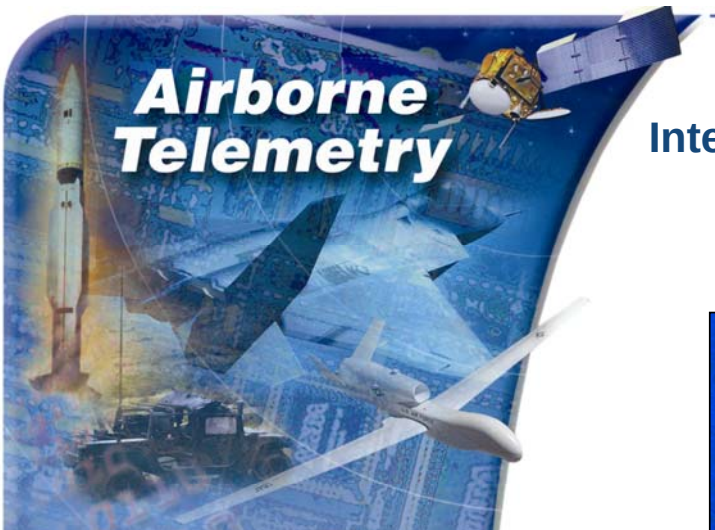
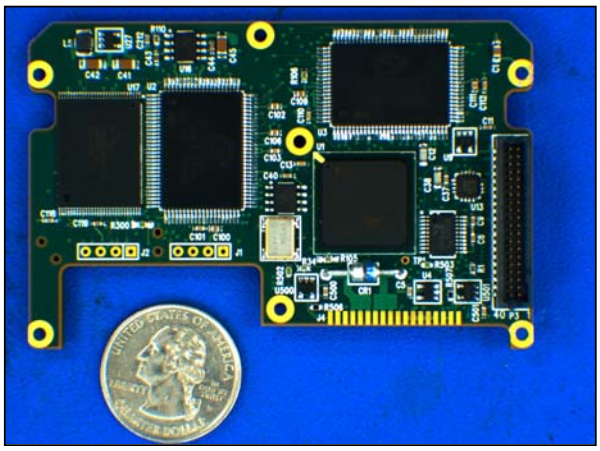


NIC-801-2
IntelliBus Network Interface Controller for NetDAS

Telemetry Products



FEATURES

- **2 Channels per NIC-up to 255 IBIMs per channel**
- **Single NetDAS Module-(0.53" in high)**
- **Command / Response—via NetDAS sampling**
- **Inputs selected via VistaTEC configuration management software**

DESCRIPTION

Network Interface Controller (NIC)

The IntelliBus Network Controller (NIC) is a 3rd generation controller designed to be used as a controller in a NetDAS based IntelliBus development system. The module plugs directly into a NetDAS module stack. The module supports two semi-independent IntelliBus serial channels supporting the IntelliBus Isochronous (IS) communications tier at data rates up to 15Mbps.

Inputs/Outputs

IntelliBus Bus 1 Connector
J1 4-pn Lemo 0B

Pin	Signal	Description
1	IB0+	Bus Data
2	+28V	Power
3	IBO-	Bus Data
4	+28V RET	Power Return

IntelliBus Bus 2 Connector
J2 4-pin Lemo 0B

Pin	Signal	Description
1	IB0+	Bus Data
2	+28V	Power
3	IBO-	Bus Data
4	+28V RET	Power Return

L3 communications
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Excellence You Can Measure

Inputs/Outputs (Continued)

37-pin MDM **INTELLIBUS NIC MODULE USER CONNECTOR (J3)**

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	Sample Clock+	10	+28 V RTN	19	Major Frame Clock	28	+28 V RTN
2	Sample Clock Term.	11	LINKA Enable	20	Sample Clock-	29	LINKB Enable
3	Sample Clock	12	S4	21	Sample Clock -	30	DIG GND
4	Chassis GND	13	S3	22	NC	31	DIG GND
5	+28 V	14	S2	23	+28 V	32	DIG GND
6	+28 V	15	S1	24	+28 V	33	DIG GND
7	+28 V	16	S0	25	+28 V	34	DIG GND
8	+28 V RTN	17	Major Frame Clock+	26	+28 V RTN	35	Major Frame Clock -
9	+28 V RTN	18	Major Frame Clock Term.	27	+28 V RTN	36	Major Frame Clock -
						37	NC

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Non-Operating Temperature		-50		+125	C
Operating Temperature	Continuous operation, no external forced air or heat sink	-40		+85	C
Humidity	Continuous operation	5		95	%
Altitude				no limit	Feet
Sand/Dust	Environmentally sealed (non-hermetic)				
Atmosphere	Per MIL-STD-810C				
Acoustic Noise	Operational at sustained 146 dB level per MIL-STD-810D	22		11,300	Hz
Vibration	Operational 3 axis random vibration, $0.04G^2$/Hz, overall G level: 8.91 G rms	15		2000	Hz
Shock	Half Sine, 9 msec			30	G
EMI	per MIL-STD-461C				

IntelliBus Electrical Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Units
Data signaling levels	RS-485				
Data rate			15		Mbps
Protocol	Per IntelliBus Communication Protocol for Distributed Multi-Point Systems Draft 2003-09 Version D1.6				

Mechanical Packaging/Sizing Estimate

Parameter	Conditions	Min.	Typ.	Max.	Units
Height				0.53	Inches
Width				3.50	Inches
Length				2.50	Inches
Weight				0.15	Lbs

INTELLIBUS OVERVIEW

An IntelliBus™ system consists of three primary components:

- The IntelliBus itself, which consists of communication and power signals
- The NIC (Network Interface Controller) controls all communication on the Intellibus, including configuration and data acquisition functions.
- The IBIMs which interface directly to the sensors, provide any need excitation, and provide data back to the NIC on demand. The IBIMs are small enough to locate near their associated sensors, and light enough to be permanently installed in a prototype or production vehicle.

IBIMS

The IBIMs are the link between the IntelliBus and the sensors. The IBIM generates any required excitation, provides signal conditioning appropriate to the type of sensor, digitizes the data, and sends it back over the Intellibus to the NIC.

IBIMs are being developed for a wide variety of sensors, including Strain Gages, Accelerometers, and Thermocouples.

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