XPress DR+W Industrial Device Server

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XPress DR+W Quick Start Guide

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XPress DR+W Industrial Device Server

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XPRESS DR+W
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WHAT'S IN THE BOX

Verify and inspect the contents of the package using the enclosed packing slip or the list below. If any item is missing or damaged, contact your place of purchase immediately.

- XPress DR+W
- CD (with protocols, utilities, and User Guide)
- Quick Start Guide
- P/N: 930-029 antenna
- P/N: 500-103 RJ45-DB9F serial cable
- Accessory Din-rail wall mount bracket
- 3-terminal screw connector for power input
- 5-terminal screw connector for serial port

The user must supply a 9-30 VDC or 9-24 VAC power source and a CAT 5 Ethernet cable.

OVERVIEW

The XPress DR+W industrial device server provides a quick, easy and flexible method to network-enable multiple industrial devices and equipment over an 802.11 wireless or a 10/100 Ethernet LAN. The SwitchPort+ embedded switch technology and multiple serial ports enable real-time access for remote programming, monitoring and control of PLCs, motor drives, HVAC, building automation equipment, or virtually any RS232, RS422 or RS485 device.

PINOUTS

The XPress DR+W supports RS-232 via RJ45 connectors. It also supports RS-422/485 via screw terminals (Serial Port 2 only).

Note: *Serial Port 2 supports RS232, RS422, and RS485, but only one mode at a time. This means you can use either the RJ45 connector or the terminal block, not both.*

The RJ45 serial connectors only support RS232, up to 230,400 bits per second.

The supplied Lantronix P/N: 500-103 serial cable can be used to connect port 1 of XPress DR+W to a PC's com port for configuration using a terminal emulation application. Refer to the XPress DR+W User Guide for information on configuring the XPress DR+W though the serial interface.

RJ45 Serial Connector Pinouts

Pin	Direction	Name	Function
1	Output from DR+	RTS	Ready To Send
2	Output from DR+	DTR	Data Terminal Ready
3	Output from DR+	TXD	Transmitted Data
4	Ground	GND	Signal Ground
5	Ground	GND	Signal Ground
6	Input to DR+	RXD	Received Data
7	Input to DR+	DSR	Data Set Ready
8	Input to DR+	CTS	Clear To Send

PINOUTS CONTINUED...

Screw Terminal Serial Connectors

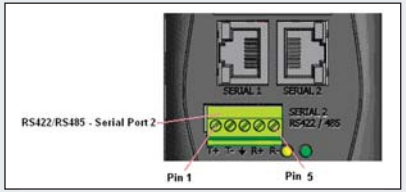
Serial Screw Terminal Pinout for RS422 (4-Wire)

Pin	Direction	Name	Function
1	Output	TX+	Transmit Data +
2	Output	TX-	Transmit Data -
3	Ground	GND	Signal Ground
4	Input	RX+	Received Data +
5	Input	RX-	Received Data -

Serial Screw Terminal Pinout for RS485 (2-Wire)

Pin	Direction	Name	Function
1	Bi-directional	TX+/RX+	Transmit Data + and Received Data +
2	Bi-directional	TX-/RX-	Transmit Data – and Received Data -
3	Ground	GND	Signal Ground
4	Not Applicable	Not Applicable	Not Used
5	Not Applicable	Not Applicable	Not Used

Serial Screw Terminal Pinout for RS485 (2-Wire)



PINOUTS CONTINUED

Note: *Termination resistors (R = 120 Ohm) are used to match impedance of a node to the impedance of the transmission (TX) line. Termination resistors should be placed only at the extreme ends of the TX data lines, and no more than two terminations should be placed in any single segment of an RS-485 network. Termination resistors may not be needed for your application.*

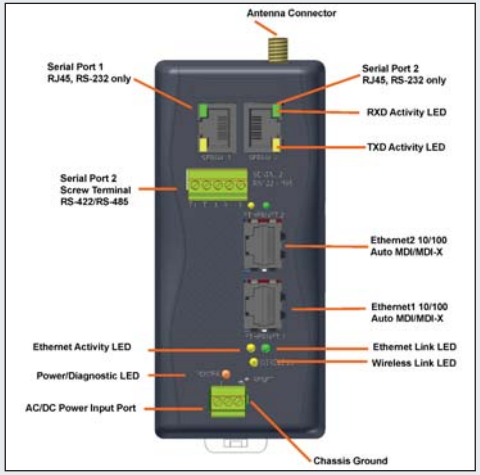
9-Pin RS-232 to Serial RJ45

The included Lantronix P/N (500-103) RJ45-DB9F serial cable assumes you are connecting a typical PC Com port to the XPress DR+W serial port. This cable is pinned to provide full serial line control to an RS232 DTE device. Lantronix offers a comprehensive list of cables and adapters to simplify device connectivity to the XPress DR+W. See the User Guide for a full listing.

Lantronix P/N (500-103) RS45-DB9F Serial Cable Pinout

DTE, 9-Pin Female		XPress DR+ Serial RJ45	
8	CTS (In)	1	RTS (Out)
1	DCD (In)	2	DTR (Out)
6	DSR (In)	3	TXD
2	RXD (In)	4	Signal Ground
5	Signal Ground	5	Signal Ground
3	TXD (Out)	6	RXD
4	DTR (Out)	7	DSR (In)
7	RTS (Out)	8	CTS (In)

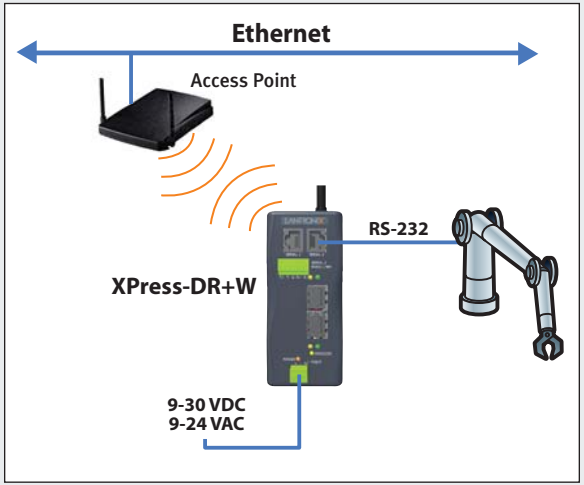
QUICK CONNECT



1. Connect a serial device to your XPress DR+W.
2. Screw the antenna that comes with the unit into the antenna connector.
3. Supply power to your XPress DR+W using a 9-30 VDC or 9-24 VAC (2.3 W maximum) source.
4. Supply power to the serial device.
5. Verify that the yellow wireless LED is lit.

QUICK CONNECT CONTINUED

Typical Installation



GETTING STARTED

REQUIRED SETTINGS

For the XPress DR+W to operate on a wireless network, two critical settings are required:

1. IP address settings
2. Appropriate wireless settings

By default, the unit is set to Ad-Hoc network mode and its wireless Network Name (SSID) is "LTRX_IBSS".

Many networks use an automatic method of assigning an IP address called DHCP. The XPress DR+W supports DHCP. However, before it can accept an IP address from DHCP, the wireless settings must be set.

CONNECT

Initial configuration is done using Serial Mode. In most installations, a fixed IP address and wireless LAN settings are desired. The systems administrator generally provides these.

Complete the following steps to connect and configure the XPress DR+W.

1. Connect the RJ45 side of the supplied RJ45 – DB9F null modem cable to serial port 1 on the XPress DR+W.
2. Connect the DB9 end of the serial cable to a terminal or a PC's serial COM port.
3. On the PC, open a terminal emulation application (e.g. HyperTerminal). The default serial settings are: 9600 baud, 8 bits, no parity, 1 stop bit, and no flow control (9600, 8, N, 1).

CONNECT CONTINUED

4. Enter Setup Mode by simultaneously connecting the power supply and holding down the **x** key on the keyboard.

   Upon connection, the following information displays:

```
*** Lantronix XPress DR+ Wireless IA Device Server ***
MAC address 00204A2311B2
Software version V6.3.0.1T2 (060826)

Press Enter for Setup Mode

Model: Device Server Plus+! (Firmware Code:IA)
```

5. Press **Enter** within 5 seconds to display the **Change Setup** menu.

CONFIGURE IP ADDRESS

Two configuration options must be set for the XPress DR+W to communicate on a wireless network:

1. The Server (0) settings
2. The WLAN (4) settings

Current settings display in parentheses.

1. To configure the Server settings, select **0** from the **Change Setup** menu and edit the following fields:
   a) IP Address: The IP address must be set to a unique value in the network. Type each octet and press **Enter** between each section typed.

```
IP Address: (000) .(000) .(000) .(000) _
```

CONFIGURE IP ADDRESS CONTINUED

b) Set Gateway IP Address: The gateway address should be the IP address of the router connected to the same LAN segment as the XPress DR+W.

```
Set Gateway IP Address (N)? N
```

c) Netmask: The netmask defines the number of bits taken from the IP address that are assigned for the host part. Enter the number of host bits. If you leave this blank and press **Enter**, the XPress DR+W will set the subnet mask to a standard netmask for the IP address assigned in step a) above.

```
Netmask: Number of Bits for Host Part
(0=default)(0)_
```

d) Change Telnet Configuration Password: Change the Telnet configuration password to prevent unauthorized access to the Setup Menu.

```
Change telnet config password (N) ? _
```

e) Change DHCP Device Name: Change the DHCP name if desired.

```
Change DHCP device name (not set) ? (N) N
```


CONFIGURE WLAN SETTINGS

1. To configure the WLAN settings, select **4** from the **Change Setup** menu and answer the setup questions. The following example shows basic wireless setup without encryption.

Note: For WEP or WPA encryption setup, please refer to the Users Guide on the CD.

a) Select Ad-Hoc (IBSS mode) as the system topography (default is Ad-Hoc).

```
Topology 0=Infrastructure, 1=Ad-Hoc (1) ?  _
```

b) Enter the Network name (SSID) (default is LTRX_IBSS).

```
Network name (LTRX_IBSS) ? _
```

c) Set the Ad-Hoc channel (only displays in Ad-Hoc topology).

```
Channel (11) ? _
```

d) Select the type of security (default is none).

```
Security suite: 0=none, 1=WEP (0) ?
```

e) Select either fixed or automatic data rate (default is auto fallback).

```
TX Data rate 0=fixed, 1=auto fallback (1) ? _
```

CONFIGURE WLAN SETTINGS CONTINUED

f) For a fixed data rate, select the transmission data rate (default is 11 Mbps).

```
TX Data rate 0=1, 1=2, 2=5.5, 3=11
4=18, 5=24, 6=36, 7=54 Mbps (3) ? _
```

2. Upon completing the IP and WLAN settings, select menu option **9** to save and exit the Serial Mode setup.

TEST CONNECTION

The XPress DR+W is ready for wireless connection. To verify that the unit established a WLAN connection, open a browser from a PC on the same wireless network and enter the IP address of the unit in the URL field, http://xxx.xxx.xxx.xxx. The XPress DR+W web interface should display.

Once you have completed the configuration, disconnect the serial cable from the PC to the unit. This cable may also be used to connect various serial devices to the XPress DR+W.

LEDS	STATUS	MEANING
Serial port - TXD LED (Yellow)	Off Blinking	No data being transmitted from XPress DR+ Data being transmitted from XPress DR+
Serial port - RXD LED (Green)	Off Blinking	No data being received by XPress DR+ Data being received by XPress DR+
Ethernet port - 10/100 Link (Green)	Off Steady On	No Ethernet link established Ethernet link established
Ethernet port – Activity (Yellow))	Off Blinking	No data activity Data activity
Power/Diagnostic LED (Orange)	Steady On Blinking 2x Blinking 2x	Power OK No DHCP response Setup Menu active
Wireless LED (Yellow)	Off Off Blinking (very short) On On when receiving or transmitting, off in-between	Wireless off (not configured for wireless) Wireless on, searching Wireless on, attempting to associate Wireless on, associated, power management off Wireless on, associated, power management on

CONTACT

For questions and technical support, please check our online knowledge base at **www.lantronix.com/support**

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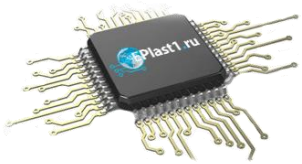

Как с нами связаться

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