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NPort Express DE-211

Moxa Industrial serial to Ethernet device server

NPort Express DE-211

- RS232/422/485 over LAN
- Supports 2 or 4 wire RS485 with optional automatic turnaround
- 12 to 30Vdc power input or power over serial
- 10Mbps LAN interface
- Jumper selectable termination resistor built-in
- Supports configuration store and copy for easy deployment

This serial to LAN device server facilitates RS232/422/485 communications over a TCP/IP network. A metal case, heavy duty screw terminals and DIN rail mounting makes the DE-211 ideal for demanding industrial environments. Power over serial is a key feature, with 5Vdc required on one of the DB25 connector pins. Alternatively, a standard 12-30Vdc input can be used.
For most applications, the user will select "host mode", whereby the serial port appears as a standard com port in the host PC's operating system. Other modes include TCP server, TCP client, UDP server/client, Ethernet modem and pair connection.
Supplied with extensive management and diagnostic software.

Configuration options
The unit can be set up using a serial console such as Hyperterminal or the PComm Lite package included.
Alternatively, it is possible to effect any configuration changes required using Telnet.

Management
NPort configurator for Windows/Linux.
NPort Manager for COM driver.
Firmware upgrade utility for Windows.

Supported protocols
For network connections these are TCP, IP, UDP, Telnet, RTelnet, DHCP and ICMP. For serial connection, RS232, RS422, RS485 and RS485 with automatic turnaround are supported.

Regulatory approvals
FCC B, CE B, UL, CUL, TUV

This product supports several modes of operation as follows:

Driver mode
The supplied driver establishes a transparent connection between host and serial device by creating a virtual local COM port for each of the device server's ports. Incoming serial data is buffered in the device server, passed through the TCP/IP protocol stack, transmitted across the LAN and arrives at the host PC's serial to Ethernet driver which strips away all unwanted elements of the TCP/IP frame, leaving only the original serial data. From the user's point of view, the remote device appears as though it were directly connected to the PC and can be communicated with using a standard COM port in the host PC's operating system.

Socket Mode
The socket mode of operation provides a way of directly accessing device servers across a TCP/IP network without first having to install a driver. Sockets are standard APIs (Application Programming Interfaces) used to access network devices over a TCP/IP network. Two socket API standards are in common use. The original standard, known simply as 'Sockets' was developed for the Unix / Linux environment.
The Windows alternative is "Win Sock." Although there are fundamental differences between these two standards, most of the API function calls from the two systems have the same structure and consequently, socket based network control programs are portable across almost all system platforms.

Pair connection
This involves using two appropriately configured device servers that work in unison to form a serial tunnel. The serial tunnel operates by encapsulating serial data in a TCP packet, which is then transported across an Ethernet network. This operation mode allows transparent connection of all serial devices and is also a good way to network DOS based PCs or PDAs. Because the connection is truly transparent, proprietary protocols such as Siemens or Allen-Bradley PLC protocols can be transmitted.

Ethernet Modem
The Ethernet modem mode of operation is similar to pair connection in that it requires two device servers, visible to each other by their IP addresses. The difference, however, is that Ethernet Modem allows the user to determine the destination dynamically using well-known modem control commands (AT commands). Any system designed to use a serial modem for a dial-up connection can make use of this technology without hardware or software changes with the obvious benefit of using legacy systems on modern networks.

SPECIFICATIONS

Serial interface:	RS232/422/485 selectable (50 to 230.4kbps)
LAN interface:	10Mbps
Processor:	16-bit CPU
Memory:	512kB RAM
Operating temperature:	0 to +55°C
Operating system support:	Windows 95/98/ME/NT/2000/XP & Linux

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