

DNA/DNR-CAN-503

High-Speed CAN-bus Interface

- DNA-CAN-503 for use in "Cube" data acquisition & control chassis
- DNR-CAN-503 for use in RACKtangle™ I/O chassis
- 4 independent CAN ports
- Up to 1Mbit/sec maximum transfer rate
- Completely independent bit rate settings for every port
- 250V DC max isolation between ports; ports and circuitry
- Hot plugging support; error detection
- Fully compatible with ISO 11898 standard

10-Year
Availability
Guarantee



General Description

The DNA/DNR-CAN-503 boards are 4-port high-speed CAN interfaces for UEI's "Cube" and RACKtangle I/O chassis respectively. This layer is designed for communication with high-speed CAN devices up to 1 Mb/s. The DNA/DNR-CAN-503 uses the Philips SJA1000 CAN Controller for advanced functionality such as listen-only, self-reception (echo), and advanced filtering modes and new transceivers for sleep/wakeup mode support.

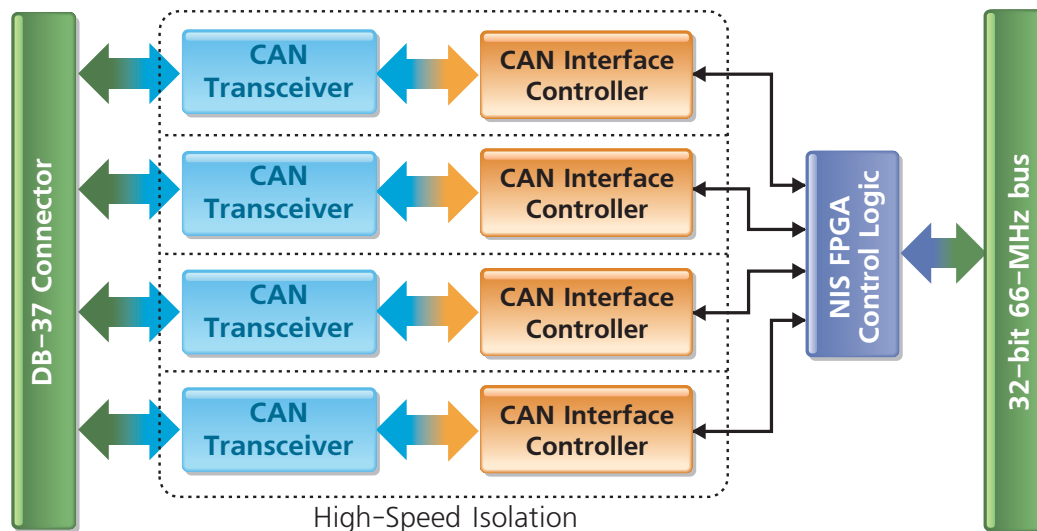
DNA/DNR-CAN-503 is designed to meet the physical and electrical requirements for in-vehicle (automotive) networks based on CAN. Installed in PowerDNA Cube connected to a desktop, industrial, or notebook PC running Windows 2000/NT/XP/Me/9x, you can use DNA-CAN-503 for a variety of CAN applications, including automotive data acquisition, testing and diagnostics, prototype design, factory automation, and machine control.

Software for the DNA/DNR-CAN-503 series is provided in the UEI Software Suite. A high-level easy to use API is provided for Linux and most real-time operating systems including VXworks, QNX, RTX, RT Linux and more. Windows users may use the UEIDAQ Framework which provides a comprehensive, easy to use API supporting all popular Windows programming languages and applications, including LabVIEW, MATLAB/Simulink and DASyLab as well as any application supporting ActiveX or OPC servers.

Technical Specifications:

General Specifications	
Number of CAN ports	4, per-channel isolated
Max. transfer rate	up to 1Mbit/s, per-channel programmable
CAN transceiver	Phillips TJA 1050
CAN controller	Phillips SJA 1000
Operating temperature	tested -40 °C to +85 °C
Vibration IEC 60068-2-6 IEC 60068-2-64	5 g, 10-500 Hz, sinusoidal 5 g (rms), 10-500 Hz, broad-band random
Shock IEC 60068-2-27	50 g, 3 ms half sine, 18 shocks @ 6 orientations 30 g, 11 ms half sine, 18 shocks @ 6 orientations
Humidity	0 to 95%, non-condensing
Power Dissipation	2 Watts typical, 3 Watts max
CAN Controller	
Base clock	24MHz
CAN interface version	2.0B
Receive FIFO size	TX: 128 messages, RX: 256 messages
Transmit buffer	11- or 29-bit identifier
Acceptance filter	11- or 29-bit identifier
Error detection	interrupts-based
Protection	short-circuit to battery, ground; thermal protection; CANH and CANL protected from automotive electrical transients (ISO 7637)
Available modes	Active, Listen Only, Self-Test
Max number of nodes	110

Block Diagram



Pinout Diagram:

DB-37 (female)

37-pin connector:

J1	DB-9*	
19	N/C	3
37	CAN-L-1	2
18	CAN-H-1	7
36	N/C	8
17	GND-1	6
35	N/C	5
16	N/C	4
34	N/C	1
15	N/C	9
33	GND-2	3
14	CAN-L-2	2
32	CAN-H-2	7
13	N/C	8
31	GND-2	6
12	N/C	5
30	N/C	4
11	N/C	1
29	N/C	9
10	GND-4	3
28	CAN-L-4	2
9	CAN-H-4	7
27	N/C	8
8	GND-4	6
26	N/C	5
7	N/C	4
25	N/C	1
6	N/C	9
24	GND-3	3
5	CAN-L-3	2
23	CAN-H-3	7
4	N/C	8
22	GND-3	6
3	N/C	5
21	N/C	4
2	N/C	1
20	N/C	9
1	N/C	

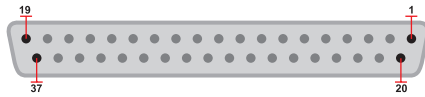
GNDx: Isolated ground for the corresponding CAN port

CAN-L-x: "low-side" differential CAN signal wire for the corresponding CAN port

CAN-H-x: "high-side" differential CAN signal wire for the corresponding CAN port

N/C: no internal connection

* Pinout selected to match DNA-COM-CBL (DB-37M to 4xDB-9M 4-port) cable



Connection Options:

Cables	Description
DNA-CBL-COM	1ft. DB37 cable split into four DB9 connectors