



SIU31 Sensor Interface Unit – Conduction Cooled

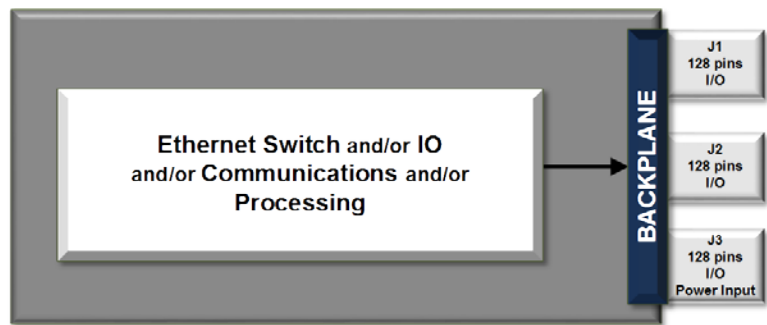
Configure with up to 3 I/O and Communication Function Modules – Over 70 smart modules to choose from

Configure to Customize

The [SIU31](#) is a highly configurable rugged system or subsystem ideally suited to support a multitude of Mil-Aero applications that require high-density I/O, communications, Ethernet switching and processing. The SIU31 uses one NAI field-proven 3U board to deliver off-the-shelf solutions that accelerate deployment of SWaP-optimized systems in air, land and sea applications.



Mix-and-Match Modular Architecture



Features

- 1 x 3U cPCI or OpenVPX™ Slots – allows installation of up to 3 I/O and Communications modules
- 70+ modules to choose from
- SBC-less stand-alone operation supported via Ethernet connection to your mission computer
- Processor Options: Freescale PowerPC™ QorIQ® P2041, Intel® Core™ i7 or ARM® Cortex®-A9
- 2.35" x 8.70" x 4.71" (incl. connectors)
- Customer Configurable I/O, Communications and Processing
- Fast Boot capability
- Reduced SWaP
- COTS/NDI
- Sense & Response system
- Wind River® Linux, VxWorks®, Xilinx® PetaLinux and Windows® Embedded Standard 7 OS support
- COSA® Architecture
- VICTORY Interface services (Contact factory)
- Continuous Background Built-in-Test (BIT)
- Operating temp: -40° C to +71° C conduction cooled
- 28 VDC input
- MIL-STD-461F*, MIL-STD-810G and MIL-STD-1275 & 704A-F

Select up to 3 independent functions for your application

Processors & Operating Systems (if req'd.)		Digital	
PowerPC™	Freescale™ P2041	Discrete	0 to 60 VDC; Sink, source or push/pull; up to 24 Ch
		Isolated Discrete	0 to ±80 VAC or VDC; 16 Ch
ARM®	Cortex®-A9	TTL	0 to 5.5 VDC; 24 Ch
OS	Windows® Embedded Standard 7	Differential Transceiver	Up to ±12V; 422/485 Pulse Gen/Meas; 16 Ch
	Wind River® Linux	Relay	SPDT; 4 Ch
	Wind River® VxWorks®	Motion Control – Measurement/Simulation	
	Xilinx® PetaLinux	AC Reference	2 to 115 V _{RMS} ; Up to 6 VA; 1 Ch
Analog		Synchro/Resolver-Digital	16-Bit; ±1Arc-Min accuracy; 4 Ch. (Measurement)
A/D	±1.25 VDC to ±100 VDC or 0-25 mA; 16 or 24-Bit; 12 or 16 Ch	LVDT/RVDT-Digital	16-Bit resolution; 4 Ch. (Measurement)
D/A	±1.25 VDC to ±80 VDC or ±25 mA to 100 mA; 16-Bit, 4-16 Ch	Digital-Synchro/Resolver	16-Bit; Up to 3 VA; 1-3 Ch. (Simulation)
RTD	16-Bit; 2, 3 or 4-wire; 8 Ch	Digital-LVDT/RVDT	16-Bit; Up to 3 VA; 1-3 Ch. (Simulation)
Strain Gage	16-Bit; 4 Ch	Communications	
Thermocouple	J, K, T, E, R, S, B, N; 4 Ch	Ethernet Switch*	8 Ports Layer 2/3 Management
		ARINC 429/575	12 Ch
		CANBus	8 Ch
		MIL-STD-1553	Quad Ch Dual Redundant; Transformer or Direct
		RS-232/422/423/485	4 Ch

*Occupies 2 module slots

Architected for Versatility

NAI's **Configurable Open System Architecture™ (COSA®)** offers a choice of over 70 smart I/O, communications, Ethernet switch and SBC options. Preexisting, fully-tested functions can be combined in an unlimited number of ways to quickly and easily meet system requirements. Individually dedicated I/O and communications processors allow mission computers to manage, monitor and control via single or dual Ethernet. Alternately, select one of NAI's 3U SBC boards.

All products are designed to operate under extreme temperature, shock, vibration and EMI environments. EMI filters and gaskets meet or exceed MIL-STD-461F* and MIL-STD-810G requirements. I/O and communications libraries are included.

Background Built-In-Test (BIT)

BIT continuously monitors the status of all I/O during normal operations and is totally transparent to the user. SBC resources are not consumed while executing BIT routines. This simplifies maintenance, assures operational readiness, reduces life-cycle costs and— *keeps your systems mission ready.*

One-Source Efficiencies

Eliminate man-months of integration with a configured, field-proven system from NAI. Specification to deployment is a seamless experience as all design, state-of-the-art manufacturing, assembly and test are performed— by one trusted source. All facilities are located in the U.S. and optimized for high-mix/low volume production runs and extended lifecycle support.

Product Lifecycle Management

From design-in to production, and beyond, NAI's product lifecycle management strategy ensures the long-term availability of COTS products through technology refresh, configuration management and obsolescence component purchase and storage.

*MIL-STD-461F requires proper shielded cables and system practices

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