

Black Swift **SwiftFlow™**

Multi-Hole Probe

A Tightly Integrated 3D Multi-Hole Probe and Wind Velocity Measurement Device

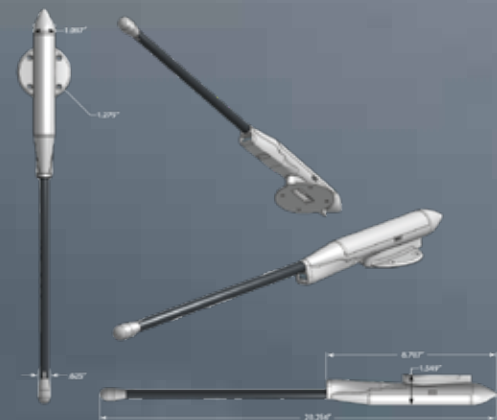
The Black Swift SwiftFlow™ 3D wind probe captures not only differential pressure measurements, but its magnetometer and inertial measurement unit (IMU) coupled with fusion algorithms provide a full wind vector solution.

The Black Swift SwiftFlow accurately records air speed, altitude, angle-of-attack, side-slip, ambient temperature, and relative humidity for a more comprehensive capture of the wind environment and accurate evaluation of your aircraft's performance.

Specifications

| | |
|------------------------|--------------------------------------------------------------------|
| Data Interface: | 5V TTL UART |
| Baud: | 921600 |
| Input Voltage: | 5 to 8.4V |
| Operating Temperature: | -20° to 60°C |
| Data Frequency: | 100Hz |
| Weight: | 144 g (Probe) 37 g (GNSS) |
| Size: | 0.515m x 0.051m x 0.04m (Probe) 0.016m x 0.054m x 0.054m (GNSS) |

| | | |
|--------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data Output: | Raw Sensors | Barometric pressure, side port differential pressure, center port absolute pressure, air temperature, RH, 3-axis rotation rates, 3-axis accelerations, 3-axis magnetic field, GPS time, GPS position, and GPS velocities. |
|--------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



| | MINIMUM | MAXIMUM | RESOLUTION | ACCURACY (±) | UNIT |
|----------------------------------------|---------|---------|------------|--------------|----------|
| Barometric Pressure | 10 | 1200 | 0.012 | 1.5 | hPa |
| Side Port Pressure | -249 | 249 | 0.03038 | 2.49 | Pa |
| Center Port Pressure | 0 | 1244 | 0.07594 | 6.22 | Pa |
| Temperature | -40 | 85 | 0.1 | 0.3 | °C |
| Relative Humidity (accuracy @ 21°C) | 0 | 100 | 0.1 | 3 | % |
| Rotation Rate | -250 | 250 | 0.008 | 0.006 | °/second |
| Acceleration | -8 | 8 | 0.0002 | 0.16 | g |
| Magnetic Field | -1100 | 1100 | 0.013 | 0.015 | uT |
| Time | – | – | 0.2 | 3.00E-08 | seconds |
| Position (Horizontal) | – | – | 0.00001 | 2.5 | m |
| Position (Vertical) | – | – | 0.003 | 2.5 | m |
| Velocity | 0 | 514 | 0.01 | 0.05 | m/s |
| IAS | 0 | 45 | – | 0.06 | m/s |
| TAS | 0 | 45 | – | 0.14 | m/s |
| Q | 0 | 1244 | – | 2.78 | Pa |
| alpha | -15 | 15 | – | 0.25 | ° |
| beta | -15 | 15 | – | 0.25 | ° |



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Specifically Designed
for UAS Deployments