



W321/341-LX

Quick Installation Guide

Sixth Edition, April 2013

1. Overview

The W321/341 embedded computers feature 2 or 4 RS-232/422/485 serial ports, 1 Ethernet port, 4 DI/DO (W321 only), an embedded 802.11 b/g/n wireless LAN module, and an SD socket interface for storage expansion, making the W321/341 ideal for compact, wireless embedded applications.

2. Package Checklist

Please verify that the package contains the following items:

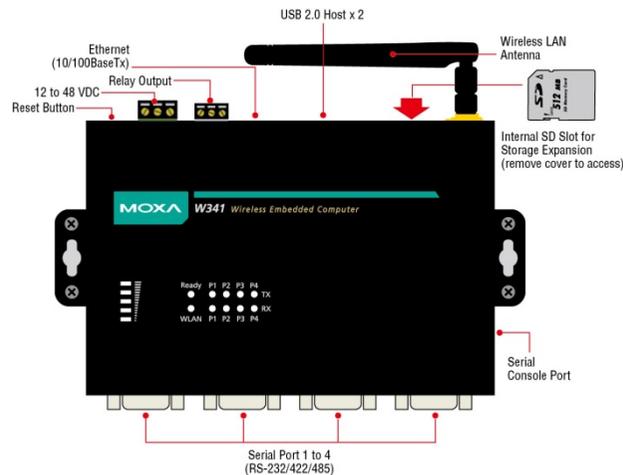
- 1 W321/341 embedded computer
- Quick Installation Guide
- Document & Software CD
- Ethernet Cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin header to DB9 female console port cable, 100 cm
- WLAN Antenna
- Universal Power Adaptor
- Product Warranty Statement

Optional Accessories

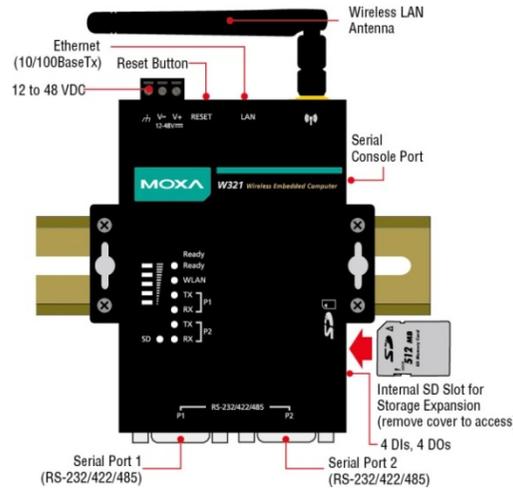
- 35 mm DIN rail Mounting Kit (DK-35A)

3. W321/341 Panel Layout

W341-LX



W321-LX



LED Indicators

The following table describes the LED indicators located on the front panel of the W321/341.

LED Name	Color	LED Function	
Ready	Green	Power is on and functioning normally	
	Off	Power is off or power failure	
SD	Green	SD card detected	
	Off	No SD card detected	
WLAN	Green	ON: WLAN is ready Blinking: WLAN IP conflict or DHCP server not responding	
	Off	WLAN is not enabled or connection failure	
Signal Strength (5 LEDs)	Green	Number of glowing LEDs indicates signal strength: 5: Excellent 4: Very good 3: Good 2: Fair 1: Bad	
		Off	No signal
		Orange	10 Mbps Ethernet link
		Green	100 Mbps Ethernet link
		Off	Disconnected or short circuit
TxD (P1-P4)	Green	Serial port (1-2 for W321, 1-4 for W341) transmitting data	
	Off	Serial port(1-2 for W321, 1-4 for W341) not transmitting data	
RxD (P1-P4)	Yellow	Serial port (1-2 for W321, 1-4 for W341) receiving data	
	Off	Serial port (1-2 for W321, 1-4 for W341) not receiving data	

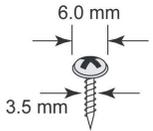
If you find a weak wireless communication (where the signal strength indicates "Bad"), we suggest you install the W321/341 computers at some other place within a stronger wireless signal range, or boost the signal by installing another wireless access point or bridge.

4. Installing the W321/341

Wall or Cabinet Mounting

The W321 have built-in "ears" for attaching the embedded computers to a wall or the inside of a cabinet. We suggest using two screws per ear to attach the W321/341 to a wall or cabinet.

The heads of the screws should be less than 6.0 mm in diameter, and the shafts should be less than 3.5 mm in diameter, as shown by the figure at the right.

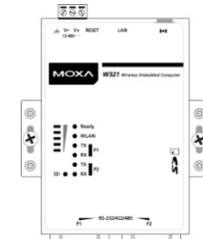


The W341 comes with two metal attachment plates for attaching the embedded computer to a wall or the inside of a cabinet. First, use two screws per bracket to attach the brackets to the rear of the W341. Next, use two screws per bracket to attach the W341 to a wall or cabinet.

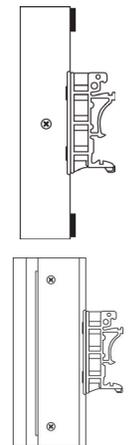
DIN Rail Mounting

DIN rail attachments can be purchased separately to attach the product to a DIN rail. When snapping the clips onto the DIN rail, make sure that the stiff metal springs are at the top.

Wall or Mounting



DIN rail Mounting



5. Connector Description

Power Connector

Connect the 12 to 48 VDC LPS or Class 2 power line to the W321/341's terminal block. If the power is properly supplied, the Power LED will light up. The OS is ready when the **Ready** LED glows a solid green.

Grounding the W321/341

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting the power.



ATTENTION

This product is intended to be mounted to a well-grounded mounting surface such as a metal panel.



V- V+
12-48V

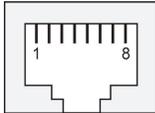
Shielded Ground:

The **shielded ground** (or **SG**, sometimes called **protected ground**) contact is the leftmost contact of the 3-pin power terminal block, when viewed from the angle shown here. Connect the SG wire to an appropriate grounded metal surface.

Ethernet Ports

The 10/100 Mbps Ethernet port uses RJ45 connectors.

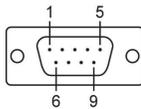
Pin	Signal
1	ETx+
2	ETx-
3	ERx+
6	ERx-



Serial Ports

The serial ports use DB9 connectors. Each port can be configured by software for RS-232, RS-422, or RS-485. The pin assignments for the ports are shown in the following table:

Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	---
2	RxD	TxDB(+)	TxDB(+)	---
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	---	---	---
7	RTS	---	---	---
8	CTS	---	---	---



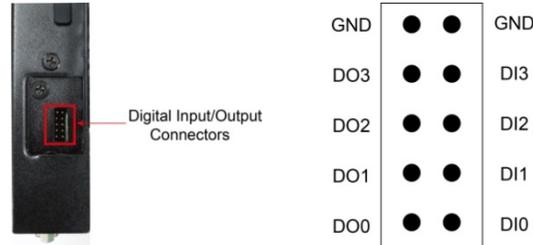
SD Slot

The W321/341 has an internal SD slot for storage expansion. The SD slot allows users to plug a Secure Digital (SD) memory card compliant with the SD 1.0 standard for up to 1 GB of additional memory space, or a Secure Digital High Capacity (SDHC) memory card compliant with the SD 2.0 standard for up to 16 GB of additional memory space. Use a screw driver to remove the SD slot cover to access the slot. The slot is located on the right panel of the W321/341. Plug the SD memory card directly into the socket, and then replace the SD slot cover. The SD card will be mounted at `/mnt/sd`. To remove the SD card from the slot, gently push the

SD card further into the slot and then remove the pressure to allow the card to spring out. You may then remove the card.

DI/DO

The W321 comes with 4 digital input channels and 4 digital output channels. The DI/DO connectors is an array of five pairs of pin headers located on the right side of the computer. See the following figures for pin assignments.



Console Port

The serial console port is a 4 pin header RS-232 port. It is designed for serial console terminals, which are useful for viewing boot-up messages. Use the CBL-4PINDB9F-100 cable included with the product to connect a PC to the W321/341's serial console port.

Reset

Press the **Reset** button and hold it in for at least 5 seconds to load the factory default configuration. After killing all running processes, the system will take several seconds to synchronize its software to factory defaults. After the default configuration has been reloaded, the system automatically reboots. The **Ready** LED will blink on and off for the first 5 seconds, and then maintain a steady glow once the system has rebooted.

Real-time Clock

The W321/341's real-time clock is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without help from a qualified Moxa support engineer. If you need to change the battery, contact the Moxa RMA service team.



ATTENTION

There is a risk of explosion if the lithium battery is replaced with an incompatible battery.

6. Powering on the W321/341

To power on the W321/341, install the terminal-block-to-power-jack converter on the W321/341's DC terminal block (located on the left rear panel), and then connect the power adaptor. Note that the ground/earthing wire should connect to the rightmost pin of the terminal block. It takes about 30 seconds for the system to boot up. Once the system is fully booted the **Ready** LED will light up.

7. Connecting the W321/341 to a PC

There are two ways to connect the W321/341 to a PC:

- (1) through the serial console port, or
- (2) by SSH console over the network.

The COM settings for the serial console port are: **Baudrate = 115200 bps, Parity = None, Data bits = 8, Stop bits = 1, Flow Control = None.**



ATTENTION

Use the CBL-4PINDB9F-100 cable included with the product to connect a PC to the W321/341's serial console port. Remember to choose **VT100** terminal type.

To access the SSH console, you will need to know the W321/341's IP address and netmask. The default LAN settings are shown below. For first-time configurations you may find it convenient to use a crossover Ethernet cable to connect directly from the PC to the W321/341.

	Default IP Address	Netmask
LAN 1	192.168.3.127	255.255.255.0
LAN 2 (wireless)	192.168.4.127	255.255.255.0

Once the W321/341 is powered on, the **Ready** LED will light up and a login page will open. Use the following default username and password to proceed. The defaults are:

Login: root

Password: root

8. Configuring the Ethernet Interface

To configure the Ethernet interface, use the following commands. Please note that **eth0** stands for the IP address of the LAN port, **wlan0** stands for the IP address of the wireless LAN.

```
ifconfig eth0 192.168.3.127
ifconfig wlan0 192.168.4.127
```

NOTE Refer to the W321/341 User's Manual for information on how to configure the WLAN interface, and for other configuration information.

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