



Dragonfly X200

Dragonfly is an open architecture Positioning, Navigation, and Timing (PNT) hub for use on in any environmental domain.



Industry-Leading Sensor Fusion

Leveraging industry-leading sensor fusion software, Dragonfly provides a robust assured PNT solution from the integrated Internal Measurement Unit (IMU), Global Navigation Satellite System (GNSS) receiver, Chip Scale Atomic Clock (CSAC), and Ground Based GPS Receiver Application Module (GB-GRAM). Additional external IMUs and other sensor technologies can be connected via the 78 PIN high density DSUB connector to improve performance.

Dragonfly is currently undergoing a development effort to acquire position, attitude, and velocity from signals of opportunity and visual sensors. Using Full Motion Video (FMV) or still camera inputs, Dragonfly uses scene-matching imagery techniques to maintain positional reference. Dragonfly with an embedded software defined radio uses various electronic spectrum techniques to provide positional estimates. Together with the core Dragonfly components, the position estimates are significantly improved in no GPS environments

- * DAGR Mount Compatible
- * InterNav Advanced Sensor Fusion Software from NAVSYS Corporation
- * Inertial Measurement Unit (IMU)
- * Chip Scale Atomic Clock (CSAC)
- * Ground Based GPS Receiver Application Module (GB-GRAM) with DS-101 and DS-102 keyfills
- * Commercial Global Navigation Satellite System (GNSS) receiver
- * Distribution of IS-GPS-153 from eight (8) serial ports
- * External Sensor Interfaces
- * VICTORY Data Bus Interface
- * Cursor-on-Target (CoT) Support
- * CAN bus interface

PHYSICAL

- * Size (WxHxD): 3.20" x 6.35" x 2.40"
- * Weight: 2.11 lbs.
- * Mounting: DAGR Mount

ENVIRONMENTAL

- * Tested IAW MIL-STD-810G
- * Operating Temperature: -40°C to +85°C
- * Humidity: 95% RH, non-condensing
- * Altitude: 45,000 ft
- * Protection: IP67
- * Vibration: 7.7 g rms, 20 to 1000Hz
- * Shock: 20g, 11ms, sawtooth

COMMUNICATIONS

- * VICTORY Data Bus Interface
- * IS-GPS-153 Rev. D

EMI/EMC

- * Tested IAW MIL-STD-462F

WARRANTY

- * 1 years

POWER

- * Input Voltage: 16-50 VDC IAW MIL-STD-1275D
- * Typical Power Draw: 10W

GPS PERFORMANCE

- * 12- Channel Continuous Satellite Tracking
- * 24- Channel Pseudorange, Delta Range and Carrier Phase
- * Simultaneous L1 and L2 Dual Frequency GPS

IMU PERFORMANCE

Gyroscope	
Dynamic Performance	±100°/sec
In-Run Basic Stability	1.8°/hr
Angular Random Walk	0.09°/√hr
Accelerometer	
Dynamic Range	±8g
In-Run Bias Stability	0.0036mg
Angular Random Walk	0.008 m/s/√hr

CSAC PERFORMANCE

10MHz Chip Scale Atomic Clock	
Frequency Accuracy	
Aging, Monthly	$< 9 \times 10^{-9}$
Aging, Yearly	$< 1 \times 10^{-8}$
Maximum Frequency Change over Operating Temperature Range	$\pm 5 \times 10^{-10}$
Stability (Allan Deviation)	
TAU = 10 sec	1×10^{-10}
TAU = 100 sec	3×10^{-11}
TAU = 1000 sec	1×10^{-11}

GNSS PERFORMANCE

72- Channel	
GPS L1 Horizontal Position Accuracy	2.5 m
Update Rate	10Hz

INTERFACES

Interface	Type of Data	Connector
RF In	GNSS	SMA
RF In	GPS	SMA
CAN bus	CAN bus	78 position High Density DSUB
RS-232 (x5)	IS-GPS-I53	
RS-422 (x4)	IS-GPS-I53	
Ethernet	VICTORY CoT	
USB	USB OTG	
Key Fill	DS101 & DS102	M55116/10-0 6-Pin Audio
Power In	DC Power	Turck M8

