MOXA®

W315A/325A
Quick Installation Guide

Second Edition, March 2011

Overview

The W315A/325A embedded computers have 1 or 2 RS-232/422/485 serial ports, one 10/100 Mbps Ethernet port, an embedded GSM/GPRS module, and an SD socket interface for storage expansion, making the W315A/325A ideal for your wireless embedded applications.

Package Checklist

Before installing the W315A/325A, verify that the package contains the following items:

- W315A or W325A embedded computer
- Wall mounting kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin pin header to DB9 female console port cable, 100 cm
- GSM/GPRS antenna
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card
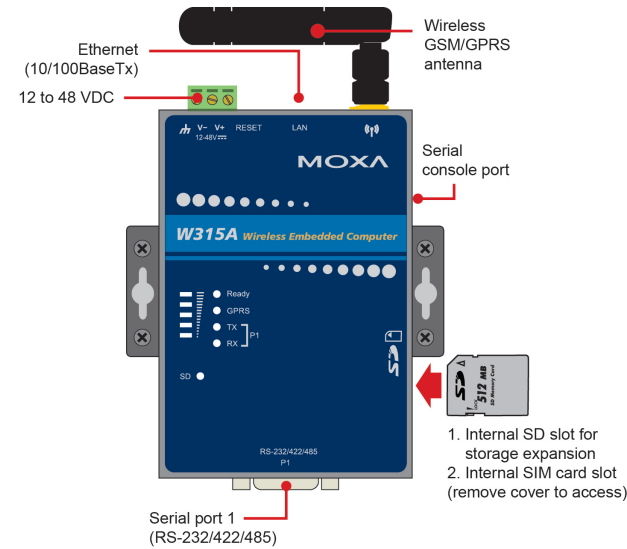
Optional Accessories

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

Please notify your sales representative if any of the above items are missing or damaged.
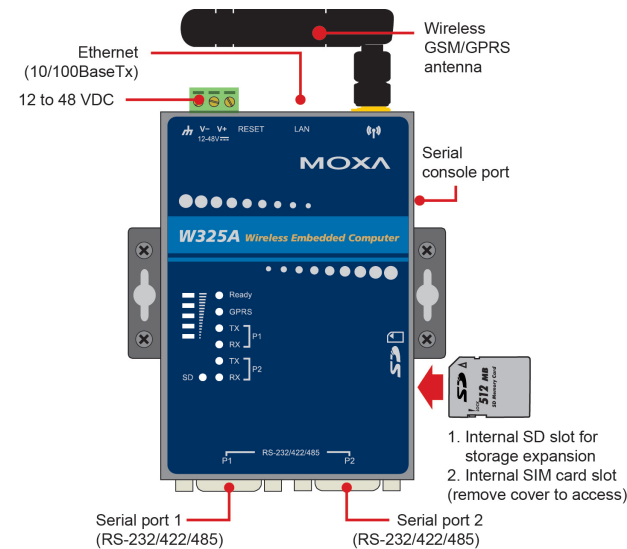
W315A/325A Panel Layout

The W315A/325A comes with one or two RS-232/422/485 serial ports, one RS-232 console port, one 10/100 Mbps LAN port, and an embedded GSM/GPRS module. The following figures show the panel layouts of the W315A and W325A.
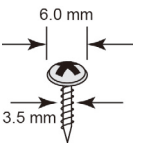
W315A

Ethernet (10/100BaseTx)
12 to 48 VDC
Wireless GSM/GPRS antenna
Serial console port
1. Internal SD slot for storage expansion
2. Internal SIM card slot (remove cover to access)
Serial port 1 (RS-232/422/485)

W325A

Ethernet (10/100BaseTx)
12 to 48 VDC
Wireless GSM/GPRS antenna
Serial console port
1. Internal SD slot for storage expansion
2. Internal SIM card slot (remove cover to access)
Serial port 1 (RS-232/422/485)
Serial port 2 (RS-232/422/485)

LED Indicators

The LED indicators described below are located on the front panel of the W315A/325A.

LED Name	LED Color	LED Function	
Ready	Green	Power is on and functioning normally	
	Off	Power is off or power error exists	
SD	Green	SD card is detected	
	Off	SD card is not detected	
GSM/GPRS	Green	ON	GPRS is ready
		Blinking	Conflict with GPRS IP, or DHCP server not responding
	Off	GPRS is not ready or function error exists	
Signal Strength	Green	Number of glowing LEDs indicates signal strength: 5: Excellent 4: Very good 3: Good 2: Fair 1: Bad	
	Off	No signal, or GPRS connection failed	
LAN	Orange	10 Mbps Ethernet link	
	Green	100 Mbps Ethernet link	
	Off	Disconnected or short circuit	
TxD P1/P2	Green	Serial ports P1/ P2 transmitting data	
	Off	Serial ports P1/P2 not transmitting data	
RxD P1/P2	Orange	Serial ports P1/P2 receiving data	
	Off	Serial ports P1/P2 not receiving data	

Installing the W315A/325A

Wall or Cabinet Mounting

The W315A/325A embedded computers 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 W315A/325A 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.
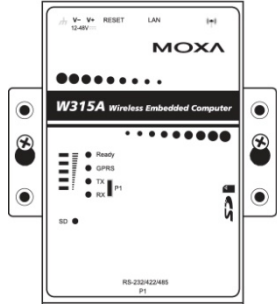
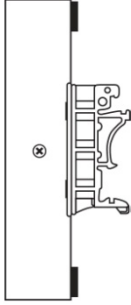6.0 mm
3.5 mm

DIN-Rail Mounting

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

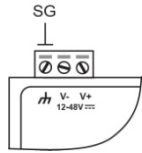**Wall or Panel Mounting**   **DIN-Rail Mounting**

Connector Description

Power Connector

Connect the 12 to 48 VDC LPS or Class 2 power line to the W315A/325A'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 W315A/325A

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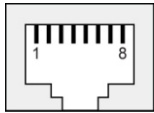

SG: The Shielded Ground (sometimes called Protected Ground) contact is the left most contact of the 3-pin power terminal block connector when viewed from the angle shown here. Connect the SG wire to an appropriate grounded metal surface.

Ethernet Port
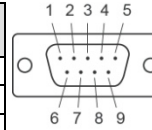
The 10/100 Mbps Ethernet port uses RJ45 connectors.

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 W315A/325A has an internal SD slot for storage expansion. The SD slot allows users to plug in 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. To install an SD card, first use a screw driver to remove the SD slot cover to access the slot. The slot is located on the right panel of the W315A/325A. Plug the SD 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, press the SD card in slightly with your finger, and then remove your finger to allow the card to spring out partially. You may now grasp the top of the card with two fingers and pull it out.

Console Port

The serial console port is a 4-pin 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 W315A/325A's serial console port.

SIM Card Installation

The SIM slot is located on the right side of the W315A/325A enclosure. Before you install a SIM card, be sure to shut down the operating system. Use a screw driver to remove the protective cover to access the SIM card slot. Make sure the chip on the SIM card faces up and then plug the SIM card directly into the slot.

NOTE: Please refer to the W315A/325A User's manual for information on GPRS network connections.

Reset

Press the "Reset" button and hold it in for at least 5 seconds to load the factory default configuration. After the factory default configuration has been loaded, the system will reboot automatically. 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 W315A/325A'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 battery is replaced by an incorrect type of battery.

Powering on the W315A/325A

To power on the W315A/325A, connect the "terminal block to power jack converter" to the W315A/325A's DC terminal block (located on the left rear panel), and then connect the power adaptor. Note that the Shielded Ground wire should be connected to the right most pin of the terminal block. It takes about 30 seconds for the system to boot up. Once the system is ready, the Ready LED will light up.

Connecting the W315A/325A to a PC

There are two ways to connect the W315A/325A to a PC: (1) through the serial console port, or (2) by Telnet 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 W315A/325A's serial console port. Remember to choose "VT100" terminal type.

To use Telnet, you need to know the W315A/325A's IP address and netmask. The default LAN settings are shown below. When configuring the W315A/325A for the first ime, you may connect directly from a PC to the W315A/325A with a cross-over cable.

	Default IP Address	**Netmask**
LAN	192.168.3.127	255.255.255.0

Once the W315A/325A is powered on, the Ready LED will light up, and a login page will open. Use the following defaults:

Login: root   **Password:** root

Configuring the Ethernet Interface

Type the command **vi /etc/network/interfaces** to edit the network configuration. The default IP addresses for the W315A/325A's Ethernet LAN is: **ifconfig eth0 192.168.3.127**.

NOTE: Refer to the W315A/325A User's Manual for information on how to configure the Ethernet interface.