

Introducing TAC-450



TAC-450 is a new line of Inertial Systems from EMCORE with modern Fiber Optic Gyros, MEMS accelerometers, new electronics, and an even more compact size. TAC-450 offers the same ease of integration and flexible interface settings as the proven P-17XX series, with extended features demanded in tomorrow's position and orientation, navigation, and stabilization applications.

Product Differentiators (TAC-450 to Legacy P-17XX)

Feature	P-17XX IMUs	TAC-450 IMUs	Benefits
Technology	PIC and photonic gyros	PIC and photonic gyros	Proven, low loss optical circuits use less light for greater efficiency
Size	3.5 D x 2.9 H (in) Vol: 27.9 in ³	3.5 D x 2.5 H (in) Vol: 24.1 in ³	14% less volume 14% less height
Weight	1.52 lbs	1.30 lbs (587.7 grams)	Lighter for autonomy/drones
Input Power	9-36 VDC, 8 W	9-36 VDC, 8 W	Backward compatible to existing equipment
Serial I/O	Flexible message rates, units	Same with new extensions	Backward compatible to existing equipment
Filtering	User selectable, custom settings	Same	Backward compatible to existing equipment
Performance	Low ARW and bias drift, high Scale Factor accuracy and bandwidth	Same	More sensitive angular rates (16 bit)
Electronics	EOL technology	New technology: Artix 7 FPGA; Dual Core DSP w/ ARM processor	Extends product life; low power/cooler, higher speed, and integrated multi-channel processing
Built-In Test	Smart self-testing with Power-up, Continuous, and User/O-BIT	Extends self-test coverage and fault history, adds Periodic BIT	Reduces test-cycle time, lowers cost/complexity of verifying health
Elapsed Time Log	N/A	Runtime log (hrs)	Optimize adjustments to improve safety, prevent downtime
Reliability	6 PCBs	4 PCBs	Fewer electronics, long life
Regulatory	RoHS 2	RoHS 3	Improved safety and environmental compliance. Ease of EU importing
Licensing	ECCN 7A994, 7A101	ECCN 7A994, 7A101 (2g and 10g accelerometers)	Exportable, Dual Use
Warranty	Two years parts 1 year labor	Two years parts 1 year labor	