For Immediate Release
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Nano-sized Intelligent I/O™ Communications Subsystems Upgrade Airborne Mission Computers

NIU1 Adds Sensor Data Interfaces to Mission Computer without Expensive Redesign

Bohemia, NY, October 24, 2013 – Advanced, rugged, nano-sized Intelligent I/O™ and communications subsystem from North Atlantic Industries (NAI) delivers significant advantages for mission computers in airborne vehicles. The Nano Interface Unit (NIU1) adds distributed network sensor data interfaces to airborne mission computer without expensive chassis or backplane redesign.

Recently, a key military integrator needed additional discrete I/O capability for an existing airborne system — quickly, with minimal space to do so. Adding capability to the existing qualified chassis was not a cost-effective solution. Instead, the integrator used NAI's compact NIU1 subsystem to connect to the existing Ethernet network to provide full, multi-channel discrete support. The low-cost, SWaP-optimized NIU1 interfaced directly with the existing system, required no additional processor management, and easily fit into a space-constrained environment with a limited power budget. Standard configuration 28VDC or Power over Ethernet (PoE) input, dual Gig-E ports, and continuous background Built-in Test (BIT) provided additional benefits by simplifying the integration meeting status verifications and redundant communications interface requirements.

The host processor required no special system software or I/O drivers because all of the I/O functions were supported using NAI's platform-independent, Custom-On-Standard Architecture™ (COSA™). The integrator downloaded the free Software Support Kit (SSK) immediately, which reduced their application software development time. In just four weeks NAI delivered a fully-functional, tested NIU1-K600 discrete I/O unit. With application software ready-to-go, the NIU1 was quickly installed and mission-qualified. The NIU1 met all of the new application requirements while minimizing engineering design time — without costly NRE.

"The NIU1 subsystem was the ideal choice for our customer because it provided Intelligent I/O and communications functionality where needed," explained Lino Massafra, VP of Sales/Marketing.

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Photo Attached

The small form factor NIU1 can be configured with any one, off-the-shelf, field-proven, multi-function I/O module. A wide selection of Intelligent I/O is available and includes motion simulation/measurement and communications functions such as: A/D, D/A, TTL, RTD; Discrete I/O; Differential Transceiver, Synchro/Resolver/LVDT/RVDT Measurement, Simulation and Excitation; Strain Gage; Encoder; 2-channel, dual redundant BC/RT/MT MIL-STD-1553; high speed Sync/Async RS232/422/423/485; ARINC 429/575 and CANBus. This approach provides a simple integration effort for dedicated I/O interface capability to existing or new applications targeting specific interface requirements and provides a complete I/O function subsystem.

The NIU1 is only 1.5" H x 1.6" D x 6.5" L at 16 oz. (454 g) with three mounting options. Pricing for the NIU1-K600 configured with sixteen programmable 0 to 60V Discrete I/O channels, 28Vdc input, Power over Ethernet and Dual Gigabit Ethernet Ports, starts at $3,429 each in quantity of 100. Delivery starts at 10 weeks, ARO.

North Atlantic Industries
NAI is a specialized provider of embedded electronics and computing for sense & response-intensive, Mil-Aero applications. We accelerate our clients' time-to-mission with a unique approach based on a Custom-on-Standard Architecture™ (COSA™) that delivers the best of both worlds: custom solutions from standard COTS components. For over 50 years, major defense systems integrators have leveraged our capabilities to meet the demanding requirements of a wide range of I/O- and communication-centric applications, with uncompromising quality, efficiency and responsiveness.

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