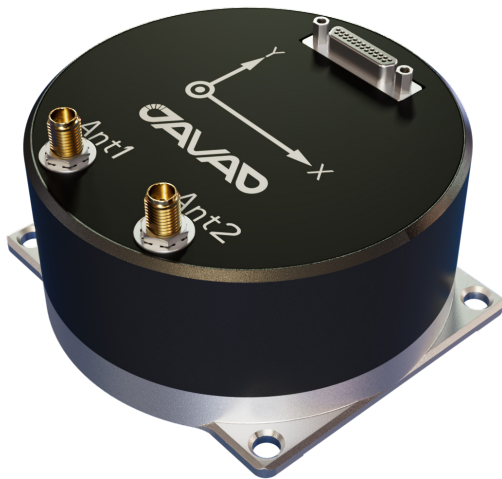




TAU-110/201

GNSS-Aided Inertial Navigation System



Key Features

- Spoofing and meaconing detection
- Jamming suppression
- Resilient heading and full attitude determination
- Tactical-grade MEMS inertial sensing
- GNSS-independent navigation
- Maintenance-free

The TAU-110/201 is a highly resilient, GNSS-aided inertial navigation system. It integrates tactical-grade MEMS gyroscopes and accelerometers with a multi-band GNSS receiver, providing anti-jamming capability and spoofing detection for resilient navigation in GNSS-challenged environments.

It is suitable for a wide range of applications, including mobile radar platforms, unmanned aerial vehicles, land vehicles, and other navigation-critical systems

TAU-110/201 Specifications



Tracking	Total Channels	874	
	GPS	L1 C/A, L1C, P1, P2, L2C, L5	
	GLONASS	L1 C/A, P1, P2, L2 C/A, L3	
	Galileo	E1, E5, E5A, E5B, E6	
	BeiDou	B1, B1C, B2B, B2, B2A, B3	
	QZSS	L1C C/A, L1C, L2C, L5, L6, L1S, L1Sb, L5S	
	SBAS	L1, L5	
	NavIC	L1, L5, S	
	L-Band	1525 - 1560 Mhz	
Navigation (RMS)*		Horizontal (m)	Vertical (m)
	Standalone	1.000	1.500
	SBAS	0.500	0.850
	DGPS	0.250	0.500
	RTK	0.008 + 1 ppm	0.015 + 1 ppm
	Free inertial, land vehicles	0.5%** , DT (with velocity constraints/ZARU/ZUPT aiding)	
Anti-Jamming	Jamming Suppression	Up to 30 dB IBIR	
	Jammer-to-Signal Ratio	Up to 90 dB	
Attitude (RMS)**		Heading	Pitch/Roll
	Dual-antenna, 2 m baseline	< 0.09 deg	-
	Dynamic Accuracy	< 0.15 deg	< 0.01 deg
Time to First Fix	Cold Start	< 35 s	
	Warm Start	< 5 s	
	Reacquisition	< 1 s	
	Alignment	< 30 s (with GNSS heading)	
Output Rate	Position/ Measurements	up to 200 Hz	
Wired I/O	Main Connector	25-pin micro D-SUB connector with screw lock (MDSM-25PE-Z10-VR17 by ITT Cannon)	
	GNSS Antenna	1 x MMCX, +5 VDC Ports (0.16A max)	
	Serial	1 x RS232 up to 460.8 kbps 1 x RS232/RS422 up to 460.8 kbps	
	USB	1 x USB 2.0 Full Speed. Up to 3.0 Mbps UART	
	CAN	1 x CAN 2.0	
	Event Marker	1 x Event Marker	
	1PPS	1 x 1PPS output synchronized to GPS or UTC	
Storage	Internal Memory	Up to 16 GB	
Power	Input	+6 to +36 VDC	
	Power Consumption	9 W typical	

TAU-110/201 Specifications



IMU Performance (KERNEL-110)	Gyroscope performance	Technology	MEMS		
		Dynamic range	± 2000 °/s		
		Bias in-run stability	2 °/hr		
		Noise, Angular Random Walk (ARW)	0.3 °/√hr		
	Accelerometer performance	Technology	MEMS		
			Kernel 110-08	Kernel 110-15	Kernel 110-40
		Dynamic range	± 8 g	± 15 g	± 40 g
		Bias in-run stability	0.1 mg	0.03 mg	0.05 mg
	Noise, Angular Random Walk (ARW)	0.02 m/s/√hr	.045 m/s/√hr	0.06 m/s/√hr	
IMU Performance (KERNEL-201)	Gyroscope performance	Technology	MEMS		
		Dynamic range	± 450 °/s		
		Bias in-run stability	0.7 °/hr		
		Noise, Angular Random Walk (ARW)	0.065 °/√hr		
	Accelerometer performance	Technology	MEMS		
			Kernel 201-08	Kernel 201-40	
		Dynamic range	± 8 g	± 40 g	
		Bias in-run stability	0.005 mg	0.025 mg	
	Noise, Angular Random Walk (ARW)	0.015 m/s/√hr	0.045 m/s/√hr		
Physical	Dimensions	88.9 x 88.9 x 51.5mm			
	Weight	190 g			
Environmental	Operating Temperature	-40°C to +80°C			
	Storage Temperature	-40°C to +85°C			
	Shock & Vibration	MIL-STD-810G ISO-9022-31-06 Shock, Severity 5 IEC 60068-2-6 Sine Vibration			

*GNSS performance is dependent on signal quality, satellite geometry, ionospheric and tropospheric conditions, baseline length, multipath effects and RF interference.

**Performance may degrade under unmitigated vibration or significant temperature variation; unit-to-unit variation may occur.

Specifications may be changed without notice.