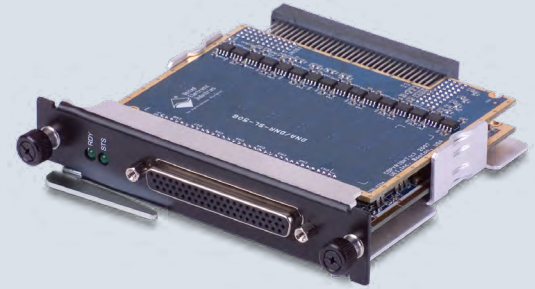


# DNx-SL-508-892

## 8-Port RS-232/485 Serial Communications Interface

- DNA-/DNR-/DNF-AO-508-892 for use in Cube/RACKtangle/FLATRACK I/O chassis
- 8 independent ports
- J1587/J1708 support included
- Each port is software-configurable as RS-232 or RS-422/485
- Max speed of 256Kbit/s for RS-232 and 1Mbit/s for RS-422/485
- Completely independent bit rate settings for every port
- 350 V isolation between ports, ports and circuitry; 15kV ESD



### GENERAL DESCRIPTION

The DNx-SL-508-892 are 8-port serial communications interfaces compatible with UEI's powerful Cube, RACKtangle and FLATRACK I/O chassis. The boards offer fully isolated software-configurable RS-232 or RS-485 interfaces. The board is an ideal interface to serial based data acquisition and control interfaces as well as general purpose serial I/O.

The DNx-SL-508-892 supports standard serial transfer rates up to ~4 MBaud in RS-485 mode or up to 256 kbaud in RS-232 mode. It also supports communications at 12, 12.5 and 50 kbaud with better than 0.1% data rate accuracy. Baud rates based on integer divisors of 4.125 MHz or 1.8415 MHz are also supported. Based upon an

industry standard UART on each port, the board supports both half- and full-duplex modes for RS-422/485 operation.

The DNx-SL-508-892 are compatible with RS-422 point to point or network applications when used in RS-485 mode and provide 200 Ω software-selectable TX and/or RX termination for RS-485 communications.

In RS-232 mode, the layer provides TX/RX as well as the standard RTS and CTS hardware hand shaking required by many external serial devices.

Software is included, providing a comprehensive, yet easy-to-use API that supports all popular operating systems, including Windows, Linux,

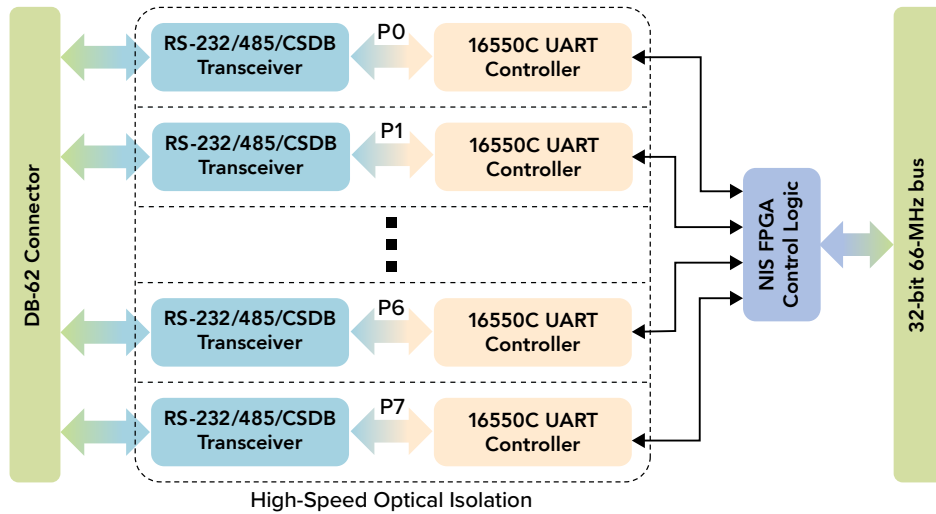
and most real-time operating systems—such as QNX, Intime, VXworks, and more. Additionally, the UEIDAQ Framework—an even higher level Windows driver—supplies complete support for those creating applications in many popular Windows programming languages, as well as data acquisition software packages such as LabVIEW and MATLAB/Simulink.

The DNx-SL-508 includes the UEI-RSS serial server. This server allows a Windows or Linux host PC to configure the DNx-SL-508 ports as standard serial ports within the host OS (e.g. as COM1: to COM255: ports in Window or standard POSIX functions in Linux). The UEI-RSS supports up to 255 unique serial ports per Ethernet port on the host.

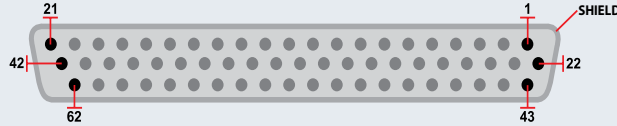
### TECHNICAL SPECIFICATIONS

General Specifications	
Number ports	8
Serial Interfaces	RS-232, RS-422/485, per-port software-configurable
Supported baud rates	
RS-232	Standard rates up to 256 kbaud
RS-422/485	Standard rates to ~4 MBaud
Supported Baud rates	Integer divisors of 4.125MHz or 1.5MHz
RS-422/485 Modes:	Half- and full- duplex
RS-232/485 Transceiver	MAX3160E (w/ fail-safe RX termination)
UART Controller	16550C
Protection	350 V channel-to-channel; 15 kV ESD protection
Power Consumption	2-5W (RS-485 mode with max current drive)
Operating Temperature	Tested -40 to +85 °C
Operating Humidity	95%, non-condensing
Vibration	
IEC 60068-2-6	5 g, 10–500 Hz, sinusoidal
IEC 60068-2-64	5 g (rms), 10–500 Hz, broadband random
Shock — IEC 60068-2-27	100 g, 3 ms half sine, 18 shocks @ 6 orientations; 30 g, 11 ms half sine, 18 shocks @ 6 orientations
MTBF	480,000 hours
Altitude	120,000 Ft
UART Controller	
Base Clock	66 MHz or 24 MHz
FIFO Size	1024 (input and output)
Error Detection	Interrupt-based, 4 per port
Dedicated Port Interrupts	UART, Timeout and TX/TX FIFO interrupts

## BLOCK DIAGRAM



## CONNECTION DIAGRAM



Pin	232 Signal	422 Signal
1	-	-
2	RTS1	TX1+
3	-	-
4	RX2	RX2+
5	RTS2	TX2+
6	Gnd3	Gnd3
7	RX3	RX3+
8	RTS3	TX3+
9	RX4	RX4+
10	RTS4	TX4+
11	-	-
12	RTS5	TX5+
13	-	-
14	RX6	RX6+
15	RTS6	TX6+
16	Gnd7	Gnd7
17	RX7	RX7+
18	RTS7	TX7+
19	-	-
20	RTS8	TX8+
21	-	-

Pin	232 Signal	422 Signal
22	Gnd1	Gnd1
23	TX1	TX1-
24	-	-
25	CTS2	RX2-
26	TX2	TX2-
27	-	-
28	CTS3	RX3-
29	TX3	TX3-
30	CTS4	RX4-
31	TX4	TX4-
32	-	-
33	TX5	TX5-
34	Gnd5	Gnd5
35	CTS6	RX6-
36	TX6	TX6-
37	-	-
38	CTS7	RX7-
39	TX7	TX7-
40	Gnd8	Gnd8
41	TX8	TX8-
42	-	-

Pin	232 Signal	422 Signal
43	CTS1	RX1-
44	RX1	RX1+
45	Gnd2	Gnd2
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	Gnd4	Gnd4
52	-	-
53	CTS5	RX5-
54	RX5	RX5+
55	Gnd6	Gnd6
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	CTS8	RX8-
62	RX8	RX8+

<b>GNDn</b>	Isolated ground for the corresponding serial port n
<b>TXn/RXn</b>	RS-232: Transmit/Receive, port n
<b>RTSn/CTSn</b>	RS-232: Request to Send/Clear to Send
<b>TXn+/TXn-</b>	RS-485: Transmit pair, port n
<b>RXn+/RXn-</b>	RS-485: Receive pair, port n
-	No internal connection

## ORDERING GUIDE

Product	Description
<a href="#">DNx-SL-508-892</a>	8-Port RS-232/485 Serial Communications Interface
<a href="#">DNA-STP-508</a>	Breakout and interconnection board for the DNx-SL-508
<a href="#">DNA-STP-62</a>	62-channel screw terminal panel
<a href="#">DNA-CBL-62</a>	62 conductor cable connects directly to OEM equipment or to the DNA-STP-508 interconnection panel
<a href="#">DNA-STP-3762</a>	Universal Screw Terminal Panel for DNx-Series I/O
<a href="#">UEI-RSS</a>	Standard Serial Server for DNx-SL-501 and DNx-SL-508; included with DNx-SL-501/508 purchase
<a href="#">DNA-STP-62-DR</a>	62-pos Terminal Panel for PowerDNA Layers
<a href="#">Extended Warranty</a>	Option to purchase UEI's extended warranty (up to 10 years) is available