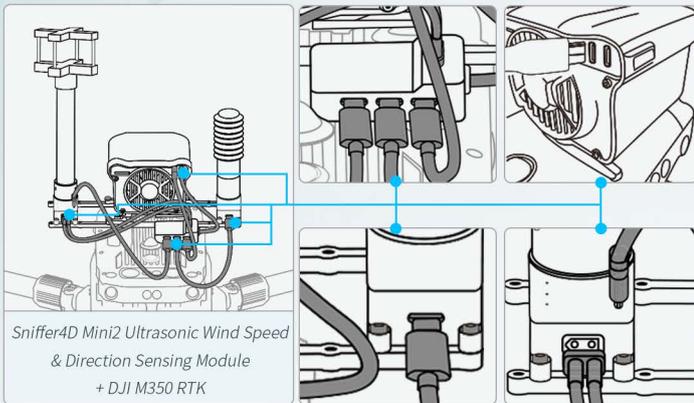
Attitude Compensation



Rotational Motion Compensation

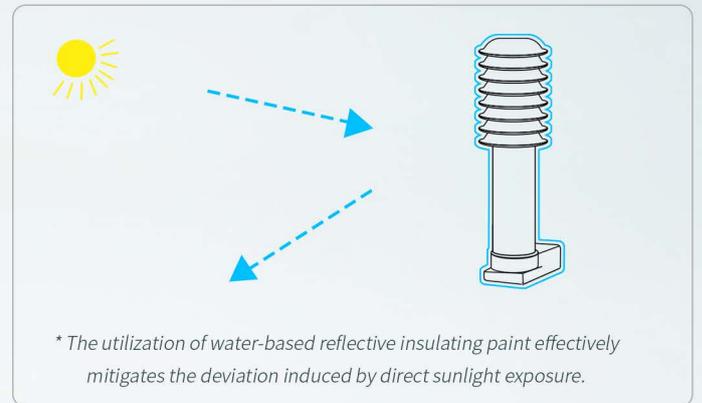
Seamless Integration with DJI M350 / M300 RTK

Sniffer4D Mini2 Ultrasonic Wind Speed & Direction Sensing Module itself is lightweight with no moving parts, the system has no limitation on start-up wind speed and does not require any adjustments. Besides, it supports seamless Integration with DJI M350 / M300 RTK, greatly reducing the preparation time before flights.



More Precise Temperature and Humidity Measurements

Sniffer4D Mini2 external temperature & humidity sensing module offers superior measurement accuracy, with a humidity precision of up to 1.5% RH and a temperature accuracy of up to 0.1°C. Furthermore, it shows resilience against the heat generated from data processing components, ensuring reliable and stable performance.



Technical Parameters

Measurement Method	Ultrasonic Wave		Wind Direction Measurement	Range	0-360°	Humidity Measurement	Range	0~100%RH
Connection	Connecting the USB-C cable to the USB-C port on Sniffer4D Mini2's Functional Expansion Bay			Accuracy	±1.0°		Resolution	0.1%RH
Power Supply	9-36V DC input through XT30 port			Precision	1.0°		Accuracy	±3%RH
Wind Speed Measurement	Accuracy	±0.1m/s (0-10m/s) ±1% (11-30m/s) ±2% (31-50m/s)	Temperature Measurement	Range	-40~85°C	Atmospheric Pressure Measurement	Range	300~1100hPa
	Range	0-50m/s		Resolution	0.1°C		Resolution	0.1hPa
	Resolution	0.1m/s		Accuracy	±2.0°C		Accuracy	±10.0hPa

External Temperature & Humidity Sensing Module

The temperature and humidity sensor is suitable for customers from key industries who have stringent requirements for precise temperature and humidity data.

Temperature Measurement				
Accuracy	±0.1°C (+15~+25°C) ; ±0.15°C (0~+15°C, +25~+40°C) ; ±0.4°C (-40~0°C, +40~+80°C)		Range	-40~+80°C
Humidity Measurement				
Relative Humidity Accuracy	0~+40°C: ±1.5%RH (0~90%RH) ; ±2.5%RH (90~100%RH)		Relative Humidity Measurement Range	Relative Humidity Measurement Stability
	-40~0°C, +40~+80°C: ±3.0%RH (0~90%RH) ; ±4.0%RH (90~100%RH)			



Official Website: www.soarability.com

Email: inquiry@soarability.com

Phone: +65 9132 0382

Address: Floor 8, 15A Changi Business Park Central 1, Singapore 486035

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