



## At Last! An ADAHRS that I can customize!

The Hornet ADAHRS offers a fully integrated sensor solution in a small, robust, affordable package. Powered by an ARM<sup>®</sup> Cortex<sup>®</sup>-M4 processor, the Hornet boasts 32-bit, 180MHz performance with both DSP and FPU instructions, providing for real-time sensor data processing and reporting. An open-platform C++ SDK allows the Hornet to be configured to your exact requirements.

### Versatile Sensing

The Hornet is complete with differential and barometric pressure sensing, Outside Air Temperature (OAT) RTD and Angle-of-Attack (AoA) and Sideslip sensor interfaces. It also includes dual magnetometers, dual accelerometers and dual gyros which complement each other with respect to dynamic performance and bias effects.

Place a Hornet at each of your pitot-static pressure sensor probes for redundant measurements and route wires, not tubing! Or place a Hornet in your wing-tips for magnetic measurements far from hard-iron effects.

### Flexible Interfaces

The Hornet supports both CAN 2.0 and full-duplex RS-422 for flexible, robust telemetry options.

External sensor support includes standard RTD as well as various Angle-of-Attack and Sideslip airdata boom sensors.

3-and-4 wire 100 $\Omega$  RTDs are compatible with the temperature interface, while the air data boom inputs support analog voltage, frequency and PWM signaling.

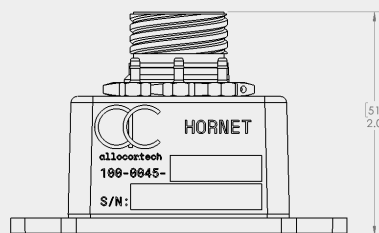
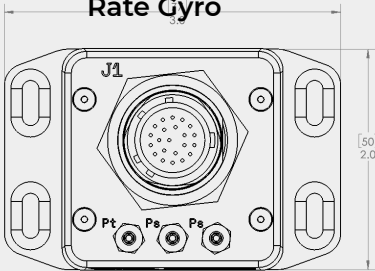
Pitot interface is accomplished using 1/16" ID tubing.

### Customized Software

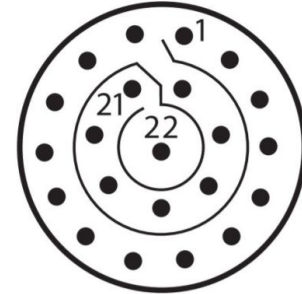
We provide the hardware, and we'll work with you on a custom software solution for your application. With allocortech's expertise in embedded real-time systems, you'll have a customized software solution in no time!

## Specifications

| Item  | Specification   |
|---|---|
| Input Voltage                               | 5V - 48V  |
| Power                                       | 1W typical, 1.6W max                                    |
| Weight                                      | 125g  |
| Temperature                                 | -40°C to +70°C  |
| Ingress                                     | Designed to meet IP64                                   |
| Connector                                   | D38999 24ZC35PN   |
| <b>CAN 2.0 Interface</b>                    |   |
| Max Bitrate                                 | 1Mbps   |
| <b>RS-422 Interface</b>                     |   |
| Max Bitrate<br>(Full Duplex)                | 1Mbps   |
| <b>Static Pressure</b>                      | 0 - 103.4kPa<br>24-bit resolution<br>±0.25% or 250Pa    |
| <b>Differential Pressure</b>                | ±6kPa<br>24-bit resolution<br>±0.25% or 15Pa            |
| <b>Outside Air Temperature (OAT)</b>        | 100Ω RTD<br>3-or-4 wire                                 |
| <b>Angle-of-Attack and Sideslip Inputs</b>  | DC: 0.5V-4.5V 12-bit<br>FM: 1Hz - 5kHz<br>PWM: >= 200µs |
| <b>Accelerometer Magnetometer Rate Gyro</b> | Contact allocortech for details                         |



## Connector



| Pin | Signal             |
|-----|--------------------|
| 1   | Vin                |
| 2   | PPS (-)            |
| 3   | Vsupply Alpha/Beta |
| 4   | CAN_H              |
| 5   | CAN_L              |
| 6   | OAT Drive (+)      |
| 7   | OAT Measure (+)    |
| 8   | OAT Measure (-)    |
| 9   | OAT Drive (-)      |
| 10  | Beta Signal        |
| 11  | Alpha Signal       |
| 12  | RS422 TX (+)       |
| 13  | RS422 RX (-)       |
| 14  | Chassis Drain      |
| 15  | Vsupply Alpha/Beta |
| 16  | PPS (+)            |
| 17  | GND (Vin)          |
| 18  | GND (Alpha/Beta)   |
| 19  | GND (Alpha/Beta)   |
| 20  | RS422 TX (-)       |
| 21  | RS422 RX (+)       |
| 22  | Reserved           |