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Device Servers
Serial to WLAN

PremierWave®XN Device Server

High Performance, Dual Band (2.4/5GHz) Device For Ethernet/Wi-Fi Connectivity

PremierWave® XN is a multi-port device server that offers high performance Ethernet or Wireless connectivity for remote access and easy management of machines or equipment over the network and across the Internet.

PremierWave XN provides bullet-proof security by offering robust data encryption and authentication options including AES, SSH and SSL. Remote configuration over a network is possible using Telnet, SSH, or web browser (HTTP and HTTPS).
Equipped with the market leading "Lantronix device server application suite", the PremierWave XN provides control of serial communication on connected devices and the flexibility to have data globally available. Advanced Applications Suite includes: basic & secure tunneling application, web-based configuration manager and robust system level and diagnostic utilities.
Additionally, Lantronix' proprietary Secure ComPort Redirector™ software allows existing serial port applications to work without code modifications.

Designed with 802.11n technology, the PremierWave XN employs antenna diversity for optimal wireless performance, signal reliability, and extended range of wireless transmissions.
With the exclusive SmartRoam technology from Lantronix, the PW-XN provides seamless mobile connectivity. By tracking the signal strength of Access Points (AP) within range along with pre-authentication and caching, smooth and automatic transition to an access point occurs without delay.
Configuration of PremierWave XN is simple with the included Windows-based DeviceInstaller.™ With the Lantronix QuickConnect Manager, PremierWave XN provides an easy connection to the wireless network through a Web-based interface.

Features

- Increased wireless speed, improved reliability and extended transmission range with dualband 802.11n
- Lantronix SmartRoam™ technology provides seamless mobile connectivity and improved reliability
- Enterprise-level security options including AES, SSL, SSH and EAP for data encryption and authentication
- Simple device set-up, configuration and monitoring with powerful, industry-standard management tools (Web, CLI, XML), Lantronix DeviceInstaller™, QuickConnect, and WPS support

LANTRONIX® RoHS

Specifications	
Standards	IEEE 802.11 a/b/g/n. IEEE 802.11i. IEEE 802.3. IEEE 802.3u. USB 2.0
Hardware	400MHz ARM 9 processor. 64MB SDRAM. 64MB Standard NAND Flash
Wireless	Frequency Range – 2.412 - 2.484, 4.900 - 5.925 GHz ***Typical Receive Sensitivity*** **802.11 b/g/n** (2.4GHZ): -71.0 dBm (<10% PER) @65Mbps. -74.0 dBm (<10% PER) @54Mbps. -94.0 dBm (<8% PER) @1Mbps **802.11 a/n** (5GHZ): -69.0 dBm (<10% PER) @65Mbps. -72.0 dBm (<10% PER) @54Mbps -88.0 dBm (<10% PER) @6Mbps ***Typical Transmit Power*** 17 dBm for 802.11b DSSS. 17 dBm for 802.11b CCK 15 dBm for 802.11g/n OFDM. 12 dBm for 802.11a/n
Physical Interface	*(2) DB9M (DTE) Serial Connectors:* Software selectable RS-232/422/485. Data rates – up to 921 Kbps. 15 KV ESD Protection *(2) USB ports – Type A Host Connectors* *(1) RJ-45 Ethernet port:* 10/100Mbps. 1.5 KV Surge Isolation *(1) Reset Button* *(1) WPS Button* *(1) 12VDC Plug-in Connector* *(1) Power Terminal Block:* 9 to 30 VDC
LED Indicators	Power. Status. Wi-Fi Wireless Signal Strength. (2) USB. (2) Serial. RJ-45 Ethernet (Activity/Link)
Dimensions / Weight	11cm (L) X 8.9cm (W) x 2.6cm (H) / 0.35 kg
Supported Software and Features	DeviceInstaller™ supports: Windows, XP/Vista, 7 (32/64-bit versions), Server 2003/2008 (32/64-bit versions). Secure Com Port Redirector™. Lantronix SmartRoam™. QuickConnect & Wireless Bridging
Security	**Ethernet** SSL v3 (2048-bit), SSH v2 (1024-bit) Client & Server Encryption: AES-CCMP, 3DES, RC4. Authentication: SHA-1, MD5, Base-64 **Wireless** Encryption: TKIP, WEP (64/128-bit), WPA, WPA2 , AES-CCMP Authentication: PSK, EAP (TLS, TTLS, PEAP)
Management	Web Manager (SSL option for secure login). CLI (over Serial Ports, Telnet or SSH) XML Configuration Records via CLI or FTP. Supports SNMP v2
Environmental	Operating Temp: -40° to 70°C. Storage Temp: -40° to 85°C Relative Humidity: 5 to 95%, Non-condensing IP Rating: 30. ESD tolerance: Contact Discharge= 4Kv; Air Discharge=8Kv
Power	Input: 2 x DC (barrel and terminal), 9-30 VDC Power Consumption: Without USB Load 9V= 1.76W, 30V= 2.25W; Full USB Load 9V= 7.2W, 30V= 8.1W Power Supply (100-240 VAC, 50-60 Hz, 12 VDC @ 1A) with regional adapters
Certifications	Emissions – FCC, CE, IC, C-Tick. Safety – UL. Wi-Fi. REACH. RoHS
Warranty	5-Year Limited
Partnr.	
PXN210002-01E	PremierWave XN 802.11a/b/g/n Device Server without I/O, 2 x Serial, 2 x USB, 10/100Mbps, Universal Power Supply 100-240 VAC, EUROPE
Accessories: 930-033-R 520-090-R	External Antenna for PremierWave XN 2.15 dBi, Reverse Polarity, SMA Connector External Power Supply with Regional Adapters, 100-240 VAC, 50-60Hz, 12 VDC @1A

Specifications are subject to change without notice.

Our Websites

- mulder-hardenberg.com
- mh-hminterfaces.com
- mh-fiberoptics.com
- mh-labeling.com
- mh-networking.com
- mh-powersupplies.com
- mh-securitysystems.com
- mh-monitoringcontrol.com
- mh-cablemanagement.com
- mh-engineeringcomponents.com

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Mulder-Hardenberg, est. 1927, is the answer to professional demands in the domain of elec-tronic related environments. We don't just sell products. We use our multidiscipline knowledge to provide the best possible solution, designed to your specific interest.

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XPress DR+ Wireless Industrial Device Server

Wirelessly Network All Your Industrial Equipment – Quickly and Easily!

The XPress-DR+™Wireless industrial device server adds an unprecedented level of flexibility and mobility to networking factory equipment such as PLCs, drives, motion controllers, power equipment, barcode scanners and other serial devices. Without costly cable runs, this equipment can be managed from virtually anywhere over the Net. A versatile, powerful tool for remote management of automation and assembly/packaging equipment at manufacturing sites, automated distribution centers, refinery plants – or any industrial setting – it provides complete wireless access and control of virtually any type of equipment with a serial port!

Extending Network Connectivity with SwitchPort+

XPress-DR+ Wireless supports 802.11 b/g and Ethernet networking modes. In Ethernet mode (two 10/100 Ethernet ports) it features patent-pending SwitchPort+™ technology which enables multiple industrial serial devices to be daisy chained (cascaded) from a single network backbone connection. SwitchPort+ combines Lantronix advanced device server technology with Ethernet switching technology to provide a robust and reliable method for networking equipment. Saves time and money by avoiding unnecessary cable runs and eliminates serial cable distance limitations.

Standards Based Communications

Using an open 802.11 b/g or Ethernet architecture as a standard for device communication provides the flexibility to communicate to virtually any type of industrial equipment. Additionally it enables new equipment to be quickly and easily incorporated into existing network system designs. When used in conjunction with an OPC server, most Windows® based HMI, SCADA and PC-based control applications have full access to information in the connected device. Existing COM-port based Windows applications can access network-enabled devices using Lantronix Com Port Redirector™. This specialized software creates virtual serial ports, which are mapped to the device server over 802.11 or Ethernet.

Thrives in the Industrial Environment

The XPress-DR+ Wireless meets the demanding, complex industrial environment head on. Packaged in a rugged DIN-rail mount case, it's equipped with isolated serial and Ethernet ports and screw terminal connectors for serial and power. It supports industrial protocols such as Modbus TCP, Modbus ASCII, Modbus RTU and DF1, and is FM-approved for hazardous locations Class 1, Div. 2.

LANTRONIX® RoHS

- 15KV serial ESD protection and 2.5KV Ethernet isolation protects circuitry from overcurrent conditions.
- Wide -40° to 70°C operational temperature range.
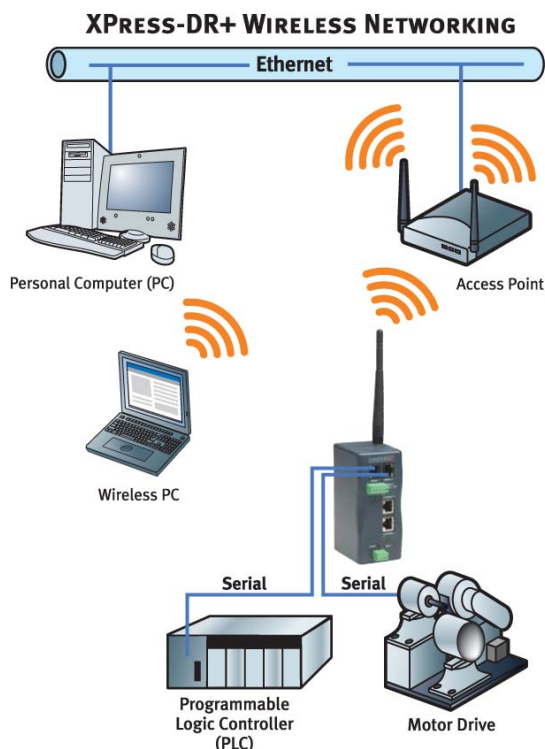- 9-30 VDC and 9-24 VAC power input options.

Configuration Flexibility

Flexible configuration options allow the unit to be set up locally using the serial port, or remotely over Ethernet using Telnet or browser. The included DeviceInstaller™ software simplifies the process of installing industrial protocols and configuring them for use with attached devices. The CPU's flash memory provides maintenance-free, non-volatile storage and easily accommodates future system upgrades. Complete with an auto MDI/MDIX Ethernet interface, the XPress-DR+ Wireless is a powerful device communication solution that's perfect for your most demanding industrial applications.

Features

- Provides mobility and remote management of industrial equipment while minimizing costly cabling
- Industry standard 802.11 b/g wireless or Ethernet networking
- Cascade multiple devices from a single network connection
- Supports industrial protocols
- Maximizes flexibility with an internal 2-Port 10Base-T/100Base-TX Ethernet switch
- 15KV serial ESD protection and 2.5KV Ethernet isolation
- Wide -40° to 70°C operational temperature range

Specifications: see next page

XPRESS-DR+ WIRELESS NETWORKING

Ethernet

Personal Computer (PC)

Access Point

Wireless PC

Serial   Serial

Programmable
Logic Controller
(PLC)

Motor Drive

Specifications	
Serial Interface	2RJ45 RS-232 Serial Ports. Baud rate selectable from 300 to 230 Kbps 1screw terminal RS-422/485 interface on Serial Port 2 (2 and 4-wire support) LED indicators for TXD and RXD activities
Serial Line Formats	Characters: 7or 8data bits. Stop bits: 1or 2. Parity: odd, even, none
Flow Control	Hardware: RTS/CTS. Software: XON/XOFF
Modem Control	DTR, DSR
Network Interface	802.11 b/g wireless (with IEEE 802.11i – PSK with AES-CCMP Encryption). 2 RJ45 10Base-T/100Base-TX Ethernet ports. Embedded, unmanaged, fully compliant 802.3u non-blocking Ethernet switch. Store and forward architecture with 1K MAC address lookup table. Automatic MDI/MDI-X crossover. Full duplex IEEE 802.3x flow control. Half duplex back pressure flow control. IEEE 802.1d spanning tree
LED Indicators	TX/RX activity per serial. Link/Activity per Ethernet port. Power/System OK. Wireless Link
Management	Internal web server (standard tunneling firmware only). SNMP (read only). Serial login. Telnet login. DeviceInstaller software
Isolation	8 KV direct contact, 15KV air discharge, ESD protection on all Serial ports (IEC 1000-4-2, IEC 61000-4-2). 2 K VAC / 2.8K VDC galvanic isolation between Power Input port to Ethernet ports (except chassis ground). 2 K VAC / 2.8K VDC galvanic isolation between Power Input port to Serial ports. Transient Voltage protection and ESD with max nonrepetitive surge current 800 Amp (8/20 μs) (IEC 61000-4-2). 2 K VA / 2.8K VDC galvanic isolation between Ethernet ports (except chassis ground). 2 K VA / 2.8K VDC galvanic isolation between Ethernet ports to Serial ports. 40 A (5/50 ns) EFT protection (IEC 61000-4-4), 12 A (8/20 μs) lightning protection (IEC 61000-4-5) on all Ethernet ports
Power	Removable screw terminal block connector 9-30 VDC or 9-24 VAC with chassis ground 2.6 Watts maximum
Environmental	Temperature: -40°C to +70°C. Humidity: 20% to 90% relative humidity, non-condensing
Protocols Supported	ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP, DHCP, BOOTP, TFTP, and HTTP
Installable Industrial Application Protocols: ModBus TCP, ModBus ASCII/RTU, DF1 Multi-Master	
CPU	Lantronix DSTNI-EX 48 MHz clock, 256 KB SRAM Internal CPU Memory
Flash Memory	2MB Flash
EEPROM / Reset	2KB / Front panel recessed push button
Form Factor	Case: High-impact plastic case with integrated DIN Rail (35 mm) mount. IP30 enclosure rating Dimensions: (L xWxH): 88 x57 x123 mm, terminal blocks included. Weight: 0.21 kg
Agency Approvals	UL, CSA, FCC, CE,TUV, CTick,VCCI, FM Class 1, Div. 2
Warranty	2-Year Limited
Partnr.	
XSDR22W00-01	XPress-DR+W two port 802.11 wireless Industrial device server, removable screw terminal port, 9-30VDC and 9-24VAC

Specifications are subject to change without notice.

WiBox Wireless Device Server

LANTRONIX®

Wirelessly Connect, Monitor, Manage and Control Devices Over a Network or the Internet

WiBox® dual-port device servers enable you to connect equipment to 802.11b/g wireless networks via serial or Ethernet, quickly and easily. By merging wireless communications and Lantronix device server technology, WiBox simplifies connectivity to devices in applications where mobility is required or cabling is impractical.

Lantronix's innovative approach to network-enabling devices is transparent to your attached devices and software. You won't need to change the way you work, and there's no need to develop special software to take advantage of wireless networking capabilities. The WiBox simply becomes a conduit between you and your device over your network or the Internet.

The flexibility and power of WiBox offers a huge cost-saving potential for a variety of commercial applications. Serial RS-232/422/485 flexibility, Advanced security, robust data handling capabilities and high serial speeds are all built in. Using a method called serial tunneling, the WiBox encapsulates serial data into packets and transports it over 802.11b/g wireless networks. By connecting two WiBox units via a network, virtual serial connections can be extended across your facility or around the world.

The Com Port Redirector™ software included with your WiBox simplifies your integration process by extending the functionality of your COM port-based Windows® applications.
With virtual COM ports mapped to remote device servers on the network, you can replace direct serial connections.
To enable access to a local network or the Internet, the WiBox integrates a fully developed TCP/IP network stack and OS.
It even includes a built-in web server, which can be used for configuration or to display operating and troubleshooting information on the attached links to online support.
The DeviceInstaller™ configuration software that's included simplifies installation and setup. WiBox can be set up locally through its serial port, or remotely over a network using DeviceInstaller Telnet or a web browser. Flash memory provides maintenance-free, non-volatile storage of web pages, and allows future system software upgrades.
In modem emulation mode, WiBox is used to replace dial-up modems. The unit accepts modem AT commands on the serial port, then establishes a network connection to the end device, leveraging wireless mobility and bandwidth to eliminate dedicated modems and phone lines.

If you're looking for a transparent, cost-effective and scalable means to network-enable your serial devices, look no further than WiBox from Lantronix.

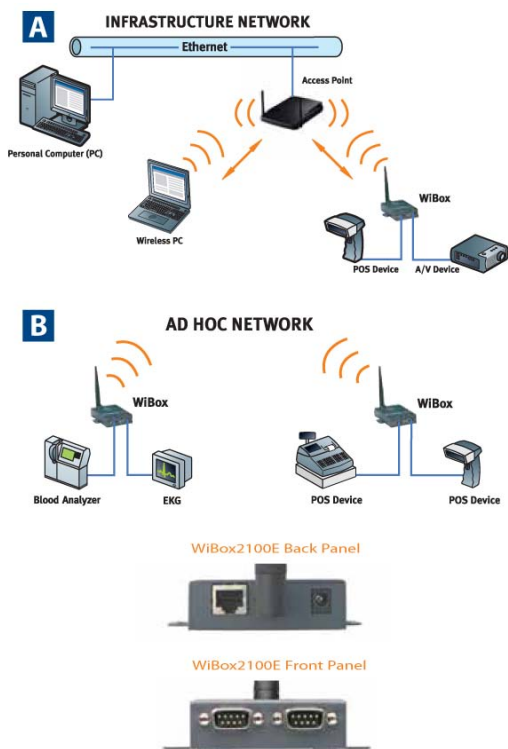### Total Com Port Control with TruPort Technology

Built into the included Com Port Redirector software, TruPort® technology enables Windows-based applications to access and control serial ports on the WiBox as if they were actually local PC serial ports. The application can monitor and set hardware pins on the WiBox serial ports as well as access serial buffers for total Com port control.
This allows existing applications to seamlessly transition from controlling local devices to true remote monitoring and control of devices around the world.

Features
- Enables access to remote devices while minimizing costly cabling
- Provides network mobility for untethered communication
- Industry standard 802.11b/g wireless interface
- Transparent communications - no need to develop special software
- Two DB9 DTE serial ports supporting RS-232, RS-422 or RS-485 communication
- Bulletproof wireless security with IEEE 802.11i-PSK,WPA-PSK, TKIP
- 256-bit AES – end-to-end encryption
- Ethernet or wireless communication
- Features TruPort® Com port control technology

Specifications: see next page

MONITORING & CONTROL — the expert approach

Our Websites

- mulder-hardenberg.com
- mh-hminterfaces.com
- mh-fiberoptics.com
- mh-labeling.com
- mh-networking.com
- mh-powersupplies.com
- mh-securitysystems.com
- mh-monitoringcontrol.com
- mh-cablemanagement.com
- mh-engineeringcomponents.com

Specifications

Specifications	
Serial Interface	2 DB9 DTE serial ports. Serial Port 1: RS-232. Serial Port 2: RS-232/422/485 software selectable Data Rates: 300 to 921,600 bps. Characters: 7 or 8 data bits. Parity: Odd, even, none Stop Bits: 1 or 2. Control Signals: RTS, CTS, DSR, DTR, DCD. Flow Control: XON/XOFF, RTS/CTS ESD Protection: 4kv direct per port
Security	IEEE 802.11i - PSK with AES-CCMP Encryption. WPA - PSK. TKIP Encryption 128-256 Bit Rijndael AES Encryption, NIST AES FIPS-197 CERT#120. 64/128-bit WEP
Network Interface	WBX2100E - 802.11b/g. Connector: Antenna (RP-SMA). Standards: WPA,WEP, ARP, UDP/IP, TCP/IP, ICMP, SNMP, AutoIP, DHCP, TFTP, Telnet and HTTP. 1 RJ45. 10/100 Ethernet
Indicators (LED)	Power. Ethernet Link. Wireless Link. Serial 1. Serial 2
Processor	CPU: DSTni-EX (enhanced 80186, 88 MHz). Memory: 256 Kbytes SRAM, 512 Kbytes flash
Management	Lantronix DeviceInstaller GUI, Serial login, SNMP, Telnet login, HTTP. Security: WEP, WPA, TKIP
Power	Input: 9-30 VDC. Consumption: 2 W max. AC adapter included (see ordering information below)
Environmental	Operating temperature range: -40° to 70°C. Operating humidity: 0 to 95%, non-condensing Storage temperature range: -40° to 85°C
Form Factor	Material: metal case with flange mount. Dimensions (LxWxH): 94 x 72 x 23 mm. Weight: 0.4 kg
Included Software	Windows® 98/ME/NT/2000/XP-based configuration software, Com Port, Redirector software, related utilities, Quick Start Guide.
Agency Approvals	FCC-B, C/UL, CSA, CE,TUV, CTick, Japanese Radio Certification (Type Certification of Specified Radio Equipment)
Warranty	2-Year Limited

Partnr.	
WB2100EG1-01	WBX2100E 802.11b/g with 10/100 Ethernet, 115Vac, 50/60 HZ power adapter
WB2100EG2-01	WBX2100E 802.11b/g with 10/100 Ethernet, 100-240Vac, 50/60 HZ International power adapter
WB2100EG0-01	WBX2100E 802.11b/g with 10/100 Ethernet, no power supply
WB2100EGB-01	WBX2100E 802.11b/g with 10/100 Ethernet, Board only
ACDIN2001-01	DIN-rail mount
500-164	DB9F to DB9F null modem serial cable

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Mulder-Hardenberg, est. 1927, is the answer to professional demands in the domain of electronic related environments. We don't just sell products. We use our multidiscipline knowledge to provide the best possible solution, designed to your specific interest.

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